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CLEANUP ACTION PLAN

Property:
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Prepared for:
Frontier Environmental Management LLC
1821 Blake Street, Suite 3C
Denver, Colorado

Report Date:
January 31, 2014

DRAFT – ISSUED FOR ECOLOGY REVIEW

Cleanup Action Plan

700 Dexter Property
700 Dexter Avenue North
Seattle, Washington 98109

Prepared for:

Frontier Environmental Management, LLC
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Denver, Colorado 80202

Project No.: 0797-001

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January 31, 2014

SoundEarth Strategies

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
1,1-DCE	1,1-dichloroethylene
1,2-DCE	total DCE
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
Affected ROWs	portions of Valley, Roy, and Broad Streets and 8th, 9th, and Westlake Avenues North
ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
BRH	Bush, Roed & Hitchings, Inc.
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
cis-1,2-DCE	cis-1,2-dichloroethylene
CLARC	cleanup levels and risk calculations
COC	chemical of concern
CSM	conceptual site model
CSO	combined sewer overflow
CVOC	chlorinated volatile organic compound
DHC	*Dehalococcoides*
DNAPL	dense nonaqueous-phase liquids
DRPH	diesel-range petroleum hydrocarbons
Ecology	Washington State Department of Ecology
EDB	1,2-dibromoethane

ACRONYMS AND ABBREVIATIONS (CONTINUED)

EDC	1,2-dichloroethane
EOS	edible oil substrate
EPA	U.S. Environmental Protection Agency
ERH	electrical resistance heating
FEM	Frontier Environmental Management, LLC
FS	feasibility study
FS Report	Feasibility Study Report
ft/day	feet per day
ft/ft	feet per foot
GRPH	gasoline-range petroleum hydrocarbons
HASP	Health and Safety Plan
HSA	hollow-stem auger
LNAPL	light nonaqueous-phase liquids
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
ml/g	milliliters per gram
MTCA	Washington State Model Toxics Control Act
mV	millivolts
NAVD88	North American Vertical Datum of 1988
NFA	No Further Action
NWTPH	Northwest Total Petroleum Hydrocarbon
ORP	oxidation-reduction potential
ORPH	oil-range petroleum hydrocarbons

ACRONYMS AND ABBREVIATIONS (CONTINUED)

PAH	polycyclic aromatic hydrocarbons
PCE	tetrachloroethylene
pcf	pounds per cubic foot
PCS	petroleum-contaminated soil
PCU	Power Control Unit
PID	photoionization detector
the Property	700 Dexter Avenue North, Seattle Washington
QA/QC	quality assurance/quality control
RAO	remedial action objective
RCW	Revised Code of Washington
RI	remedial investigation
RI Report	Remedial Investigation Report
ROW	right-of-way
SAP	Sampling and Analysis Plan
SDOT	Seattle Department of Transportation
the Site	soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons; tetrachloroethylene; trichloroethylene; vinyl chloride, and/or cis-1,2-dichloroethylene beneath the Property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th and Westlake Avenues North and Valley, Roy, and Broad Streets rights-of-way
SoundEarth	SoundEarth Strategies, Inc.
SPU	Seattle Public Utilities
SVE	soil vapor extraction
TCE	trichloroethylene
TESC	temporary erosion and sediment control
TMP	temperature monitoring points

ACRONYMS AND ABBREVIATIONS (CONTINUED)

trans-1,2-DCE	trans-1,2-dichloroethylene
TSDF	treatment, storage, and disposal facility
USC	United State Code
UST	underground storage tank
VOC	volatile organic compound
WAC	Washington Administrative Code
Windward	Windward Environmental LLC

EXECUTIVE SUMMARY

SoundEarth Strategies, Inc. has prepared this Cleanup Action Plan for the 700 Dexter Property located at 700 Dexter Avenue North in Seattle, Washington (the Property), on behalf of Frontier Environmental Management, LLC. In accordance with the Washington State Model Toxics Control Act Regulation in Parts 120 and 350 of Chapter 340 of Title 173 of the Washington Administrative Code, Frontier Environmental Management LLC performed a remedial investigation sufficient to define the extent of contamination and characterize the Site (defined below) for the purpose of developing and evaluating the cleanup action alternatives summarized in the Feasibility Study Report prepared by SoundEarth Strategies, Inc. and detailed in this Cleanup Action Plan.

This Cleanup Action Plan was prepared as part of an independent remedial action and was developed to meet the general requirements of a cleanup action plan as defined by the Washington State Model Toxics Control Act Regulation in Part 380 of Chapter 340 of Title 173 of the Washington Administrative Code.

Based upon the findings of the investigations summarized herein, the Site includes soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons; tetrachloroethylene; trichloroethylene; vinyl chloride, and/or cis-1,2-dichloroethylene beneath the Property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th and Westlake Avenues North and Valley, Roy, and Broad Streets rights-of-way. The impacts beneath the Site likely are associated with the following: (1) a release of chlorinated solvents from the industrial laundry and dry cleaning facility that operated on the Property between 1925 and 1995 and (2) the operation of at least two refueling facilities that historically operated on the northern portion of the Property and on the east-adjoining properties. The highest concentrations of chlorinated solvents are located in the west-central portion of the Property.

The Site is located on a topographically low-lying area within the South Lake Union neighborhood of Seattle, Washington. Elevations range from 80 feet (northwest corner of the Property) to 60 feet (southeast corner of the Property) above sea level, and slope east-northeast toward Lake Union. Residences exclusively occupied the Property from at least 1893 until 1925, when Building A was constructed on the southern half of the Property. In 1930, a refueling facility was constructed on the northwest corner of the Property and was reportedly equipped with several underground storage tanks and two dispenser islands. Building additions were constructed to the north between 1947 and 1966. Building B was constructed in the northeast portion of the Property as an addition to Building A in 1947 and operated initially as a parking garage and automotive repair facility. Four 6,000-gallon underground storage tanks containing heating oil in association with the boiler system were installed beneath Building A in 1947. Building C was constructed on the northwest portion of the Property in 1966. The 1930-vintage gasoline service station was demolished the same year. Building C housed laundry operations, a garage, and offices. A fuel dispenser with as many as three underground storage tanks was constructed on the northeast portion of the Property between 1947 and 1966.

Building plans indicate that dry cleaning was conducted on the Property as early as 1966. According to reports by others, dry cleaning machines operated on the western portion of Building A in 1978 and reportedly leaked solvents into the subsurface. The dry cleaning machines were no longer present on the Property by 1990. In 1986, Building B was redeveloped as a wastewater treatment facility for the

EXECUTIVE SUMMARY (CONTINUED)

commercial laundry operations, and several aboveground storage tanks containing acids, caustics, polymers, sludge, and water were installed. Waste material derived from the wastewater treatment facility was either directly discharged through the sewer system or conveyed into a disposal container to the north of Building B. In the mid-1990s, commercial laundry operations ceased, the wastewater treatment system was removed, and the buildings were leased to various tenants, including several automotive repair shops, a bakery, and a car rental office.

The results of previous subsurface investigations and the remedial investigation conducted at the Site suggest that the chlorinated solvent impacts confirmed in soil and groundwater beneath the Site are the result of a release from the laundry and dry cleaning facility that operated on the Property from 1925 through 1995. Historical building plans indicated that the bulk of the dry cleaning operations were conducted in Building A, with piping leading from the dry cleaning machines to the sumps in the boiler room on the western portion of Building A. Consistent with this information, the highest concentrations of chlorinated solvents are located near Building A in the west-central portion of the Property.

The high concentrations of tetrachloroethylene in soil and groundwater are inferred to be evidence of a release from the former dry cleaning facility that operated on the Property. Concentrations of tetrachloroethylene and associated chemicals of concern in the soil decrease rapidly upgradient of the source area and are carried through advective transport downgradient of the source area. Vertical distribution of solvent-contaminated soil is limited in large part by the presence of a layer of hard silt that underlies the Property at elevations between -5 and 5 feet above sea level (i.e., 35 to 45 feet below ground surface). The majority of the solvent mass is held up by the silt layer; the remaining soil contamination extends up to 80 feet below ground surface.

As with the solvent-contaminated soil, the bulk of the solvent contamination in groundwater remains above the hard silt layer underlying the Property. The highest concentrations of chlorinated solvents have been detected within the shallow and intermediate water-bearing zones, with relatively low levels detected in the deep water-bearing zone. The elevated concentrations of chlorinated solvents detected in groundwater collected from the deep water-bearing zone consistently drop during subsequent sampling events.

The lateral distribution of tetrachloroethylene is consistent with groundwater flow direction. Tetrachloroethylene in groundwater extends from the Property downgradient to 9th Avenue North. The lateral distribution of chlorinated solvent contamination is bound to the north by monitoring wells MW102, MW123, MW124, and MW126; to the west by monitoring wells MW112 and MW117; and to the south by monitoring well MW118. The eastern extent of the plume appears to end approximately 450 to 500 feet east of the Property based on the relatively low concentrations of vinyl chloride detected in monitoring wells MW113 and MW115, although a secondary source appears to be present based on the dramatic increase of vinyl chloride concentration detected in monitoring well MW128. Several historical land use practices in this area could have resulted in a release of chlorinated solvents to the subsurface associated with this secondary source.

Concentrations of petroleum hydrocarbons exceed their respective cleanup levels in soil and groundwater samples collected on the northern portion of the Property and within the 8th Avenue North right-of-way. The petroleum contamination is attributed to the historical operation of refueling facilities on the Property and on the east-adjoining properties. The petroleum hydrocarbon contamination appears vertically limited to the shallow and intermediate water-bearing zones. The lateral distribution of petroleum contamination in soil and groundwater is bound to the west by monitoring well W-MW-04, to the north by monitoring wells MW125 and MW-9, to the east by monitoring well MW121, and to the south by monitoring well W-MW-02.

Based on the results of the remedial investigation and completion of a conceptual site model, the feasibility study was conducted to develop and evaluate cleanup action alternatives that would facilitate selection of a final cleanup action for the Site in accordance with Part 350(8) of Chapter 340 of Title 173 of the Washington Administrative Code.

The three following cleanup alternatives, all incorporating electrical resistance heating and soil vapor extraction, were developed and evaluated in the course of the feasibility study:

- Cleanup Alternative 1—Electrical Resistance Heating/Soil Vapor Extraction, Excavation of Soil, and In Situ Reductive Dechlorination of Groundwater
- Cleanup Alternative 2—Electrical Resistance Heating/Soil Vapor Extraction, Excavation of Soil, and In Situ Chemical Oxidation of Groundwater
- Cleanup Alternative 3—Electrical Resistance Heating/Soil Vapor Extraction, Excavation of Soil, and Permeable Reactive Barrier Wall for Groundwater

Based on the results of the feasibility study, Cleanup Alternative 1, Electrical Resistance Heating/Soil Vapor Extraction, Excavation of Soil with In Situ Reductive Dechlorination of Groundwater is the recommended alternative for the Site because it ranks comparatively high in environmental benefit and is both technically feasible and cost effective. Cleanup Alternative 1 satisfies requirements of the Washington State Model Toxics Control Act and significantly reduces risk from contamination to the maximum extent practicable by using in situ treatment to reduce groundwater contamination within the active groundwater treatment area to reach the proposed cleanup levels within a reasonable restoration time frame.

This Cleanup Action Plan has been prepared based on the results of the feasibility study and presents the methods proposed to remediate the contaminated soil and groundwater beneath the Site.

The Cleanup Action Plan focuses on remediating the source area via operation of a 37,943-square-foot electrical resistance heating system within the high contaminant concentration areas, followed by in situ reductive dechlorination to treat the residual contaminant plume. The system will include 165 electrodes that will heat the subsurface to approximately 100 degrees Celsius and convert the dissolved contaminants to the vapor phase for subsequent recovery by vapor extraction. It is anticipated that the system will operate for approximately 4 months or until the groundwater concentrations reach 5 parts per million. After remediation levels for groundwater have been met, the electrical resistance heating system will be decommissioned and the amendment injection system completed. Approximately 210 injection wells will be utilized to distribute an edible oil substrate to treat the residual solvent plume. A component of the amendment injection system will include a biological barrier wall on the eastern and southern Property boundaries to prevent further migration of chemicals of concern in groundwater at elevated concentrations.

EXECUTIVE SUMMARY (CONTINUED)

Following treatment and part of the planned redevelopment, the Property will likely be excavated from lot-line to lot-line to remove the soil within the vadose zone (approximately 30 to 40 feet North American Vertical Datum of 1988) that contains concentrations of petroleum hydrocarbon and solvents above their applicable cleanup levels. It is anticipated that approximately 32,000 tons of soil will be removed from the Property for off-site disposal. Upon completion of the electrical resistive heating, injection remediation, and redevelopment excavation, it is anticipated that soil and groundwater beneath the Property will be compliant with Washington State Model Toxics Control Act within a reasonable restoration time frame. This aggressive source area treatment will immediately reduce threats to human health and the environment and will contribute significantly to the future cleanup of the Site.

It is anticipated that the groundwater plume south of Roy Street and east of 8th Avenue North would be addressed by natural attenuation. The treatment of the source zone with electrical resistance heating and soil vapor extraction, excavation of vadose zone soil, and the in situ groundwater treatment on the Property would significantly reduce the concentrations in groundwater beneath the Property and Site. Primary and secondary lines of evidence will be used to evaluate whether natural attenuation is occurring in the groundwater south of Roy Street and east of 8th Avenue North. Primary lines of evidence will include analytical data that define a contaminated groundwater plume as shrinking, stable, or expanding for the chemical of concern (trend analyses and isoconcentrations maps). Secondary lines of evidence for natural attenuation will include the evaluation of geochemical indicators (dissolved oxygen, oxidation-reduction potential, pH, alkalinity, nitrate, total manganese, ferric and ferrous iron, sulfate, methane, ethene, ethane, chloride, and fatty acids) for naturally occurring biodegradation and estimates of natural attenuation rates and biodegradation capacity. Currently, preliminary evidence indicates that biodegradation is occurring in off-Property wells based on the presence of tetrachloroethylene degradation products. Should natural attenuation prove insufficient in remediating off-Property groundwater, approximately 125 contingency injection wells, located within the alley between 8th and 9th Avenue North, and within 9th Avenue North, would be installed to distribute an edible oil substrate to treat the residual solvent plume.

Performance and confirmational soil and groundwater monitoring will be conducted at the proposed compliance points following the completion of the cleanup action. Groundwater monitoring will continue until four consecutive quarters of compliant groundwater samples have been collected, at which time Frontier Environmental Management, LLC will request a No Further Action determination for the Site.

This executive summary is presented solely for introductory purposes, and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the project, Site conditions, investigation results, cleanup action objectives, implementation of the selected cleanup action, and associated compliance monitoring is contained within this report.

1.0 INTRODUCTION

On behalf of Frontier Environmental Management, LLC (FEM), SoundEarth Strategies, Inc. (SoundEarth) has prepared this Cleanup Action Plan (CAP) for the 700 Dexter Property located at 700 Dexter Avenue North in Seattle, Washington (the Property). The location of the Property is shown on Figure 1. This CAP was developed to meet the requirements of a CAP as defined by the Washington State Model Toxics Control Act (MTCA) Regulation in Part 380 of Chapter 340 of Title 173 of the Washington Administrative Code (WAC 173-340-380). In accordance with WAC 173-340-120(4)(a) and 173-340-350(6), FEM has performed a remedial investigation (RI) sufficient to define the extent of contamination and characterize the Site (defined below) for the purpose of developing and evaluating cleanup action alternatives summarized in the Feasibility Study Report (FS Report) prepared by SoundEarth (2013b) and detailed in this CAP.

The Site is defined by the full lateral and vertical extent of contamination that has resulted from the former operation of a commercial laundry, dry cleaning facility, and gasoline service stations on the Property. Based on the information gathered to date, the Site includes soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH, DRPH, and ORPH, respectively); tetrachloroethylene (PCE); trichloroethylene (TCE); vinyl chloride; and/or cis-1,2-dichloroethylene (cis-1,2-DCE) beneath the Property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th, and Westlake Avenues North and Valley, Roy, and Broad Streets right-of-ways (ROWs; Figure 2).

1.1 DOCUMENT PURPOSE AND OBJECTIVES

The purpose of this CAP is to satisfy the specific requirements of MTCA in accordance with WAC 173-340-380, 173-340-400, and 173-340-410. The CAP presents historical information regarding the source and extent of impacts beneath the Site and outlines the proposed plan to address the impacts that remain beneath the Site.

This CAP is organized into the following sections:

- **Section 2.0, Background.** This section provides a description of the Site features and location; a summary of the current and historical uses of the Site and adjoining properties; and a description of the Site’s environmental setting, including the local meteorology, geology, and hydrology.
- **Section 3.0, Previous Environmental Investigations.** The text for this section, which provides a summary of previous investigations, the cleanup action, and the RI, is included as Appendix A of this CAP.
- **Section 4.0, Remedial Investigation.** This section provides a description of the RI field work program conducted at the Site in 2013 and 2014, including a summary of the pre-field activities, scope of work, results, a data validation review.
- **Section 5.0, Conceptual Site Model Summary.** This section provides a conceptual understanding of the contaminant distribution beneath the Property derived from the results of the historical research and the subsurface investigations. Included is a discussion of the confirmed and

suspected source areas, the chemicals of concern (COCs), media of concern, contaminant fate and transport, and the potential exposure pathways.

- **Section 6.0, Technical Elements.** This section presents the remedial action objectives (RAOs), applicable or relevant and appropriate requirements (ARARs), COCs, media of concern, development of the cleanup standards, and points of compliance.
- **Section 7.0, Selected Cleanup Action.** This section describes the components of the cleanup action, including the cleanup action implementation documents, engineering design components, and construction activities for the Site. In addition, it provides a management plan that describes the steps necessary in the event that previously unidentified contamination or underground storage tanks (USTs) are encountered during excavation activities.
- **Section 8.0, Cleanup Action Implementation Plan.** This section provides a description of the cleanup action components that will be implemented in order to remediate soil and groundwater containing concentrations of COCs exceeding the cleanup levels beneath the Site.
- **Section 9.0, Compliance Monitoring.** This section describes the protection, performance, and confirmational monitoring that will be conducted as part of the cleanup action.
- **Section 10.0, Documentation Requirements.** This section describes the documentation to be provided as part of the cleanup action, and it includes a discussion of document management, waste disposal tracking, and compliance reports.
- **Section 11.0, Limitations.** This section discusses document limitations.
- **Section 12.0, Bibliography.** This section lists the references used to prepare this document.

2.0 BACKGROUND

This section provides a description of the Site features and location; a summary of historical Site use; and a description of the local geology, hydrology, and land use pertaining to the Site. Historical documentation referenced in this section is provided in the Remedial Investigation Report (RI Report), prepared by SoundEarth (SoundEarth 2013a).

2.1 SITE LOCATION AND DESCRIPTION

The Site is defined by the extent of contamination caused by the releases of hazardous substances at the Property, as summarized in Section 1.0, above. The Property and adjoining properties, including the ROWs, affected by the release(s) from the Property are described in the following subsections and presented on Figure 2.

2.1.1 The Property

The Property is comprised of a single tax parcel (King County parcel number 224900-0285) that covers approximately 61,440 square feet (1.4 acres) of land in the South Lake Union neighborhood of Seattle, Washington. The Property is listed at 700 Dexter Avenue North. American Linen Supply Company currently owns the Property (King County iMAP 2013a).

The on-Property buildings were demolished in February and March 2013. The Property was formerly improved with a building with four additions, including the following: the original 1925-vintage, single-story building with basement and mezzanine (Building A) in the southeastern portion of the Property; a 1947-vintage, single-story masonry garage (Building B) in the northeast portion of the Property; a 1947-vintage, one-story addition with basement and mezzanine in the southwestern portion of the Property; and a 1966-vintage, one-story concrete building with basement and mezzanine in the northwestern portion of the Property (Building C).

Building A was reportedly heated by a natural-gas-fueled hot water furnace. Potable water and sewer services are not currently provided to the Property. However, according to the earliest side sewer cards of the Property maintained by the Seattle Engineering Department, the sanitary sewer was connected to the Property in 1925. Seattle City Light provides electricity to the Property. No waste disposal services are currently provided to the Property.

The former Property improvements are presented in plan view on Figure 3.

2.1.2 South-Adjoining Property

The south-adjoining property is located to the south of Roy Street and consists of two tax parcels (King County parcel number 224900-0080 and 224900-0055), which are bisected by the Broad Street ROW underpass. The parcels cover approximately 27,250 square feet (0.63 acres) of land. The property is currently being utilized as a parking and storage lot for the Mercer Corridor Project. The south-adjoining property is owned by Seattle Department of Transportation (SDOT).

2.1.3 East-Adjoining Properties

The east-adjoining properties include the tax parcels bounded by 8th and Westlake Avenues North to the west and east, respectively, and by Aloha and Roy Streets to the north and south, respectively. The descriptions of the parcels located within the east-adjoining properties are summarized below.

2.1.3.1 800 Roy Street Parcel

The parcel listed at 800 Roy Street adjoins the Property to the east, beyond the 8th Avenue North ROW. The 800 Roy Street parcel consists of a single tax parcel (King County parcel number 408880-3530) that covers approximately 67,025 square feet (1.54 acres) of land. A 1926-vintage, one-story warehouse with a basement building occupies the southern half of the property. An asphalt-paved parking lot with storage structures is located to the north of the building. Seattle City Light currently owns the property and operates it as a maintenance facility for its vehicles and equipment. A self-pay parking lot occupies the northern portion of the parcel.

2.1.3.2 701–753 9th Avenue North Parcels

To the east of 800 Roy Street is an alley, beyond which are four tax parcels listed as 701, 739, and 753 9th Avenue North (King County parcel numbers 408880-3565, 408880-3440, 408880-3485, and 408880-3435). The four parcels collectively cover approximately 65,827 square feet (1.51 acres) of land. From south to north, the tax parcels are currently owned by Buca Inc., 3D Properties, Double M Properties LLC, and 9th & Aloha LLC.

From south to north, the 701–753 9th Avenue North parcels are currently improved with three masonry buildings: one 1922-vintage, one-story building; one 1924-vintage, two-story building; and one 1955-vintage, one-story building. The parcels are occupied by Buca di Beppo restaurant, Ducati motorcycle dealership and service facility, Maaco Auto Body facility, and a landscape architecture office.

2.1.3.3 900 Roy Street and 707–731 Westlake Avenue North Parcels

To the east of the Property across 9th Avenue North are three tax parcels listed as 900 Roy Street, 707 Westlake Avenue North, and 731 Westlake Avenue North (King County parcel numbers 408880-3495, 408880-3500, and 408880-2510). The parcels collectively cover approximately 38,911 square feet (0.89 acres) of land. The parcels are currently owned by SDOT, Pacific Properties Northwest LLC, and Kenney Family Properties LLC.

From south to north, the 900 Roy Street and 707 and 731 Westlake Avenue North parcels are currently improved with three masonry buildings: one 1941-vintage, one-story building; one 1914-vintage, two story building; and one 1921-vintage, two-story building. They are currently occupied by Urban City Coffee, Tap Plastics, People's Bank, Trago restaurant, RoRo's Barbeque restaurant, and World's Sports Grill.

2.1.4 Affected Rights-of-Way

The affected ROWs within the Site include portions of Valley, Roy, and Broad Streets and 8th, 9th, and Westlake Avenues North (Affected ROWs), maintained by the City of Seattle. According to City of Seattle's Arterial Classifications Zoning Map, Roy Street is zoned as a minor arterial from Dexter to 9th Avenue North and as a principal arterial from 9th Avenue North eastward. Broad Street and Westlake Avenues North are also zoned as principal arterials. Valley Street and 8th Avenue North are zoned as access streets. According to SDOT's traffic flow maps from 2011, principal arterials within the Site receive an annual average daily traffic of between 23,900 and 35,100 vehicles.

2.2 LAND USE HISTORY OF THE SITE

The historical usage of each affected property, as defined in Section 2.1, is briefly summarized in the following subsections. A more detailed discussion, as well as selected aerial photographs, available King County Archived Records, City of Seattle archived building permit files, and files provided by the former Property owner are provided in the RI Report (SoundEarth 2013a). Relevant historical features of the Property and affected Properties and ROWs within the Site are depicted on Figures 3 through 7.

2.2.1 The Property

Residences exclusively occupied the Property from at least 1893 until 1925, when Building A was constructed on the southern half of the Property. In 1930, a refueling facility was constructed on the northwest corner of the Property and was reportedly equipped with several USTs and two dispenser islands. Building additions were constructed to the north between 1947 and 1966. Building B was constructed in the northeast portion of the Property as an addition to Building A in 1947 and operated initially as a parking garage and automotive repair facility. Four 6,000-gallon USTs containing heating oil in association with the boiler system were installed beneath Building A in 1947. Building C was constructed on the northwest portion of the Property in 1966. The 1930-vintage gasoline service station was demolished the same year. Building C housed laundry operations, a garage, and offices. A fuel dispenser with as many as three USTs was constructed on the northeast portion of the Property between 1947 and 1966. Building plans indicate that dry cleaning was conducted on the Property as early as 1966. According to reports by others, dry cleaning machines operated on the western portion of Building A in the 1978 and reportedly leaked solvents into the subsurface. The dry cleaning machines were no longer present on the Property by 1990. In 1986, Building B was redeveloped as a wastewater treatment facility for the commercial laundry operations, and several aboveground storage tanks containing acids, caustics, polymers, sludge, and water were installed. Waste material derived from the wastewater treatment facility was either directly discharged through the sewer system or conveyed into a disposal container to the north of Building B. In the mid-1990s, commercial laundry operations ceased, the wastewater treatment system was removed, and the buildings were leased to various tenants, including several automotive repair shops, a bakery, and a car rental office. Historical property features discussed below are also presented on Figures 3 through 6.

2.2.2 South-Adjoining Property

Earliest records indicate that the south-adjoining property originally encompassed an entire city block, bounded by Roy and Mercer Streets and Dexter and Vine (currently 8th) Avenues North to the north, south, west, and east, respectively. The property was originally developed with several residences. Between 1924 and 1930, a diagonal portion of the property was vacated, most of the residences demolished, and Broad Street constructed. Two gasoline service stations and auto repair shops were constructed on the property shortly thereafter. In 1950, a paint manufacturer occupied the southeast portion of the property, and in 1956, additional portions of the south-adjoining property were vacated, most of the aboveground structures were demolished, and the Broad Street Underpass was constructed. The remaining portions of the property were purchased by the City of Seattle in 1971, and the remaining aboveground structures were demolished the following year.

2.2.3 East-Adjoining Properties

The historical usage of the affected parcels within the east-adjoining properties, as defined in Section 2.1.3, is summarized in the following subsections.

2.2.3.1 800 Roy Street Parcel

The 800 Roy Street parcel was created by filling events conducted along the southern Lake Union shoreline from the late 1800s until the 1920s. Several residences and rustic cabins occupied the 800 Roy Street Parcel until 1926, when the existing warehouse was constructed. The 800 Roy Street parcel operated as maintenance facility for vehicles and equipment by Puget Sound Power and Light Co. (currently Seattle City Light). A garage located in the northern portion of the building's basement was used to repair, refuel, and wash vehicles. Transformer testing was also performed in the basement. The northern half of the property was used as a vehicle, transformer, fuel, and equipment storage area. Between 1944 and 1955, at least two generations of fuel dispensers and associated USTs were installed on the northern portion of the parcel. Two USTs were reportedly removed in 1993. Washington State Department of Ecology (Ecology) records indicate the former operation of the former UST systems on the parcel resulted in impacts to the subsurface. The property is currently undergoing cleanup activities.

2.2.3.2 701–753 9th Avenue North Parcels

The 701–753 9th Avenue North parcels were created by filling events along the southern Lake Union shoreline in the early 1900s. According to historical records, the parcels remained undeveloped until 1922, when an automotive sales showroom, sales, and service shop was constructed on the southern half of the property and was operated by Mack International Motor Truck Corporation. Between 1946 and 1950, three additional buildings were constructed on the property and were occupied by an automotive welding factory, automotive repair shops, and general retail. As many as four USTs containing waste oil, heating oil, and gasoline were installed beneath the parcels. Ecology and City of Seattle Engineering records indicate that four USTs were removed from the parcels. By 1980, the buildings on the parcels were primarily occupied by automotive dealerships and retail tenants. Impacts to soil were confirmed in 1992 when three of the USTs, located in the northernmost parcel, were removed. In 1996, Maaco Auto Body facility started operating out of the central portion of the property and installed a flammable liquids storage room and a spray paint booth.

2.2.3.3 900 Roy Street and 707–731 Westlake Avenue North Parcels

The 900 Roy Street and 707–731 Westlake Avenue North parcels were created by filling events along the southern Lake Union shoreline in the early 1900s. According to historical records, the parcels remained undeveloped until 1914, when a one-story masonry building was constructed. A laundry facility operated on the southern parcel in 1917, and by the 1930s it was replaced by a gasoline service station and automotive repair shop. In 1921, a two-story masonry building was constructed in the central parcel and was initially occupied by a lithograph manufacturer and later by a sheet metal fabrication and painting shop. In 1941, the retail gasoline station was replaced and continued operating as an automotive repair shop until at least the 1960s. By 1969, the buildings were occupied by an automotive sales and repair facility. Between 1990 and 2011, all three buildings were remodeled and changed in use from industrial use to food service, retail, and/or residential. Multiple USTs were installed beneath the parcels and were used to store heating oil, waste oil, and fuel.

2.2.4 Affected Rights-of-Way

Valley and Roy Streets and 8th Avenue North ROWs were constructed before 1893, the earliest date of records available for review. Westlake Avenue North was constructed with planks on piles over Lake Union by 1893. Cabins and small structures were present within these ROWs until around 1905. By 1912, filling activities within Lake Union allowed for the expansion of 8th Avenue North, the conversion of Westlake Avenue North from planks to terrestrial material, and the construction of 9th Avenue North. The affected portion of Broad Street, bisecting the south-adjoining property, was constructed by 1917. The Affected ROWs were all paved by 1937. Between 1953 and 1958, the Broad Street ROW was expanded and the Broad Street Underpass was constructed, which required excavation of soil, abandonment or rerouting of existing utilities, and dewatering. Between 1985 and 2002, major tunneling activities were conducted as part of the Denny Way Combined Sewer Overflow (CSO) and Mercer Street Tunnel project. Large-diameter utilities were installed beneath Broad and Roy Street ROWs. In 2011, the 9th Avenue North sewer line was replaced.

2.3 FUTURE LAND USE

American Linen Supply Company is currently engaged in a purchase and sale agreement with Frontier Renewal, a title holder and sister company to FEM.

FEM specializes in comprehensive environmental risk management and is overseeing the execution of the remediation of both the Property and the Site. The most recent development plans for the Property include a scientific research campus with underground parking.

2.4 ENVIRONMENTAL SETTING

This section provides a summary of the environmental setting of the Site.

2.4.1 Meteorology

Climate in the Seattle area is generally mild and experiences moderate seasonal fluctuations in temperature. Average temperatures range from 40s in the winter to the 60s in the summer. The coldest month of the year is January, which has an average minimum temperature of 36.00 Fahrenheit (°F), while the warmest month of the year is August, which has an average maximum temperature of 74.90 °F.

The annual average precipitation in the Seattle area is 38.25 inches; the wettest month of the year is December, when the area receives an average precipitation of 6.06 inches (IDcide 2013).

2.4.2 Topography

The Site and vicinity lie within the Puget Trough or Lowland portion of the Pacific Border Physiographic Province. The Puget Lowland is a broad, low-lying region situated between the Cascade Range to the east and the Olympic Mountains and Willapa Hills to the west. In the north, the San Juan Islands form the division between the Puget Lowland and the Strait of Georgia in British Columbia. The province is characterized by roughly north–south-oriented valleys and ridges, with the ridges that locally form an upland plain at elevations of up to about 500 feet above sea level North American Vertical Datum of 1988 (NAVD88). The moderately to steeply sloped ridges are separated by swales, which are often occupied by wetlands, streams, and lakes. The physiographic nature of the Puget Lowland was prominently formed by the last retreat of the Vashon Stade of the Fraser Glaciation, which is estimated to have occurred between 14,000 and 18,000 years before present (Waitt Jr. and Thorson 1983).

The Site is located on a topographically low-lying area within the South Lake Union Neighborhood of Seattle. Elevations range from 80 feet (northwest corner of the Property) to 60 feet (southeast corner of the Property) NAVD88 and slopes east-northeast toward Lake Union (King County 2013). Lake Union is located approximately 0.1 miles to the east of the Property, and Elliot Bay is located approximately 1 mile to the southwest of the Property (USGS 1983).

2.4.3 Groundwater Use

According to the Ecology Water Well Logs database (Ecology 2012), two water supply wells are located at 100 Fourth Avenue North, approximately 0.5 miles southwest of the Site. The two supply wells were installed on the property owned by Fisher Broadcasting in 1999 and 2001. The wells were drilled to depths of 148 and 155 feet below ground surface (bgs). Each well was fitted with 10 feet of screen from the well bottom. These water supply wells reviewed in Ecology's database encountered static water levels between 77 and 80 feet bgs, but appear hydrologically upgradient from the water-bearing zones encountered in the monitoring wells installed at the Site. The purpose of the wells is unknown, but it is unlikely that they are used as a potable water source.

Seattle Public Utilities (SPU) provides the potable water supply to the City of Seattle. SPU's main source of water is derived from surface water reservoirs located within the Cedar and South Fork Tolt River watersheds (City of Seattle 2014). According to King County's Interactive Map for the County's Groundwater Program, there are no designated aquifer recharge or wellhead protection areas within several miles of the Site (King County IMAP 2013b).

2.5 GEOLOGIC AND HYDROGEOLOGIC SETTING

The following sections summarize the regional geology and hydrogeology in the Site vicinity, as well as the geologic and hydrogeologic conditions encountered beneath the Site.

2.5.1 Regional Geology and Hydrogeology

According to *The Geologic Map of Seattle—A Progress Report* (Troost et al. 2005), the surficial geology in the vicinity of the Site consists of deposits corresponding to the Vashon Stade of the Fraser Glaciation and pre-Fraser glacial and interglacial periods. In the immediate Site vicinity, surficial deposits have been mapped as anthropogenic fill, Vashon-age recessional sand, glacial till, ice-contact deposits, advance sand deposits, pre-Fraser Olympia beds, and pre-Fraser undifferentiated glacial and nonglacial deposits (Troost et al. 2005).

Near-surface deposits in developed areas with associated regrading and reclamation have been deposited with anthropogenic fill, which may include reworked native near-surface deposits mixed with organic materials and debris. Fill thicknesses in such areas can exceed 30 feet.

The youngest pre-Fraser deposits in the Seattle area, known as the Olympia beds, were deposited during the last interglacial period, approximately 18,000 to 70,000 years ago, and underlie the fill material. The Olympia beds consist of very dense, fine to medium, clean to silty sands and intermittent gravel channel deposits interbedded with hard silts and peats (Troost and Booth 2008, Galster and Laprade 1991). Organic matter and localized iron-oxide horizons are common. The Olympia beds have known thicknesses of up to 80 feet. Beneath the Olympia beds are various older deposits of glacial and nonglacial origin. In general, deposits from older interglacial and glacial periods are similar to deposits from the most recent glacial cycle because of similar topographic and climactic conditions (Troost and Booth 2008).

Often difficult to distinguish from, but frequently found within and below similar depth intervals as, the pre-Fraser deposits, Vashon glacial advance sand deposits consist of very dense sand with variable gravel contents and generally little fines, with local interbeds or inclusions of fine-grained deposits, particularly near the upper and lower contacts of the formation. The deposits can be massive or bedded, and are locally at least 200 feet thick (Troost et al. 2005).

The Vashon ice-contact deposits in the vicinity of the Site are generally discontinuous, highly variable in thickness and lateral extent, and consist of loose to very dense, intermixed glacial till and glacial outwash deposits. The till typically consists of sandy silt with gravel. The outwash consists of sand and gravel, with variable amounts of silt (Troost et al. 2005).

The Vashon recessional outwash deposits in the vicinity of the Site are generally discontinuous and consist of loose to very dense layered sand and gravel, which are generally well sorted (poorly graded). Layers of silty sand and silt are less common. The Vashon recessional lacustrine deposits consist of layered silt and clay, which range in plasticity from low to high and may contain localized intervals of sand or peat. The recessional lacustrine deposits may grade into recessional outwash deposits (Troost et al. 2005).

The glacial and nonglacial deposits beneath the Seattle area comprise the unconsolidated Puget Sound aquifer system, which can extend from ground surface to depths of more than 3,000 feet. Coarse-grained units within this sequence generally function as aquifers and alternate with fine-grained units that function as aquitards (Vaccaro et al. 1998). Above local or regional water table aquifers, discontinuous perched groundwater may be present in coarse-grained intervals seated above fine-grained intervals. Below the regional water table, the alternating pattern of coarse- and fine-grained units results in a series of confined aquifers. Regional groundwater flow is generally from topographic highs toward major surface water bodies such as Puget Sound and Lake Union. Vertical hydraulic gradients are typically upward near the major surface water bodies, and downward inland (Floyd Snider McCarthy Team 2003, Vaccaro et al. 1998).

2.5.2 Site Geology

Based on the results of the investigations summarized in later sections of this report, subsurface soil beneath the site consists primarily of anthropogenic fill locally mantling recent lacustrine deposits, Vashon-age glacial deposits, and possible pre-Fraser glacial deposits. The locations of the borings and wells advanced at the Site are shown in Figure 8. Cross sections depicting subsurface soil characteristics and geologic units encountered in the explorations are presented as Figures 9 and 10.

The subsurface soil beneath the Site is interpreted to consist of the following geologic units, from youngest to oldest: artificial (anthropogenic) fill, post-Vashon lacustrine deposits, Vashon glacial till or Vashon age ice-contact deposits, and advance sand deposits and glacial till or drift of either Vashon age or pre-Fraser age. These units are described in detail in the RI Report (SoundEarth 2013a).

Beneath the Property, a distinctive, very hard, silt-rich layer was consistently encountered at elevations between -5 and 5 feet NAVD88 (i.e., 35 to 45 feet bgs) and appeared to act as a confining layer (Figure 9). This geologic interface played an important role in the design of the on-Property remedy since it appears to have significantly reduced vertical contaminant mass distribution; the majority of the contaminant mass is held up by this silt-rich layer.

2.5.3 Site Hydrology

Shallow groundwater was encountered at various depth intervals at the Site, with a series of discontinuous water-bearing zones that extend down to the top of the deep glacial outwash deposits. Groundwater flow within the upper glacial deposits varies in response to the lateral and vertical variability within the heterogeneous glacial sediments underlying the fill materials. The conceptual groundwater model developed for the Site is depicted on Figure 11 and consists of the following four units:

- A shallow water-bearing zone comprised of fill, lacustrine deposits, and weathered and unweathered glacial deposits.
- An intermediate water-bearing zone comprised of dense to very dense heterogeneous glacial deposits (i.e., ice-contact deposits, till, and/or subglacial meltout till) that appear to function as a leaky aquitard.
- A deep outwash aquifer comprised of glacial outwash deposits encountered beneath the intermediate water-bearing interval.
- A lower aquitard comprised of very dense, fine-grained glacial drift deposits underlying the deep outwash aquifer.

The depths and thicknesses of the hydrologic units vary throughout the Site. The shallow water-bearing zone is unconfined and consists of perched groundwater and the local water table. The heterogeneous glacial deposits underlying the shallow water-bearing zone form a leaky aquitard that overlies the confined deep outwash aquifer. The intermediate water-bearing zone consists of the multiple coarser-grained saturated intervals exhibiting semiconfined to confined hydraulic conditions within the finer-grained deposits that comprise the leaky aquitard. As shown on Figures 9 and 10, the physical characteristics and discontinuous nature of the sediments comprising the intermediate water-bearing zone result in some degree of hydraulic connection to the underlying deep outwash aquifer that could allow transport of chlorinated solvents from the intermediate water-bearing zone to the deep water-bearing zone.

Based on data collected to date, groundwater within the shallow water-bearing zone, the intermediate water-bearing intervals, and the deep outwash aquifer flows primarily in a general eastward direction. Groundwater levels measured on January 6, 2014, indicate that nearby construction dewatering, located at the southeast corner of 9th Avenue North and Broad Street, has resulted in some localized changes to the groundwater flow direction. Water level measurements indicated downward vertical gradients within the intermediate water-bearing zone, as well as between the intermediate water-bearing zone and the deep outwash aquifer. The vertical gradients between the intermediate water-bearing zone and the deep outwash aquifer decrease from west to east toward Lake Union. The following subsections summarize the physical and hydraulic characteristics of the hydrostratigraphic units.

2.5.3.1 Shallow Water-Bearing Zone

The shallow water-bearing zone was encountered at depths of about 10 to 20 feet bgs (about 20 to 30 feet NAVD88). The shallow water-bearing zone often consists of localized perched groundwater conditions that appear to grade into a more extensive local water table aquifer that overlies lacustrine sediments and finer-grained dense glacial materials. In some areas, the shallow water-bearing zone appears to be in direct hydraulic continuity with the upper water-bearing interval(s) of the underlying intermediate water-bearing zone.

Beneath most of the Property and in explorations located east of the Property, the shallow water-bearing zone is present within or at the base of anthropogenic fill soils and/or weathered glacial sediments, and it is underlain by unweathered dense fine-grained glacial deposits or recent lacustrine sediments. Beneath the western portion of the Site, an unweathered layer of dense glacial deposits consisting of ice melt deposits, glacial till, or subglacial meltout till underlies the shallow water-bearing zone. The thickness and hydraulic characteristics of the shallow water-bearing zone vary beneath the Site. Based on the limited saturated thickness and varying depths of saturated soil, the shallow water-bearing zone beneath the western portion of the Site is characteristic of perched groundwater conditions, and is typically less than 10 feet thick. East of the Property, the shallow water-bearing zone appears to form a more continuous local water table aquifer ranging in thickness from about 10 to 20 feet, with an elevation that approaches the Lake Union water surface elevation.

Based on water level measurements obtained from the wells completed in this unit, groundwater flow directions vary over relatively short distances, ranging from a northeast to east direction beneath and adjacent to the Property. This variability in flow direction is likely the result of the varying thickness and physical characteristics of the fill material relative to the underlying weathered and unweathered glacial deposits.

2.5.3.2 Intermediate Water-Bearing Zone

Underlying the shallow water-bearing zone is a relatively thick sequence of very dense heterogeneous glacial deposits with multiple layers of saturated, coarse-grained intervals interbedded with fine-grained, very dense layers of silt and sandy silt. This thick sequence of discontinuous to semicontinuous layers and lenses of dense glacial deposits is identified as the intermediate water-bearing zone (Figure 11). The intermediate water-bearing zone appears to function primarily as a leaky aquitard overlying the deep outwash aquifer.

Sand and silty sand intervals within this sequence of ice melt deposits, glacial till, and/or subglacial meltout till comprise multiple water-bearing intervals within the intermediate water-bearing zone. The water-bearing intervals within this sequence vary in depth, thickness, and lateral extent, and are often overlain and underlain by damp to moist, fine-grained deposits that function as localized aquitards. Groundwater levels for wells completed in the intermediate water-bearing zone indicate confined hydraulic conditions for the coarser-grained water-bearing intervals.

As shown in Figure 11, the intermediate water-bearing zone decreases in thickness from west to east beneath the Site. This water-bearing zone extends from about 25 to 90 feet bgs (-50 to 15 feet NAVD88) beneath and in the vicinity of the Property. Beneath 9th Avenue North, however, the intermediate water-bearing zone appears to be less than about 15 feet thick (Figure 11). The intermediate water-bearing interval also appears to decrease in thickness toward the south.

The intermediate water-bearing zone was divided into two depth intervals designated as Intervals A and B based on the depths of several of the monitoring wells installed prior to the RI field work. Interval A corresponds to monitoring wells completed with well screen depths ranging from approximately 35 feet to 45 feet bgs, and Interval B corresponds to monitoring wells completed with deeper well screens to maximum depths of about 80 feet bgs beneath the Property. Data obtained during earlier monitoring events indicate that groundwater flows in a general west to east direction toward Lake Union, with a slight shift to an east to southeast direction in the vicinity of 9th Avenue North. When measurements were taken on March 29, 2013, the average hydraulic gradient for this intermediate water-bearing zone near the Property was 0.024 feet per foot (ft/ft) and decreased to about 0.005 ft/ft in the vicinity of 9th Avenue North. This appears to correspond to the decreasing thickness of the intermediate water-bearing zone in this area of the Site. Contour maps generated during the March 29, 2013, monitoring event can be found in the RI Report (SoundEarth 2013a).

Figure 12 presents the groundwater contour map for wells completed within intermediate water-bearing zone Interval A based on water level measurements obtained January 6, 2014. Based on this data, groundwater flows in a general west to east direction, shifting to a northwest to southeast direction towards the southeast-adjacent property. The average west to east hydraulic gradient for the intermediate water-bearing interval was 0.04 ft/ft in January 2014. The hydraulic gradient near the Property was 0.015 ft/ft and increased to 0.04 ft/ft closer to the active dewatering site discussed above; groundwater elevations appear to be significantly influenced by this active dewatering.

Groundwater levels obtained from wells completed in other depth intervals within the intermediate water-bearing zone indicated a general easterly flow direction. However, the resulting data did not indicate a consistent trend in groundwater flow direction or gradients. This is probably the result of the varying lithologies and hydraulic characteristics of the discontinuous saturated intervals intersected by the wells screened at these greater depth intervals.

Water level data collected to date indicates that seasonal fluctuations range from about 2 to 3 feet in individual wells completed in the intermediate water-bearing zone (Table 1).

Data obtained from slug tests conducted at the Property in 2013 indicate a wide range of hydraulic conductivities for the saturated intervals within the intermediate water-bearing zone. Hydraulic conductivities ranging from about 0.021 to 63 feet per day (ft/day) were estimated from slug tests completed in the intermediate water-bearing zone wells. This range of estimated hydraulic conductivities corresponds to the range of saturated sediments (dense sandy silt to sand) intersected by individual well screen intervals. Slug test methods and results are summarized in Appendix D of the RI Report (SoundEarth 2013a).

Based on the results of the slug test analyses, estimated groundwater seepage velocities averages about 0.61 ft/day in wells completed in silty sand and sand intervals between the Property and the alley located adjacent to the east of the Property. The lower hydraulic gradients measured between the alley and 9th Avenue North result in a lower average groundwater seepage velocity of about 0.4 ft/day in this area of the Site. The lowest estimated groundwater seepage velocity of 0.002 ft/day was estimated for well W-MW01, which appears to correspond to the hydraulic characteristics of the sandy silt intervals frequently encountered in the lower 20 to 30 feet of the intermediate water-bearing zone.

2.5.3.3 Deep Outwash Aquifer

The deep outwash aquifer is comprised of the glacial outwash deposits underlying the heterogeneous glacial deposits that form the intermediate water-bearing zone. This aquifer is encountered in explorations throughout the South Lake Union/East Queen Anne Hill area and is often referred to as the outwash aquifer. The deep outwash aquifer is a confined aquifer within the vicinity of the Property, with a thickness ranging from about 25 to 45 feet. It extends from about 90 to 125 feet bgs (-50 to -85 feet NAVD88) beneath the Property. As shown in Figure 11, the deep outwash aquifer is encountered at shallower depths (about 55 feet bgs) and appears to increase in thickness in the eastern portion of the Site towards 9th Avenue North. Available subsurface information for other properties located east of 9th Avenue North indicates that this trend continues, with the top of the outwash aquifer encountered at depths ranging from about 40 to 50 feet bgs. Groundwater elevation data collected prior to January 6, 2014, indicated that groundwater flow is in a general east to southeast direction, with a relatively low average hydraulic gradient of about 0.003 ft/ft. Previously collected data indicate seasonal water level fluctuations in the aquifer ranging from about 1.5 to 2.5 feet.

Figure 13 presents the groundwater contour map for the deep outwash aquifer based on water level measurements obtained January 6, 2014. Groundwater flow is in a general east to southeast direction, and is influenced by the ongoing construction dewatering. To the south of the Property, groundwater flows in a west to east direction toward the southeast-adjacent property. Toward the northeast and the south of the Property the hydraulic gradient is relatively low, at an average of 0.01 ft/ft. The hydraulic gradient increases towards the east-adjoining property and the dewatering area to an average of 0.03 ft/ft.

The hydraulic conductivity of the deep outwash aquifer is estimated to range from about 4 to 54 ft/day based on slug test data obtained from monitoring wells MW104, MW105, and MW115.

Groundwater seepage velocities for the deep outwash aquifer are estimated to average about 0.5 ft/day.

2.5.3.4 Lower Aquitard

Older glacial drift and/or glacial till sediments underlying the deep outwash aquifer were encountered in several of the deeper monitoring well borings. These older glacial sediments are comprised of very dense silt and silty sand, and appear to function as an effective aquitard beneath the deep outwash aquifer. The thickness of the lower aquitard is unknown, although samples obtained from the boring for well MW101 indicate that the aquitard is at least 25 feet thick beneath the Property.

2.5.3.5 Hydraulic Connection to Lake Union

Groundwater elevations were analyzed along a general flowline from the Property toward the southern edge of Lake Union to the northwest in March 2013. Water levels measured at the Hiram M. Chittenden Locks ranged from 16.75 to 18.75 feet in elevation above mean sea level (NAVD88) and are monitored by the Army Corps of Engineers Reservoir Control Center (US Army Corps 2014), referenced as the Lake Washington gauge by the US Army Corps of Engineers.

The shallow water-bearing zone elevations graded from 35.31 in monitoring well R-MW5 to 16.22 in monitoring well MW105, approximately 350 feet away from Lake Union. The intermediate water-bearing zone elevations ranged from 25.54 in monitoring well MW107 to 16.71 in monitoring well MW116, approximately 340 feet away from Lake Union. The deep water-bearing zone elevations graded from 16.90 in monitoring well MW104 to 15.99 in monitoring well MW113, approximately 390 feet away from Lake Union. Groundwater in the three water-bearing zones comes close to equilibrium as they approach Lake Union, potentially making Lake Union a discharge point for the intermediate and deep water-bearing zones. Since the groundwater elevations are less than 1 foot apart and within normal Lake Union water level fluctuations, the time period Lake Union acts as a recharge source or discharge point to the outwash aquifer is indeterminable based on the data available.

Groundwater contours from January 6, 2014, show strong influence from off-site pumping at a property located between Broad street and Mercer street to the east of 9th Avenue North. This pumping has altered the normal groundwater flow direction from generally eastward to flowing southeast toward the dewatering project. Transient conditions due to dewatering have lowered the intermediate and deep water-bearing zones by approximately 5 to 8 feet.

Deep monitoring well MW123 is roughly 150 feet away from the southern edge of Lake Union. The groundwater elevation in MW123 on January 6, 2014, was 11.82 feet in elevation. Lake Washington surface elevation according to the Reservoir Control Center from the Army Corps of Engineers was 16.76 feet elevation (NAVD88) on the same date (US Army Corps 2014), approximately 5 feet higher than groundwater in MW123. The pumping influence on the outwash aquifer supports that the outwash aquifer does not appear to discharge into Lake Union. Recharge from Lake Union into the outwash aquifer is likely delayed due to both the high pumping rate and the low permeability of the lake sediments.

3.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Between 1992 and 2012, several environmental investigations were conducted on the Site. A summary of these investigations is attached to this report as Appendix A, while a more detailed discussion is provided in the RI Report (SoundEarth 2013a). Sample locations are presented in plan view on Figure 8. Soil and groundwater analytical results are presented in plan and cross-sectional views on Figures 9 and 10 and Figures 14 through 19, and in Tables 2 through 12. For evaluation purposes, those concentrations that exceed the current MTCA Method A or Method B cleanup levels for soil and groundwater are presented in bold red font in the tables. The remainder of this report includes references to cleanup levels; unless otherwise specified, these refer to the 2001 MTCA Method A or 2012 MTCA Method B Cleanup Levels for Unrestricted Land Use for soil and groundwater.

4.0 REMEDIAL INVESTIGATION

In July, August, and December 2012; February, March, April, and December 2013; and January 2014, SoundEarth conducted an RI at the Site. The objectives of the RI included the following:

- Addressing on-Property data gaps for chlorinated volatile organic compounds (CVOCs) in soil and groundwater.
- Evaluating the lateral and vertical extent of soil and groundwater contamination both on and off the Property.
- Comparing soil and groundwater results to those collected by Windward Environmental LLC (Windward) to evaluate the drilling methodology and usefulness of their data.
- Collecting soil gas samples for the purpose of evaluating the vapor intrusion pathway downgradient of the Property.
- Collecting sufficient data to conduct a feasibility study and ultimately develop a CAP for the Site.

4.1 PRE-FIELD ACTIVITIES

SoundEarth conducted the following pre-field activities for the RI:

- Updated the existing health and safety plan for the Site in accordance with MTCA and with Title 29, Part 1910.120 of the Code of Federal Regulations (29 CFR 1910.120) prior to initiating field activities.
- Prepared a detailed work plan for the field activities to be conducted at the Site.
- Requested public utility locates within the City of Seattle ROWs by contacting the Northwest Utility Notification Center.
- Oversaw a private utility locate by Bravo Environmental to clear each boring location prior to drilling.
- Prepared and implemented traffic control plans to block parking lanes and redirect traffic within the public ROWs.
- Secured SDOT Street Use permits to redirect traffic and conduct field activities within the public ROWs.

4.2 SOIL BORING ADVANCEMENT AND SAMPLING

The drilling and well installation activities conducted as part of this RI were performed in July 10 through August 15, 2012; December 4 through 18, 2012; February 4, 2013; March 21, 2013; March 18 through April 4, 2013; and December 16, 2013 through January 13, 2014. Drilling activities were conducted under the supervision of a SoundEarth geologist. A total of 42 soil borings were advanced during the investigation (borings B101 through B128 and DB01 through DB14; Figure 8); boring logs are included as Appendix B. In July and August 2012, borings B101 through B106 were advanced by Major Drilling using a sonic probe drilling rig. Borings B107 through B116 were advanced in December 2012; boring B117 was advanced on February 4, 2013; borings B118, B119, and DB01 through DB14 were advanced in March and April 2013; and B120 through B128 were advanced in December 2013 and January 2014 by Cascade Drilling LP using a hollow-stem auger drill rig. Concrete at borings B101 through B105, B107, B108, B109, B111, B112, B113, B115, B116, B119, B120 through B128, DB01, and DB04 through DB13 were cored prior to drilling. Because a complex network of subsurface utilities exists beneath the Property, surrounding properties, and ROWs, borings B101, B104, B106, B108, B112, B113, B115, B116, B117, B122, B123, and B126 through B128 were cleared with a vactor truck or by hand before drilling in order to clear each hole of any potential unmarked utilities.

Borings B101 through B106, B113, B122, B123, B124, and B128 were advanced into the regionally identified advance outwash sand aquifer, to maximum depths of approximately 70 to 140 feet bgs. Borings B111, B112, B126, DB05, DB05A, and DB06 through DB10 were advanced to maximum depths between 70 and 90.5 feet bgs. Borings B107 through B110, B114 through B119, B120, B121, B125, B127, DB01 through DB04, and DB11 through DB14 were advanced approximately between 40 and 60.5 feet bgs.

Boring B101 was advanced in the central portion of the Property to further evaluate the vertical extent of PCE contamination in soil and groundwater previously encountered in boring P-07/well W-MW-03 and to assess the validity of the Windward data. Borings DB01 through DB14 were also advanced on the Property to evaluate the extent of PCE contamination previously observed in soil beneath the Property.

Seventeen borings were advanced within ROWs to the east of the Property in order to evaluate the lateral and vertical extent of PCE contamination in soil and groundwater downgradient of the Property; borings B103, B108 through B111, B122, and B126 were advanced in the alleyway between 8th and 9th Avenues North; borings B104, B107, B120, B121, and B127 were advanced within the 8th Avenue North ROW; borings B113, B115, and B116 were advanced in within the 9th Avenue North ROW; and borings B123 and B128 were advanced within the Westlake Avenue North ROW.

Boring B105 was advanced within the Roy Street ROW, southeast of the Property and adjacent to well BB-8, in an effort to assess the vertical extent of PCE impacts in groundwater observed in that well. Borings B106 and B114 were advanced south of the Property within a City of Seattle-owned land parcel and the Broad Street ROW, respectively, in order to evaluate current groundwater conditions in the vicinity of former monitoring well R-MW4.

Borings B102, B112, B124, and 125 were advanced within the Valley Street and Dexter Avenue North ROWs in an effort to evaluate whether PCE contamination extended off the Property to the north and/or west.

Boring B117 was advanced within the Dexter Avenue North ROW to the southwest of the Property in order to evaluate PCE impacts in groundwater inferred as hydraulically upgradient from the Property.

Conductor casing was installed to 40 and 80 feet bgs in boring B102 and to 50 feet bgs in boring B111 to provide a barrier between water-bearing zones and mitigate downward migration of contamination through the water table. A summary (in numerical order) of the boring/monitoring well IDs, locations, purpose, installation date(s), depths advanced, and well completion details (if applicable) is presented in Table 12.

After the maximum depth was achieved in each sample interval, relatively undisturbed, discrete soil samples were collected from each soil sonic-rig-advanced boring continuously and from each hollow-stem-auger-rig-advanced boring at 5-foot intervals throughout the maximum depth explored. Soil samples were collected from the center of the core sample to avoid cross-contamination. The soil was classified using the Unified Soil Classification System. Soil characteristics, including moisture content, relative density, texture, and color, were recorded on boring logs, provided in Appendix B. The depths at which changes in soil lithology were observed and where groundwater was first encountered are also included on the boring logs. Selected portions of recovered soil core samples were placed in a plastic bag so the presence or absence of volatile organic compounds (VOCs) could be quantified using a photoionization detector (PID). Soil samples were selected for analysis based on previous data, field indications of potential contamination including visual and olfactory notations, PID readings, and/or the location of the sample proximate to the soil-groundwater interface.

After collection, soil samples were labeled with a unique sample ID, placed on ice in a cooler, and delivered to Friedman & Bruya, Inc. of Seattle, Washington, under standard chain-of-custody protocols for laboratory analysis. Select soil samples were submitted for laboratory analysis of VOCs, including PCE, TCE, vinyl chloride, 1,2-dichloroethane (EDC), 1,2-dibromoethane (EDB), cis-1,2-DCE, trans-1,2-dichloroethylene (trans-1,2-DCE) and 1,3,5- and 1,2,4-trimethylbenzene by U.S. Environmental Protection Agency (EPA) Method 8260C. Soil samples collected from DB02, DB14, and B107 were also submitted for analysis of GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260C.

4.3 RECONNAISSANCE GROUNDWATER SAMPLES

Reconnaissance groundwater samples were collected from borings B101 through B106, B115, B116, B122, B124, B126, DB01 through DB05, DB05A, DB10, DB13, and DB14 during drilling activities using a temporary screen and a peristaltic or bladder pump at various depths, as indicated in Table 2. The reconnaissance groundwater samples were submitted for laboratory analysis of VOCs, including PCE, TCE, vinyl chloride, EDC, EDB, cis- and trans-1,2-DCE, and 1,3,5- and 1,2,4-trimethylbenzene by EPA Method 8260C. The reconnaissance groundwater samples collected from borings B104 and DB14 were also analyzed for GRPH by Method NWTPH-Gx and/or BTEX by EPA Method 8260C at depths of 60 and 80 feet bgs. Additional reconnaissance groundwater samples were collected from borings B102, B103, and B105 at each of the depths sampled and were field-filtered through a 0.45-micron filter prior to analysis because the groundwater samples exhibited high turbidity. A field duplicate sample was collected from boring B101 at 80 feet bgs for quality assurance/quality control (QA/QC) purposes.

Reconnaissance groundwater samples are useful for screening and site characterization, although concentrations are typically considered an estimate since the collection process can produce a measureable difference from the samples' true value. The most common causes of sample bias are as follows:

- **Turbidity.** Turbidity can cause bias as a result of the adsorbtion of chemicals onto, or the release of chemicals from, the surface of particles in the sample (EPA 2005).
- **Disturbance.** Disturbances such as pressure decreases, temperature, exposure to atmospheric conditions, desorption from sampler materials, and agitation can all contribute to sample bias (EPA 2005).
- **Sampling Interval.** The potential for contaminated groundwater to travel between sampling intervals exists, potentially biasing the results at the point of interest.

In addition, the relatively short time frame associated with the collection of reconnaissance groundwater samples may be insufficient for adequate well development and equilibration with the surrounding formation.

4.4 MONITORING WELL INSTALLATION

Borings B101 through B128 were completed as monitoring wells MW101 through MW128, respectively. Each monitoring well was constructed of 2-inch-diameter blank PVC casing, flush-threaded to approximately 10 feet of 0.010-inch slotted well screen. The bottom of each of the wells was fitted with a threaded PVC bottom cap, and the top of each well was fitted with a locking compression-fit well cap. The annulus of the monitoring wells was filled with #10/20 silica sand to a minimum height of 1 foot above the top of the screened interval. A bentonite seal with a minimum thickness of 1 foot was installed above the sand pack. The wells were completed at the surface with a flush-mounted, traffic-rated well box set in concrete. The well completion details are presented in Table 12 and in the boring logs, which are provided in Appendix B.

Three water-bearing zones were identified during drilling activities: a shallow water-bearing zone comprised of fill and encountered at depths of 10 to 20 feet bgs; a relatively thick intermediate water-bearing zone comprised of dense to very dense heterogeneous glacial sediments, encountered between 25 and 80 feet bgs, and divided into "A" and "B" zones; and a deep outwash aquifer comprised of glacial advance outwash deposits encountered beneath the intermediate water-bearing zone.

Monitoring wells MW101 through MW106, MW122, MW123, MW124, and MW128 were screened in the deep water-bearing zone to maximum depths between 70 and 140 feet bgs. Monitoring wells MW107 through MW110, MW114 through MW120, and MW127 were screened in the intermediate "A" water-bearing zone. Monitoring wells MW111, MW112, and MW126 were screened in the intermediate "B" water-bearing zone.

4.5 MONITORING WELL DEVELOPMENT

The monitoring wells were developed with the use of a Grundfos submersible pump. Monitoring well development consisted of surging and purging the wells until a minimum of five well volumes was removed and the groundwater no longer appeared turbid. Turbidity was measured visually by field personnel conducting development activities. Monitoring wells W-MW-02, W-MW03, and W-MW-04 were substantially redeveloped before collecting groundwater samples to remove residual contaminant mass that was likely carried down the borehole during the initial installation by Windward.

4.6 GROUNDWATER MONITORING EVENTS

SoundEarth collected groundwater samples from the newly installed monitoring wells subsequent to their development and from the existing monitoring wells between July 2012 and January 2014 using low-flow sampling techniques. The monitoring wells were sampled using a combination of peristaltic and bladder pumps.

Groundwater measurements were collected on September 4 and December 21, 2012, from monitoring wells G-MW1, G-MW2, G-MW3, R-MW1, R-MW2, R-MW3, R-MW6, W-MW-01, W-MW-02, W-MW-03, W-MW-04, BB-8, MW-9, and M101 through MW116. Groundwater measurements were collected from all of the monitoring wells mentioned, as well as monitoring wells MW117, MW118, and MW119, on March 29. 2013. The most recent groundwater measurements were collected on January 6, 2014, and were collected from monitoring wells R-MW2, R-MW3, R-MW5, R-MW6, W-MW-01, W-MW-02, BB-8, MW-9, SCL-MW105-N, SCL-MW01, SCL-MW105-5, and M102 through MW127. Monitoring wells R-MW1, W-MW-03, W-MW-04, and MW101 were decommissioned in June of 2013. Groundwater measurements were collected relative to the top of well casings to an accuracy of 0.01 feet using an electronic water meter.

Groundwater samples were collected from each monitoring well in accordance with EPA's *Low Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (1996) and SoundEarth's *Standard Operating Procedures-007: Groundwater Sampling* at least 24 hours following well development. Purging and sampling of monitoring wells MW102, MW104, MW106, MW112, and MW124 were performed using a bladder pump and dedicated polyethylene tubing. Purging and sampling of monitoring wells W-MW-01, through W-MW-04, R-MW1, R-MW2, R-MW3, R-MW5, R-MW6, G-MW1, G-MW2, G-MW3, BB-8, MW-9, MW101, MW103, MW105, MW107 through MW111, MW113 through MW123, and MW125 through MW128 were performed using a peristaltic pump with dedicated polyethylene tubing. During purging, water quality parameters that were monitored and recorded included temperature, pH, specific conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential (ORP). Each well was purged until, at a minimum, pH, specific conductivity, and turbidity or dissolved oxygen stabilized. Samples were placed directly into clean, laboratory-prepared containers.

After collection, groundwater samples were labeled with a unique sample ID, placed on ice in a cooler, and delivered to Friedman & Bruya, Inc. under standard chain-of-custody protocols for laboratory analysis. Groundwater samples were submitted for laboratory analysis of VOCs, including PCE, TCE, vinyl chloride, EDC, EDB, cis- and trans-1,2-DCE, and 1,3,5- and 1,2,4-trimethylbenzene, by EPA Method 8260C. Select groundwater samples were also submitted for analysis of GRPH by Method NWTPH-Gx; DRPH and ORPH by Method NWTPH-Dx; BTEX by EPA Method 8260C; alkalinity by SM Method 2320B; nitrate, sulfate, and chloride by EPA Method 300.0; iron and total manganese by EPA Method 200.7; ferrous iron by Standard Method 3500FeD; and methane, ethene, and ethane by Method RSK-175. Field duplicate samples were collected from monitoring wells MW103 on September 5, G-MW1 on September 6, MW107 on December 21, 2012, MW103 on December 18, 2013, and MW121 on December 26, 2013, for QA/QC purposes.

4.7 PROPERTY SURVEY

On December 28, 2012, Bush, Roed & Hitchings, Inc. (BRH) mobilized to the Site and surveyed the horizontal and vertical monitoring well locations and top of casing and monument elevations for the purposes of calculating groundwater flow gradient and direction. Horizontal locations were surveyed relative to the North American Datum of 1983/91, Washington State Plane Coordinate System. Elevations were surveyed relative to the NAVD88. Three subsequent surveys were performed in March 2013 and January 2104 by BRH and True North Land Surveying upon completion of monitoring wells MW117 through MW128.

4.8 SOIL GAS SAMPLING

On March 11, 2013, SoundEarth performed a vapor intrusion investigation adjacent to the 800 Roy Street parcel. The purpose of the investigation was to evaluate whether vapor intrusion from PCE-contaminated groundwater beneath the 800 Roy Street parcel has adversely impacted indoor ambient air quality in the basement of the 800 Roy Street building. Soil gas samples were collected from permanent soil gas monitoring points SV01, SV02, and SV03, using individually certified, 6-liter summa canisters. The soil gas monitoring points were advanced in the sidewalk on the west side of the 800 Roy Street parcel by ESN Northwest using a push probe rig to a maximum depth of 13 feet bgs. The locations of soil gas monitoring points are shown on Figures 8 and 20.

Soil gas samples were collected in the vadose zone just above the groundwater capillary fringe at depths ranging from 11.75 and 12.75 feet bgs. The sample depths were selected to emulate a sub-slab soil gas sample collected in accordance with Ecology's *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action* (2009). The soil gas monitoring points were constructed of 6-inch-long, stainless-steel mesh implants from an approximate depth of 12.75 feet bgs and were connected to a riser composed of 0.5-inch-diameter, Teflon-lined polyethylene tubing. The soil gas monitoring points were fitted with a flush-mounted monument at ground surface.

A minimum of three "dead" volumes were purged from the soil gas monitoring points prior to sample collection. Purging and sampling was conducted through a laboratory-certified flow controller set to a flow rate of 167 milliliters per minute. The sample collection time was approximately 46 minutes for SV01 and SV02 and 47 minutes for SV03. The samples were analyzed for the presence of PCE, TCE, cis- and trans-1,2-DCE, and vinyl chloride by EPA Modified Method TO-15 SIM. In addition, helium was used to assess the potential for leaks in the sample train and probe annulus during sampling of the soil gas. Helium was introduced to the sample train and probe annulus by positioning an enclosure over the probe and sampling train. The enclosure was filled with a measured amount of helium, and the concentration of helium was then measured in soil gas samples subsequently drawn from the probe.

4.9 REMEDIAL INVESTIGATION RESULTS

Analytical results for soil and groundwater samples collected during the RI are presented on Figures 14 through 18 and 21 through 30 and in Tables 2 through 4 and 12. Laboratory analytical reports are included as Appendix C.

4.9.1 Soil Results

The following is a summary of the soil analytical data generated during the RI conducted by SoundEarth in July 2012 through January 2014:

- Fill was encountered from ground surface to maximum depths between 10 and 18 feet bgs in on-Property boring B101 and off-Property borings B102 and B103. Very dense, glacially derived sediments predominantly composed of silty sands and sandy silts, with sections of gravel containing varying amounts of silts and sands, were encountered below the Site (Figures 9 and 10). Wet sand with some silt and gravel was encountered at depths below 80 feet bgs and interpreted as glacial outwash deposits.

- Soil samples collected from on-Property borings B101, DB02, DB03, and DB05 through DB13, and off-Property borings B103 through B107, B109 through B111, and B114 contained concentrations of PCE and TCE exceeding the applicable cleanup levels. PCE and TCE concentrations that exceeded their respective cleanup levels were detected in soil collected from between 5 and 70 feet bgs. PCE concentrations exceeding the cleanup level were also detected in the soil samples collected from greater depths in B101 at 81 feet bgs and boring B104 at a depth of 80 feet bgs. The PCE concentrations detected in the soil samples collected from borings B101, B107, DB05, DB06, and DB07 at depths of between 30 and 40 feet bgs; boring DB10 at depths between 20 and 50 feet bgs; boring DB11 at a depth of 45 feet bgs; and boring DB12 at a depth of 20 feet bgs exceeded Washington State's Dangerous Waste criteria. A concentration of PCE at the cleanup level was detected in the soil sample collected from boring DB14 at a depth of 40 feet bgs.
- GRPH and/or benzene concentrations exceeding the cleanup level were detected in the soil samples collected from boring DB14 at depths of 10 and 20 feet bgs.
- Soil samples collected from borings B102, B108, B112, B113, B115 through B128, and DB01 did not exhibit concentrations of PCE or TCE exceeding the applicable cleanup levels and/or laboratory reporting limits. TCE was not detected in any of the soil samples collected from DB04 at concentrations above the laboratory reporting limits.
- None of the soil samples collected from the borings advanced during the RI contained concentrations of cis- or trans-1,2-DCE, 1,1-dichloroethylene (1,1-DCE), vinyl chloride, or other VOCs above their respective cleanup levels.
- GRPH and BTEX concentrations remained below laboratory reporting limit and/or the applicable cleanup levels in soil samples collected from borings B107, B120, B121, B124, B125, and DB02.

4.9.2 Reconnaissance Groundwater Results

The following is a summary of the reconnaissance groundwater analytical data generated during the RI:

- PCE concentrations exceeding the cleanup level were detected in reconnaissance groundwater samples collected from on-Property boring B101 at 80 feet bgs; borings DB02 through DB10, DB12, DB13, and DB14 at depths between 10 and 80 feet bgs; off-Property borings B103 at 40 and 80 feet bgs; B104 at 60, 80, and 100 feet bgs; and B106 at 35, 50, and 90 feet bgs. A concentration of PCE at the cleanup level was also detected in the reconnaissance groundwater sample collected from off-Property boring B102 at 30 feet bgs.
- Concentrations of TCE exceeding the cleanup level were detected in reconnaissance groundwater samples collected from on-Property borings B101 at 80 feet bgs; DB02, DB03, DB05, DB05A, DB08 through DB10, and DB12 through DB14 at depths

between 10 and 70 feet bgs; off-Property borings B103 at 40 and 80 feet bgs; B104 at 60, 80, and 100 feet bgs; and B106 at 50 feet bgs.

- Cis-1,2-DCE concentrations exceeding the cleanup level were detected in reconnaissance groundwater samples collected from on-Property borings B101 and DB03, DB05A, DB08, DB09, DB12, DB13, and DB14 at depths between 10 and 80 feet bgs; off-Property borings B103 at 40 and 80 feet bgs; B104 at 60 and 80 feet bgs; B106 at 50 feet bgs; and B122 at 40 feet bgs.
- Concentrations of vinyl chloride exceeding the cleanup level were detected in reconnaissance groundwater samples collected from on-Property boring B101 at 80 feet bgs and borings DB02, DB03, DB05A, DB08, DB09, DB13, and DB14 at depths between 35 and 70 feet bgs; off-Property boring B102 at 30 feet bgs; B103 at 40 and 80 feet bgs; B104 at 60, 80, and 100 feet bgs; B106 at 35, 50, and 90 feet bgs; and B122 at 40 and 85 feet bgs. A concentration of vinyl chloride at the cleanup level was also detected in the reconnaissance groundwater sample collected from boring B102 at a depth of 50 feet bgs.
- Concentrations of detectable VOCs in groundwater samples collected from borings B102 and B103 were greatly reduced in the filtered samples when compared to the non-filtered samples.
- A methylene chloride concentration was detected in reconnaissance groundwater sample collected from boring B104 at depths of 80 feet bgs; however, the resultant concentrations were flagged by the laboratory because methylene chloride was also detected in the method blank. Therefore, the detected concentration is considered a result of laboratory contamination.
- Trans-1,2,-DCE and 1,1-DCE were not detected at concentrations exceeding their respective cleanup levels in any of the reconnaissance groundwater samples collected during the RI.
- Reconnaissance groundwater samples collected from boring B104 did not contain concentrations of BTEX constituents exceeding their respective cleanup levels.
- Reconnaissance groundwater samples collected from boring B122 contained concentrations of benzene exceeding the cleanup level at 25 and 40 feet bgs.
- Reconnaissance groundwater samples collected from borings B105 and DB01 did not contain concentrations of VOCs above their respective laboratory reporting limits.
- Because PCE concentrations were so high in the reconnaissance groundwater samples collected from borings DB07, DB10, and DB12, the samples required dilution, which elevated the laboratory detection limits of TCE, cis-1,2-DCE, trans-1,2,-DCE, and vinyl chloride to above their respective cleanup levels. Therefore, it is not possible to determine if the concentrations of some of these CVOCs exceeded the cleanup levels in the samples collected from DB07, DB10, and DB12.

4.9.3 Groundwater Results

The following is a summary of the groundwater analytical results generated during the RI.

Shallow Water-Bearing Zone Wells: G-MW2, R-MW1, R-MW2, R-MW3, R-MW5, R-MW6, MW-9, MW121, and MW125.

- Concentrations of PCE exceeding the cleanup level were detected in the groundwater samples collected from monitoring wells G-MW2, R-MW1, and R-MW3.
- Concentrations of TCE and cis-1,2-DCE exceeding the cleanup level were detected in groundwater sample collected from monitoring well G-MW2.
- Concentrations of vinyl chloride exceeding the cleanup level were detected in groundwater samples collected from monitoring wells R-MW1, MW-9, and MW121.
- Concentrations of BTEX, trans-1,2-DCE, 1,1-DCE, and EDC remained below their respective laboratory reporting limits and/or cleanup levels in all of the shallow wells sampled during the RI.
- Concentrations of GRPH, ORPH, and DRPH remained below their respective laboratory reporting limits and/or cleanup levels in monitoring wells MW121 and MW125.
- Groundwater samples collected from monitoring wells R-MW2, R-MW5, and R-MW6 did not contain detectable concentrations of VOCs.

Intermediate Water-Bearing Zone (Interval A) Wells: G-MW1, G-MW3, BB-8, MW107 through MW110, MW114 through MW120, and MW127.

- Concentrations of PCE exceeding the cleanup level were detected in the groundwater samples collected from monitoring wells G-MW1, G-MW3, BB-8, MW107, MW109, MW110, MW114, MW115, and MW116.
- Concentrations of TCE exceeding the cleanup level were detected in groundwater samples collected from monitoring wells G-MW1, G-MW3, BB-8, MW107, MW109, MW110, and MW114.
- Concentrations of cis-1,2-DCE exceeding the cleanup level were detected in groundwater samples collected from monitoring wells G-MW1, G-MW3, MW107, MW108, MW109, MW110, MW114, MW115, MW120, and BB-8.
- Concentrations of vinyl chloride exceeding the cleanup level were detected in groundwater samples collected from monitoring wells G-MW1, G-MW3, MW107 through MW110, MW114, MW115, MW119, MW120, and MW127.
- A concentration of GRPH exceeding the cleanup level was detected in the groundwater sample collected from monitoring well MW107, located to the east of the Property within the 8th Avenue North ROW, although the concentration was flagged by the laboratory because the chromatograph pattern was not indicative of gasoline. Concentrations of DRPH and ORPH were below their applicable cleanup levels in the groundwater sample.
- Concentrations of PCE and TCE were below the laboratory reporting limit and/or cleanup level in groundwater samples collected from monitoring well MW108.

- The groundwater sample collected from monitoring well MW117, located within the Dexter Avenue North ROW to the south of the Property, did not contain detectable concentrations of VOCs.
- Groundwater samples collected from monitoring wells G-MW1, G-MW3, BB-8, and MW107, which were selected for additional BTEX analysis, did not contain concentrations of BTEX constituents above their respective cleanup levels.
- Trans-1,2-DCE, 1,1-DCE, and EDC were not detected at concentrations exceeding their respective cleanup levels in any of the groundwater samples collected from the Intermediate "A" wells sampled during the RI.

Intermediate Water-Bearing Zone (Interval B) Wells: W-MW01 through W-MW04, MW111, MW112, and MW126.

- Concentrations of PCE exceeding the cleanup level were detected in the groundwater samples collected from monitoring wells W-MW-02, W-MW-03, W-MW-04, and MW111.
- Concentrations of TCE exceeding the cleanup level were detected in the groundwater samples collected from monitoring wells W-MW02, W-MW04, and MW111.
- Concentrations of cis-1,2-DCE exceeding the cleanup level were detected in groundwater samples collected from monitoring wells W-MW-02, W-MW-03, W-MW-04, and MW111.
- Concentrations of vinyl chloride exceeding the cleanup level were detected in groundwater samples collected from monitoring wells W-MW-01 through W-MW-04 and MW111.
- The groundwater sample collected from monitoring well MW112, located in the Dexter Avenue North ROW to the west of the Property, did not contain detectable concentrations of VOCs.
- The groundwater sample collected from monitoring well MW126, located in the alley between 8th and 9th Avenue North, did not contain detectable concentrations of VOCs.
- Concentrations of PCE, TCE, and cis-1,2-DCE were below the laboratory reporting limits and/or cleanup levels in the groundwater sample collected from monitoring well W-MW-01.
- Groundwater samples collected from monitoring wells W-MW-01 through W-MW-04, which were selected for additional BTEX analysis, did not contain concentrations of BTEX constituents above their respective cleanup levels.
- Trans-1,2-DCE, 1,1-DCE, and EDC were not detected at concentrations exceeding their respective cleanup levels in any of the groundwater samples collected from the Intermediate "B" wells sampled during the RI.
- Groundwater samples collected from monitoring wells W-MW-01 through W-MW-04, after redevelopment, contained significantly lower concentrations of VOCs

compared to those observed by Windward. Suggesting their initial data may have been biased high due to drilling and sampling methodology.

Deep Water-Bearing Zone Wells: MW101 through MW106, MW113, MW122 through MW124, and MW128.

- A concentration of PCE exceeding the cleanup level was detected in the groundwater sample collected from monitoring wells MW103.
- Concentrations of TCE and vinyl chloride exceeding the cleanup level were detected in groundwater samples collected from monitoring wells MW103 and MW113.
- Concentrations of cis-1,2-DCE exceeding the cleanup level were detected in groundwater samples collected from monitoring wells MW103, MW113 and MW128**.**
- Concentrations of vinyl chloride exceeding the cleanup level were detected in groundwater samples collected from monitoring wells MW103, MW105, MW113, and MW128.
- Groundwater samples collected from on-Property monitoring well MW101 and monitoring wells MW102, MW104, and MW106 located to the north, east and south, of the Property, respectively, did not contain detectable concentrations of VOCs.
- Monitoring wells MW101 through MW106, which were selected for additional BTEX analysis, did not contain concentrations of BTEX constituents above their respective cleanup levels.
- Concentrations of PCE, TCE, and cis-1,2,-DCE remained below their respective laboratory reporting limits and cleanup levels in the groundwater samples collected from monitoring wells MW105, and MW122 through MW124. PCE also remained below the cleanup level in the groundwater sample collected from monitoring well MW113.

4.9.4 Soil Gas Results

PCE was detected in all three soil gas samples at concentrations ranging from 1.5 to 4.6 micrograms per cubic meter (µg/m^3). Vinyl chloride and cis 1,2-DCE were detected in soil gas sample SV01 at concentrations of 0.71 µg/m^3 and 0.31 µg/m^3, respectively. TCE was only detected in soil gas sample SV03 at a concentration of 0.39 µg/m^3. Concentrations of all remaining analytes in the soil gas samples were not detected above laboratory reporting limits.

In accordance with Ecology's vapor intrusion guidance, concentrations of PCE, TCE, and vinyl chloride in the soil gas samples were compared to screening levels in soil gas that are protective of indoor air quality. Soil gas screening levels were calculated using their respective MTCA Method B indoor air cleanup levels for carcinogenicity, obtained from Ecology's cleanup levels and risk calculations (CLARC) database and divided by a vapor attenuation factor of 0.1. Detectable concentrations of PCE, TCE, and vinyl chloride in soil gas samples collected during the RI were all less than their calculated screening levels of 96, 3.7, and 2.8 µg/m^3, respectively, which would be protective of indoor air. A screening level protective of indoor air was not calculated for cis-1,2-DCE because the CLARC database has not provided an indoor air cleanup level since toxicity values were updated in 2010. The previous MTCA Method B indoor air cleanup level for cis-1,2-DCE for non-carcinogenicity was 160 µg/m^3.

5.0 CONCEPTUAL SITE MODEL SUMMARY

This section provides a conceptual understanding of the contaminant distribution beneath the Site derived from the results of historical research and the subsurface investigations. Included is a discussion of the confirmed and suspected source areas, the COCs, media of concern, fate and transport, and the potential exposure pathways. The RI Report (SoundEarth 2013a) provides a more detailed discussion of the conceptual site model (CSM). The CSM serves as the basis for developing technically feasible cleanup action alternatives and selecting a cleanup action for the Property and Site. The CSM is considered to be dynamic and may be refined throughout the cleanup action process as additional information becomes available.

5.1 CONFIRMED AND SUSPECTED SOURCE AREAS

5.1.1 Chlorinated Solvents

The results of the investigations conducted at the Property suggest that the solvent impacts confirmed in soil and groundwater beneath the Site are the result of a release from the laundry and dry cleaning facility that operated on the Property from 1926 through 1995. Dry cleaning operations were conducted on the Property as early as 1966; by 1962, PCE was the primary dry cleaning agent in the United States. At the time, 90 percent of the PCE consumed in the United States was used for dry cleaning (Chemical Engineering News 1963). Considering the scale of the laundry and dry cleaning operations conducted at the Property, it is reasonable to expect that the use of dry cleaning solvents at the Property reflected that of the rest of the country.

Historical building plans indicated that the dry cleaning machines were installed on the first floor of Building A, with piping leading from the dry cleaning machines to the sumps in the boiler room of Building A. Anecdotal evidence suggests that dry cleaning operations were primarily conducted on the first floor of Building A (Figure 6). Consistent with this information, the highest concentrations of chlorinated solvents are located beneath the western portion of the Property, in the vicinity of the former Sump Nos. 2 and 4 and the associated sewer lines beneath former Building A. The results of the 2011 and 2012 preferential pathway investigation indicated that dry cleaning effluent may have flowed into Sump No. 4, which likely connected through the southern sewer line. Although it is not likely that Sump No. 4 leaked significantly, the joints within the sewer line may have contributed to a release of PCE-contaminated effluent into the subsurface beneath the Property. The results of laboratory analysis on sludge collected from cleanouts C.O. No. 1 and C.O. No. 2 and Sump No. 5, soil collected from test pit EX01 and borings B-07 and B101, and soil collected from boring B107 suggest that a portion of the PCE-contaminated effluent was conveyed through the northern, southern, and eastern sewer lines as well. The highest concentrations of PCE in groundwater beneath the Site are located in the northeastern portion of the Property. The distribution of solvents in soil and groundwater suggest that the primary source of the release is located in this area, although additional, smaller releases may have contributed to shallow solvent contamination elsewhere on the Property, including in the vicinity of the former water/sludge treatment facility that operated in Building C between 1986 and 1995. No ongoing chlorinated solvent releases to soil exist at the

Site because dry cleaning operations ceased in the 1990s; however, the contaminated soil continues to act as a secondary source to soil vapor and groundwater.

The horizontal and vertical extents of PCE and associated degradation compounds were evaluated for the intermediate water-bearing zone and the deep outwash aquifer. A series of isoconcentration maps and cross sections were developed to depict the range and extent of these groundwater contaminants. Concentrations of PCE, TCE, cis-1,2-DCE and vinyl chloride in the intermediate water-bearing zone are depicted in plan view on Figures 21 through 24. Concentrations of TCE and vinyl chloride detected in the deep outwash aquifer are shown in plan view on Figures 25 and 26, respectively. Isocontours of PCE, TCE, cis-1,2-DCE, and vinyl chloride with respect to depth are shown on the series of east-west cross-sections presented as Figures 27 through 30. Groundwater data obtained between January 2013 and January 2014 were used to develop the isoconcentration contour maps and cross sections. The most recent analytical results for each of the wells are noted on these figures, while the full set of groundwater data is presented in Tables 2 and 3.

As shown in Figures 21 through 30, COCs appear to have migrated in both west to east, and north to south directions from an apparent source or sources in the central portion of the Property. The lateral distribution of chlorinated solvent contamination is consistent with groundwater flow direction and is bound to the north by monitoring wells MW102, MW123, MW124, and MW126; to the west by monitoring wells MW112 and MW117, and to the south by monitoring well MW118. It is apparent that construction dewatering activities on the southeast corner of 9th Avenue North and Broad Street is influencing the lateral southern extent of the chlorinated solvent plume based on the recent detection of vinyl chloride in monitoring well MW119 (0.76 micrograms per liter [µg/L]). This well had previously not contained detectable concentrations of COCs.

The eastern extent of the plume appears to end approximately 450 to 500 feet east of the Property (between 9th Avenue North and Westlake Avenue North) based on the relatively low concentrations of vinyl chloride detected in monitoring wells MW113 (0.41 µg/L) and MW115 (0.75 µg/L). It appears a secondary source is present east of 9th Avenue North based on the dramatic increase of vinyl chloride concentration detected in monitoring well MW128 (250 µg/L), located on the corner of Westlake Avenue North and Broad Street (Westlake and Broad Property). Several historical land use practices in this area could have resulted in a release of chlorinated solvents to the subsurface (Figure 7).

The first known use of Westlake and Broad property was as a lumber yard and saw mill from at least 1893 through 1935; the lumber yard's machine shop was located in the northwest corner. In 1935, a fire destroyed the lumber yard buildings, and it was subsequently rebuilt on the eastern portion of the Westlake and Broad property. From 1938 through at least 1954, the Westlake and Broad property was occupied by a creamery, a brewery, and a gas station, in addition to the lumber yard.

The lumber yard was present on at least a portion of the Westlake and Broad property from 1893 through 1988. The creamery and brewery were present on site from 1933 through 1965.

The gas station, located on the northwest portion of the Westlake and Broad property, was listed as McKale's gas station from at least 1942 through 1963. From 1967 through at least 1997, the service station was listed as Auto Service Company, described in city directories as an auto cleaning and polishing company. Auto Service Company is listed on Ecology's Confirmed and Suspected Contaminated Sites list, as well as leaking underground storage tank (LUST) list.

An additional gas and service station was located on the southwest corner of the Westlake and Broad property from at 1965 through 2007, listed as a Unocal / ConocoPhillips/Tosco Service Station. In 1980, it was reported that approximately 80,000 gallons of gasoline had leaked from an underground pipe over the course of some months. The site is listed on Ecology's VCP list, as well as LUST list.

Buildings were removed from the Westlake and Broad property in 2006-2007, and the northern half was used as a parking lot from 2010 through 2013.

Auto cleaning processes typically involved use of chlorinated solvents as a degreaser; therefore, the use of the northwestern portion of the Westlake and Broad property as an auto cleaning and polishing service company for 30 years (1967-1997) is a potential source of groundwater contamination at MW128. However, MW128 will be monitored with respect to the Site-wide plume and incorporated into the time series analyses to support the conclusion that a secondary source is present in this area.

5.1.2 Petroleum Hydrocarbons

Two generations of refueling facilities operated on the northern portion of the Property and four USTs containing heating oil operated in the southwestern portion of the Property. Anecdotal evidence indicates that the circa 1961 UST system located in the northeast corner of the Property leaked petroleum hydrocarbons into the subsurface. The distribution of petroleum hydrocarbons in groundwater in the northeast portion of the Property suggests that a release from the circa 1961 UST system has impacted groundwater. It is unlikely that ongoing petroleum hydrocarbon releases to soil beneath the Property exist since both fuel UST systems were reportedly removed between 1966 and 1985 and the heating oil USTs were removed in 2013; however, petroleum-contaminated soil (PCS) may continue to act as a secondary source to soil vapor and groundwater.

Concentrations of petroleum hydrocarbons exceed their respective cleanup levels in soil and groundwater samples collected on the northern portion of the Property and within the 8th Avenue North ROW. The petroleum contamination is attributed to the historical operation of refueling facilities on the Property and on the east-adjoining properties. The petroleum hydrocarbon contamination appears vertically limited to the shallow and intermediate water-bearing zones. The lateral distribution of petroleum contamination in soil and groundwater is depicted on Figures 14 and 15, respectively, and is bound to the west by monitoring well W-MW-04, to the north by monitoring wells MW125 and MW-9, to the east by monitoring well MW121, and to the south by monitoring well W-MW-02.

5.2 CHEMICALS OF CONCERN

Based on the findings of the RI, the primary COCs at the Site are PCE and TCE in soil and groundwater.

Secondary COCs identified for the Site include metals, polycyclic aromatic hydrocarbons (PAHs), GRPH, DRPH, ORPH, BTEX, cis-1,2-DCE, and vinyl chloride.

5.3 MEDIA OF CONCERN

Soil and groundwater have been confirmed as affected media at the Site. Soil gas and indoor air have been retained as potential media of concern based on the elevated concentrations of PCE in soil and groundwater.

5.4 CONTAMINANT FATE AND TRANSPORT OF CHLORINATED SOLVENTS

This section includes a discussion of the transport mechanisms and environmental fate of chlorinated solvents in the subsurface.

Chlorinated solvents present beneath the Site include PCE, TCE, cis-1,2-DCE, and vinyl chloride, which are confirmed to be present at levels requiring further action under MTCA in both soil and groundwater. The PCE-related compounds are likely present as a result of chemical or biological degradation of PCE. Because both PCE and the degradation products share similar environmental fate and transport characteristics and are present in the same media, PCE is the focus of the contaminant fate and transport discussion.

The RI activities conducted at the Site have demonstrated the following:

- A shallow, perched water-bearing zone is located beneath the Site at depths between 20 and 30 feet NAVD88 (i.e., 10 and 20 feet bgs), consistent with the depth and thickness of the fill material underlying the area.
- An intermediate water-bearing zone, comprised of Intervals A and B, overlies and encompasses a hard silt layer, above which the majority of the contaminant mass is retained. The silt layer has been observed at elevations between -5 and 5 feet NAVD88 (i.e., 35 to 45 feet bgs).
- A deep water-bearing zone was encountered at depths of 90 to 125 feet bgs (-50 to -85 feet NAVD88) in the general vicinity of the Property. This zone encompasses a regional confined aquifer comprised of glacial outwash deposits.
- Concentrations of PCE are highest in groundwater samples collected in the west-central portion of the Property in the vicinity of B-9, GMW-2, G-MW3, DB05A, DB10, and DB12; PCE concentrations in groundwater collected from each of these borings/wells exceeded 100,000 µg/L during at least one sampling event. The highest concentration of PCE was 230,000 µg/L in groundwater collected from DB05A in March 2013. Groundwater exhibiting these concentrations was encountered between 10 and 45 feet bgs.
- Groundwater beneath the Site generally flows east toward Lake Union; the contaminant distribution in groundwater is consistent with the measured flow direction. The highest concentrations of chlorinated solvents have been detected within the shallow and intermediate water-bearing zones, with relatively low levels detected in the deep water-bearing zone. In most cases, supplemental sampling events indicate that the concentrations detected in the deeper water-bearing zone may have been a result of a high data bias due to elevated turbidity in the newly-installed wells.
- PCE in groundwater extends from the Property downgradient to 9th Avenue North.
- Concentrations of PCE in borings B-9 and G-MW1, which are located adjacent to former Building A (i.e., the west-central portion of the Property), exceed the land ban criteria of 60 milligrams per kilogram (mg/kg) at depths between 4 and 20 feet bgs (Figure 16). A comparatively larger

volume of soil exceeds the dangerous waste threshold of 14 mg/kg; however, concentrations of chlorinated solvents in soil generally diminish outward and downgradient of the primary source area, and the distribution of the solvents in soil generally follow that of groundwater.

- PCE has migrated vertically through soil to depths of up to 80 feet bgs in the areas explored (Figures 9 and 10). PCE contamination in soil extends south and east beyond the Property's boundaries and beneath the adjoining ROWs and portions of the south- and east-adjoining properties.

5.4.1 Transport Mechanisms Affecting Distribution of Chlorinated Solvents in the Subsurface

The lateral, crossgradient, and upgradient distribution of PCE concentrations in the vadose zone likely are a result of vapor-phase transport via diffusion from source areas and transport over time. In addition to vapor-phase transport, PCE and its degradation products in the subsurface can be transported in the dissolved-phase via groundwater or other water that comes into contact with the contaminated soil. PCE, TCE, and cis-1,2-DCE in groundwater generally follow horizontal and vertical groundwater gradients, assuming some degree of seasonal fluctuation in groundwater flow direction. Groundwater beneath the Site generally flows toward the east; the contaminant distribution beneath the Site indicates that the majority of the contaminant migration beneath the Site appears to be a result of advective transport via bulk movement of groundwater. Upgradient contaminant migration, as well as some of the crossgradient distribution patterns, likely resulted from long-term diffusion and subsequent dispersion of the solvents in the subsurface.

The mobility of the highest concentrations of COCs is limited by the presence of a hard silt layer underlying much of the Property at elevations between -5 and 5 feet NAVD88. The silt layer appears to significantly restrict the vertical migration of COCs.

5.4.2 Environmental Fate of Chlorinated Solvents in the Subsurface

The primary COC at the Site is PCE. PCE is a volatile compound that will volatilize into a gaseous state from soil and/or groundwater. In areas of the Site where an impermeable cover is not present, some PCE in vapor will escape to the atmosphere. Once in the atmosphere, it will rapidly attenuate via photodegradation. However, once PCE enters the subsurface, chemical attenuation processes, such as hydrolysis, direct mineralization, and reductive dehalogenation, may affect the PCE in soil and groundwater, resulting in a natural reduction or breakdown into nontoxic components, such as chloride and carbon dioxide. Biological attenuation processes, such as reductive dechlorination and cometabolic degradation, also may affect the reduction of PCE in soil and groundwater under conducive subsurface conditions. If reductive biodegradation of PCE is occurring, the first indication is the presence of degradation compounds that include TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride.

Concentrations of PCE and its degradation products, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride are present in the intermediate water-bearing zone downgradient of the Property (Figures 21 through 30). The presence of degradation products is evidence that intrinsic bioremediation of PCE is occurring in the intermediate water-bearing zone. Degradation of chlorinated solvents primarily occurs under biotic conditions although some minor amount of degradation may be occurring under abiotic conditions (EPA 1998, Bradley 2012). Biodegradation of the PCE in groundwater is a function of the oxidation-reduction conditions of the groundwater which are partially a function of the presence or absence of electron donors and acceptors that support biological mediated degradation. PCE biodegrades at a faster rate under anaerobic conditions, which are typically found at the source area and downgradient of the source area in the dissolved-phase plume, versus at the boundaries of the plume where anoxic to aerobic conditions are predominant. Anoxic and aerobic conditions are known be favorable to the biodegradation of vinyl chloride (Bradley 2012).

In the intermediate water-bearing zone, concentrations of PCE from the source area (monitoring wells MW107) to the eastern boundary of plume at 9th Avenue North (monitoring wells MW115 and MW116), decrease by a factor of up to 10,000. Based on analytical results from the last quarter of the 2013 and the first quarter of 2014, concentrations of PCE and degradation products at the edge of the plume, with the exception of low concentrations vinyl chloride, have not been reported above the laboratory reporting limits (Figures 21 through 24; Table 2). The presence of the vinyl chloride at groundwater monitoring well MW119, is believed to result from a steeping of the groundwater gradient at the downgradient edge of the plume as a result of localized construction dewatering.

PCE's degradation products are also present in the deep water-bearing zone at monitoring wells MW111 and MW113, located beneath the 8th and 9th Avenues North ROWs (Figures 25 and 26). However, neither PCE nor its degradation products have been detected in groundwater at concentrations above their respective laboratory reporting limits in monitoring well MW104, which is screened in the deep water-bearing zone located at the east Property boundary. The presence of the chlorinated solvents in the deep water-bearing zone downgradient of the source suggests vertical dispersion of chlorinated solvents from the intermediate water-bearing zone in this area of the Site, or an unknown contribution of chlorinated solvents in the alley between the 8th and 9th Avenue North.

The geochemistry of the intermediate water-bearing zone also provides evidence that intrinsic bioremediation of chlorinated solvents is occurring throughout the Site, primarily under anoxic to anaerobic conditions (Table 14). Studies have shown that dissolved oxygen concentrations of less than 1 milligram per liter (mg/L), nitrate concentration of less than 1 mg/L, ferrous iron concentrations of greater than 1 mg/L, sulfate concentrations of less than 20 mg/L, methane concentrations of greater than 0.5 mg/L, and negative ORP and pH readings of 5 to 9 are optimum conditions for microbial mediated biodegradation of PCE and its daughter products (EPA 1998, Bradley 2012). Dissolved concentrations of oxygen, nitrate, ferrous iron, sulfate, methane, pH, and ORP readings identified in the intermediate water-bearing zone in December 2013 (Table 14) are as follows:

- Dissolved oxygen concentrations ranging from 0.31 to 2.58 mg/L.
- Nitrate concentrations less than 0.025 to 0.750 mg/L.
- Ferrous iron concentrations ranging from 0.04 to 21.7.
- Sulfate concentrations ranging from 3.34 to 165 mg/L.
- Methane concentrations ranging from less than 0.005 to 3.45 mg/L.
- ORP readings ranging from -72 to +295 millivolts (mV). ORP readings in monitoring wells MW110 (290.6 mV) and MW119 (295.0 mV) are consider anomalous when

compared to their respective dissolve oxygen concentrations (+0.52 and +0.34 mg/L, respectively).

- pH readings ranging from 6.36 to 9.56 mg/L.

Furthermore, the distribution and concentrations of alkalinity and chloride in the intermediate water-bearing zone provide evidence that PCE and its daughter products are intrinsically degrading. The concentrations of alkalinity and chloride on the margins of the plume compared the core of the plume differ by a factor of approximately 1.5 to 2 times. Alkalinity and chloride concentrations greater than 2 times background concentrations are associated with the mineralization of carbon dioxide in the aquifer (EPA 1998). Carbon dioxide results from the degradation of PCE and its daughter products, which is evident particularly beneath the alley between 8th and 9th Avenues North and beneath 9th Avenue North. An increase in chloride concentrations within the core of the plume results from the dechlorination of PCE and its daughter products. Charts showing the distribution of selected MNA parameters along two flow lines are presented in Appendix D.

In the deep water-bearing zone geochemical indicators that support intrinsic bioremediation of the chlorinated solvents are inconclusive because there is no clear trend in the indicators. However, there are some indications, based on dissolved oxygen, chloride, and sulfate concentrations relative to background concentrations, that the geochemistry of the groundwater in the alley between the 8th and 9th Avenues North has the effective capacity to degrade PCE and its daughter products (Table 14).

5.4.2.1 Decay Rates of Chlorinated Solvents

The decay rates for PCE and its daughter products in the intermediate water-bearing zone were calculated assuming a first order decay rate. The effects of advection, dispersion, and absorption on the biological decay rates were removed by normalizing the concentrations of PCE and its daughter products to a conservative tracer, in this case chloride (EPA 1998). The data was normalized by dividing the concentration of the tracer at the source (or between points measured downgradient of the source), by the concentration of the tracer at a downgradient location. The measured concentration of the contaminant at the downgradient location is then multiplied by the dilution of the tracer. The decay rates for the shallow and deep water-bearing zones were not determined due to an insufficient data for those water-bearing zones.

Analytical results for two sets of flow lines were used to determine the decay rates in the intermediate zone (Appendix D). They included the following:

- Flow Line 1 - Monitoring wells MW107, MW109, MW108, and MW116
- Flow Line 2 - Monitoring wells MW107, MW110, and MW115

The flow lines were selected based the direction of groundwater flow in the intermediate groundwater bearing zone in March 2013 and January 2014 and the extent of the chlorinated solvent plume. A regression analysis was performed on the normalized analytical results and the travel time between two points. The slope of liner regression is the decay rate. The travel time (distance/contaminant velocity) was calculated using following parameters:

- Site-specific intermediate water-bearing zone seepage velocity of 0.61 ft/day (SoundEarth 2013a).

- Hydraulic gradient of 0.024 (SoundEarth 2013a).
- Soil partition coefficients from Ecology's CLARC database: PCE 2.70E+02 milliliters per gram (ml/g); TCE 9.40E+01 ml/g; total DCE (1,2-DCE) 3.890E+01 ml/g; and vinyl chloride 1.90E+01 ml/g.
- Fraction of organic carbon of 0.001.
- Bulk density of 1.7 grams per meter cubed (assumption based on of a mixture of silt, sand, and gravel in the intermediate water-bearing zone).
- Effective porosity of 0.3 (assumption based on a mixture of silt, sand, and gravel in the intermediate water-bearing zone).

The linear regression analysis for PCE and its daughter products is presented in Appendix D. Decay rates and the associated correlation coefficients for PCE and its daughter product are presented in the following table.

1st Order Decay Rates PCE, TCE, 1,2-DCE, and Vinyl Chloride

Contaminant	**Decay Rate/Year (Flow Line 1)**	**Linear Regression Correlation Coefficient (R^2)**	**Decay Rate/Year (Flow Line 2)**	**Linear Regression Correlation Coefficient (R^2)**
PCE	0.199	0.784	3.95	0.807
TCE	0.127	0.882	2.84	0.730
1,2-DCE (total)	3.28	0.593	3.79	0.640
Vinyl Chloride	0.405	0.893	1.81	0.526

NOTES:
1,2-DCE = total DCE
PCE = tetrachloroethylene
R^2 = correlation Coefficient
TCE = trichloroethylene

Based on the results presented above, the average first order biological decay rates for PCE, TCE, 1,2-DCE, and vinyl chloride in the intermediate water bearing zone are 2.07/year, 1.48/year, 3.35/year, and 1.11/year, respectively. Correlation coefficients for the analytes indicate that good regression relationships exist within the data set. The validity of the Site-specific decays rate is also supported in the literature (EPA 1998, Bradley 2012).

These results, in conjunction with other lines of evidence, support the conclusion that the intermediate water-bearing zone is capable of intrinsic bioremediation of chlorinated solvents and the rates of decay are sufficient to remove sufficient mass over time to achieve Site-specific cleanup standards in a reasonable restoration time frame. The concentrations for PCE, TCE, 1,2-DCE, and vinyl chloride in the groundwater at downgradient monitoring wells MW115 and MW116 (fourth quarter 2013) support the conclusion that these contaminants are attenuating downgradient of the source area, the boundary of the plume is located proximate to 9th Avenue North, and that concentrations of PCE, TCE, 1,2-DCE, and vinyl chloride at the downgradient edge of the plume are in compliance with applicable cleanup standards.

Based on average decay rates the restoration time frame (RTF) for each monitoring well downgradient of the source well (MW107) along each of the flow lines was calculated. The restoration time frame was calculated as follows:

$$t = Rx/V_{gw} * SQRT(1+4\alpha_x\lambda R/V_{gw})$$

t = time to restoration

x = distance along the flow line

R = retardation factor

V_{gw} = seepage velocity

SQRT = square root

α_x = longitudinal dispersivity

λ = first Order decay rate

The assumptions used to calculate RTFs included longitudinal dispersivity equal to 0.1 x distances to the receptor/well and steady-state condition for the plume (Ecology 2005).

Restoration Time Frames for PCE, TCE, 1,2-DCE, and Vinyl Chloride				
Contaminant	**Monitoring Well**	**RTFs in Years (Flow Line 1)**	**Monitoring Well**	**RTFs in Years (Flow Line 2)**
PCE	MW109/MW108/MW116	0.906/1.07/1.42	MW110/MW115	0.941/1.34
TCE	MW109/MW108/MW116	0.982/1.17/1.58	MW110/MW115	1.02/1.48
1,2-DCE (total)	MW109/MW108/MW116	0.788/0.912/1.19	MW110/MW115	0.816/1.13
Vinyl Chloride	MW109/MW108/MW116	1.04/1.25/1.71	MW110/MW115	1.08/1.60

NOTES:
1,2-DCE = total DCE
PCE = tetrachloroethylene
RTF = restoration time frame
TCE = trichloroethylene

The RTFs presented above define the approximate time required to reach one-half the steady-state concentration at a given receptor location (Ecology 2005). The time required to reach the applicable cleanup level for each chemical at wells along the flow line were then calculated and summed to obtain the total RTFs for all the COCs. Assuming the source area has been removed at the Property (i.e., thermal treatment and enhance bioremediation), the estimated RTF required to achieve applicable cleanup levels for all the COCs throughout the Site is estimated to range from approximately 11 to 17 years. The RTFs is most likely conservative given the fact that the biological decay rates used to calculate the RTFs do not include decay resulting from advection dispersion and adsorption.

5.5 CONTAMINANT FATE AND TRANSPORT OF PETROLEUM HYDROCARBONS

This section includes a discussion of the transport mechanisms and environmental fate of petroleum hydrocarbons in the subsurface.

The highest concentrations of petroleum hydrocarbons are located beneath the northern portion of the Property and within the 8th Avenue North ROW. The release of petroleum hydrocarbons is attributed to the former operation of refueling facilities on the Property and the east-adjoining properties.

5.5.1 Transport Mechanisms Affecting Distribution of Petroleum Hydrocarbons in the Subsurface

The environmental transport mechanisms of petroleum hydrocarbons are related to the separate phases in the subsurface. The three phases of petroleum contamination in the subsurface at the Site are vapor (in soil vapor), residual contamination (sorbed contamination on soil particles), and aqueous phase (contaminants dissolved in groundwater). Each phase is in equilibrium in the subsurface with the other phases, and the relative ratio of total subsurface contamination by petroleum hydrocarbons between the three phases is controlled by dissolution, volatilization, and sorption.

GRPH observed in soil and groundwater beneath the Site has been transported from source areas and distributed throughout the Site primarily by dispersive and advective transport mechanisms within the saturated zone. As with other chemicals, petroleum hydrocarbons tend to spread out as groundwater flows away from the source area. The extent of the hydrocarbon plume depends on the volume of the release, soil density, particle size, and seepage velocity.

Volatilization of the contaminant plume can result in mass removal of hydrocarbons by releasing vapor into the vadose zone, where soil hydrocarbon vapor can be biodegraded to an extent not possible in light nonaqueous-phase liquids (LNAPL) or dissolved phases, depending on environmental conditions. Sorption of contaminants onto soil particles or interstitial soil spaces can immobilize contaminants. Contaminants sorbed onto soil particles are not free to transport via aqueous transport or LNAPL advection. Residual contamination, although not necessarily broken down quickly over time, is generally immobile.

5.5.2 Environmental Fate in the Subsurface

The most significant fate process for petroleum hydrocarbons is biodegradation (i.e., natural attenuation). Biological degradation of contaminants in LNAPL, dissolved, residual, and vapor phases, is possible under a variety of environmental conditions, although it occurs predominantly in the aqueous, residual, and vapor phases. Degradation products of gasoline constituents are generally less toxic than their parent species. Petroleum hydrocarbons that are the most mobile (having the least viscosity and most solubility in water) are also the most easily biodegraded (e.g., aromatics). Because petroleum constituents contain thousands of carbon compounds, there is a vast array of biochemical transformations that occur in situ in the soil and groundwater media. For example, hydroxylation can alter hydrocarbon compounds to ketone or alcohol products that are less toxic or more biologically available; aromatic reduction can convert aromatic groups to naphthenes; ring cleavage can destroy aromatic functional group species; and reduction can alter olefin functionality. The alteration and destruction of petroleum hydrocarbon constituents occur both by microbial enzyme catalytic reactions on the contaminant substrate or by direct digestion of contaminants as an electron donor or acceptor.

Any number of reactions can occur within the subsurface by microorganisms that can change the chemical distribution and concentrations of the contaminants.

5.6 EXPOSURE PATHWAYS

This section discusses the confirmed and potential human health and ecological exposure pathways at the Site. A CSM highlighting the complete pathways is presented on Figure 22 of the RI Report (SoundEarth 2013a).

5.6.1 Soil Pathway

Potential exposure pathways for soil contamination include volatilization into soil vapor and subsequent exposure through the vapor pathway or via the direct contact pathway, which comprises direct contact via dermal contact with and/or ingestion of soil beneath the Site. Protection from direct contact exposure to affected soil would require capping or excavation. At present, much of the ground surface of the Property is covered with the foundation of the former buildings, with the exception of the portions of Building B that were removed prior to the decommissioning of the four 6,000-gallon USTs associated with the former boiler room. The remaining soil exhibiting concentrations of PCE that exceed the MTCA Method B soil cleanup level of 14 mg/kg, which is considered protective of the direct contact pathway for dermal contact and/or ingestion, is covered with concrete, asphalt, and/or building structures, which minimize the risk of direct contact. While future development activities at the Site could result in exposure to contaminated soil above direct contact levels during construction, this pathway will be mitigated by virtue of the plan to remove soil within the top 15 feet of the Property containing concentrations of COCs in excess of their respective cleanup levels prior to and during redevelopment activities.

5.6.2 Groundwater Pathway

Groundwater is affected by releases directly into a water-bearing zone or by unsaturated soil contamination desorbed from the soil particles by infiltrating surface water or seasonally high groundwater conditions. Potential exposure pathways for groundwater contamination include volatilization into soil vapor and subsequent exposure through the vapor pathway or via the direct contact pathway, which comprises both the dermal contact and ingestion pathways. No groundwater supply wells at or in the vicinity of the Site are used for potable water supply. The deep water-bearing zone underlying the Site may qualify as a potential future source of potable water; however, because of the availability of municipal water supplies in the Site vicinity, there is a low probability that groundwater in the deep water-bearing zone beneath the Site or adjoining parcels would be used as a potable water source. Because there is no practical use of groundwater in the Site vicinity, excavation activities would be required for direct contact with groundwater to become a potential risk to human health. Future development or remediation activities that may be conducted within the shallow perched interval or the intermediate water-bearing zones could result in exposure to contaminated groundwater during remedial construction activities.

5.6.3 Vapor Pathway

The air-filled pore space between soil grains in the unsaturated zone or partially saturated zone is referred to as soil gas or soil vapor. Soil vapor can become contaminated from volatilization of a PCE source, specifically from PCE as a nonaqueous-phase liquid, but also from PCE adsorbed to soil mineral surfaces and, to a lesser degree, dissolved in groundwater. Ecology guidance for evaluating soil vapor intrusion risks into structures provides generic chemical-specific screening levels for both groundwater and soil vapor that are protective of human health (Ecology 2009).

Because no buildings are currently located on the Property, the soil gas data collected during the RI were used to evaluate the potential for vapor intrusion into adjoining, off-Property buildings. The maximum detected COC soil gas concentrations and the associated screening levels protective of indoor air from the guidance are summarized in the following table.

COC	**Maximum Detected Concentration in Soil Vapor** (µg/m^3)	**Soil Gas Screening Level Protective of the Vapor Intrusion Pathway**(1) (µg/m^3) (Ecology 2009)
PCE	4.6	96
TCE	0.39	3.7
cis-1,2-DCE	0.31	160(2)
Vinyl chloride	0.71	2.8
GRPH	Not Measured	1,400–27,000(3)

NOTES:

(1) Soil gas screening level is equal to the indoor air cleanup level divided by an attenuation factor of 0.1 for soil gas just beneath the building.

(2) 2009 guidance value. CLARC database does not currently have an indoor air cleanup level for cis-1,2-DCE.

(3) The screening levels vary by fraction for petroleum hydrocarbons (air-phase petroleum hydrocarbons):
The standard for EC9-12 aliphatics is 1,400 µg/m^3.
The standard for EC9-10 aromatics is 1,800 µg/m^3.
The standard for EC5-8 aliphatics is 27,000 µg/m^3.

µg/m^3 = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethylene
CLARC = cleanup levels and risk calculations
COC = chemicals of concern
GRPH = gasoline-range petroleum hydrocarbons
Ecology = Washington State Department of Ecology
PCE = tetrachloroethylene
TCE = trichloroethylene

A comparison of the maximum detected COC concentrations in soil gas with the respective vapor intrusion screening level indicates that there is not a vapor intrusion risk under a standard exposure scenario involving a slab-on-grade, crawl space, or full basement construction at off-Property locations. Additionally, any on-Property risks will be mitigated in the future by virtue of remediating the contaminated soil and groundwater prior to and during Property redevelopment.

Because the groundwater contamination plume will remain at least temporarily following remediation activities, the groundwater screening levels for vapor intrusion are appropriately used for a screening level evaluation of the risk of vapor intrusion for future land use on the Property. The referenced guidance indicates that when conducting a Tier 1 evaluation of vapor intrusion risk, the maximum measured groundwater concentrations should be compared to the screening levels. The maximum detected COC concentrations detected in groundwater beneath the Property and the associated groundwater screening level protective of indoor air from the guidance, and updated using Ecology's CLARC database, revised in September 2012, are summarized in the following table.

COC	Maximum Detected Concentration in Groundwater (µg/L)	Groundwater Screening Level Protective of the Vapor Intrusion Pathway(1) (µg/L) (Ecology 2009 Appendix B)
PCE	220,000	12.8
TCE	4,800	0.88
Cis-1,2-DCE	7,600	160(2)
Vinyl chloride	630	0.25
GRPH/DRPH/ORPH	7,200/26,000/25,000	2.9–1,300(3)
Benzene	684	1.39

NOTES:

(1)Groundwater Screening Level is equal to the indoor air cleanup level divided by the product of an attenuation factor of 0.001, Henry's Law constant at 13 degrees Celsius (the average temperature of groundwater in Washington), and a conversion factor of 1,000.

(2)2009 guidance value. CLARC database does not currently have an indoor air cleanup level for cis-1,2-DCE.

(3)The screening levels vary by fraction for volatile petroleum hydrocarbons (volatile petroleum hydrocarbons):
The standard for EC8-10 aliphatics + EC10-12 aliphatics is 2.9 µg/L.
The standard for EC5-6 aliphatics + EC6-8 aliphatics is 140 µg/L.
The standard for C8-10 aromatics + EC10-12 aromatics is 1,300 µg/L.

µg/L = micrograms per liter
cis-1,2-DCE = cis-1,2-dichloroethylene
CLARC = cleanup levels and risk calculations
COC = chemicals of concern
DRPH = diesel-range petroleum hydrocarbons
GRPH = gasoline-range petroleum hydrocarbons
Ecology = Washington State Department of Ecology
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
TCE = trichloroethylene

A comparison of the maximum detected COC concentrations in groundwater with the respective vapor intrusion screening level indicates that there would be a potential vapor intrusion risk from all of the COCs under the standard exposure scenarios involving a slab-on-grade, crawl space, or full basement construction on the Property.

6.0 TECHNICAL ELEMENTS

RAOs are used to define the technical elements for the screening evaluation and to select remedial alternatives. The technical elements include ARARs, COCs, media of concern, and cleanup standards.

6.1 REMEDIAL ACTION OBJECTIVES

RAOs are statements of the goals that a remedial alternative should achieve in order to be retained for further consideration as part of the feasibility study (FS). The purpose of establishing RAOs for a site is to provide remedial alternatives that protect human health and the environment (WAC 173-340-350). In addition, RAOs are designated in order to:

- Implement administrative principles for cleanup (WAC 173-340-130).
- Meet the requirements, procedures, and expectations for conducting a FS and developing cleanup action alternatives as discussed in WAC 173-340-350 through 173-340-370.
- Develop cleanup levels (WAC 173-340-700 through 173-340-760) and remedial alternatives that are protective of human health and the environment.

In particular, RAOs must address the following threshold requirements from WAC 173-340:

- Protect human health and the environment.
- Comply with cleanup levels.
- Comply with applicable state and federal laws.
- Provide for compliance monitoring.

The overall RAO is to treat the primary source area and reduce COC concentrations in soil and groundwater to below the applicable cleanup levels at the points of compliance proposed in Section 6.4.2. In addition to mitigating risks to human health and the environment, achieving the RAO ultimately will allow Ecology to issue a No Further Action (NFA) determination for the Site.

In consideration of the anticipated future use of the Property, specific objectives for the preferred remedy include the following:

- Use in situ treatment methods, to an elevation of 0 feet NAVD88 (approximately 40 feet bgs), to treat the majority of contaminant mass beneath the Property.
- Post-treatment, excavate vadose zone soil containing COCs that present a risk to human health and the environment to 30 feet NAVD88 (approximately 10 feet bgs), as well as a limited area down to 20 feet NAVD88 (approximately 20 feet bgs) to address PCS.
- Use in situ treatment methods to reduce COCs exceeding cleanup levels in groundwater across the Site.
- Prevent further off-Property migration of COCs in groundwater at concentrations exceeding cleanup levels.
- Provide engineering controls to prevent the unacceptable risks to human health posed by COCs in groundwater until cleanup levels are achieved.
- Acquire an NFA determination for the Site.

6.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Under WAC 173-340-350 and 173-340-710, ARARs include regulatory cleanup standards, standards of control, and other environmental requirements, criteria, or limitations established under state or federal law that specifically address a contaminant, remedial action, location, or other circumstances at a site.

MTCA defines relevant and appropriate requirements as:

> Those cleanup action standards, standards of control, and other environmental requirements, criteria or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstances at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site.

The criteria specified in WAC 173-340-710(4) shall be used to determine if a requirement is relevant and appropriate.

Remedial actions conducted under MTCA must comply with the substantive requirements of the ARARs but are exempt from their procedural requirements (WAC 173-340-710[9]). Specifically, this exemption applies to state and local permitting requirements under the Washington State Water Pollution Control Act, Solid Waste Management Act, Hazardous Waste Management Act, Clean Air Act, State Fisheries Code, and Shoreline Management Act.

ARARs were screened to assess their applicability to the Site. The following table summarizes the preliminary ARARs.

Preliminary ARARs for the Site

Preliminary ARAR	Citation or Source
MTCA	Chapter 70.105 of the Revised Code of Washington (RCW)
MTCA Cleanup Regulation	WAC 173-340
Ecology, Toxics Cleanup Program – Guidance To Be Considered	*Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Review DRAFT, October 2009, Publication No. 09-09-047
State Environmental Policy Act	RCW 43.21C
Washington State Shoreline Management Act	RCW 90.58; WAC 173-18, 173-22, and 173-27
The Clean Water Act	33 United States Code (USC) 1251 et seq.
Comprehensive Environmental Response, Compensation, and Liability Act of 1980	42 USC 9601 et seq. and Part 300 of Title 40 of the Code of Federal Regulations (40 CFR 300)
The Fish and Wildlife Coordination Act	16 USC 661-667e; the Act of March 10, 1934; Ch. 55; 48 Stat. 401
Endangered Species Act	16 USC 1531 et seq.; 50 CFR 17, 225, and 402
Native American Graves Protection and Repatriation Act	25 USC 3001 through 3013; 43 CFR 10 and Washington's Indian Graves and Records Law (RCW 27.44)
Archaeological Resources Protection Act	16 USC 470aa et seq.; 43 CFR 7
Washington State Dangerous Waste Regulations	WAC 173-303
Solid Waste Management Act	RCW 70.95; WAC 173-304 and 173-351
Occupational Safety and Health Administration Regulations	29 CFR Parts 1910, 1926
Washington Department of Labor and Industries Regulations	WAC 296

Preliminary ARAR	Citation or Source
Water Quality Standards for Surface Waters of the State of Washington	RCW 90.48 and 90.54; WAC 173-201A
Water Quality Standards for Ground Water	WAC 173-200
Department of Transportation Hazardous Materials Regulations	40 CFR Parts 100 through 185
Washington State Water Well Construction Act	RCW 18.104; WAC 173-160
City of Seattle regulations, codes, and standards	All applicable or relevant and appropriate regulations, codes, and standards
King County regulations, codes, and standards	All applicable or relevant and appropriate regulations, codes, and standards

NOTES:
CFR = Code of Federal Regulations
MTCA = Washington State Model Toxics Control Act
RCW = Revised Code of Washington (RCW)
USC = United States Code (USC)
WAC = Washington Administrative Code

6.3 MEDIA AND CHEMICALS OF CONCERN

The Property redevelopment plan currently includes excavating to an elevation of approximately 30 feet NAVD88 for subgrade parking. The depth of the planned excavation is expected to remove soil from the vadose zone exhibiting solvent concentrations that exceed applicable cleanup levels. A small area also will be overexcavated to a depth of 20 feet NAVD88 to address PCS, depending on concentrations post-electrical resistance heating/ soil vapor extraction (ERH/SVE) treatment. The soil will be transported off the site for disposal at an appropriate land disposal site. Although soil is currently the primary medium of concern, upon the in situ treatment of contaminated soil beneath the Property and the subsequent excavation and removal of contaminated soil from the vadose zone, groundwater will become the primary medium of concern. Secondary media of concern include soil vapor and indoor air by virtue of vapor transport from groundwater. The primary and secondary media and associated COCs are shown in the table below:

Media of Concern	Chemicals of Concern
Soil	PCE, TCE, GRPH, DRPH, ORPH, BTEX, metals, and PAHs
Groundwater	PCE, TCE, cis-1,2-DCE, vinyl chloride, GRPH, DRPH, ORPH, and BTEX
Soil Gas, Indoor Air	PCE, TCE, cis-1,2-DCE, vinyl chloride, GRPH, and benzene

NOTES:
BTEX = benzene, toluene, ethylbenzene, and total xylenes
ORPH = oil-range petroleum hydrocarbons

cis-1,2-DCE = cis-1,2-dichloroethylene	PAH = polycyclic aromatic hydrocarbons
DRPH = diesel-range petroleum hydrocarbons	PCE = tetrachloroethylene
GRPH = gasoline-range petroleum hydrocarbons	TCE = trichloroethylene

6.4 CLEANUP STANDARDS

The selected cleanup action alternatives must comply with the MTCA cleanup regulations specified in WAC 173-340 and with applicable state and federal laws. The cleanup levels selected for the Site are consistent with the RAOs, which state that the remedial objective is to reduce concentrations of COCs in soil and/or groundwater to below the MTCA Method A (or B, as applicable) cleanup levels. In addition to mitigating risks to human health and the environment, achieving the RAOs will allow Ecology to issue an NFA determination under Ecology's Voluntary Cleanup Program. The associated media-specific cleanup levels for the identified COCs are summarized in Sections 6.4.1 through 6.4.3 below.

6.4.1 Cleanup Levels

The cleanup levels for the COCs and media of concern are tabulated below, including the source of the standard. The proposed cleanup levels for the Site are the MTCA Method A cleanup levels for COCs in soil, which are protective of the direct-contact pathway and protective of groundwater. The MTCA Method A cleanup levels are proposed for COCs in groundwater. If no promulgated MTCA Method A cleanup level exists for a given chemical, the proposed cleanup level is the MTCA Method B Standard Formula Value for carcinogenic or non-carcinogenic compounds, depending upon the carcinogenic properties of the compound.

Proposed Cleanup Levels for Soil

Chemicals of Concern	Cleanup Level (mg/kg)	Source
GRPH	30	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
DRPH	2,000	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
ORPH	2,000	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
Benzene	0.03	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
Toluene	7	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
Ethylbenzene	6	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
Total Xylenes	9	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
PCE	0.05	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
TCE	0.03	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)
cis-1,2-DCE	160	MTCA Method B, Non-Carcinogen; WAC 173-340-740(3)(b)(i)
Vinyl chloride	0.67	MTCA Method A, Unrestricted; WAC 173-340-740(2)(b)(i)

NOTES:

cis-1,2-DCE = cis-1,2-dichloroethylene	ORPH = oil-range petroleum hydrocarbons
DRPH = diesel-range petroleum hydrocarbons	PCE = tetrachloroethylene
GRPH = gasoline-range petroleum hydrocarbons	TCE = trichloroethylene
mg/kg = milligrams per kilogram	WAC = Washington Administrative Code
MTCA = Washington State Model Toxics Control Act	

Proposed Cleanup Levels for Groundwater

Chemicals of Concern	Cleanup Level (µg/L)	Source
GRPH	800	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
DRPH	500	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
ORPH	500	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
Benzene	5	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
Toluene	1,000	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
Ethylbenzene	700	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
Total Xylenes	1,000	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
PCE	5	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
TCE	5	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
cis-1,2-DCE	16	MTCA Method B, Table Value; WAC 173-340-720(4)(b)(iii)
Vinyl chloride	0.2	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)

NOTES:

µg/L = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethylene
DRPH = diesel-range petroleum hydrocarbons
GRPH = gasoline-range petroleum hydrocarbons
MTCA = Washington State Model Toxics Control Act
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
TCE = trichloroethylene
WAC = Washington Administrative Code

Proposed Cleanup Levels for Soil Gas

Chemicals of Concern	Cleanup Level[(1)] ($\mu g/m^3$)	Source
GRPH[(2)]	1,400/14,000	"Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action", Review DRAFT, October 2009, Publication No. 09-09-047; Appendix B, Method B; PCE and TCE Updated in cleanup levels and risk calculations database on September 2012.
Benzene	3.2/32	
PCE	96/960	
TCE	3.7/37	
cis-1,2-DCE	160/1,600 (NC)	
Vinyl chloride	2.8/28	

NOTES:

(1)The first value is the screening level for sub-slab measurements; the second value is the screening level for deep (> 15 feet below ground surface) soil gas measurements.

(2)This is the lowest (most conservative) of the three screening level values for air-phase petroleum hydrocarbon fractions.

µg/m3 = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethylene
GRPH = gasoline-range petroleum hydrocarbons
NC = noncarcinogenic
PCE = tetrachloroethylene
TCE = trichloroethylene

Proposed Cleanup Levels for Indoor Air

Chemicals of Concern	Cleanup Level ($\mu g/m^3$)	Source
GRPH[(1)]	140	*Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Review DRAFT, October 2009, Publication no. 09-09-047; Appendix B, Method B; PCE and TCE Updated in cleanup levels and risk calculations database on September 2012.
Benzene	0.32	
PCE	9.6	
TCE	0.37	
cis-1,2-DCE	16 (NC)	
Vinyl chloride	0.28	

NOTES:

µg/m3 = micrograms per cubic meter

cis-1,2-DCE = cis-1,2-dichloroethylene

GRPH = gasoline-range petroleum hydrocarbons

NC = noncarcinogenic

PCE = tetrachloroethylene

TCE = trichloroethylene

(1) This is the lowest of the three screening level values for air-phase petroleum hydrocarbon fractions.

6.4.2 Points of Compliance

The point of compliance is the location where the enforcement limits that are set in accordance with WAC 173-200-050 will be measured and cannot be exceeded (WAC 173-200-060). Once the cleanup levels have been attained at the defined points of compliance, the impacts present beneath the Site will no longer be considered a threat to human health or the environment. In situations where achieving the standard point of compliance is not practicable, conditional points of compliance can be implemented under the expectation that the persons responsible for undertaking the cleanup action shall demonstrate that all practical methods of treatment will be used in the Site cleanup and will not result in a greater overall threat to human health and the environment (WAC 134-340-720).

6.4.2.1 Point of Compliance for Groundwater

In accordance with WAC 173-340-720(8)(a)(b), the point of compliance for groundwater is defined as the uppermost level of the saturated zone extending vertically to the lowest depth that potentially could be impacted by the COCs throughout the Site.

6.4.2.2 Point of Compliance for Soil

In accordance with WAC 173-340-740(6)(b-d), the point of compliance for direct contact exposure is throughout the Property from the ground surface to 15 feet bgs, which is a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of development activities. All soil containing concentrations of COCs above the MTCA Method A cleanup levels will be excavated to a depth of 10 feet below the current foundation grade (i.e., 30 feet NAVD88) and removed from the Site.

In order to be protective of groundwater, the remaining soil containing known concentrations of PCE above the MTCA Method A cleanup level of 0.05 mg/kg (Table 740-1 of WAC 173-340) will be treated with in situ technologies as discussed in Section 7.0.

6.4.2.3 Point of Compliance for Soil Gas

Cleanup standards and points of compliance for soil gas have not been promulgated as of the date of this document, although soil gas screening levels have been published as draft guidance by Ecology (Ecology 2009) and are included as ARARs for this document. The points of compliance for soil gas are identified in the referenced guidance for both sub-slab gas (soil gas encountered just beneath a building) and deeper soil gas (defined as equal to, or greater than, 15 feet bgs).

6.4.2.4 Point of Compliance for Indoor Air

Cleanup standards and points of compliance for indoor air have not been promulgated as of the date of this document, although indoor air cleanup levels have been published as draft guidance (Ecology 2009) and are included as ARARs for this document. The points of compliance will be the standard point of compliance per WAC 173-340-750(6), which is ambient air throughout the Property.

7.0 SELECTED CLEANUP ACTION

The following sections summarize the feasible remedial alternatives reviewed during the FS, and they outline the components associated with the selected cleanup alternative.

7.1 EVALUATION OF FEASIBLE REMEDIATION TECHNOLOGIES

Remedial components (technologies) were evaluated with respect to the degree to which they comply with the cleanup requirements set forth in MTCA. According to MTCA, a cleanup action alternative must satisfy all of the following threshold criteria as specified in WAC 173-340-360(2):

- Protect human health and the environment.
- Comply with cleanup standards.
- Comply with applicable state and federal laws.
- Provide for compliance monitoring.

These criteria represent the minimum standards for an acceptable cleanup action.

WAC 173 340-360 (2)(b) also requires the cleanup action alternative to:

- Use permanent solutions to the maximum extent practicable.
- Provide for a reasonable restoration time frame.
- Consider public concerns on the proposed cleanup action alternative.

Using the above criteria, several remedial technologies were evaluated and screened for effectiveness, implementability, and relative cost to produce a short list for further inclusion in the development of alternatives. Table 12 of the FS Report (SoundEarth 2013b) summarizes the remedial component screening process. The remedial components that passed the screening process include the following:

- **Excavation and Land Disposal of Contaminated Soil.** The excavation of contaminated soil from the Property will include the removal of the impacted soil to an elevation of 30 feet NAVD88 to remove COCs from the vadose zone. Overexcavation of soil located in the northeast corner of the Property to an elevation of 20 feet NAVD88 is necessary to remove PCS that exceeds MTCA Method A cleanup levels. Land disposal is the act of removing contaminated soil from an uncontrolled condition and placing it in a controlled condition where it will produce fewer adverse environmental impacts. A controlled condition generally refers to engineered landfills that feature low permeability liners, witness systems, and leachate collection systems to prevent the disposed soil from leaching into the environment and mitigate future liability associated with the contamination.

- **Dewatering during Excavation.** Extensive dewatering is not anticipated due to the relatively shallow limits of the excavation (approximately 30 feet NAVD88; i.e., 10 feet bgs). The overexcavation of PCS will require dewatering to reach 20 feet NAVD88 since shallow groundwater beneath the Property is at approximately 30 feet NAVD88. As the excavation proceeds, it will encounter the shallow water-bearing zone across the Property. Dewatering is the process of pumping the groundwater that infiltrates the limits of the excavation. The water is collected at a low point in the excavation where it is then pumped to a water storage tank at the ground surface for treatment and disposal.

- **Soil Vapor Extraction.** SVE is the process of inducing a pressure and concentration gradient in the subsurface to cause volatile compounds, including PCE, TCE, GRPH, and benzene, to desorb from the soil and flow with the vapor stream to a common collection point for discharge or treatment. Collected vapors will be treated with granular-activated carbon prior to being discharged to the atmosphere.

- **Resistive Thermal Heating with Vapor Extraction.** Contaminated soil and groundwater is heated using electrical resistance to a temperature sufficient to cause the contaminants in the subsurface to volatilize to the vapor phase, where they are recovered by vapor extraction. Recovered vapor and water are treated with granular-activated carbon to remove contaminants before they are discharged.

- **In Situ Chemical Oxidation with Permanganate.** Permanganate has proven to be an effective chemical oxidant for the treatment of chlorinated solvents (PCE, TCE, cis-1,2-DCE, and vinyl chloride) in soil and groundwater. A solution of permanganate as a salt of either potassium or sodium is injected into the groundwater to chemically oxidize these target COCs.

- **Reductive Dechlorination (Anaerobic Bioremediation).** Reductive dechlorination is a proven remedial technology for chlorinated solvents. The fermentation of edible oil by indigenous microorganisms injected into the groundwater produces a rapid and significant reduction in dissolved oxygen concentrations in the saturated zone. This provides the strongly negative oxidation/reduction potential necessary to treat the target COCs by reductive dechlorination. The anaerobic zone extends far beyond the radius of influence of the edible oil itself, enhances attenuation of contaminants both up- and crossgradient of the active treatment zone, and serves as a barrier around the periphery of the treatment zone/groundwater plume, which mitigates the migration of contaminated groundwater beyond Site boundaries. Reductive dechlorination is a biotic process completed by anaerobic bacteria. Complete dechlorination of PCE produces non-toxic chloride, ethene, and ethane gas.

- **Passive Vapor Barrier.** Passive vapor barriers are materials that exhibit very low gas flow permeability and that can prevent the intrusion of vapor-phase VOCs into the interior of the building. The foundation of the future development will include the floor and walls of a one- to two-story underground parking garage. The foundation will be comprised of several feet of concrete, which will be constructed to act as a permanent vapor barrier to contaminant migration.

- **Monitored Natural Attenuation.** Monitored natural attenuation refers to the methods used to evaluate whether natural attenuation processes are effectively remediating a contaminant plume, and if so, at what rate. Contaminants released to the environment in concentrations that pose risks to human health or the environment are subject to natural degradation processes, such as volatilization, diffusion, biotic and abiotic reactions, and dilution. These naturally occurring attenuation processes are distinguished from an engineered remedy employed to increase the rate of remediation above the rate observed through these “natural” processes. In many cases, natural attenuation is the most cost-effective means for achieving cleanup levels.

Monitored natural attenuation is retained as a complimentary remedial component to other engineered remedial components rather than as a stand-alone or sole remedial component to be consistent with the expectations for natural attenuation stipulated under MTCA. Under MTCA, monitored natural attenuation can be considered an active remedial measure if Site conditions conform to the expectations listed in WAC 173-340-370(7), as follows:

- Source control (including removal and/or treatment of hazardous substances) has been conducted to the maximum extent practicable.
- Leaving contaminants in place during the restoration time frame does not pose an unacceptable threat to human health or the environment.
- There is evidence that natural biodegradation or chemical degradation is occurring and will continue to occur at a reasonable rate at the Site.
- Appropriate monitoring requirements are conducted to verify that the natural attenuation process is taking place and that human health and the environment are protected.

7.2 CLEANUP ACTION ALTERNATIVE DEVELOPMENT AND DESCRIPTION

The development of cleanup action alternatives considered only those remedial components that effectively treat the COCs in the affected media of concern and that were conducive to the future Property redevelopment plan. The most recent development plans for the Property include a bio-tech campus with underground parking. Preliminary site plans indicate that the entire Property will be excavated to a final grade depth of 30 feet NAVD88. Excavating the entire Property to this elevation will remove shallow soil exhibiting COCs above the respective cleanup levels and remove the majority of the source material from the Property.

Three cleanup action alternatives were developed that are comprised of various combinations of the remedial components retained from the component screening step. The ERH and SVE system and the excavation and off-site land disposal of contaminated soil are common to each of the alternatives presented in the FS Report (SoundEarth 2013b). The cleanup action alternatives differ only in the type of treatment employed to remediate groundwater.

Because of the significant elevation changes and associated relative depths bgs across the Site, discussions regarding elevation and depth are hereafter presented in elevations above NAVD88.

The three alternatives, which are described in more detail in SoundEarth's FS Report, include the following:

- Cleanup Action Alternative 1—ERH/SVE, Excavation of Soil, and In Situ Reductive Dechlorination of Groundwater
- Cleanup Action Alternative 2—ERH/SVE, Excavation of Soil, and In Situ Chemical Oxidation of Groundwater
- Cleanup Action Alternative 3—ERH/SVE, Excavation of Soil, and Permeable Reactive Barrier Wall for Groundwater

For the purposes of designing and evaluating cleanup action alternatives, the Site was separated into three vertical treatment zones: Shallow Treatment Zone, Intermediate Treatment Zone, and Deep Treatment Zone (Figures 9 and 10). These zones are generally defined by the following:

- Shallow Treatment Zone (40 to 0 feet NAVD88). This zone is characterized by the vadose zone (30 to 40 feet NAVD88) and the first 30 feet of the saturated zone (0 to 30 feet NAVD88). As discussed in previous sections, a distinctive, very hard, silt-rich layer was consistently encountered at elevations between -5 and 5 feet NAVD88, which is holding up a majority of the solvent mass beneath the Property.
- Intermediate Treatment Zone (0 to -40 NAVD88). This zone is characterized by the approximate maximum depth beneath the Property where COC concentrations were detected above the applicable cleanup level.
- Deep Treatment Zone (-40 to -80 NAVD88). This zone is characterized by the approximate maximum depth beneath the Site where COC concentrations were detected above the applicable cleanup level.

As described in the FS Report, Cleanup Action Alternative 1 is the recommended alternative, and it includes source removal via ERH/SVE and excavation on the Property, as well as the application of in situ reductive dechlorination to treat the Site-wide groundwater plume. Cleanup Action Alternative 1 meets the threshold requirements for cleanup actions set forth in WAC 173-340-360(3) and WAC 173-340-370.

Cleanup Action Alternative 1 addresses the COCs in all media of concern: soil gas, soil, groundwater, and indoor air. Cleanup Action Alternative 1 is protective of the indoor air inhalation pathway and of direct contact exposure (e.g., dermal contact, ingestion) with soil and groundwater. Treatment of the source area and active remediation of the contaminated groundwater beneath the Site demonstrate that Cleanup Action Alternative 1 is protective of groundwater.

Cleanup Action Alternative 1 includes installing an ERH/SVE system on Property within the shallow treatment zone, injecting an edible oil substrate (EOS) into the shallow, intermediate, and deep treatment zones to treat the groundwater using in situ reductive dechlorination, and excavating on-Property soil to an elevation of 30 feet NAVD88. Figures 31 through 38 provide a conceptual illustration of how this cleanup action alternative will be implemented.

The ERH/SVE system boundary was defined by the following criteria:

- Soil within the vadose zone (30 to 40 feet NAVD88) containing concentrations of PCE above 14 mg/kg. This is shown as the Hot Spot Area depicted on Figures 31 and 32.

- Groundwater between 0 to 40 feet NAVD88 containing concentrations of COCs above 5,000 µg/L; a concentration which can be effectively be remediated within a reasonable restoration time frame using in situ reductive dechlorination.

The ERH/SVE system was designed to reduce PCE concentrations to below 14 mg/kg in the vadose zone soil (30 to 40 feet NAVD88) to allow for the disposal of the soil at a non-hazardous, Subtitle D landfill. In addition, remediating the source area soil will also reduce PCE concentrations in the shallow groundwater treatment zone to less than 5ppm, which will expedite the restoration of groundwater quality beneath the Site.

In an effort to estimate how much total mass is present within the ERH/SVE system boundary, SoundEarth developed a 10-foot by 10-foot grid system and utilized AutoCAD for irregular-shaped areas defined by angled treatment boundary lines on Figure 31. The grid system and irregular-shaped areas were used to designate areas with concentration ranges of total CVOCs as PCE based on the most recent soil and groundwater sample analytical results.

The concentrations of the decay/daughter products were normalized to the parent product, PCE. Concentrations of normalized PCE for each sample were calculated by first dividing the individual concentration of each CVOC by its respective molar mass to convert the given CVOC into its molar concentration. The individual CVOC molar masses of each sample were summed to calculate the total molar concentration of CVOCs. These total molar concentrations were divided by the molar mass of PCE to normalize concentrations of total CVOCs to the parent product, PCE (PCE normalized).

Volume calculations were completed by dividing the designed depth of treatment into four 10-foot elevation segments for soil (e.g. 40 to 30 feet NAVD88) and multiplying each 10-foot elevation segment by the designated surface areas of their respective concentration ranges of PCE normalized depicted on Figures 39 through 43. Groundwater was treated as a continuous volume from 10 to 40 feet bgs. The estimated total mass for PCE normalized for the treatment area includes mass as dense nonaqueous phase liquid (DNAPL) from suspected source areas, and mass from adsorbed-phase soil and dissolved-phase groundwater with concentrations of total CVOCs. It is assumed the mass of total CVOCs in soil vapor is negligible; therefore, the mass of total CVOCs in soil vapor was excluded from the estimate of total mass. The following parameters were used for the total mass calculations:

- PCE Density = 101.1 pounds per cubic feet (pcf)
- Concentration ranges of PCE normalized were averaged for each designated area and 10-foot elevation segment
- Bulk Soil Density = 125.9 pcf
- Total Porosity = 0.3
- Water Density = 62.4 pcf

Using these parameters, the estimated total mass of PCE normalized within the treatment area in soil is 4,052 pounds and in groundwater is 3,870 pounds (Tables 15 and 16).

Residual DNAPL as PCE was observed within sludge located in Sump No. 4 and was sampled where a maximum PCE concentration was detected at 85,000 mg/kg. In addition, analytical results from soil and groundwater sample indicated that historical releases of PCE had likely occurred near the southern sewer line and trenches near and between Sumps No. 2, No. 4, and No. 8. Therefore, it is anticipated that a significant quantity of mass exists as DNAPL beneath the Property, but the exact quantity will not be known until final removal rates are established post-ERH/SVE treatment. Using a large residual DNAPL estimate of 4,500 pounds, the total mass of PCE normalized within the treatment area is 12,422 pounds (4,500 + 4,052 + 3,870).

The concentration ranges of PCE normalized for soil and groundwater in the treatment area are listed on Tables 15 and 16. In addition, Tables 15 and 16 present the calculated surface area for each elevation segment, volume, and mass corresponding to the average concentration range of PCE normalized in soil and groundwater.

7.3 CLEANUP ACTION OBJECTIVES

As discussed above, the objectives of the cleanup action have been established in consideration of human health and the environment and the future use of the Property, and include the following:

- Excavate on-Property soil containing PCE and other COCs at concentrations that present a risk to human health and the environment.
- Use in situ treatment methods to reduce COCs in groundwater beneath the Site exceeding cleanup levels.
- Prevent further off-Property migration of COCs in groundwater at concentrations exceeding cleanup levels.
- Provide engineering controls to prevent the unacceptable risks to human health posed by COCs in groundwater until cleanup levels are achieved.
- Acquire a determination of NFA.

8.0 CLEANUP ACTION IMPLEMENTATION PLAN

This section provides a description of the cleanup action components that will be implemented in order to remediate soil and groundwater beneath the Property containing concentrations of COCs exceeding the cleanup levels.

8.1 CLEANUP ACTION IMPLEMENTATION DOCUMENTS

A detailed Sampling and Analysis Plan (SAP) and Project-Specific Health and Safety Plan (HASP) were prepared as part of the CAP and are appended to this report. The purpose of the SAP is to ensure that the sample collection, handling, and analysis conducted during and after the completion of the cleanup action will result in data that meet the data quality objectives for the cleanup action at the Property. The SAP includes requirements for sampling activities, including sampling frequency and location, analytical testing, documentation, and QA/QC for compliance monitoring. The SAP also defines the data quality objectives and standard operating procedures for the cleanup action, as well as includes details regarding sample collection and analysis, including sample collection procedures, analytical methods, QA/QC procedures, and data quality reviews (Appendix E).

The purpose of the HASP is to outline the project-specific health and safety requirements for the cleanup action. The HASP will include guidelines to reduce the potential for injury during implementation of the cleanup action, as well as incident preparedness and response procedures, emergency response and evacuation procedures, local and project emergency contact information, appropriate precautions for potential airborne contaminants and site hazards, and expected characteristics of the waste generated by the proposed work (Appendix F).

8.2 CONSTRUCTION ACTIVITY SUMMARY—ELECTRICAL RESISTIVE HEATING/SOIL VAPOR EXTRACTION

The ERH/SVE system will encompass 37,943 square feet and consist of 165 electrodes and 16 temperature monitoring points (TMPs) that will be installed in the approximate spacing shown on Figure 31. The electrodes will be constructed in borings advanced to 0 feet NAVD88 (i.e., approximately 30 feet into the saturated zone) within the Property boundaries using standard hollow-stem auger (HSA) drilling techniques. The electrodes will be comprised of Schedule 40 steel. Groundwater within the treatment zone will be heated to a temperature of 100 degrees Celsius to transfer the dissolved COCs to the vapor phase for subsequent recovery by vapor extraction. During heating, subsurface temperatures will be measured at TMPs located within the treatment area. Each of the TMPs will consist of Schedule 80 PVC pipe installed in borings advanced using standard HSA drilling techniques. Pipes for the collection of recovered soil vapor will be connected to the electrodes to convey soil vapor from the treatment area by vacuum to a treatment building (Figure 32). The treatment system, consisting of the power control unit, condenser, two SVE blowers, and the granular-activated carbon units associated with treating the condensate and vapor generated by the system, will be located on the northern portion of the Property (Figure 32).

After installation of the electrodes, TMPs, and the vapor extraction mechanical and treatment equipment, the system will be subjected to startup and testing. After testing, power will be applied to the Property continuously, except for during system adjustments and routine maintenance. Thermocouples in the TMPs will be monitored continuously using a Power Control Unit (PCU) control and remote monitoring systems. The PCU is a variable transformer system capable of providing three simultaneous power outputs at automatically adjustable voltages. During operations, the heating contractor will monitor the system remotely and provide weekly updates and conduct site visits every other week for visual inspection and maintenance of the ERH components of the system. Additional trips will be made, as necessary, to verify that the ERH system is functioning efficiently and effectively.

During ERH/SVE system operations, lower permeability soil lenses and areas with elevated chloride ion concentrations attract electricity first due to the higher electric conductivity. These areas are typically associated with the most contaminated portions of the site where DNAPL tends to be present.

Once subsurface heating starts, the boiling points of various VOC/water mixtures are reached in the following order: DNAPL in contact with water or soil moisture, followed by dissolved VOCs, and finally, uncontaminated groundwater. This is explained by Dalton’s law of partial pressures.

When a VOC is immersed in water, the combined boiling point is depressed. Consequently, the VOC/water interface will boil when the vapor pressure of the VOC plus the vapor pressure of water are equal to the ambient pressure.

The boiling temperature of water that contains dissolved phase VOCs is also depressed, depending on the VOC concentration. However, the boiling point depression due to dissolved VOCs is negligible unless the concentration is in the percent range.

With this understanding, combined with the technology limitations of approximately 99% total mass removal efficiency, it is anticipated that the following estimates of mass destruction will occur within the treatment area:

Mass Phase	Mass before Treatment	Removal Efficiency	Mass after Treatment
DNAPL	4,500 lbs	100%	0 lbs
Adsorbed Phase onto Soil	4,052 lbs	99%	41 lbs
Dissolved Phase in Groundwater	3,870 lbs	98%	77 lbs
Total	12,422 lbs	99%	118 lbs

NOTES:
DNAPL = dense nonqueous-phase liquids
lb = pound

The remaining 118lbs of contaminant mass will be treated by in situ reductive dechlorination as described below.

8.3 CONSTRUCTION ACTIVITY SUMMARY—IN SITU REDUCTIVE DECHLORINATION OF GROUNDWATER

As illustrated on Figures 35 through 37, injection wells will be installed across the Property for source zone treatment and as barrier treatment walls along the eastern and southern Property boundaries for the purpose of injecting EOS to treat the residual solvent plume. EOS will be used as a carbon source to deplete dissolved oxygen present in the aquifer, generate free hydrogen, and sustain a robust anaerobic dechlorinating microbial population. The indigenous microbial population will consume oxygen and generate an anaerobic environment, which is needed for *Dehalococcoides* genus bacteria (DHC)-mediated reductive dechlorination to occur. Reductive dechlorination of CVOCs occurs under strictly anaerobic conditions. Unlike in aerobic conditions where bacteria obtain energy by oxidizing reduced compounds (i.e., petroleum) while utilizing oxygen as the electron acceptor, reductive dechlorination is mediated by anaerobic bacteria (e.g., DHC), which obtain energy by oxidizing hydrogen and utilizing the CVOC as the electron acceptor. Through this process, chlorine atoms within the solvent molecules are replaced by hydrogen one by one. As such, PCE is reduced to TCE, which is reduced to cis-1,2-DCE, which is reduced to vinyl chloride, which is reduced to ethene, which is reduced to carbon dioxide as a detoxified final degradation product. The presence of degradation products in groundwater beneath the Property confirms that conditions are conducive to reductive dechlorination, and enhancing this naturally occurring process with EOS will significantly reduce the remedial time frame.

Based on observed Site conditions, it is anticipated that the groundwater plume south of Roy Street and east of 8th Avenue North will be addressed by natural attenuation. The treatment of the source zone with ERH/SVE, excavation of vadose zone soil, and the in situ groundwater treatment on the Property will significantly reduce the contaminant concentrations in groundwater beneath the Property and Site. Primary and secondary lines of evidence will be used to evaluate whether natural attenuation is occurring in the groundwater south of Roy Street and east of 8th Avenue North. Primary lines of evidence will include analytical data that define a contaminated groundwater plume as shrinking, stable, or expanding for the COCs (trend analyses and isoconcentrations maps). Secondary lines of evidence for natural attenuation will include the evaluation of geochemical indicators (dissolved oxygen, ORP, pH, alkalinity, nitrate, total manganese, ferric and ferrous iron, sulfate, methane, ethene, ethane, chloride, and fatty acids) for naturally occurring biodegradation and estimates of natural attenuation rates and biodegradation capacity. Monitoring wells to be included in the natural attenuation network are as follows:

- Intermediate Water-Bearing Zone: MW107, MW108, MW109, MW110, MW111, MW112, MW114, MW115, MW116, MW117, MW118, MW119, MW120, and MW128
- Deep Water-Bearing Zone: MW102, MW103, MW104, MW105, MW106, MW113, and MW122

Currently, there are numerous lines of evidence that show that biodegradation is occurring in the intermediate water-bearing zone. These lines of evidence include the presence of PCE and its degradation products, the presence of geochemical indicators of biodegradation, and decay rates that show PCE and its degradation products are decaying over time and distance from the source area. Should in the future natural attenuation prove insufficient in remediating off-Property groundwater contamination, contingency injection wells will then be utilized, as shown on Figures 35 through 38. The first trigger for installation of the off-Property injection wells will be based on a time-series analysis of quarterly monitoring results for wells MW113, MW115, MW116, and MW119 (the sentry wells). If the time series analysis indicates an expanding plume at any of the sentry wells, SoundEarth will evaluate the necessity for installation of the off-Property injection wells in consultation with Ecology. The second trigger for installation of the off-Property injection wells will be based on a revised analysis of the restoration time frame, to be conducted at the conclusion of the 5 year monitoring program described in section 9.2.3.

The spacing of the injection wells along each transect is based on soil bulk density estimates developed by EOS Remediation, as well as the relatively permeable soil texture. This information was used to develop the approximate volume of EOS necessary to support a zone of anaerobic dechlorination sufficient to degrade the chlorinated solvents within groundwater beneath the Site. Based on the reaction time of the EOS, injection transects will be spaced a distance equivalent to the distance travelled by groundwater in 3 years. The groundwater seepage velocity for each treatment zone was based on the average seepage velocity for each water-bearing zone and was estimated at 150 feet per year for the shallow treatment zone and 25 feet per year for the intermediate treatment zone. The seepage velocity for each water-bearing zone is discussed in greater detail in Section 2.5.3 of the FS Report (SoundEarth 2013b).

Based on the seepage velocity in the shallow treatment zone, injection transects could be spaced up to 450 feet apart; however, a more aggressive network will be installed in the shallow source area to take advantage of the ERH electrodes and treat the expected residual mass that remains after implementation of the ERH treatment. The more aggressive injection approach in the source area will be accomplished by converting the 165 ERH electrodes, spaced on 17-foot centers, into injection points, as well as installing additional shallow injection points to the north of the ERH/SVE treatment boundary, with the positioning dependent on performance of the ERH/SVE system and its effect on mass outside of the direct treatment zone. If necessary, the same 17-foot-centers design associated with the ERH/SVE system will be utilized outside the ERH/SVE treatment boundary. However, wells in the shallow water-bearing zone could be placed on 25^{+}-foot centers based on a combination of total EOS volume required, the ability of the formation to accept the required EOS, and the groundwater seepage velocity.

The injection points installed within in the intermediate treatment zone will be placed on a north-south spacing of 20 feet and an east-west transect spacing of approximately 75 feet. The placement of these wells was designed to accomplish full coverage of EOS using a 1-foot to 5-foot dispersion ratio (dispersion rate: groundwater velocity) and the calculated seepage velocity discussed above (Figure 36). The barrier treatment wall injection points in both the shallow and intermediate treatment zones is designed for a single injection event with the wells placed on 10-foot centers to prevent further off-Property migration of COCs in groundwater at concentrations exceeding cleanup levels (Figure 35 and 37). This provides a level of conservatism since it is designed to treat all of the contamination coming from the Property, ignoring the extensive injection scheme implemented within the source area. The exact spacing and placement of the barrier treatment wells will be contingent on site conditions, access restrictions, and protection requirements for future use.

Manifold piping will be used to introduce EOS into each of the injection wells. Upon completion of the EOS injection on Property, the interior injection wells and those wells within the excavation footprint will be decommissioned and the remedial excavation would commence.

8.4 CONSTRUCTION ACTIVITY SUMMARY—EXCAVATION AND LAND DISPOSAL OF CONTAMINATED SOIL

Upon decommissioning of the system and prior to conducting excavation activities on the Property, performance soil samples will be collected from the vadose zone (30 to 40 feet NAVD88) to verify that the system effectively reduced concentrations of PCE to below 14 mg/kg to allow for the disposal of the soil at a non-hazardous, Subtitle D landfill under Ecology's contained-in determination. In addition, some secondary effect of PCS could be realized in the areas surrounding the ERH/SVE system and this soil also will be assessed.

8.4.1 Site Preparation and Mobilization

Prior to initiating construction activities, temporary erosion and sediment control (TESC) measures will be established as part of the larger construction excavation project. Once all TESC measures are implemented in accordance with the construction project plan, construction equipment and supplies will be mobilized to the Property.

8.4.2 Well Decommissioning

ERH electrodes, TMPs, existing monitoring wells, and EOS injection wells within the footprint of the excavation area will be decommissioned by a licensed well driller or under the supervision of a professional engineer in accordance with the Ecology Water Well Construction Act (1971), RCW 18.104 (WAC 173-160-460).

8.4.3 Shoring Installation

Shoring will be installed around the entire perimeter of the redevelopment and will consist of soldier piles, lagging, and tie backs. The shoring design will be incorporated into the future development plans and is not presented in this CAP. Shoring will be installed in 5- to 10-foot vertical increments as the excavation proceeds to facilitate the safe excavation of contaminated soil to the required depth.

8.4.4 Shoring and Excavation Sequence

The bulk excavation will commence after the completion of the following items:

- Acquiring a contained-in determination and profiling for waste disposal from Ecology.

- Installing TESC measures.
- Establishing site security and fencing.
- Preparing ingress and egress pathways.
- Decommissioning ERH electrodes, TMPs, existing monitoring wells, and EOS injection wells within the remedial excavation area.
- Installing the shoring system.

The excavation limits will extend from lot-line to lot-line and to 30 feet NAVD88. Field activities will involve excavating soil from the vadose zone (30 to 40 feet NAVD88) and transporting the excavated material off the Property for land disposal (Figures 33 and 34). To address PCS detected above MTCA Method A cleanup levels beneath the northeast portion of the Property, this area will be overexcavated to approximately 20 feet NAVD88 (Figure 33) and backfilled with clean structural fill. Field screening and soil stockpile samples will be used to document COC concentrations in soil and to confirm compliance with the contained-in determination.

It is anticipated that all soil removed from the excavation area will meet the contained-in criteria for PCE for disposal at a Subtitle D (municipal waste) disposal facility (Figure 33). To meet the requirements of the contained-in determination, detectable concentrations of PCE must be below 14 mg/kg. Approximately 32,000 tons of soil will be removed from the Property for off-site disposal.

8.4.4.1 Contingency Plan to Address Unknown Contamination

The presence of aesthetic impacts and conditions encountered by site employees and equipment operators during the construction excavation activities at the Property may be indicative of conditions associated with contaminated media. Equipment operators will be instructed to use the following criteria to alert the site superintendent and construction manager of potential issues of previously unidentified contamination at the Property. Any of the following occurrences are considered common-sense criteria that may require a mitigation or remediation response. These criteria include, but are not limited to, the following:

- Obvious petroleum staining, sheen, or colored hues in soil or standing water.
- The presence of petroleum products or leachate of other chemicals.
- The presence of utility pipelines with sludge or trapped liquid indicating petroleum or chemical discharge sludge.
- The presence of buried pipes, conduits, tanks, or unexplained metallic objects or debris.
- Materials with a granular texture that suggests industrial origin.
- Vapors causing eye irritation or nose tingling or burning.
- White, chalky compounds or fine particulate soil layers.
- Presence of gasoline- or oil-like vapor or odor.
- Burnt debris or the presence of slag-like material.

Any criteria identified by on-site personnel will be evaluated and, as appropriate, a sampling plan will be developed to properly characterize and manage the material in accordance with state and federal regulations.

8.4.5 Construction Dewatering

Extensive dewatering is not anticipated due to the relatively shallow limits of the excavation (approximately 30 feet NAVD88, i.e., 10 feet bgs). The overexcavation of PCS will require dewatering to reach 20 feet NAVD88 because shallow groundwater beneath the Property is at approximately 30 feet NAVD88. As the excavation proceeds, it will encounter the shallow water-bearing zone across the Property. The water will be collected at a low point in the excavation where it will be pumped to a water storage tank at the ground surface for treatment and disposal.

9.0 COMPLIANCE MONITORING

There are three types of compliance monitoring identified for remedial cleanup actions performed under MTCA (WAC 173-340-410): protection, performance, and confirmational monitoring. A paraphrased definition for each is presented below (WAC 173-340-410[1]). Additional details regarding procedures for sample collection, handling, and quality assurance procedures are included in the SAP and HASP, which are attached to this report as Appendices E and F, respectively.

- **Protection Monitoring**—To evaluate whether human health and the environment are adequately protected during construction and the operation and maintenance period of a cleanup action.
- **Performance Monitoring**—To document that the cleanup action has attained cleanup standards.
- **Confirmational Monitoring**—To evaluate the long-term effectiveness of cleanup action once cleanup standards or other performance standards have been attained.

9.1 PROTECTION MONITORING

A HASP has been prepared for the cleanup action that meets the minimum requirements for such a plan identified in federal (29 CFR 1910.120, and 1926) and state regulations (WAC 296). The HASP identifies all known physical, chemical, and biological hazards; hazard monitoring protocols; and administrative and engineering controls required to mitigate the identified hazards (Appendix F).

9.2 PERFORMANCE MONITORING

Performance monitoring includes the collection of soil and groundwater samples from within the treatment area to document that the cleanup action has achieved the cleanup goals.

9.2.1 Soil Performance Monitoring—ERH/SVE

Performance monitoring for soil will be conducted in the vadose zone (30 to 40 feet NAVD88) to verify that the ERH/SVE system effectively reduced concentrations of PCE to below 14 mg/kg to allow for the disposal of the soil at a non-hazardous, Subtitle D landfill under Ecology's contained-in determination. Four soil borings will be advanced within the Hot Spot Area (Figure

A-2 of the SAP), and the analytical results will be used to assess when the cleanup goals have been achieved. A detailed scope for sampling and analysis is discussed in the SAP (Appendix E).

9.2.2 Soil Performance Monitoring—Remedial Excavation

Performance monitoring for soil will be conducted during the remedial excavation to confirm that all of the PCS has been removed from the northeast corner of the Property.

Soil samples will be collected directly from the sidewalls and/or bottom of the excavation using either stainless steel or plastic sampling tools. Soil samples collected at depths of less than 4 feet bgs will be collected manually. Samples collected at depths below 4 feet bgs will be collected with the backhoe bucket unless engineering controls are in place that allow for manual sample collection at depths greater than 4 feet bgs. All non-dedicated sampling equipment will be decontaminated between uses. The samples will be submitted for laboratory analysis and the analytical results will be used to assess when the points of compliance for soil have been achieved within the dangerous waste excavation area. A detailed scope for sampling and analysis is discussed in the SAP (Appendix E).

9.2.3 Groundwater Performance Monitoring

Performance monitoring for groundwater will be conducted within the shallow treatment zone to monitor the effectiveness of the ERH/SVE system. The proposed monitoring well locations are shown on Figure 31 and summarized below.

Nine monitoring wells will be completed on the Property within the ERH/SVE treatment area. The wells will be installed to a depth of approximately 40 feet bgs (0 feet NAVD88) and screened from approximately 10 feet to 40 feet bgs. Each monitoring well will be constructed of 1-inch-diameter blank stainless steel casing, flush-threaded to 0.010-inch slotted well screen. The bottom of each of the wells will be fitted with a threaded bottom cap. The annulus of the monitoring wells will be filled with #10/20 silica sand to 2 feet above the top of the screened interval. The wells will be completed at the surface with 8 feet of neat cement grout.

The monitoring wells will be developed by SoundEarth field staff and will consist of surging and purging until a minimum of five well volumes are removed and the groundwater no longer appears turbid. Turbidity will be measured visually by field staff conducting development activities. Groundwater samples will be collected and handled in accordance with EPA guidance document, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* at least 24 hours following well development.

Groundwater samples will be submitted to the laboratory and analyzed for chlorinated solvents. The analytical results will be used to assess when the cleanup goals for groundwater have been achieved.

The ERH/SVE cleanup goals for groundwater are highly dependent on the performance of the treatment system. At a minimum, the system shall operate until the PCE concentrations in groundwater are below 5,000 µg/L. Groundwater containing concentrations of PCE below the ERH/SVE cleanup goal can effectively be remediated within a reasonable restoration time frame using in situ reductive dechlorination.

Monitoring wells outside of the Property boundary will be monitored for PCE, TCE, cis- and trans- 1,2-DCE, vinyl chloride and natural attenuation parameters. Performance monitoring results will be used to evaluate primary and secondary lines of evidence to support the conclusion that natural attenuation is occurring in the groundwater at the Site. Primary lines of evidence will include analytical data that define a contaminated groundwater plume as shrinking, stable, or expanding for the COCs (time series analyses and isoconcentrations maps). Secondary lines of evidence for natural attenuation will include the evaluation of geochemical indicators (dissolved oxygen, ORP, pH, alkalinity, nitrate, total manganese, ferric and ferrous iron, sulfate, methane, ethene, ethane, chloride, and fatty acids) for naturally occurring biodegradation and estimates of natural attenuation rates and biodegradation capacity. The performance monitoring well network will included the following wells :

- Intermediate Water-Bearing Zone: MW107, MW108, MW109, MW110, MW111, MW112, MW114, MW115, MW116, MW117, MW118, MW119, MW120, and MW128
- Deep Water-Bearing Zone: MW102, MW103, MW104, MW105, MW106, MW113, and MW122

Quarterly performance monitoring is proposed for one year after treatment is initiated; semi-annually for the following two years; and annually two years thereafter. After one year of quarterly performance groundwater monitoring the number of wells in the network will reviewed to determine if the number of wells performance monitoring well can be reduced. Any reduction in the performance monitoring well network will be conducted in consultation with Ecology.

9.2.4 <u>Waste Profiling</u>

Waste generated during the cleanup action may require analytical testing before disposal. Generally, the treatment, storage, and disposal facility (TSDF) receiving the waste specifies the minimum number of samples and analyses before accepting wastes from a site or property; at the Property, data generated during the RI activities are sufficient to develop a waste profile. Wastes that will be generated from the remedial action and destined for off-Site disposal include the following:

- Soil contaminated with PCE and its degradation products; GRPH, DRPH, ORPH, and associated compounds.
- Contaminated groundwater from excavation dewatering.
- Contaminated personal protective equipment.
- Decontamination solutions.
- Miscellaneous solid wastes.

Each waste stream will be profiled separately in accordance with the minimum waste analyses requirements of the respective permitted TSDF. If unforeseen soil conditions are encountered, additional waste profiling may be required for proper classification and disposal.

9.3 CONFIRMATIONAL MONITORING

Confirmational monitoring will commence after the analytical data from the performance monitoring indicates that cleanup objectives have been achieved.

9.3.1 Soil Confirmational Monitoring

Confirmational monitoring for soil will be conducted to verify that concentrations of COCs are below the levels required for protection of groundwater beneath the Site.

Upon completion of the cleanup action and the anticipated restoration time frame, soil borings will be advanced at several locations beneath the Site. The planned Property improvements are not currently finalized, and ongoing development of the South Lake Union area suggests that ROWs may change locations; therefore, the exact locations of these borings are not known.

9.3.2 Groundwater Confirmational Monitoring

It is anticipated that the groundwater quality beneath the Property will be improved by virtue of removing the source area and treating the residual contamination by ERH/SVE and in situ reductive dechlorination. To confirm the effectiveness of the cleanup action on groundwater quality, groundwater samples will be collected on a regular basis from monitoring wells advanced beneath the Site. The planned Property improvements are not currently finalized, and it is unclear whether all existing monitoring wells off Property will remain over the entire restoration time frame; therefore, the exact locations of these wells are not known. Once four consecutive quarters of clean (e.g., concentrations of COCs are below their respective cleanup levels), post-remediation groundwater analytical data are achieved, the groundwater beneath the Site will be considered to be compliant with MTCA.

10.0 DOCUMENTATION REQUIREMENTS

Documentation of the cleanup action is necessary to meet MTCA requirements. The applicable and relevant documentation generated for the cleanup action will be submitted to Ecology for review and approval. Copies of the documents will be retained for a minimum of 3 years after completion of the cleanup action.

10.1 DOCUMENTATION MANAGEMENT

An established document control system to be implemented during the cleanup action includes the following elements, as appropriate: field report forms, excavation logs, sample summary forms, material import and export summary forms, groundwater purge and sample forms, sample chain of custody forms, waste inventory documentation, waste management labels, and sample labels. Disposal manifests for the waste generated during the cleanup action will be maintained and submitted with the project documentation.

10.2 WASTE DISPOSAL TRACKING

Specific documentation requirements will be met for transportation and disposal of the contaminated soil and groundwater during the excavation activities as required by state and federal regulations. The waste disposal tracking documentation includes analytical data, waste profiles, waste manifests, and bills of lading.

10.3 COMPLIANCE REPORTS

A Cleanup Action Report will be prepared following completion of the cleanup action activities to demonstrate compliance for soil and groundwater at the points of compliance defined for the Site. At a minimum, the report will include the following:

- ERH/SVE system operation and maintenance summary.
- Monitoring well and ERH/SVE system decommissioning documentation.
- A description of the excavation activities.
- Documentation of waste disposal tracking for the excavated soil, generated wastewater, and other associated materials.
- A figure depicting the final limits of the remedial excavation and the soil sample locations, as applicable.
- A summary of compliance monitoring analytical results.
- A description of the quarterly groundwater monitoring activities.
- A summary of the compliance sampling analytical results for groundwater for samples collected during quarterly groundwater monitoring, including summary tables.
- A figure depicting primary Property features and points of compliance/monitoring well locations.
- SoundEarth's conclusions pertaining to the cleanup action following the completion of four consecutive quarters of confirmational groundwater monitoring.

When the compliance reports have been finalized, the reports will be submitted to Ecology for review and approval, and an NFA determination will be requested for the Site.

11.0 LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with FEM. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others or the use of segregated portions of this report.

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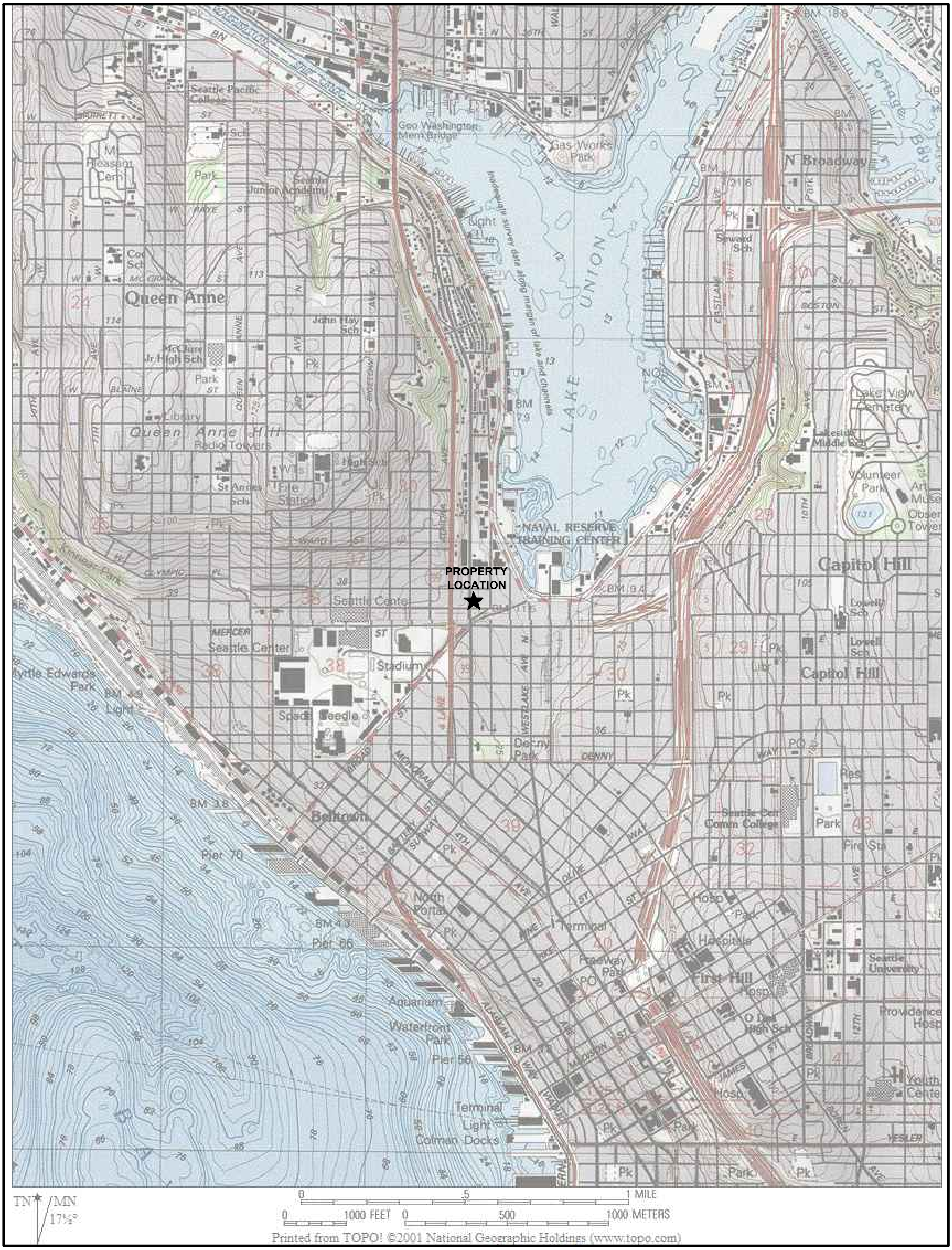
FIGURES

11/9/2012

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\FIGURE 1\0797-001_FIG1.DWG



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PROJECT NAME: 700 DEXTER PROPERTY
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CITY, STATE: SEATTLE, WASHINGTON

FIGURE 1
PROPERTY LOCATION MAP

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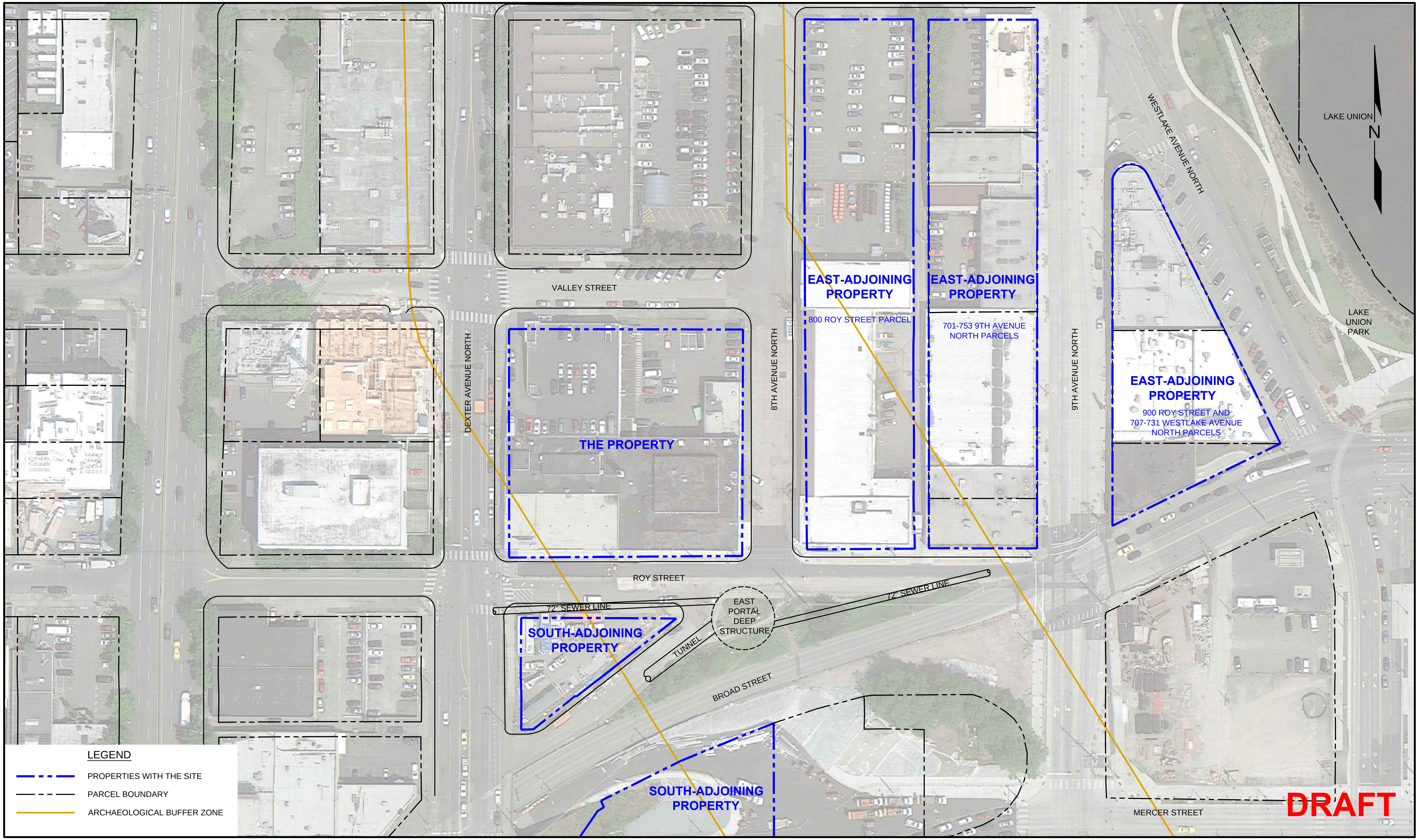

LEGEND

▬ · ▬ ·	PROPERTIES WITH THE SITE
─ ─ ─	PARCEL BOUNDARY
━━━	ARCHAEOLOGICAL BUFFER ZONE

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PROJECT NUMBER: 0797-001
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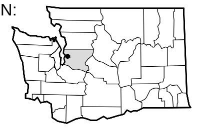
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 2
SITE LOCATION MAP

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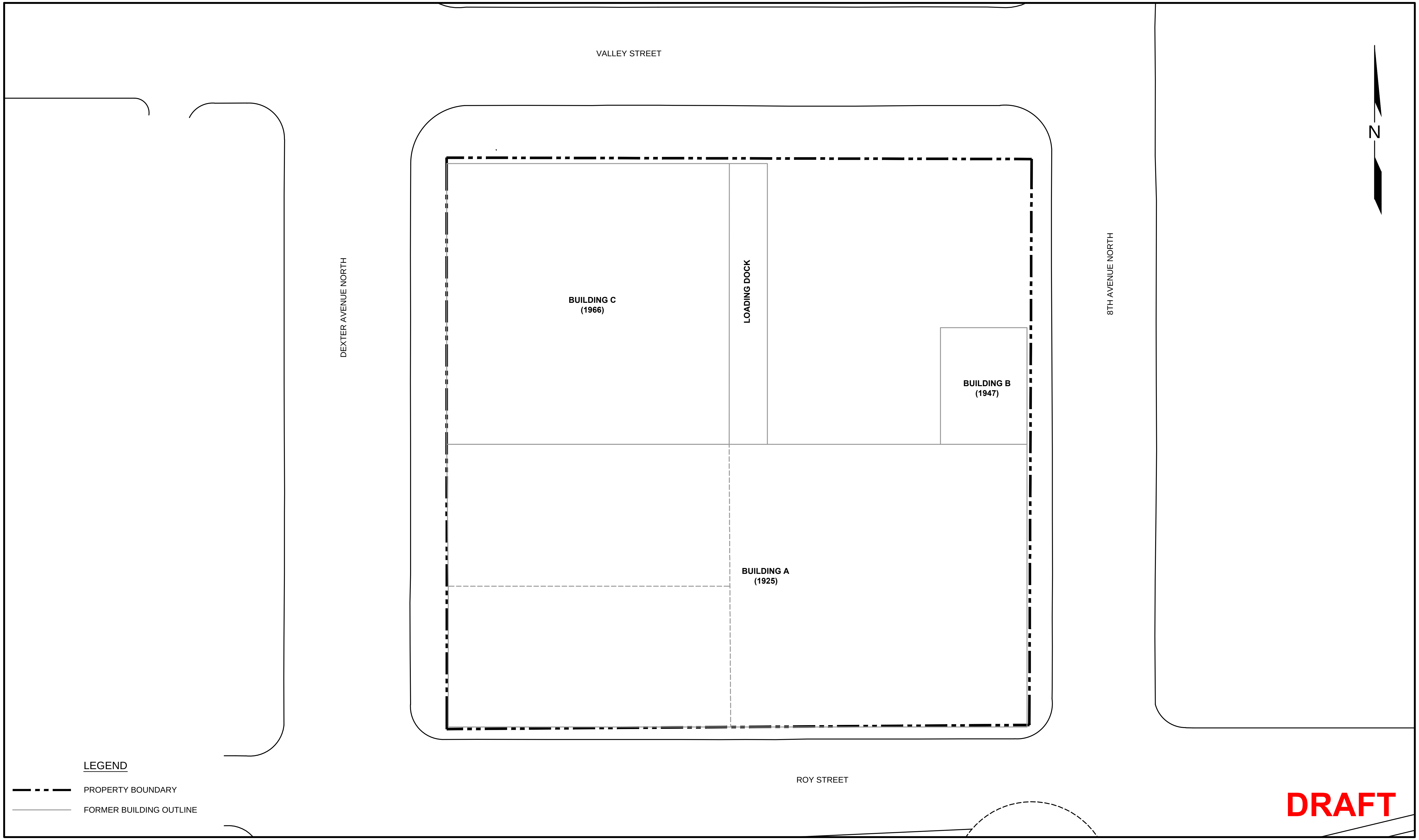
1/20/2014



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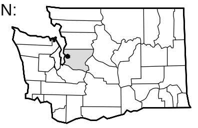
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 3
PROPERTY PLAN

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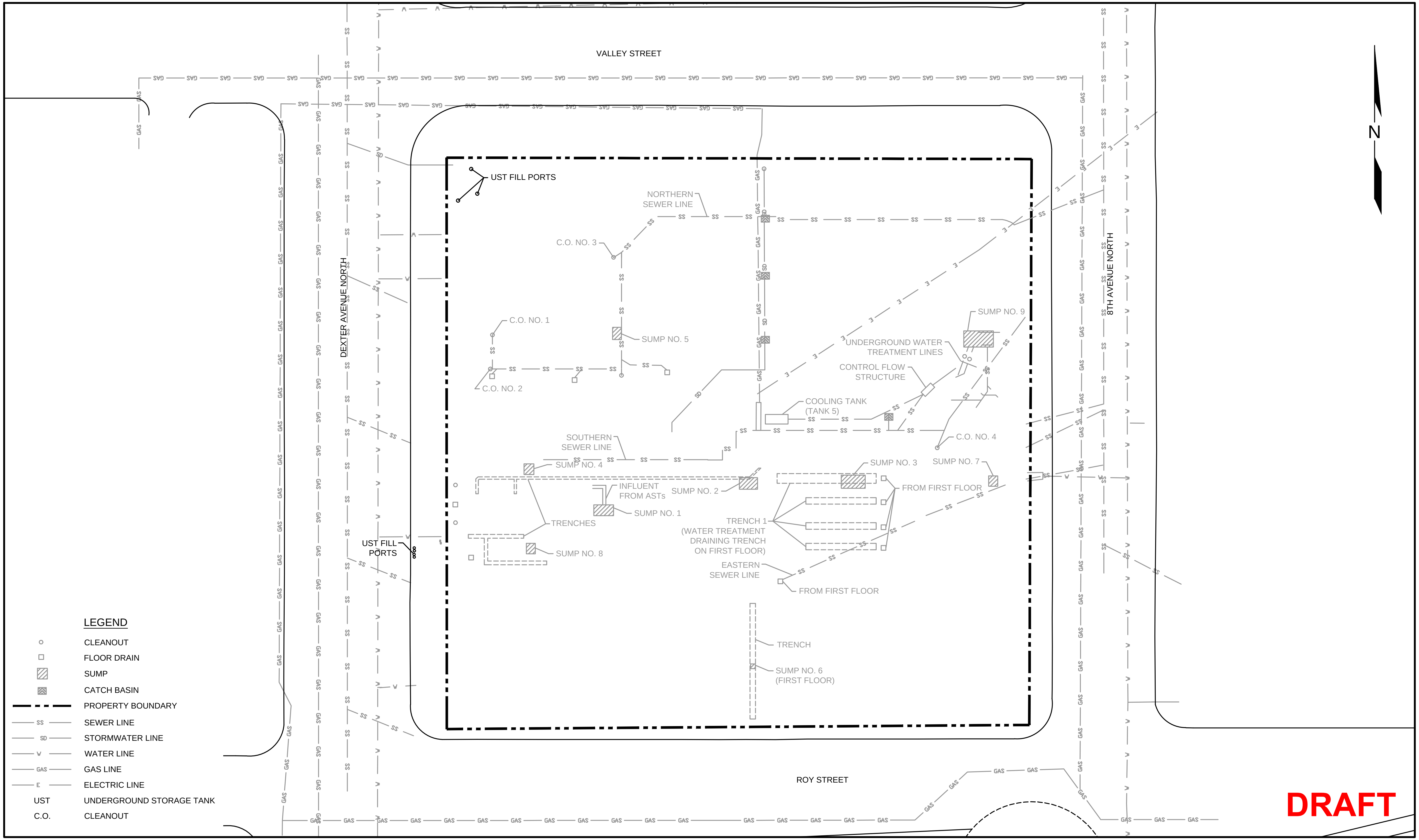

LEGEND

○	CLEANOUT
□	FLOOR DRAIN
▨	SUMP
▩	CATCH BASIN
— · · —	PROPERTY BOUNDARY
—— SS ——	SEWER LINE
—— SD ——	STORMWATER LINE
—— W ——	WATER LINE
—— GAS ——	GAS LINE
—— E ——	ELECTRIC LINE
UST	UNDERGROUND STORAGE TANK
C.O.	CLEANOUT

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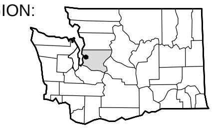
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 4
SUBSURFACE UTILITIES MAP

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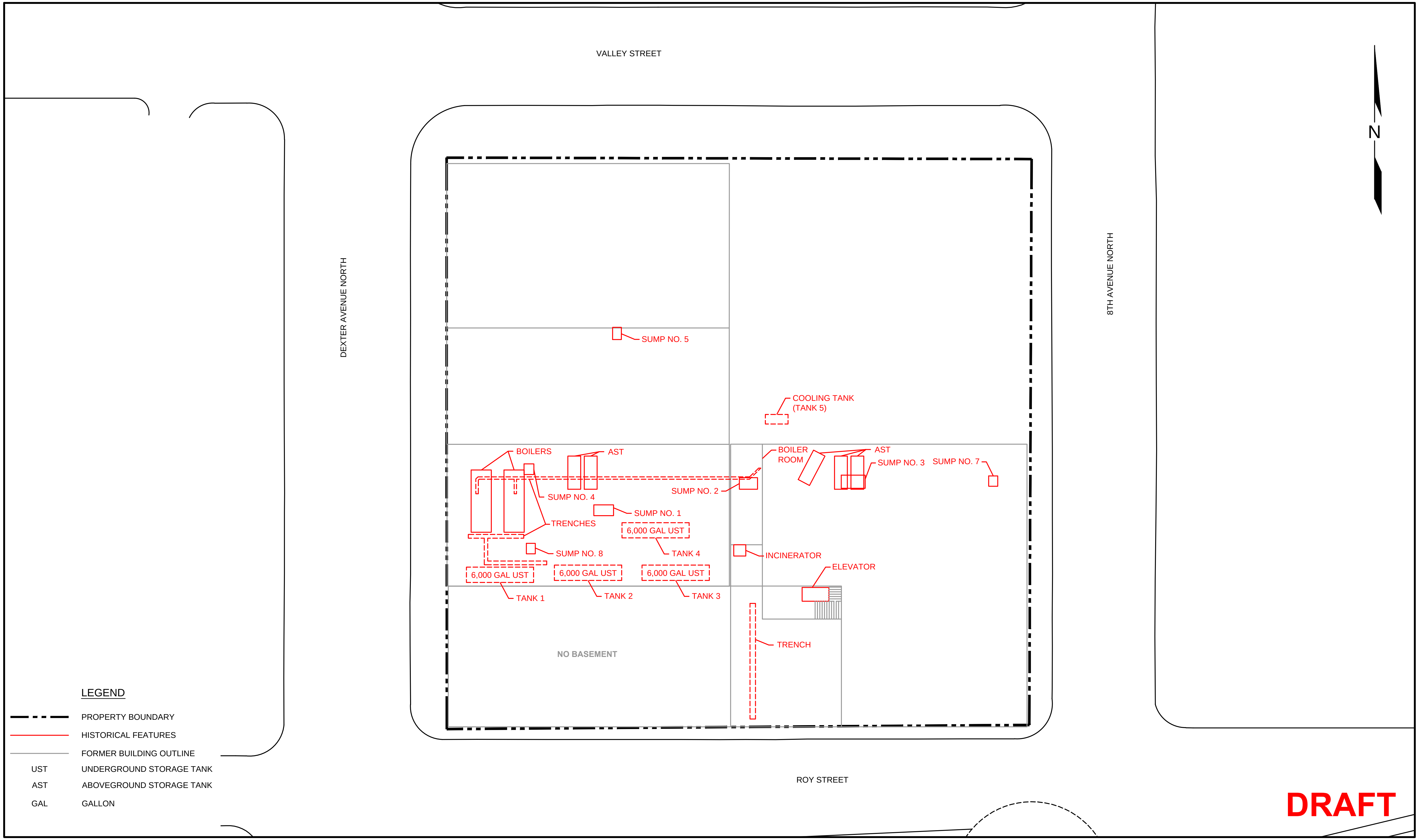
1/22/2014



LEGEND

▬ · ▬	PROPERTY BOUNDARY
▬	HISTORICAL FEATURES
▬	FORMER BUILDING OUTLINE
UST	UNDERGROUND STORAGE TANK
AST	ABOVEGROUND STORAGE TANK
GAL	GALLON

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CITY, STATE: SEATTLE, WASHINGTON

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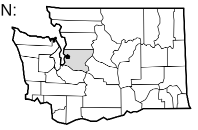
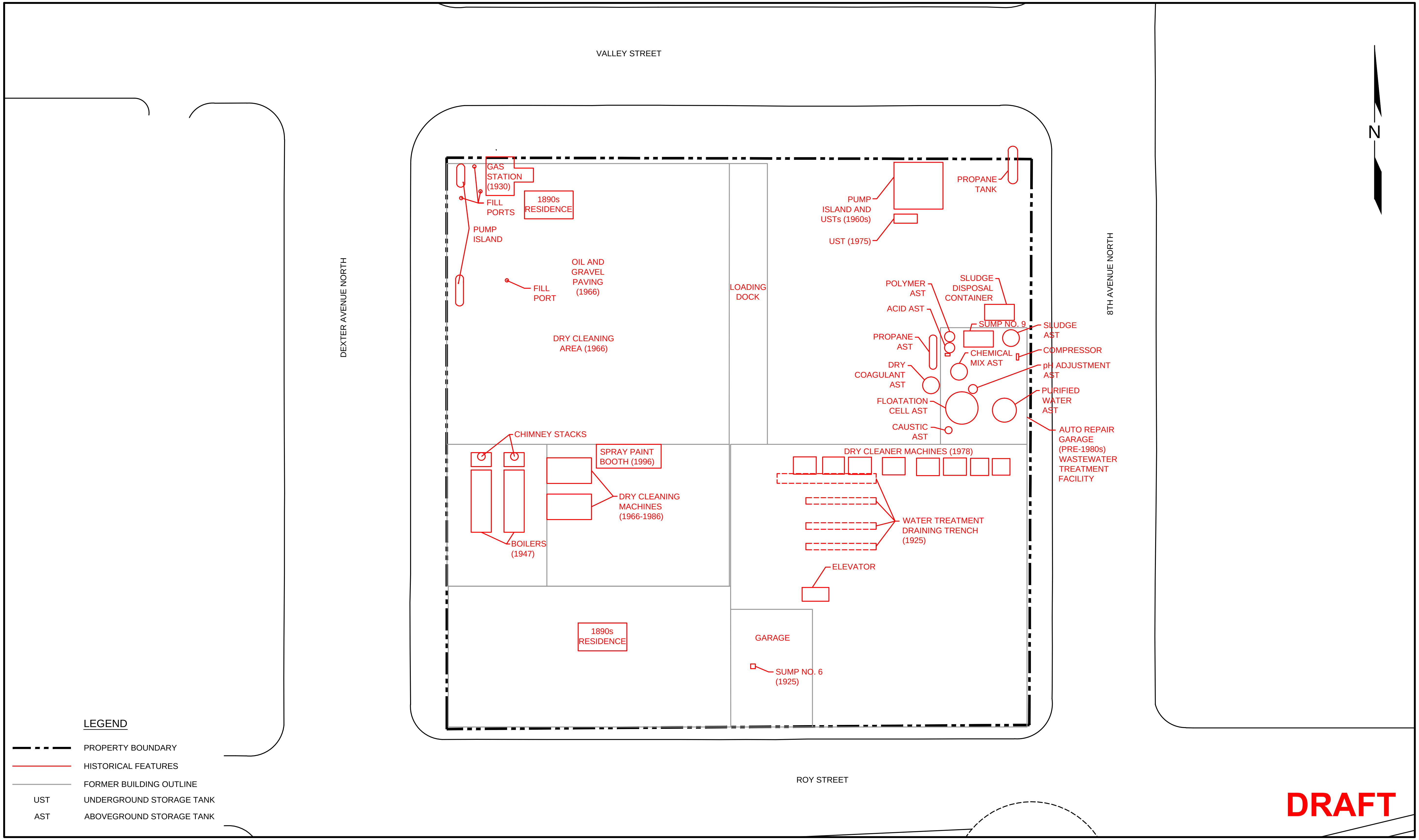


0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 5
HISTORICAL PROPERTY FEATURES
BASEMENT



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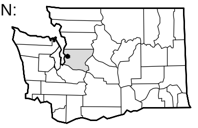
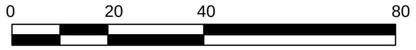
REGION:





APPROXIMATE SCALE IN FEET

FIGURE 6

HISTORICAL PROPERTY FEATURES
FIRST FLOOR

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1/22/2014

1/28/2014

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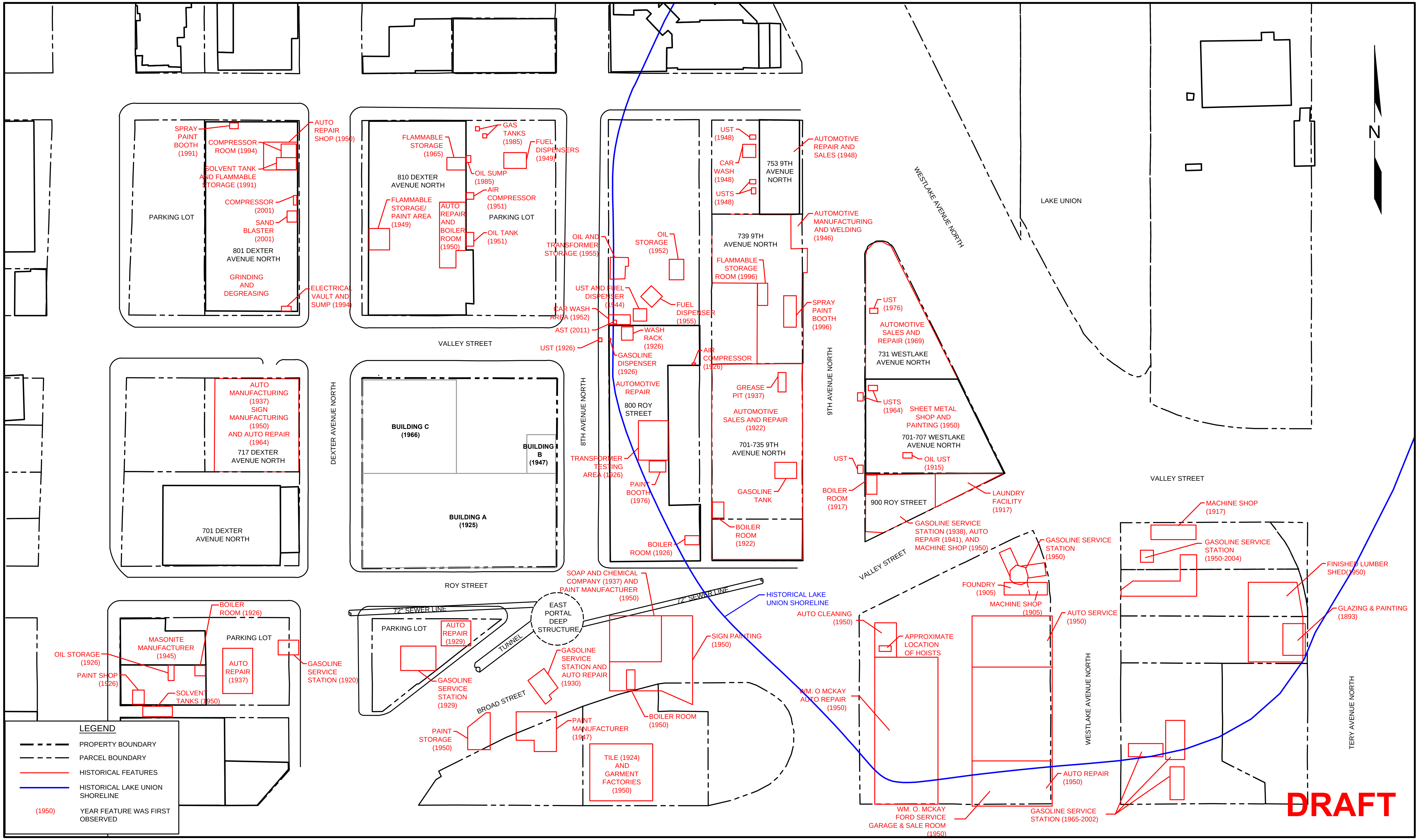

LEGEND

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- HISTORICAL FEATURES
- HISTORICAL LAKE UNION SHORELINE
- (1950) YEAR FEATURE WAS FIRST OBSERVED

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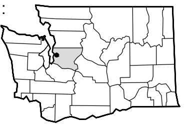

0 30 60 120 240
APPROXIMATE SCALE IN FEET

FIGURE 7
HISTORICAL OFF-PROPERTY FEATURES

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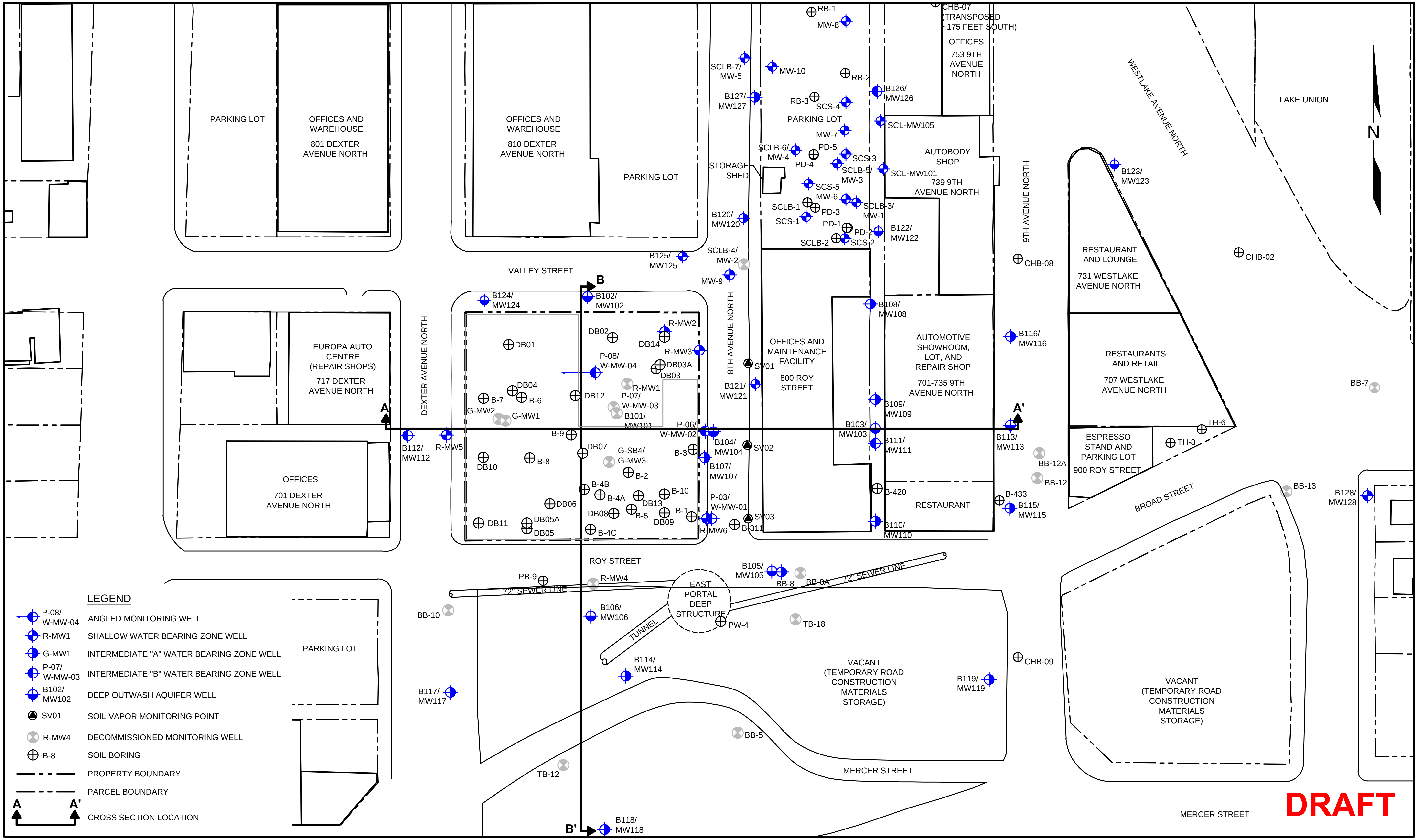

LEGEND

P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP OUTWASH AQUIFER WELL
SV01	SOIL VAPOR MONITORING POINT
R-MW4	DECOMMISSIONED MONITORING WELL
B-8	SOIL BORING
	PROPERTY BOUNDARY
	PARCEL BOUNDARY
A A'	CROSS SECTION LOCATION

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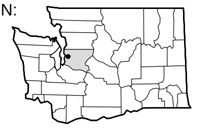
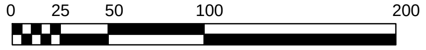
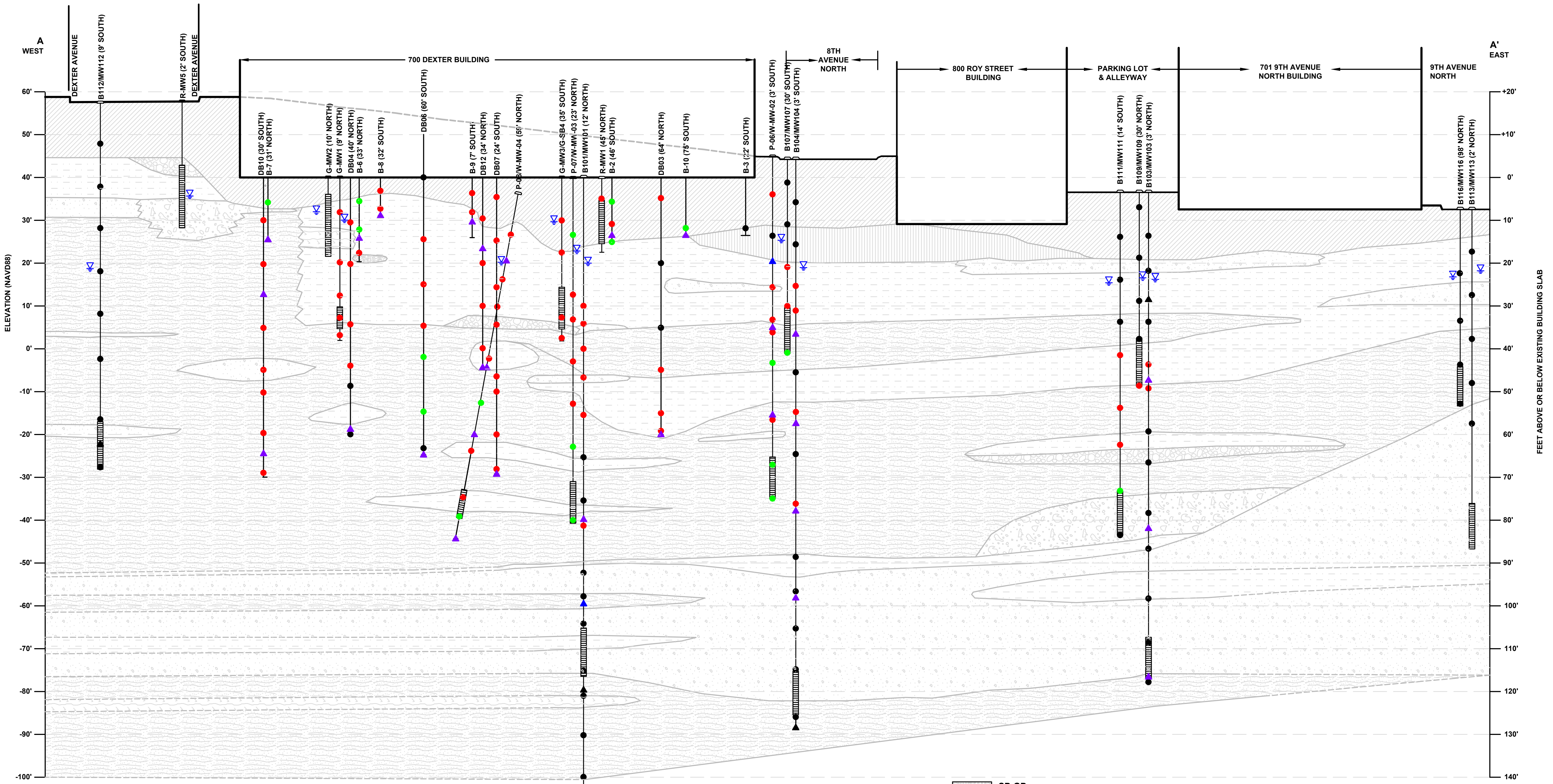




APPROXIMATE SCALE IN FEET

FIGURE 8
SITE EXPLORATION LOCATION PLAN



LEGEND

▨	**SM-ML**
▨	**SM-MH**
▨	**SM-GM**
▨	**SP:** POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
▨	**SP-SM**
▨	**ML:** INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
▨	**SM:** SILTY SANDS, SAND - CLAY MIXTURES
▨	**GW:** WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▨	**FILL**
(12' NORTH)	DISTANCE OF BORING/WELL FROM CROSS SECTION LINE
▥	MONITORING WELL WITH SCREEN INTERVAL
▨	**SP-GP:** POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▨	**GM:** SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
▽	GROUNDWATER DEPTH (MARCH 29, 2013)

PCE CONCENTRATIONS IN RECONNAISSANCE GROUNDWATER SAMPLES (µg/L):

▲	CONCENTRATION BELOW LABORATORY REPORTING LIMIT
▲	CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL
▲	CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE CONCENTRATIONS IN SOIL (mg/kg):

●	CONCENTRATION BELOW LABORATORY REPORTING LIMIT
●	CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL
●	CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE	TETRACHLOROETHYLENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
µg/L	MICROGRAMS PER LITER
mg/kg	MILLIGRAMS PER KILOGRAM

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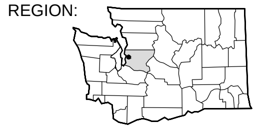
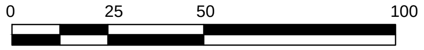
CITY, STATE: SEATTLE, WASHINGTON

REGION:





APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 9
GEOLOGIC CROSS SECTION A - A'

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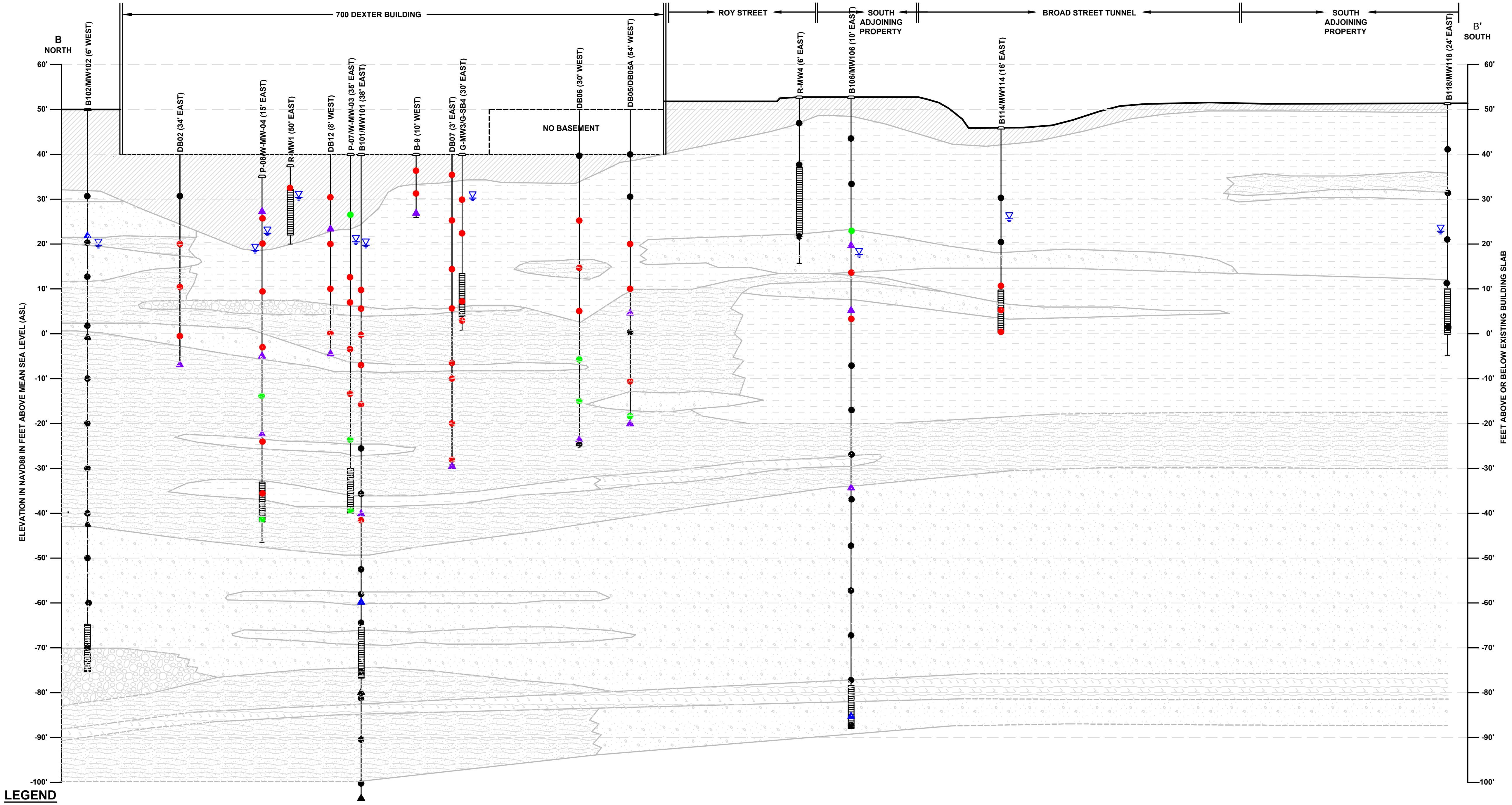
1/29/2014



LEGEND

▤ **ML:** INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS

▭ **SM:** SILTY SANDS, SAND - CLAY MIXTURES

▨ **SM-ML**

▥ **SM-MH**

▨ **SM-GM**

▨ **SP:** POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES

▨ **SP-SM**

▨ **SP-GP:** POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES

▨ **GM:** SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES

▨ **GW:** WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES

▨ **FILL**

(12' NORTH) DISTANCE OF BORING/WELL FROM CROSS SECTION LINE

MONITORING WELL WITH SCREEN INTERVAL

▽ GROUNDWATER DEPTH (MARCH 29, 2013)

PCE CONCENTRATIONS IN RECONNAISSANCE GROUNDWATER SAMPLES (µg/L):

▲ CONCENTRATION BELOW LABORATORY REPORTING LIMIT

▲ CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL

▲ CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE CONCENTRATIONS IN SOIL (mg/kg):

● CONCENTRATION BELOW LABORATORY REPORTING LIMIT

● CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL

● CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE	TETRACHLOROETHYLENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
µg/L	MICROGRAMS PER LITER
mg/kg	MILLIGRAMS PER KILOGRAM

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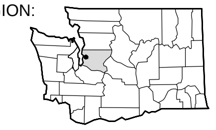
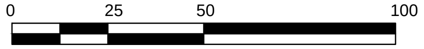
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

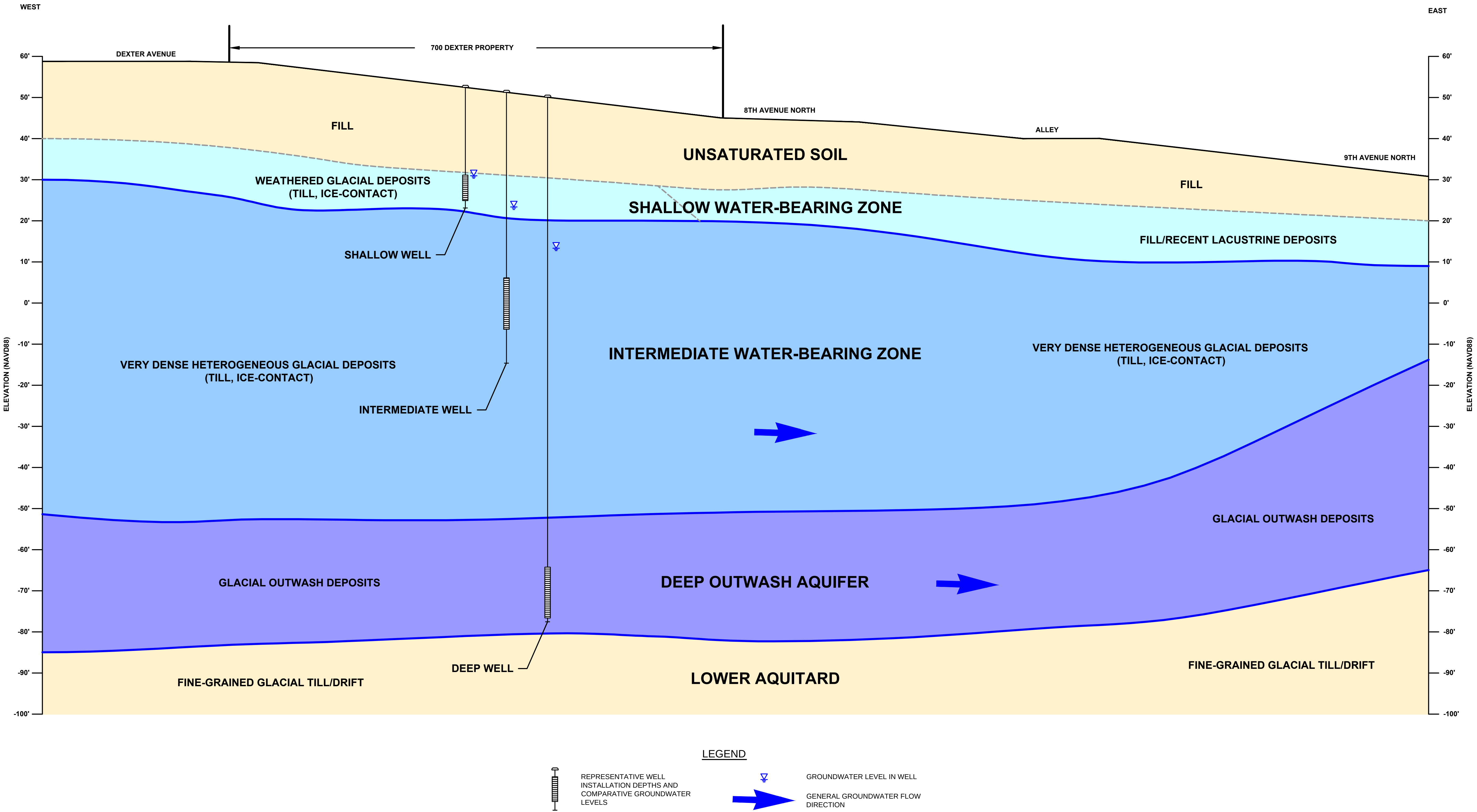




APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 10

GEOLOGIC CROSS SECTION B - B'



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PROJECT NUMBER: 0797-001
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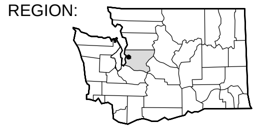
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 25 50 100
APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 11
CONCEPTUAL MODEL OF SITE
WATER-BEARING ZONES

1/28/2014

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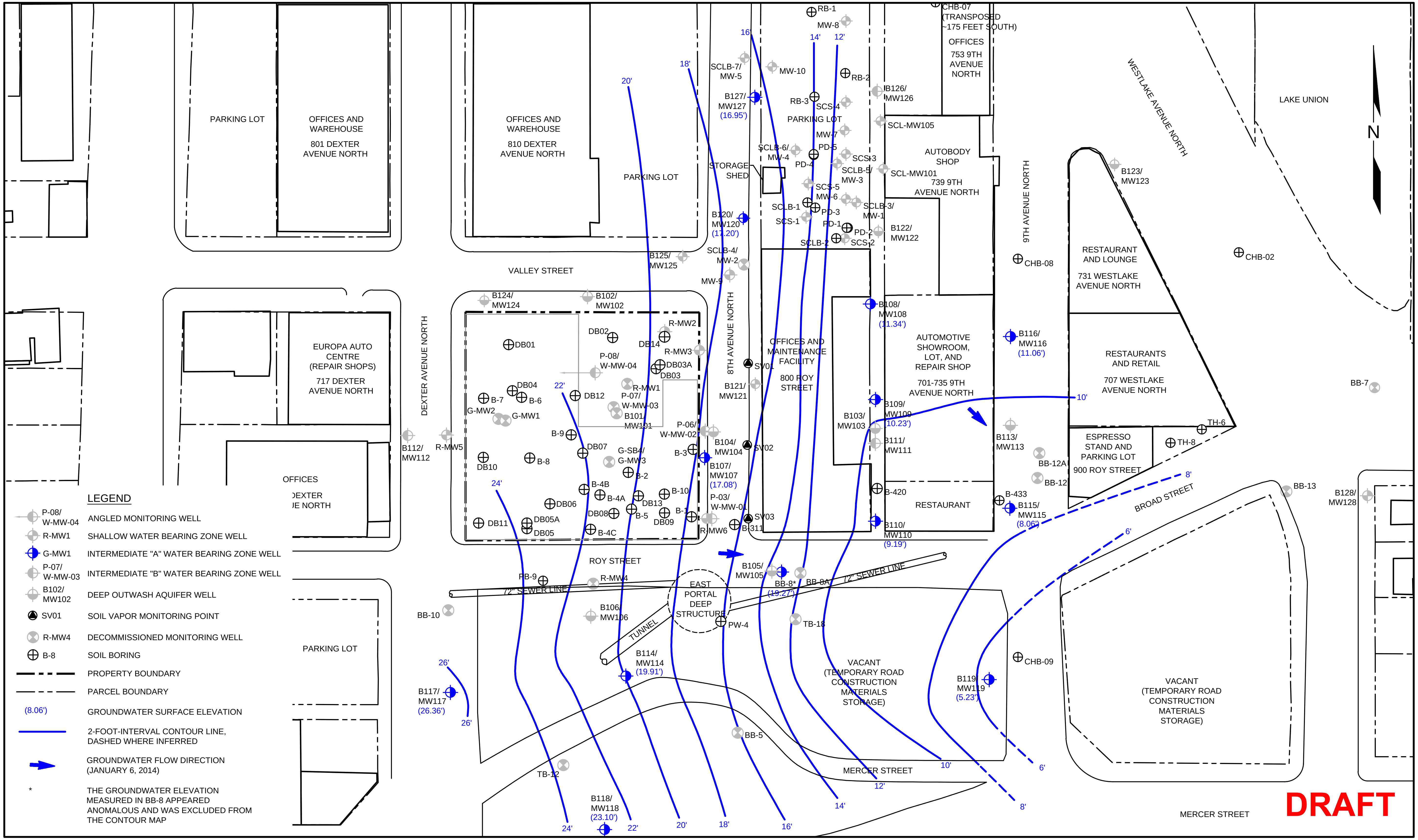

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CITY, STATE: SEATTLE, WASHINGTON

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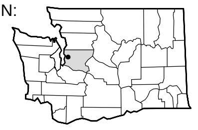

APPROXIMATE SCALE IN FEET

FIGURE 12

GROUNDWATER CONTOUR MAP
INTERMEDIATE "A" WATER-BEARING ZONE
(JANUARY 6, 2014)

1/28/2014

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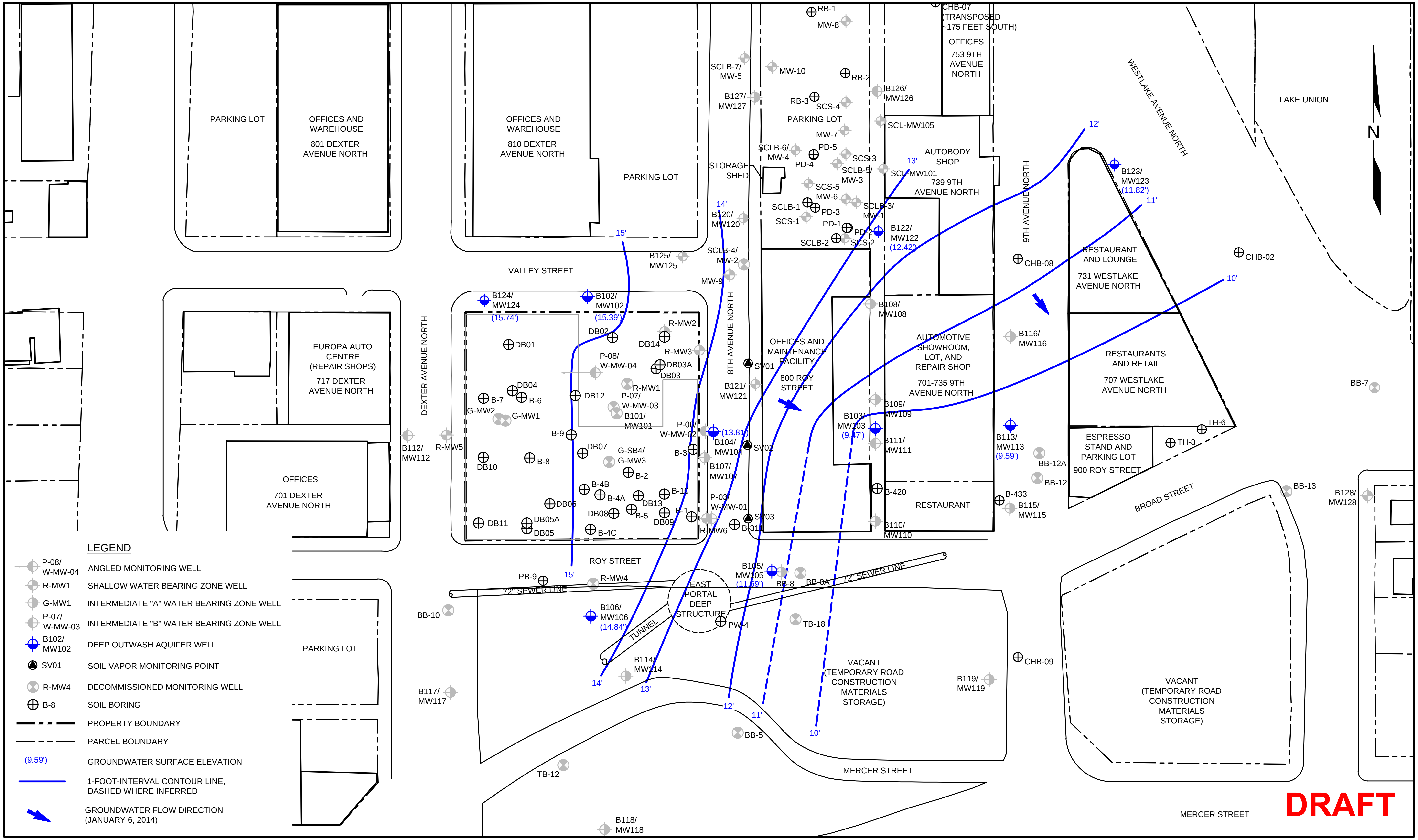

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PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 13
GROUNDWATER CONTOUR MAP
DEEP WATER-BEARING ZONE
(JANUARY 6, 2014)

1/28/2014

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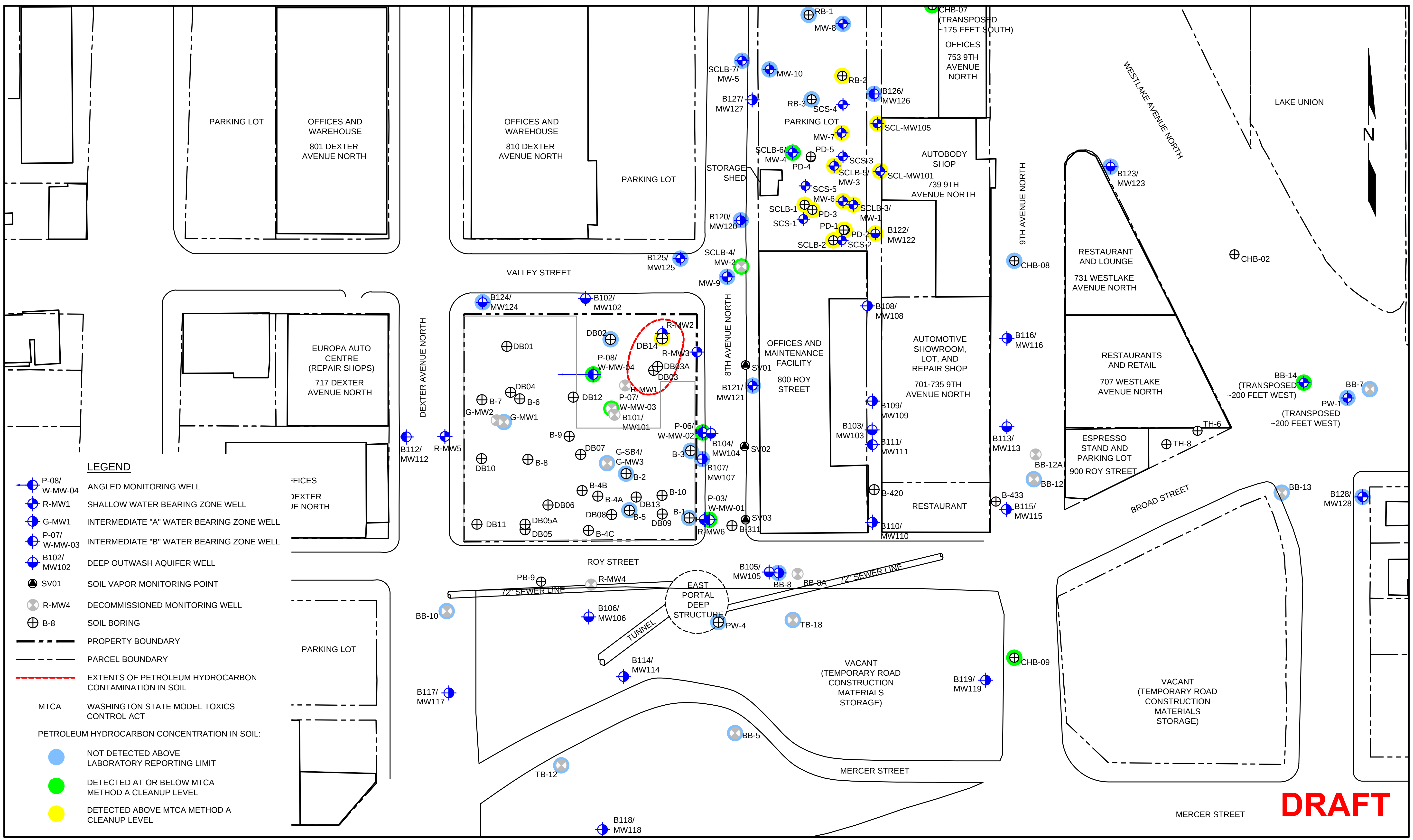

LEGEND

P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP OUTWASH AQUIFER WELL
SV01	SOIL VAPOR MONITORING POINT
R-MW4	DECOMMISSIONED MONITORING WELL
B-8	SOIL BORING
▬ · ▬	PROPERTY BOUNDARY
— — —	PARCEL BOUNDARY
- - - -	EXTENTS OF PETROLEUM HYDROCARBON CONTAMINATION IN SOIL
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT

PETROLEUM HYDROCARBON CONCENTRATION IN SOIL:

🔵	NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
🟢	DETECTED AT OR BELOW MTCA METHOD A CLEANUP LEVEL
🟡	DETECTED ABOVE MTCA METHOD A CLEANUP LEVEL

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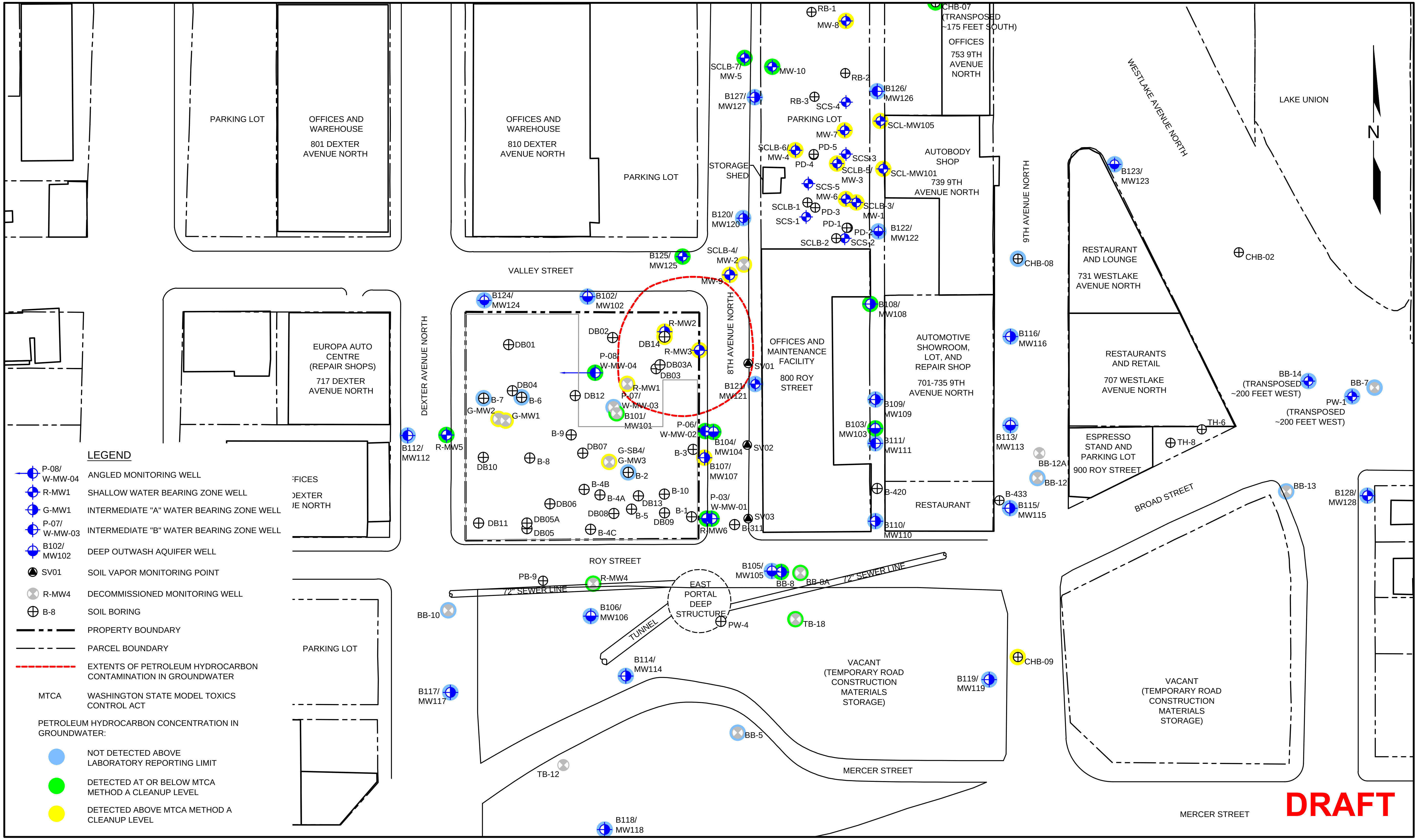
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 14
PETROLEUM HYDROCARBON CONCENTRATIONS IN SOIL



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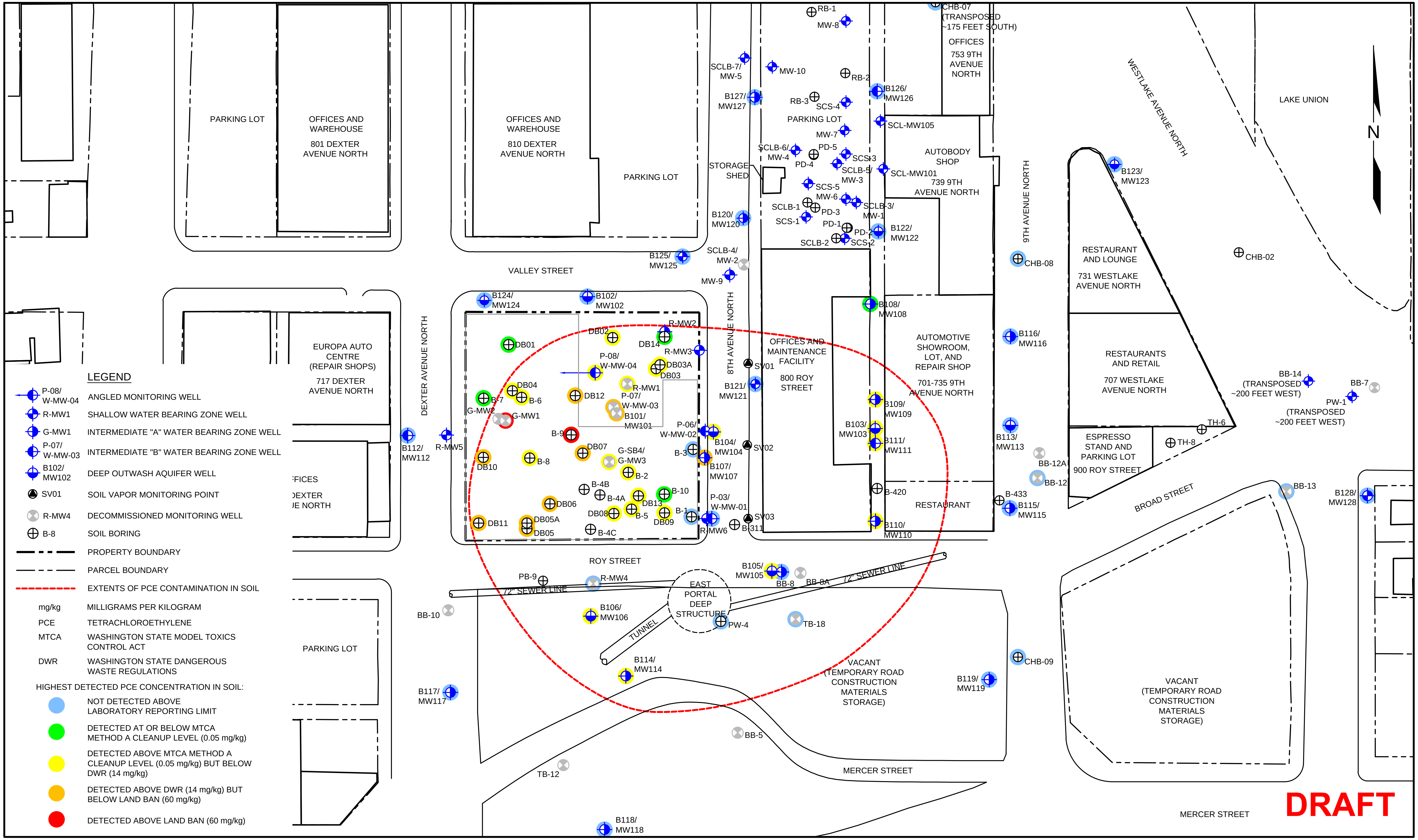
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 15
PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUNDWATER



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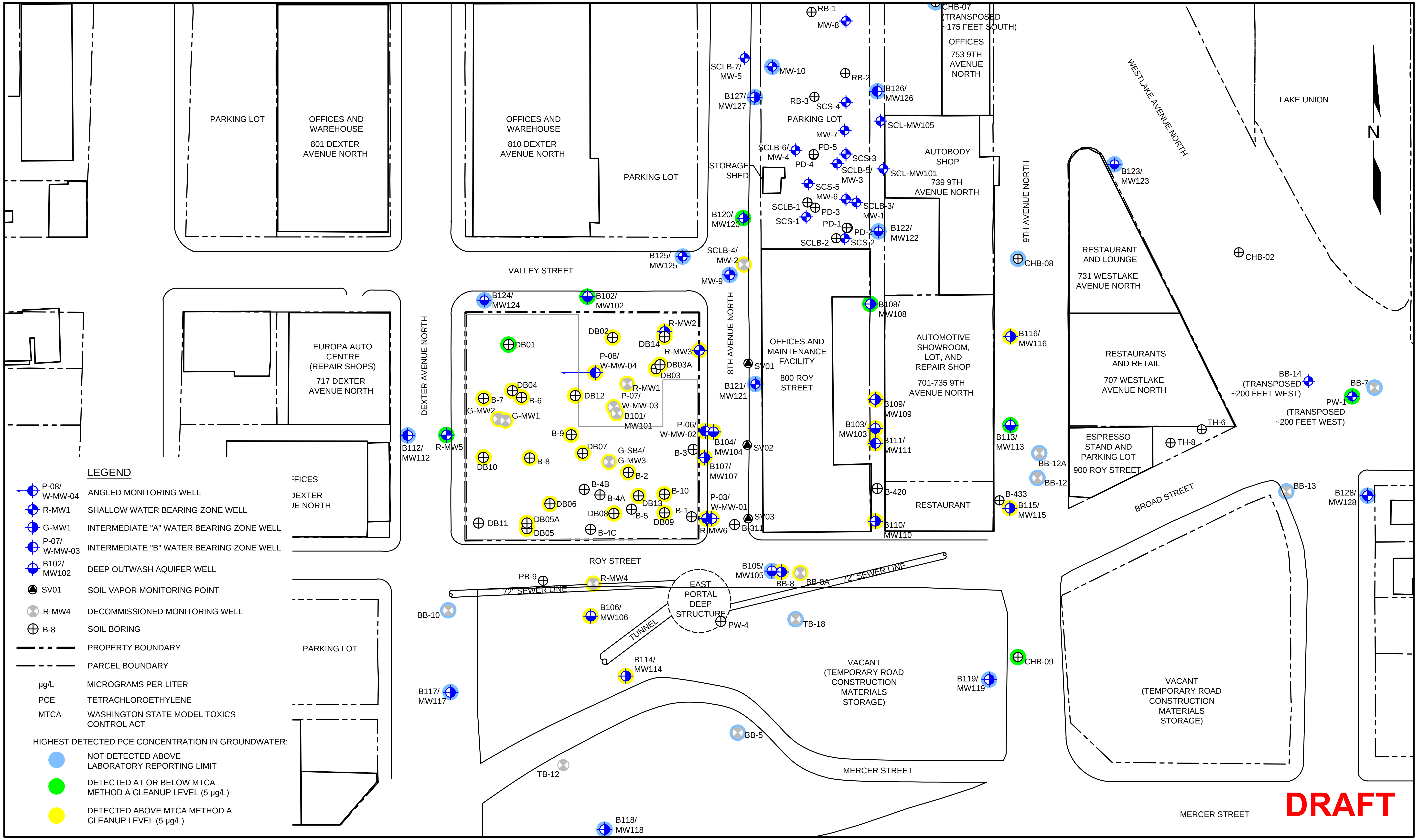
PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

FIGURE 16
PCE CONCENTRATIONS IN SOIL

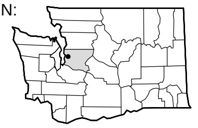
P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_SD_PCE.DWG
1/28/2014

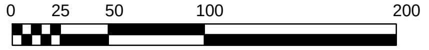


DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_GD_PCE

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:





APPROXIMATE SCALE IN FEET

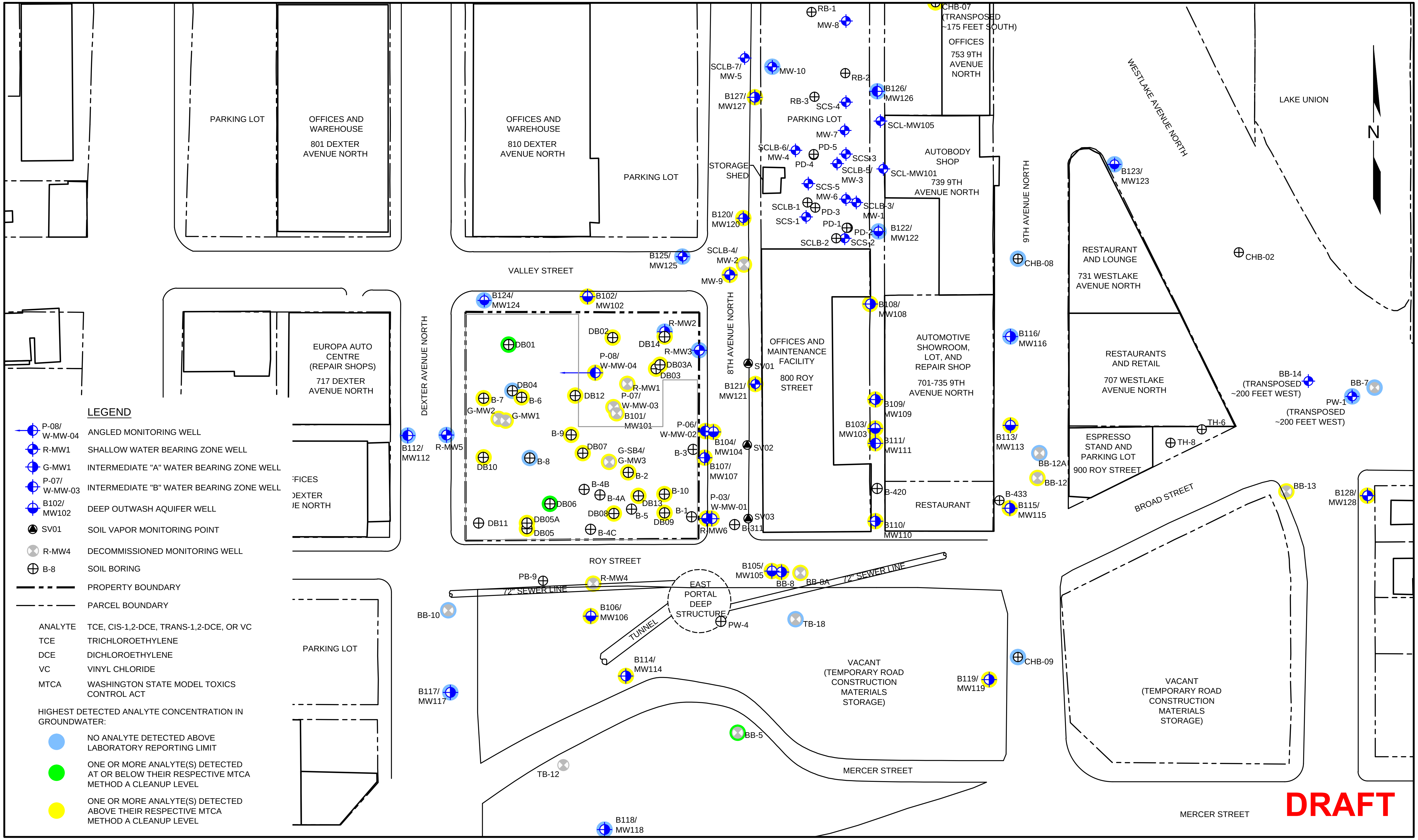
FIGURE 17

PCE CONCENTRATIONS IN GROUNDWATER

1/28/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_GD_PCE.DWG

1/28/2014



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CAD FILE: 0797-001_2014CAP_GD_ANA

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CITY, STATE: SEATTLE, WASHINGTON

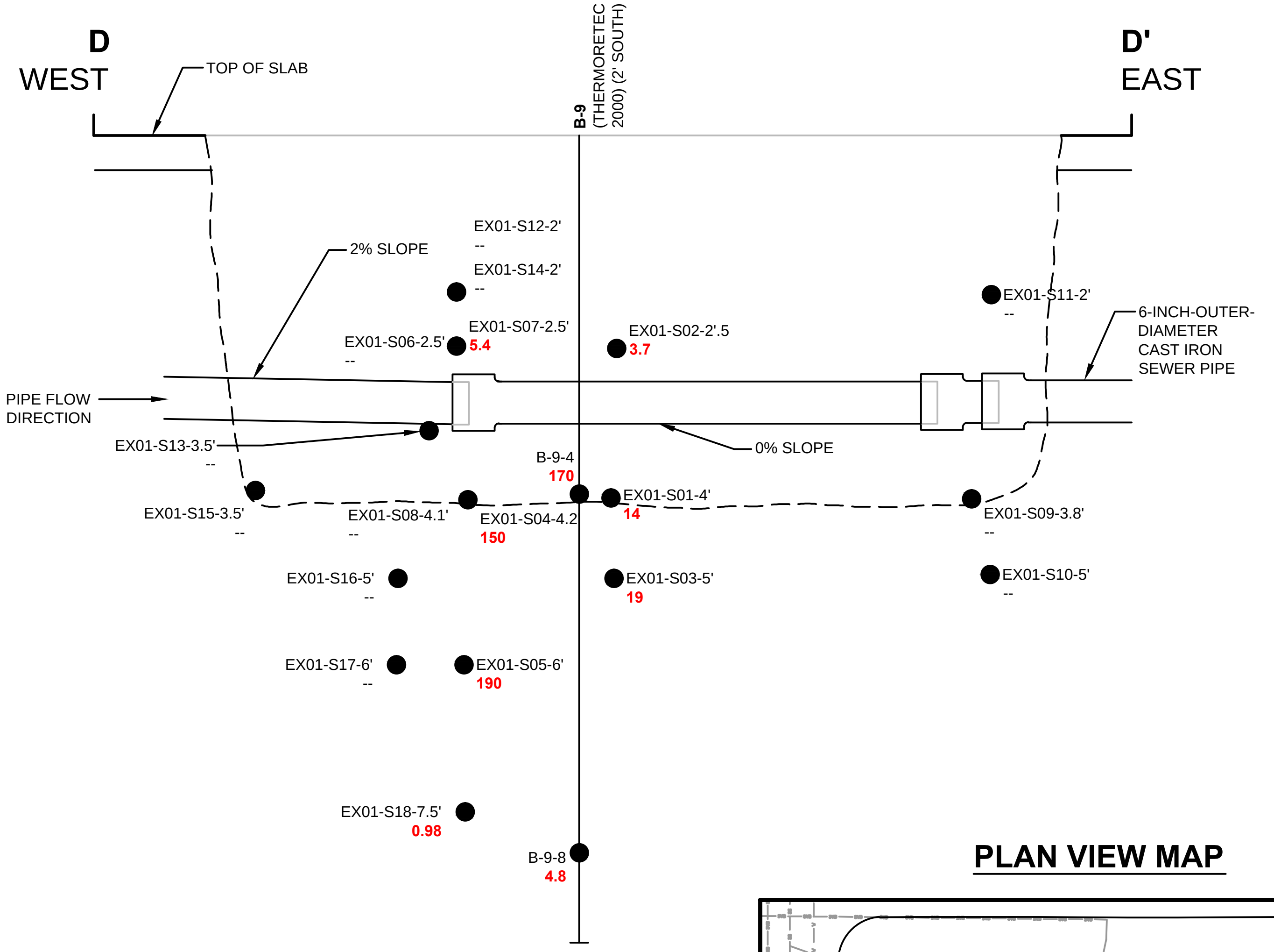
REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

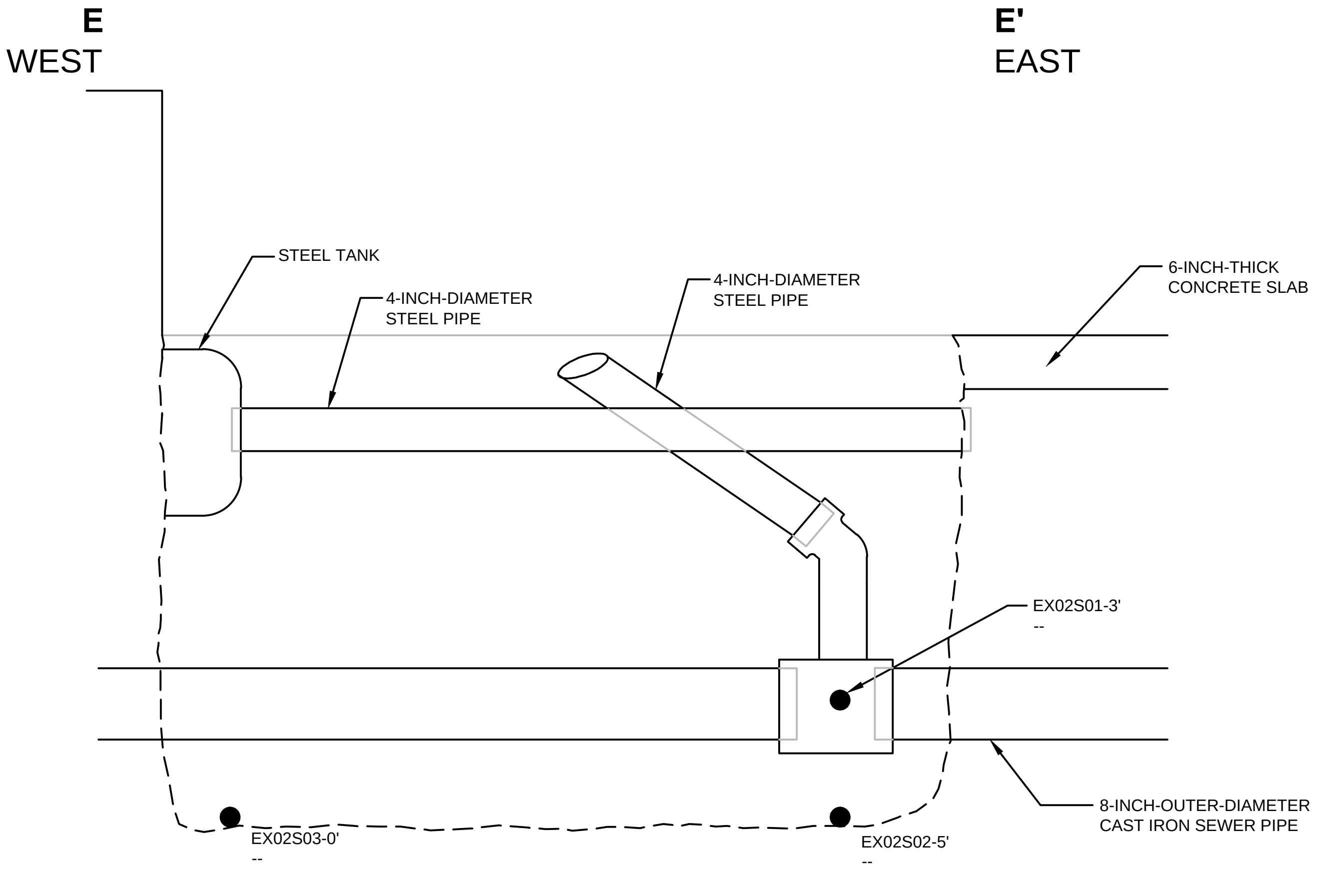
FIGURE 18
TCE, CIS-1,2-DCE, TRANS-1,2-DCE, AND VC CONCENTRATIONS IN GROUNDWATER

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_GD_ANA.DWG

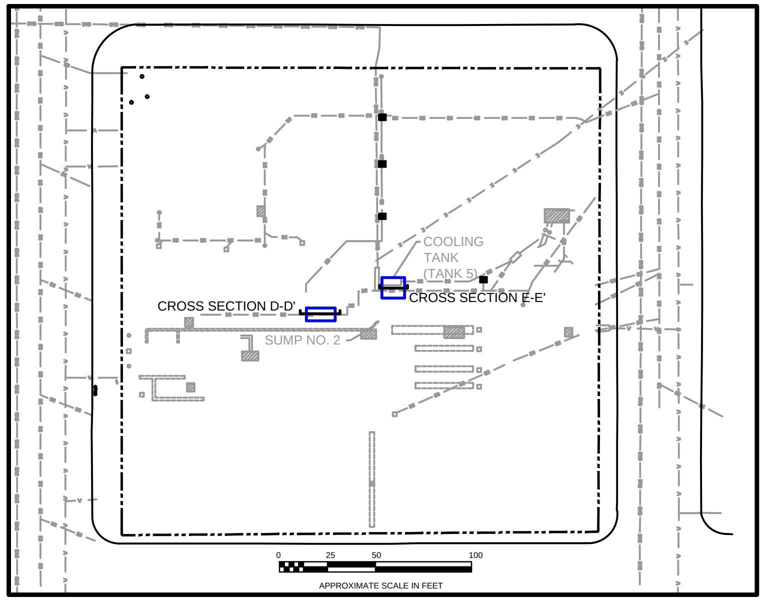
CROSS SECTION D-D'



CROSS SECTION E-E'



PLAN VIEW MAP



LEGEND

● EX01-S04-4'	SOIL SAMPLE NUMBER AND LOCATION (SOUNDEARTH 2012)
5.4	PCE CONCENTRATION IN SOIL (MG/KG)
⊕ B-9	SOIL BORING (THERMORETEC 2000)
MG/KG	MILLIGRAMS PER KILOGRAM
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
--	NOT ANALYZED
PCE	TETRACHLOROETHYLENE
RED	REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR SOIL

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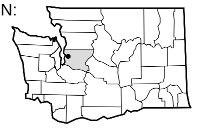
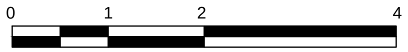
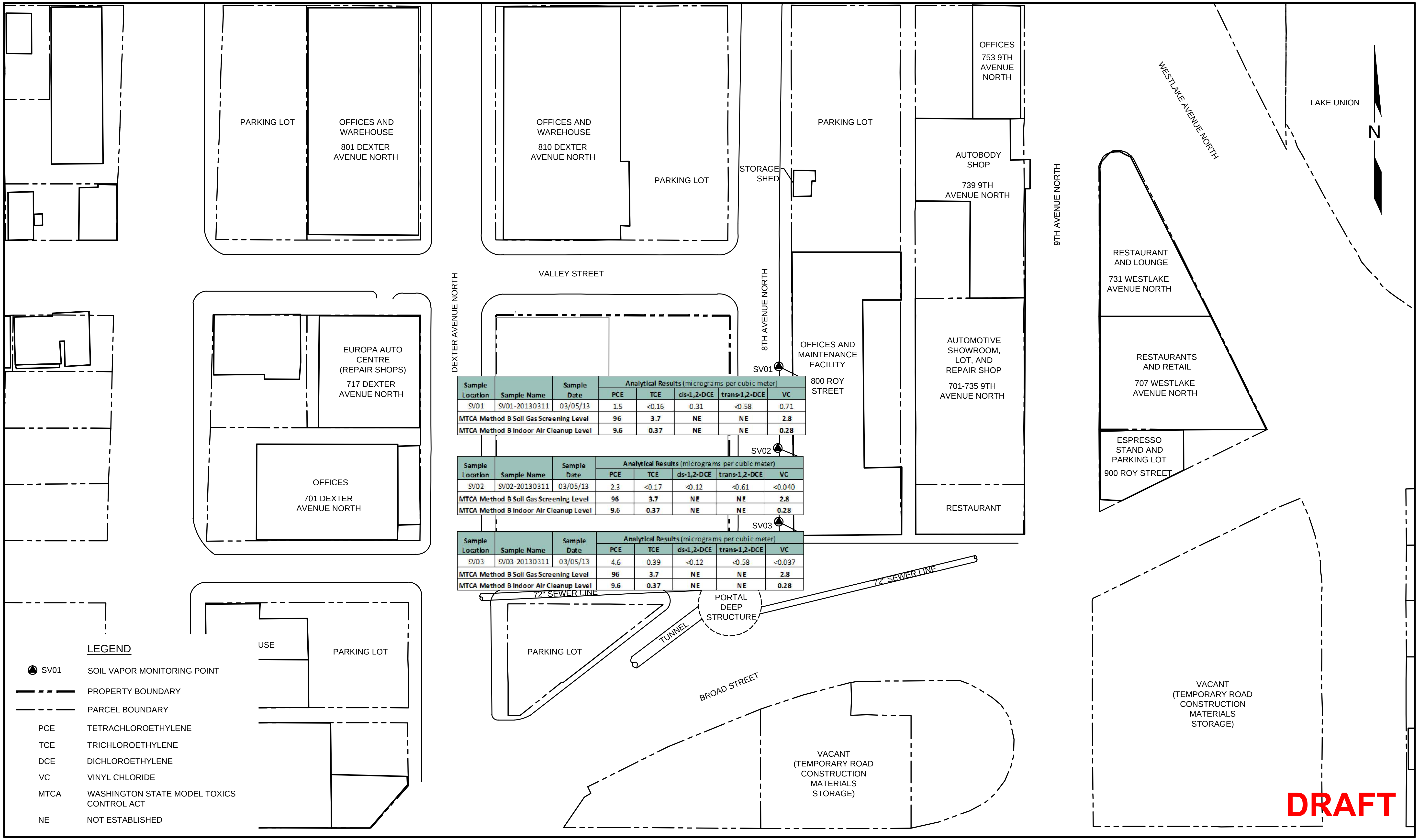




APPROXIMATE SCALE IN FEET

FIGURE 19
SEWER LINE EXCAVATION EX01

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001 2014CAP SLEX.DWG



Sample Location	Sample Name	Sample Date	Analytical Results (micrograms per cubic meter)				
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
SV01	SV01-20130311	03/05/13	1.5	<0.16	0.31	<0.58	0.71
MTCA Method B Soil Gas Screening Level			**96**	**3.7**	**NE**	**NE**	**2.8**
MTCA Method B Indoor Air Cleanup Level			**9.6**	**0.37**	**NE**	**NE**	**0.28**

Sample Location	Sample Name	Sample Date	Analytical Results (micrograms per cubic meter)				
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
SV02	SV02-20130311	03/05/13	2.3	<0.17	<0.12	<0.61	<0.040
MTCA Method B Soil Gas Screening Level			**96**	**3.7**	**NE**	**NE**	**2.8**
MTCA Method B Indoor Air Cleanup Level			**9.6**	**0.37**	**NE**	**NE**	**0.28**

Sample Location	Sample Name	Sample Date	Analytical Results (micrograms per cubic meter)				
			PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
SV03	SV03-20130311	03/05/13	4.6	0.39	<0.12	<0.58	<0.037
MTCA Method B Soil Gas Screening Level			**96**	**3.7**	**NE**	**NE**	**2.8**
MTCA Method B Indoor Air Cleanup Level			**9.6**	**0.37**	**NE**	**NE**	**0.28**

LEGEND

● SV01	SOIL VAPOR MONITORING POINT
— · · —	PROPERTY BOUNDARY
— — —	PARCEL BOUNDARY
PCE	TETRACHLOROETHYLENE
TCE	TRICHLOROETHYLENE
DCE	DICHLOROETHYLENE
VC	VINYL CHLORIDE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
NE	NOT ESTABLISHED

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CHECKED BY: DRAFT
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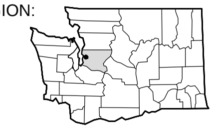
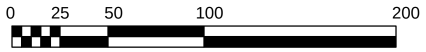
CITY, STATE: SEATTLE, WASHINGTON

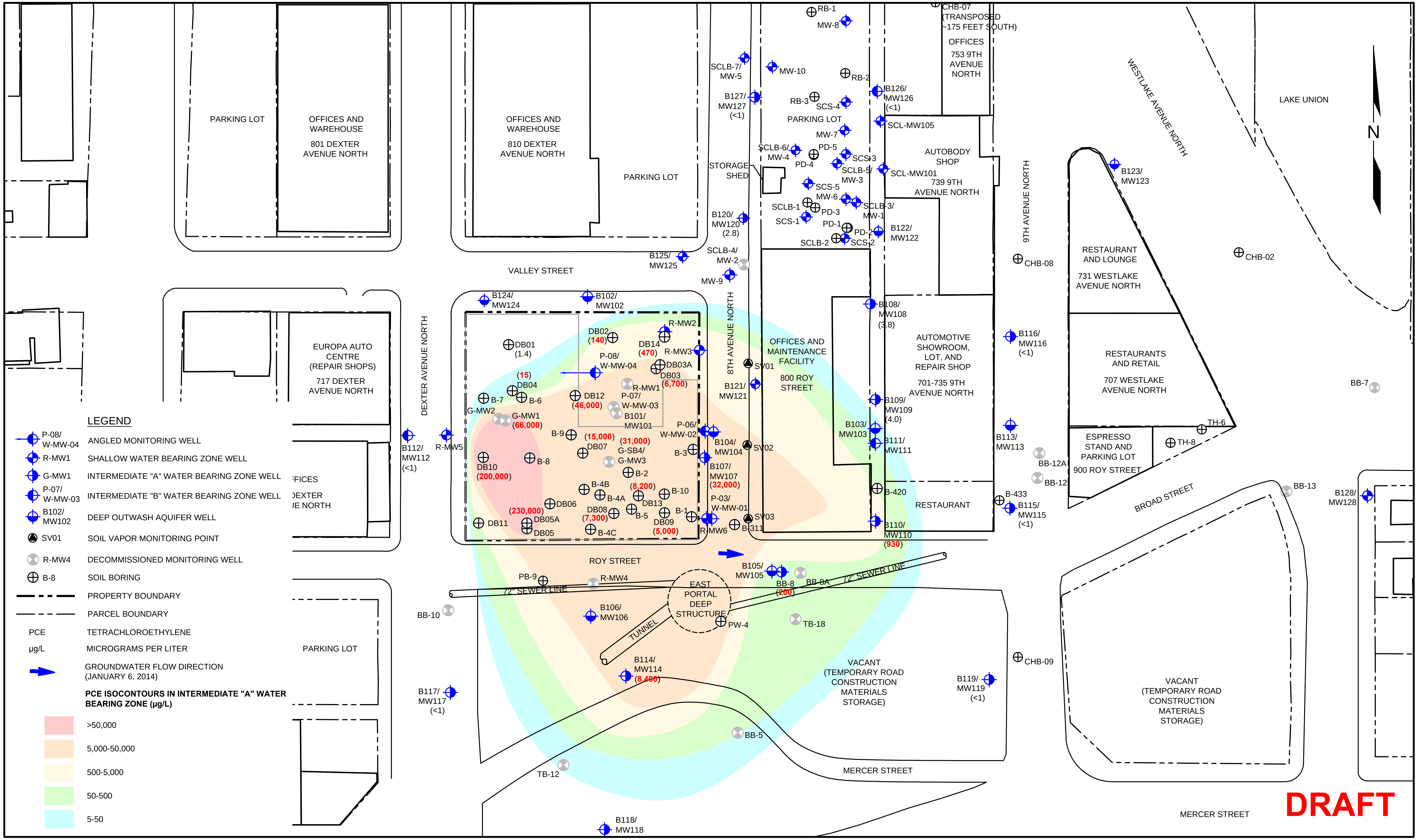
REGION:





APPROXIMATE SCALE IN FEET

FIGURE 20
SOIL GAS ANALYTICAL RESULTS



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PROJECT NAME: 700 DEXTER PROPERTY
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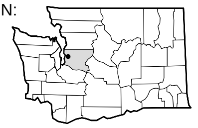
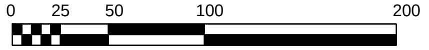
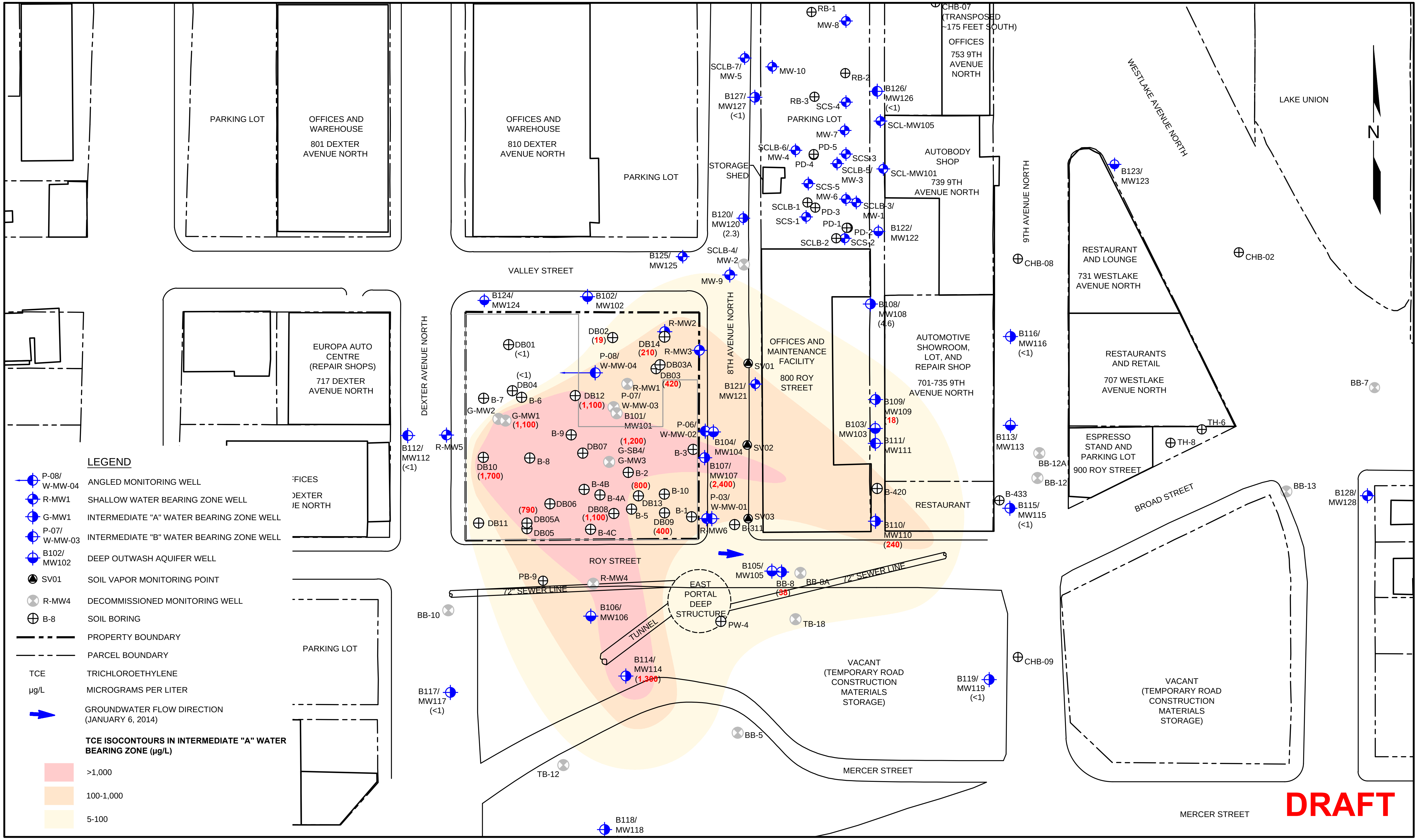




APPROXIMATE SCALE IN FEET

FIGURE 21

PCE ISOCONTOURS IN
INTERMEDIATE "A" WATER-BEARING ZONE



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P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ISO_INT_TCE.DWG

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CAD FILE: 0797-001_2014CAP_ISO_INT_TCE

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
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CITY, STATE: SEATTLE, WASHINGTON

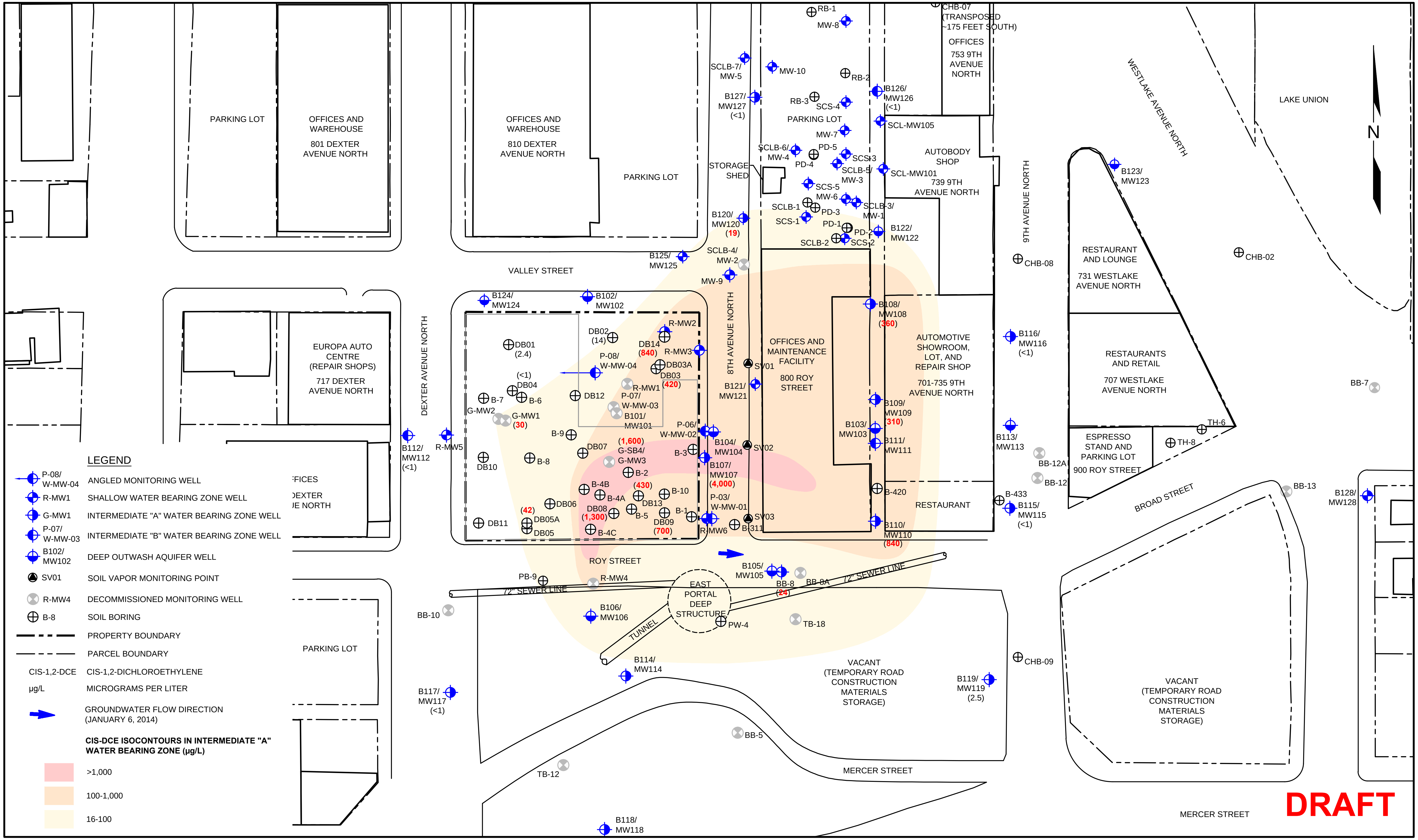
REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 22
TCE ISOCONTOURS IN
INTERMEDIATE "A" WATER-BEARING ZONE

1/28/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ISO_INT_CIS.DWG



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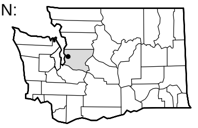
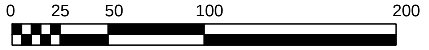
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_ISO_INT_CIS

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

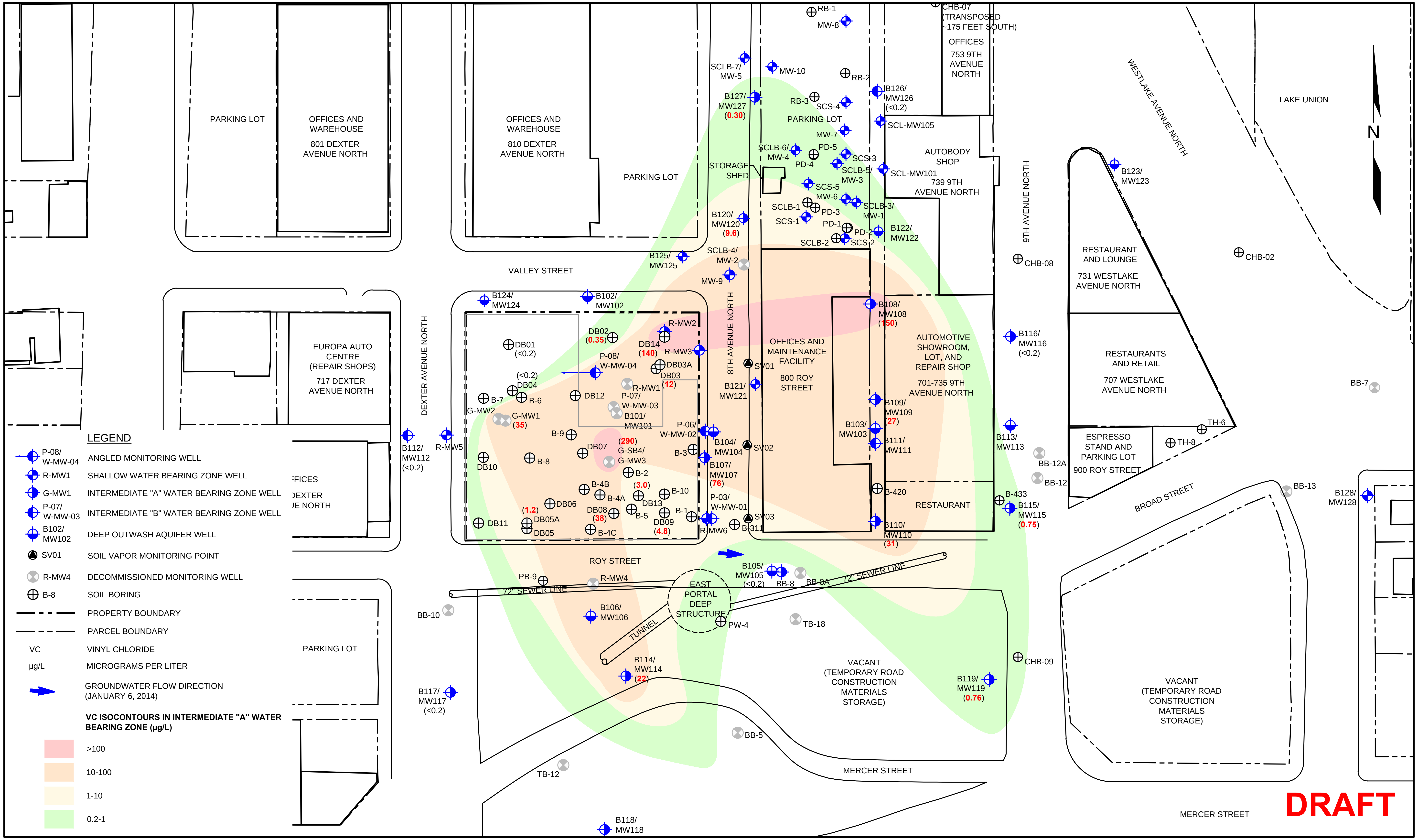




APPROXIMATE SCALE IN FEET

FIGURE 23

CIS-1,2-DCE ISOCONTOURS IN INTERMEDIATE "A" WATER-BEARING ZONE



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PROJECT NUMBER: 0797-001
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CITY, STATE: SEATTLE, WASHINGTON

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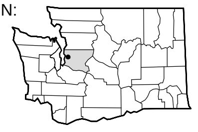


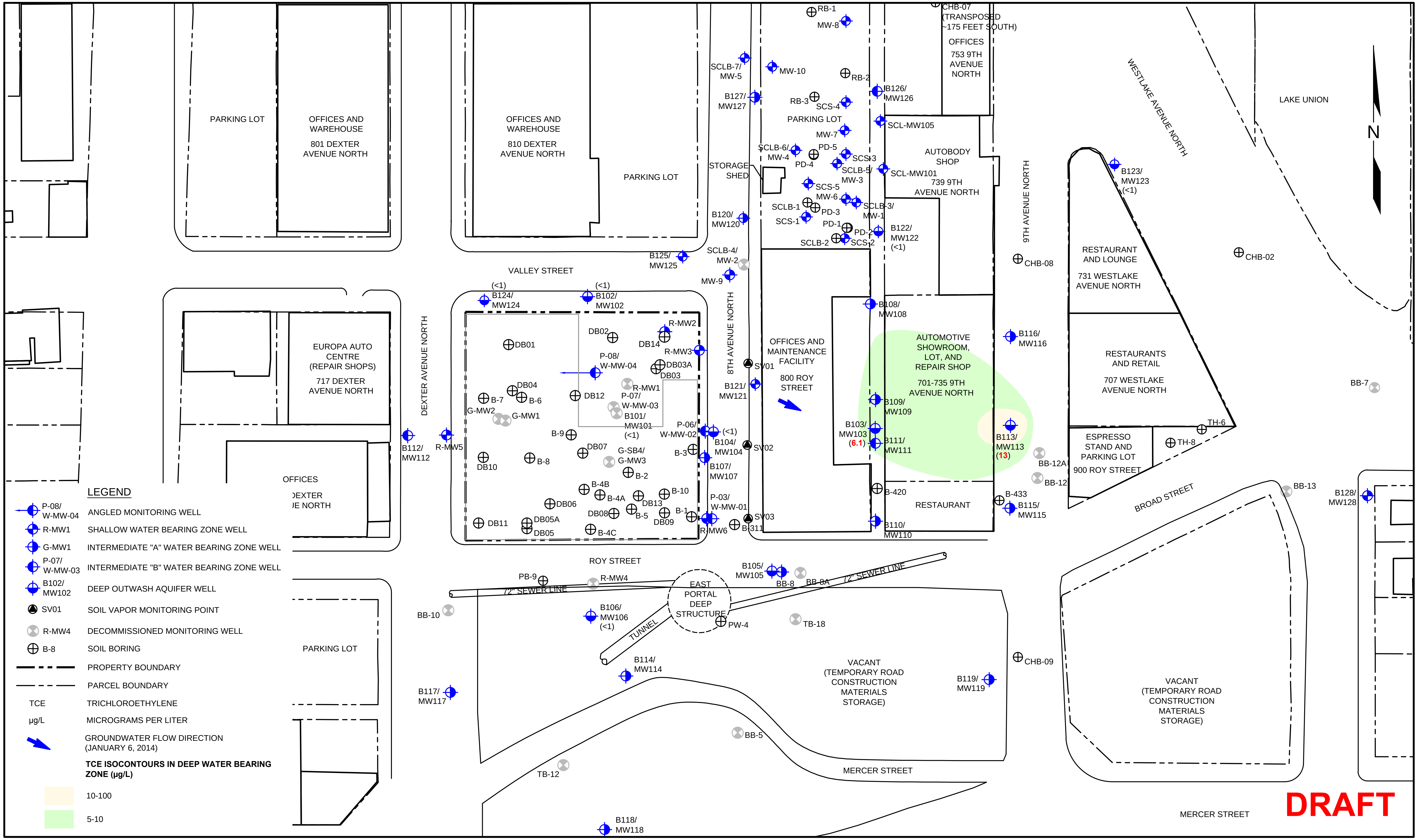
0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 24

VC ISOCONTOURS IN INTERMEDIATE "A" WATER-BEARING ZONE

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ISO_INT_VC.DWG

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ISO_DEEP_TCE.DWG 1/28/2014



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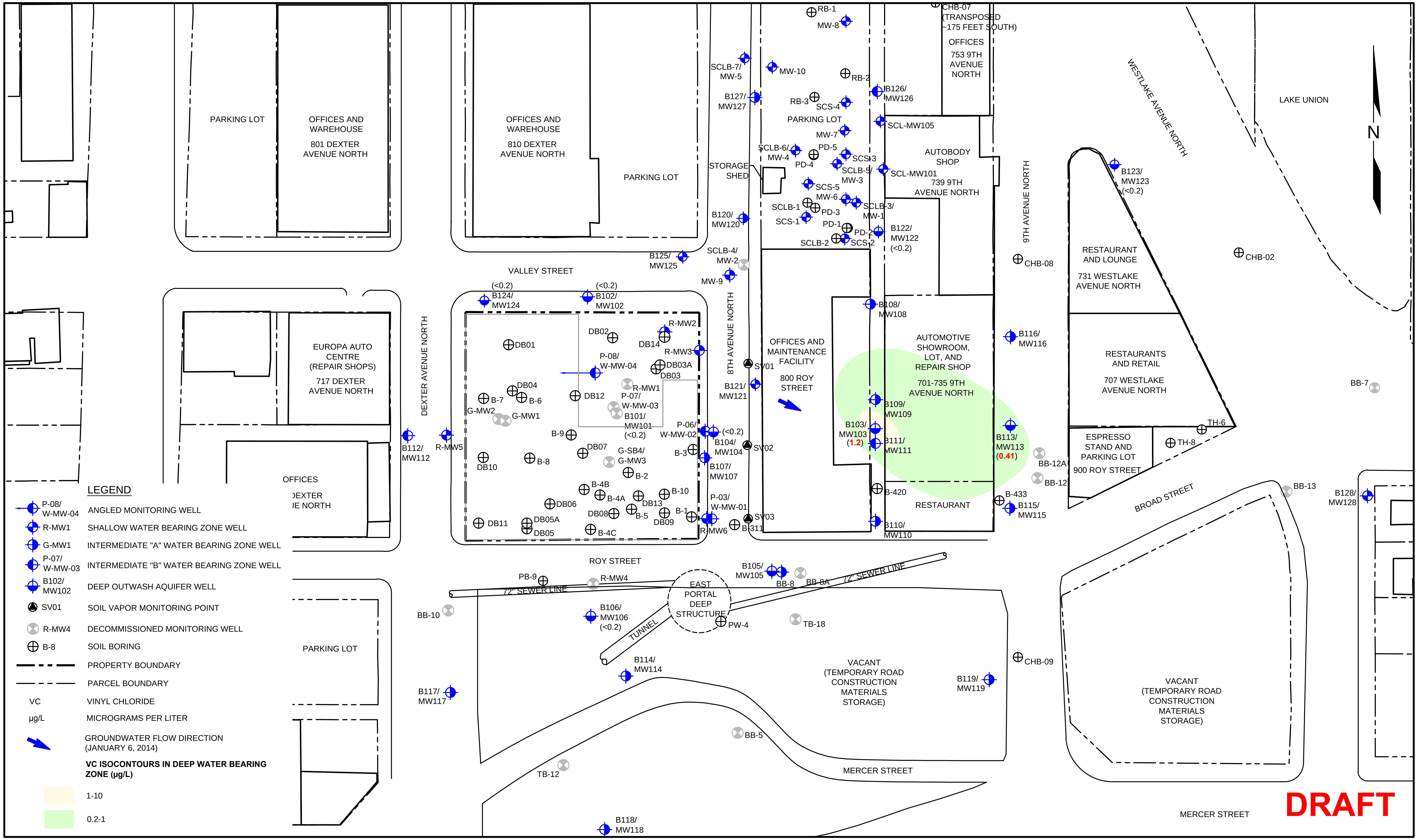
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100 200
APPROXIMATE SCALE IN FEET

FIGURE 25
TCE ISOCONTOURS IN DEEP WATER-BEARING ZONE

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ISO_DEEP_VC.DWG 1/28/2014



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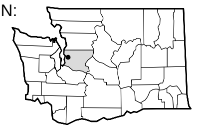
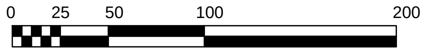
DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_ISO_DEEP_VC

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

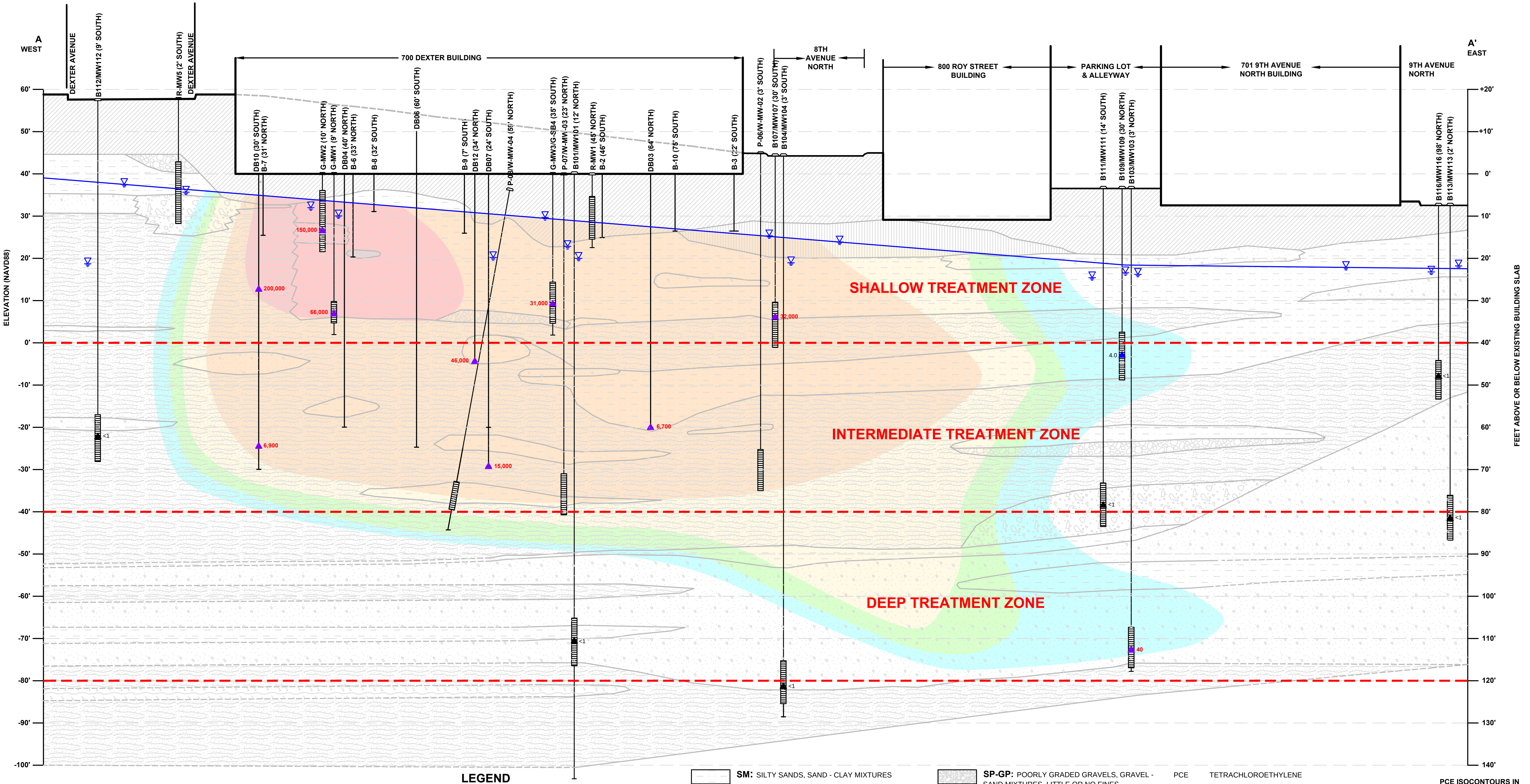
REGION:





APPROXIMATE SCALE IN FEET

FIGURE 26
VC ISOCONTOURS IN DEEP WATER-BEARING ZONE



LEGEND

SM-ML

SM-MH

SM-GM

SP: POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES

SP-SM

ML: INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS

SM: SILTY SANDS, SAND - CLAY MIXTURES

GW: WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES

FILL

(12' NORTH)	DISTANCE OF BORING/WELL FROM CROSS SECTION LINE
	MONITORING WELL WITH SCREEN INTERVAL
∇	INTERMEDIATE GROUNDWATER LEVEL (MARCH 29, 2013)

SP-GP: POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES

GM: SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES

∇ GROUNDWATER DEPTH (MARCH 29, 2013)

PCE CONCENTRATIONS IN RECONNAISSANCE OR LOW FLOW GROUNDWATER SAMPLES (µg/L):

▲	CONCENTRATION BELOW LABORATORY REPORTING LIMIT
▲	CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL
▲	CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

PCE	TETRACHLOROETHYLENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
µg/L	MICROGRAMS PER LITER

PCE ISOCONTOURS IN GROUNDWATER (µg/L)

🟥	>50,000
🟧	5,000-50,000
🟨	500-5,000
🟩	50-500
🟦	5-50

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CHECKED BY: SES
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PROJECT NUMBER: 0797-001
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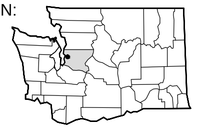
CITY, STATE: SEATTLE, WASHINGTON

REGION:



APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 27

CROSS SECTION A - A'
SHOWING PCE ISOCONTOURS

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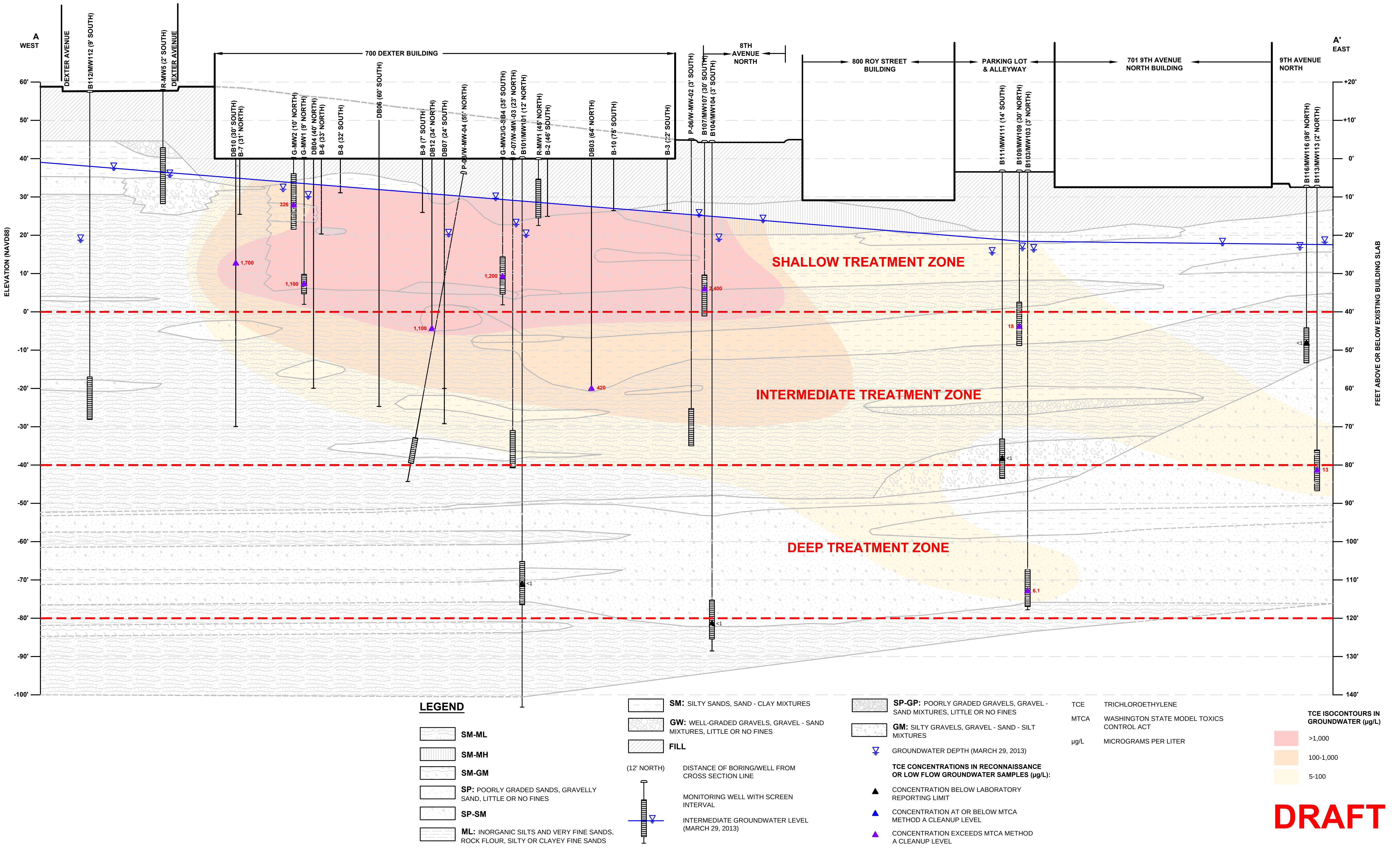
P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_XAA_TCE.DWG



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CAD FILE: 0797-001_2014CAP_XAA_TCE

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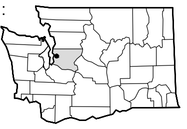
REGION:



0 25 50 100
APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 28
CROSS SECTION A - A'
SHOWING TCE ISOCONTOURS

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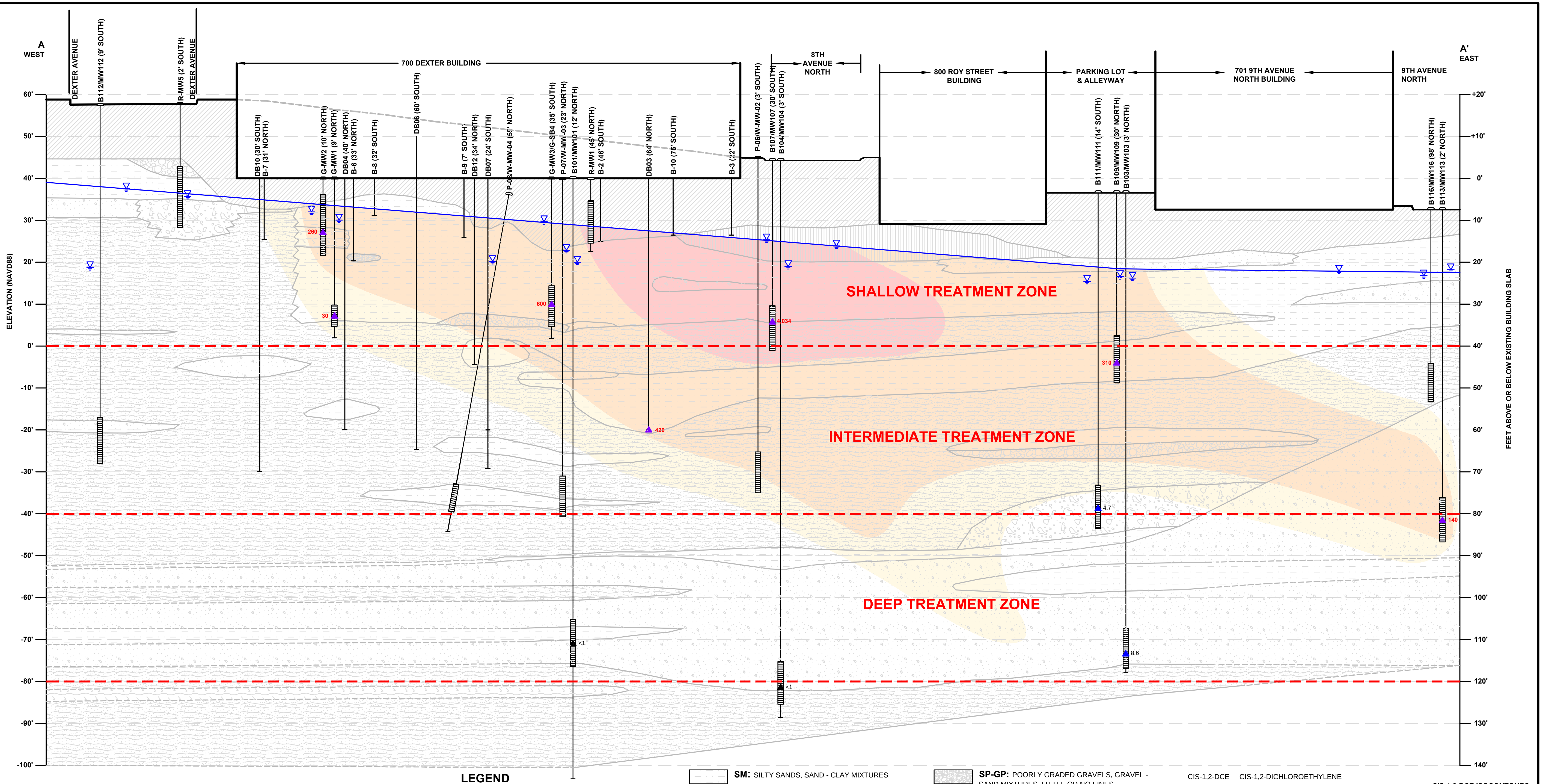

LEGEND

▭	SM-ML
▥	SM-MH
▭	SM-GM
▭	**SP:** POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
▭	SP-SM
▭	**ML:** INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
▭	**SM:** SILTY SANDS, SAND - CLAY MIXTURES
▭	**GW:** WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▨	**FILL**
(12' NORTH)	DISTANCE OF BORING/WELL FROM CROSS SECTION LINE
	MONITORING WELL WITH SCREEN INTERVAL
	INTERMEDIATE GROUNDWATER LEVEL (MARCH 29, 2013)
▭	**SP-GP:** POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▭	**GM:** SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
▽	GROUNDWATER DEPTH (MARCH 29, 2013)

CIS-1,2-DCE CONCENTRATIONS IN RECONNAISSANCE OR LOW FLOW GROUNDWATER SAMPLES (μg/L):

▲	CONCENTRATION BELOW LABORATORY REPORTING LIMIT
▲	CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL
▲	CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

CIS-1,2-DCE	CIS-1,2-DICHLOROETHYLENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
μg/L	MICROGRAMS PER LITER

CIS-1,2-DCE ISOCONTOURS IN GROUNDWATER (μg/L)

🟥	>1,000
🟧	100-1,000
🟨	16-100

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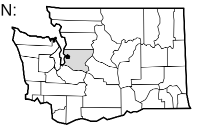
DATE: 07/24/2013
DRAWN BY: BLR/NAC/JQC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_XAA_CIS

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 25 50 100
APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 29

CROSS SECTION A - A'
SHOWING CIS-1,2-DCE ISOCONTOURS

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_XAA_CIS.DWG

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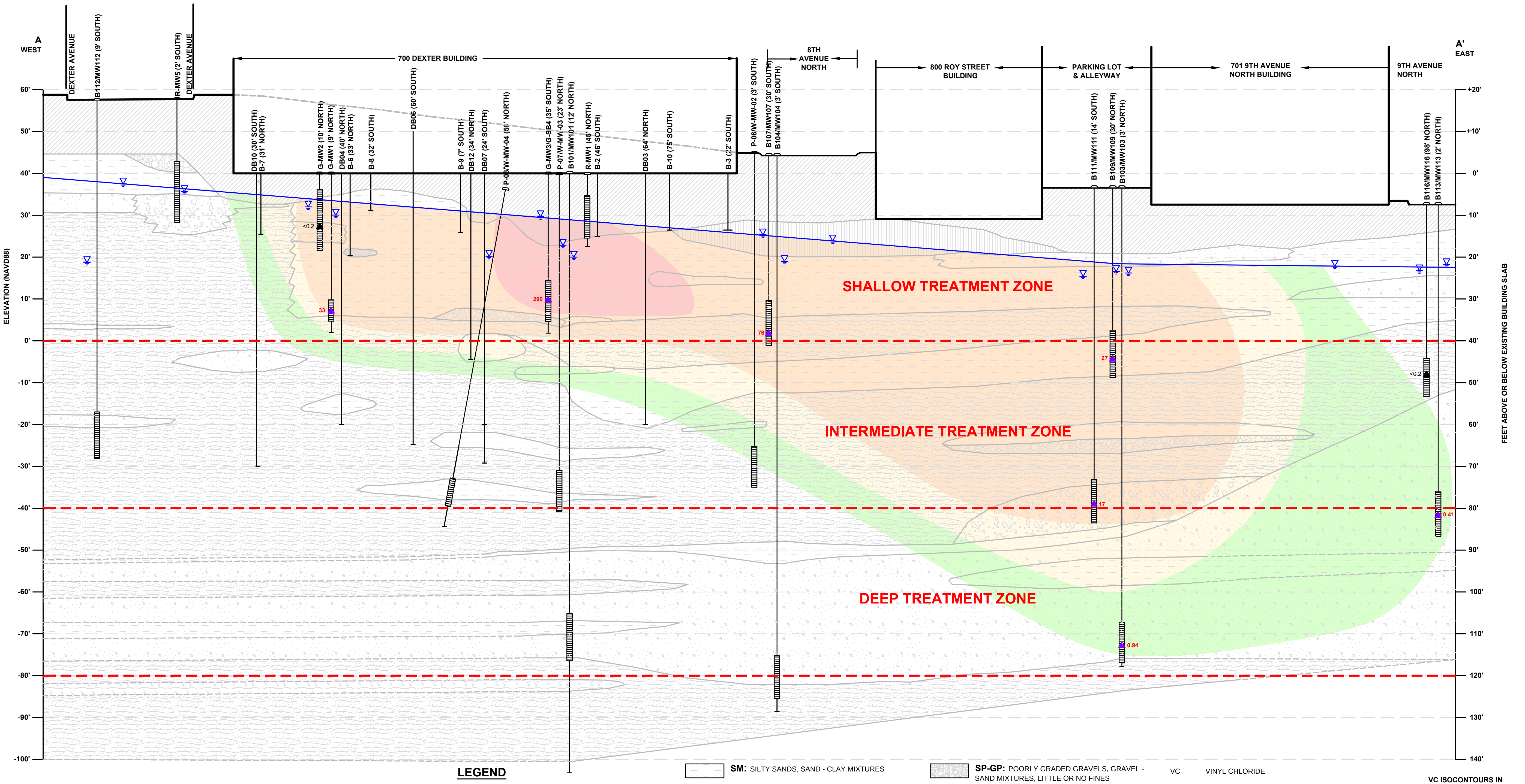

LEGEND

▨	**SM-ML**
▥	**SM-MH**
▨	**SM-GM**
▨	**SP:** POORLY GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
▨	**SP-SM**
▤	**ML:** INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
▭	**SM:** SILTY SANDS, SAND - CLAY MIXTURES
▨	**GW:** WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▨	**FILL**
(12' NORTH)	DISTANCE OF BORING/WELL FROM CROSS SECTION LINE
▥	MONITORING WELL WITH SCREEN INTERVAL
▽	INTERMEDIATE GROUNDWATER LEVEL (MARCH 29, 2013)
▨	**SP-GP:** POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
▨	**GM:** SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
▽	GROUNDWATER DEPTH (MARCH 29, 2013)

VC CONCENTRATIONS IN RECONNAISSANCE OR LOW FLOW GROUNDWATER SAMPLES (µg/L):

▲	CONCENTRATION BELOW LABORATORY REPORTING LIMIT
▲	CONCENTRATION AT OR BELOW MTCA METHOD A CLEANUP LEVEL
▲	CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL

VC	VINYL CHLORIDE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
µg/L	MICROGRAMS PER LITER

VC ISOCONTOURS IN GROUNDWATER (µg/L)

🟥	>100
🟧	10-100
🟨	1-10
🟩	0.2-1

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DATE: 07/24/2013
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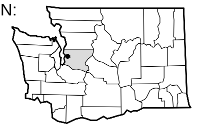
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_XAA_VC

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

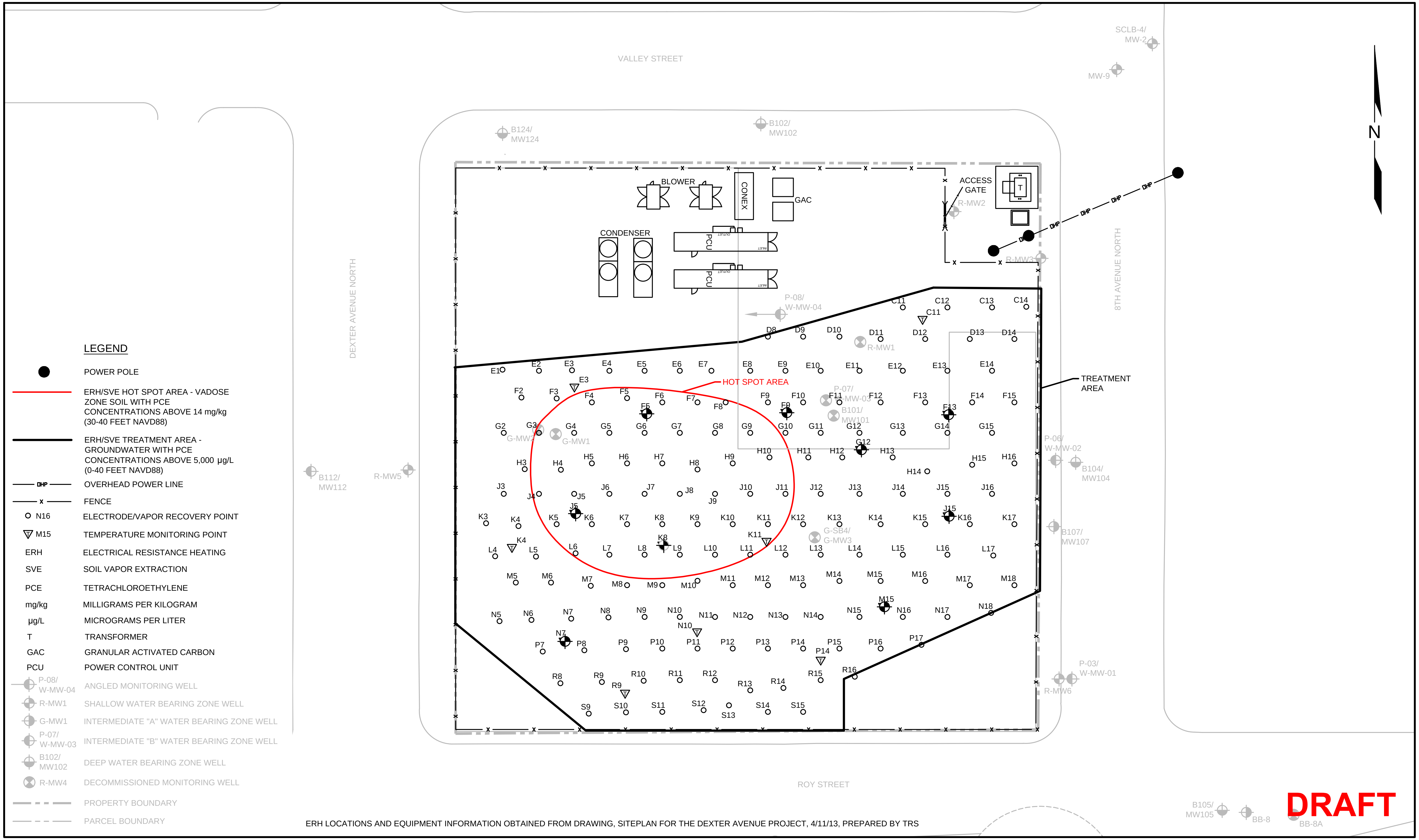
REGION:



0 25 50 100
APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 30
CROSS SECTION A - A'
SHOWING VC ISOCONTOURS

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_XAA_VC.DWG



LEGEND

●	POWER POLE
	ERH/SVE HOT SPOT AREA - VADOSE ZONE SOIL WITH PCE CONCENTRATIONS ABOVE 14 mg/kg (30-40 FEET NAVD88)
	ERH/SVE TREATMENT AREA - GROUNDWATER WITH PCE CONCENTRATIONS ABOVE 5,000 µg/L (0-40 FEET NAVD88)
—DHP—	OVERHEAD POWER LINE
—x—	FENCE
○ N16	ELECTRODE/VAPOR RECOVERY POINT
▽ M15	TEMPERATURE MONITORING POINT
ERH	ELECTRICAL RESISTANCE HEATING
SVE	SOIL VAPOR EXTRACTION
PCE	TETRACHLOROETHYLENE
mg/kg	MILLIGRAMS PER KILOGRAM
µg/L	MICROGRAMS PER LITER
T	TRANSFORMER
GAC	GRANULAR ACTIVATED CARBON
PCU	POWER CONTROL UNIT
P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP WATER BEARING ZONE WELL
R-MW4	DECOMMISSIONED MONITORING WELL
	PROPERTY BOUNDARY
	PARCEL BOUNDARY

ERH LOCATIONS AND EQUIPMENT INFORMATION OBTAINED FROM DRAWING, SITEPLAN FOR THE DEXTER AVENUE PROJECT, 4/11/13, PREPARED BY TRS

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DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_ERH

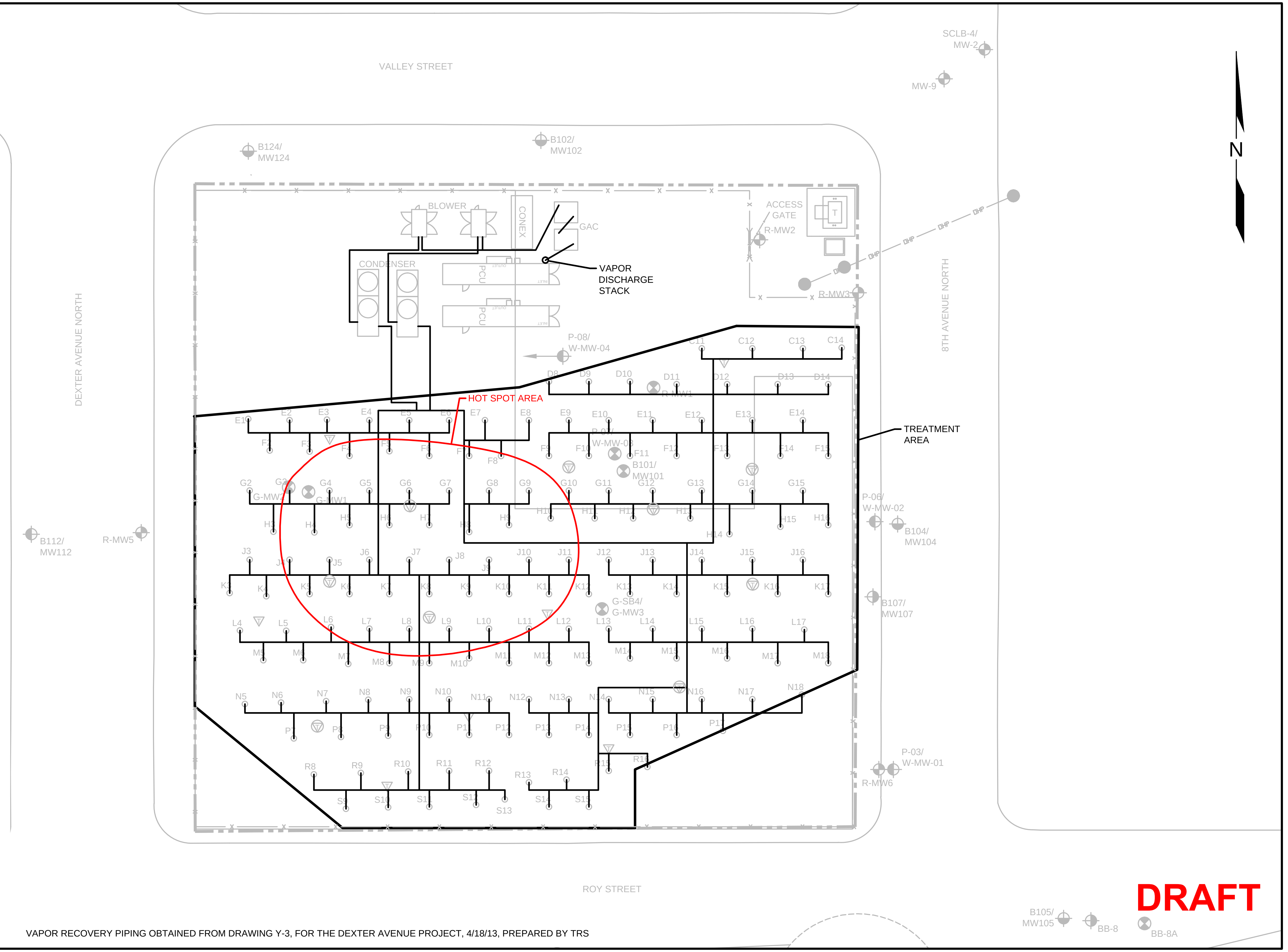
PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 31
CONCEPTUAL SITE LAYOUT
FOR ERH AND SVE SYSTEM

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_ERH.DWG
1/28/2014



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LEGEND

●	POWER POLE
🟥	ERH/SVEHOT SPOT AREA - VADOSE ZONE SOIL WITH PCE CONCENTRATIONS ABOVE 14 mg/kg (30-40 FEET NAVD88)
▬	ERH/SVE TREATMENT AREA - GROUNDWATER WITH PCE CONCENTRATIONS ABOVE 5,000 µg/L (0-40 FEET NAVD88)
— DHP —	OVERHEAD POWER LINE
— x —	FENCE
○ N16	ELECTRODE/VAPOR RECOVERY POINT
ERH	ELECTRICAL RESISTANCE HEATING
SVE	SOIL VAPOR EXTRACTION
PCE	TETRACHLOROETHYLENE
▽	TEMPERATURE MONITORING POINT
▽	TEMPERATURE MONITORING POINT AND MONITORING WELL
mg/kg	MILLIGRAMS PER KILOGRAM
µg/L	MICROGRAMS PER LITER
T	TRANSFORMER
GAC	GRANULAR ACTIVATED CARBON
PCU	POWER CONTROL UNIT
P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP WATER BEARING ZONE WELL
R-MW4	DECOMMISSIONED MONITORING WELL
— · —	PROPERTY BOUNDARY
— — —	PARCEL BOUNDARY

VAPOR RECOVERY PIPING OBTAINED FROM DRAWING Y-3, FOR THE DEXTER AVENUE PROJECT, 4/18/13, PREPARED BY TRS

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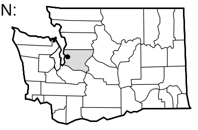
DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_SVE

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:



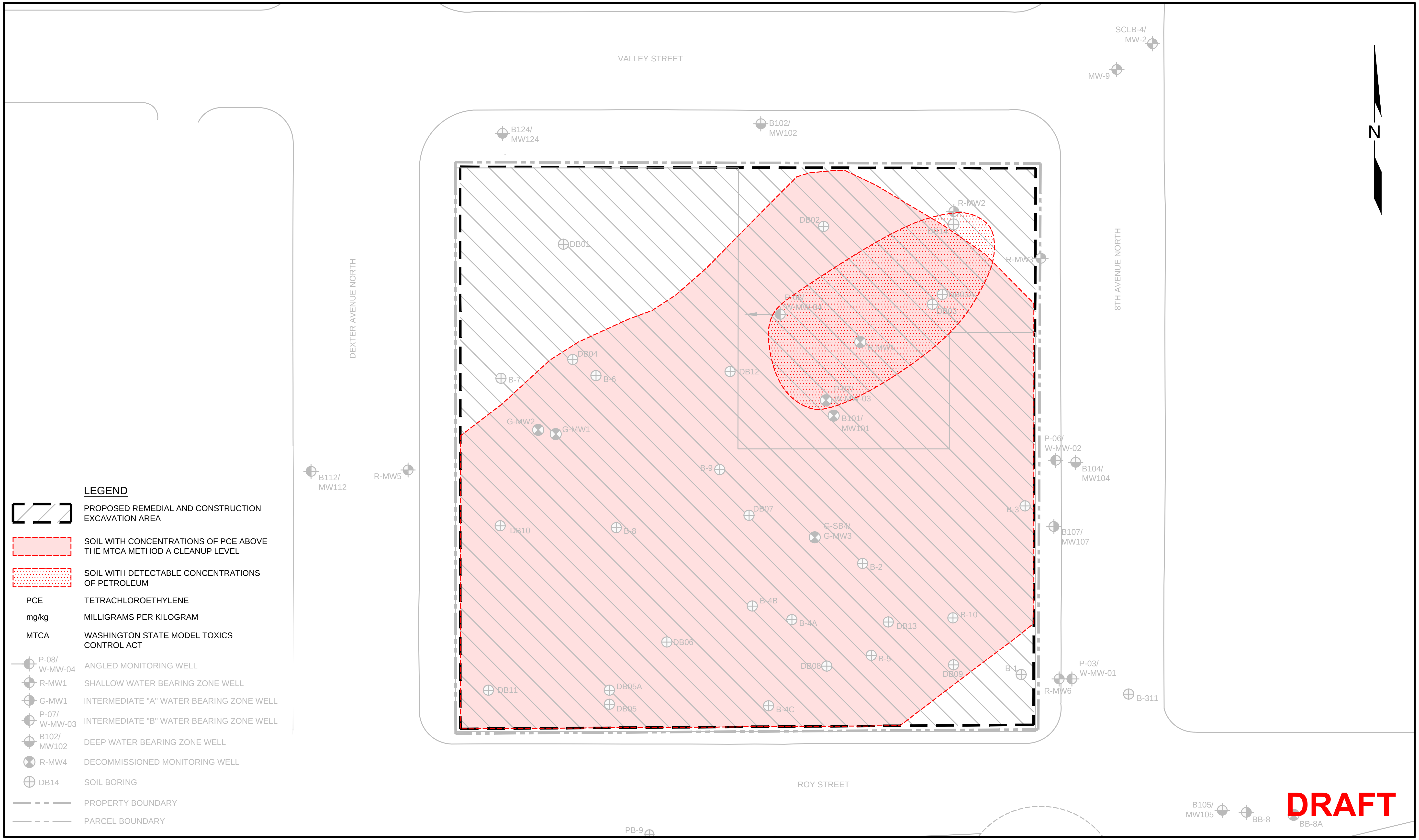
0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 32

CONCEPTUAL SVE SYSTEM
PIPING LAYOUT

1/22/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_EXCA.DWG



DRAFT

LEGEND

▨	PROPOSED REMEDIAL AND CONSTRUCTION EXCAVATION AREA
🟥	SOIL WITH CONCENTRATIONS OF PCE ABOVE THE MTCA METHOD A CLEANUP LEVEL
▨	SOIL WITH DETECTABLE CONCENTRATIONS OF PETROLEUM
PCE	TETRACHLOROETHYLENE
mg/kg	MILLIGRAMS PER KILOGRAM
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
⊕ P-08/ W-MW-04	ANGLED MONITORING WELL
⊕ R-MW1	SHALLOW WATER BEARING ZONE WELL
⊕ G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
⊕ P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
⊕ B102/ MW102	DEEP WATER BEARING ZONE WELL
⊗ R-MW4	DECOMMISSIONED MONITORING WELL
⊕ DB14	SOIL BORING
— - - —	PROPERTY BOUNDARY
— - - —	PARCEL BOUNDARY

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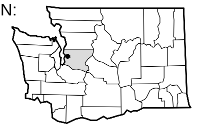
DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_EXCA

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 33
REMEDIAL EXCAVATION AREA

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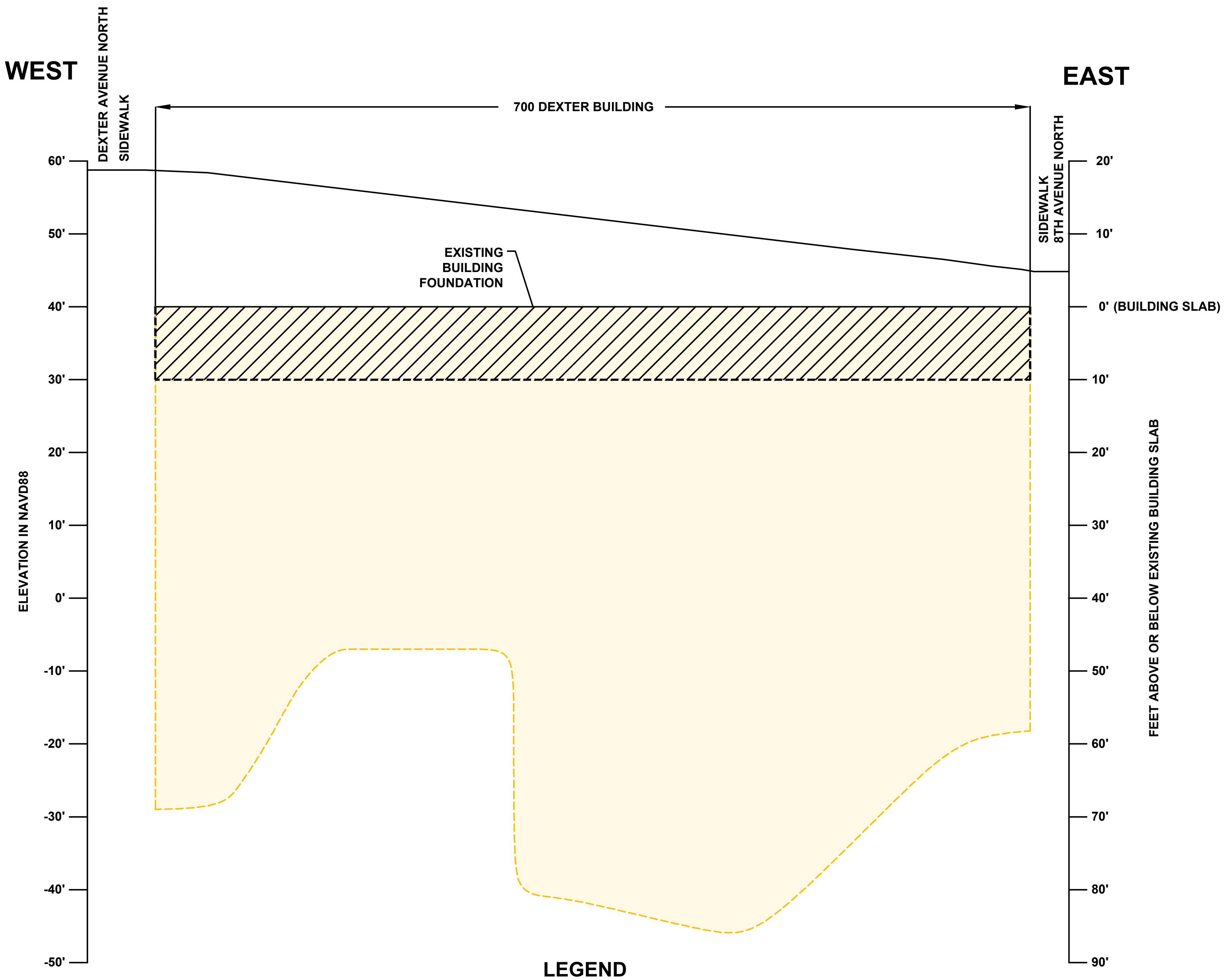

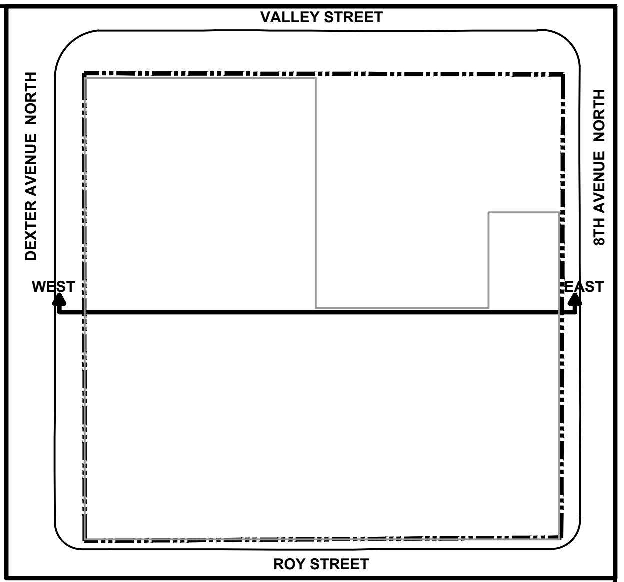

LEGEND

▨	PROPOSED REMEDIAL AND CONSTRUCTION EXCAVATION AREA
▭	SOIL WITH CONCENTRATIONS OF PCE ABOVE THE MTCA METHOD A CLEANUP LEVEL
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
PCE	TETRACHLOROETHYLENE

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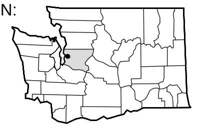
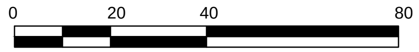
DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_EX_XAA

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:





APPROXIMATE SCALE IN FEET

FIGURE 34

CROSS SECTION WEST-EAST'
EXCAVATION AREA

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_EX_XAA.DWG 1/28/2014

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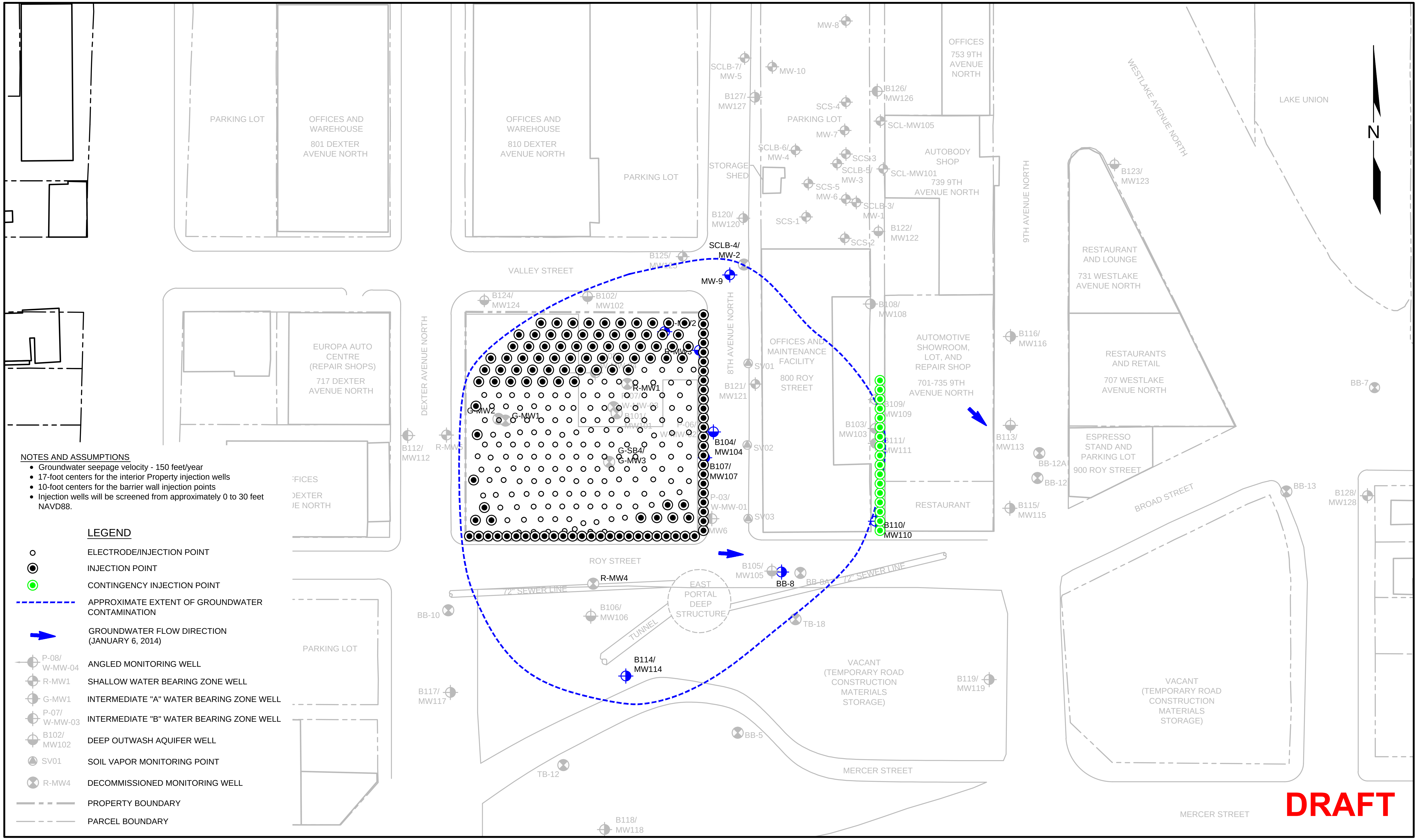

NOTES AND ASSUMPTIONS

- Groundwater seepage velocity - 150 feet/year
- 17-foot centers for the interior Property injection wells
- 10-foot centers for the barrier wall injection points
- Injection wells will be screened from approximately 0 to 30 feet NAVD88.

LEGEND

○ ELECTRODE/INJECTION POINT
◉ INJECTION POINT
🟢 CONTINGENCY INJECTION POINT
- - - APPROXIMATE EXTENT OF GROUNDWATER CONTAMINATION
➡ GROUNDWATER FLOW DIRECTION (JANUARY 6, 2014)
P-08/ W-MW-04 ANGLED MONITORING WELL
R-MW1 SHALLOW WATER BEARING ZONE WELL
G-MW1 INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03 INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102 DEEP OUTWASH AQUIFER WELL
SV01 SOIL VAPOR MONITORING POINT
R-MW4 DECOMMISSIONED MONITORING WELL
PROPERTY BOUNDARY
PARCEL BOUNDARY

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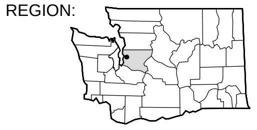
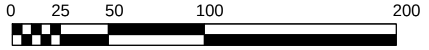
DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_CA1_A

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

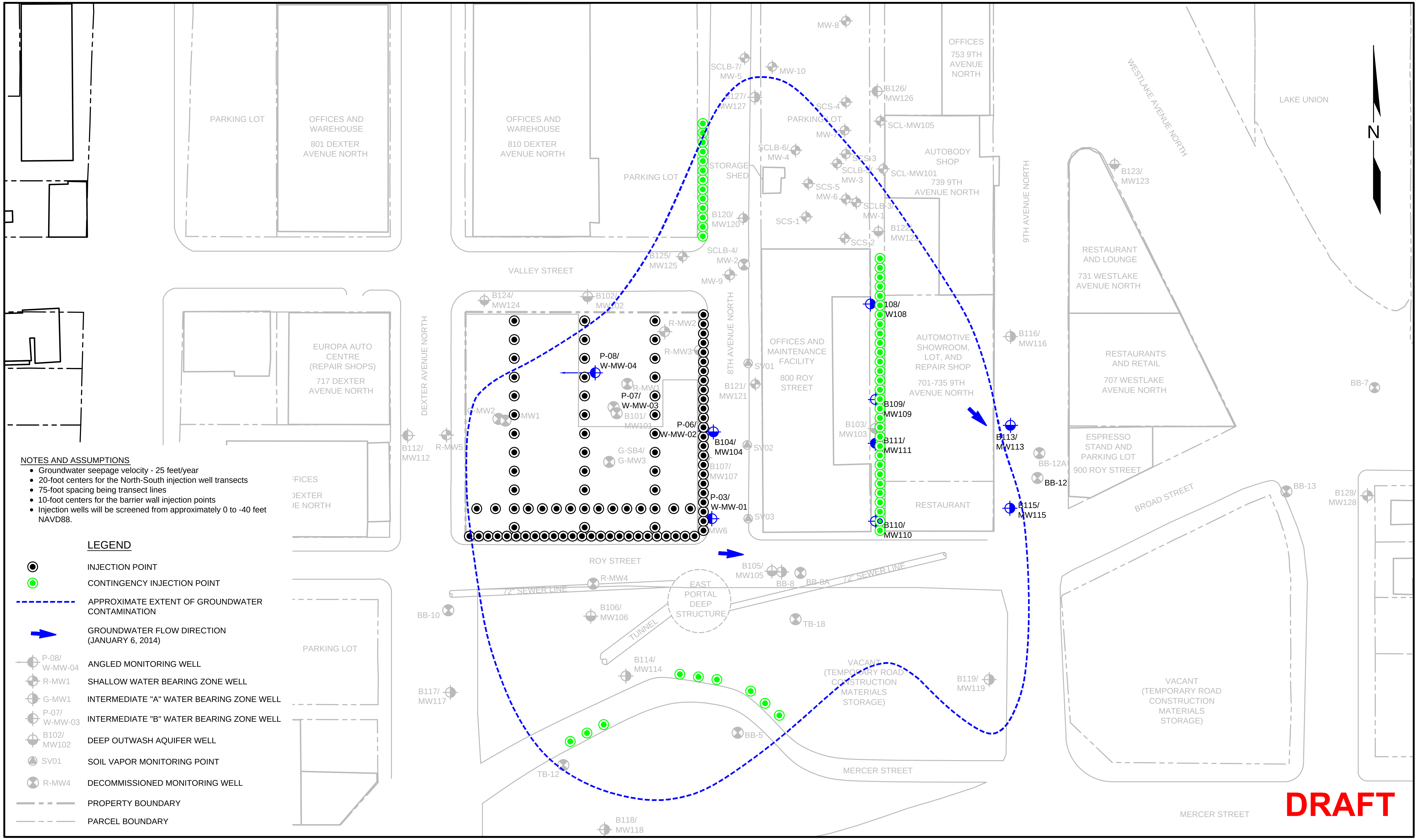




APPROXIMATE SCALE IN FEET

FIGURE 35

CLEANUP ACTION PLAN
SHALLOW TREATMENT ZONE
IN SITU REDUCTIVE DECHLORINATION



NOTES AND ASSUMPTIONS

- Groundwater seepage velocity - 25 feet/year
- 20-foot centers for the North-South injection well transects
- 75-foot spacing being transect lines
- 10-foot centers for the barrier wall injection points
- Injection wells will be screened from approximately 0 to -40 feet NAVD88.

LEGEND

◉	INJECTION POINT
🟢	CONTINGENCY INJECTION POINT
- - - -	APPROXIMATE EXTENT OF GROUNDWATER CONTAMINATION
➡	GROUNDWATER FLOW DIRECTION (JANUARY 6, 2014)
P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP OUTWASH AQUIFER WELL
SV01	SOIL VAPOR MONITORING POINT
R-MW4	DECOMMISSIONED MONITORING WELL
— - - —	PROPERTY BOUNDARY
— - - —	PARCEL BOUNDARY

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DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
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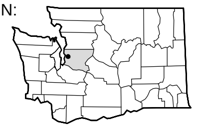
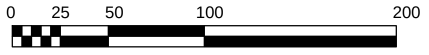
CAD FILE: 0797-001_2014CAP_CA1_B

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

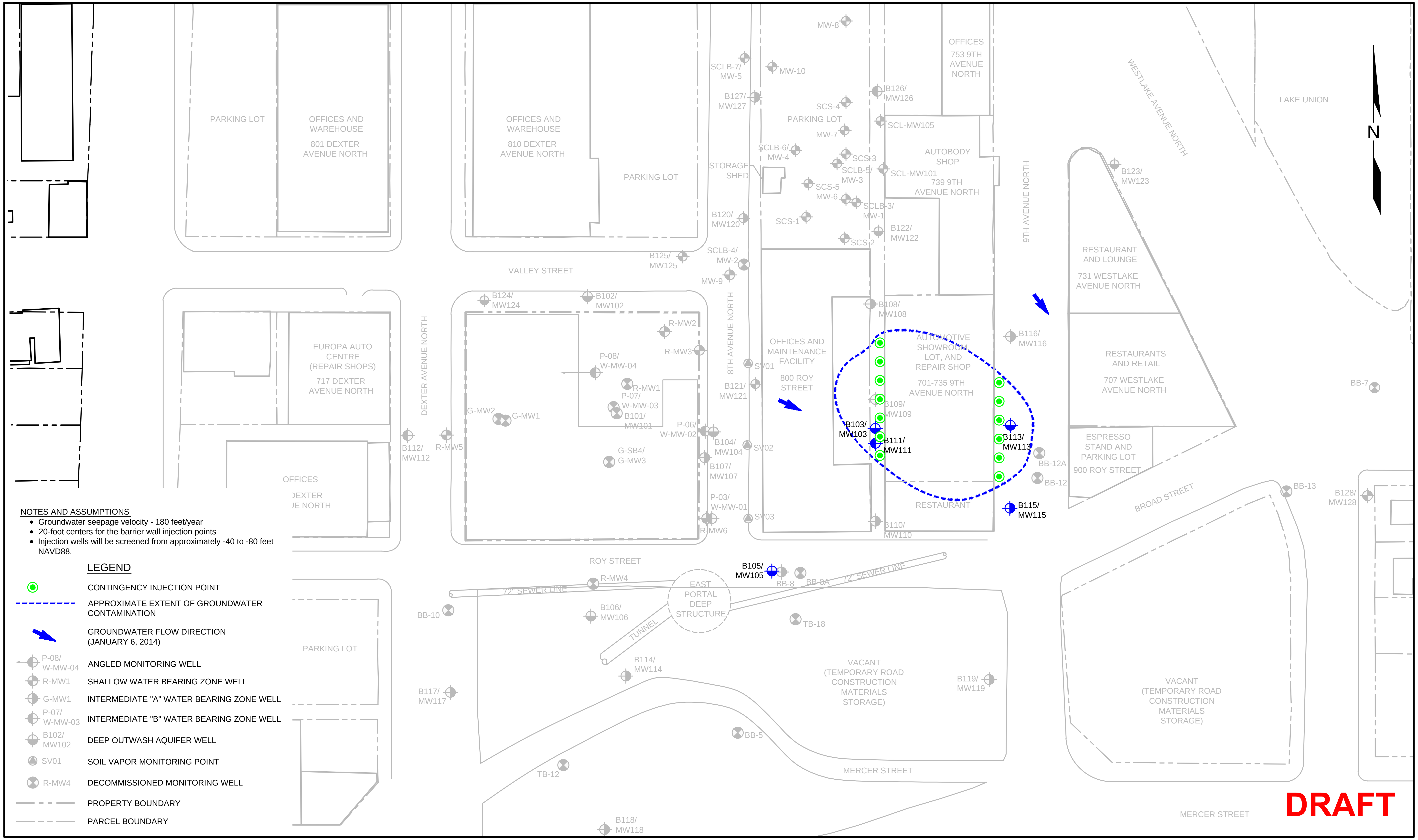
REGION:




APPROXIMATE SCALE IN FEET

FIGURE 36
CLEANUP ACTION PLAN
INTERMEDIATE TREATMENT ZONE
IN SITU REDUCTIVE DECHLORINATION

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001 2014CAP CA1 B.DWG
1/29/2014



NOTES AND ASSUMPTIONS

- Groundwater seepage velocity - 180 feet/year
- 20-foot centers for the barrier wall injection points
- Injection wells will be screened from approximately -40 to -80 feet NAVD88.

LEGEND

●	CONTINGENCY INJECTION POINT
- - - -	APPROXIMATE EXTENT OF GROUNDWATER CONTAMINATION
➘	GROUNDWATER FLOW DIRECTION (JANUARY 6, 2014)
P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP OUTWASH AQUIFER WELL
SV01	SOIL VAPOR MONITORING POINT
R-MW4	DECOMMISSIONED MONITORING WELL
— - —	PROPERTY BOUNDARY
- - -	PARCEL BOUNDARY

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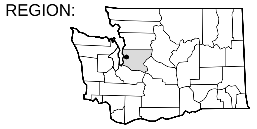
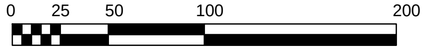
DATE: 01/15/14
DRAWN BY: BLR/JQC/NAC
CHECKED BY: CCC
CAD FILE: 0797-001_2014CAP_CA1_C

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:





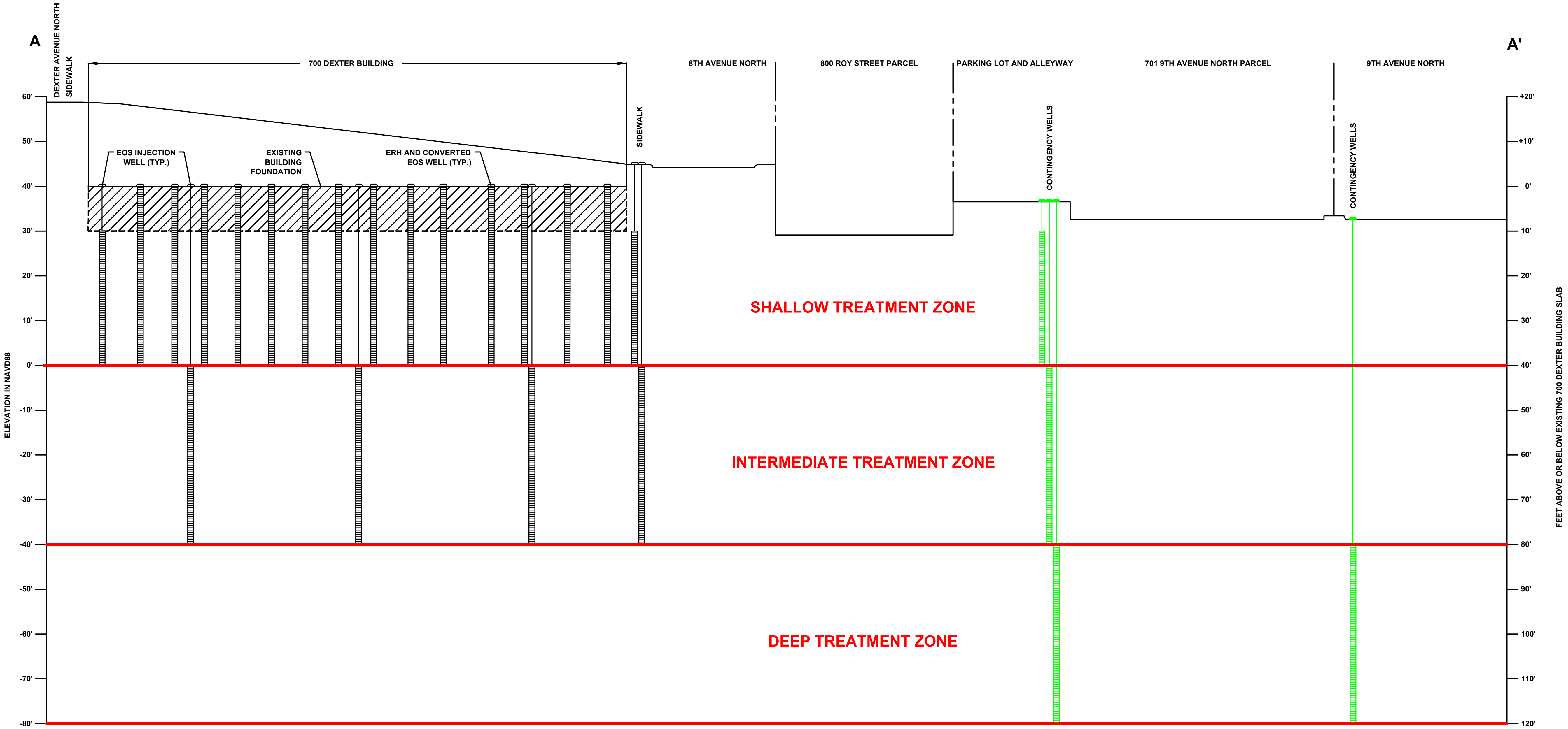
APPROXIMATE SCALE IN FEET

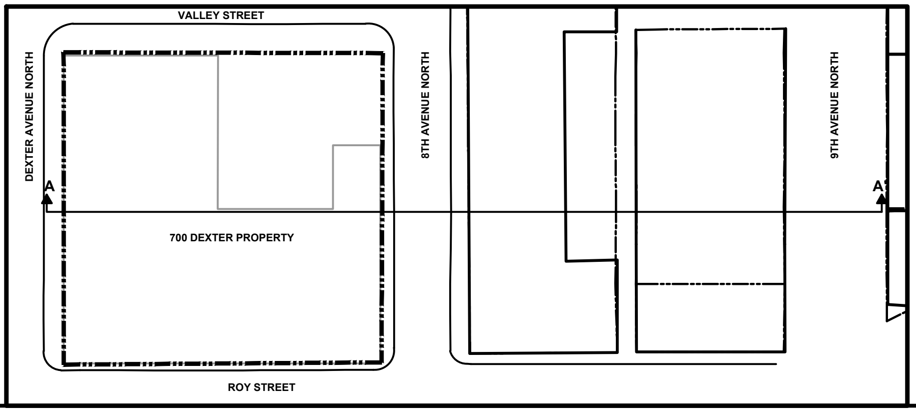
FIGURE 37
CLEANUP ACTION PLAN
DEEP TREATMENT ZONE
IN SITU REDUCTIVE DECHLORINATION

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_CA1_C.DWG
1/29/2014

1/28/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_CA1_XAA.DWG





LEGEND

▨	PROPOSED EXCAVATION AREA
ERH	ELECTRICAL RESISTANCE HEATING
EOS	EDIBLE OIL SUBSTRATE

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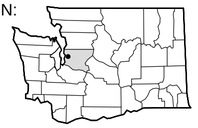
DATE: 05/03/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_CA1_XAA

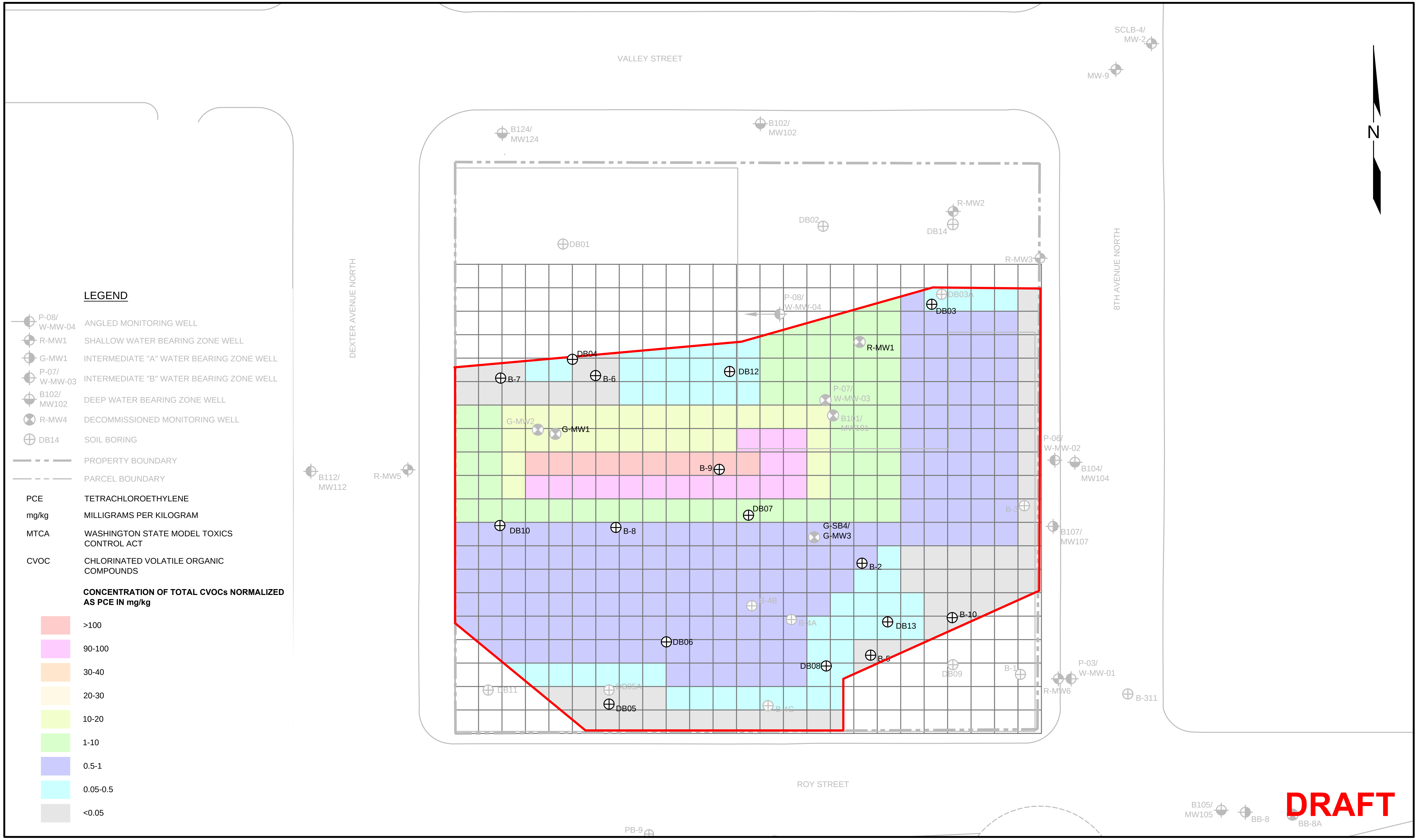
PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:



0 25 50 100
APPROXIMATE HORIZONTAL SCALE IN FEET

FIGURE 38
CLEANUP ACTION PLAN
CROSS SECTION A-A'
IN SITU REDUCTIVE DECHLORINATION



LEGEND

P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP WATER BEARING ZONE WELL
R-MW4	DECOMMISSIONED MONITORING WELL
DB14	SOIL BORING
— · — ·	PROPERTY BOUNDARY
— — —	PARCEL BOUNDARY
PCE	TETRACHLOROETHYLENE
mg/kg	MILLIGRAMS PER KILOGRAM
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
CVOC	CHLORINATED VOLATILE ORGANIC COMPOUNDS

CONCENTRATION OF TOTAL CVOCs NORMALIZED AS PCE IN mg/kg

🟥	>100
🟪	90-100
🟧	30-40
🟨	20-30
🟨	10-20
🟩	1-10
🟦	0.5-1
🟦	0.05-0.5
⬜	<0.05

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DATE: 01/14/14
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_PCE_SD1

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

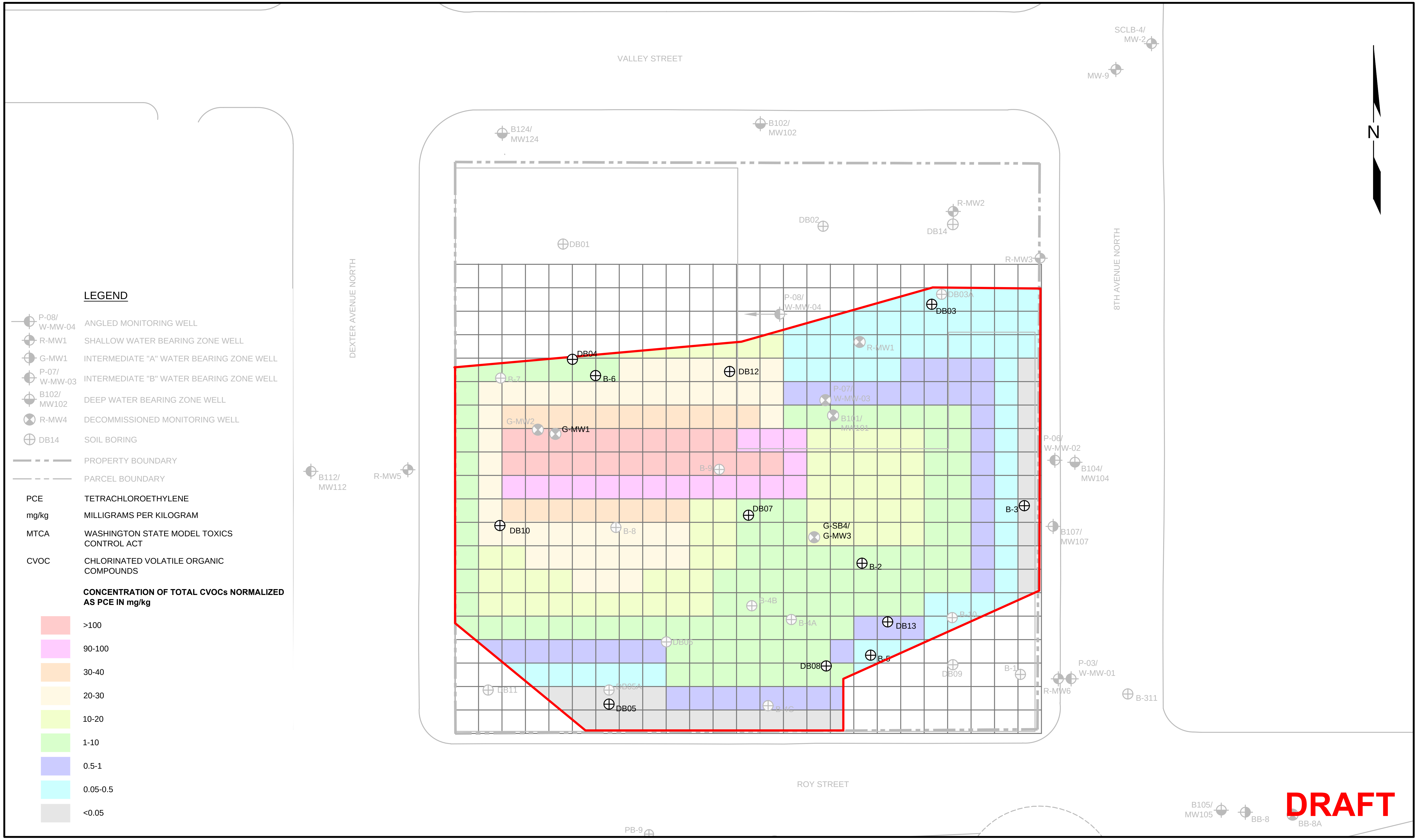
0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 39
SOIL RANGES OF NORMALIZED PCE CONCENTRATIONS FROM 0-10'

1/28/2014
P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_PCE_SD1.DWG

1/28/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_PCE_SD2.DWG



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DATE: 01/14/14
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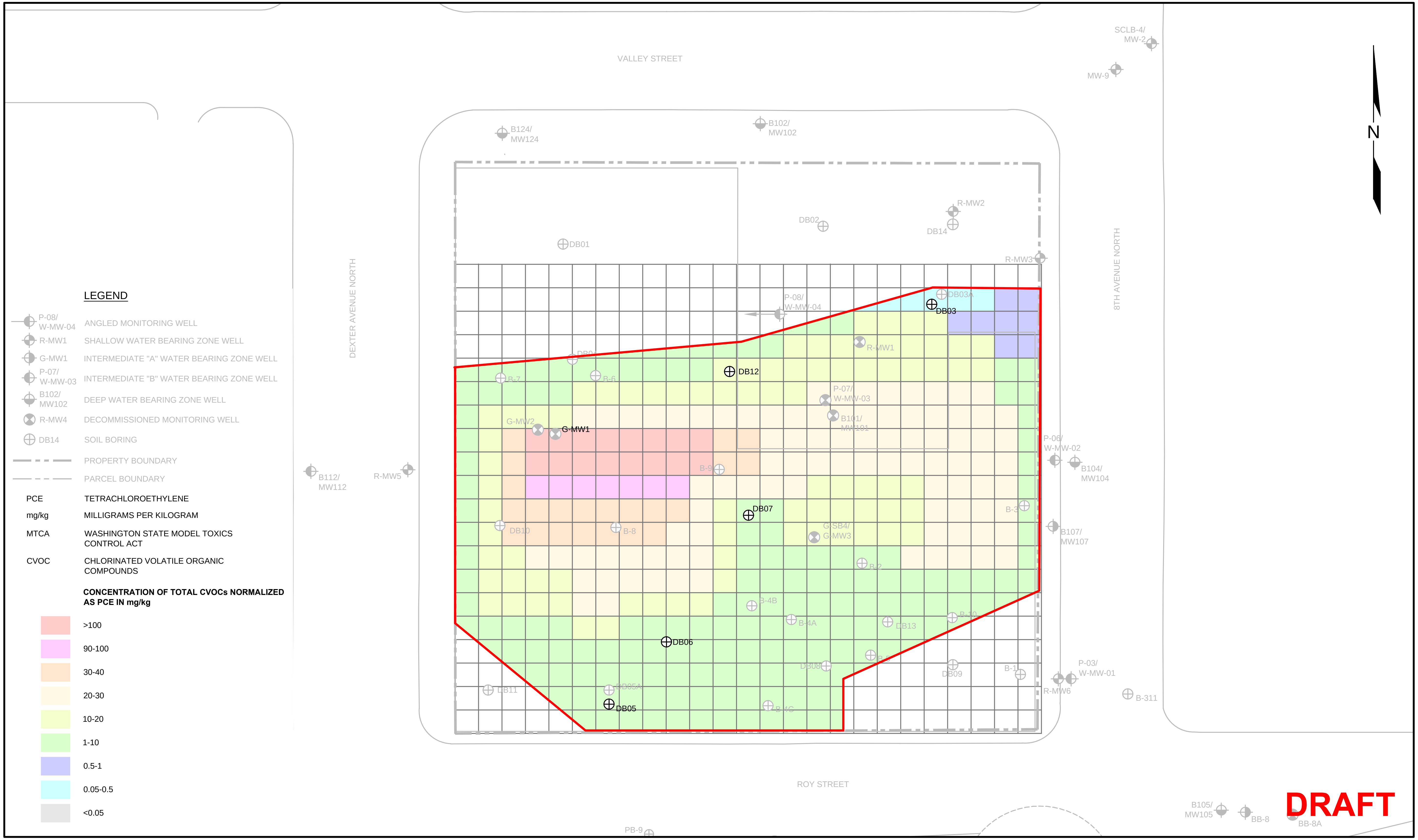
CAD FILE: 0797-001_2014CAP_PCE_SD2

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 40
SOIL RANGES OF NORMALIZED PCE CONCENTRATIONS FROM 10-20'



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DATE: 01/14/14
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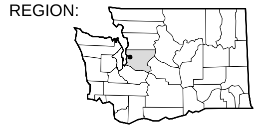
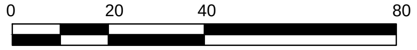
CAD FILE: 0797-001_2014CAP_PCE_SD3

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:





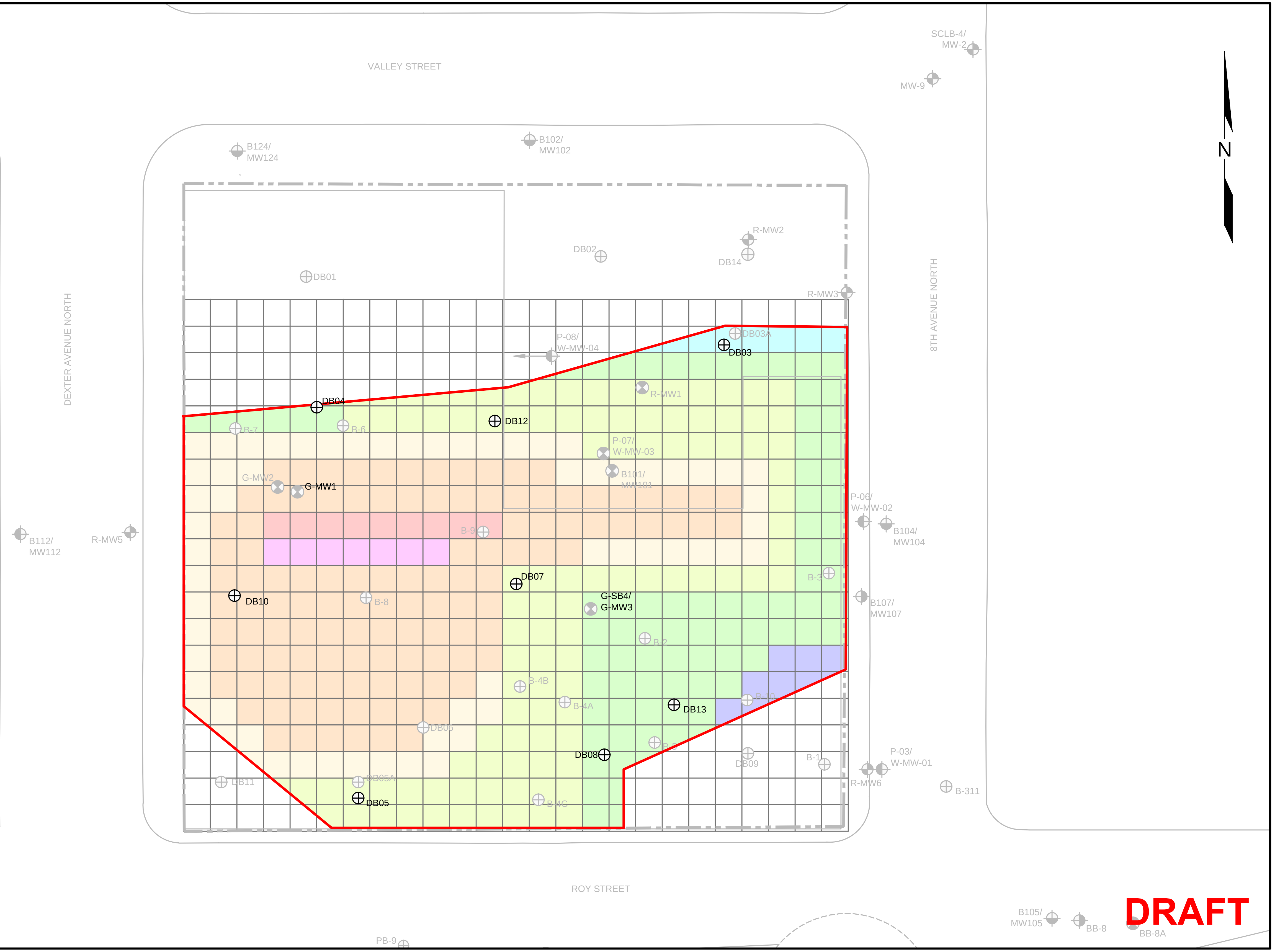
APPROXIMATE SCALE IN FEET

FIGURE 41
SOIL RANGES OF NORMALIZED PCE CONCENTRATIONS FROM 20-30'

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_PCE_SD3.DWG
1/28/2014

1/28/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_PCE_SD4.DWG



LEGEND

P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP WATER BEARING ZONE WELL
R-MW4	DECOMMISSIONED MONITORING WELL
DB14	SOIL BORING
— - - —	PROPERTY BOUNDARY
— - - —	PARCEL BOUNDARY
PCE	TETRACHLOROETHYLENE
mg/kg	MILLIGRAMS PER KILOGRAM
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
CVOC	CHLORINATED VOLATILE ORGANIC COMPOUNDS

CONCENTRATION OF TOTAL CVOCs NORMALIZED AS PCE IN mg/kg

🟥	>100
🟪	90-100
🟧	30-40
🟨	20-30
🟨	10-20
🟩	1-10
🟦	0.5-1
🟦	0.05-0.5
⬜	<0.05

SoundEarth Strategies
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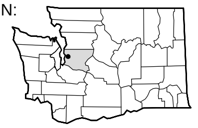
DATE: 01/14/14
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_PCE_SD4

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

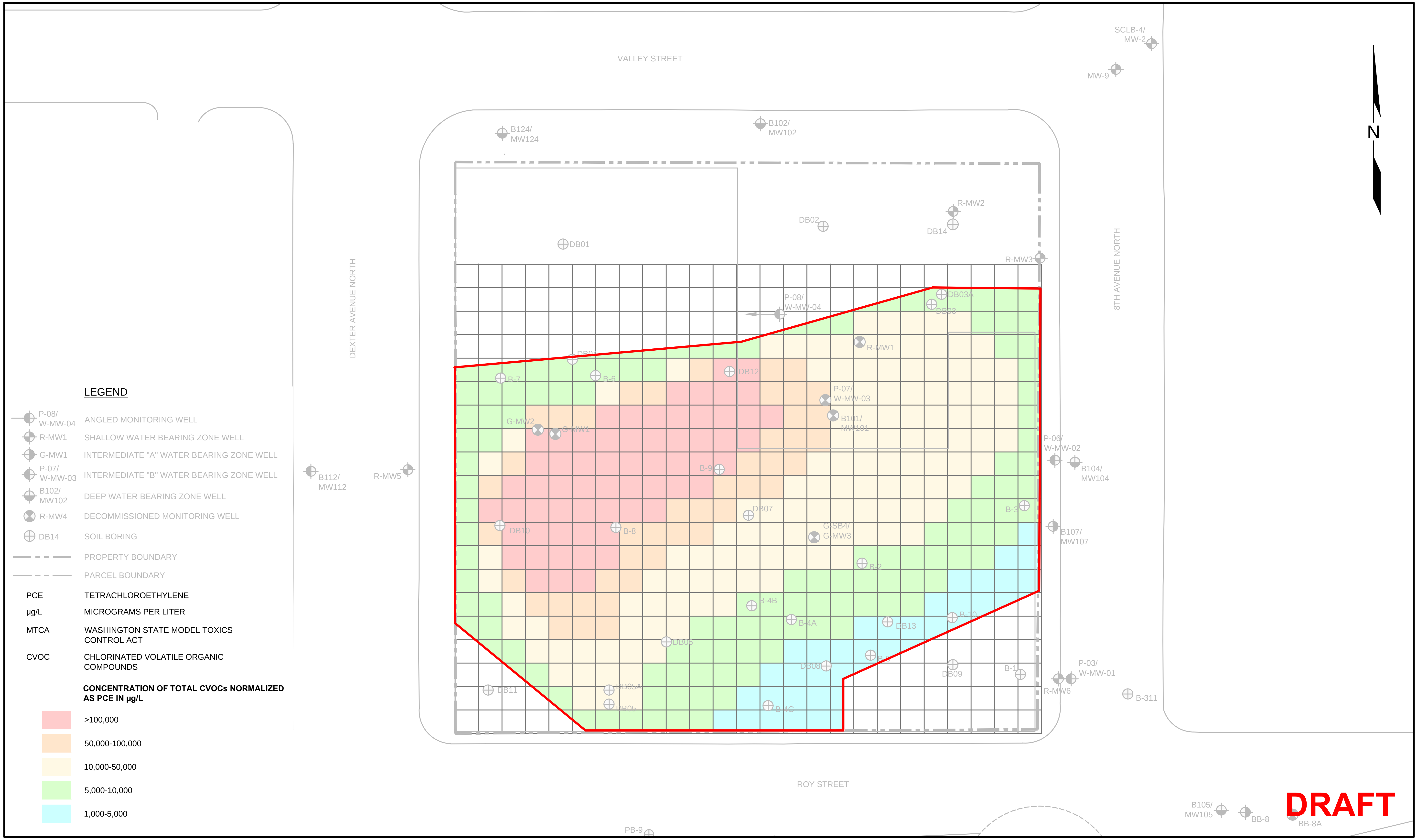
REGION:



0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 42

SOIL RANGES OF NORMALIZED PCE CONCENTRATIONS FROM 30-40'



LEGEND

P-08/ W-MW-04	ANGLED MONITORING WELL
R-MW1	SHALLOW WATER BEARING ZONE WELL
G-MW1	INTERMEDIATE "A" WATER BEARING ZONE WELL
P-07/ W-MW-03	INTERMEDIATE "B" WATER BEARING ZONE WELL
B102/ MW102	DEEP WATER BEARING ZONE WELL
R-MW4	DECOMMISSIONED MONITORING WELL
DB14	SOIL BORING
— - —	PROPERTY BOUNDARY
— - - —	PARCEL BOUNDARY
PCE	TETRACHLOROETHYLENE
µg/L	MICROGRAMS PER LITER
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
CVOC	CHLORINATED VOLATILE ORGANIC COMPOUNDS

CONCENTRATION OF TOTAL CVOCs NORMALIZED AS PCE IN µg/L

🟥	>100,000
🟧	50,000-100,000
🟨	10,000-50,000
🟩	5,000-10,000
🟦	1,000-5,000

DRAFT

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 01/14/14
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2014CAP_PCE_GD1

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 43
GROUNDWATER RANGES OF NORMALIZED PCE CONCENTRATIONS FROM 10-40'

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2014 CAP\0797-001_2014CAP_PCE_GD1.DWG 1/28/2014

TABLES

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Table 1
Summary of Groundwater Elevation Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Property	Screen Interval (Feet Below Top of Casing)	Top of Casing Elevation (feet)	Sample Date	Measured By	Depth to Groundwater[1]	Groundwater Elevation[2]
R-MW1	--	4 to 14	28.11	10/24/92	Roux	7.15	20.96
				01/29/09	DOF	10.50	17.61
			37.78	02/19/10	SoundEarth	10.35	27.43
				06/02/11	SoundEarth	7.79	29.99
				02/07/12	Windward	8.98	28.80
				09/05/12	SoundEarth	10.11	27.67
				12/21/12	SoundEarth	8.44	29.34
				03/29/13	SoundEarth	6.72	31.06
				Decommissioned			
R-MW2	--	5 to 15	30.86	10/24/92	Roux	10.04	20.82
				01/29/09	DOF	12.97	17.89
	--		40.53	02/19/10	SoundEarth	12.93	27.60
				06/02/11	SoundEarth	10.52	30.01
			41.74	02/07/12	Windward	11.61	30.13
				09/04/12	SoundEarth	12.64	29.10
				12/21/12	SoundEarth	10.84	30.90
				03/29/13	SoundEarth	9.85	31.89
				01/06/14	SoundEarth	Dry	--
R-MW3		7 to 17	32.04	10/24/92	Roux	11.29	20.75
				01/29/09	DOF	14.22	17.82
	--		41.74	02/19/10	SoundEarth	14.21	27.53
				06/02/11	SoundEarth	11.77	29.97
	--			02/07/12	Windward	12.90	28.84
				09/04/12	SoundEarth	14.00	27.74
				12/21/12	SoundEarth	12.09	29.65
				03/29/13	SoundEarth	11.17	30.57
				01/06/14	SoundEarth	16.35	25.39
R-MW4		15 to 30	40.94	10/24/92	Roux	21.99	18.95
				Decommissioned before 2009			
R-MW5		15 to 30	47.20	10/28/92	Roux	22.89	24.31
				01/29/09	DOF	22.80	24.40
	--		57.01	02/19/10	SoundEarth	21.93	35.08
				06/02/11	SoundEarth	20.48	36.53
	--			02/07/12	Windward	21.61	35.40
			57.03	09/05/12	SoundEarth	23.72	33.31
	--			12/21/12	SoundEarth	22.55	34.48
				03/29/13	SoundEarth	21.72	35.31
				12/18/13	SoundEarth	28.59	28.44
R-MW6		12 to 22	35.39	10/28/92	Roux	17.85	17.54
				01/29/09	DOF	19.15	16.24
			45.18	02/19/10	SoundEarth	18.25	26.93
				05/03/10	SoundEarth	18.25	26.93
				06/02/11	SoundEarth	16.22	28.96
				02/07/12	Windward	14.11	31.07
	--		45.28	09/05/12	SoundEarth	19.38	25.90
				12/21/12	SoundEarth	15.27	30.01
	--			03/29/13	SoundEarth	17.18	28.10
				01/06/14	SoundEarth	22.58	22.70
G-MW1		30 to 35		07/24/01	GeoEngineers	10.54	--
				01/29/09	DOF	11.25	--
			39.01	02/19/10	SoundEarth	10.47	28.54
				06/03/11	SoundEarth	8.15	30.86
				02/07/12	Windward	9.34	29.67
				09/06/12	SoundEarth	11.11	27.90
				12/21/12	SoundEarth	9.04	29.97
	--			03/29/13	SoundEarth	10.11	28.90
				Decommissioned			
G-MW2	--	8 to 18		07/24/01	GeoEngineers	9.93	--
				01/29/09	DOF	10.76	--
	--		38.95	06/02/11	SoundEarth	7.45	31.50
				02/07/12	Windward	8.49	30.46
			39.00	09/06/12	SoundEarth	10.53	28.47
				12/21/12		9.63	29.37
				03/29/13	SoundEarth	8.56	30.44
				Decommissioned			
G-MW3		26 to 36		07/24/01	GeoEngineers	13.05	--
				12/10/04	DOF	15.30	--
				01/29/09	DOF	13.49	--
	--		39.55	02/19/10	SoundEarth	12.83	26.72
				06/02/11	SoundEarth	11.00	28.55
	--			02/07/12	Windward	10.51	29.04
				09/06/12	SoundEarth	13.14	26.41
				12/21/12	SoundEarth	10.95	28.60
				03/29/13	SoundEarth	11.14	28.41
				Decommissioned			

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Table 1
Summary of Groundwater Elevation Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Property	Screen Interval (Feet Below Top of Casing)	Top of Casing Elevation (feet)	Sample Date	Measured By	Depth to Groundwater$^{(1)}$	Groundwater Elevation$^{(2)}$
W-MW-01	--	70 to 80	44.88	02/07/12	Windward	21.22	23.66
				09/06/12	SoundEarth	23.26	21.62
				12/21/12	SoundEarth	21.82	23.06
				03/29/13	SoundEarth	23.63	21.25
				01/06/14	SoundEarth	28.96	15.92
W-MW-02	--	70 to 80	43.46	02/07/12	Windward	17.51	25.95
				09/05/12	SoundEarth	19.95	23.51
				12/21/12	SoundEarth	17.82	25.64
				03/29/13	SoundEarth	19.14	24.32
				01/06/14	SoundEarth	24.40	19.06
W-MW-03	--	70 to 80	39.23	02/07/12	Windward	17.73	21.50
				09/06/12	SoundEarth	18.36	20.87
				12/21/12	SoundEarth	18.19	21.04
				03/29/13	SoundEarth	18.22	21.01
				Decommissioned			
W-MW-04**	--	68 to 77	35.53	02/07/12	Windward	14.13	22.72
				09/06/12	SoundEarth	16.73	20.37
				12/21/12	SoundEarth	16.69	20.40
				03/29/13	SoundEarth	16.90	20.21
				Decommissioned			
MW101	--	105 to 115	39.49	09/06/12	SoundEarth	21.48	18.01
				12/21/12	SoundEarth	21.14	18.35
				03/29/13	SoundEarth	22.22	17.27
				Decommissioned			
MW102	--	115 to 125	49.19	09/05/12	SoundEarth	31.11	18.08
				12/21/12	SoundEarth	30.78	18.41
				03/29/13	SoundEarth	31.65	17.54
				01/06/14	SoundEarth	33.80	15.39
MW103	--	103.5 to 113.5	35.92	09/05/12	SoundEarth	18.03	17.89
				12/21/12	SoundEarth	17.38	18.54
				03/29/13	SoundEarth	19.70	16.22
				01/06/14	SoundEarth	26.45	9.47
MW104	--	119 to 129	42.68	09/06/12	SoundEarth	24.72	17.96
				12/21/12	SoundEarth	24.31	18.37
				03/29/13	SoundEarth	25.78	16.90
				01/06/14	SoundEarth	28.87	13.81
MW105	--	130 to 140	44.69	09/05/12	SoundEarth	26.85	17.84
				12/21/12	SoundEarth	26.26	18.43
				03/29/13	SoundEarth	28.47	16.22
			44.17	01/06/14	SoundEarth	32.48	11.69
MW106	--	130 to 140	51.99	09/05/12	SoundEarth	34.09	17.90
				03/29/13	SoundEarth	34.92	17.07
				01/06/13	SoundEarth	37.15	14.84
MW107	--	35 to 45	43.82	12/21/12	SoundEarth	17.28	26.54
				03/29/13	SoundEarth	18.28	25.54
				01/06/14	SoundEarth	26.74	17.08
MW108	--	40 to 50	32.78	12/21/12	SoundEarth	13.43	19.35
				03/29/13	SoundEarth	15.76	17.02
				01/06/14	SoundEarth	21.44	11.34
MW109	--	35 to 45	34.97	12/21/12	SoundEarth	15.80	19.17
				03/29/13	SoundEarth	18.39	16.58
				01/06/14	SoundEarth	24.74	10.23
MW110	--	35 to 45	39.67	12/21/12	SoundEarth	20.01	19.66
				03/29/13	SoundEarth	22.95	16.72
				01/06/14	SoundEarth	30.48	9.19
MW111	--	70 to 80	36.48	12/21/12	SoundEarth	17.45	19.03
				03/29/13	SoundEarth	20.17	16.31
				01/06/14	SoundEarth	26.54	9.94
MW112	--	75 to 85	57.49	12/21/12	SoundEarth	42.45	15.04
				03/29/13	SoundEarth	38.76	18.73
				01/06/14	SoundEarth	40.79	16.70
MW113	--	70 to 80	32.94	12/21/12	SoundEarth	14.15	18.79
				03/29/13	SoundEarth	16.95	15.99
				01/06/14	SoundEarth	23.35	9.59
MW114	--	35 to 45	45.84	12/21/12	SoundEarth	16.50	29.34
				03/29/13	SoundEarth	19.54	26.30
				01/06/14	SoundEarth	25.93	19.91

Table 1
Summary of Groundwater Elevation Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Property	Screen Interval (Feet Below Top of Casing)	Top of Casing Elevation (feet)	Sample Date	Measured By	Depth to Groundwater[1]	Groundwater Elevation[2]
MW115	9th Avenue N ROW	35 to 45	34.14	12/21/12	SoundEarth	15.26	18.88
				03/29/13	SoundEarth	18.34	15.80
				01/06/14	SoundEarth	26.08	8.06
MW116	9th Avenue N ROW	35 to 45	31.36	12/21/12	SoundEarth	12.24	19.12
				03/29/13	SoundEarth	14.65	16.71
				01/06/14	SoundEarth	20.30	11.06
MW117	Dexter Avenue N ROW	40 to 55	56.90	02/08/13	SoundEarth	27.46	29.44
				03/29/13	SoundEarth	27.81	29.09
				01/06/14	SoundEarth	30.54	26.36
MW118	South-Adjoining	40 to 50	52.91	03/25/13	SoundEarth	27.18	25.73
				03/29/13	SoundEarth	27.49	25.42
				01/06/14	SoundEarth	29.81	23.10
MW119	South-Adjoining	35 to 45	37.35	03/25/13	SoundEarth	22.21	15.14
				03/29/13	SoundEarth	22.52	14.83
				01/06/14	SoundEarth	32.12	5.23
MW120	8th Avenue N ROW		40.00	01/06/14	SoundEarth	22.80	17.20
MW121	8th Avenue N ROW		41.72	01/06/14	SoundEarth	18.69	23.03
MW122	Alley E of 800 Roy Street		30.03	01/06/14	SoundEarth	17.61	12.42
MW123	Westlake Ave N ROW		27.51	01/06/14	SoundEarth	15.69	11.82
MW124	Valley Street ROW		56.24	01/06/14	SoundEarth	40.50	15.74
MW125	Valley Street ROW		43.55	01/06/14	SoundEarth	24.18	19.37
MW126	Alley E of 800 Roy Street		30.94	01/06/14	SoundEarth	18.08	12.86
MW127	8th Avenue N ROW		39.04	01/06/14	SoundEarth	22.09	16.95
BB-5	South-Adjoining	30 to 40	--	09/05/97	B&V	23.60	--
				09/09/97	B&V	23.90	--
				10/17/97	B&V	22.78	--
				11/17/97	B&V	23.40	--
				12/02/97	B&V	22.28	--
				01/21/98	B&V	23.85	--
				02/27/98	B&V	23.45	--
				03/25/98	B&V	22.86	--
				04/24/98	B&V	23.40	--
				06/05/98	B&V	23.56	--
				07/08/98	B&V	23.83	--
				07/27/98	B&V	24.25	--
				08/25/98	B&V	24.42	--
				09/30/98	B&V	24.04	--
BB-7	Westlake Ave N ROW	25 to 35	--	06/13/97	B&V	8.80	--
				06/20/97	B&V	8.40	--
				06/24/97	B&V	9.70	--
				11/17/97	B&V	9.44	--
				12/02/97	B&V	7.78	--
				01/22/98	B&V	9.83	--
				02/27/98	B&V	9.01	--
				03/25/98	B&V	8.98	--
				04/22/98	B&V	9.18	--
				06/05/98	B&V	9.39	--
				07/08/98	B&V	9.14	--
				07/27/98	B&V	9.55	--
				08/25/98	B&V	10.50	--
				09/29/98	B&V	9.83	--
BB-8	Roy Street ROW	30 to 40		06/20/97	B&V	17.49	--
				06/24/97	B&V	19.00	--
				10/06/97	B&V	20.40	--
				01/25/98	B&V	20.68	--
				02/28/98	B&V	20.20	--
				03/30/98	B&V	20.14	--
				04/22/98	B&V	19.99	--
				06/04/98	B&V	20.51	--
				07/27/98	B&V	24.02	--
				01/29/09	DOF	20.08	--
			44.25	02/19/10	SoundEarth	18.66	25.59
				05/03/10	SoundEarth	19.90	24.35
				06/02/11	SoundEarth	17.64	26.61
				02/07/12	Windward	15.39	28.86
			44.26	09/05/12	SoundEarth	20.01	24.25
				12/21/12	SoundEarth	16.23	28.03
				03/29/13	SoundEarth	18.70	25.56
			43.69	01/06/14	SoundEarth	24.42	19.27

Table 1
Summary of Groundwater Elevation Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Property	Screen Interval (Feet Below Top of Casing)	Top of Casing Elevation (feet)	Sample Date	Measured By	Depth to Groundwater(1)	Groundwater Elevation(2)
BB-8A	Roy Street ROW	Unknown	--	01/29/09	DOF	20.60	--
				02/19/10	SoundEarth	19.05	--
				05/03/10	SoundEarth	19.34	--
				06/02/11	SoundEarth	18.18	--
BB-10	Dexter Avenue N ROW	29 to 39	--	09/05/97	B&V	25.91	--
				09/09/97	B&V	25.70	--
				10/17/97	B&V	25.80	--
				11/13/97	B&V	25.30	--
				12/02/97	B&V	25.30	--
				01/21/98	B&V	25.88	--
				02/27/98	B&V	25.72	--
				03/25/98	B&V	25.53	--
				04/23/98	B&V	29.54	--
				06/05/98	B&V	26.20	--
				07/01/98	B&V	26.24	--
				07/27/98	B&V	26.85	--
				08/25/98	B&V	27.27	--
				09/29/98	B&V	27.00	--
BB-12	9th Avenue N ROW	35 to 45		03/25/98	B&V	14.89	--
				04/27/98	B&V	14.97	--
				05/19/98	B&V	15.01	--
				07/08/98	B&V	15.32	--
				07/28/98	B&V	15.68	--
				08/25/98	B&V	15.00	--
				09/29/98	B&V	14.78	--
			34.01	02/19/10	SoundEarth	16.33	17.68
				05/02/10	SoundEarth	14.52	19.49
BB12A	9th Avenue N ROW	Unknown		02/19/11	SoundEarth	14.40	--
				05/02/10	SoundEarth	15.81	--
BB-13	Westlake Ave N ROW	35 to 45		03/25/98	B&V	9.38	--
				04/23/98	B&V	8.76	--
				05/19/98	B&V	9.11	--
				07/08/98	B&V	9.00	--
				07/28/98	B&V	9.25	--
				09/29/98	B&V	8.00	--
			27.65	02/19/10	SoundEarth	9.50	18.15
				05/02/10	SoundEarth	9.13	18.52
				02/07/12	Windward	7.56	20.09
BB-14		40 to 60	--	03/25/98	B&V	8.38	--
				04/22/98	B&V	8.24	--
				05/19/98	B&V	8.29	--
				07/08/98	B&V	7.42	--
				07/28/98	B&V	9.03	--
				08/25/98	B&V	9.49	--
				09/29/98	B&V	6.14	--
TB-18	South-Adjoining	93 to 118	--	06/04/98	B&V	30.05	--
RS-20	800 Roy Street Parcel	Unknown	--	03/05/93	EPJ	≈ 10	--
MW-1	800 Roy Street Parcel	17.5 to 37.5	--	06/17/93	Retec	16.10	--
				Decommissioned on October 12, 1993			
MW-2	9th Avenue N ROW	27.5 to 37.5	--	06/17/93	Retec	15.55	--
				Decommissioned on October 12, 1993			
MW-3	800 Roy Street Parcel	17.5 to 37.5	--	06/17/93	Retec	15.17	--
				Decommissioned on October 12, 1993			
MW-4	800 Roy Street Parcel	22.5 to 32.5	--	06/17/93	Retec	15.80	--
				Decommissioned on October 12, 1993			
MW-5	8th Avenue N ROW	12.5 to 22.5	--	06/17/93	Retec	14.57	--
				Decommissioned on October 12, 1993			
MW-6	800 Roy Street Parcel	7 to 22	58.76	10/26/93	Retec	16.79	41.97
				01/25/94	Retec	17.43	41.33
				04/25/94	Retec	15.75	43.01
				09/15/94	Retec	16.61	42.15
			38.20	02/07/12	Windward	14.91	23.29

Table 1
Summary of Groundwater Elevation Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Property	Screen Interval (Feet Below Top of Casing)	Top of Casing Elevation (feet)	Sample Date	Measured By	Depth to Groundwater(1)	Groundwater Elevation(2)
MW-7	800 Roy Street Parcel	9 to 18.5	55.82	10/26/93	Retec	14.10	41.72
				01/25/94	Retec	15.30	40.52
				04/25/94	Retec	13.40	42.42
				09/15/94	Retec	14.29	41.53
			35.09	02/07/12	Windward	12.56	22.53
MW-8	800 Roy Street Parcel	4.5 to 19	53.72	10/26/93	Retec	12.35	41.37
				01/25/94	Retec	13.51	40.21
				04/25/94	Retec	11.80	41.92
				09/15/94	Retec	12.49	41.23
			33.19	02/07/12	Windward	11.64	21.55
MW-9	8th Avenue N ROW	7 to 22	61.35	01/25/94	Retec	15.51	45.84
				04/25/94	Retec	17.09	44.26
				09/15/94	Retec	15.50	45.85
			40.81	06/20/02	Urban	18.30	22.51
				06/02/11	SoundEarth	14.89	--
				02/07/12	Windward	16.39	24.42
				09/04/12	SoundEarth	16.84	23.97
				12/21/12	SoundEarth	15.94	24.87
				01/06/14	SoundEarth	13.99	26.82
MW-10	800 Roy Street Parcel	7 to 22	58.53	01/25/94	Retec	15.09	43.44
				04/25/94	Retec	16.64	41.89
				09/15/94	Retec	16.64	41.89
				06/20/02	Urban	16.55	41.98
			37.95	02/07/12	Windward	15.85	22.10
SCL-MW101	Alley E of 800 Roy Street		30.46	02/07/12	Windward	7.48	22.98
				01/06/14	SoundEarth	13.09	17.37
SCL-MW102	800 Roy Street Parcel			02/07/12	Windward	7.89	--
SCL-MW105	Alley E of 800 Roy Street		31.26	02/07/12	Windward	10.46	20.80
				01/06/14	SoundEarth	13.88	17.38
SCS-1	800 Roy Street Parcel	Unknown	39.55	02/07/12	Windward	17.51	22.04
SCS-2	800 Roy Street Parcel	Unknown	39.16	02/07/12	Windward	16.56	22.60
SCS-3	800 Roy Street Parcel	Unknown	36.73	02/07/12	Windward	14.10	22.63
SCS-4	800 Roy Street Parcel	Unknown	35.33	02/07/12	Windward	12.93	22.40
SCS-5	800 Roy Street Parcel	Unknown	39.06	02/07/12	Windward	17.81	21.25

NOTES:

TOCs were surveyed relative to an established datum of 521.41 feet prior to 2012. TOCs resurveyed by Axis Survey and Mapping, of Kirkland, Washington, on March 16th, 2012, relative to an arbitrary benchmark of 499.89 feet above mean sea level, and by Bush, Roed & Hitchings, Inc. of Seattle, Washington, in February, October, and December 2012, and March 2013, using the North American Vertical Datum 1988.

(1) As measured in feet below a fixed spot on the well casing rim.

(2) Calculated by subtracting the depth to groundwater from the casing elevation. Groundwater elevation in angled monitoring well calculated subtracting the product of the measured depth to groundwater in the angled well by the sine of its angle.

**Monitoring well was installed at a 25 degree angle from the vertical point of penetration. Depth to groundwater measurements and sample interval account for angled length of well, not vertical depth. Groundwater elevations corrected to account for angle.

B&V = Black & Veach
DOF = Dalton, Olmsted & Fuglevand, Inc.
EPJ = E.P. Johnson construction, Inc.
GeoEngineers = GeoEngineers, Inc.
N = north
Retec = Remediation Technologies, Inc.
Roux = Roux Associates
ROW = right-of-way
SoundEarth = SoundEarth Strategies, Inc.
TOC = top of casing
Urban = Urban Redevelopment
Windward = Windward Environmental LLC

SoundEarth Strategies

DRAFT

Table 2
Summary of Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location	Property	Sample Date	Sampled By	Sampling Method	Analytical Results (µg/L)															
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
R-MW1	**R-MW1**		10/24/92	Roux	Unknown	57	**1,345**	**6,000**	1	1	<0.5	<0.5	<5	<5	--	<5	**100**	<5	<5	--
	R-MW1		10/24/92	DOF	Unknown	53	**26,000**	**12,000**	0.61	0.83	<0.50	<1.0	4.2	0.82	12[c]	--	**170**	<1.0	<5.0	--
	R-MW1		10/24/92	Roux	Unknown	54	290	**5,000**	0.58	1	<0.5	<0.5	2.3	<2	14	NA	**140**	NA	NA	NA
	R-MW1		01/29/09	DOF	Peristaltic	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	**17.1**	4.26	1.60	<0.200	**0.630**	<0.200	<5.00	--
	R-MW1		06/02/11	SoundEarth	Peristaltic	<100	**1,000**[x]	**740**	<0.35	<1	<1	<3	**7.9**	2.7	1.9	<1	**0.68**	<1	<5	--
	R-MW1		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**16**	3.6	2.1	<1	**2.2**	<1	<5	--
	R-MW1		Decommissioned																	
R-MW2	**R-MW2**		10/24/92	Roux	Unknown	**4,200**	**34**	**2,000**	**684**	17	301	403	<5	<5	--	<5	**<5**	<5	<5	--
	R-MW2		10/24/92	DOF	Unknown	**4,000**	**16,000**	**25,000**	**310**	<0.50	140	180	--	--	--	--	--	--	--	--
	R-MW2		01/29/09	DOF	Peristaltic	657	--	--	<0.500	0.557	0.513	2.08	**5.05**	<0.200	<0.200	<0.200	<0.200	<0.200	<5.00	--
	R-MW2		06/02/11	SoundEarth	Peristaltic	**1,700**	**3,100**	290[x]	**19**	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	R-MW2		09/04/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
R-MW3	**R-MW3**		10/24/92	Roux	Unknown	87	**3,015**	**1,200**	<0.5	<0.5	<0.5	<0.5	<5	<5	--	<5	<5	<5	<5	--
	R-MW3		10/24/92	DOF	Unknown	<50	--	--	<0.50	<0.50	<0.50	<1.0	--	--	--	--	--	--	--	--
	R-MW3		01/29/09	DOF	Peristaltic	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	4.26	<0.200	<0.200	<0.200	<0.200	<0.200	<5.00	--
	R-MW3		06/02/11	SoundEarth	Peristaltic	<100	240[x]	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	R-MW3		09/04/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**6.4**	<1	<1	<1	<0.2	<1	<5	--
R-MW4	**R-MW4**		10/24/92	Roux	Unknown	410	201	<1,000	<0.5	2	1	4	**814**	**64**	--	<5	**<5**	<5	<5	ND
	R-MW4		10/24/92	DOF	Unknown	640	--	--	<0.5	1.8	<0.5	3.1	**31**	2.8	<2.0	NA	**<2.0**	NA	NA	NA
	R-MW4		Decommissioned before 2009																	
R-MW5	**R-MW5**		10/28/92	Roux	Unknown	93	86	<1,000	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	NA	**<0.5**	NA	NA	NA
	R-MW5		01/29/09	DOF	Peristaltic	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	0.800	<0.200	<0.200	<0.200	<0.200	<0.200	<5.00	--
	R-MW5		06/02/11	SoundEarth	Peristaltic	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	R-MW5		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	R-MW5		12/18/13	SoundEarth	Peristaltic	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
R-MW6	**R-MW6**		10/28/92	Roux	Unknown	<50	<50	<1,000	<0.5	2	<0.5	2	**4,500**	**920**	**2,600**	NA	**240**	NA	NA	NA
	R-MW6		11/03/92	DOF	Unknown	--	--	--	--	--	--	--	**690**	**160**	**620**	NA	**<40**	NA	NA	NA
	R-MW6		01/29/09	DOF	Peristaltic	<50.0	--	--	<0.500	<0.500	<0.500	<1.00	1.78	<0.200	2.64	<0.200	**2.75**	<0.200	<5.00	--
	R-MW6		05/03/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	1.2	<1	**2.8**	<1	<5	--
	R-MW6		06/02/11	SoundEarth	Peristaltic	<100	120[x]	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	**2.1**	<1	<5	--
	R-MW6		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
G-MW1	**G-MW1**		07/24/01	GeoEngineers	Peristaltic	--	--	--	0.449	17.6 [E]	0.798	5.52	**85,500**	**1,130**	**23.3**[g]	0.956	**74.5**[g]	77.5[g]	<5.00	--
	G-MW1		01/29/09	DOF	Peristaltic	**41,300**[qp]	--	--	**<20.0**	<20.0	28.6	55.1	**78,400**[f]	**1,160**	**34.4**	1.49	<0.200	60.1	<5.00	--
	G-MW1		06/03/11	SoundEarth	Peristaltic	**29,000**[x]	92[x]	<250	--	--	--	--	**78,000**	**1,100**	**22**	--	**33**	--	--	--
	G-MW1		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	7.4	<1	1.1	**66,000**	**1,100**	**32**	1.5	**35**	56	<5	--
	G-MW1		09/06/12 (dup)	SoundEarth	Peristaltic	--	--	--	<0.35	7.6	<1	1.0	**64,000**	**1,100**	**30**	1.4	**33**	57	<5	--
G-MW2	**G-MW2**		07/24/01	GeoEngineers	Peristaltic	--	--	--	0.375	48.3 [E]	2.01	12.88	**176,000**	**237**[g]	**129**[g]	1.02	**0.457**	2.97	<5.00	--
	G-MW2		01/29/09	DOF	Peristaltic	**39,600**[qp]	--	--	**<20.0**	<20.0	<20.0	48.9	**59,000**[f]	**210**	**373**	1.33	<0.200	1.31	<5.00	--
	G-MW2		06/02/11	SoundEarth	Peristaltic	**59,000**[x,y]	200	<250	**<350**	<1,000	**<1,000**	**<3,000**	**150,000**	**<1,000**	**<1,000**	**<1,000**	**<200**	<1,000	<5,000	--
	G-MW2		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	12	1.1	4.7	**150,000**	**320**	**260**	1.4	<0.2	1.5	<5	--
G-MW3	**G-MW3**		07/24/01	GeoEngineers	Peristaltic	--	--	--	0.524	6.93 [E]	0.459	2.10	**47,700**	**385**[g]	<0.200	3.71	**42.5**[g]	17.0[g]	6.20[g]	--
	G-MW3		12/10/04	DOF	Bailer	--	--	--	<2	7	<2	2	**220,000**	**1,200**	**570**	6	**19**	12	<5	<2
	G-MW3		01/29/09	DOF	Peristaltic	**26,600**[qp]	--	--	<12.5	<12.5	<12.5	<25.0	**64,000**[f]	**1,580**	**4,050**	13.9	<0.200	18.9	<5.00	--
	G-MW3		06/02/11	SoundEarth	Peristaltic	**19,000**[x,y]	210[x]	<250	<350	<1,000	<1,000	<3,000	**33,000**	**1,400**	**1,500**	<1,000	**290**	<1,000	<5,000	--
	G-MW3		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	1.5	<1	<3	**31,000**	**1,200**	**1,600**	5.9	**290**	9.3	<5	--
W-MW-01	**W-MW-01**		02/02/12	Windward	Bladder	--	--	--	**<20**	0.1[J]	<0.2	<0.6	**46**	3.9	11	<0.2	**0.5**	<0.2	<1.0	--
	W-MW-01		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	1.7	<1	<3	<1	<1	2.0	<1	**2.8**	<1	<5	--

Table 2
Summary of Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location	Property	Sample Date	Sampled By	Sampling Method	Analytical Results (µg/L)														
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
W-MW-02	**W-MW-02**		02/03/12	Windward	Bladder	--	--	--	**<20**	<20	<20	<60	**6,900**	**1,700**	**2,000**	<20	**120**	17^{J}	<100	<50
	W-MW-02		08/13/12	SoundEarth	Peristaltic	**--**	**--**	**--**	**--**	--	--	--	**3,000**	**1,300**	**2,200**	4.1	**66**	9.9	<5	--
	W-MW-02		09/05/12	SoundEarth	Peristaltic	**--**	**--**	**--**	<0.35	1.4	<1	<3	**2,600**	**1,300**	**2,800**	5.0	**69**	10	<5	--
	W-MW-02		01/03/14	SoundEarth	Peristaltic	**--**	**--**	**--**	<0.35	<1	<1	<3	**490**	**1,200**	**4,400**	7.3	**67**	9.7	<5	<1
W-MW-03	**W-MW-03**		02/03/12	Windward	Bladder	--	--	--	**<20**	<20	<20	<60	**5,300**	**220**	**160**	<20	**<20**	<20	<100	<500
	W-MW-03		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**13**	2.6	**20**	<1	**120**	<1	<5	--
	W-MW-03		Decommissioned																	
W-MW-04**	**W-MW-04**		02/03/12	Windward	Bladder	--	--	--	**<20**	<20	<20	<60	**5,400**	**160**	**54**	<20	**<20**	<20	<100	<500
	W-MW-04		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**460**	**440**	**1,900**	4.0	**630**	8.1	<5	--
	W-MW-04		Decommissioned																	
MW101	**MW101**		07/20/12	SoundEarth	Bladder	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW101		09/06/12	SoundEarth	Peristaltic	--	--	--	<0.35	1.4	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	MW101		Decommissioned																	
MW102	**MW102**	Valley Street ROW	08/16/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW102		09/05/12	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	MW102		12/17/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW103	**MW103**		07/31/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**12**	**25**	**150**	<10	**79**	<10	<50	--
	MW103		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	1.6	<1	<3	**8.3**	**22**	**80**	<1	**110**	<1	<5	--
	MW103		09/05/12 (dup)	SoundEarth	Peristaltic	--	--	--	<0.35	1.6	<1	<3	**8.1**	**22**	**85**	<1	**120**	<1	<5	--
	MW103		12/18/13	SoundEarth	Peristaltic	--	--	--	<0.35	2.4	<1	<3	4.3	**6.1**	8.6	<1	**1.2**	<1	<5	<1
	MW103		12/18/13 (dup)	SoundEarth	Peristaltic	--	--	--	<0.35	2.4	<1	<3	4.0	**5.2**	7.1	<1	**0.94**	<1	<5	<1
MW104	**MW104**		08/16/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW104		09/06/12	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	MW104		12/17/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW105	**MW105**		08/16/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	**0.32**	<1	<5	--
	MW105		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.23**	<1	<5	--
	MW105		12/29/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW106	**MW106**		08/22/12	SoundEarth	Bladder	--	--	--	--	--	--	--	<1	<1	<1	<1	<1	<1	<5	--
	MW106		09/05/12	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	--
	MW106		12/17/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW107	**MW107**		12/21/12	SoundEarth	Peristaltic	**240,000**^{x,y}	190^{x}	<250	<3.5	<10	<10	<30	**47,000**	**2,800**	**5,100**	41	**200**	15	<50	--
	MW107		12/21/12 (dup)	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**50,000**	**3,000**	**5,200**	44	**270**	16	<5	--
	MW107		12/16/13	SoundEarth	Peristaltic	--	--	--	0.37	1.8	<1	3.3	**32,000**	**2,400**	**4,000**	34	**76**	11	<5	<1
MW108	**MW108**		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	3.4	1.8	**400**	2.1	**210**^{pr}	<1	<5	--
	MW108		12/17/13	SoundEarth	Peristaltic	--	--	--	1.9	<1	<1	<3	3.8	4.6	**360**	3.6	**150**	<1	<5	<1
MW109	**MW109**		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**91**	**64**	**18**	<1	**1.5**	<1	<5	--
	MW109		12/17/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	4.0	**18**	**310**	<1	**27**	<1	<5	<1
MW110	**MW110**		12/21/12	SoundEarth	Bladder	--	--	--	--	--	--	--	**1,100**	**220**	**470**	3.0	**33**	1.7	<5	--
	MW110		12/19/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**930**	**240**	**840**	3.9	**31**	2.7	<5	<1
MW111	**MW111**		12/21/12	SoundEarth	Bladder	--	--	--	--	--	--	--	**110**	**32**	**37**	<1	**1.8**	<1	5.0^{lc}	--
	MW111		12/17/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	4.7	<1	**17**	<1	<5	<1
MW112	**MW112**		12/21/12	SoundEarth	Bladder	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW112		12/26/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW113	**MW113**		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	1.3^{i}	**440**	**5,500**	4.1	**150**	3.7	<5	--
	MW113		12/19/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	**13**	**140**	<1	**0.41**	<1	<5	<1
MW114	**MW114**		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**1,400**	**290**	**260**	<1	**14**	3.0	<5	--
	MW114		12/18/13	SoundEarth	Peristaltic	--	--	--	<17	<50	<50	<150	**8,400**	**1,300**	**640**	<50	**22**	<50	<250	<50
MW115	**MW115**	9th Avenue N ROW	12/13/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**15**	1.1	3.0	<1	**2.6**	<1	<5	--
	MW115		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	3.0	**38**	<1	**16**	<1	<5	--
	MW115		12/19/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.75**	<1	<5	<1

Table 2
Summary of Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location	Property	Sample Date	Sampled By	Sampling Method	Analytical Results (µg/L) GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
MW116	**MW116**	9th Avenue N ROW	12/07/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**6.8**	<1	<1	<1	<0.2	<1	<5	--
	MW116		12/21/12	SoundEarth	Peristaltic	--	--	--	--	--	--	--	2.7	<1	<1	<1	<0.2	<1	<5	--
	MW116		12/19/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW117	**MW117**	Dexter Avenue N ROW	02/08/13	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW117		12/18/13	SoundEarth	Peristaltic	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW118	**MW118**	South-Adjoining	03/25/13	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	MW118		12/18/13	SoundEarth	Peristaltic	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW119	**MW119**	South-Adjoining	03/25/13	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	3.3	<1	<0.2	<1	<5	--
	MW119		12/19/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	2.5	<1	**0.76**	<1	<5	<1
MW120	**MW120**	8th Avenue N ROW	12/19/13	SoundEarth	Peristaltic	<100	<50	440[x]	<0.35	<1	<1	<3	2.8	2.3	**19**	<1	**9.6**	<1	<5	<1
MW121	**MW121**		12/26/13	SoundEarth	Peristaltic	<100	200[x]	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	**1.3**	<1	<5	<1
MW122	**MW122**	Alley E of 800 Roy Street	12/23/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW123	**MW123**	Westlake Ave N ROW	12/23/13	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW124	**MW124**	Valley Street ROW	12/26/14	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW125	**MW125**	Valley Street ROW	12/26/13	SoundEarth	Peristaltic	<100	300[x]	<250	1.4	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW126	**MW126**	Alley E of 800 Roy Street	01/03/14	SoundEarth		--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW127	**MW127**	8th Avenue N ROW	01/03/14	SoundEarth		--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.29**	<1	<5	<1
	MW127		01/13/14	SoundEarth		--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.30**	<1	<5[ca]	<1
MW128	**MW128**		01/13/14	SoundEarth		--	--	--	<0.35	<1	<1	<3	<1	<1	**960**[ve]	<1	**290**[ve]	<1	<5[ca]	<1
BB-5	**BB-5**		11/17/97	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	NA
BB-7	**BB-7**		11/17/97	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BB-8	**BB-8**	Roy Street ROW	06/24/97	B & V	Bailer	<200	<500	<1,000	1.8	1.3	<1.0	<1.0	**11,000**	**1,500**	**4,200**	14	**280**	ND	ND	NA
	BB-8		01/29/09	DOF	--	499	--	--	0.694	<0.500	<0.500	<1.00	**896**[f]	**258**	**441**	2.45	**1.48**	1.36	<5.00	--
	BB-8		05/03/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**510**	**120**	**110**	<1	**0.27**	<1	<5	--
	BB-8		06/02/11	SoundEarth	Peristaltic	130[x,y]	<50	<250	<0.35	<1	<1	<3	**170**	**59**	**44**	<1	<0.2	<1	<5	<1
	BB-8		09/05/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	**200**	**41**	**28**	<1	<0.2	<1	<5	<1
	BB-8		12/29/13	SoundEarth	Bladder	--	--	--	<0.35	<1	<1	<3	**200**	**38**	**24**	<1	<0.2	<1	<5	<1
BB-8A	**BB-8A**	Roy Street ROW	01/29/09	DOF	Peristaltic	669	--	--	<0.500	<0.500	<0.500	<1.00	**1,290**[f]	**285**	**549**	2.96	**3.86**	1.59	<5.00	--
	BB-8A		05/03/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	**810**	**180**	**140**	1.6	**0.78**	<100	<500	--
	BB-8A		06/02/11	SoundEarth	Peristaltic	380[x,y]	<50	<250	<3.5	<10	<10	<30	**710**	**170**	**170**	<10	**<2**	<10	<50	<10
BB-10	**BB-10**	Dexter Avenue N ROW	11/13/97	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
BB-12	**BB-12**	9th Avenue N ROW	05/19/98	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	**540**	ND	**380**	ND	ND	--
	BB-12		05/02/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
BB12A	**BB12A**	9th Avenue N ROW	05/02/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
BB-13	**BB-13**	Westlake Ave N ROW	1998	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	2.6	ND	**1.1**	ND	ND	--
	BB-13		05/02/10	SoundEarth	Peristaltic	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
BB-14	**BB-14**	?	1998	B & V	Bailer	<300	<630	<630	--	--	--	--	--	--	--	--	--	--	--	--
TB-18	**TB-18**	South-Adjoining	06/04/98	B & V	Bailer	<250	<630	<630	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
PW-1	**PW-1**	?	1997 (8 hour)	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	NA
	PW-1		1997 (Final)	B & V	Bailer	<250	<630	<630	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
CHB-07	**CHB-07**	Westlake Ave N ROW	04/14/08	CH2M HILL	Grab	<250	<250	<500	0.7	<0.2	<0.2	<0.6	<0.2	<0.2	**480**	1.8	**220**	0.3	<0.5	<0.5
CHB-08	**CHB-08**	9th Avenue N ROW	04/15/08	CH2M HILL	Grab	<250	<250	<500	<0.2	<0.2	<0.2	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5
CHB-09	**CHB-09**	9th Avenue N ROW	04/16/08	CH2M HILL	Grab	<250	400	**1,400**	0.3	0.3	<0.2	<0.6	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5
RS-20	**RS-20**	800 Roy Street Parcel	03/05/93	EPJ	Grab	**99,000**	--	--	**96**	230	**1,500**	**7,000**	<5	NA	NA	NA	NA	NA	NA	NA
MW-1	**MW-1**	800 Roy Street Parcel	03/22/93	EPJ	Bailer	**5,100**	<500	<1,000	**10,000**	270	480	427	--	--	--	--	--	--	--	--
	MW-1		06/17/93	Retec	Unknown	--	--	--	**20,000**	14,000	840	**6,700**	--	--	--	--	--	--	--	--
	MW-1		Decommissioned on October 12, 1993																	

Table 2
Summary of Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location	Property	Sample Date	Sampled By	Sampling Method	Analytical Results (µg/L)														
						GRPH$^{(1)}$	DRPH$^{(2)}$	ORPH$^{(2)}$	Benzene$^{(3)}$	Toluene$^{(3)}$	Ethylbenzene$^{(3)}$	Total Xylenes$^{(3)}$	PCE$^{(4)}$	TCE$^{(4)}$	cis-1,2-DCE$^{(4)}$	trans-1,2-DCE$^{(4)}$	Vinyl Chloride$^{(4)}$	1,1-DCE$^{(4)}$	Methylene Chloride$^{(4)}$	Naphthalene$^{(5)}$
MW-2	**MW-2**	9th Avenue N ROW	03/22/93	EPJ	Bailer	650	<500	<1,000	**100**	42	24	67	--	--	--	--	--	--	--	--
	MW-2		06/17/93	Retec	Unknown	--	--	--	**28**	7.2	<1	<2	**170**	**1,400**	**9,300**	25	**1,100**	25	<10	--
	MW-2		Decommissioned on October 12, 1993																	
MW-3	**MW-3**	800 Roy Street Parcel	03/22/93	EPJ	Bailer	**27,000**	<500	<1,000	**1,500**	**3,300**	690	**3,500**	--	--	--	--	--	--	--	--
	MW-3		06/17/93	Retec	Unknown	--	--	--	**4,800**	**21,000**	1,900	**12,300**	--	--	--	--	--	--	--	--
	MW-3		Decommissioned on October 12, 1993																	
MW-4	**MW-4**	800 Roy Street Parcel	03/22/93	EPJ	Bailer	**940**	<500	<1,000	**82**	390	39	108	--	--	--	--	--	--	--	--
	MW-4		06/17/93	Retec	Unknown	--	--	--	<1	<1	<1	<2	--	--	--	--	--	--	--	--
	MW-4		Decommissioned on October 12, 1993																	
MW-5	**MW-5**	8th Avenue N ROW	03/22/93	EPJ	Bailer	670	<500	<1,000	**49**	140	9.8	80	--	--	--	--	--	--	--	--
	MW-5		06/17/93	Retec	Unknown	--	--	--	<1	<1	<1	<2	--	--	--	--	--	--	--	--
	MW-5		Decommissioned on October 12, 1993																	
MW-6	**MW-6**	800 Roy Street Parcel	10/12/93	Retec	Unknown	**150,000**	--	--	**9,100**	**6,800**	**2,600**	**7,300**	--	--	--	--	--	--	--	--
	MW-6		10/26/93	Retec	Unknown	**100,000**	--	--	**17,000**	**14,000**	**1,400**	**11,000**	--	--	--	--	--	--	--	--
	MW-6		01/25/94	Retec	Unknown	**66,000**	--	--	**8,800**	**4,600**	**1,500**	**8,100**	--	--	--	--	--	--	--	--
	MW-6		04/25/94	Retec	Unknown	**120,000**	--	--	**15,000**	**7,200**	**2,600**	**13,300**	--	--	--	--	--	--	--	--
	MW-6		09/15/94	Retec	Unknown	**56,000**	--	--	**15,000**	**2,000**	**1,500**	**7,100**	--	--	--	--	--	--	--	--
	MW-6		06/20/02	Urban	Unknown	**8,500**	--	--	**1,900**	14	250	53	--	--	--	--	--	--	--	--
MW-7	**MW-7**	800 Roy Street Parcel	10/12/93	Retec	Unknown	**75,000**	--	--	**20,000**	**22,000**	**3,000**	**15,000**	--	--	--	--	--	--	--	--
	MW-7		10/26/93	Retec	Unknown	**74,000**	--	--	**8,300**	**7,400**	**1,100**	**8,300**	--	--	--	--	--	--	--	--
	MW-7		01/25/94	Retec	Unknown	**53,000**	--	--	**1,600**	**2,700**	**1,400**	**5,100**	--	--	--	--	--	--	--	--
	MW-7		04/25/94	Retec	Unknown	**140,000**	--	--	**3,900**	**7,400**	**3,100**	**14,100**	--	--	--	--	--	--	--	--
	MW-7		09/15/94	Retec	Unknown	**66,000**	--	--	**3,400**	**2,700**	**1,900**	**7,700**	--	--	--	--	--	--	--	--
	MW-7		9/15/94 (dup)	Retec	Unknown	**77,000**	--	--	**3,600**	**3,000**	**2,100**	**8,700**	--	--	--	--	--	--	--	--
	MW-7		06/20/02	Urban	Unknown	**8,400**	--	--	**650**	37	470	150	--	--	--	--	--	--	--	0.19
MW-8	**MW-8**	800 Roy Street Parcel	10/26/93	Retec	Unknown	280	--	--	**19**	1	<1	48	--	--	--	--	--	--	--	--
	MW-8		01/25/94	Retec	Unknown	230^{J}	--	--	**13**	0.7^{J}	<1	4.5	--	--	--	--	--	--	--	--
	MW-8		1/25/94 (dup)	Retec	Unknown	210^{J}	--	--	**12**	0.6^{J}	<1	3.7	--	--	--	--	--	--	--	--
	MW-8		04/25/94	Retec	Unknown	<250	--	--	2.2	<1	<1	1.7	--	--	--	--	--	--	--	--
	MW-8		09/15/94	Retec	Unknown	210^{J}	--	--	<1	0.5^{J}	<1	1.6^{J}	--	--	--	--	--	--	--	--
	MW-8		9/15/94 (dup)	Retec	Unknown	250	--	--	<1	0.5^{J}	<1	1.7^{J}	--	--	--	--	--	--	--	--
	MW-8		06/21/02	Urban	Unknown	<50	--	--	<1	<1	<1	<1	--	--	--	--	--	--	--	--
MW-9	**MW-9**	8th Avenue N ROW	10/26/93	Retec	Unknown	210^{J}	--	--	**9.5**	1.3	<1	<2	--	--	--	--	--	--	--	--
	MW-9		01/25/94	Retec	Unknown	<250	--	--	**5.7**	1.1	<1	<2	--	--	--	--	--	--	--	--
	MW-9		04/25/94	Retec	Unknown	<250	--	--	<0.001	<1	<1	<2	--	--	--	--	--	--	--	--
	MW-9		09/15/94	Retec	Unknown	<250	--	--	3.5	0.6^{J}	<1	<2	--	--	--	--	--	--	--	--
	MW-9		06/20/02	Urban	Unknown	<50	--	--	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	--	<0.1
	MW-9		06/02/11	SoundEarth	Peristaltic	<100	150^{x}	<250	<1	<1	<1	<3	--	--	--	--	--	--	--	--
	MW-9		09/04/12	SoundEarth	Peristaltic	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.61**	<1	<5	--
	MW-9		12/16/13	SoundEarth	Peristaltic	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
MW-10	**MW-10**	800 Roy Street Parcel	10/26/93	Retec	Unknown	<250	--	--	<1	1.3	<1	<2	--	--	--	--	--	--	--	--
	MW-10		01/25/94	Retec	Unknown	190^{J}	--	--	<1	3.2	<1	<2	--	--	--	--	--	--	--	--
	MW-10		04/25/94	Retec	Unknown	<250	--	--	<1	2.5	<1	<2	--	--	--	--	--	--	--	--
	MW-10		09/15/94	Retec	Unknown	<250	--	--	<1	0.9^{J}	<1	<2	--	--	--	--	--	--	--	--
	MW-10		06/20/02	Urban	Unknown	<50	--	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	<0.1
SCL-MW101	**SCL-MW101**	Alley E of 800 Roy Street	06/20/02	Urban	Unknown	**19,000**	--	--	**810**	100	**1,200**	**1,700**	--	--	--	--	--	--	--	--
SCL-MW102	**SCL-MW102**	800 Roy Street Parcel	10/26/93	Urban	Unknown	**10,000**	--	--	**970**	200	280	**1,300**	--	--	--	--	--	--	--	--
SCL-MW103	**SCL-MW103**	800 Roy Street Parcel	06/21/02	Urban	Unknown	<50	--	--	<1	<1	<1	<1	--	--	--	--	--	--	--	--
SCL-MW105	**SCL-MW105**	Alley E of 800 Roy Street	06/20/02	Urban	Unknown	**3,200**	--	--	**390**	43	91	280	--	--	--	--	--	--	--	--

Table 2
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700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location	Property	Sample Date	Sampled By	Sampling Method	Analytical Results (µg/L)														
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
SSD-MW-1	**MW-1**	North-Adjoining Property	05/31/89	HartCrowser	Unknown	**2,000**[d]	--	--	**<10**	<10	<10	<10	--	--	--	--	--	--	--	--
SSD-MW-2	**MW-2**	North-Adjoining Property	05/31/89	HartCrowser	Unknown	**<1,000**[d]	--	--	**<10**	<10	<10	<10	--	--	--	--	--	--	--	--
SSD-MW-3	**MW-3**	North-Adjoining Property	05/31/89	HartCrowser	Unknown	**<1,000**[d]	--	--	**<10**	<10	<10	<10	--	--	--	--	--	--	--	--
SSD-MW-4	**MW-4**	North-Adjoining Property	05/31/89	HartCrowser	Unknown	**1,000**[d]	--	--	**<10**	<10	<10	<10	NA	NA	1.8	NA	NA	NA	0.8 [J,B]	NA
SSD-MW-5/B-1	**MW-5/B-1**	North-Adjoining Property	05/31/89	HartCrowser	Unknown	**<1,000**[d]	--	--	<1	<0.08	<0.08	<1.8	NA	NA	NA	NA	NA	NA	0.8 [J,B]	NA
MTCA Cleanup Level						**800(6)**	**500(6)**	**500(6)**	**5(6)**	**1,000(6)**	**700(6)**	**1,000(6)**	**5(6)**	**5(6)**	**16(7)**	**1,600(7)**	**0.2(6)**	**4,000(7)**	**5(6)**	**160(6)**

NOTES:

Red denotes concentrations exceeding MTCA Cleanup Level.

(1) Analyzed by EPA Method 418.1 or 8015-M, NWTPH-HCID, or NWTPH-Gx.

(2) Analyzed by EPA Method 418.1 or 8015-M, NWTPH-HCID, or NWTPH-Dx.

(3) Analyzed by EPA Methods 8015, 8020, 8021B, 8240, 8260B, or 8260C.

(4) Analyzed by Purge and Trap Gas Chromatogram/Mass Spectrometry or EPA Method 601, 8010S, 8240, 8260B, or 8260C.

(5) Analyzed by EPA Methods 8010, 8260B, 8260C, 8270, 8270D, or 8270D-SIM.

(6) MTCA Method A Cleanup Levels, Table 720-1, Section 900, Chapter 173-340 of the WAC, revised November 2007.

(7) MTCA Cleanup Regulation, Chapter 173-340 of the WAC, CLARC, Groundwater, Method B, Non-carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

**Monitoring well was installed at a 25 degree angle from the vertical point of penetration.

Laboratory Notes:

[B] Analyte detected in an associated Method Blank.

[c] Reported as total 1,2,-DCE, which is sum of cis,-1,2- and trans,1-2-DCE isomers.

[d] Result reported as TPH.

[E] Estimated value. The reported range exceeds the calibration range of the analysis.

[f] Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

[g] Estimated value. The reported range exceeds the calibration range of the analysis.

[i] The presence of the analyte indicated may be due to carryover from previous sample injections.

[J] Estimated concentration.

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

[qp] Hydrocarbon result partly due to individual peak(s) in quantitation range.

[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 valid instrument calibration range; a dilution is required to obtain accurate quantification of the analyte.

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

[Y] The GRPH result in the sample is due to a pattern of peaks that is consistent with the chlorinated volatiles detected by the 8260C analysis.

-- = not analyzed or not measured
< = not detected at a concentration exceeding laboratory reporting limit
µg/L = micrograms per liter
B & V = Black & Veatch
CLARC = cleanup levels and risk calculations
DCE = dichloroethylene
DOF = Dalton, Olmsted & Fuglevand, Inc.
DRPH = diesel-range petroleum hydrocarbons
dup = duplicate
EPA = U.S. Environmental Protection Agency
EPJ = E.P. Johnson Construction Inc., and Environmental
GeoEngineers = GeoEngineers, Inc.
GRPH = gasoline-range petroleum hydrocarbons
Hart Crowser = Hart Crowser, Inc.
MTCA = Washington State Model Toxics Control Act
NA = results not available
ND = not detected at a concentration exceeding laboratory reporting limit; detection limit not provided
NWTPH = northwest total petroleum hydrocarbon
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
Retec = Remediation Technologies, Inc.
Roux = Roux Associates
SoundEarth = SoundEarth Strategies, Inc.
TCE = trichloroethylene
ThermoRetec = ThermoRetec Corporation
TPH = total petroleum hydrocarbons
Urban = Urban Redevelopment
WAC = Washington Administrative Code
Windward = Windward Environmental LLC

Table 3
Summary of Reconnaissance Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location (For Filtering)	Property	Sample Date	Sampled By	Sample Interval (Feet Below Top of Casing)	Analytical Results (µg/L)														
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
B-2	B-2	Property	06/23/00	ThermoRetec	11.5	--	--	--	<250	<250	<250	<500	**37,000**	**600**	**4,100**	<250	<250	<250	<500	--
B-6	B-6	Property	06/24/00	ThermoRetec	14.5	--	--	--	**<50**	<50	<50	<100	**6,800**	**54**	**57**	<50	<50	<50	<100	--
B-7	B-7	Property	06/24/00	ThermoRetec	12.5	--	--	--	**<50**	<50	<50	<100	**21,000**	**310**	**880**	<50	<50	<50	<100	--
B-8	B-8	Property	06/24/00	ThermoRetec	8	--	--	--	--	--	--	--	**3,100**	**<50**	**<50**	NA	<50	NA	NA	NA
B-9	B-9	Property	06/24/00	ThermoRetec	12	--	--	--	--	--	--	--	**120,000**	**210**	**270**	NA	<50	NA	NA	NA
B-10	B-10	Property	06/24/00	ThermoRetec	12.5	--	--	--	--	--	--	--	**9,100**	**1,100**	**7,600**	NA	**98**	NA	NA	NA
W-MW-02	W-MW-02	Valley Street ROW	01/30/12	Windward	10 to 20	**--**	**--**	**--**	<0.2	<0.2	<0.2	<0.6	1.6	1.4	8.0	0.3	**0.3**	<0.2	<1.0	<0.5
	W-MW-02		01/30/12	Windward	30 to 40	**--**	**--**	**--**	**<20**	<20	<20	<60	**24,000**	**940**	**1,700**	13^{J}	**70**	<20	<100	<50
	W-MW-02		01/30/12	Windward	50 to 60	**--**	**--**	**--**	**<20**	<20	<20	<60	**7,200**	**1,300**	**1,800**	<20	**85**	16^{J}	<100	<50
W-MW-04	W-MW-04		01/28/12	Windward	10 to 20	**--**	**--**	**--**	0.7	0.2^{J}	<0.2	0.3^{J}	**19^{t}**	**8.4**	**37**	0.4	**37**	0.1^{J}	<1.0	<0.5
	W-MW-04		01/28/12	Windward	30 to 40	**--**	**--**	**--**	0.2	0.2^{J}	<0.2	0.1^{J}	**$2,800^{t}$**	**26**	**47**	0.4	**12**	0.2	<1.0	<0.5
	W-MW-04		01/28/12	Windward	50 to 60	**--**	**--**	**--**	0.4	0.6	0.1^{J}	0.6^{J}	**$12,000^{t}$**	**230**	**270**	0.2	**3.4**	2.8	<1.0	<0.5
B101/MW101	B101/MW101		07/11/12	SoundEarth	75 to 80	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**32**	<1	2.9	<1	<0.2	<1	<5	--
	B101/MW101		7/11/12 (dup)	SoundEarth	75 to 80	--	--	--	--	--	--	--	**150**	**6.1**	**25**	<1	**1.1**	<1	<5	--
	B101/MW101		07/12/12	SoundEarth	95 to 100	--	--	--	--	--	--	--	3.4	<1	<1	<1	<0.2	<1	<5	--
	B101/MW101		07/12/12	SoundEarth	110 to 120	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B101/MW101		07/12/12	SoundEarth	134 to 139	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
B102/MW102	B102/MW102		07/17/12	SoundEarth	25 to 30	--	--	--	--	--	--	--	5.0	2.5	9.0	<1	**0.84**	<1	<5	--
	B102/MW102		07/17/12	SoundEarth	25 to 30 (7)	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B102/MW102		07/17/12	SoundEarth	45 to 50	--	--	--	--	--	--	--	<1	<1	2.4	<1	0.20	<1	<5	--
	B102/MW102		07/17/12	SoundEarth	45 to 50 (7)	--	--	--	--	--	--	--	<1	<1	1.2	<1	<0.2	<1	<5	--
	B102/MW102		07/19/12	SoundEarth	85 to 90	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B102/MW102		07/19/12	SoundEarth	85 to 90 (7)	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
B103/MW103	B103/MW103		07/25/12	SoundEarth	20 to 25	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B103/MW103		07/25/12	SoundEarth	20 to 25 (7)	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B103/MW103		07/25/12	SoundEarth	35 to 40	--	--	--	--	--	--	--	**1,800**	**860**	**400**	2.4	**42**	2.6	<5	--
	B103/MW103		07/25/12	SoundEarth	35 to 40 (7)	--	--	--	--	--	--	--	**840**	**350**	**140**	<1	**14**	<1	<5	--
	B103/MW103		07/26/12	SoundEarth	75 to 80	--	--	--	--	--	--	--	**320**	**62**	**100**	<1	**3.4**	<1	<5	--
	B103/MW103		07/26/12	SoundEarth	75 to 80 (7)	--	--	--	--	--	--	--	**170**	**50**	**85**	<1	**2.3**	<1	<5	--
B104/MW104	B104/MW104		07/31/12	SoundEarth	55 to 60	--	--	--	0.77	3.4	<1	<3	**900**	**150**	**480**	<1	**17**	1.7	<5	--
	B104/MW104		07/31/12	SoundEarth	75 to 80	--	--	--	1.0	2.6	<1	<3	**220**	**45**	**180**	<1	**6.1**	<1	6.3^{lc}	--
	B104/MW104		08/01/12	SoundEarth	95 to 100	--	--	--	--	--	--	--	**15**	**5.3**	11	<1	**0.24**	<1	<5	--
B105/MW105	B105/MW105		08/09/12	SoundEarth	75 to 80 (7)	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
	B105/MW105		08/10/12	SoundEarth	95 to 100 (7)	--	--	--	--	--	--	--	<1	<1	<1	<1	<0.2	<1	<5	--
B106/MW106	B106/MW106		08/14/12	SoundEarth	30 to 35	--	--	--	--	--	--	--	**8.2**	<1	1.0	<1	**0.36**	<1	<5	--
	B106/MW106		08/14/12	SoundEarth	45 to 50	--	--	--	--	--	--	--	**1,100**	**110**	**210**	<1	**20**	2.1	<5	--
	B106/MW106		08/15/12	SoundEarth	85 to 90	--	--	--	--	--	--	--	**19**	2.3	9.7	<1	**0.62**	<1	<5	--
DB01	DB01	The Property	03/18/13	SoundEarth	35 to 40	--	--	--	--	--	--	--	1.4	<1	2.4	<1	<0.2	<1	<5	--
DB02	DB02	The Property	03/18/13	SoundEarth	39 to 44	--	--	--	--	--	--	--	**140**	**19**	14	<1	**0.35**	<1	<5	--
DB03	DB03	The Property	03/27/13	SoundEarth	55 to 60	--	--	--	--	--	--	--	**6,700**	**420**	**420**	<1	**12**	5.8	<5	--
DB04	DB04	The Property	03/22/13	SoundEarth	55 to 60	--	--	--	--	--	--	--	**15**	<1	<1	<1	<0.2	<1	<5	--
DB05	DB05	The Property	03/26/13	SoundEarth	65 to 70	--	--	--	--	--	--	--	**1,400**	**11**	1.7	<1	<0.2	<1	<5	--
DB05A	DB05A	The Property	03/28/13	SoundEarth	40 to 45	--	--	--	--	--	--	--	**230,000**	**790^{ve}**	**42**	<1	**1.2**	4.8	<5	--
DB06	DB06	The Property	03/25/13	SoundEarth	75 to 80	--	--	--	--	--	--	--	**170**	4.4	5.0	<1	<0.2	<1	<5	--
DB07	DB07	The Property	03/28/13	SoundEarth	65 to 70	--	--	--	--	--	--	--	**15,000**	**<1,000**	**<1,000**	<1,000	**<200**	<1,000	<5,000	--
DB08	DB08	The Property	03/21/13	SoundEarth	55 to 60	--	--	--	--	--	--	--	**7,300**	**1,100**	**1,300**	<10	**38**	<10	<50	--
DB09	DB09	The Property	03/19/13	SoundEarth	35 to 40	--	--	--	--	--	--	--	**5,000**	**400**	**700**	3.1	**4.8**	2.0	<5	--
	DB09		03/19/13	SoundEarth	65 to 70	--	--	--	--	--	--	--	**1,900**	**460**	**460**	<1	**2.3**	1.3	<5	--
DB10	DB10	The Property	03/29/13	SoundEarth	35 to 40	--	--	--	--	--	--	--	**200,000**	**1,700**	**<1,000**	<1,000	**<200**	<1,000	<5,000	--
	DB10		04/01/13	SoundEarth	65 to 70	--	--	--	--	--	--	--	**6,900**	**<100**	**<100**	<100	**<20**	<100	<500	--
MTCA Cleanup Level						**800(6)**	**500(6)**	**500(6)**	**5(6)**	**1,000(6)**	**700(6)**	**1,000(6)**	**5(6)**	**5(6)**	**16[b]**	**1,600[b]**	**0.2(6)**	**4,000[b]**	**5(6)**	**160(6)**

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Table 3
Summary of Reconnaissance Groundwater Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Location (For Filtering)	Property	Sample Date	Sampled By	Sample Interval (Feet Below Top of Casing)	Analytical Results (µg/L)														
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	cis-1,2-DCE(4)	trans-1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Naphthalene(5)
DB12	**DB12**	The Property	04/03/13	SoundEarth	10 to 15	--	--	--	--	--	--	--	**170,000**	**4,800**	**3,100**	<2,000	**<400**	<2,000	<10,000	--
	DB12		04/03/13	SoundEarth	40 to 45	--	--	--	--	--	--	--	**46,000**	**1,100**	**<1,000**	<1,000	**<200**	<1,000	<5,000	--
DB13	**DB13**	The Property	04/03/13	SoundEarth	10 to 15	--	--	--	--	--	--	--	**2,500**	**100**	**160**	1.8	<0.2	<1	<5	--
	DB13		04/03/13	SoundEarth	40 to 45	--	--	--	--	--	--	--	**8,200**	**800**[ve]	**430**[ve]	<1	**3.0**	5.2	<5	--
DB14	**DB14**	The Property	04/04/13	SoundEarth	10 to 15	**7,200**	--	--	**100**	<40	90	130	--	--	--	--	--	--	--	--
	DB14		04/04/13	SoundEarth	40 to 45	--	--	--	--	--	--	--	**470**	**210**	**840**	<100	**140**	<100	<500	--
B122/MW122	**MW122**	Alley E of 800 Roy Street	12/17/13	SoundEarth	25	--	--	--	**29**	1.5	2.5	3	<1	<1	<1	<1	<0.2	<1	<5	<1
	MW122		12/17/13	SoundEarth	40	--	--	--	**13**	1.2	1.9	<3	<1	<1	**120**	<1	**14**	<1	<5	<1
	MW122		12/17/13	SoundEarth	85	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	**0.72**	<1	<5	<1
B124/MW124	**MW124**	Valley Street ROW	12/19/13	SoundEarth	45	170	--	--	<0.35	<1	7.1	49.7	<1	<1	<1	<1	<0.2	<1	<5	<1
	MW124		12/19/13	SoundEarth	60	--	--	--	<0.35	<1	20	144	<1	<1	<1	<1	<0.2	<1	<5	<1
	MW124		12/19/13	SoundEarth	100	--	--	--	<0.35	<1	<1	<3	<1	<1	<1	<1	<0.2	<1	<5	<1
B126/MW126	**MW126**		12/30/13	SoundEarth	40	--	--	--	3.5	2.4	3.6	<3	<1	<1	<1	<1	<0.2	<1	<5	2.0
CHB-07	**CHB-07**	Westlake Ave N ROW	04/14/08	CH2M HILL	Unknown	<250	<250	<500	0.7	<0.2	<0.2	<0.6	<0.2	<0.2	**480**	1.8	**220**	0.3	<0.5	<0.5
CHB-08	**CHB-08**	9th Avenue N ROW	04/15/08	CH2M HILL	Unknown	<250	<250	<500	<0.2	<0.2	<0.2	<0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5
CHB-09	**CHB-09**	9th Avenue N ROW	04/16/08	CH2M HILL	Unknown	<250	400	**1,400**	0.3	0.3	<0.2	<0.6	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5
RS-20	**RS-20**	800 Roy Street Parcel	03/05/93	EPJ	Unknown	**99,000**	--	--	**96**	230	**1,500**	**7,000**	<5	NA	NA	NA	NA	NA	NA	NA
SCL-B101	**SCL-B101**	800 Roy Street Parcel	06/17/02	Urban	Unknown	<50	<250	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--	--
SCL-B102	**SCL-B102**	800 Roy Street Parcel	06/17/02	Urban	Unknown	150	360	--	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	--	--
CX/WS-1	**CX/WS-1**	North-Adjoining Property	11/01/89	HartCrowser	Unknown	<25[d]	--	--	<1.0	<1.0	<1.0	<2.0	NA	NA	NA	NA	NA	NA	NA	NA
MTCA Cleanup Level						**800(6)**	**500(6)**	**500(6)**	**5(6)**	**1,000(6)**	**700(6)**	**1,000(6)**	**5(6)**	**5(6)**	**16[b]**	**1,600[b]**	**0.2(6)**	**4,000[b]**	**5(6)**	**160(6)**

NOTES:

Red denotes concentrations exceeding MTCA Cleanup Level.

(1)Analyzed by EPA Method 418.1 or 8015-M, NWTPH-HCID, or NWTPH-Gx.

(2)Analyzed by EPA Method 418.1 or 8015-M, NWTPH-HCID, or NWTPH-Dx.

(3)Analyzed by EPA Methods 8015, 8020, 8021B, 8240, 8260B, or 8260C.

(4)Analyzed by Purge and Trap Gas Chromatogram/Mass Spectrometry or EPA Method 601, 8010S, 8240, 8260B, or 8260C.

(5)Analyzed by EPA Methods 8010, 8260B, 8260C, 8270, 8270D, or 8270D-SIM.

(6)MTCA Method A Cleanup Levels, Table 720-1, Section 900, Chapter 173-340 of the WAC, revised November 2007.

(7)Samples were field-filtered prior to laboratory analysis.

Laboratory Notes:

[b] Analyte detected in an associated Method Blank.

[d] Result reported as TPH.

[J] Estimated concentration.

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

[t] analyte also detected in trip blank.

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

-- = not analyzed or not measured
< = not detected at a concentration exceeding laboratory reporting limit
µg/L = micrograms per liter
DCE = dichloroethylene
DRPH = diesel-range petroleum hydrocarbons
dup = duplicate
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
Hart Crowser = Hart Crowser, Inc.
MTCA = Washington State Model Toxics Control Act
NA = results not available
NWTPH = northwest total petroleum hydrocarbon
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
ROW - right-of-way
SoundEarth = SoundEarth Strategies, Inc.
TCE = trichloroethylene
ThermoRetec = ThermoRetec Corporation
TPH = total petroleum hydrocarbons
Urban = Urban Redevelopment
WAC = Washington Administrative Code
Windward = Windward Environmental LLC

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																					
R-MW1	Unknown	10/22/92	Roux	Unknown	5	32.8	NA	NA	NA	NA	NA	NA	NA	**5.8**	**0.35**	NA	<0.005	<0.010	NA	NA	NA
R-MW4	Unknown	10/22/92	Roux	Unknown	5	47.0	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
	Unknown			Unknown	15	37.0	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
	Unknown			Unknown	30	22.0	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
R-MW6	Unknown	10/27/92	Roux	Unknown	6	39.5	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
	Unknown			Unknown	11	34.5	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
	Unknown			Unknown	16	29.5	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	NA	<0.005	<0.010	NA	NA	NA
B-1	B-1-13	06/23/00	ThermoRetec	ARI	13	31.0	--	--	--	<0.0012	<0.0012	<0.0012	<0.0024	<0.0012	<0.0012	0.0021	<0.0012	<0.0012	<0.0012	<0.0035	<0.0059
B-2	B-2-6.5	06/23/00	ThermoRetec	ARI	6.5	35.5	--	--	--	<0.0011	<0.0011	<0.0011	<0.0022	0.017	0.0020	0.011	<0.0011	<0.0011	<0.0011	<0.0033	<0.0055
	B-2-11			ARI	11	31.0	--	--	--	<0.0012	<0.0012	<0.0012	<0.0024	**0.92**	**0.085**	0.64	0.0037	<0.0012	<0.0012	<0.0037	<0.0061
	B-2-16			ARI	16	26.0	--	--	--	<0.0011	<0.0011	<0.0011	<0.0022	0.049	0.0011	0.0075	<0.0011	<0.0011	<0.0011	<0.0032	<0.0054
B-3	B-3-12	06/23/00	ThermoRetec	ARI	12	31.5	--	--	--	<0.0013	<0.0013	<0.0013	<0.0026	<0.0013	<0.0013	0.0016	<0.0013	<0.0013	<0.0013	<0.0039	<0.0064
B-5	B-5-10	06/23/00	ThermoRetec	ARI	10	32.0	--	--	--	<0.0011	<0.0011	<0.0011	<0.0022	0.0051	<0.0011	0.0021	<0.0011	<0.0011	<0.0011	<0.0032	<0.0053
	B-5-11.5			ARI	11.5	30.5	--	--	--	<0.0012	<0.0012	<0.0012	<0.0024	**0.12**	0.0088	0.013	<0.0012	<0.0012	<0.0012	<0.0036	<0.0061
B-6	B-6-6	06/24/00	ThermoRetec	ARI	6	36.0	NA	NA	NA	NA	NA	NA	NA	0.0085	0.0014	0.0021	<0.0012	<0.0012	NA	NA	NA
	B-6-12			ARI	12	30.0	NA	NA	NA	NA	NA	NA	NA	0.0067	0.0026	0.0047	<0.0012	<0.0012	NA	NA	NA
	B-6-18			ARI	18	24.0	NA	NA	NA	NA	NA	NA	NA	**2.3**	0.0078	0.0031	<0.0013	<0.0013	NA	NA	NA
B-7	B-7-6	06/24/00	ThermoRetec	ARI	6	36.0	NA	NA	NA	NA	NA	NA	NA	0.031	0.0029	0.0052	<0.0012	<0.0012	NA	NA	NA
B-8	B-8-4	06/24/00	ThermoRetec	ARI	4	38.0	NA	NA	NA	NA	NA	NA	NA	**0.092**	0.0006	0.0019	<0.0011	<0.0011	NA	NA	NA
	B-8-8			ARI	8	34.0	NA	NA	NA	NA	NA	NA	NA	**1.4**	0.017	0.021	<0.0011	<0.0011	NA	NA	NA
B-9	B-9-4	06/24/00	ThermoRetec	ARI	4	38.0	NA	NA	NA	NA	NA	NA	NA	**170**	**<1.6**	<1.6	<1.6	**<1.6**	NA	NA	NA
	B-9-8			ARI	8	34.0	NA	NA	NA	NA	NA	NA	NA	**4.8**	**0.13**	0.21	0.0022	<0.0012	NA	NA	NA
B-10	B-10-12	06/24/00	ThermoRetec	ARI	12	46.0	NA	NA	NA	NA	NA	NA	NA	0.017	0.0014	0.0061	<0.0011	<0.0011	NA	NA	NA
G-MW1	MW 1-3-8	07/20/01	GeoEngineers	NCA	8	31.0	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**19.9**	<0.0230	<0.0260	<0.0130	<0.0130	<0.0140	0.0634^{B}	<0.0140
	MW 1-8-20			NCA	20	19.0	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**237**	**0.0622**	<0.0260	<0.0130	<0.0130	<0.0140	0.0671^{B}	0.0061
	MW 1-11-27.5			NCA	27.5	11.5	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**16.4**	**0.0706^{J}**	<0.0260	<0.0130	<0.0130	<0.0140	0.0612^{B}	<0.0140
	MW 1-13-32.5			NCA	32.5	6.5	--	--	--	<0.0380	<0.0360	<0.0380	<0.1080	**33.1**	**0.394**	<0.0520	<0.0260	<0.0260	<0.0280	0.165^{B}	<0.0280
	MW 1-15-37.5			NCA	37.5	1.5	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**0.678**	<0.0230	<0.0260	<0.0130	<0.0130	<0.0140	$0.0484^{B,J}$	<0.0140
G-SB4 (G-MW3)	SB4-4-10	07/20/01	GeoEngineers	NCA	10	29.6	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**0.528**	<0.0230	<0.0260	<0.0130	<0.0130	<0.0140	0.0793^{B}	<0.0140
	SB4-7-17.5			NCA	17.5	22.1	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**13.2**	<0.0230	<0.0260	<0.0130	<0.0130	<0.0140	0.0818^{B}	<0.0140
	SB4-13-32.5			NCA	32.5	7.1	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**5.70**	**0.175**	<0.0260	<0.0130	<0.0130	<0.0140	0.253^{B}	<0.0140
	SB4-15-37.5			NCA	37.5	2.1	--	--	--	<0.0190	<0.0180	<0.0190	<0.0540	**0.581**	<0.0230	<0.0260	<0.0130	<0.0130	<0.0140	0.0842^{B}	<0.0140
P-03/ W-MW-01	SB-W-03-0160	01/27/12	Windward	ARI	16-16.5	29.1	--	--	--	<0.0010	0.0006^{J}	<0.0010	<0.0020	<0.0010	<0.0010	0.0006^{J}	<0.0010	<0.0010	<0.0010	0.0027^{B}	<0.0048
	SB-W-03-0225			ARI	22.5-23	22.6	--	--	--	<0.0009	0.0007^{J}	<0.0009	<0.0018	0.03^{B}	0.0018	0.0021	<0.0009	<0.0009	<0.0009	0.0032^{B}	<0.00430
	SB-W-03-0315			ARI	31.5-32	13.6	--	--	--	**<0.21**	<0.21	<0.21	<0.42	**16^{B}**	**0.59**	0.48	<0.21	<0.21	<0.21	<0.41	<1
	SB-W-03-0450			ARI	45-45.5	-0.4	--	--	--	<0.0007	0.0006^{J}	<0.0007	<0.0014	**0.38^{B}**	**0.022**	0.041	0.0005^{J}	<0.0007	<0.0007	0.0025^{B}	<0.0035
	SB-W-03-0550			ARI	55.5-56	-10.4	--	--	--	**<0.045**	<0.045	<0.045	**<0.09**	**1.9^{J}**	**0.17**	0.13	<0.045	<0.045	<0.045	<0.091	<0.23
	SB-W-03-0645			ARI	64.5-65	-19.4	--	--	--	<0.0008	<0.0008	<0.0008	<0.0016	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0098^{B}	<0.0041
	SB-W-03-0730			ARI	73-73.5	-27.9	--	--	--	<0.0007	0.0006^{J}	<0.0007	<0.0014	**0.1^{B}**	0.0081	0.025	<0.0007	<0.0007	<0.0007	0.0020^{B}	<0.0036
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

DRAFT

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)													
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																				
P-06/ W-MW-02	SB-W-06-0900	01/29/12	Windward	ARI	9-9.5	34.5	--	--	--	0.0009^{J}	<0.0013	<0.0013	<0.0026	**0.058^{T}**	0.0081	<0.0013	<0.0013	<0.0013	<0.0013	<0.0027	<0.0067
	SB-W-06-0185			ARI	18.5-19	25.0	--	--	--	0.0008^{J}	0.0006^{J}	<0.0009	<0.0018	$<0.0009^{T}$	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	0.0024^{B}	<0.0043
	SB-W-06-0305	01/30/12		ARI	30.5-31	13.0	--	--	--	**<0.27**	<0.27	<0.27	<0.34	**18**	**0.41**	0.4	<0.27	<0.27	<0.27	<0.53	<1.3
	SB-W-06-0380			ARI	38-38.5	5.5	--	--	--	**<0.046**	<0.046	<0.046	<0.092	**0.14**	**0.057**	0.52	<0.046	<0.046	<0.046	<0.092	<0.23
	SB-W-06-0405			ARI	40.5-41	3.0	--	--	--	<0.036	<0.036	<0.036	<0.072	**5.2**	**0.2**	0.15	<0.036	<0.036	<0.036	<0.072	<0.18
	SB-W-06-0485			ARI	48.5-49	-5.0	--	--	--	<0.0008	<0.0008	<0.0008	<0.0016	0.033	0.0007^{J}	0.0009	<0.0008	<0.0008	<0.0008	0.0018^{B}	<0.0040
	SB-W-06-9485			ARI	48.5-49 (DUP)	-5.0	--	--	--	<0.0009	<0.0009	<0.0009	<0.0018	**0.052**	0.0011	0.0010	<0.0009	<0.0009	<0.0009	0.0019^{B}	<0.0046
	SB-W-06-0590			ARI	59-59.5	-16.0	--	--	--	**<0.043**	<0.043	<0.043	<0.086	**0.53**	**0.037^{J}**	<0.043	<0.043	<0.043	<0.043	<0.086	<0.21
	SB-W-06-0715			ARI	71.5-72	-28.0	--	--	--	<0.0008	<0.0008	<0.0008	<0.0016	0.0009	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0017	<0.0042
	SB-W-06-0790	01/31/12		ARI	79-79.5	-35.5	--	--	--	<0.0009	<0.0009	<0.0009	<0.0018	0.0022	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0017	<0.0043
P-07/ W-MW-03	SB-W-07-0135	01/26/12	Windward	ARI	13.5-14	25.8	--	--	--	0.0007^{J}	0.0024	<0.0009	0.0008^{J}	0.0038	0.0005^{J}	0.0008^{J}	<0.0009	<0.0009	<0.0009	0.0032^{B}	<0.0045
	SB-W-07-0275			ARI	27.5-28	11.8	--	--	--	0.0005^{J}	0.0013	<0.0009	<0.0018	**0.12**	0.0053	0.083	0.0013	<0.0009	<0.0009	0.0041^{B}	<0.0046
	SB-W-07-0335			ARI	33.5-34	5.8	--	--	--	<0.0008	0.0012	<0.0008	0.0004^{J}	**18^{B}**	**0.05**	0.011	<0.0008	<0.0008	0.0004^{J}	0.0036^{B}	<0.0038
	SB-W-07-0430			ARI	43-43.5	-3.7	--	--	--	<0.0008	0.0009	<0.0008	<0.0016	**46^{B}**	**0.7**	0.091	0.0009	<0.0008	0.0030	0.0036^{B}	<0.0041
	SB-W-07-0530			ARI	53-53.5	-13.7	--	--	--	<0.0008	0.0012	<0.0008	<0.0016	**18^{B}**	**1.1**	0.63	0.0009	<0.0008	0.0071	0.0027^{B}	<0.0039
	SB-W-07-0630			ARI	63-63.5	-23.7	--	--	--	<0.0010	0.0007^{J}	<0.0010	<0.0020	0.0012^{B}	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0025^{B}	<0.0050
	SB-W-07-0780			ARI	78-78.5	-38.7	--	--	--	<0.0008	0.0004^{J}	<0.00080	<0.0016	0.0023^{B}	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0024^{B}	<0.0039
P-08/ W-MW-04**	SB-W-08-0090	01/28/12	Windward	ARI	9-9.5	26.62	--	--	--	**<0.27**	<0.27	<0.27	<0.54	**9.5^{T}**	**2.3**	7.3	0.22^{J}	**0.71**	<0.27	<0.27	<1.3
	SB-W-08-0155			ARI	15.5-16	20.12	--	--	--	<0.0009	0.0006^{J}	<0.0009	<0.0018	**0.38^{T}**	**0.11**	0.12	0.0039	0.12	0.0007	0.003^{B}	<0.0043
	SB-W-08-0265			ARI	26.5-27	9.12	--	--	--	<0.0009	0.0006^{J}	<0.0009	<0.0019	**0.37^{T}**	0.0052	0.0043	<0.0009	<0.0009	<0.0009	0.0033^{B}	<0.0043
	SB-W-08-0380			ARI	38-38.5	-2.38	--	--	--	<0.0008	<0.0008	<0.0008	<0.0016	**0.48^{T}**	0.0019	0.0012	<0.0008	<0.0008	<0.0008	0.0038^{B}	<0.0042
	SB-W-08-0480			ARI	48-48.5	-12.38	--	--	--	0.0005^{J}	0.0013	<0.0009	<0.0018	0.025^{T}	0.0007^{J}	0.0009^{J}	<0.0009	<0.0009	<0.0009	0.0082^{B}	<0.0046
	SB-W-08-9480			ARI	48-48.5 (DUP)	-12.38	--	--	--	0.0004^{J}	0.0008^{J}	<0.0009	<0.0018	0.016^{T}	<0.0009	0.0005^{J}	<0.0009	<0.0009	<0.0009	0.0033^{B}	<0.0043
	SB-W-08-0590			ARI	59-59.5	-23.38	--	--	--	**<0.13**	<0.13	<0.13	<0.26	**10^{T}**	**0.081^{J}**	<0.13	<0.13	<0.13	<0.13	<0.13	<0.64
	SB-W-08-0710	01/29/12		ARI	71-71.5	-35.38	--	--	--	**<0.2**	<0.2	<0.2	<0.4	**9.4^{T}**	**0.33**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.99
	SB-W-08-0760			ARI	76-76.5	-40.38	--	--	--	<0.0009	<0.0009	<0.0009	<0.0018	0.017^{T}	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	0.0019^{B}	<0.0047
B101/MW101	B101-30	07/10/12	SoundEarth	F&BI	30	9.8	--	--	--	--	--	--	--	**24**	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-34				34	5.8	--	--	--	--	--	--	--	**8.4**	**0.033**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-40				40	-0.2	--	--	--	--	--	--	--	**20**	**0.28**	0.064	<0.05	<0.05	<0.05	<0.5	--
	B101-47				47	-7.2	--	--	--	--	--	--	--	**7.2**	**0.20**	0.12	<0.05	<0.05	<0.05	<0.5	--
	B101-55				55	-15.2	--	--	--	--	--	--	--	**4.2**	**0.084**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-65				65	-25.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-75	07/11/12			75	-35.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-81				81	-41.2	--	--	--	--	--	--	--	**0.31**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-92	07/12/12			92	-52.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-97				97	-57.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-104				104	-64.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-114.5				114.5	-74.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-120				120	-80.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-131				131	-91.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B101-140				140	-100.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

DRAFT

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																					
B102/MW102	B102-20	07/17/12	SoundEarth	F&BI	20	29.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-30				30	19.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-38				38	11.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-49				49	0.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-60				60	-10.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-70	07/18/12			70	-20.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-80	07/19/12			80	-30.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-90				90	-40.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-100	07/20/12			100	-50.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-110				110	-60.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B102-120	07/23/12			120	-70.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B103/MW103	B103-10	07/25/12	SoundEarth	F&BI	10	29.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-18				18	21.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-30				30	9.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-40				40	-0.2	--	--	--	--	--	--	--	**4.6**	**0.77**	0.12	<0.05	<0.05	<0.05	<0.5	--
	B103-45				45	-5.2	--	--	--	--	--	--	--	**5.3**	**0.48**	0.24	<0.05	<0.05	<0.05	<0.5	--
	B103-55				55	-15.2	--	--	--	--	--	--	--	<0.025	<0.03	0.18	<0.05	<0.05	<0.05	<0.5	--
	B103-62.5	07/26/12			62.5	-22.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-75				75	-35.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-83				83	-43.2	--	--	--	--	--	--	--	<0.025	<0.03	0.12	<0.05	<0.05	<0.05	<0.5	--
	B103-95				95	-55.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-105	07/27/12			105	-65.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B103-113				113	-73.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B104/MW104	B104-10	07/30/12	SoundEarth	F&BI	10	33.1	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-20				20	23.1	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-30				30	13.1	--	--	--	--	--	--	--	**1.8**	**0.086**	0.14	<0.05	<0.05	<0.05	<0.5	--
	B104-35				35	8.1	--	--	--	--	--	--	--	**7.1**	**0.23**	0.099	<0.05	<0.05	<0.05	<0.5	--
	B104-50				50	-7.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-60	07/31/12			60	-17.0	--	--	--	--	--	--	--	**2.1**	**0.21**	0.12	<0.05	<0.05	<0.05	<0.5	--
	B104-69				69	-26.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-80				80	-37.0	--	--	--	--	--	--	--	**0.12**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-90	08/01/12			90	-47.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-100				100	-57.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-110				110	-67.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-120				120	-77.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B104-130				130	-87.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(8)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																					
B105/MW105	B105-10	08/06/12	SoundEarth	F&BI	10	35.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-20				20	25.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-30				30	15.0	--	--	--	--	--	--	--	**1.3**	**0.16**	0.086	<0.05	<0.05	<0.05	<0.5	--
	B105-40	08/08/12			40	5.0	--	--	--	--	--	--	--	<0.025	<0.03	0.22	<0.05	<0.05	<0.05	<0.5	--
	B105-50				50	-5.0	--	--	--	--	--	--	--	**0.18**	**0.040**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-60	08/09/12			60	-15.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-70				70	-25.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-80				80	-35.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-90	08/10/12			90	-45.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-100				100	-55.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-110				110	-65.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-120				120	-75.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-130				130	-85.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B105-138				138	-93.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B106/MW106	B106-10	08/14/12	SoundEarth	F&BI	10	42.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-20				20	32.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-30				30	22.4	--	--	--	--	--	--	--	0.038	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-40				40	12.4	--	--	--	--	--	--	--	**3.1**	**0.15**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-50				50	2.4	--	--	--	--	--	--	--	**0.73**	**0.17**	0.11	<0.05	<0.05	<0.05	<0.5	--
	B106-60				60	-7.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-70	08/15/12			70	-17.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-80				80	-27.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-90				90	-37.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-100				100	-47.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-110				110	-57.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-120				120	-67.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-130				130	-77.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B106-140				140	-87.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B107/MW107	B107-05	12/03/12	SoundEarth	F&BI	5	39.2	<2	--	--	<0.03	<0.05	<0.05	<0.15	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B107-15				15	29.2	<2	--	--	<0.03	<0.05	<0.05	<0.15	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B107-25				25	19.2	<2	--	--	<0.03	<0.05	<0.05	<0.15	**0.60**	**0.063**	0.060	<0.05	<0.05	<0.05	<0.5	--
	B107-35				35	9.2	<2	--	--	<0.03	<0.05	<0.05	<0.15	**19**	**0.59**	0.37	<0.05	<0.05	<0.05	<0.5	--
	B107-45				45	-0.8	<2	--	--	<0.03	<0.05	<0.05	<0.15	0.028	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B108/MW108	B108-15	12/14/12	SoundEarth	F&BI	15	18.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B108-25				25	8.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B108-35				35	-1.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B108-45				45	-11.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B108-50				50	-16.9	--	--	--	--	--	--	--	0.037	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B109/MW109	B109-05	12/04/12	SoundEarth	F&BI	5	30.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B109-15				15	20.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B109-25				25	10.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B109-35				35	0.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B109-45				45	-9.3	--	--	--	--	--	--	--	**1.6**	**0.94**	0.15	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																					
B110/MW110	B110-15	12/04/12	SoundEarth	F&BI	15	25.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B110-25				25	15.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B110-35				35	5.0	--	--	--	--	--	--	--	**3.4**	**0.21**	0.31	<0.05	<0.05	<0.05	<0.5	--
	B110-45				45	-5.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B111/MW111	B111-10	12/05/12	SoundEarth	F&BI	10	26.8	--	--	--	--	--	--	--	<0.05	<0.06	<0.1	<0.1	<0.1	<0.1	<1	--
	B111-20				20	16.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B111-30				30	6.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B111-38				38	-1.2	--	--	--	--	--	--	--	**0.078**	**0.40**	0.28	<0.05	<0.05	<0.05	<0.5	--
	B111-50				50	-13.2	--	--	--	--	--	--	--	**1.4**	**0.56**	0.11	<0.05	<0.05	<0.05	<0.5	--
	B111-60	12/06/12			60	-23.2	--	--	--	--	--	--	--	**0.085**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B111-70				70	-33.2	--	--	--	--	--	--	--	0.033	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B111-80				80	-43.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B112/MW112	B112-10	12/11/12	SoundEarth	F&BI	10	47.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-20				20	37.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-30				30	27.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-40				40	17.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-50				50	7.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-60				60	-2.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-75				75	-17.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B112-85	12/12/12			85	-27.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B113/MW113	B113-10	12/18/12	SoundEarth	F&BI	10	23.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B113-20				20	13.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B113-30				30	3.2	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B113-40				40	-6.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B113-50				50	-16.8	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B114/MW114	B114-15	12/10/12	SoundEarth	F&BI	15	31.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B114-25				25	21.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B114-35				35	11.4	--	--	--	--	--	--	--	**8.8**	**0.45**	0.11	<0.05	<0.05	<0.05	<0.5	--
	B114-40				40	6.4	--	--	--	--	--	--	--	**0.59**	**0.071**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B114-45				45	1.4	--	--	--	--	--	--	--	**0.25**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B115/MW115	B115-10	12/13/12	SoundEarth	F&BI	10	24.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B115-15				15	19.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B115-25				25	9.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B115-35				35	-0.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B115-45				45	-10.5	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B116/MW116	B116-15	12/07/12	SoundEarth	F&BI	15	17.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B116-25				25	7.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B116-35				35	-3.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B116-45				45	-13.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B117/MW117	B117-10	02/04/13	SoundEarth	F&BI	10	47.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B117-20				20	37.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B117-30				30	27.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B117-40				40	17.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B117-50				50	7.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
The Property																					
B118/MW118	B118-10	03/21/13	SoundEarth	F&BI	10	43.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B118-20				20	33.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B118-30				30	23.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B118-40				40	13.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B118-50				50	3.4	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
B119/MW119	B119-10	03/21/13	SoundEarth	F&BI	10	27.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B119-20				20	17.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B119-30				30	7.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	B119-40				40	-2.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB01	DB01-10	03/18/13	SoundEarth	F&BI	10	32.3	--	--	--	--	--	--	--	0.042	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB01-20				20	22.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB01-30				30	12.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB01-40				40	2.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB02	DB02-10	03/18/13	SoundEarth	F&BI	10	30.9	<2	<50	<250	<0.02	<0.02	<0.02	<0.06	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB02-15				15	25.9	<2	<50	<250	<0.02	<0.02	<0.02	<0.06	--	--	--	--	--	--	--	--
	DB02-20				20	20.9	--	--	--	--	--	--	--	**0.22**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB02-30				30	10.9	--	--	--	--	--	--	--	**0.058**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB02-40				40	0.9	--	--	--	--	--	--	--	**2.0**	**0.060**	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB03	DB03-05	03/27/13	SoundEarth	F&BI	5	35.9	--	--	--	--	--	--	--	**0.061**	<0.06	<0.1	<0.1	<0.1	<0.1	<1	--
	DB03-20				20	20.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB03-35				35	5.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB03-45				45	-4.1	--	--	--	--	--	--	--	**2.7**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB03-55				55	-14.1	--	--	--	--	--	--	--	**3.6**	**0.11**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB03-60				60	-19.1	--	--	--	--	--	--	--	**3.4**	**0.23**	0.15	<0.05	<0.05	<0.05	<0.5	--
DB04	DB04-10	03/21/13	SoundEarth	F&BI	10	33.2	--	--	--	--	--	--	--	**0.17**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB04-20				20	23.2	--	--	--	--	--	--	--	**4.5**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB04-35				35	8.2	--	--	--	--	--	--	--	**8.0**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB04-45				45	-1.9	--	--	--	--	--	--	--	**0.28**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB04-50	03/22/13			50	-6.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB04-60				60	-16.9	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB05	DB05-10	03/26/13	SoundEarth	F&BI	10	36.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-20				20	26.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-30				30	16.3	--	--	--	--	--	--	--	**3.2**	**0.040**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-40				40	6.3	--	--	--	--	--	--	--	**14**	**0.085**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-50				50	-3.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-60				60	-13.7	--	--	--	--	--	--	--	**0.34**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB05-70				70	-23.7	--	--	--	--	--	--	--	0.033	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB06	DB06-10	03/25/13	SoundEarth	F&BI	10	33.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB06-25				25	18.7	--	--	--	--	--	--	--	**0.98**	**0.033**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB06-35				35	8.7	--	--	--	--	--	--	--	**30**	**0.26**	0.096	<0.05	<0.05	<0.05	<0.5	--
	DB06-45				45	-1.3	--	--	--	--	--	--	--	**1.3**	**0.036**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB06-55				55	-11.3	--	--	--	--	--	--	--	0.027	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB06-65				65	-21.3	--	--	--	--	--	--	--	0.029	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB06-75				75	-31.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation$^{(1)}$ (feet)	Analytical Results (mg/kg)														
							GRPH$^{(2)}$	DRPH$^{(3)}$	ORPH$^{(3)}$	Benzene$^{(4)}$	Toluene$^{(4)}$	Ethylbenzene$^{(4)}$	Total Xylenes$^{(4)}$	PCE$^{(5)}$	TCE$^{(5)}$	cis 1,2-DCE$^{(5)}$	trans 1,2-DCE$^{(5)}$	Vinyl Chloride$^{(5)}$	1,1-DCE$^{(5)}$	Methylene Chloride$^{(5)}$	Naphthalene$^{(6)}$
The Property																					
DB07	DB07-05	03/27/13	SoundEarth	F&BI	5	36.9	--	--	--	--	--	--	--	**2.7**	**0.084**	0.076	<0.05	<0.05	<0.05	<0.5	--
	DB07-15				15	26.9	--	--	--	--	--	--	--	**7.1**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB07-25				25	16.9	--	--	--	--	--	--	--	**9.8**	**0.067**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB07-35	03/28/13			35	6.9	--	--	--	--	--	--	--	**16**	**0.088**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB07-45				45	-3.1	--	--	--	--	--	--	--	**13**	**0.72**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB07-50				50	-8.1	--	--	--	--	--	--	--	**7.3**	**0.19**	0.16	<0.05	<0.05	<0.05	<0.5	--
	DB07-60				60	-18.1	--	--	--	--	--	--	--	**1.5**	**0.92**	0.53	<0.05	<0.05	<0.05	<0.5	--
	DB07-70				70	-28.1	--	--	--	--	--	--	--	**5.0**	**0.96**	0.41	<0.05	<0.05	<0.05	<0.5	--
DB08	DB08-10	03/20/13	SoundEarth	F&BI	10	32.8	--	--	--	--	--	--	--	0.048	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB08-20				20	22.8	--	--	--	--	--	--	--	**4.0**	**0.19**	0.097	<0.05	<0.05	<0.05	<0.5	--
	DB08-35				35	7.8	--	--	--	--	--	--	--	**4.5**	**0.21**	0.94	<0.05	<0.05	<0.05	<0.5	--
	DB08-45				45	-2.2	--	--	--	--	--	--	--	**0.056**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB08-50	03/21/13			50	-7.2	--	--	--	--	--	--	--	**4.2**	**0.25**	0.070	<0.05	<0.05	<0.05	<0.5	--
	DB08-60				60	-17.2	--	--	--	--	--	--	--	**0.51**	**0.20**	0.080	<0.05	<0.05	<0.05	<0.5	--
	DB08-70				70	-27.2	--	--	--	--	--	--	--	**0.41**	**0.040**	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB09	DB09-10	03/19/13	SoundEarth	F&BI	10	33.3	--	--	--	--	--	--	--	0.027	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB09-20				20	23.3	--	--	--	--	--	--	--	**0.15**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB09-30				30	13.3	--	--	--	--	--	--	--	**6.1**	**0.22**	0.25	<0.05	<0.05	<0.05	<0.5	--
	DB09-40				40	3.3	--	--	--	--	--	--	--	**1.3**	**0.28**	0.18	<0.05	<0.05	<0.05	<0.5	--
	DB09-50				50	-6.7	--	--	--	--	--	--	--	**0.14**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB09-60				60	-16.7	--	--	--	--	--	--	--	0.031	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB09-70				70	-26.7	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB10	DB10-10	03/29/13	SoundEarth	F&BI	10	34.4	--	--	--	--	--	--	--	**0.34**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB10-20				20	24.4	--	--	--	--	--	--	--	**23**	**0.11**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB10-35				35	9.4	--	--	--	--	--	--	--	**35**	**0.40**	<0.5	<0.5	<0.5	<0.5	<5	--
	DB10-45				45	-0.6	--	--	--	--	--	--	--	**57**	**<0.3**	<0.5	<0.5	<0.5	<0.5	<5	--
	DB10-50	04/01/13			50	-5.6	--	--	--	--	--	--	--	**52**	**0.26**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB10-60				60	-15.6	--	--	--	--	--	--	--	**2.0**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB10-70				70	-25.6	--	--	--	--	--	--	--	**1.8**	**0.035**	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB11	DB11-15	04/02/13	SoundEarth	F&BI	15	33.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB11-25				25	23.3	--	--	--	--	--	--	--	0.028	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB11-35				35	13.3	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB11-45				45	3.3	--	--	--	--	--	--	--	**15**	**0.12**	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB11-55				55	-6.7	--	--	--	--	--	--	--	**0.16**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB12	DB12-10	04/03/13	SoundEarth	F&BI	10	31.0	--	--	--	--	--	--	--	**0.068**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB12-20				20	21.0	--	--	--	--	--	--	--	**18**	**0.56**	1.6	<0.05	<0.05	<0.05	<0.5	--
	DB12-30				30	11.0	--	--	--	--	--	--	--	**6.7**	**0.032**	0.052	<0.05	<0.05	<0.05	<0.5	--
	DB12-40				40	1.0	--	--	--	--	--	--	--	**11**	**0.060**	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB13	DB13-10	04/03/13	SoundEarth	F&BI	10	32.8	--	--	--	--	--	--	--	**0.12**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB13-20				20	22.8	--	--	--	--	--	--	--	**0.78**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB13-35				35	7.8	--	--	--	--	--	--	--	**2.7**	**0.24**	0.063	<0.05	<0.05	<0.05	<0.5	--
	DB13-45				45	-2.2	--	--	--	--	--	--	--	**0.066**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
DB14	DB14-10	04/04/13	SoundEarth	F&BI	10	31.0	**260**	--	--	**0.059**	0.41	1.2	3.6	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB14-20				20	21.0	**73**	--	--	<0.02	0.078	0.29	1.0	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB14-30				30	11.0	--	--	--	--	--	--	--	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.5	--
	DB14-40				40	1.0	--	--	--	--	--	--	--	0.050	<0.03	0.077	<0.05	<0.05	<0.05	<0.5	--
MTCA Cleanup Level for Soil							30$^{(7)}$	2,000$^{(7)}$	2,000$^{(7)}$	0.03$^{(7)}$	7$^{(7)}$	6$^{(7)}$	9$^{(7)}$	0.05$^{(7)}$	0.03$^{(7)}$	160$^{(8)}$	1,600$^{(8)}$	0.67$^{(8)}$	4,000$^{(8)}$	0.02$^{(7)}$	5$^{(7)}$

SoundEarth Strategies

DRAFT

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
Rights-of-Way																					
BB-5	S-6	09/03/97	B & V	Unknown	15-17	34	<22	<54	<108	ND	ND	ND	ND	--	--	--	--	--	--	--	NA
	S-10				25-27	24	<22	<56	<112	--	--	--	--	--	--	--	--	--	--	--	NA
BB-7	S-4	06/04/97	B & V	Unknown	10-12	17.0	<26	<66	<132	--	--	--	--	--	--	--	--	--	--	--	NA
BB-8	S-8	06/06/97	B & V	Unknown	20-22	23.6	<20	<50	<100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
BB-10	S-6	08/29/97	B & V	Unknown	15-17	42.0	<27	<54	<109	--	--	--	--	--	--	--	--	--	--	--	NA
BB-12	S-3	03/18/98	B & V	Unknown	15-16.5	18.8	<29	<58	<120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	S-14				45-46.5	-11.2	<29	<58	<120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
BB-13	S-10	03/19/98	B & V	Unknown	25-27.5	1.9	<34	<68	<140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	NA
	S-16				40-41.5	-13.1	<30	<61	<120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
BB-14	S-2	03/03/98	B & V	Unknown	5-6.5	21.3	<32	<64	<130	--	--	--	--	--	--	--	--	--	--	--	NA
	S-5			Unknown	12.5-14	21.3	<31	<62	<120	--	--	--	--	--	--	--	--	--	--	--	NA
	S-9			Unknown	22.5-24	21.3	<31	<62	<120	--	--	--	--	--	--	--	--	--	--	--	NA
	S-12			Unknown	30-31.5	21.3	<27	54	120	--	--	--	--	--	--	--	--	--	--	--	NA
TB-12	16	08/01/97	B & V	Unknown	62-63	-24.5	<24	<60	<119	--	--	--	--	--	--	--	--	--	--	--	NA
TB-18	S-2	03/17/98	B & V	Unknown	5-6.5	38.3	<27	<55	<110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	S-8				20-21.5	38.3	<28	<56	<110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.59	NA
	S-21				57.5-59	38.3	<28	<56	<110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
PW-1	Composite	1998	B & V	Unknown	--	--	<31	<63	<130	--	--	--	--	--	--	--	--	--	--	--	NA
PW-4	Composite	05/13/98	B & V	Unknown	--	--	<27	<53	<110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
CHB-07	CHB-07-5.0-7.0	04/14/08	CH2M Hill	ARI	5-7	23.5	<5	<5.9	<12	--	--	--	--	--	--	--	--	--	--	--	--
	CHB-07-12.5-13.5				12.5-13.5	16.5	<7.2	<6.5	<13	0.0015	<0.0011	<0.0011	<0.0022	<0.0011	<0.0011	1.1	0.0083	0.027	<0.0011	<0.0022	<0.0054
CHB-08	CHB-08-15.0-16.0	04/15/08	CH2M Hill	ARI	15-16	16.3	<5.6	<5.9	<12	<0.0008	<0.0008	<0.0008	<0.0016	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0016	<0.0041
CHB-09	CHB-09-20.0-21.5	04/16/08	CH2M Hill	ARI	20-21.5	17.5	<6.2	11	23	--	--	--	--	--	--	--	--	--	--	--	--
	CHB-09-25.0-26.5				25-26.5	12.5	<6.1	36	130	<0.0012	<0.0012	<0.0012	<0.0024	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0024	<0.0012
East-Adjoining Properties - 800 Roy Street Parcel																					
SCLB-1	RS1-2.5/RS-1 7.5 (Composite)	3/12/1993	EPJ	OnSite	2.5-7.5	--	<20	290	>100	--	--	--	--	--	--	--	--	--	--	--	--
	RS1-12.5/RS1-17.5 (Composite)				12.5-17.5	--	**310**	--	--	**2.0**	0.66	5.0	**25.2**^{E}	--	--	--	--	--	--	--	--
	RS-1 17.5				17.5	21.0	--	<25	--	--	--	--	--	--	--	--	--	--	--	--	--
	RS1-22.5/RS-27.5 (Composite)				22.5-27.5	--	30^{J}	--	--	**0.089**^{J}	0.14	0.31	1.53	--	--	--	--	--	--	--	--
	RS1-32.5				32.5	6.0	**77**	--	--	**0.18**	0.35	0.96	4.8	--	--	--	--	--	--	--	--
	RS1-37.5				37.5	1.0	<5	--	--	**<0.050**	<0.050	<0.050	<1.00	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

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Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
SCLB-2	RS2-2.5/RS-2 7.5 (Composite)	3/12/1993	EPJ	OnSite	2.5-7.5	--	**110**	610	>100	--	--	--	--	--	--	--	--	--	--	--	--
	RS2-12.5/RS2-17.5 (Composite)				12.5-17.5	--	**1,800**	--	--	**4.0**	**24**	**23**	**115**^{E}	--	--	--	--	--	--	--	--
	RS2-17.5				17.5	21.0	--	240	--	--	--	--	--	--	--	--	--	--	--	--	--
	RS2-22.5/RS2-27.5 (Composite)				22.5-27.5	--	**59**	--	--	**0.8**	1.1	0.85	3.9	--	--	--	--	--	--	--	--
	RS2-32.5				32.5	6.0	**94**	<25	--	**1.5**	2.7	1.4	6.8	--	--	--	--	--	--	--	--
	RS2-37.5				37.5	1.0	9.8	--	--	**0.74**	<0.05	0.11	1.34	--	--	--	--	--	--	--	--
East-Adjoining Properties - 800 Roy Street Parcel																					
SCLB-3/MW-1	RS3-2.5	3/15/1993	EPJ	OnSite	2.5	37.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS3-7.5				7.5	32.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS3-17.5				17.5	22.5	**210**	--	--	**10**	**7.3**	3.7	**15.8**	--	--	--	--	--	--	--	--
	RS3-22.5/RS3-27.5 (Composite)				22.5-27.5	--	**42**	--	--	**3.9**	0.8	0.76	2.49	--	--	--	--	--	--	--	--
	RS3-32.5				32.5	7.5	<5	--	--	**0.15**	<0.050	<0.050	<1.00	--	--	--	--	--	--	--	--
	RS3-37.5				37.5	2.5	<5	--	--	**<0.050**	<0.050	<0.050	<1.00	--	--	--	--	--	--	--	--
SCLB-4/MW-2	RS4-2.5	3/15/1993	EPJ	OnSite	2.5	37.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS4-7.5				7.5	32.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS4-12.5/RS4-17.5 (Composite)				12.5 - 17.5	--	<5	--	--	**<0.050**	<0.050	<0.050	<0.050	--	--	--	--	--	--	--	--
	RS4-22.5/RS4-27.5 Composite				22.5-27.5	--	<5	--	--	**<0.050**	<0.050	<0.050	0.096^{J}	--	--	--	--	--	--	--	--
	RS4-37.5				37.5	2.5	6.6^{J}	--	--	**<0.050**	<0.050	<0.050	<0.050	--	--	--	--	--	--	--	--
SCLB-5/MW-3	RS5-2.5/RS5-7.5 (Composite)	3/16/1993	EPJ	OnSite	2.5-7.5	--	<20	<50	400	--	--	--	--	--	--	--	--	--	--	--	--
	RS5-12.5/RS5-17.5 (Composite)				12.5-17.5	--	**46**	--	--	**0.88**	0.28	0.97	1.37	--	--	--	--	--	--	--	--
	RS5-17.5				17.5	21.5	--	430	--	--	--	--	--	--	--	--	--	--	--	--	--
	RS5-22.5				22.5	16.5	17^{J}	--	--	**0.2**	0.099^{J}	0.33	0.446	--	--	--	--	--	--	--	--
	RS5-32.5				32.5	6.5	7.2^{J}	--	<25	**0.056**^{J}	<0.050	0.061	0.15	--	--	--	--	--	--	--	--
	RS5-37.5				37.5	1.5	<5	--	--	**<0.050**	<0.050	<0.050	<1.00	--	--	--	--	--	--	--	--
SCLB-6/MW-4	RS6-2.5	03/17/93	EPJ	OnSite	2.5	37.5	<20	<50	770	--	--	--	--	--	--	--	--	--	--	--	--
	RS6-7.5				7.5	32.5	<20	<50	770	--	--	--	--	--	--	--	--	--	--	--	--
	RS6-12.5				12.5	27.5	<20	<50	190	--	--	--	--	--	--	--	--	--	--	--	--
	RS6-17.5/RS6-22.5 (Composite)				17.5-22.5	--	<5.0	--	--	**<0.050**	<0.050	<0.050	0.092^{J}	--	--	--	--	--	--	--	--
	RS6-27.5				27.5	12.5	<5.0	--	--	**<0.050**	<0.050	<0.050	<1.00	--	--	--	--	--	--	--	--
SCLB-7/MW-5	RS7-2.5	03/17/93	EPJ	OnSite	2.5	37.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS7-7.5				7.5	32.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS7-12.5				12.5	27.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS7-17.5				17.5	22.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
	RS7-22.5				22.5	17.5	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	MW6-25	10/11/93	Retec	ARI	25	13.2	19	--	--	**3.5**	0.23	0.44	0.93	--	--	--	--	--	--	--	--
MW-7	MW7-16.5	10/11/93	Retec	ARI	16.5	18.6	**4,100**	--	--	**7.1**	**160**	**54**	**300**	--	--	--	--	--	--	--	--
	MW7-18.5		Retec	ARI	18.5	16.6	**840**	--	--	**2.2**	**30**	**12**	**62**	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

Table 4
Soil Analytical Results for Petroleum Hydrocarbons and Chlorinated Volatile Organic Compounds
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Approximate Sample Elevation(1) (feet)	Analytical Results (mg/kg)														
							GRPH(2)	DRPH(3)	ORPH(3)	Benzene(4)	Toluene(4)	Ethylbenzene(4)	Total Xylenes(4)	PCE(5)	TCE(5)	cis 1,2-DCE(5)	trans 1,2-DCE(5)	Vinyl Chloride(5)	1,1-DCE(5)	Methylene Chloride(5)	Naphthalene(6)
MW-8	MW8-20	10/18/93	Retec	AAL	20	13.2	<5.0	--	--	**<0.059**	<0.059	<0.059	<0.12	--	--	--	--	--	--	--	--
MW-9	MW9-17.5	10/18/93	Retec	AAL	17.5	23.6	<5.0	--	--	**<0.068**	<0.068	<0.068	<0.14	--	--	--	--	--	--	--	--
MW10	MW10-17.5	10/19/93	Retec	AAL	17.5	20.5	<5.0	--	--	**<0.068**	<0.068	<0.068	<0.14	--	--	--	--	--	--	--	--
RB1	RB1-17.5	10/18/93	Retec	AAL	17.5	18.4	<5.0	--	--	**<0.063**	<0.063	<0.063	<0.13	--	--	--	--	--	--	--	--
RB2	RB2-12.5	10/18/93	Retec	AAL	12.5	23.6	<5.0	--	--	**<0.062**	<0.062	<0.062	<0.012	--	--	--	--	--	--	--	--
	RB2-17.5		Retec	AAL	17.5	18.6	<5.0	--	--	**0.045**[J]	<0.062	0.058[J]	0.18	--	--	--	--	--	--	--	--
RB3	RB3-17.5	10/18/93	Retec	AAL	17.5	20.5	<5.0	--	--	**<0.061**	<0.061	<0.061	<0.12	--	--	--	--	--	--	--	--
SCL-B100	B-100, S1	06/10/02	Urban	F&BI	NA	--	<1	<50	--	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	B-100, S2				NA	--	<1	<50	--	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
SCL-B101	B-101- S1&2	06/17/02	Urban	F&BI	NA	--	2	140	--	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	B101-S3				NA	--	<1	<50	--	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
East-Adjoining Properties - 800 Roy Street Parcel																					
SCL-B102	B102-S2	06/17/02	Urban	F&BI	NA	--	<1	<50	--	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	B102-S1				NA	--	6	430	--	0.03	0.09	0.04	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
SCL-MW101	MW101-S3	06/14/02	Urban	F&BI	NA	--	<1	--	--	**0.07**	<0.02	0.04	0.05	--	--	--	--	--	--	--	--
SCL-MW102	MW-102, S1	06/10/02	Urban	F&BI	NA	--	**99**	--	--	**0.67**	0.47	1.0	2.5	--	--	--	--	--	--	--	--
	MW-102, S2				NA	--	2	--	--	**0.05**	<0.02	0.12	0.07	--	--	--	--	--	--	--	--
SCL-MW103	MW103-S1&S2	06/14/02	Urban	F&BI	NA	--	<1	--	--	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	--
SCL-MW105	MW-105, S2	06/10/02	Urban	F&BI	NA	--	**650**	--	--	**2.1**	1.5	**11**	**24**	--	--	--	--	--	--	--	--
	MW-105, S4				NA	--	<1	--	--	**0.05**	<0.02	<0.02	0.03	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil							**30(7)**	**2,000(7)**	**2,000(7)**	**0.03(7)**	**7(7)**	**6(7)**	**9(7)**	**0.05(7)**	**0.03(7)**	**160(8)**	**1,600(8)**	**0.67(8)**	**4,000(8)**	**0.02(7)**	**5(7)**

NOTES:

RED indicates concentration exceeds MTCA Method A and/or B cleanup level.

Black indicates laboratory reporting limit is above MTCA Cleanup Level.

(1)Sample elevations calculated by subtracting the sample depth from the top of monument elevation, as surveyed by Bush, Roed & Hitchings, Inc. of Seattle, Washington, in February, October, and December 2012 and March 2013, using the North American Vertical Datum 1988. For historical sample locations not surveyed in 2012 or 2013, the elevations were estimated using City of Seattle's GIS 2-foot interval topographic contours.

(2)Analyzed by Method WTPH-HCID, EPA Method 8020, EPA Method 8015M, or NWTPH-Gx.

(3)Analyzed by Method WTPH-HCID, EPA Method 8015M, ORPH analyzed by EPA Method WTPH-HCID, or Method 418.1.

(4)Analyzed by EPA Methods 8020, 8021B, 8260B, 624/8240, or 8260C.

(5)Analyzed by EPA Methods 8010, 8260B, or 8260C.

(6)Analyzed by EPA Methods 8010, 8260B, 8260C, 8270, 8270D, or 8270D-SIM.

(7)MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, revised November 2007.

(8)MTCA Cleanup Regulation, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Notes:

[B]Analyte detected in an associated Method Blank.

[J]Estimated concentration.

[T]Analyte also detected in trip blank.

-- = not analyzed or not measured

< = not detected at a concentration exceeding laboratory reporting limit

> = concentration of analyte is greater than the laboratory detection limit, but not quantified

AAL = Alden Analytical Laboratories, Inc., of Seattle, Washington

ARI = Analytical Resources, Inc.

B & V = Black & Veatch

bgs = below ground surface

CLARC = cleanup levels and risk calculations

DCE = dichloroethylene

DRPH = diesel-range petroleum hydrocarbons

DUP = duplicate

EPA = U.S. Environmental Protection Agency

EPJ = E.P. Johnson Construction, Inc. & Environmental

F&BI = Friedman & Bruya, Inc., of Seattle, Washington

GeoEngineers = GeoEngineers, Inc.

GRPH = gasoline-range petroleum hydrocarbons

mg/kg = milligrams per kilogram

MTCA = Washington State Model Toxics Control Act

NA = results not available

NCA = North Creek Analytical, of Bothell, Washington

ND = not detected above laboratory reporting limit; reporting limit not available

NWTPH = northwest total petroleum hydrocarbon

OnSite = OnSite Environmental Inc., of Redmond, Washington

ORPH = oil-range petroleum hydrocarbons

PCE = tetrachloroethylene

Retec = Remediation Technologies, Inc.

Roux = Roux Associates

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethylene

ThermoRetec = ThermoRetec Corporation

Urban = Urban Redevelopment LLC

WAC = Washington State Administrative Code

Windward = Windward Environmental LLC

Table 5
Excavation Soil Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Analytical Results (mg/kg)															
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	1,2-DCE(4)	1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Napthalene(5)	Total PAHs(6)(7)
The Property																					
Sump No. 4	Sump4_Soil_01	07/22/11	SoundEarth	F&BI	1	--	--	--	<0.03	<0.05	<0.05	<0.15	**19**	**0.037**	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Excavation 1	EX01-S01-04	02/09/12	SoundEarth	F&BI	4	--	--	--	--	--	--	--	**14**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	EX01-S02-02.5				2.5	--	--	--	--	--	--	--	**3.7**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	EX01-S03-05				5	--	--	--	--	--	--	--	**19**	**0.052**	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
	EX01S04-4.2[ht]	02/10/12			4.2	--	--	--	--	--	--	--	**150**	**0.44**	<0.05	<0.05	<0.05	<0.05	0.92[lc]	--	--
	EX01S05-6[ht]				6	--	--	--	--	--	--	--	**190**	**0.38**	0.23	<0.05	<0.05	<0.05	0.51[lc]	--	--
	EX01S07-2.5[ht]				2.5	--	--	--	--	--	--	--	**5.4**	<0.03	<0.05	<0.05	<0.05	<0.05	0.52[lc]	--	--
	EX01-S18-07.5	03/21/12			7.5	--	--	--	--	--	--	--	**0.98**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	--	--
Tank 1 Excavation	Tank1-SSW06	03/22/13	SoundEarth	F&BI	6	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank1-WSW06				6	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank1-F08				8	--	120[x]	340	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 2 Excavation	Tank2-NSW06	03/22/13	SoundEarth	F&BI	6	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank2-F08				8	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 3 Excavation	Tank3-ESW05	03/22/13	SoundEarth	F&BI	5	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank3-SSW05				5	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank3-F08				8	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 4 Excavation	Tank4-NSW08	03/22/13	SoundEarth	F&BI	8	--	460[x]	360	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank4-F10				10	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 5 Excavation	Tank5-ESW02	03/22/13	SoundEarth	F&BI	2	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank5-WSW02				2	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tank5-F03				3	--	<50	<250	--	--	--	--	--	--	--	--	--	--	--	--	--
East-Adjoining Properties - 753 9th Avenue North Parcel																					
Tank 1 and 2 Excavation	T12-SPLS-1	07/22/92	GeoTech	OnSite	7	**3,000**[M]	--	--	**<0.25**	1	**22**	**111**	--	--	--	--	--	--	--	--	--
	T12-B-1	07/22/92	GeoTech	OnSite	14	**80**	--	--	**0.6**	0.06	0.92	2.24	--	--	--	--	--	--	--	--	--
	T12-CL-1	07/22/92	GeoTech	OnSite	4	<50	--	--	**<0.05**	<0.05	<0.05	<0.10	--	--	--	--	--	--	--	--	--
Tank 3 Excavation	T3-SPLS-2	07/22/92	GeoTech	OnSite	7.5	**1,700**[M]	--	--	**<0.05**	1.6	4.6	**9.5**	--	--	--	--	--	--	--	--	--
	T3-CL-1	07/22/92	GeoTech	OnSite	4	<50	--	--	**<0.05**	<0.05	<0.05	<0.10	--	--	--	--	--	--	--	--	--
East-Adjoining Properties - 800 Roy Street Parcel																					
RS-01	RS-1	03/01/93	EPJ	OnSite	3	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-02	RS-2	03/01/93	EPJ	OnSite	6	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-04	RS-4	03/03/93	EPJ	OnSite	7	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-05	RS-5	03/03/93	EPJ	OnSite	9	**1,700**	--	--	**<0.25**	1.5	**8.3**	**29.2**	--	--	--	--	--	--	--	--	--
RS-06	RS-6	03/03/93	EPJ	OnSite	8	**88**	--	--	**<0.05**	< 0.05	< 0.05	0.31	--	--	--	--	--	--	--	--	--
RS-07	RS-7	03/03/93	EPJ	OnSite	7	**1,500**	--	--	**<0.25**	1.4	**9.6**	**69**	--	--	--	--	--	--	--	--	--
RS-08	RS-8	03/03/93	EPJ	OnSite	8	**3,400**	--	--	**<0.25**	1.2	**21**	**71**	--	--	--	--	--	--	--	--	--
RS-09	RS-9	03/03/93	EPJ	OnSite	7	24	--	--	**<0.05**	<0.05	0.066	**20.8**	--	--	--	--	--	--	--	--	--
RS-10	RS-10	03/03/93	EPJ	OnSite	13	**140**	--	--	**2.3**	0.32	1.1	2.49	--	--	--	--	--	--	--	--	--
RS-11	RS-11	03/03/93	EPJ	OnSite	8	**60**	--	--	**0.15**	0.0088	0.18	0.5	--	--	--	--	--	--	--	--	--
RS-12	RS-12	03/03/93	EPJ	OnSite	10	**3,800**	--	--	**2.5**	1.4	**14**	**20.8**	--	--	--	--	--	--	--	--	--
RS-13	RS-13	03/03/93	EPJ	OnSite	9	**3,100**	--	--	**4.1**	1.4	**27**	**26**	--	--	--	--	--	--	--	--	--
RS-14	RS-14	03/03/93	EPJ	OnSite	8	**1,100**	--	--	**0.69**	2.2	**7.3**	**33**	--	--	--	--	--	--	--	--	--
RS-15	RS-15	03/03/93	EPJ	OnSite	4	**1,900**	--	--	**5.1**	1.7	**28**	**279**	--	--	--	--	--	--	--	--	--
RS-16	RS-16	03/03/93	EPJ	OnSite	4	**15,000**	--	--	**100**	**260**	**170**	**460**	--	--	--	--	--	--	--	--	--
RS-17	Stockpile	03/04/93	EPJ	OnSite	--	**18,000**[B,E]	--	--	**170**[E]	**300**[B,E]	**200**[E]	**530**[E]	--	--	--	--	--	--	--	--	--
RS-18	Stockpile	03/04/93	EPJ	OnSite	--	**1,700**[B]	--	--	**1.5**	**7.4**	4.8	**41**	--	--	--	--	--	--	--	--	--
RS-19	Stockpile - Sludge from cleaning out USTs 1 and 2	03/10/93	EPJ	OnSite	--	**120,000**[E]	--	--	**1,700**[E]	**2,200**[E]	**1,200**[E]	**3,200**[E]	--	--	--	--	--	--	--	--	--
RS-21	RS-21	03/05/93	EPJ	OnSite	20	**3,700**	--	--	**3**	**79**[E]	**45**[E]	**226**[E]	<0.050	<0.050	--	<0.050	<0.050	<0.050	<0.050	--	--
RS-22	RS-22	03/05/93	EPJ	OnSite	10	**6,900**	--	--	**<0.25**	1.1	**16**	**73**[E]	<0.040	<0.040	--	<0.040	<0.040	<0.040	<0.040	--	--
RS-23	Stockpile	03/05/93	EPJ	OnSite	--	**4,600**	--	--	**0.88**	**18**	**42**[E]	**199**[E]	--	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil						**30(8)**	**2,000(8)**	**2,000(8)**	**0.03(8)**	**7(8)**	**6(8)**	**9(8)**	**0.05(8)**	**0.03(8)**	**160(9)**	**1,600(9)**	**0.67(9)**	**4,000(9)**	**0.02(9)**	**5(8)**	**0.1(8)(10)**

Table 5
Excavation Soil Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Analytical Results (mg/kg)															
						GRPH$^{(1)}$	DRPH$^{(2)}$	ORPH$^{(2)}$	Benzene$^{(3)}$	Toluene$^{(3)}$	Ethylbenzene$^{(3)}$	Total Xylenes$^{(3)}$	PCE$^{(4)}$	TCE$^{(4)}$	1,2-DCE$^{(4)}$	1,2-DCE$^{(4)}$	Vinyl Chloride$^{(4)}$	1,1-DCE$^{(4)}$	Methylene Chloride$^{(4)}$	Napthalene$^{(5)}$	Total PAHs$^{(6)(7)}$
East-Adjoining Properties - 800 Roy Street Parcel																					
RS-24	Stockpile	03/05/93	EPJ	OnSite	--	15	--	--	**<0.050**	<0.050	0.070	0.32	--	--	--	--	--	--	--	--	--
RS-25	Stockpile	03/05/93	EPJ	OnSite	--	**2,600**	--	--	**<0.25**	**7.4**	**18**	**129**^{E}	--	--	--	--	--	--	--	--	--
RS-26	RS-26	03/08/93	EPJ	OnSite	20	**3,700**^{B}	--	--	**6.3**	**76**^{B,E}	**50**^{E}	**216**^{E}	--	--	--	--	--	--	--	--	--
RS-26A	Pit #3	03/16/93	EPJ	OnSite	20	**1,100**	--	--	**2.5**	**25**	**15**	**76**^{E}	--	--	--	--	--	--	--	--	--
RS-27	RS-27	03/08/93	EPJ	OnSite	6	15^{B,J}	--	--	**<0.050**	0.33^{B}	0.19	0.95^{B}	--	--	--	--	--	--	--	--	--
RS-28	RS-28	03/08/93	EPJ	OnSite	6	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-29	RS-29	03/08/93	EPJ	OnSite	20	**2,000**^{B}	--	--	**0.86**	**24**^{B}	**33**	**168**^{B,E}	--	--	--	--	--	--	--	--	--
RS-30	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-31	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-32	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	<100	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-33	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	220	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-34	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	220	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-35	Stockpile	03/09/93	EPJ	OnSite	--	<20	<50	220	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-36	Stockpile	03/09/93	EPJ	OnSite	--	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RS-37	Stockpile	03/09/93	EPJ	OnSite	--	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PD-1	PD-1	06/28/93	Retec	AAL	19	**3,300**	--	--	**17**	**45**	**39**	**221**	--	--	--	--	--	--	--	--	--
PD-2	PD-2	06/28/93	Retec	AAL	10	<19	--	--	**<0.25**	<20	<10	<10.0	--	--	--	--	--	--	--	--	--
PD-3	PD-3	06/28/93	Retec	AAL	17	**1,700**	--	--	**7.5**	<20	**12**	**60**	--	--	--	--	--	--	--	--	--
PD-4	PD-4	06/28/93	Retec	AAL	17	<19	--	--	**<0.25**	<20	<10	<10.0	--	--	--	--	--	--	--	--	--
PD-5	PD-5	06/28/93	Retec	AAL	10	<19	--	--	**<0.25**	<20	<10	<10.0	--	--	--	--	--	--	--	--	--
TS1	TS1-17	09/27/93	Retec	ARI	17	**110**	--	--	**0.29**	1.8	2.1	**11**	--	--	--	--	--	--	--	--	--
TS2	TS2-15	09/27/93	Retec	ARI	15	**41**	--	--	**0.14**	<0.064	0.46	0.67	--	--	--	--	--	--	--	--	--
TS4	TS4-25	10/04/93	Retec	ARI	25	**1,400**	--	--	**8.2**	**51**	**22**	**120**	--	--	--	--	--	--	--	--	--
TS5	TS5-10	10/04/93	Retec	ARI	10	**1,200**	--	--	**<0.58**	**9.3**	**10**	**68**	--	--	--	--	--	--	--	--	--
TS6	TS6-19	10/04/93	Retec	ARI	19	**1,300**	--	--	**7.7**	**43**	**22**	**120**	--	--	--	--	--	--	--	--	--
TS7	TS7-15	10/04/93	Retec	ARI	15	<5.0	--	--	**<0.056**	<0.056	<0.056	<0.11	--	--	--	--	--	--	--	--	--
TS8	TS8-25	10/04/93	Retec	ARI	25	**560**	--	--	**3.5**	**20**	**9.1**	**50**	--	--	--	--	--	--	--	--	--
TS9	TS9-25	10/04/93	Retec	ARI	25	**1,600**	--	--	**2.9**	**7.6**	**24**	**110**	--	--	--	--	--	--	--	--	--
TS10	TS10-15	10/06/93	Retec	ARI	15	**37**	--	--	**0.1**	0.82	0.82	4.3	--	--	--	--	--	--	--	--	--
TS11	TS11-10	10/06/93	Retec	ARI	10	<5.0	--	--	**<0.056**	<0.056	<0.056	<0.113	--	--	--	--	--	--	--	--	--
TS12	TS12-10	10/06/93	Retec	ARI	10	<5.0	--	--	**<0.056**	<0.056	<0.056	<0.113	--	--	--	--	--	--	--	--	--
TS13	TS13-18	10/06/93	Retec	ARI	18	**360**	--	--	**4.8**	4.6	4.6	**27**	--	--	--	--	--	--	--	--	--
TS15	TS15-15	10/14/93	Retec	AAL	15	**1,500**	--	--	**3.3**	**28**	**23**	**130**	--	--	--	--	--	--	--	--	--
SP-1	SP-1 (S-1)	06/11/02	Urban	F&BI	NA	7	**2,400**	--	--	--	--	--	--	--	--	--	--	--	--		**0.18**
	SP-1 (S-2)				NA	2	110	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-2	SP-2 (S-1)	06/11/02	Urban	F&BI	NA	<1	740	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SP-2 (S-2)				NA	<1	230	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-3	SP-3 (S-1)	06/11/02	Urban	F&BI	NA	--	670	--	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	--		**0.18**
SP-4	SP-4 (S-1)	06/11/02	Urban	F&BI	NA	--	320	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-5	SP-5 (S-1)	06/11/02	Urban	F&BI	NA	--	280	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-6	SP-6 (S-1)	06/11/02	Urban	F&BI	NA	--	190	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SP-6 (S-2)				NA	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-7	SP-7 (S-1)	06/11/02	Urban	F&BI	NA	--	210	--	--	--	--	--	--	--	--	--	--	--	--	NA	**0.14**
SP-8	SP-8 (S-1)	06/11/02	Urban	F&BI	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-9	SP-9 (S-1)	06/11/02	Urban	F&BI	NA	**32**	1,800	--	**0.14**	0.17	0.13	0.47	--	--	--	--	--	--	--	--	--
	SP-9 (S-2)				NA	**500**	--	--	**0.94**	1.7	3.3	5.1	--	--	--	--	--	--	--	--	--
SP-10	SP-10 (S-2)	06/11/02	Urban	F&BI	NA	**3,400**	--	--	**9.6**	**11**	**60**	**240**	--	--	--	--	--	--	--	--	--
SP-11	SP-11 (S-1)	06/11/02	Urban	F&BI	NA	<1	--	--	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	--	--
SP-12	SP-12 (S-1)	06/11/02	Urban	F&BI	NA	9	--	--	**0.10**	0.07	0.04	0.06	--	--	--	--	--	--	--	--	--
SP-13	SP-13 (S-1)	06/11/02	Urban	F&BI	NA	26	--	--	**0.34**	0.17	0.03	0.15	--	--	--	--	--	--	--	--	--
SP-14	SP-14 (S-1)	06/11/02	Urban	F&BI	NA	**600**	--	--	**0.81**	3.3	**9.7**	**36**	--	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil						**30**$^{(8)}$	**2,000**$^{(8)}$	**2,000**$^{(8)}$	**0.03**$^{(8)}$	**7**$^{(8)}$	**6**$^{(8)}$	**9**$^{(8)}$	**0.05**$^{(8)}$	**0.03**$^{(8)}$	**160**$^{(9)}$	**1,600**$^{(9)}$	**0.67**$^{(9)}$	**4,000**$^{(9)}$	**0.02**$^{(8)}$	**5**$^{(8)}$	**0.1**$^{(8)(10)}$

Table 5
Excavation Soil Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Analytical Results (mg/kg)															
						GRPH(1)	DRPH(2)	ORPH(2)	Benzene(3)	Toluene(3)	Ethylbenzene(3)	Total Xylenes(3)	PCE(4)	TCE(4)	1,2-DCE(4)	1,2-DCE(4)	Vinyl Chloride(4)	1,1-DCE(4)	Methylene Chloride(4)	Napthalene(5)	Total PAHs(6)(7)
East-Adjoining Properties - 800 Roy Street Parcel																					
SP-15	SP-15 (S-6)	06/11/02	Urban	F&BI	NA	<1	--	--	<0.02	<0.02	<0.02	<0.02	--	--	--	--	--	--	--	--	--
SP-16	SP16 (S1 & S2)	06/12/02	Urban	F&BI	NA	--	650	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SP16 (S-5)				NA	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SP16 (S-6)				NA	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	SP16 (S-7)				NA	--	<50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SP-17	SP 17 (S-2)	06/12/02	Urban	F&BI	NA	**530**	--	--	**2.6**	**24**	**15**	**66**	--	--	--	--	--	--	--	--	--
	SP 17 (S-3)				NA	11	--	--	**0.04**	0.07	0.29	0.26	--	--	--	--	--	--	--	--	--
SP-18	SP 18 (S-2)	06/12/02	Urban	F&BI	NA	**2,600**	--	--	**12**	**83**	**74**	**320**	--	--	--	--	--	--	--	--	--
SP-19	SP 19 (S-1)	06/12/02	Urban	F&BI	NA	**85**	570	--	**2.2**	1.0	1.9	3.6	--	--	--	--	--	--	--	--	--
	SP 19 (S-2)				NA	**4,100**	--	--	**16**	**120**	**110**	**500**	--	--	--	--	--	--	--	--	--
SP-20	SP20 (S-2-5')	06/12/02	Urban	F&BI	NA	5	--	--	**0.14**	0.03	0.15	0.26	--	--	--	--	--	--	--	--	--
	SP20 (S-2-8')				NA	<1	--	--	**0.07**	<0.02	<0.02	0.05	--	--	--	--	--	--	--	--	--
SP-21	SP-21 (S-1)	06/12/02	Urban	F&BI	NA	25	350	--	**0.84**	0.23	0.17	0.17	--	--	--	--	--	--	--	--	--
	SP-21 (S-2)				NA	**1,200**	--	--	**3.5**	**12**	**19**	**52**	--	--	--	--	--	--	--	--	--
MTCA Cleanup Level for Soil						**30(8)**	**2,000(8)**	**2,000(8)**	**0.03(8)**	**7(8)**	**6(8)**	**9(8)**	**0.05(8)**	**0.03(8)**	**160(9)**	**1,600(9)**	**0.67(9)**	**4,000(9)**	**0.02(8)**	**5(8)**	**0.1(8)(10)**

NOTES:

All samples analyzed by U.S. Environmental Protection Agency Method 8260B.

RED indicates concentration exceeds MTCA Method A and/or B cleanup level.

Black indicates laboratory reporting limit is above MTCA Cleanup Level.

(1)Analyzed by Method WTPH-HCID, EPA Method 8020, EPA Method 8015M, or NWTPH-Gx.

(2)Analyzed by Method WTPH-HCID, EPA Method 8015M, ORPH analyzed by EPA Method WTPH-HCID, or Method 418.1.

(3)Analyzed by EPA Methods 8020, 8021B, 8260B, 624/8240, or 8260C.

(4)Analyzed by EPA Methods 8010, 8260B, or 8260C.

(5)Analyzed by EPA Methods 8010, 8260B, 8260C, 8270, 8270D, or 8270D-SIM.

(6)Analyzed by EPA Method 8270D-SIM.

(7)When determining the total toxic equivalent concentration (TEC) of benzo(a)pyrene for a sample, the concentrations of each of the seven carcinogenic PAHs listed in table 708-2 is multiplied by its corresponding total equivalency factor (TEF). The sum of these seven factors equal the total TEC. When the analytical result for any individual cPAH is reported as less than the LRL, half of the LRL is used as the concentrations for the calculation. The resultant total TEC concentration is then compared to the cleanup level for benzo(a)pyrene.

(8)MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, revised November 2007.

(9)MTCA Cleanup Regulation, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

(10)The cleanup level for carcinogenic PAHs is based on direct contact using Equation 740-2 under WAC 173-340-740. When establishing and determining compliance with cleanup levels for mixtures of carcinogenic PAHs, the mixture of carcinogenic PAHs is considered a single hazardous substance. Benzo(a)pyrene's cleanup level is used as the cleanup level for the mixture.

Laboratory Notes:

B Analyte detected in an associated Method Blank.

E Estimated value. The reported range exceeds the calibration range of the analysis.

J Estimated concentration.

M Headspace present in sample.

S Indicates an estimated value of analyte found and confirmed by analyst, but with low spectral match parameters.

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

-- = not analyzed or not measured
< = not detected at a concentration exceeding laboratory reporting limit
AAL = Alden Analytical Laboratories, Inc., of Seattle, Washington
ARI = Analytical Resources, Inc.
bgs = below ground surface
CLARC = cleanup levels and risk calculations
DCE = dichloroethylene
DRPH = diesel-range petroleum hydrocarbons
EPA = U.S. Environmental Protection Agency
EPJ = E.P. Johnson Construction, Inc. & Environmental
F&BI = Friedman and Bruya, Inc., of Seattle, Washington
GeoTech = GeoTech Consultants, Inc.
GRPH = gasoline-range petroleum hydrocarbons
LRL = laboratory reporting limit
mg/kg = milligrams per kilogram
MTCA = Washington State Model Toxics Control Act
NA = results not available
ND = not detected above laboratory reporting limit. Reporting limit not available
NWTPH = northwest total petroleum hydrocarbon
OnSite = OnSite Environmental Inc., of Redmond, Washington
ORPH = oil-range petroleum hydrocarbons
PAHs = polycyclic aromatic hydrocarbons
PCE = tetrachloroethylene
Retec = Remediation Technologies, Inc.
SoundEarth = SoundEarth Strategies, Inc.
TCE = trichloroethylene
TEC = toxicity equivalent concentration
TEF = total equivalency factor
Urban = Urban Redevelopment LLC
UST = underground storage tank
WAC = Washington State Administrative Code

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Table 6
Soil Analytical Results for Metals
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Laboratory	Sample Depth (feet bgs)	Analytical Results (milligrams per kilogram)							
						Arsenic(1)	Barium(1)	Cadmium(1)	Chromium(1)	Lead(1)	Mercury(2)	Selenium(1)	Silver(1)
The Property													
Tank 2 Excavation	Tank2-F08	03/22/13	SoundEarth	F&BI	8	1.81	39.4	<1	10.8	6.94	0.28	<1	<1
East-Adjoining Properties - 800 Roy Street Parcel													
RS-05	RS-5	03/03/93	EPJ	SAS	9	--	--	--	--	32	--	--	--
RS-10	RS-10	03/03/93	EPJ	SAS	13	--	--	--	--	71	--	--	--
RS-15	RS-15	03/03/93	EPJ	SAS	4	--	--	--	--	**480**	--	--	--
RS-16	RS-16	03/03/93	EPJ	SAS	4	--	--	--	--	80	--	--	--
RS-17 & RS-24	RS-17/RS-24	03/03-04/93	EPJ	SAS	--	<4.2	260	1.4	24	120	0.33	<4.2	0.79
SCL-B100	B-100, S1	06/10/02	Urban	F&BI	NA	<10	50	<1.0	25	4.5	<0.200	<10	<10
	B-100, S2				NA	<10	45	<1.0	24	4.1	<0.200	<10	<10
SP-1	SP-1 (S-1)	06/11/02	Urban	F&BI	NA	<10	170	<1.0	24	140	1.28	<10	<10
SP-2	SP-2 (S-2)	06/11/02	Urban	F&BI	NA	<10	83	1.7	18	44	<0.200	<10	<10
SP-3	SP-3 (S-1)	06/11/02	Urban	F&BI	NA	<10	120	<1.0	20	230	1.32	<10	<10
SP-7	SP-7 (S-1)	06/11/02	Urban	F&BI	NA	16	230	1.0	18	**410**	**2.81**	<10	<10
SP-16	SP16 (S1 & S2)	06/12/13	Urban	F&BI	NA	<10	400	<1.0	30	220	0.247	<10	<10
SCL-B101	B-101- S1&2	06/17/02	Urban	F&BI	NA	<10	170	<1.0	18	230	NA	<10	<10
	B101-S3				NA	<10	82	<1.0	27	5.3	NA	<10	<10
SCL-B102	B102-S2	06/17/02	Urban	F&BI	NA	<10	59	<1.0	28	9.9	NA	<10	<10
	B102-S1				NA	<10	210	<1.0	24	440	NA	<10	<10
SCL-MW-101	MW101-S3	06/14/02	Urban	F&BI	NA	<10	27	<1.0	16	3.6	NA	<10	<10
SCL-MW-103	MW103-S1&S2	06/14/02	Urban	F&BI	NA	<10	35	<1.0	33	4.5	NA	<10	<10
MTCA Cleanup Level						**20(3)**	**16,000(4)**	**2(3)**	**2,000[a]**	**250(3)**	**2(3)**	**400(4)**	**400(4)**

NOTES:

RED indicates concentration exceeds MTCA Cleanup Level for soil.

(1)Analyzed by EPA Methods 200.8 or 6010.

(2)Analyzed by EPA Method 1631E or 7471.

(3)MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, revised November 2007.

(4)MTCA Cleanup Regulation, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed or not measured
< = not detected at a concentration exceeding laboratory reporting limit
bgs = below ground surface
CLARC = cleanup levels and risk calculations
EPA = U.S. Environmental Protection Agency
EPJ = E.P. Johnson Construction, Inc. & Environmental
F&BI = Friedman and Bruya, Inc., of Seattle, Washington
MTCA = Washington State Model Toxics Control Act
NA = results not available
SAS = SoundAnalytical Services, Inc., of Tacoma, Washington
SoundEarth = SoundEarth Strategies, Inc.
Urban = Urban Redevelopment LLC
WAC = Washington State Administrative Code

Table 7
Metal Toxicity Characteristic Leaching Procedure Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Sample Depth (feet bgs)	Analytical Results (milligrams per liter)							
					Arsenic(1)	Barium(1)	Cadmium(1)	Chromium(1)	Lead(1)	Mercury(2)	Selenium(1)	Silver(1)
East-Adjoining Properties - 800 Roy Street Parcel												
RS-19	Stockpile - Sludge from cleaning out USTs 1 and 2	03/10/93	EPJ	--	0.20	0.42	0.50	0.01	2.8	<0.002	<0.14	<0.01
RS-25	Stockpile	03/05/93	EPJ	--	<0.10	1.0	<0.005	<0.01	0.29	<0.002	<0.15	<0.01
Dangerous Waste Characteristics[3]					**5.0**	**100**	**1.0**	**5.0**	**5.0**	**0.2**	**1.0**	**5**

NOTES:

Laboratory analyses conducted by SoundAnalytical Services, Inc., of Tacoma, Washington.

(1)Analyzed by EPA Method 6010.

(2)Analyzed by EPA Method 7471.

(3)Washington State Dangerous Waste Maximum Concentration of Contaminants for the Toxicity Characteristic, Chapter 173-303-090 of the Washington Administrative Code.

-- = not analyzed or not measured

< = not detected at a concentration exceeding laboratory reporting limit

bgs = below ground surface

EPA = U.S. Environmental Protection Agency

EPJ = E.P. Johnson Construction, Inc. & Environmental

UST = underground storage tank

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Table 8
Chlorinated Volatile Organic Compound Toxicity Characteristic Leaching Procedure Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Sampled By	Sample Depth (feet bgs)	Analytical Results[1] (milligrams per liter) PCE	TCE	1,1-DCE	Vinyl Chloride	EDC	MEK (2-Butanone)	Carbon Disulfide	Chloroform
The Property												
G-MW1	MW-1-8-20	07/20/01	GeoEngineers	20	**99.3**^{B}	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800
G-SB4/G-MW3	SB4-7-17.5	07/20/01	GeoEngineers	17.5	0.182^B	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800	<0.0800
Dangerous Waste Characteristics(2)					**0.7**	**0.5**	**0.7**	**0.2**	**0.5**	**200**	**NE**	**6**

NOTES:

Laboratory analyses conducted by North Creek Analytical, Inc. of Bothell, Washington.

RED indicates concentration exceeds Washington State's Dangerous Waste Characteristics.

(1)Samples analyzed by U.S. Environmental Protection Agency Method 1311/8260B.

(2)Washington State Dangerous Waste Maximum Concentration of Contaminants for the Toxicity Characteristic, Chapter 173-303-090 of the Washington Administrative Code.

Laboratory Note:

^{B}Analyte detected in an associated Method Blank.

< = not detected at a concentration exceeding laboratory reporting limit
bgs = below ground surface
DCE = dichloroethylene
EDC = 1,2-dichloroethane
GeoEngineers = GeoEngineers, Inc.
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethylene
TCE = trichloroethylene

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Table 9
Groundwater Analytical Results for Polycyclic Aromatic Hydrocarbons
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Date	Sampled By	Laboratory	Analytical Results[1] (µg/L)																
				Acenaphthene	Acenaphthylene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(g,h,i) perylene	Pentachlorophenol	Benzo(a) anthracene TEF: 0.1	Chrysene TEF: 0.01	Benzo(a)pyrene TEF: 1	Benzo(b) fluoranthene TEF: 0.1	Benzo(k) fluoranthene TEF: 0.1	Indeno(1,2,3- TEF: 0.1	Dibenz(a,h) TEF: 0.1	Total TEC[2]
East-Adjoining Properties - 800 Roy Street Parcel																				
MW-7	06/20/02	Urban	F&BI	1.4	0.1	1.5	2.8	0.5	0.4	0.6	0.5	<0.3	0.1	0.1	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
MW-9	06/20/02	Urban	F&BI	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MW-10	06/20/02	Urban	F&BI	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MTCA Cleanup Level				**960[3]**	**NE**	**640[3]**	**NE**	**4,800[3]**	**640[3]**	**480[3]**	**NE**	**0.22[4]**	**12[4]**	**0.012[4]**	**0.1[5]**	**0.12[4]**	**1.2[4]**	**0.12[4]**	**0.012[4]**	**0.1[5][6]**

NOTES:

[1] Samples Analyzed by U.S. Environmental Protection Agency Method 8270D.

[2] When determining the total TEC of benzo(a)pyrene for a sample, the concentrations of each of the seven carcinogenic PAHs listed in table 708-2 is multiplied by its corresponding TEF. The sum of these seven factors equal the total TEC. When the analytical result for any individual cPAH is reported as less than the LRL, half of the LRL is used as the concentrations for the calculation. When analytical results for all seven carcinogenic PAHs are less than the LRL, the LRL for benzo(a)pyrene is reported as the TEC. The resultant total TEC concentration is then compared to the cleanup level for benzo(a)pyrene.

[3] MTCA Cleanup Regulation, Chapter 173-340 of the WAC, CLARC, Groundwater, Method B, Non-carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4] MTCA Cleanup Regulation, Chapter 173-340 of the WAC, CLARC, Groundwater, Method B, Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[5] MTCA Method A Cleanup Levels, Table 720-1, Section 900, Chapter 173-340 of the WAC, revised November 2007.

[6] The cleanup level for cPAHs is based on direct contact using Equation 740-2 under WAC 173-340-740. When establishing and determining compliance with cleanup levels for mixtures of cPAHs, the mixture of cPAHs is considered a single hazardous substance. Benzo(a)pyrene's cleanup level is used as the cleanup level for the mixture.

< = not detected at a concentration exceeding laboratory reporting limit
µg/L = micrograms per liter
CLARC = cleanup levels and risk calculations
cPAH = carcinogenic polycyclic aromatic hydrocarbon
F&BI = Friedman & Bruya, Inc. of Seattle, Washington
MTCA = Washington State Model Toxics Control Act
NE = not established
TEC = toxicity equivalent concentration
TEF = total equivalency factor
Urban = Urban Redevelopment LLC
WAC = Washington Administrative Code

Table 10
Sludge Sample Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

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Sample Location	Sample ID	Sample Date	Sample Depth	Analytical Results(1) (milligrams per kilogram)										
				Benzene	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**PCE**	**TCE**	**cis-1,2-DCE**	**trans-1,2-DCE**	**Vinyl Chloride**	**1,1-DCE**	**Methylene Chloride**
Sump 2	Sump 2	04/26/11	--	<0.03	**12**	<0.05	3.3	15	0.11	0.10	<0.05	<0.05	<0.05	<0.05
Sump 3	Sump 3	05/02/11	--	<0.03	0.074	<0.05	0.12	<0.025	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05
Sump 4	Sump 4	04/26/11	--	<3	**35**	<5	**17**[J]	**85,000**	**520**	**410**	<5	<5	<5	<5
	SUMP4_B_20110629	06/29/11	--	<0.3	<0.5	<0.5	<1.03	**560**	5.4	27	<0.5	<0.5	<0.5	<0.5
	SUMP4_C_20110629	06/29/11	--	<30	<50	<50	<150	**24,000**	**140**	**170**	<50	<50	<50	<50
Sump 5	Sump 5	05/04/12	--	**0.60**	4.6	1.6	2.6	**1,200**	**180**	**880**	12	**31**	2.6	<0.2
Cleanout 1	Cleanout 1 S-1/S-2 (composite)	04/26/11	--	<0.03	<0.05	<0.05	<0.15	**5.5**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05
Cleanout 2	Clean out 2	05/02/11	--	**0.38**	6.0	1.7	**11.9**	**2.6**	0.14	1.0	<0.05	<0.05	<0.05	<0.05
Trench 1	01_Floor Trench	07/22/11	--	<0.03	<0.05	<0.05	<0.15	**0.10**	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil				**0.03(4)**	**7(4)**	**6(4)**	**9(4)**	**0.05(4)**	**0.03(4)**	**160(5)**	**1,600(5)**	**0.67(5)**	**4,000(5)**	**0.02(4)**
Dangerous Waste Criteria(2)				**NE**	**NE**	**NE**	**NE**	**14**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
Universal Treatment Standard(3)				**10**	**10**	**10**	**30**	**6**	**6**	**NE**	**30**	**6**	**6**	**30**

NOTES:

RED indicates concentration exceeds MTCA cleanup level for soil.

Chemical analyses conducted by Freidman Bruya Inc., of Seattle, Washington.

(1)Analyze indicates concentration is 10 times the Universal Treatment Standard and qualifies as land ban material.

(2)Washington State Dangerous Waste Maximum Concentration of Contaminants for the Toxicity Characteristic, Chapter 173-303-090 of the WAC.

(3)Nonwastewater Standards, table titled "Universal Treatment Standards," Title 40, Part 268, Subpart D, of the Code of Federal Regulations.

(4)MTCA Cleanup Regulation, Chapter 173-340-900 of WAC, Table 740-1 Method A Cleanup Levels for Soil, revised November 2007.

(5)MTCA Cleanup Regulation, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

Laboratory Note:

[J] Estimated concentration.

< = not detected at a concentration exceeding laboratory reporting limit
CLARC = cleanup levels and risk calculations
DCE = dichloroethylene
MTCA = Washington State Model Toxics Control Act
NE = not established
PCE = tetrachloroethylene
TCE = trichloroethylene
WAC = Washington Administrative Code

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Table 11
Process Water Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample ID	Sample Date	Analytical Results(1) (micrograms per liter)											
			pH(2)	Benzene	Toluene	Ethylbenzene	Total Xylenes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,1-DCE	Methylene Chloride
Sump 4	SUMP4_A_20110629	06/29/11	--	<35	<100	<100	<300	20,000	450	47,000	<100	<20	<100	<500
Effluent 1	Effluent1_20120104	01/04/12	5.76	--	--	--	--	260	49	32	<1	0.37	<1	<5
Poly Tank	Polytank1_20120823	08/23/13	--	--	--	--	--	270	<1	<1	<1	<0.2[pr]	<1	<5
	Tank-20130201	02/01/13	--	--	--	--	--	240	<1	<1	<1	<0.2	<1	<5
	Tank-20130205	02/05/13	--	--	--	--	--	5.3	<1	<1	<1	<0.2	<1	<5
King County Discharge Criteria			**5.5<pH>12(3)**	**70(4)**	**1,400(4)**	**1,700(4)**	**2,200(4)**	**240(4)**	**500(4)**	**2,000(4)**	**2,000(4)**	**12(4)**	**3(4)**	**4,100(4)**

NOTES:

Chemical analyses conducted by Freidman Bruya Inc., of Seattle, Washington.

RED indicates concentration exceeds King County's Discharge Criteria.

(1) Analyzed by EPA Method 8260C.

(2) Analyzed be EPA Method 9040C.

(3) King County Industrial Waste Local Discharge Permits, Daily Minimum and Maximum Limits for Corrosive Substances, Section 6.1.5 of PUT-13-1 (PR), Effective September 15, 2008.

(4) King County Industrial Waste Discharge Screening Levels for Volatile Organic Compounds, September 22, 2009.

Laboratory Note:

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

-- = not analyzed or not measured

< = not detected at a concentration exceeding the laboratory reporting limit

DCE = dichloroethylene

EPA = U.S. Environmental Protection Agency

PCE = tetrachloroethylene

TCE = trichloroethylene

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Table 12
2013 Remedial Investigation Boring and Well Details
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location ID	Location Type	Location on Site/Location in Relation to Property	Purpose of Sample Location	Date(s) Advanced	Water-Bearing Zone	Total Depth (feet bgs)	Total Well Depth (feet bgs)	TOC Elevation[1] (in Feet)	Well Screen Depth (feet bgs)		Well Screen Elevation		Well Diameter	Drill Rig Type	Conductor Casing Depth (feet bgs)
									Top	Bottom	Top	Bottom			
MW101/B101	Monitoring Well	Central portion of the Property	To further evaluate the vertical extent of PCE contamination in soil and groundwater as previously encountered in boring P-07/well W-MW-03 and to assess the validity of the Windward data.	07/10/12 07/11/12 07/12/12	Deep Outwash Aquifer	140	115	39.49	105	115	-65.51	-75.51	2	Sonic	40 & 80
MW102/B102	Monitoring Well	Southern sidewalk of Valley Street ROW, north-adjacent the Property	To evaluate if PCE contamination extended off-Property to the north.	07/17/12 through 07/23/12	Deep Outwash Aquifer	125	125	49.19	115	125	-65.81	-75.81	2	Sonic	--
MW103/B103	Monitoring Well	Alleyway between 8th And 9th Avenues North, east of Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	07/25/12 07/26/12 07/27 12	Deep Outwash Aquifer	115	114	35.92	103.5	113.5	-67.58	-77.58	2	Sonic	--
MW104/B104	Monitoring Well	8th Avenue North ROW, east of Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property and to assess the validity of Windward Data.	07/30/12 07/31/12 08/01/12	Deep Outwash Aquifer	130	129	42.68	119	129	-76.32	-86.32	2	Sonic	--
MW105/B105	Monitoring Well	Roy Street ROW, southeast of the Property	To assess the vertical extent of PCE impacts in groundwater observed in well BB-8.	08/06/12 through 08/10/12	Deep Outwash Aquifer	140	140	44.69	130	140	-85.31	-95.31	2	Sonic	--
MW106/B106	Monitoring Well	South-Adjoining Property	To evaluate current groundwater conditions in the vicinity of former monitoring well R-MW4.	08/14 /12 08/15/12	Deep Outwash Aquifer	140	140	51.99	130	140	-78.01	-88.01	2	Sonic	--
MW107/B107	Monitoring Well	8th Avenue North ROW, east of Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property and to assess the validity of Windward Data.	12/03/12	Intermediate "A"	45.5	45	43.82	35	45	8.82	-1.18	2	HSA	--
MW108/B108	Monitoring Well	Alley east of 800 Roy Street Parcel	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/14/12	Intermediate "A"	50.5	50	32.78	40	50	-7.22	-17.22	2	HSA	--
MW109/B109	Monitoring Well	Alley east of 800 Roy Street Parcel	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/04/12	Intermediate "A"	45.5	45	34.97	35	45	-0.03	-10.03	2	HSA	--
MW110/B110	Monitoring Well	Alley east of 800 Roy Street Parcel	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/04/12	Intermediate "A"	45.5	45	39.67	35	45	4.67	-5.33	2	HSA	--
MW111/B111	Monitoring Well	Alley east of 800 Roy Street Parcel	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/05/12 12/06/12	Intermediate "B"	80.5	80	36.48	70	80	-33.52	-43.52	2	HSA	50
MW112/B112	Monitoring Well	Dexter Avenue ROW, West of the Property	To evaluate if PCE contamination extended off-Property to the west.	12/11/12 12/12/12	Intermediate "B"	85.5	85	57.49	75	85	-17.51	-27.51	2	HSA	--
MW113/B113	Monitoring Well	9th Avenue North ROW, East of the Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/18/12	Deep Outwash Aquifer	80	80	32.94	70	80	-37.06	-47.06	2	HSA	--
MW114/B114	Monitoring Well	Broad Street ROW, South of the Property	To evaluate current groundwater conditions in the vicinity of former monitoring well R-MW4.	12/10/12	Intermediate "A"	45.5	45	45.84	35	45	10.84	0.84	2	HSA	--
MW115/B115	Monitoring Well	9th Avenue North ROW, East of the Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/13/12	Intermediate "A"	46	45	34.14	35	45	-0.86	-10.86	2	HSA	--
MW116/B116	Monitoring Well	9th Avenue North ROW, East of the Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	12/07/12	Intermediate "A"	46.5	45	31.36	35	45	-3.64	-13.64	2	HSA	--
MW117/B117	Monitoring Well	Eastern sidewalk of the Dexter Avenue ROW, south of the Property	To evaluate PCE impacts in groundwater inferred as hydrologically upgradient from the Property.	02/04/13	Intermediate "A"	55.5	55	56.90	40	55	16.90	1.90	2	HSA	--
MW118/B118	Monitoring Well	Mercer Street ROW, south of the Property	To evaluate PCE impacts in groundwater inferred as hydrologically upgradient from the Property.	03/21/13	Intermediate "A"	55.5	50	52.91	40	50	12.91	2.91	2	HSA	--
MW119/B119	Monitoring Well	9th Avenue North ROW, southeast of the Property	To evaluate the lateral and vertical extents of PCE contamination in soil and groundwater downgradient of the Property.	03/21/13	Intermediate "A"	46	45	37.35	35	45	2.35	-7.65	2	HSA	--

Table 12
2013 Remedial Investigation Boring and Well Details
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location ID	Location Type	Location on Site/Location in Relation to Property	Purpose of Sample Location	Date(s) Advanced	Water-Bearing Zone	Total Depth (feet bgs)	Total Well Depth (feet bgs)	TOC Elevation[(1)] (in Feet)	Well Screen Depth (feet bgs)		Well Screen Elevation		Well Diameter	Drill Rig Type	Conductor Casing Depth (feet bgs)
									Top	Bottom	Top	Bottom			
DB01	Soil Boring	Northwest portion of the Property	Delineate PCE contamination on the Property.	03/18/13	Intermediate "A"	41	--	--	--	--	--	--	--	HSA	--
DB02	Soil Boring	Northern portion of the Property	Delineate PCE contamination on the Property.	03/18/13	Intermediate "A"	45.5	--	--	--	--	--	--	--	HSA	--
DB03	Soil Boring	Northeast portion of the Property	Delineate PCE contamination on the Property.	03/27/13	Intermediate "A"	60.5	--	--	--	--	--	--	--	HSA	--
DB04	Soil Boring	Northwest portion of the Property	Delineate PCE contamination on the Property.	03/21/13 03/24/13	Intermediate "A"	60	--	--	--	--	--	--	--	HSA	--
DB05	Soil Boring	Southwest portion of the Property	Delineate PCE contamination on the Property.	03/26/13	Intermediate "B"	70.5	--	--	--	--	--	--	--	HSA	--
DB06	Soil Boring	Southern portion of the Property	Delineate PCE contamination on the Property.	03/25/13	Intermediate "B"	80.5	--	--	--	--	--	--	--	HSA	--
DB07	Soil Boring	South-central portion of the Property	Delineate PCE contamination on the Property.	03/27/13 03/28/13	Intermediate "B"	90.5	--	--	--	--	--	--	--	HSA	--
DB08	Soil Boring	Southeast portion of the Property	Delineate PCE contamination on the Property.	03/20/13 03/21/13	Intermediate "B"	70.5	--	--	--	--	--	--	--	HSA	--
DB09	Soil Boring	Southeast portion of the Property	Delineate PCE contamination on the Property.	03/19/13	Intermediate "B"	70.5	--	--	--	--	--	--	--	HSA	--
DB10	Soil Boring	Western portion of the Property	Delineate PCE contamination on the Property.	03/29/13 04/01/13	Intermediate "B"	71.5	--	--	--	--	--	--	--	HSA	--
DB11	Soil Boring	Southwest corner of the Property	Delineate PCE contamination on the Property.	04/02/13	Intermediate "A"	55	--	--	--	--	--	--	--	HSA	--
DB12	Soil Boring	North-central portion of the Property	Delineate PCE contamination on the Property.	04/03/13	Intermediate "A"	45.5	--	--	--	--	--	--	--	HSA	--
DB13	Soil Boring	Southwest portion of the Property	Delineate PCE contamination on the Property.	04/03/13	Intermediate "A"	45.5	--	--	--	--	--	--	--	HSA	--
DB14	Soil Boring	Northeast portion of the Property	Delineate PCE contamination on the Property.	04/04/13	Intermediate "A"	45.5	--	--	--	--	--	--	--	HSA	--
SV01	Soil Gas Monitoring Point	Eastern sidewalk of the 8th Avenue North ROW, adjacent to 800 Roy Street Parcel	To evaluate if vapor intrusion from PCE-contaminated groundwater beneath the 800 Roy Street Parcel had impacted indoor air quality in the basement	03/11/13	Shallow	12.25	--	--	--	--	--	--	--	Push Probe	--
SV02	Soil Gas Monitoring Point	Eastern sidewalk of the 8th Avenue North ROW, adjacent to 800 Roy Street Parcel	To evaluate if vapor intrusion from PCE-contaminated groundwater beneath the 800 Roy Street Parcel had impacted indoor air quality in the basement	03/11/13	Shallow	11.75	--	--	--	--	--	--	--	Push Probe	--
SV03	Soil Gas Monitoring Point	Eastern sidewalk of the 8th Avenue North ROW, adjacent to 800 Roy Street Parcel	To evaluate if vapor intrusion from PCE-contaminated groundwater beneath the 800 Roy Street Parcel had impacted indoor air quality in the basement	03/11/13	Shallow	12.75	--	--	--	--	--	--	--	Push Probe	--

NOTE:

[(1)] TOCs were surveyed relative to an arbitrary benchmarks prior to 2012. TOCs were resurveyed by Bush, Roed & Hitchings, Inc. of Seattle, Washington, in February, October, and December 2012 and March 2013, using the North American Vertical Datum 1988.

bgs = below ground surface
HSA = hollow-stem auger
PCE = tetrachloroethylene
ROW = right-of-way
SoundEarth = SoundEarth Strategies, Inc.
TOC = top of casing
Windward = Windward Environmental LLC

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Table 13
Soil Gas Analytical Results
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Sample Location	Sample Name	Sample Location	Sample Date	Analytical Results(1) (micrograms per cubic meter)				
				PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
SV01	SV01-20130311	SV01	03/05/13	1.5	<0.16	0.31	<0.58	0.71
SV02	SV02-20130311	SV02	03/05/13	2.3	<0.17	<0.12	<0.61	<0.040
SV03	SV03-20130311	SV03	03/05/13	4.6	0.39	<0.12	<0.58	<0.037
MTCA Method B Soil Gas Screening Level(2)				**96**	**3.7**	**NE**	**NE**	**2.8**
MTCA Method B Indoor Air Cleanup Level(3)				**9.6**	**0.37**	**NE**	**NE**	**0.28**

NOTES:

Laboratory analyses conducted by Air Toxics Ltd. of Folsom, California.

(1)Analyzed by U.S. Environmental Protection Agency Method Modified TO-15 Low Level Analysis.

(2)Calculated by dividing the indoor air cleanup level by an attenuation factor of 0.1, for soil gas just beneath a building, as specified in Table B-1, Ecology's Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State, October 2009.

(3)MTCA Method B Indoor Air Cleanup Level, Carcinogen, CLARC database, September 2012.

< = not detected at a concentration exceeding laboratory reporting limit
CLARC = cleanup levels and risk calculations
DCE = dicholorethylene
MTCA = Washington State Model Toxics Control Act
NE = not established
PCE = tetrachloroethylene
TCE = trichloroethylene

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Table 14
Summary of Monitored Natural Attenuation Analytical Data
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Well ID	Sample Date	Sampled By	Total Iron[1] (mg/L)	Ferrous Iron[4] (mg/L)	Ferric Iron[5] (mg/L)	Total Manganese[3] (mg/L)	Alkalinity[4] ($mgCaCO_3/L$)	Chloride[5] (mg/L)	Sulfate[5] (mg/L)	Nitrate[5] (mg/L)	Dissolved Methane[6] (mg/L)	Dissolved Ethene[6] (mg/L)	Dissolved Ethane[6] (mg/L)	pH[7]	Specific Conductivity[7] (ms/cm)	Dissolved Oxygen[7] (mg/L)	ORP[7] (mV)
W-MW-02	12/16/13	SoundEarth	0.672	0.87	0	0.676	240	105	101	<0.025	0.00891	<0.00500	<0.00500	7.05	0.999	0.30	-84
MW103	12/18/13	SoundEarth	1.14	1.39	0	1.10	380	48.8	0.99	<0.025	0.0675	0.0135	0.00914	10.45	0.735	0.26	267.3
MW104	12/17/13	SoundEarth	5.45	5.03	0.42	0.757	310	28.9	23.1	<0.025	0.0254	<0.00500	<0.00500	8.49	0.591	0.48	244.9
MW105	12/29/13	SoundEarth	2.91	2.01	0.90	1.24	440	48.3	29.3	0.716	0.0445	0.00614	<0.00500	7.49	1.165	1.26	215.8
MW107	12/16/13	SoundEarth	1.35	0.43	0.92	0.358	340	70.8	165	<0.025	0.00869	<0.00500	<0.00500	6.62	0.90	1.14	22
MW108	12/17/13	SoundEarth	17.5	21.7	0	1.96	600	25.8	12.5	0.075	2.11	<0.00500	0.0228	6.36	1.57	0.50	-72
MW109	12/17/13	SoundEarth	12.6	16.2	0	4.04	670	16.1	34.6	<0.025	1.40	<0.00500	0.00589	6.68	1.54	0.31	-78
MW110	12/19/13	SoundEarth	0.079	0.04	0.04	3.28	390	20.4	158	0.603	0.00766	<0.00500	<0.00500	8.82	0.888	0.52	290.6
MW111	12/17/13	SoundEarth	0.168	0.18	0	0.135	170	47.3	4.73	<0.025	0.0147	<0.00500	<0.00500	7.58	0.498	1.19	-99
MW112	12/26/13	SoundEarth	0.560	0.23	0.33	0.106	160	12.3	44.9	0.064	<0.00500	<0.00500	<0.00500	7.79	0.378	2.58	222.9
MW113	12/19/13	SoundEarth	0.119	0.03	0.09	0.0248	96	23.5	17.4	0.280	<0.00500	<0.00500	<0.00500	10.00	0.267	0.26	263.5
MW114	12/18/13	SoundEarth	0.075	0.03	0.05	0.629	190	31.2	98.8	0.032	<0.00500	<0.00500	<0.00500	7.49	0.651	0.77	-8
MW115	12/19/13	SoundEarth	6.24	6.69	0	1.44	580	22.1	3.35	<0.025	2.55	<0.00500	<0.00500	6.80	1.22	0.71	-61
MW116	12/19/13	SoundEarth	2.48	2.65	0	1.14	310	26.2	14.5	<0.025	1.75	<0.00500	<0.00500	6.84	0.498	0.67	75
MW117	12/18/13	SoundEarth	1.49	2.03	0	0.344	200	9.11	56.3	<0.025	<0.00500	<0.00500	<0.00500	6.94	0.90	0.85	-38
MW119	12/19/13	SoundEarth	19.4	18.6	0.8	2.55	310	12.1	3.34	<0.025	3.45	<0.00500	<0.00500	9.56	0.579	0.34	295.0
MW120	12/19/13	SoundEarth	0.288	0.17	0.12	0.319	290	36.5	99.4	0.069	0.0101	<0.00500	<0.00500	6.63	0.743	1.30	-13
MW121	12/26/13	SoundEarth	2.39	1.90	0.49	6.47	790	18.6	200	<0.025	0.346	<0.00500	<0.00500	6.89	1.610	4.16	-29.6
MW124	12/26/13	SoundEarth	1.46	0.39	1.07	0.125	160	5.96	0.73	1.22	<0.00500	<0.00500	<0.00500	7.84	0.285	1.43	216.7
MW125	12/26/13	SoundEarth	2.39	1.47	0.92	1.85	650	112	12.8	0.076	0.455	<0.00500	0.00634	6.28	1.414	8.68	22.2
BB-8	12/29/13	SoundEarth	0.085	0.01	0.08	0.252	270	12.6	84.6	3.68	<0.00500	<0.00500	<0.00500	6.56	8.56	0.72	224.0
MW-9	12/16/13	SoundEarth	3.32	3.41	0	0.778	56	3.76	6.08	0.059	0.00624	<0.00500	<0.00500	6.72	0.132	0.20	262.5

NOTES:

Samples analyzed by Am Test, Inc., of Kirkland, Washington.

(1)Analyzed by EPA Method 200.7.

(2)Analyzed by Method SM 3500FeD.

(3)Ferric iron = Total iron–Ferrous iron. If Total iron is less than ferrous, ferric is reported as 0.

(4)Analyzed by Method SM 2320B.

(5)Analyzed by EPA Method 300.0.

(6)Analyzed by EPA Method RSK-175.

(7)As reported on a YSI or similar water quality meter after three consecutive stabilized readings. The last stabilized parameter is reported.

< = not detected at concentration exceeding the laboratory reporting limit

µs/cm = microSeimens per centimeter

EPA = U.S. Environmental Protection Agency

mg/L = milligrams per liter

$mgCaCO_3/L$= milligrams of calcium carbonate per liter

mV = millivolts

ORP = oxidation-reduction potential

SM = standard method

SoundEarth = SoundEarth Strategies, Inc.

Table 15
Surface Area, Volume, and Estimated Mass of Normalized PCE in Soil within Treatment Area
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Elevation segment 0 to 10 feet below ground surface (40 to 30 feet mean sea level)

Concentration Range(1) (milligrams/kilogram)	Average PCE Concentration(2) (milligrams/kilogram)	Surface Area(1) (square feet)	Volume(3) (cubic feet)	Soil Mass(4) (pounds)	PCE Mass(5) (pounds)
>100 (100 to 300)	200	1,000	10,000	1,259,000	252
90 to 100	95.0	1,695	16,950	2,134,005	203
30 to 40	35.0	0	0	0	0
20 to 30	25.0	0	0	0	0
10 to 20	15.0	2,899	28,990	3,649,841	55
1 to 10	4.50	6,169	61,690	7,766,771	35
0.5 to 1	0.750	15,500	155,000	19,514,500	15
0.05 to 0.5	0.275	5,064	50,640	6,375,576	2
<0.05 (0.00)	0.000	5,616	56,160	7,070,544	0
Totals		**37,943**	**379,430**	**47,770,237**	**561**

Elevation segment 10 to 20 feet below ground surface (30 to 20 feet mean sea level)

Concentration Range(1) (milligrams/kilogram)	Average PCE Concentration(2) (milligrams/kilogram)	Surface Area(1) (square feet)	Volume(3) (cubic feet)	Soil Mass(4) (pounds)	PCE Mass(5) (pounds)
>100 (100 to 300)	200	2,200	22,000	2,769,800	554
90 to 100	95.0	1,700	17,000	2,140,300	203
30 to 40	35.0	1,900	19,000	2,392,100	84
20 to 30	25.0	4,500	45,000	5,665,500	142
10 to 20	15.0	5,414	54,140	6,816,226	102
1 to 10	4.50	10,186	101,860	12,824,174	58
0.5 to 1	0.750	4,008	40,080	5,046,072	4
0.05 to 0.5	0.275	5,572	55,720	7,015,148	2
<0.05 (0.00)	0.000	2,463	24,630	3,100,917	0
Totals		**37,943**	**379,430**	**47,770,237**	**1,148**

Elevation segment 20 to 30 feet below ground surface (20 to 10 feet mean sea level)

Concentration Range(1) (milligrams/kilogram)	Average PCE Concentration(2) (milligrams/kilogram)	Surface Area(1) (square feet)	Volume(3) (cubic feet)	Soil Mass(4) (pounds)	PCE Mass(5) (pounds)
>100 (100 to 300)	200	1,600	16,000	2,014,400	403
90 to 100	95.0	700	7,000	881,300	84
30 to 40	35.0	2,200	22,000	2,769,800	97
20 to 30	25.0	9,000	90,000	11,331,000	283
10 to 20	15.0	8,100	81,000	10,197,900	153
1 to 10	4.50	15,120	151,200	19,036,080	86
0.5 to 1	0.750	781	7,810	983,279	1
0.05 to 0.5	0.275	442	4,420	556,478	0
<0.05 (0.00)	0.000	0	0	0	0
Totals		**37,943**	**379,430**	**47,770,237**	**1,106**

Elevation segment 30 to 40 feet below ground surface (10 to 0 feet mean sea level)

Concentration Range(1) (milligrams/kilogram)	Average PCE Concentration(2)(milligrams/kilogram)	Surface Area(1) (square feet)	Volume(3) (cubic feet)	Soil Mass(4) (pounds)	PCE Mass(5) (pounds)
>100 (100 to 300)	200	900	9,000	1,133,100	227
90 to 100	95.0	700	7,000	881,300	84
30 to 40	35.0	11,600	116,000	14,604,400	511
20 to 30	25.0	5,956	59,560	7,498,604	187
10 to 20	15.0	9,702	97,020	12,214,818	183
1 to 10	4.50	7,761	77,610	9,771,099	44
0.5 to 1	0.750	691	6,910	869,969	1
0.05 to 0.5	0.275	633	6,330	796,947	0
<0.05 (0.00)	0.000	0	0	0	0
Totals		**37,943**	**379,430**	**47,770,237**	**1,237**
Total PCE Mass in Soil (pounds)					**4,052**

NOTES:

(1) Concentration Range and surface areas correspond with Figures 39 through 42.

(2) Average concentration for concentration range. It is assumed that >100 milligrams per kilogram is between 100 and 300 mg/kg or 2 * 100 mg/kg.

(3) Volume = Surface Area * 10 foot elevation segment.

(4) Soil mass = volume * bulk soil density (125.9 pounds per cubic feet).

(5) PCE Mass (total CVOCS as PCE) = average PCE concentration as a percentage ((PCE in mg/kg)/10^6) * soil mass.

CVOC = chlorinated volatile organic compound

mg/kg = milligrams per kilogram

PCE = tetrachloroethylene

Table 16
Surface Area, Volume, and Estimated Mass of Normalized PCE in Groundwater within Treatment Area
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Elevation segment 10 to 40 feet below ground surface (30 to 0 feet mean sea level)						
Concentration Range(1) (micrograms/liter)	**Average PCE Concentration(2)** (micrograms/liter)	**Surface Area(1)** (square feet)	**Volume(3)** (cubic feet)	**Groundwater Volume(4)** (cubic feet)	**Groundwater Mass(5)** (pounds)	**PCE Mass(6)** (pounds)
>100,000 (100,000 to 300,000)	200,000	6,300	189,000	56,700	11,793,600	2,359
50,000 to 100,000	75,000	4,399	131,970	39,591	8,234,928	618
10,000 to 50,000	30,000	12,940	388,200	116,460	24,223,680	727
5,000 to 10,000	7,500	10,330	309,900	92,970	19,337,760	145
1,000 to 5,000	3,000	3,974	119,220	35,766	7,439,328	22
Totals		**37,943**	**1,138,290**	**341,487**	**71,029,296**	**3,870**
Total PCE Mass in Groundwater (pounds)						**3,870**

NOTES:

(1) Concentration Range and surface areas correspond with Figure 43.

(2) Average concentration for concentration range. It is assumed that >100,000 ug/L is between 100,000 and 300,000 µg/L or 2 * 100,000 µg/L, which is equal to the solubility limit of 200,000 µg/L for PCE.

(3) Volume = Surface Area * 10 foot elevation segment.

(4) Groundwater volume = volume * porosity (0.3).

(5) Groundwater mass = volume * water density (62.4 pounds per cubic feet).

(6) PCE Mass (total CVOCS as PCE) = average PCE concentration as a percentage ((PCE in ug/L)/10^9) * groundwater mass.

µg/L = micrograms per liter

CVOC = chlorinated volatile organic compound

PCE = tetrachloroethylene

APPENDIX A

PREVIOUS ENVIRONMENTAL INVESTIGATIONS

TABLE OF CONTENTS

1.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Between 1992 and 2013, several environmental investigations were conducted on the Site, which includes soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons; tetrachloroethylene; trichloroethylene; vinyl chloride, and/or cis-1,2-dichloroethylene beneath the property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th and Westlake Avenues North and Valley, Roy, and Broad Streets rights-of-way. The following is a summary of these investigations, while a more detailed discussion is provided in the RI Report (SoundEarth 2013a). All acronyms, figures, tables, and references in this appendix are located in the Cleanup Action Plan. Sample locations are presented in plan view on Figure 8. Soil and groundwater analytical results are presented in plan and cross-sectional views on Figures 9 and 10 and Figures 14 through 19, and in Tables 2 through 12. For evaluation purposes, those concentrations that exceed the current MTCA Method A or Method B cleanup levels for soil and groundwater are presented in bold red font in the tables. The remainder of this report includes references to cleanup levels; unless otherwise specified, these refer to the 2001 MTCA Method A or 2012 MTCA Method B Cleanup Levels for Unrestricted Land Use for soil and groundwater.

1.1 1992 ROUX PHASE I ENVIRONMENTAL SITE ASSESSMENT

Roux Associates, of Concord, California, conducted a Phase I Environmental Site Assessment (ESA) of the Property in 1992 (Roux 1992). The purpose of the Phase I ESA was to identify recognized environmental conditions (RECs) associated with the use, manufacture, storage, and/or disposal of hazardous or toxic substances at the properties in question. Roux identified the following RECs associated with the Property in 1992:

- The current (at that time) and historical storage of fuel in the yard area. Based on information provided by Maryatt Industries personnel, an extensive fuel release may have occurred before 1992.
- The current (at that time) and historical storage of heating oil in underground storage tanks (UST) beneath the Property. No integrity testing of the USTs had been performed since their installation in 1947.
- The current (at that time) and historical storage and use of solvents on the Property. Historical volume handling and disposal practices of the solvents were not revealed during the Phase I ESA. Solvent use at the time of the Phase I ESA was limited to approximately 10 gallons per month. Some solvents were disposed of through the wastewater treatment plant, while solvent-containing material was disposed of in a sludge disposal container to the north of the wastewater treatment area.
- The presence of potentially polychlorinated biphenyl (PCB)-containing transformers on the Property. An explosion occurred at one of the transformers. The Phase I ESA did not describe the location of the transformer nor did it indicate the source of the information.
- The storage of fuel in USTs beneath the 800 Roy Street parcel.
- An unknown volume of chemicals released on the north-adjoining property. The Seattle Fire Department responded to a chemical spill at the Esterline/Korry marine products facility. The type of chemical spilled was not revealed.

- The historical and/or current storage of fuel in the vicinity of the Property.

1.2 1992 ROUX PHASE II ENVIRONMENTAL SITE ASSESSMENT

Roux conducted a Phase II ESA at the Property in October 1992 (Roux 1993). Roux reportedly advanced a total of six borings to depths between 15 and 36.5 feet below grounds surface (bgs) and completed them as monitoring wells R-MW1 through R-MW6. Boring R-MW1 was advanced within the Property's yard area; boring R-MW2 was advanced near the 1960s-vintage fuel dispenser located in the northeastern portion of the Property; R-MW3 and R-MW6 were advanced along the eastern Property boundary; boring R-MW4 was advanced within the sidewalk to the north of the south-adjoining property; R-MW5 was advanced within the Dexter Avenue North right-of-way (ROW). Soil samples collected from the borings were submitted for analysis of chlorinated volatile organic compounds (CVOCs) including tetrachloroethylene (PCE), trichloroethylene (TCE), vinyl chloride, and trans-1,2-dichloroethylene (trans-1,2-DCE). Dalton, Olmsted & Fuglevand, Inc. (DOF) conducted a groundwater monitoring event in concert with Roux's groundwater sampling activities. Groundwater samples were collected from monitoring wells R-MW1 through R-MW6 by both consultants several days after drilling activities and submitted for analysis of CVOCs including PCE, TCE, vinyl chloride, trans-1,2-DCE, 1,1-dichloroethylene (1,1-DCE), and methylene chloride; gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH; DRPH; ORPH;) and/or benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Summary. The results of the Phase II ESA confirmed that the former storage of fuel on the Property and former use of the Property as a dry cleaning facility resulted in a release of solvents and petroleum hydrocarbons to soil and/or groundwater beneath the Property. Elevated concentrations of PCE were confirmed south and southeast of the Property boundaries.

Data Gaps. Because only some analytical data for the soil and groundwater samples collected during the Phase II ESA were available for review, it is not apparent whether any other chemicals were analyzed and, if so, whether the concentrations exceed the current (2001) cleanup levels. Neither soil nor groundwater contamination was bound vertically or horizontally.

1.3 1997 BLACK AND VEATCH PHASE II ENVIRONMENTAL SITE ASSESSMENT

Black & Veatch (B&V) conducted a Phase II ESA under contract with King County in association with the Denny Way/Lake Union CSO project (B&V 1998). The purpose of the Phase II ESA was to provide King County with geotechnical data to facilitate construction efforts and to evaluate if any properties located along the project corridor had impacted soil and/or groundwater beneath the project area. The project area was bound by Valley and Republican Streets to the north and south, respectively, and Nob Hill and Terry Avenues North to the west and east, respectively. Of the 56 borings advanced during the investigation, borings BB-5, BB-7, BB-8, BB-10, BB-12, BB-13, BB-14, TB-12, TB-18, and pumping wells PW-1 and PW-4 were located within the vicinity of the Property. Soil and groundwater samples were collected from all of the borings installed during the investigation and were analyzed for GRPH, DRPH, and ORPH. Select soil and groundwater samples were also analyzed for CVOCs, polycyclic aromatic hydrocarbons, and BTEX. However, only data indicating detectable concentrations of CVOCs, polycyclic aromatic hydrocarbons (PAH), and BTEX were summarized in the report. These detectable concentrations included groundwater collected from monitoring wells BB-5, BB-8, BB-10, BB-12, BB-13, and TB-18.

Summary. PCE and its degradation products were confirmed in groundwater samples collected from wells as far as 360 feet to the east of the Property; however, the source of the impacts was not confirmed.

Data Gaps. Neither soil nor groundwater contamination was bound vertically or horizontally. Analytical methods have since been modified.

1.4 2000 THERMORETEC UNDER-BUILDING SOIL AND GROUNDWATER TESTING

ThermoRetec conducted a subsurface investigation in June 2000 at the Property (ThermoRetec 2000). The purpose of the investigation was to evaluate the lateral extent of solvent-impacted soil and groundwater within the Property boundary. Nine borings were advanced on the Property (B-1 through B-3, B-4A, B-4B, B-4C, and B-5 through B-10). Groundwater was encountered at depths ranging from 8 to 14.5 feet bgs. Reconnaissance groundwater samples were collected from borings B-2 and B-6 through B-10 using a peristaltic pump. Select soil and reconnaissance groundwater samples were submitted for laboratory analysis of CVOCs, including PCE, TCE, vinyl chloride, cis- and trans-1,2-DCE, and chloroform.

Summary. The highest concentrations of solvents in soil were located in borings B-2, B-6, B-8, and B-9, located near the former dry cleaning machines; soil concentrations in this area exceeded the land ban criteria. The highest concentration of PCE in groundwater detected to date was encountered in the groundwater sample collected from boring B-9, at a concentration of 120,000 micrograms per liter (µg/L). The potential source of CVOCs previously detected in soil and groundwater samples collected from beneath the Property appeared to have been discovered.

Data Gaps. Because only some analytical data for the soil and groundwater samples collected during the ThermoRetec investigation were available for review, it is not apparent whether any other chemicals were analyzed and, if so, whether the concentrations exceed the current (2001) cleanup levels. Neither soil nor groundwater contamination was bound vertically or horizontally.

1.5 2001 GEOENGINEERS SUPPLEMENTAL REMEDIAL INVESTIGATION

GeoEngineers, Inc. (GeoEngineers) conducted a supplemental RI at the Property in July 2001 (GeoEngineers 2002). The purpose of the supplemental RI was to evaluate a potential source area of dry cleaning solvents; David Maryatt, of Maryatt Industries, indicated that one of the three dry cleaning machines in operation on the Property in the 1980s may have leaked dry cleaning solvents into the subsurface. Boring G-MW1 was advanced to an approximate maximum depth of 38 feet bgs in the vicinity of the former dry cleaning machines in order to evaluate the shallow groundwater beneath the Property. Boring G-MW2 was advanced in a relative downgradient location from the former dry cleaning machines to a maximum depth of approximately 18 feet bgs to evaluate a shallow-seated water-bearing zone. Boring G-SB4 was advanced further downgradient from the former dry cleaning machines adjacent to a floor drain, but was abandoned at approximately 18 feet bgs because of difficult drilling conditions. Boring G-MW-3 was advanced in the immediate vicinity of G-SB4 to an approximate depth of 38 feet bgs as a replacement boring location. Groundwater was encountered at two depths during drilling activities: a perched water-bearing zone at approximately 10 feet bgs and a deeper water-bearing zone at approximately 32 feet bgs. GeoEngineers collected groundwater samples from the perched water-bearing zone in all three newly installed monitoring wells using low-flow sampling techniques several days after drilling activities.

Select soil samples collected from borings G-MW1 and G-SB4 and groundwater samples collected from G-MW1, G-MW1, and G-MW3 were submitted for laboratory analysis of CVOCs, including PCE, TCE, vinyl chloride, 1,2-dichloroethane [EDC], cis-1,2-DCE, trans-1,2-DCE, and 1,3,5-trimethylbenzene; naphthalene; and BTEX by U.S. Environmental Protection Agency (EPA) Method 8260B. Soil samples with the highest detected concentrations of PCE were also submitted for analysis of Toxicity Characteristic Leaching Procedure (TCLP) by EPA Method 1311/8260B.

Summary. The results of the supplemental remedial investigation confirmed a source of the solvents identified in previous investigations. The highest concentrations of PCE were confirmed near the former dry cleaning machines; soil concentrations in this area exceeded the land ban criteria, and perched groundwater also contained elevated concentrations of PCE.

Data Gaps. Neither soil nor groundwater contamination was bound vertically or horizontally.

1.6 2004 AND 2009 DALTON, OLMSTED & FUGLEVAND, INC. GROUNDWATER SAMPLING

DOF conducted groundwater sampling events at the Property on December 10, 2004 (DOF 2004), and on January 29 and 30, 2009 (DOF 2009), in order to monitor the concentrations of CVOCs and petroleum hydrocarbons beneath the Site. On December 10, 2004, DOF sampled monitoring well G-MW3 (DOF 2004), and on January 29, 2009, DOF sampled on-Property wells G-MW1, G-MW2, R-MW1, R-MW2, R-MW3, R-MW5, and R-MW6 and off-Property monitoring wells BB-8 and BB-8A, which were installed between 1997 and 2009 during the Denny Way/Lake Union CSO project (DOF 2009). Monitoring well R-MW4, which was located to the south of the Property within the southern sidewalk of Roy Street, was decommissioned before the January 2009 groundwater sampling event. Groundwater samples were submitted for laboratory analysis of GRPH, BTEX, and CVOCs, including PCE, TCE, vinyl chloride, cis-1,2-DCE, trans-1,2-DCE, and 1,1-DCE.

Summary. The highest concentration of PCE in groundwater to date was encountered in the groundwater sample collected from monitoring well G-MW3 at a concentration of 220,000 µg/L.

Data Gaps. Groundwater impacts were not bound in any direction.

1.7 1992–2002 EAST-ADJOINING PROPERTIES SUBSURFACE INVESTIGATIONS AND REMEDIAL ACTIONS

Below is a summary of the subsurface investigations and remedial actions conducted on the east-adjoining properties.

1.7.1 800 Roy Street

In early 1992, the 800 Roy Street parcel owner, Seattle Parks and Recreation, notified Ecology of a leaking fuel pump dispenser associated with the 1955-vintage UST system. Fueling operations were suspended in October 1992. SCS Engineers conducted a vapor survey in the vicinity of the known and suspected USTs, as well as along the eastern parcel boundary to investigate if contamination beneath the parcel extended beyond the parcel boundaries (RETEC 1993). The results of the vapor survey indicated that a volatile organic compounds were present in the vicinity of the 550-gallon UST and 1955-vintage pump island and the 2,700-gallon UST. Vapor survey points located near the eastern parcel boundary did not exhibit elevated volatile organic compounds (VOC).

In March, June, September, and October 1993, E.P. Johnson removed the 2,700- and 550-gallon USTs and their associated product piping and excavated approximately 3,195 tons of petroleum-contaminated soil from the parcel (RETEC 1993; RETEC 1995). The excavation reached maximum depths between 7 and 25 feet bgs. Further exploration was inhibited vertically once the groundwater table was encountered within the excavation. Samples collected from stockpiled soil and from groundwater seepage within the excavation confirmed petroleum impacts to soil and groundwater beneath the parcel as a result of the former operation of refueling facilities. Soil samples collected from the sidewalls and bottoms of the final extents of the excavation were submitted for laboratory analysis of Resource Conservation and Recovery Act (RCRA) metals, including arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver; GRPH; DRPH; ORPH; BTEX; TCLP analysis; PCB total Aroclors; and/or CVOCs. The results of these analyses indicated that soil exhibiting concentrations of GRPH, BTEX constituents, and lead above their respective cleanup levels remained beneath the 800 Roy Street parcel and likely extended beneath the building, as well as off the parcel to the east and west. CVOCs were not detected in the soil samples analyzed. The excavated petroleum-contaminated soil was disposed of off the site for treatment and the excavation was backfilled with clean imported soil (RS-1 through RS-19 and RS-21 through RS-37).

Subsurface investigations were conducted by others in 1993 and 2002. The results of laboratory analyses of samples collected during these investigations indicated that soil and groundwater beneath the 800 Roy Street Parcel were impacted with petroleum-hydrocarbons, carcinogenic polycyclic aromatic hydrocarbonss, metals, and CVOCs. CVOCs were not detected at concentrations above their laboratory reporting limits in any of the soil samples analyzed. Groundwater samples collected during these investigations from monitoring wells located in the vicinity of the 800 Roy Street parcel contained concentrations of GRPH and/or one or more BTEX constituents exceeding the applicable cleanup levels (monitoring wells MW-1 through MW-9, SCL-MW101, SCL-MW102, and MW105). The groundwater sample collected from monitoring well MW-2 in 1993 contained concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride exceeding their respective cleanup levels (Table 1).

Summary. Petroleum hydrocarbon and CVOC impacts originating from the Property were confirmed in groundwater beneath the 8th Avenue North ROW, in the vicinity of the 800 Roy Street parcel.

Data Gaps. Discrete petroleum hydrocarbon soil and groundwater plumes originating from the Property and the 800 Roy Street parcel were not delineated. The extent of PCE and its degradation products in groundwater was not defined to the northeast of the Property. The locations of several soil and groundwater sampling locations could not be confirmed.

1.7.2 1992 753 9th Avenue North Parcel Investigations

Between June and September 1992, subsurface investigations and three UST removals were conducted at the 753 9th Avenue Parcel. In June 1992, Environmental Associates Inc. conducted a subsurface investigation at the parcel, which consisted of advancing borings to the east of the parcel within the Westlake Avenue North ROW and in the vicinity of three 1948-vintage USTs with capacities of 1,000, 300, and 675 gallons used to store gasoline, used oil, and heating oil, respectively, located to the west of the building within the asphalt-paved parking lot. A summary of the investigation was provided in a report by GeoTech Consultants Inc. (GeoTech 1992). The locations and depths of the borings were not provided in the summary. Soil and groundwater samples were collected from the borings and analyzed for petroleum hydrocarbon identification (HCID). According to GeoTech's summary of the June 1992 investigation, none of the soil or groundwater samples collected from the borings contained concentrations of DRPH exceeding the 1989 MTCA Method A cleanup levels. GeoTech also indicated in their letter report that an investigation of the property to the north of the 753 9th Avenue North parcel was conducted and that the results of the investigation confirmed that groundwater in two wells located downgradient of the parcel and north of the building within the Aloha Street ROW had been impacted by petroleum hydrocarbons; the results of this investigation were not available for review.

In July and September 1992, GeoTech removed the three 1948-vintage USTs (GeoTech 1992) and conducted test pit investigations. Upon removal of the tanks, pinholes were observed in the USTs. Soils were excavated around each of the tanks at depths between 12 and 14 feet; soil samples collected from the bottoms of each excavation, and from the stockpiled soil, which did not appear to be contaminated, were submitted for laboratory analysis of BTEX and HCID or GRPH.

Summary. Soil beneath the 753 9th Avenue North parcel had confirmed petroleum impacts. Test pits advanced approximately along the western parcel boundary and in the northwest corner of the parcel confirmed petroleum contamination from approximately 4 feet to a depth of 12 to 14 feet bgs, indicating that the area of contamination extended throughout the parking lot behind the building an unknown distance, under the building, and off the parcel toward the west. Concentrations of GRPH and one or more BTEX constituents exceeding the cleanup level were detected in samples collected from the excavations from depths of 7 and 14 feet bgs. Petroleum impacts encountered in soil within the test pits advanced near the western property boundary were observed at depths above those of the USTs and from an upgradient location, indicating that the contamination was likely coming from a source west to southwest of the parcel. Groundwater impacts were confirmed downgradient of the parcel.

Data Gaps. Because the laboratory analytical results and locations and depths of the soil and groundwater samples from the June 1992 subsurface investigation were not available for review, it is not apparent whether additional chemicals, including CVOCs, were analyzed and if so, whether the concentrations exceed the current (2001) cleanup levels. Potential groundwater impacts resulting from the former operation of a dry cleaning facility and gasoline USTs at the Property were not evaluated on the 753 9th Avenue North parcel.

1.8 2008 CH2M HILL 9TH AVENUE SEWER UPGRADE ENVIRONMENTAL INVESTIGATION

CH2M Hill conducted an environmental investigation along the 9th Avenue North corridor between Republican and Aloha Street in April 2008 (CH2M HILL 2008). The purpose of the investigation was to evaluate if any soil and/or groundwater contamination was present and to manage it within the proposed sewer alignment activity area. Four soil borings were advanced within the 9th Avenue North ROW using hollow-stem auger methods to maximum depths of 7 to 26 feet bgs; boring CHB-07 was advanced northeast of the Property between Ward and Aloha Streets, boring CHB-08 was advanced to the east of the Property between Aloha and Roy Streets, boring CHB-09 was advanced to the southeast of the Property between Roy and Mercer Streets, and CHB-10 was advanced to the south-southeast of the Property between Mercer and Republican Streets. Reconnaissance groundwater samples were collected from borings CHB-07, CHB-08, and CHB-09 using a temporary well screen. Soil and groundwater samples were not collected from boring CHB-10 because the potential for contamination in that boring location was considered low. Soil and reconnaissance groundwater samples collected from borings CHB-07, CHB-08, and CHB-09 were submitted for analysis of GRPH, DRPH, and CVOCs.

Summary. GRPH, DRPH, ORPH, BTEX, and CVOC concentrations in soil samples collected from borings CHB-07, CHB-08, and CHB-09 were below the applicable laboratory reporting limits and/or cleanup levels (Table 2). However, Concentrations of vinyl chloride and cis-1,2-DCE exceeding the applicable cleanup levels were detected in the reconnaissance groundwater sample collected from boring CHB-07. Therefore, groundwater beneath the 9th Avenue ROW was confirmed to have petroleum and CVOC impacts.

Data Gaps. The compliant CVOC concentrations encountered in soil and groundwater samples collected from boring CHB-08 indicated that the eastern boundary of the Site did not extend beyond the 9th Avenue North ROW between Aloha and Roy Streets. However, the exact locations of borings CHB-07, CHB-08, and CHB-09 were not presented in CH2M HILL's summary report, making the eastern Site boundary definition incomplete.

1.9 2010 AND 2011 SOUNDEARTH GROUNDWATER SAMPLING EVENTS

SoundEarth Strategies, Inc. (SoundEarth) collected groundwater samples from monitoring wells located at the Site on May 3, 2010, and June 2 and 3, 2011, using low flow purging methods. On May 3, 2010, SoundEarth collected groundwater samples from off-Property wells BB-8, BB-8A, BB-12, BB12A, and BB-13 and submitted them for laboratory analysis of PCE, TCE, vinyl chloride, cis- and trans-1,2-DCE , 1,1-DCE, and methylene chloride. On June 2 and 3, 2011, SoundEarth collected groundwater samples from on-Property wells G-MW1, G-MW2, G-MW3, R-MW1, R-MW2, R-MW3, R-MW5, and R-MW6, and off-Property wells BB-8 and BB-8A, as well as monitoring well MW-9, located across the 8th Avenue North ROW, near the 800 Roy Street parcel. The groundwater samples were submitted for analysis of GRPH, DRPH, ORPH, BTEX, and/or VOCs, including PCE, TCE, cis- and trans-1,2-DCE, 1,1-DCE, methylene chloride, 1,2-dibromoethane (EDB), EDC, naphthalene, 1,3,5- and 1,2,4-trimethylbenzene, and acetone.

Groundwater Results. PCE concentrations exceeding the cleanup levels were detected in groundwater samples collected from on-Property monitoring wells R-MW1, G-MW1, G-MW2, and G-MW3 and off-Property wells BB-8 and BB-8A. The PCE concentration of 33,000 µg/L detected in the groundwater sample collected from monitoring wells G-MW3, was reduced in concentration when compared to the maximum historical concentration of 220,000 µg/L (Table 1).

TCE, cis-1,2-DCE, and vinyl chloride concentrations exceeding the applicable cleanup levels were detected in groundwater samples collected from monitoring wells G-MW1, G-MW3, BB-8 and BB-8A. Concentrations of vinyl chloride were also detected in groundwater samples collected from monitoring wells R-MW1, R-MW6. The TCE, cis-1,2-DCE, and vinyl chloride concentrations in the groundwater sample collected from monitoring well G-MW2 were below the laboratory reporting limit of 1,000, 1,000, and 200 µg/L, respectively, due to the dilution of the sample, but it is reasonable to infer that the concentrations of TCE, cis-1,2-DCE, and vinyl chloride were above the cleanup level because of the concentration of PCE detected in the same groundwater sample and the historical presence of those analytes in groundwater collected from the well during previous sampling events (Table 1).

Concentrations of DRPH exceeding the cleanup level were detected in groundwater samples collected from monitoring wells R-MW1 and R-MW2. The groundwater sample collected from R-MW1 also contained a concentration of ORPH exceeding the cleanup level (Table 1).

Concentrations of GRPH exceeding the cleanup level were detected in groundwater samples collected from monitoring wells R-MW1, R-MW2, G-MW1, G-MW2, and G-MW3. A benzene concentration exceeding the cleanup level was also detected in the groundwater sample collected from R-MW2. Concentrations of benzene, ethylbenzene, and total xylenes remained below the applicable laboratory reporting limits in groundwater samples collected from monitoring wells G-MW2 and G-MW3; however, these samples were diluted due to the high concentrations of GRPH, therefore raising the detection limits of each of the analytes to a concentration greater than the applicable cleanup level (Table 1).

Concentrations of GRPH, DRPH, ORPH, BTEX, trans-1,2-DCE, 1,1-DCE, methylene chloride, EDB, EDC, naphthalene, 1,3,5- and 1,2,4-trimethylbenzene, and acetone in groundwater samples collected from off-Property wells remained below applicable laboratory reporting limits and/or cleanup levels. Groundwater samples collected from on-Property monitoring wells R-MW2, R-MW3 and R-MW5, and off-Property wells BB-12, BB-12A, and BB-13 did not contain concentrations of contaminants of concern exceeding applicable laboratory reporting limits and/or cleanup levels.

Summary. The results of the 2010 and 2011 groundwater sampling events indicated that although PCE and its degradation products were still present in groundwater beneath the Site, concentrations had slightly attenuated beneath portions of the Site since previous investigations.

Data Gaps. Groundwater contamination was not bound vertically or horizontally.

1.10 2012 WINDWARD ENVIRONMENTAL SUBSURFACE SOIL AND GROUNDWATER INVESTIGATIONS

In January and February 2012, Windward Environmental LLC (Windward) conducted a subsurface soil and groundwater investigation at the Site (Windward 2012). The purpose of the subsurface investigation was to further evaluate the lateral and vertical extent of contamination beneath the Property and to confirm if contaminated soil and groundwater extended off-Property to the east. Four soil borings were advanced during the investigation (borings P-03, P-06, P-07 and P-08) near the eastern Property boundary within the sidewalk of 8th Avenue North and near monitoring well R-MW1 in order to better evaluate the vertical extent of solvent contamination previously encountered in soil collected from R-MW1.

Reconnaissance groundwater samples were collected from borings P-06 and P-08 during drilling activities at stratified depths of 20, 40, and 60 feet bgs. After the reconnaissance groundwater samples were collected, borings P-03, P-06, P-07, and P-08 were completed as monitoring wells W-MW-01 through W-MW-04, respectively. Windward collected groundwater samples from on-Property monitoring wells G-MW1, G-MW2, G-MW3, R-MW1, R-MW2, R-MW3, R-MW5, R-MW6, and off-Property monitoring wells MW-9, BB-8, and BB-13.

The selected soil and reconnaissance and low-flow groundwater samples were submitted for laboratory analysis of VOCs, including PCE, TCE, vinyl chloride, EDC, 1,2-dichloroethane, cis- and trans-1,2-DCE, and 1,3,5- and 1,2,4-trimethylbenzene, as well as BTEX.

Soil Results. Fill was encountered in borings P-03, P-06, P-07, and P-08 from ground surface to maximum depths ranging from 15 to 23 feet bgs. Soil samples collected from all four borings contained concentrations of PCE and TCE exceeding the applicable cleanup levels. The PCE concentrations detected in the soil samples collected from borings P-03 at 31.5 to 32 feet bgs, P-06 at 30.5 to 31 feet bgs, and P-7 at depths of 33.5 to 34, 43 to 43.5, and 53 to 53.5 feet bgs also exceeded Washington State dangerous waste criteria of 14 milligrams per kilogram (mg/kg). A concentration of vinyl chloride exceeding the cleanup level was detected in boring P-08 at a depth of 9 feet bgs. Soil samples collected from borings P-06, P-07, and P-08 at depths greater than 76 feet bgs did not exhibit concentrations of PCE, TCE, or other CVOCs exceeding the applicable cleanup levels. Concentrations of BTEX constituents, cis- and trans-1,2-DCE, and other CVOCs remained below applicable laboratory reporting limits and or cleanup levels.

Reconnaissance Groundwater Results. PCE, TCE, vinyl chloride, and cis-1,2-DCE concentrations exceeding the cleanup levels were detected in reconnaissance groundwater samples collected from P-06/W-MW-02 at stratified depths of 30 to 40 and 50 to 60 feet bgs and from P-08/W-MW-04 at stratified depths of 10 to 20, 30 to 40, and 50 to 60 feet bgs. Trans-1,2-DCE and 1,1-DCE were detected in several of the groundwater samples, but were below the applicable cleanup levels. BTEX concentrations remained below the applicable laboratory detection limits and/or cleanup levels in all of the reconnaissance groundwater samples; however, the laboratory detection limits for benzene were raised to above cleanup levels in the reconnaissance groundwater samples collected from W-MW-02.

Groundwater Results. Concentrations of PCE exceeding the cleanup level were detected in the groundwater samples collected from monitoring wells W-MW-01 through W-MW-04. Concentrations of cis-1,2-DCE and TCE exceeding their respective cleanup levels were detected in groundwater samples collected from monitoring wells W-WM-02, W-WM-03, and W-MW-04. BTEX concentrations remained below the applicable laboratory detection limits and cleanup levels in the groundwater samples; however, the laboratory detection limits for benzene were raised to above cleanup levels in the groundwater samples collected from W-MW-2 and W-MW-4.

Summary. Concentrations of PCE exceeding the cleanup level and dangerous waste criteria were confirmed to extend to the northeast of the suspected source area previously identified near boring G-SB4/G-MW3, indicating a separate probable source area near the vicinity of P-07/W-MW-03. Concentrations of PCE and/or its degradation products were confirmed at depths greater than those explored during previous investigations: from 40 to 82 feet bgs.

Data Gaps. The lateral and vertical extent of impacts in soil and groundwater remained undefined. In addition, SoundEarth questions the drilling methodology used by Windward with respect to the omission of conductor casing during the drilling event. Given the high concentrations of CVOCs observed approximately 30 to 40 feet bgs, likely present as dense nonaqueous-phase liquid, it is reasonable to suspect that contaminants could have been carried down through the borehole during drilling activities, thus biasing soil and groundwater samples collected below these depths.

1.11 2011 AND 2012 SOUNDEARTH PREFERRED PATHWAY INVESTIGATION

Between April 2011 and March 2012, SoundEarth completed a preferential pathway investigation for legal counsel representing the Property owner in support of an insurance claim coverage case. The purpose of the investigation was to evaluate potential pathways on Property that may have contributed to a release of PCE to the subsurface. This scope of work included an investigation of the configuration and integrity of the on-Property sanitary sewer system; sampling and analytical testing of water and sludge collected from the sewer line cleanouts, drains, and sumps; and collection and analytical testing of soil samples collected from the vicinity of the sewer line infrastructure.

In April 2011, SoundEarth subcontracted a plumbing company to video record the condition of accessible portions of the on-Property sanitary sewer lines prior to investigation activities. A portion of the northern sanitary sewer line appeared to be damaged.

Between April and June 2011, sludge samples were collected from floor Sumps No. 2 through Sump No. 5, located on the basement level and from one of the 1925-vintage water treatment drainage trenches located on the first floor of the building. Sludge samples were also collected from sewer line cleanouts C.O. No. 1 and C.O. No. 2, located in Building C (Figure 4). Sump No. 1 was dry and contained no residual fluid. Each sample was analyzed for VOCs by EPA Method 8260C. Additional stratified samples of water, sludge mixed with water, and sludge were collected from Sump No. 4 and submitted for laboratory analyses.

All of the sludge samples collected from Sump Nos. 2, 4, and 5 contained concentrations of PCE exceeding dangerous waste criteria. The sample collected from Sump No. 5 and three of the four samples collected from Sump No. 4 also exceeded Land Ban criteria. The sample from Sump No. 3 did not contain detectable concentrations of PCE. Sludge samples collected from sewer line cleanouts associated with the northern sewer line (C.O. No. 1 and C.O. No. 2) exhibited elevated concentrations of PCE (5.5 milligrams per kilogram and 2.6 mg/kg, respectively). C.O. No. 2 also contained detectable concentrations of BTEX constituents, TCE, and cis-1,2-DCE. The process water sample collected from Sump No. 4 contained elevated concentrations of PCE, TCE and cis-1,2-DCE. The PCE and cis-1,2-DCE concentrations exceeded King County's screening levels for VOCs (Tables 8 and 9). The water and sludge were removed from Sump No. 4 and disposed of off the Property as dangerous waste.

In July 2011, SoundEarth cleaned and saw cut a hole in the base of Sump No. 4 to assess its structural integrity and to evaluate whether or not the sump had leaked. A soil sample collected from approximately 1 foot below the base of the sump exhibited a PCE concentration of 19 mg/kg, which was considerably lower in concentration of PCE than found in the sludge samples within the sump (Table 3). The results of the structural assessment of the sump and soil sampling suggested that only minor leaking occurred.

In February 2012, SoundEarth excavated two test pits (designated as EX01 and EX02) along the southern sewer line alignment in the vicinity of Sump No. 2 (Figure 19). The purpose of this phase of work was to observe the conditions and structural integrity of the sewer line in the area of boring B-9, which exhibited elevated concentrations of PCE in shallow soil. Test pit EX01 exposed the 6-inch-diameter, cast iron sewer line. While the line appeared to sag slightly at the belled joint connections, no obvious perforations or breaks in the line were observed. Soil samples were collected from excavation EX01 and submitted for analytical testing for CVOCs by EPA Method 8260C. Soil samples collected from EX01 exhibited PCE concentrations of up to 190 mg/kg at a depth of 6 feet bgs. TCE concentrations between 0.052 and 0.38 mg/kg were also detected in the soil samples (Table 3). These results confirmed the presence of shallow PCE impacts adjacent to the southern sewer line.

Soil samples collected from test pit EX02 were screened in the field using a photoionization detector (PID), which did not reveal obvious soil impacts. No samples were analyzed from excavation EX02.

Summary. The results of the preferred pathway evaluation indicated that a portion of the PCE waste stream from Property dry cleaning was disposed of into Sump No. 4, which likely conveyed the PCE-impacted effluent through the southern sewer line. The results also suggest that Sump No. 4 did not appear to leak significantly, though leakage may have occurred at joints within the sewer line. Sludge collected from cleanouts C.O. No. 1 and C.O. No. 2 and Sump No. 5 suggest that a portion of the PCE waste stream was conveyed through the northern sewer line as well. Excavated soils from Sump 4 and EX01 were drummed on site and disposed of as F002-listed dangerous waste.

Data Gaps. PCE in shallow soil was not bound laterally.

1.12 SUMMARY OF DATA GAPS

The results of previous investigations indicate that lateral and vertical extent of PCE-contaminated soil meeting Washington State's dangerous waste criteria had not been defined. The lateral and vertical extent of PCE contamination in soil exceeding land ban criteria appeared to be limited to the west-central portion of the Property in the vicinity of borings B-9 and G-MW1 at depths between 4 and 20 feet bgs. The lateral and vertical extent of impacts off the Property to the north, south, east, and west were not delineated.

1.13 2013 INTERIM ACTION

On March 22, 2013, SoundEarth oversaw the removal of four 6,000-gallon USTs (Tank 1 through Tank 4) and a fifth 500- to 600-gallon UST, located near the center of the Property (Tank 5). Upon removing the concrete foundation in the vicinity of Tank 2, droplets of liquid mercury were discovered. The mercury was containerized and disposed of as hazardous waste to a regulated facility under the oversight of NRC Environmental Services. Tanks 1 through 4, which contained no measurable product, were cleaned by Marine Vacuum Services, Inc. Tanks 1 through 4 appeared to be in good condition upon removal, with no visible perforations or rust. Tank 5 was in poor condition, with numerous perforations; no material was contained within Tank 5. Soil samples were collected from the sidewalls and bottom of each UST excavation and were submitted for analysis of DRPH and ORPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Dx. The soil samples collected from the bottom of the Tank 2 excavation was also submitted for analysis of RCRA 8 metals, which included arsenic, barium, cadmium, chromium lead, mercury, selenium, and silver, by EPA Methods 200.8 and 1631E. Concentrations of DRPH, ORPH, and metals remained below their respective laboratory reporting limits and/or cleanup levels in all of the soil samples collected from the excavation limits. The tank excavations were backfilled with recycled concrete. A report summarizing the field activities and laboratory analytical results is provided in Appendix E of the Remedial Investigation Report (SoundEarth 2013a).

APPENDIX B

BORING LOGS

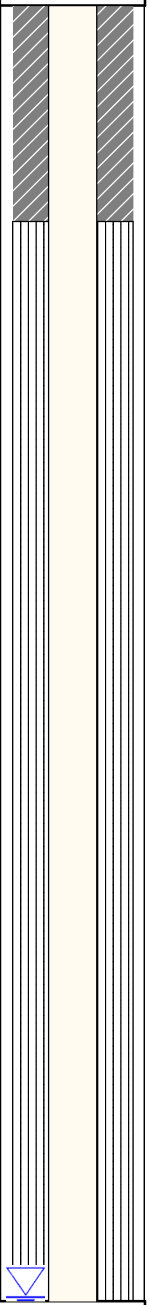
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling 15 feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Concrete 10"-thick.**	
5	☒	13 15 17	100	0.0		**SM**		**Damp, loose, silty SAND with gravel, brown, no hydrocarbon odor (30-55-15).**	
10	☒	10 11 15	100	0.0	B120-10	**SM**		**Damp, loose, silty SAND with gravel, brown with gray spots, no hydrocarbon odor (35-55-10).**	
15									



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 015

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 40-50 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling 15 feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	2 6 7	100	0.4		**SM**		**Wet to moist, loose, silty SAND, trace gravel, gray, no hydrocarbon odor (35-60-5).**	
20	☒	2 3 5	20	0.0	B120-20	**ML**		**Wet, loose, silty with fine SAND and trace gravel, gray, no hydrocarbon odor (60-35-5).**	
								Driller reports very dense at 24' bgs.	
25	☒	16 16 19	0					**No recovery.**	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 015

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 40-50 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

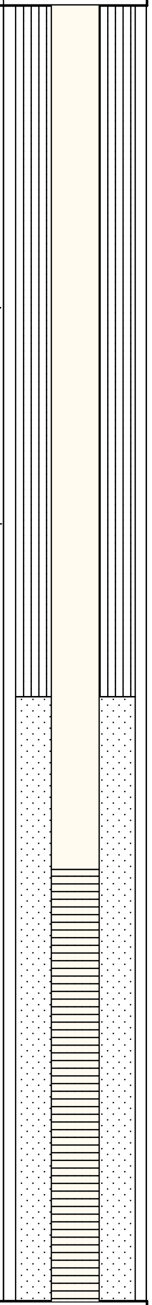
SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs



Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
30	☒	50/6	33	0.0	B120-30	**SP**		**Wet, very dense, fine to medium SAND with trace silty and gravel, no hydrocarbon odor (10-85-5).**
35	☒	50/6	100	0.0		**GP**		**Wet, very dense, fine GRAVEL with sand and silt, brown, no hydrocarbon odor (10-20-70).**
						SP		**Wet, very dense, medium to fine SAND with silt, brown, no hydrocarbon odor (10-90-0).**
40	☒	50/6	0					**No recovery.**
45								

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 015

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 40-50 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

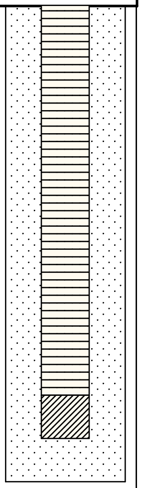
Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG B120 MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	50/6	33	0.0	B120-45	**ML**		**Wet, very dense, silt with fine SAND and gravel, gray, no hydrocarbon odor with wood ash (60-35-5).**	
50	☒	50/6	33	0.0	B120-50	**ML**		**Wet, very dense, SILT with fine sand and gravel, gray, no hydroarbon odor (60-35-5).**	
								Boring terminated at 50.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 50 feet bgs, screened from 40 to 50 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW120.	
55									
60									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	50.5	feet bgs
Total Well Depth:	50	feet bgs
State Well ID No.:	BID 015	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	40-50	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

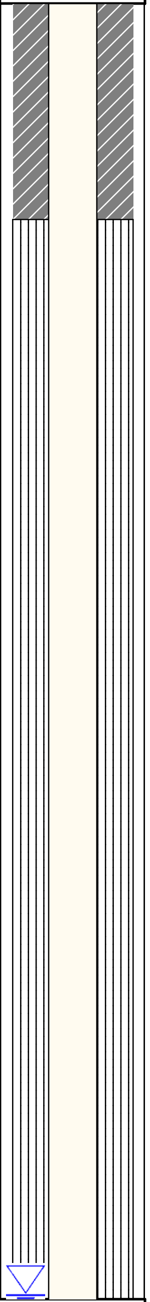
BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 10"-thick.**
5	☒	13 15 17	100	0.0		**SM**		**Damp, loose, silty SAND with gravel, brown, no hydrocarbon odor (30-55-15).**
10	☒	10 11 15	100	0.0	B120-10	**SM**		**Damp, loose, silty SAND with gravel, brown with gray spots, no hydrocarbon odor (35-55-10).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	50.5	feet bgs
Total Well Depth:	50	feet bgs
State Well ID No.:	BID 015	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	40-50	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG | **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	2 6 7	100	0.4		**SM**		**Wet to moist, loose, silty SAND, trace gravel, gray, no hydrocarbon odor (35-60-5).**	
20	☒	2 3 5	20	0.0	B120-20	**ML**		**Wet, loose, silty with fine SAND and trace gravel, gray, no hydrocarbon odor (60-35-5).**	
								Driller reports very dense at 24' bgs.	
25	☒	16 16 19	0					**No recovery.**	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 015

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 40-50 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

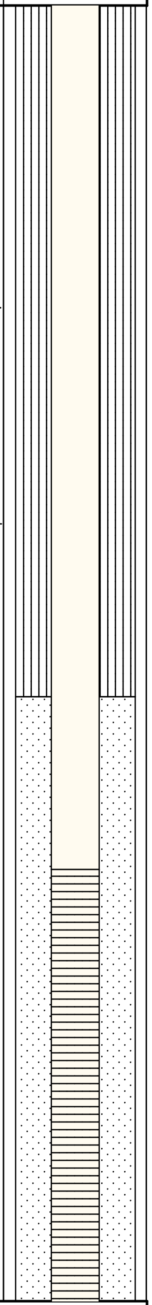
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 38' N of NW corner of city light building
Well Location E/W: 16.2' E of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	50/6	33	0.0	B120-30	**SP**		**Wet, very dense, fine to medium SAND with trace silty and gravel, no hydrocarbon odor (10-85-5).**	
35	☒	50/6	100	0.0		**GP**		**Wet, very dense, fine GRAVEL with sand and silt, brown, no hydrocarbon odor (10-20-70).**	
						SP		**Wet, very dense, medium to fine SAND with silt, brown, no hydrocarbon odor (10-90-0).**	
40	☒	50/6	0					**No recovery.**	
45									



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 015

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 40-50 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project:	700 Dexter
Project Number:	0797-001-02
Logged by:	RAH
Date Started:	12/16/13
Surface Conditions:	Concrete
Well Location N/S:	38' N of NW corner of city light building
Well Location E/W:	16.2' E of NW corner of city light building
Reviewed by:	CCC
Date Completed:	12/16/13

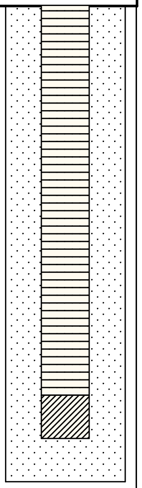
BORING LOG **B120** MW120

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling**	15	feet bgs
▼ **Water Depth After Completion**	--	feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
45	☒	50/6	33	0.0	B120-45	**ML**		**Wet, very dense, silt with fine SAND and gravel, gray, no hydrocarbon odor with wood ash (60-35-5).**
50	☒	50/6	33	0.0	B120-50	**ML**		**Wet, very dense, SILT with fine sand and gravel, gray, no hydroarbon odor (60-35-5).**
								Boring terminated at 50.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 50 feet bgs, screened from 40 to 50 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW120.
55								
60								

Well Construction Detail



Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	50.5	feet bgs
Total Well Depth:	50	feet bgs
State Well ID No.:	BID 015	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	40-50	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

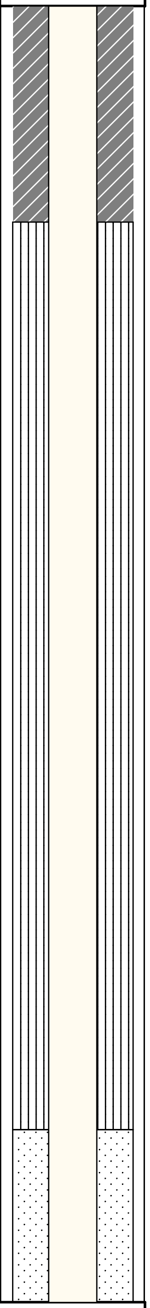
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 128' S of NW corner of city light building
Well Location E/W: 18' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG B121

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Concrete cored prior to drilling. Concrete 4 inches thick.**	
5	☒	8 16 20	100	0.0	B121-05	**SM**		**Damp, medium dense, silty SAND with gravel, brown, (30-60-10) (FILL).**	
10	☒	6 7 8	100	0.0		**SM**		**Damp, loose, silty SAND with gravel and miscellaneous debris, black, no hydrocarbon odor (FILL).**	
15									



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 26.5 feet bgs
Total Well Depth: 25 feet bgs
State Well ID No.: BID 016

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

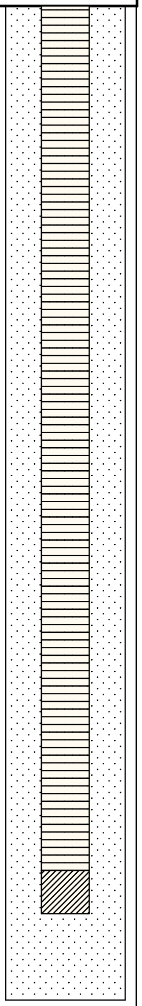
Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 128' S of NW corner of city light building
Well Location E/W: 18' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG B121

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	3 2 1	100	0.0	B121-15	**ML**		**Wet, loose, SILT with sand and gravel, gray, wood ash, no hydrocarbon odor (50-40-10).**	
20	☒	0 2 4	100	0.0		**ML**		**Wet, dense, SILT with sand and gravel, gray, no hydrocarbon odor (possible lake sediments) (50-40-10).**	
25	☒	1 1 3	100	0.0	B121-25	**ML**		**Moist, loose, SILT with fine sand and organics, gray, no hydrocarbon odor (70-30-0).**	
								Boring terminated at 26.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 25 feet bgs, screened from 15 to 25 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW121.	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 26.5 feet bgs
Total Well Depth: 25 feet bgs
State Well ID No.: BID 016

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

BORING LOG B122 MW122

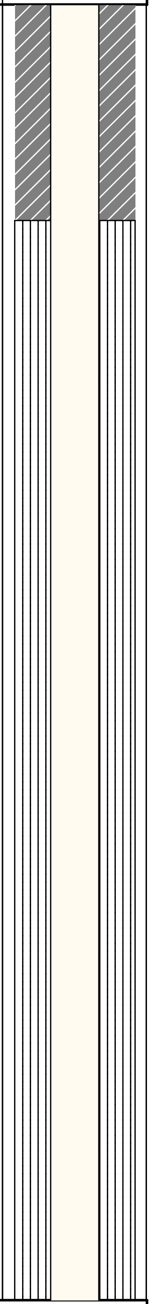
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 8 inches thick.**
								Cleared with vent truck????
5								
10	☒	8 8 8	100	2.5	B122-10	**ML**	▥	**Damp, loose, SILT with sand and gravel and brick debris, dark gray to black, moderate hydrocarbon odor (50-40-10) (FILL).**
15								

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG **B122** MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	5 6 8	100	4.0	B122-15	**SM**	▨	**Moist to wet, silty SAND with gravel, gray, slight hydrocarbon odor (40-50-10).**	
20	☒	3 5 9	100	0.0	B122-20	**SM**	▨	**Wet, loose, silty SAND with gravel, gray, no hydrocarbon odor (40-50-10).**	
25	☒	5 8 10	80	0.0	B122-25-20131217 B122-25	**SP**	░	**Wet, loose, medium to fine SAND with silt and gravel, gray, slight hydrocarbon odor (10-85-5).**	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

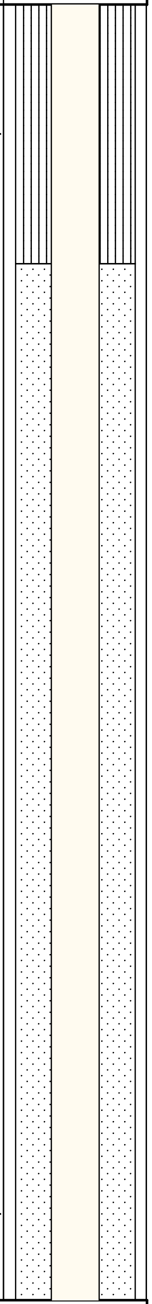
BORING LOG | B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
30	☒	17 50/6	100	0.0	B122-30	**ML**		**Damp, very dense, SILT with fine sand, gray, no hydrocarbon odor (60-40-0).**
35	☒	14 50/6	100	0.0	B122-35	**ML**		**Moist to wet, very dense, SILT with fine sand, gray, no hydrocarbon odor (55-45-0).**
40	☒	19 50/6	100	0.0	B122-40-20131217 B122-40	**ML**		**Wet, very dense, SILT with fine sand, gray, no hydrocarbon odor (60-40-0).**
45								

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG | **B122** MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45		50/6	100	0.0	B122-45	**SP**		**Wet, very dense, medium to fine SAND with silt, gray, no hydrocarbon odor (10-90-0).**	
50		50/6	100	0.0	B122-50	**ML**		**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (65-30-5).**	
55		50/6	100	0.0		**SM**		**Damp to moist, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (45-40-15).** **Sample is warm to the touch.**	
60									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122
MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
60	☒	50/6	100	0.0	B122-60	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
65	☒	50/6	70	0.0		**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
70	☒	50/6	90	0.0	B122-70	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
75									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG | B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
75	☒	50/6	80	0.0		**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-50-10).**	
80	☒	50/6	100	0.0	B122-80	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-50-10).**	
								Driller reports change in drilling conditions. Easier conditions.	
85	☒	50/6	100	0.0	B122-85-20131217	**SP**		**Wet, very dense, medium to fine SAND with silt and gravel, gray, no hydrocarbon odor (10-80-10).**	
90									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
90	☒							**Lost sampler.**	
95	☒							**Had to overdrill sampler.**	
100	☒	50/6	100	0.0	B122-100	**SP**	▨	**Wet, very dense, coarse to medium SAND and silt with gravel, gray, no hydrocarbon odor (5-8-15).**	
								Heaving conditions. Sampler stuck in Auger, sand locked. Boring advanced to 115 and set well without collecting soil samples.	
105									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

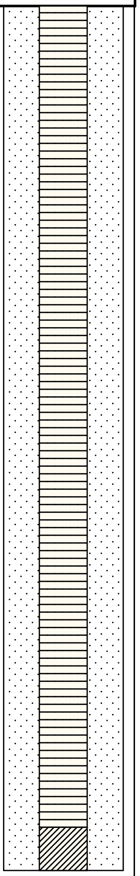
Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG | **B122** MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
105								**Heaving conditions. Sampler stuck in Auger, sand locked. Boring advanced to 115 and set well without collecting soil samples.**	
110									
115								**Boring terminated at 115 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 115 feet bgs, screened from 105 to 115 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW122.**	
120									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	115	feet bgs
Total Well Depth:	115	feet bgs
State Well ID No.:		

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	105-115	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

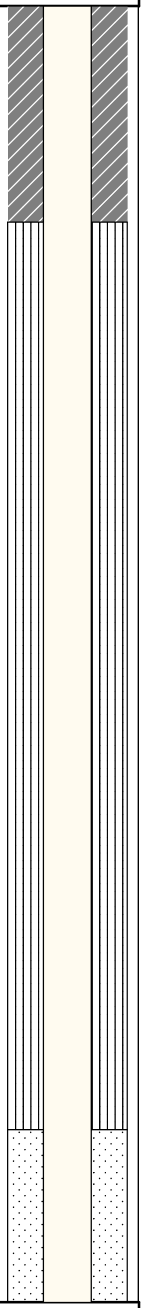
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 128' S of NW corner of city light building
Well Location E/W: 18' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

BORING LOG B121

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Concrete cored prior to drilling. Concrete 4 inches thick.**	
5	☒	8 16 20	100	0.0	B121-05	**SM**		**Damp, medium dense, silty SAND with gravel, brown, (30-60-10) (FILL).**	
10	☒	6 7 8	100	0.0		**SM**		**Damp, loose, silty SAND with gravel and miscellaneous debris, black, no hydrocarbon odor (FILL).**	
15									



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 26.5 feet bgs
Total Well Depth: 25 feet bgs
State Well ID No.: BID 016

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

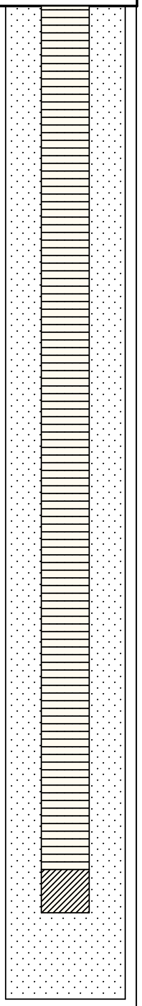
Notes/Comments:

BORING LOG B121

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/16/13
Surface Conditions: Concrete
Well Location N/S: 128' S of NW corner of city light building
Well Location E/W: 18' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/16/13

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	3 2 1	100	0.0	B121-15	ML		**Wet, loose, SILT with sand and gravel, gray, wood ash, no hydrocarbon odor (50-40-10).**	
20	☒	0 2 4	100	0.0		ML		**Wet, dense, SILT with sand and gravel, gray, no hydrocarbon odor (possible lake sediments) (50-40-10).**	
25	☒	1 1 3	100	0.0	B121-25	ML		**Moist, loose, SILT with fine sand and organics, gray, no hydrocarbon odor (70-30-0).**	
								Boring terminated at 26.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 25 feet bgs, screened from 15 to 25 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW121.	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 26.5 feet bgs
Total Well Depth: 25 feet bgs
State Well ID No.: BID 016

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

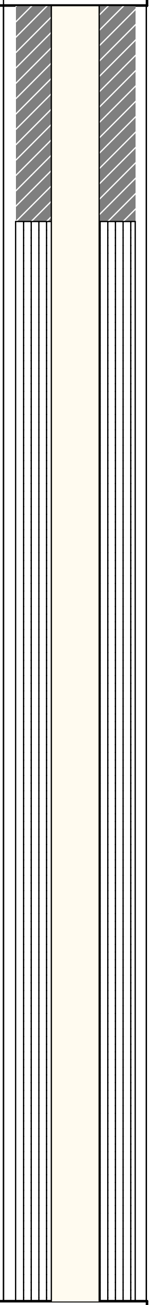
BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 8 inches thick.**
								Cleared with vent truck????
5								
10	☒	8 8 8	100	2.5	B122-10	**ML**	▥	**Damp, loose, SILT with sand and gravel and brick debris, dark gray to black, moderate hydrocarbon odor (50-40-10) (FILL).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade Drilling/ David		**Well/Auger Diameter:**	2" / 8.25"	inches
Drilling Equipment:	LAR HSA		**Well Screened Interval:**	105-115	feet bgs
Sampler Type:	D+M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	2/12 Sand	
Total Boring Depth:	115	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	115	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:			**Monument Type:**	Flush-mount	

Notes/Comments:

Page: **1 of 8**

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		5 6 8	100	4.0	B122-15	SM		**Moist to wet, silty SAND with gravel, gray, slight hydrocarbon odor (40-50-10).**	
20		3 5 9	100	0.0	B122-20	SM		**Wet, loose, silty SAND with gravel, gray, no hydrocarbon odor (40-50-10).**	
25		5 8 10	80	0.0	B122-25-20131217 B122-25	SP		**Wet, loose, medium to fine SAND with silt and gravel, gray, slight hydrocarbon odor (10-85-5).**	
30									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	115	feet bgs
Total Well Depth:	115	feet bgs
State Well ID No.:		

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	105-115	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

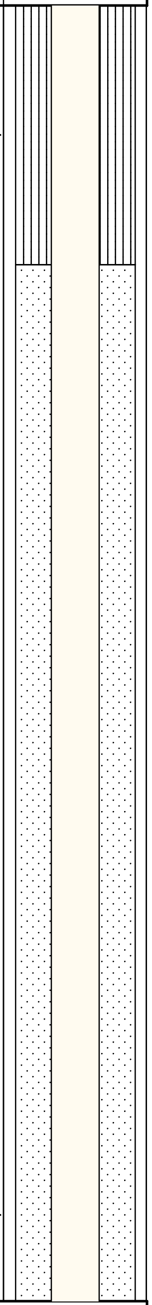
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG | B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	17 50/6	100	0.0	B122-30	**ML**		**Damp, very dense, SILT with fine sand, gray, no hydrocarbon odor (60-40-0).**	
35	☒	14 50/6	100	0.0	B122-35	**ML**		**Moist to wet, very dense, SILT with fine sand, gray, no hydrocarbon odor (55-45-0).**	
40	☒	19 50/6	100	0.0	B122-40-20131217 B122-40	**ML**		**Wet, very dense, SILT with fine sand, gray, no hydrocarbon odor (60-40-0).**	
45									



Drilling Co./Driller:	Cascade Drilling/ David		**Well/Auger Diameter:**	2" / 8.25"	inches
Drilling Equipment:	LAR HSA		**Well Screened Interval:**	105-115	feet bgs
Sampler Type:	D+M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	2/12 Sand	
Total Boring Depth:	115	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	115	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:			**Monument Type:**	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	50/6	100	0.0	B122-45	SP		**Wet, very dense, medium to fine SAND with silt, gray, no hydrocarbon odor (10-90-0).**	
50	☒	50/6	100	0.0	B122-50	ML		**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (65-30-5).**	
55	☒	50/6	100	0.0		SM		**Damp to moist, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (45-40-15).** **Sample is warm to the touch.**	
60									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
60		50/6	100	0.0	B122-60	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
65		50/6	70	0.0		**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
70		50/6	90	0.0	B122-70	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-45-15).**	
75									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	LAR HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	115	feet bgs
Total Well Depth:	115	feet bgs
State Well ID No.:		

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	105-115	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

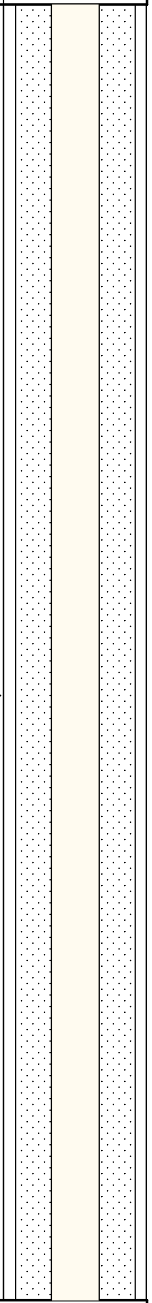
BORING LOG | B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
75	☒	50/6	80	0.0		**SM**	▥	**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-50-10).**
80	☒	50/6	100	0.0	B122-80	**SM**	▥	**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-50-10).**
								Driller reports change in drilling conditions. Easier conditions.
85	☒	50/6	100	0.0	B122-85-20131217	**SP**	⁙	**Wet, very dense, medium to fine SAND with silt and gravel, gray, no hydrocarbon odor (10-80-10).**
90								

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
90	☒							**Lost sampler.**	
95	☒							**Had to overdrill sampler.**	
100	☒	50/6	100	0.0	B122-100	**SP**	▨	**Wet, very dense, coarse to medium SAND and silt with gravel, gray, no hydrocarbon odor (5-8-15).**	
								Heaving conditions. Sampler stuck in Auger, sand locked. Boring advanced to 115 and set well without collecting soil samples.	
105									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

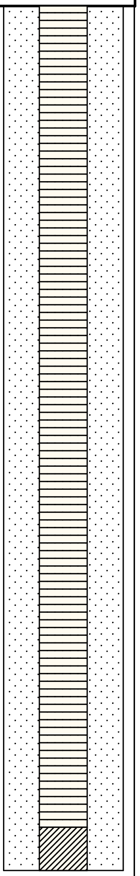
SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/17/12
Surface Conditions: Concrete
Well Location N/S: 35.8' N of NE corner of city light building
Well Location E/W: 5' E of NE corner of city light building
Reviewed by: CCC
Date Completed: 12/17/13

BORING LOG | B122 MW122

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
105								**Heaving conditions. Sampler stuck in Auger, sand locked. Boring advanced to 115 and set well without collecting soil samples.**	
110									
115								**Boring terminated at 115 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 115 feet bgs, screened from 105 to 115 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW122.**	
120									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: LAR HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 115 feet bgs
Total Well Depth: 115 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 105-115 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

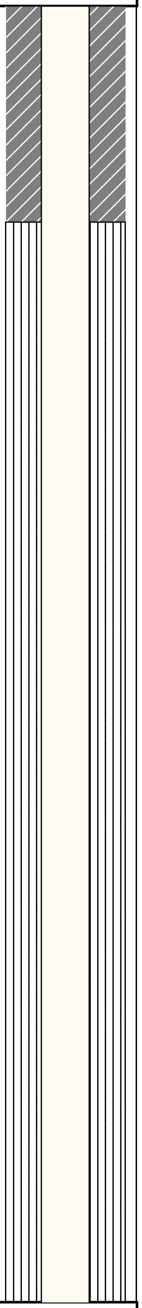
BORING LOG B123 MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 10 inches thick.**
								Boring vac cleared to 10' bgs
5								
10	☒	2 2 3	100	0.5	B123-10	**ML**		**Damp, loose, SILT with fine sand and gravel, gray, no hydrocarbon odor (60-35-5).**
15								

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 80 feet bgs
Total Well Depth: 80 feet bgs
State Well ID No.: BID 018

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 70 to 80 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

BORING LOG | **B123** MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	4 4 6	100	0.0		**ML**		**Damp, loose, SILT with fine sand and gravel, gray, no hydrocarbon odor (50-35-5).**	
20	☒	2 3 3	100	0.0	B123-20	**SM**		**Wet, loose, silty SAND with gravel, gray, no hydrocarbon odor (40-55-5).**	
25	☒	6 7 7	100	0.0		**ML**		**Wet, loose, SILT with fine sand and gravel, gray, no hydrocarbon odor (60-35-5).**	
30									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	80	feet bgs
Total Well Depth:	80	feet bgs
State Well ID No.:	BID 018	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	70 to 80	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

BORING LOG B123 MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	50/6	0					**No recovery.** **Drilling on loose rock.**	
35	☒							**No sample.**	
40	☒							**Through rock. Hammer threads damaged, cannot collect soil samples for the rest of the borin.**	
45									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 80 feet bgs
Total Well Depth: 80 feet bgs
State Well ID No.: BID 018

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 70 to 80 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

BORING LOG | B123 MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒					**SM**		**Cuttings indicate wet silty SAND, gray, no hydrocarbon odor.**	
50	☒					**SM**		**Cuttings indicate wet silty SAND, gray, no hydrocarbon odor.**	
55	☒					**SM**		**Cuttings indicate wet silty SAND, gray, no hydrocarbon odor.**	
60									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 80 feet bgs
Total Well Depth: 80 feet bgs
State Well ID No.: BID 018

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 70 to 80 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

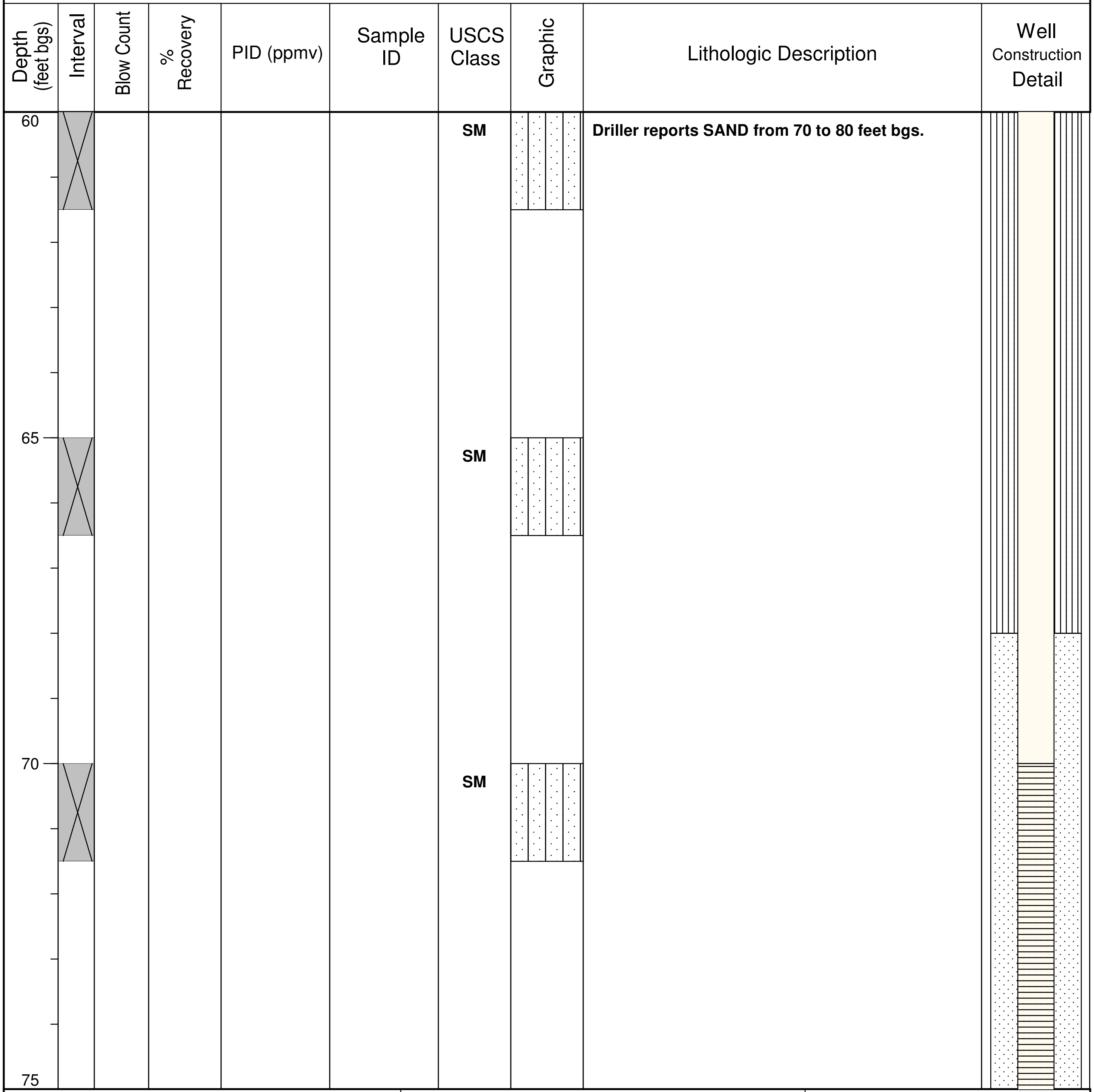
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

BORING LOG

B123
MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling**	--	feet bgs
▼ **Water Depth After Completion**	--	feet bgs



Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Lithologic Description
60	☒					SM	**Driller reports SAND from 70 to 80 feet bgs.**
65	☒					SM	
70	☒					SM	
75							

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	80	feet bgs
Total Well Depth:	80	feet bgs
State Well ID No.:	BID 018	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	70 to 80	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/18/12
Surface Conditions: Concrete
Well Location N/S: 49.5' S of northern-most point of building
Well Location E/W: 14.2' E of E wall of building
Reviewed by: CCC
Date Completed: 12/18/13

BORING LOG **B123** MW123

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
75	☒					**SM**		**Driller reports SAND from 70 to 80 feet bgs.**	
80								**Boring terminated at 80 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 80 feet bgs, screened from 70 to 80 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW123.**	
85									
90									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 80 feet bgs
Total Well Depth: 80 feet bgs
State Well ID No.: BID 018

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 70 to 80 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

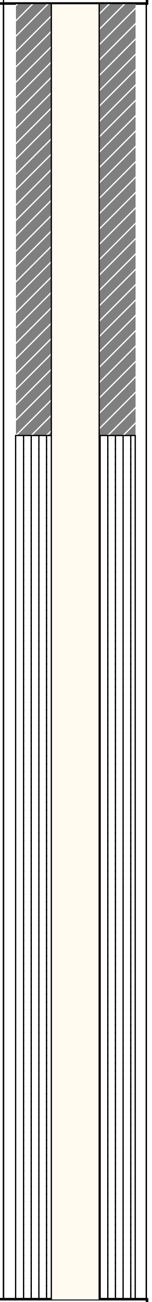
Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Concrete 8 inches thick.**	
5									
10	☒	10 11 10	90	0.0	B124-10	**GP**		**Damp, loose, gravelly SAND with silt, brown, no hydrocarbon odor (10-30-60).**	
15									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124
MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	5 4 3	100	0.0	B124-15	**ML**		**Damp, loose, SILT with fine sand and gravel, dark brown, no hydrocarbon odor (55-40-5).**	
20	☒	4 6 8	100	0.0	B124-20	**ML**		**Moist, loose, SILT wiht fine sand and gravel, dark brown, no hydrocarbon odor (55-40-5).**	
25	☒	6 10 15	100	0.0	B124-25	**SM**		**Wet, loose, silty SAND with gravel, brown, no hydrocarbon odor (25-65-10).**	
30									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	10 16 17	100	0.0	B124-30	**SP**		**Damp, dense, medium to fine SAND with gravel and silt, reddish brown, no hydrocarbon odor (10-80-10).**	
35	☒	11 11 13	100	0.0	B124-35	**SM**		**Moist, loose, silty SAND with gravel, brown no hydrocarbon odor (35-60-5).**	
						ML		**Damp, loose, SILT with fine sand, brown, no hydrocarbon odor (55-45-0).**	
						SP		**Damp, loose, medium to fine SAND with silt and gravel, brown, no hydrocarbon odor (10-80-10).**	
40	☒	20 23 26	100	0.0	B124-40	**SM**		**Wet, dense, silty SAND with gravel, brown, no hydrocarbon odor (20-70-10).**	
45									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124
MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	50/4	100	0.0	B124-45_20131219 B124-45	SP		**Wet, very dense, SAND with silt and gravel, brown, no hydrocarbon odor (10-80-10).**	
50	☒	50/6	100	0.0	B124-50	GP		**Wet, very dense, gravelly SAND with silt, gray, no hydrocarbon odor (10-40-50).**	
55	☒	50/6	35	0.0	B124-55	SM		**Wet, very dense, silty SAND with gravel, cohesive gray, no hydrocarbon odor (45-40-15).**	
60									

Drilling Co./Driller:	Cascade Drilling/ David		**Well/Auger Diameter:**	2" / 8.25"	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	110 to 120	feet bgs
Sampler Type:	D+M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	2/12 Sand	
Total Boring Depth:	120.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	120	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:			**Monument Type:**	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG | B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
60	☒	50/6	100	0.0	B124-60_20131219 B124-60	SP		**Wet, very dense, medium to fine SAND with silt and trace gravel, gray, no hydrocarbon odor (10-85-5).**	
65	☒	50/6	100	0.0	B124-65	SM		**Moist to wet, very dense, silty SAND and gravel, gray, cohesive, no hydrocarbon odor (20-65-15).**	
70	☒	50/6	100	0.0	B124-70	SM		**Wet, very dense, silty SAND with trace gravel, gray, no hydrocarbon odor (30-60-10).**	
75									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
75	☒	50/6	100	0.0	B124-75	**ML**		**Damp, very dense, SILT with fine sand, bray, cohesive, no hydrocarbon odor (75-25-0).**	
80	☒	50/6	66	0.0	B124-80	**ML**		**Damp, very dense, SILT with fine sand, cohesive, gray, no hydrocarbon odor (50-50-0).**	
85	☒	50/6	66	0.0	B124-85	**SM**		**Moist, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (30-55-15).**	
90									

Drilling Co./Driller:	Cascade Drilling/ David		**Well/Auger Diameter:**	2" / 8.25"	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	110 to 120	feet bgs
Sampler Type:	D+M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	2/12 Sand	
Total Boring Depth:	120.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	120	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:			**Monument Type:**	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG | B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
90	☒	50/6	60	0.0	B124-90	**ML**		**Damp, very dense, SILT with fine sand, gray, cohesive, no hydrocarbon odor (80-20-0).**	
95	☒	50/6	100	0.0	B124-95	**ML**		**Damp, very dense, SILT with fine sand and trace gravel, gray, cohesive, no hydrocarbon odor (50-45-5).**	
100	☒	50/6	100	0.0	B124-100	**SP**		**Wet, very dense, medium to fine SAND with silt, gray, no hydrocarbon odor (10-90-0).**	
105									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

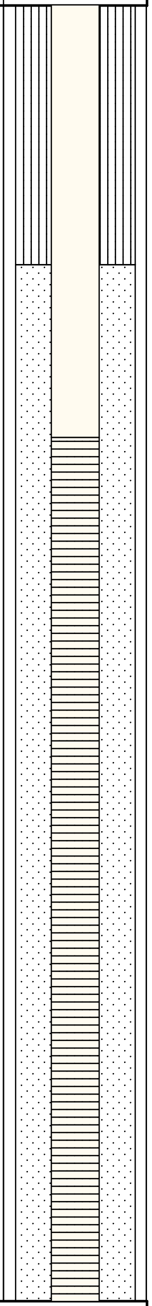
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG B124 MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
105		50/6	100	0.0	B124-105	**SP**		**Wet, very dense, medium to fine SAND with gravel, dark gray, no hydrocarbon odor (10-90-0).**	
110		50/6	33	0.0	B124-110	**SP**		**Wet, very dense, medium to fine SAND with silt, dark gray, no hydrocarbon odor (10-90-0).**	
115		50/6	100	0.0	B124-115	**SP**		**Wet, very dense, medium to fine SAND with silt, dark gray, no hydrocarbon odor (10-90-0).**	
120									



Drilling Co./Driller:	Cascade Drilling/ David		**Well/Auger Diameter:**	2" / 8.25"	inches
Drilling Equipment:	HSA		**Well Screened Interval:**	110 to 120	feet bgs
Sampler Type:	D+M		**Screen Slot Size:**	0.010	inches
Hammer Type/Weight:	140	lbs	**Filter Pack Used:**	2/12 Sand	
Total Boring Depth:	120.5	feet bgs	**Surface Seal:**	Cement	
Total Well Depth:	120	feet bgs	**Annular Seal:**	Bentonite	
State Well ID No.:			**Monument Type:**	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/19/13
Surface Conditions: Concrete
Well Location N/S: 8.5' N of NW corner of building
Well Location E/W: 13' E of NW corner of building
Reviewed by: CCC
Date Completed: 12/19/13

BORING LOG | **B124** MW124

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
120	☒	50/6	100	0.0	B124-120	**SP**	░	**Wet, very dense, medium to fine SAND with silt, dark gray, no hydrocarbon odor (10-90-0).**	░
								Boring terminated at 120.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 120 feet bgs, screened from 110 to 120 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW124.	
125									
130									
135									

Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 120.5 feet bgs
Total Well Depth: 120 feet bgs
State Well ID No.:

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 110 to 120 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/20/13
Surface Conditions: Concrete
Well Location N/S:
Well Location E/W:
Reviewed by: CCC
Date Completed: 12/20/13

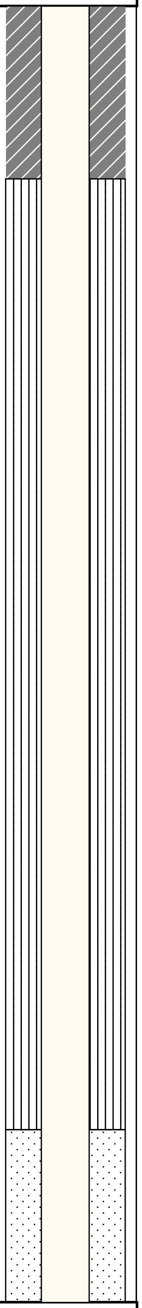
BORING LOG **B125** MW125

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 10 inches thick.**
5	☒	8 9 10	100	0.2	B125-05	**SM**	▨	**Damp, loose, silty SAND with gravel, brown, no hydrocarbon odor (35-45-20).**
10	☒	5 7 8	90	0.2	B125-10	**SM**	▨	**Damp, loose, silty SAND with gravel, brown, no hydrocarbon odor (30-50-20).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	31.5	feet bgs
Total Well Depth:	30	feet bgs
State Well ID No.:	BID 020	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	15 to 30	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

Page: **1 of 3**

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/20/13
Surface Conditions: Concrete
Well Location N/S:
Well Location E/W:
Reviewed by: CCC
Date Completed: 12/20/13

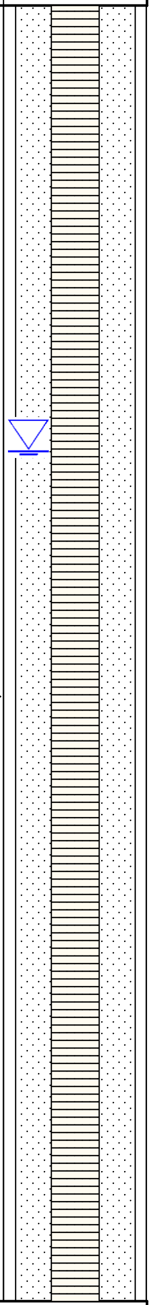
BORING LOG **B125** MW125

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling 20 feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
15	☒	6 7 7	100	0.0	B125-15	**ML**		**Damp to moist, loose, SILT with fine sand, greenish gray, no hydrocarbon odor (80-20-0).**
20	☒	2 4 6	100	0.2	B125-20	**SM**		**Wet, loose, silty SAND with gravel, gray, no hydrocarbon odor (30-65-5).**
25	☒	50/6	100	0.0	B125-25	**ML**		**Damp, very dense. SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (50-40-10).**
30								

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ David
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 31.5 feet bgs
Total Well Depth: 30 feet bgs
State Well ID No.: BID 020

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 15 to 30 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Cement
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

Project:	700 Dexter
Project Number:	0797-001-02
Logged by:	RAH
Date Started:	12/20/13
Surface Conditions:	Concrete
Well Location N/S:	
Well Location E/W:	
Reviewed by:	CCC
Date Completed:	12/20/13

BORING LOG B125 MW125

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling**	20	feet bgs
▼ **Water Depth After Completion**	--	feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	8 9 9	100	0.0	B125-30	**ML**		**Damp, loose, SILT with fine sand, brown, no hydrocarbon odor, plastic (80-20-0).**	
								Boring terminated at 31.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 30 feet bgs, screened from 15 to 30 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW125.	
35									
40									
45									

Drilling Co./Driller:	Cascade Drilling/ David	
Drilling Equipment:	HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	31.5	feet bgs
Total Well Depth:	30	feet bgs
State Well ID No.:	BID 020	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	15 to 30	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Cement	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG B126 MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0								**Concrete 10" thick**	
								Clear boring with vactor truck to depth of approximately 10 feet bgs.	
5									
10	☒	10 16 17	100	400	B126-10	**SM**	▨	**Damp, dense, silty SAND with gravel, gray, moderate hydrocarbon odor (35, 50, 15).**	
15					B126-15				

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

Page: **1 of 7**

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG B126 MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	4 4 4	100	5.7		**SM-ML**	▥	**Moist, loose, silty SAND with gravel, gray, slight hydrocarbon odor (45, 45, 10).**	
20	▽ ☒	8 4 4	15	3.2	B126-20	**SM-ML**	▥	**Wet, loose, silt with fine SAND, gray, no hydrocarbon odor (55, 45, 0).**	
25	☒	8 10 11	100	2.8	B126-25	**SP-SM**	▥	**Wet, loose, fine to medium SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
30									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG **B126** MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	12 16 17	100	0.5	B126-30	**SP-SM**	▥	**Moist, dense, very fine SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
35	☒	50/6	100	0.0	B126-35	**SP-SM**	▥	**Wet, very dense, very fine SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
40	☒	50/6	100	0.2	B126-40	**SP-SM**	▥	**Wet, very dense, fine to medium SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
45									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG **B126** MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	50/6	33	0.0	B126-45	**ML**	▥	**Damp, very dense, silt with fine SAND, gray, no hydrocarbon odor (60, 40, 0).**	
50	☒	50/6	100	0.0	B126-50	**SM-ML**	▥	**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40, 50, 0).**	
55	☒	50/6	33	0.0	B126-55	**ML**	▥	**Damp, very dense, SILT with fine sand and gravel, gray, cohesive, no hydrocarbon odor (50, 40, 10).**	
60									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG **B126** MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
60	☒	50/6	33	0.0	B126-60	**ML**	▥	**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (60, 30, 10).**	
65	☒	50/6	33	0.0	B126-65	**ML**	▥	**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (60, 30, 10).**	
70	☒	50/6	100	0.0	B126-70	**ML**	▥	**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (50, 40, 10).**	
75									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG **B126** MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
75		50/6	33	0.0	B126-75	**ML**		**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (50, 40, 10).**	
80		50/6	33	0.0	B126-80	**ML**		**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (50, 40, 10).**	
85		50/6	33	0.0	B126-85	**ML**		**Damp, very dense, SILT with fine sand and gravel, cohesive, gray, no hydrocarbon odor (50, 40, 10).**	
90									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: RAH
Date Started: 12/30/13
Surface Conditions: Concrete
Well Location N/S: 162 ft north of NE corner of Seattle City Light Bld
Well Location E/W: 4.5 ft east of NE corner of Seattle City Light Building
Reviewed by:
Date Completed: 12/30/13

BORING LOG **B126** MW126

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 20 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
90	☒	50/6	0					**Slough in sampler.**	
95	☒	50/6	100	0.0	B126-95	**SP**	▨	**Wet, very dense, fine to coarse SAND with gravel and silt, gray, no hydrocarbon odor, outwash sands (5, 90, 5).**	
								EOB at 95.5 feet bgs. Set well MW126.	
100									
105									

Drilling Co./Driller: Cascade/Frank
Drilling Equipment: HSA
Sampler Type: Dames and Moore
Hammer Type/Weight: 140 lbs
Total Boring Depth: 95.5 feet bgs
Total Well Depth: 95 feet bgs
State Well ID No.: BID 021

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 85 to 95 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush Mount

Notes/Comments:

BORING LOG

B127
MW127

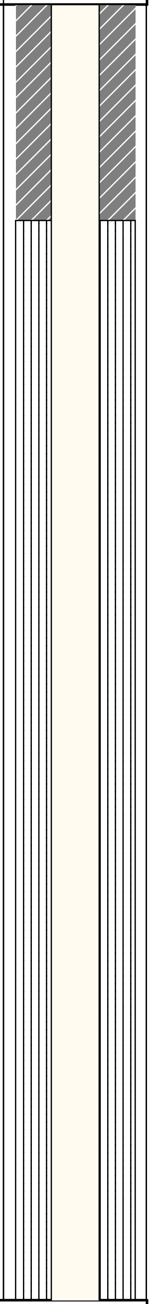
Project:	700 Dexter
Project Number:	0797-001-02
Logged by:	RAH
Date Started:	12/31/13
Surface Conditions:	Concrete
Well Location N/S:	155' N of NW corner of city light building
Well Location E/W:	4' W of NW corner of city light building
Reviewed by:	CCC
Date Completed:	12/31/13

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling	--	feet bgs
Water Depth After Completion	--	feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description
0								**Concrete 7 inches thick.** **Vac clean to 10' bgs.**
5								
10	☒	9 18 16	80	0.0	B127-10	**SM**	▥	**Damp, dense, silty SAND with gravel, brown, no hydrocarbon odor (35-55-10).**
15								

Well Construction Detail



Drilling Co./Driller:	Cascade Drilling/ Frank	
Drilling Equipment:	HSA	
Sampler Type:	D+M	
Hammer Type/Weight:	140	lbs
Total Boring Depth:	50.5	feet bgs
Total Well Depth:	50	feet bgs
State Well ID No.:	BID 022	

Well/Auger Diameter:	2" / 8.25"	inches
Well Screened Interval:	15 to 30	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush-mount	

Notes/Comments:

SoundEarth Strategies

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/31/13
Surface Conditions: Concrete
Well Location N/S: 155' N of NW corner of city light building
Well Location E/W: 4' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/31/13

BORING LOG B127 MW127

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15		4 7 8	90	0.0	B127-15	**ML**		**Moist, loose, SILT with fine sand, gray, no hydrocarbon odor (75-25-0).**	
20		16 50/6	0	--	--			**Wood in sampler.**	
								Drilling through wood.	
25		50/6	100	0.0	B127-25	**GM**		**Wet, very dense, silty GRAVEL with sand, gray, no hydrocarbon odor (20-20-60). Wood waste and some soil in samler.**	
30									

Drilling Co./Driller: Cascade Drilling/ Frank
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 022

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 15 to 30 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/31/13
Surface Conditions: Concrete
Well Location N/S: 155' N of NW corner of city light building
Well Location E/W: 4' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/31/13

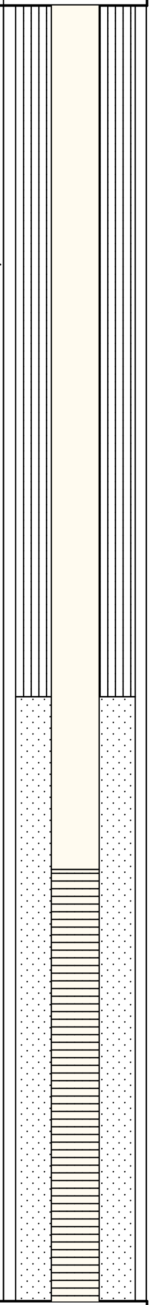
BORING LOG | B127 MW127

Site Address: 700 Dexter Avenue North
Seattle, WA

Water Depth At Time of Drilling -- feet bgs
Water Depth After Completion -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Lithologic Description
30	☒	50/6	50	0.0	B127-30	**SP**	**Wet, very dense, medium to fine SAND with silt, gray, no hydrocarbon odor (10-90-0).**
35	☒	50/6	70	0.0	B127-35	**ML**	**Damp, very dense, SILT with fine sand, cohesive, gray, no hydrocarbon odor (70-30-0).**
40	☒	50/6	50	0.0	B127-40	**ML**	**Wet, very dense, SILT with fine sand, cohesive, gray, no hydrocarbon odor (60-40-0).** **Trace sand with gravel in end of sampler.**
45							

Well Construction Detail



Drilling Co./Driller: Cascade Drilling/ Frank
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 022

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 15 to 30 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

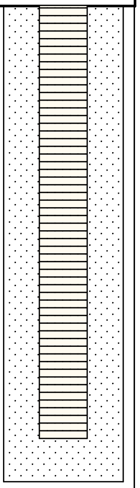
Project: 700 Dexter
Project Number: 0797-001-02
Logged by: RAH
Date Started: 12/31/13
Surface Conditions: Concrete
Well Location N/S: 155' N of NW corner of city light building
Well Location E/W: 4' W of NW corner of city light building
Reviewed by: CCC
Date Completed: 12/31/13

BORING LOG | B127 MW127

Site Address: 700 Dexter Avenue North
Seattle, WA

▽ **Water Depth At Time of Drilling** -- feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	50/6	100	0.0	B127-45	**SM**		**Damp, very dense, silty SAND with gravel, cohesive, gray, no hydrocarbon odor (40-50-10).**	
50	☒	50/6	100	0.0	B127-50	**SP**		**Wet, very dense, medium to fine SAND with silt, brown, no hydrocarbon odor (10-90-0).**	
								Boring terminated at 50.5 feet below ground surface (bgs). Two-inch diameter well installed to a depth of 50 feet bgs, screened from 40 to 50 feet bgs, and finished with a flush-mounted monument and concrete seal. Completed as monitoring well MW127.	
55									
60									



Drilling Co./Driller: Cascade Drilling/ Frank
Drilling Equipment: HSA
Sampler Type: D+M
Hammer Type/Weight: 140 lbs
Total Boring Depth: 50.5 feet bgs
Total Well Depth: 50 feet bgs
State Well ID No.: BID 022

Well/Auger Diameter: 2" / 8.25" inches
Well Screened Interval: 15 to 30 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush-mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: DMM
Date Started: 1/9/14
Surface Conditions: Concrete
Well Location N/S: 22 ft south of fire hydrant
Well Location E/W: 1 ft east of fire hydrant
Reviewed by: --
Date Completed: 1/9/14

BORING LOG B128
MW128

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
0									
								Boring air-knifed to 10 feet bgs prior to drilling.	
5									
10	☒	2 3 4	100	52.8	B128-10	**SM**		**Damp, loose, silty fine SAND with trace gravel, gray, faint hydrocarbon odor (40, 55, 5).**	
15	▽								

Drilling Co./Driller: Cascade/Dave
Drilling Equipment: HSA
Sampler Type: Split-spoon
Hammer Type/Weight: 300 lbs
Total Boring Depth: 70.5 feet bgs
Total Well Depth: 70 feet bgs
State Well ID No.:

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 60 to 70 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: DMM
Date Started: 1/9/14
Surface Conditions: Concrete
Well Location N/S: 22 ft south of fire hydrant
Well Location E/W: 1 ft east of fire hydrant
Reviewed by: --
Date Completed: 1/9/14

BORING LOG B128 MW128

Site Address: 700 Dexter
Seattle, Washington

▽	**Water Depth At Time of Drilling**	15	feet bgs
▼	**Water Depth After Completion**	--	feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
15	☒	5 5 3	50	2.6	B128-15	**SM**	▨	**Wet, loose, wood debris with some soil - silty SAND with gravel, brown, no hydrocarbon odor (20, 70, 10).**	
20	☒	4 7 8	33	1.3	B128-20	**SM-GM**	▨	**Wet, medium dense, silty gravelly SAND, dark gray, no hydrocarbon odor (20, 40, 40).**	
25	☒	5 9 11	100	0.6	B128-25	**SM-ML**	▨	**Damp, medium dense, fine sandy SILT with trace gravel and wood debris, gray, no hydrocarbon odor (50, 45, 5).**	
30									

Drilling Co./Driller:	Cascade/Dave	
Drilling Equipment:	HSA	
Sampler Type:	Split-spoon	
Hammer Type/Weight:	300	lbs
Total Boring Depth:	70.5	feet bgs
Total Well Depth:	70	feet bgs
State Well ID No.:		

Well/Auger Diameter:	2/8.25	inches
Well Screened Interval:	60 to 70	feet bgs
Screen Slot Size:	0.010	inches
Filter Pack Used:	2/12 Silica Sand	
Surface Seal:	Concrete	
Annular Seal:	Bentonite	
Monument Type:	Flush mount	

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: DMM
Date Started: 1/9/14
Surface Conditions: Concrete
Well Location N/S: 22 ft south of fire hydrant
Well Location E/W: 1 ft east of fire hydrant
Reviewed by: --
Date Completed: 1/9/14

BORING LOG **B128** MW128

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
30	☒	6 10 15	100	0.0	B128-30	**SM/SP**	▥	**Wet, medium dense, fine SAND with silt, dark gray, no hydrocarbon odor (10, 90, 0).**	
35	☒	10 10 14	100	0.0	B128-35	**ML**	▥	**Damp, medium dense, sandy SILT with trace gravel and wood debris, gray, no hydrocarbon odor (70, 25, 5).**	
40	☒	12 14 15	100	0.0	B128-40	**ML**	▥	**Damp, dense, SILT with fine sand, gray, no hydrocarbon odor (80, 20, 0).**	
45									

Drilling Co./Driller: Cascade/Dave
Drilling Equipment: HSA
Sampler Type: Split-spoon
Hammer Type/Weight: 300 lbs
Total Boring Depth: 70.5 feet bgs
Total Well Depth: 70 feet bgs
State Well ID No.:

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 60 to 70 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: DMM
Date Started: 1/9/14
Surface Conditions: Concrete
Well Location N/S: 22 ft south of fire hydrant
Well Location E/W: 1 ft east of fire hydrant
Reviewed by: --
Date Completed: 1/9/14

BORING LOG B128 MW128

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
45	☒	11 18 19	50	0.6	B128-45	**ML**		**Damp, dense, SILT/CLAY with fine sand, with small sand stringer, gray, no hydrocarbon odor (85, 15, 0).**	
50	☒	12 13 15	100	0.6	B128-50	**SM-ML**		**Damp to moist, medium dense, silty fine SAND to sandy SILT, gray, no hydrocarbon odor (50, 50, 0).**	
55	☒	12 12 16	75	0.0	B128-55	**ML**		**Damp, dense, fine sandy SILT, gray, no hydrocarbon odor (60, 40, 0).**	
60									

Drilling Co./Driller: Cascade/Dave
Drilling Equipment: HSA
Sampler Type: Split-spoon
Hammer Type/Weight: 300 lbs
Total Boring Depth: 70.5 feet bgs
Total Well Depth: 70 feet bgs
State Well ID No.:

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 60 to 70 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush mount

Notes/Comments:

SoundEarth Strategies

DRAFT

Project: 700 Dexter
Project Number: 0797-001
Logged by: DMM
Date Started: 1/9/14
Surface Conditions: Concrete
Well Location N/S: 22 ft south of fire hydrant
Well Location E/W: 1 ft east of fire hydrant
Reviewed by: --
Date Completed: 1/9/14

BORING LOG B128 MW128

Site Address: 700 Dexter
Seattle, Washington

▽ **Water Depth At Time of Drilling** 15 feet bgs
▼ **Water Depth After Completion** -- feet bgs

Depth (feet bgs)	Interval	Blow Count	% Recovery	PID (ppmv)	Sample ID	USCS Class	Graphic	Lithologic Description	Well Construction Detail
60	☒	16 16 19	100	0.6	B128-60	**SM/SP**	▥	**Moist, dense, fine SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
65	☒	11 12 14	100	0.0	B128-65	**SM/SP**	▥	**Moist, dense, fine SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
70	☒	50/6	250	0.0	B128-70	**SM/SP**	▥	**Wet, very dense, fine SAND with silt, gray, no hydrocarbon odor (10, 90, 0).**	
								End of boring at 70.5. Install MW128.	
75									

Drilling Co./Driller: Cascade/Dave
Drilling Equipment: HSA
Sampler Type: Split-spoon
Hammer Type/Weight: 300 lbs
Total Boring Depth: 70.5 feet bgs
Total Well Depth: 70 feet bgs
State Well ID No.:

Well/Auger Diameter: 2/8.25 inches
Well Screened Interval: 60 to 70 feet bgs
Screen Slot Size: 0.010 inches
Filter Pack Used: 2/12 Silica Sand
Surface Seal: Concrete
Annular Seal: Bentonite
Monument Type: Flush mount

Notes/Comments:

APPENDIX C

LABORATORY REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 17, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 13, 2012 from the SOU_0797_20120713, F&BI 207165 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
SOU0717R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 13, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120713, F&BI 207165 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207165-01	B101-139-20120712

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B101-139-20120712	Client:	SoundEarth Strategies
Date Received:	07/13/12	Project:	SOU_0797_20120713, F&BI 207165
Date Extracted:	07/13/12	Lab ID:	207165-01
Date Analyzed:	07/13/12	Data File:	071308.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120713, F&BI 207165
Date Extracted:	07/13/12	Lab ID:	02-1219 mb
Date Analyzed:	07/13/12	Data File:	071307.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/17/12
Date Received: 07/13/12
Project: SOU_0797_20120713, F&BI 207165

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

Laboratory Code: 207165-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	116	50-150
Chloroethane	ug/L (ppb)	50	<1	120	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	112	50-150
Methylene chloride	ug/L (ppb)	50	<5	113	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	113	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	111	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	113	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	112	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	115	50-150
Trichloroethene	ug/L (ppb)	50	<1	103	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	109	50-150

Date of Report: 07/17/12
Date Received: 07/13/12
Project: SOU_0797_20120713, F&BI 207165

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)
Vinyl chloride	ug/L (ppb)	50	104	102	70-130	2
Chloroethane	ug/L (ppb)	50	106	107	70-130	1
1,1-Dichloroethene	ug/L (ppb)	50	100	100	70-130	0
Methylene chloride	ug/L (ppb)	50	97	96	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	98	70-130	1
1,1-Dichloroethane	ug/L (ppb)	50	98	97	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	99	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	100	98	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	50	102	101	70-130	1
Trichloroethene	ug/L (ppb)	50	94	94	70-130	0
Tetrachloroethene	ug/L (ppb)	50	98	99	70-130	1

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.

207165

SAMPLE CHAIN OF CUSTODY

ME 07-13-12

Page # 1 of 1 VI

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 **Fax #** 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH ASAP
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOC's		Notes
B101-139-20120712	B101	139	01A-D	7-13-12	0830	wtr	4							X		

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:	Robert A. Hunsley	SES	7-13-12	0843
Received by:	Nhan Phan	F&BI	7-13-12	0843
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 17, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 12, 2012 from the SOU_0797_20120712, F&BI 207155 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
SOU0717R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 12, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120712, F&BI 207155 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207155-01	B101-120-20120712

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B101-120-20120712	Client:	SoundEarth Strategies
Date Received:	07/12/12	Project:	SOU_0797_20120712, F&BI 207155
Date Extracted:	07/12/12	Lab ID:	207155-01
Date Analyzed:	07/12/12	Data File:	071218.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120712, F&BI 207155
Date Extracted:	07/12/12	Lab ID:	02-1218 mb
Date Analyzed:	07/12/12	Data File:	071208.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/17/12
Date Received: 07/12/12
Project: SOU_0797_20120712, F&BI 207155

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

Laboratory Code: 207145-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	99	50-150
Chloroethane	ug/L (ppb)	50	<1	105	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	100	50-150
Methylene chloride	ug/L (ppb)	50	<5	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	102	50-150
Trichloroethene	ug/L (ppb)	50	<1	93	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	99	50-150

Date of Report: 07/17/12
Date Received: 07/12/12
Project: SOU_0797_20120712, F&BI 207155

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)
Vinyl chloride	ug/L (ppb)	50	97	101	70-130	4
Chloroethane	ug/L (ppb)	50	102	106	70-130	4
1,1-Dichloroethene	ug/L (ppb)	50	97	101	70-130	4
Methylene chloride	ug/L (ppb)	50	95	101	70-130	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	96	100	70-130	4
1,1-Dichloroethane	ug/L (ppb)	50	97	101	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	102	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	99	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	50	99	104	70-130	5
Trichloroethene	ug/L (ppb)	50	90	95	70-130	5
Tetrachloroethene	ug/L (ppb)	50	96	99	70-130	3

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.

207155

SAMPLE CHAIN OF CUSTODY

ME 07-12-12

V1

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS Call Dave Mendel @ 719-510-8595 w/rush results

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH ASAP
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	cVOC's		Notes
B101-120-20120712	B101	120	01(A-D)	7-12-12	1440	water	4							X		

Eu 7/12/12

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:		David Mendel	SES	7/12/12	1500
Received by:		VINH	FBI	7/12/12	15:00
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 24 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 12, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 12, 2012 from the SOU_0797_20120712, F&BI 207151 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: John Funderburk, Brian Dixon
SOU0712R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 12, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120712, F&BI 207151 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207151-01	B101-100-20120712

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B101-100-20120712	Client:	SoundEarth Strategies
Date Received:	07/12/12	Project:	SOU_0797_20120712, F&BI 207151
Date Extracted:	07/12/12	Lab ID:	207151-01
Date Analyzed:	07/12/12	Data File:	071209.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	3.4

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120712, F&BI 207151
Date Extracted:	07/12/12	Lab ID:	02-1218 mb
Date Analyzed:	07/12/12	Data File:	071208.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/12/12
Date Received: 07/12/12
Project: SOU_0797_20120712, F&BI 207151

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

Laboratory Code: 207145-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	99	50-150
Chloroethane	ug/L (ppb)	50	<1	105	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	100	50-150
Methylene chloride	ug/L (ppb)	50	<5	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	101	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	102	50-150
Trichloroethene	ug/L (ppb)	50	<1	93	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	99	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	97	101	70-130	4
Chloroethane	ug/L (ppb)	50	102	106	70-130	4
1,1-Dichloroethene	ug/L (ppb)	50	97	101	70-130	4
Methylene chloride	ug/L (ppb)	50	95	101	70-130	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	96	100	70-130	4
1,1-Dichloroethane	ug/L (ppb)	50	97	101	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	102	70-130	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	99	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	50	99	104	70-130	5
Trichloroethene	ug/L (ppb)	50	90	95	70-130	5
Tetrachloroethene	ug/L (ppb)	50	96	99	70-130	3

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.

207151

SAMPLE CHAIN OF CUSTODY

ME 07-12-12

Page # 1 of 1 ✓

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24-hour/ASAP
Rush charges authorized by: CCC

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOC's		Notes
B101-100-20120712	B101	100	01 A-D	7/12/12	0930	H2O	4							X		

7/12/12

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:	David Mendel	SES	7/12/12	1010
Received by:	Nhan Phan	FeBI	7/12/12	1010
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 9 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 12, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 11, 2012 from the SOU_0797_20120711, F&BI 207132 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
SOU0712R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 11, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120711, F&BI 207132 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207132-01	B101-80-20120711
207132-02	B101-80-20120711-DUP

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B101-80-20120711	Client:	SoundEarth Strategies
Date Received:	07/11/12	Project:	SOU_0797_20120711, F&BI 207132
Date Extracted:	07/11/12	Lab ID:	207132-01
Date Analyzed:	07/11/12	Data File:	071114.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.9
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	32

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B101-80-20120711-DUP	Client:	SoundEarth Strategies
Date Received:	07/11/12	Project:	SOU_0797_20120711, F&BI 207132
Date Extracted:	07/11/12	Lab ID:	207132-02
Date Analyzed:	07/11/12	Data File:	071113.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.1
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	25
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	6.1
Tetrachloroethene	150

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120711, F&BI 207132
Date Extracted:	07/11/12	Lab ID:	02-1199 mb
Date Analyzed:	07/11/12	Data File:	071109.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/12/12
Date Received: 07/11/12
Project: SOU_0797_20120711, F&BI 207132

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)
Vinyl chloride	ug/L (ppb)	50	98	100	50-154	2
Chloroethane	ug/L (ppb)	50	83	90	58-146	8
1,1-Dichloroethene	ug/L (ppb)	50	88	89	67-136	1
Methylene chloride	ug/L (ppb)	50	85	86	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	100	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	99	98	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	104	80-123	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	93	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	104	102	83-130	2
Trichloroethene	ug/L (ppb)	50	91	90	80-120	1
Tetrachloroethene	ug/L (ppb)	50	104	106	76-121	2

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.

207132

SAMPLE CHAIN OF CUSTODY

ME 07-11-12

V1

Page # 1 of

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☐ Standard (2 Weeks)

☑ RUSH 24hr

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOC's		Notes
B101-80-20120711	B101	80	01A-D	7-11-12	1300	water	4							X		
B101-80-20120711-Dup	B101	80	02A-C	7-11-12	1300	water	3							X		

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Robert A. Hursby	SES	7-11-12	1375
Received by:		Elizabeth Webber-Bruya	F&BI	7/11/12	.1
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 9 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 26, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 20, 2012 from the SOU_0797_20120720, F&BI 207280 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0726R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 20, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120720, F&BI 207280 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207280-01	B102-90-20120719
207280-02	B102-90-20120719-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-90-20120719	Client:	SoundEarth Strategies
Date Received:	07/20/12	Project:	SOU_0797_20120720, F&BI 207280
Date Extracted:	07/20/12	Lab ID:	207280-01
Date Analyzed:	07/20/12	Data File:	072034.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-90-20120719-F	Client:	SoundEarth Strategies
Date Received:	07/20/12	Project:	SOU_0797_20120720, F&BI 207280
Date Extracted:	07/20/12	Lab ID:	207280-02
Date Analyzed:	07/20/12	Data File:	072035.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120720, F&BI 207280
Date Extracted:	07/20/12	Lab ID:	02-1265 mb
Date Analyzed:	07/20/12	Data File:	072008.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/26/12
Date Received: 07/20/12
Project: SOU_0797_20120720, F&BI 207280

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

Laboratory Code: 207269-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	102	50-150
Chloroethane	ug/L (ppb)	50	<1	100	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	50-150
Methylene chloride	ug/L (ppb)	50	<5	87	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	99	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	100	50-150
Trichloroethene	ug/L (ppb)	50	<1	96	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	94	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	93	97	70-130	4
Chloroethane	ug/L (ppb)	50	92	93	70-130	1
1,1-Dichloroethene	ug/L (ppb)	50	90	91	70-130	1
Methylene chloride	ug/L (ppb)	50	80	83	70-130	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	91	70-130	0
1,1-Dichloroethane	ug/L (ppb)	50	93	94	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	94	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	90	93	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	50	94	96	70-130	2
Trichloroethene	ug/L (ppb)	50	89	91	70-130	2
Tetrachloroethene	ug/L (ppb)	50	91	88	70-130	3

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.

207280

SAMPLE CHAIN OF CUSTODY

ME 07/20/12

Page # 1 of 1 V2

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter / 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOC's		Notes
B102-90-20120719	B102	90	01A-D	7-19-12	1100	water	4							X		
B102-90-20120719-F	B102	90	02A-D	7-19-12	1100	water	4							X		

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:	Robert A. Hasbargen	SES	7-20-12	1150
Received by:	Monique Reusauer	PE	7/20	12:45
Relinquished by:				
Received by:	Nhan Phan	FeBI	7/20/12	1330

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 26, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 18, 2012 from the SOU_0797_20120718, F&BI 207236 project. There are 8 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0726R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 18, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120718, F&BI 207236 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207236-01	B102-30-20120717
207236-02	B102-30-20120717-F
207236-03	B102-50-20120717
207236-04	B102-50-20120717-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-30-20120717	Client:	SoundEarth Strategies
Date Received:	07/18/12	Project:	SOU_0797_20120718, F&BI 207236
Date Extracted:	07/19/12	Lab ID:	207236-01
Date Analyzed:	07/19/12	Data File:	071909.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.84
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	9.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.5
Tetrachloroethene	5.0

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-30-20120717-F	Client:	SoundEarth Strategies
Date Received:	07/18/12	Project:	SOU_0797_20120718, F&BI 207236
Date Extracted:	07/19/12	Lab ID:	207236-02
Date Analyzed:	07/19/12	Data File:	071908.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-50-20120717	Client:	SoundEarth Strategies
Date Received:	07/18/12	Project:	SOU_0797_20120718, F&BI 207236
Date Extracted:	07/19/12	Lab ID:	207236-03
Date Analyzed:	07/19/12	Data File:	071910.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.20
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.4
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B102-50-20120717-F	Client:	SoundEarth Strategies
Date Received:	07/18/12	Project:	SOU_0797_20120718, F&BI 207236
Date Extracted:	07/19/12	Lab ID:	207236-04
Date Analyzed:	07/19/12	Data File:	071911.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.2
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120718, F&BI 207236
Date Extracted:	07/19/12	Lab ID:	02-1262 mb
Date Analyzed:	07/19/12	Data File:	071907.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/26/12
Date Received: 07/18/12
Project: SOU_0797_20120718, F&BI 207236

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

Laboratory Code: 207236-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	96	36-166
Chloroethane	ug/L (ppb)	50	<1	88	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	87	60-136
Methylene chloride	ug/L (ppb)	50	<5	90	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	107	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	94	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	89	60-146
Trichloroethene	ug/L (ppb)	50	<1	89	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	103	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	90	87	50-154	3
Chloroethane	ug/L (ppb)	50	84	83	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	82	82	67-136	0
Methylene chloride	ug/L (ppb)	50	86	81	39-148	6
trans-1,2-Dichloroethene	ug/L (ppb)	50	97	96	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	94	92	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	101	80-123	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	87	86	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	84	83	83-130	1
Trichloroethene	ug/L (ppb)	50	87	86	80-120	1
Tetrachloroethene	ug/L (ppb)	50	104	104	76-121	0

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.

207236

SAMPLE CHAIN OF CUSTODY

ME 07/18/12

Page # 1 of 1 V2

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter / 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		Notes
B102-30-20120717	B102	30	01A-D	7/17/12	1100	H2O	4							X		
B102-30-20120717-F		30	02		1105	H2O	4							X		
B102-50-20120717		50	03		1330	H2O	4							X		
B102-50-20120717-F		50	04 ↓		1335	H2O	4							X		

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:	Maren Rajkovich	SES	7/18/12	1132
Received by: S. O	S. Oborn	F&B, Inc.	7/18/12	11:34
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 24, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 20, 2012 from the SOU_0797_20120720, F&BI 207289 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0724R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 20, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120720, F&BI 207289 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207289-01	MW101-20120720

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW101-20120720	Client:	SoundEarth Strategies
Date Received:	07/20/12	Project:	SOU_0797_20120720, F&BI 207289
Date Extracted:	07/20/12	Lab ID:	207289-01
Date Analyzed:	07/21/12	Data File:	072038.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120720, F&BI 207289
Date Extracted:	07/20/12	Lab ID:	02-1265 mb
Date Analyzed:	07/20/12	Data File:	072008.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/24/12
Date Received: 07/20/12
Project: SOU_0797_20120720, F&BI 207289

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

Laboratory Code: 207269-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	102	50-150
Chloroethane	ug/L (ppb)	50	<1	100	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	50-150
Methylene chloride	ug/L (ppb)	50	<5	87	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	99	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	100	50-150
Trichloroethene	ug/L (ppb)	50	<1	96	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	94	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	93	97	70-130	4
Chloroethane	ug/L (ppb)	50	92	93	70-130	1
1,1-Dichloroethene	ug/L (ppb)	50	90	91	70-130	1
Methylene chloride	ug/L (ppb)	50	80	83	70-130	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	91	70-130	0
1,1-Dichloroethane	ug/L (ppb)	50	93	94	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	94	70-130	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	90	93	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	50	94	96	70-130	2
Trichloroethene	ug/L (ppb)	50	89	91	70-130	2
Tetrachloroethene	ug/L (ppb)	50	91	88	70-130	3

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.

207289

SAMPLE CHAIN OF CUSTODY

ME 07/20/12

Page # 1 of 1

Send Report To Chuck Cacek
Company SoundEarth Strategies
Address 2811 Fairview Ave E Suite 2000
City, State, ZIP Seattle, WA 98102
Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS *(signature)*

PROJECT NAME/NO.	PO #
700 Dexter /0797	
REMARKS	GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 48 hrs
Rush charges authorized by: CCC

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		Notes
MW101-20120720	MW101	110	01A-D	7/20/12	1245	H2O	4							X		

by 7/20/12

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:		David Mendel	SES	7/20/12	1800
Received by:	Thao Thai	Thao Thai	F&BI	7/20/12	1500
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 9 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 31, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 26, 2012 from the SOU_0797_20120726, F&BI 207354 project. There are 10 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0731R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 26, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120726, F&BI 207354 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207354-01	B103-25-20120725
207354-02	B103-25-20120725-F
207354-03	B103-40-20120725
207354-04	B103-40-20120725-F

The 8260C vinyl chloride concentrations were flagged due to hydrochloric acid preservation per EPA SW-846 table 4-1 in the dilution of sample B103-40-20120725-F. The full strength analysis of the sample was analyzed from an unpreserved container and the results are not qualified.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-25-20120725	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/26/12	Lab ID:	207354-01
Date Analyzed:	07/26/12	Data File:	072625.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-25-20120725-F	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/26/12	Lab ID:	207354-02
Date Analyzed:	07/26/12	Data File:	072624.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-40-20120725	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/26/12	Lab ID:	207354-03
Date Analyzed:	07/26/12	Data File:	072626.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	42
Chloroethane	<1
1,1-Dichloroethene	2.6
Methylene chloride	<5
trans-1,2-Dichloroethene	2.4
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	570 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1,400 ve
Tetrachloroethene	3,200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-40-20120725	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/27/12	Lab ID:	207354-03 1/100
Date Analyzed:	07/27/12	Data File:	072713.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	28
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	400
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	860
Tetrachloroethene	1,800

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-40-20120725-F	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/26/12	Lab ID:	207354-04
Date Analyzed:	07/26/12	Data File:	072627.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	14
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	140
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	340 ve
Tetrachloroethene	890 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-40-20120725-F	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/27/12	Lab ID:	207354-04 1/10
Date Analyzed:	07/27/12	Data File:	072710.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	22 pr
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	160
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	350
Tetrachloroethene	840

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120726, F&BI 207354
Date Extracted:	07/26/12	Lab ID:	02-1273 mb
Date Analyzed:	07/26/12	Data File:	072623.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/31/12
Date Received: 07/26/12
Project: SOU_0797_20120726, F&BI 207354

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

Laboratory Code: 207354-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	102	50-150
Chloroethane	ug/L (ppb)	50	<1	91	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
Methylene chloride	ug/L (ppb)	50	<5	91	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	98	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	50-150
Trichloroethene	ug/L (ppb)	50	<1	94	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	95	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	106	99	70-130	7
Chloroethane	ug/L (ppb)	50	93	90	70-130	3
1,1-Dichloroethene	ug/L (ppb)	50	97	95	70-130	2
Methylene chloride	ug/L (ppb)	50	94	95	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	95	70-130	3
1,1-Dichloroethane	ug/L (ppb)	50	101	100	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	100	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	93	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	50	103	100	70-130	3
Trichloroethene	ug/L (ppb)	50	97	94	70-130	3
Tetrachloroethene	ug/L (ppb)	50	97	96	70-130	1

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.

207354

SAMPLE CHAIN OF CUSTODY

ME 07-26-12

V2

Page # 1 of 1

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1917

SAMPLERS *(signature)*

PROJECT NAME/NO. 700 Dexter/0747

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☒ Standard (2 Weeks) per co 7/26/12
☐ RUSH Rush
Rush charges authorized by:

SAMPLE DISPOSAL

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		Notes
B103-25-20120725	B103	25	01A-D	7/25/12	1300	H2O	4							X		
B103-25-20120725-F	B103	25	02	7/25/12	1300	H2O	4							X		
B103-40-20120725	B103	40	03	7-25-12	1430	H2O	4							X		
B103-40-20120725-F	B103	40	04	7-25-12	1430	H2O	4							X		
					wc											

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:	WILL CAMARDA	SES	7/26/12	1032
Received by:	DI VO	F+BI	〃	〃
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 6 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

July 31, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 26, 2012 from the SOU_0797_20120726, F&BI 207388 project. There are 8 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0731R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 26, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120726, F&BI 207388 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207388-01	B103-80-20120726
207388-02	B103-80-20120726-F

The full concentration tetrachloroethene analysis of sample B103-80-20120726-F showed the presence of carryover from a previously analyzed sample. The data were flagged accordingly and the sample was reanalyzed.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-80-20120726	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207388
Date Extracted:	07/26/12	Lab ID:	207388-01
Date Analyzed:	07/26/12	Data File:	072628.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	3.4
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	100
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	62
Tetrachloroethene	430 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-80-20120726	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207388
Date Extracted:	07/27/12	Lab ID:	207388-01 1/10
Date Analyzed:	07/27/12	Data File:	072711.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.9
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	94
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	53
Tetrachloroethene	320

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-80-20120726-F	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207388
Date Extracted:	07/26/12	Lab ID:	207388-02
Date Analyzed:	07/26/12	Data File:	072629.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.3
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	85
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	50
Tetrachloroethene	320 ve c

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B103-80-20120726-F	Client:	SoundEarth Strategies
Date Received:	07/26/12	Project:	SOU_0797_20120726, F&BI 207388
Date Extracted:	07/27/12	Lab ID:	207388-02 1/10
Date Analyzed:	07/27/12	Data File:	072712.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.9
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	85
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	43
Tetrachloroethene	170

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120726, F&BI 207388
Date Extracted:	07/26/12	Lab ID:	02-1273 mb
Date Analyzed:	07/26/12	Data File:	072623.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 07/31/12
Date Received: 07/26/12
Project: SOU_0797_20120726, F&BI 207388

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

Laboratory Code: 207354-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	102	50-150
Chloroethane	ug/L (ppb)	50	<1	91	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
Methylene chloride	ug/L (ppb)	50	<5	91	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	98	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	50-150
Trichloroethene	ug/L (ppb)	50	<1	94	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	95	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	106	99	70-130	7
Chloroethane	ug/L (ppb)	50	93	90	70-130	3
1,1-Dichloroethene	ug/L (ppb)	50	97	95	70-130	2
Methylene chloride	ug/L (ppb)	50	94	95	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	95	70-130	3
1,1-Dichloroethane	ug/L (ppb)	50	101	100	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	100	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	94	93	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	50	103	100	70-130	3
Trichloroethene	ug/L (ppb)	50	97	94	70-130	3
Tetrachloroethene	ug/L (ppb)	50	97	96	70-130	1

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.

207388

SAMPLE CHAIN OF CUSTODY

ME 07-26-12

Page # 1 of 1 V1

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO.
700 Dexter / 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☒ Standard (2 Weeks)
☒ RUSH Same Day / 24 hr
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals	cVOCs		Notes
B103-80-20120726	B103	80	01A-D	7-26-12	1400	GW	4							X		
B103-80-20120726-F	|	|	02T	|	1400	GW	4							X		

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:	David Mendel	SES	7/26/12	1500
Received by:	Charles Cacek	SES	7/26/12	1500
Relinquished by:				
Received by: Dave	D O W	F+BI	"	"

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 20 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 1, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on July 31, 2012 from the SOU_0797_20120731, F&BI 207437 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0801R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 31, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120731, F&BI 207437 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
207437-01	MW103-20120731

The 8260C laboratory control sample and laboratory control sample duplicate failed the relative percent difference for chloroethane. The analyte was not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW103-20120731	Client:	SoundEarth Strategies
Date Received:	07/31/12	Project:	SOU_0797_20120731, F&BI 207437
Date Extracted:	07/31/12	Lab ID:	207437-01 1/10
Date Analyzed:	07/31/12	Data File:	073105.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	79
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	150
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	25
Tetrachloroethene	12

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120731, F&BI 207437
Date Extracted:	07/31/12	Lab ID:	02-1324 mb
Date Analyzed:	07/31/12	Data File:	073104.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/01/12
Date Received: 07/31/12
Project: SOU_0797_20120731, F&BI 207437

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)
Vinyl chloride	ug/L (ppb)	50	94	100	50-154	6
Chloroethane	ug/L (ppb)	50	90	138	58-146	42 vo
1,1-Dichloroethene	ug/L (ppb)	50	96	100	67-136	4
Methylene chloride	ug/L (ppb)	50	89	95	39-148	7
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	99	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	97	99	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	102	80-123	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	100	101	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	105	108	83-130	3
Trichloroethene	ug/L (ppb)	50	90	94	80-120	4
Tetrachloroethene	ug/L (ppb)	50	103	106	76-121	3

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.

207437

SAMPLE CHAIN OF CUSTODY

ME 07/31/12

Page # 1 of 1 V1

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.	PO #
700 Dexter 0797	
REMARKS	GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH ASAP
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	cVOC's		Notes
MW103-20120731	MW103	108.5 ~~110~~	01 A-D	7-31-12	0810	water	4							X		

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:	Robt A. Hushager	SES	7-31-12	0835
Received by:	Nhan Phan	FeB I	7-31-12	0835
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 6 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 7, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 1, 2012 from the SOU_0797_20120801, F&BI 208012 project. There are 8 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0807R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120801, F&BI 208012 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208012-01	B104-60-20120731
208012-02	B104-60-20120731-F
208012-03	B104-80-20120731
208012-04	B104-80-20120731-F

Methylene chloride was detected in sample

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B104-60-20120731	Client:	SoundEarth Strategies
Date Received:	08/01/12	Project:	SOU_0797_20120801, F&BI 208012
Date Extracted:	08/01/12	Lab ID:	208012-01
Date Analyzed:	08/01/12	Data File:	080116.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	0.77
Toluene	3.4
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Vinyl chloride	17
Chloroethane	<1
1,1-Dichloroethene	1.7
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	370 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	150
Tetrachloroethene	730 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B104-60-20120731	Client:	SoundEarth Strategies
Date Received:	08/01/12	Project:	SOU_0797_20120801, F&BI 208012
Date Extracted:	08/01/12	Lab ID:	208012-01 1/10
Date Analyzed:	08/01/12	Data File:	080124.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<3.5
Toluene	<10
Ethylbenzene	<10
m,p-Xylene	<20
o-Xylene	<10
Vinyl chloride	24 pr
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	480
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	190
Tetrachloroethene	900

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B104-80-20120731	Client:	SoundEarth Strategies
Date Received:	08/01/12	Project:	SOU_0797_20120801, F&BI 208012
Date Extracted:	08/01/12	Lab ID:	208012-03
Date Analyzed:	08/01/12	Data File:	080117.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	1.0
Toluene	2.6
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Vinyl chloride	6.1
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	6.3 lc
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	170 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	45
Tetrachloroethene	220 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B104-80-20120731	Client:	SoundEarth Strategies
Date Received:	08/01/12	Project:	SOU_0797_20120801, F&BI 208012
Date Extracted:	08/01/12	Lab ID:	208012-03 1/10
Date Analyzed:	08/01/12	Data File:	080123.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<3.5
Toluene	<10
Ethylbenzene	<10
m,p-Xylene	<20
o-Xylene	<10
Vinyl chloride	6.3
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	180
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	52
Tetrachloroethene	220

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120801, F&BI 208012
Date Extracted:	08/01/12	Lab ID:	02-1327 mb
Date Analyzed:	08/01/12	Data File:	080107.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/07/12
Date Received: 08/01/12
Project: SOU_0797_20120801, F&BI 208012

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

Laboratory Code: 208006-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	105	36-166
Chloroethane	ug/L (ppb)	50	<1	178 vo	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	99	60-136
Methylene chloride	ug/L (ppb)	50	<5	90	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	104	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	113	60-146
Benzene	ug/L (ppb)	50	<0.35	100	76-125
Trichloroethene	ug/L (ppb)	50	<1	91	66-135
Toluene	ug/L (ppb)	50	<1	101	76-122
Tetrachloroethene	ug/L (ppb)	50	<1	102	73-129
Ethylbenzene	ug/L (ppb)	50	<1	103	69-135
m,p-Xylene	ug/L (ppb)	100	<2	105	69-135
o-Xylene	ug/L (ppb)	50	<1	104	68-137

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	103	102	50-154	1
Chloroethane	ug/L (ppb)	50	88	101	58-146	14
1,1-Dichloroethene	ug/L (ppb)	50	100	100	67-136	0
Methylene chloride	ug/L (ppb)	50	95	95	39-148	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	100	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	102	102	79-121	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	105	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	104	104	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	113	110	83-130	3
Benzene	ug/L (ppb)	50	102	102	69-134	0
Trichloroethene	ug/L (ppb)	50	94	94	80-120	0
Toluene	ug/L (ppb)	50	105	105	72-122	0
Tetrachloroethene	ug/L (ppb)	50	109	110	76-121	1
Ethylbenzene	ug/L (ppb)	50	106	106	77-124	0
m,p-Xylene	ug/L (ppb)	100	107	107	83-125	0
o-Xylene	ug/L (ppb)	50	108	109	86-121	1

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.

208012

SAMPLE CHAIN OF CUSTODY

ME 08/01/12 V2

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206 306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter 0797

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME

☑ Standard (2 Weeks)

☑ RUSH 24 hr

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	cVOCs		Notes
B104-60-20120731	B104	60	01A-D	7-31-12	1005	Water	4							X		
B104-60-20120731-F	|	80	02	|	1005	|	4									Hold
B104-80-20120731	|	80	03	|	1515	|	4							X		
B104-80-20120731-F	|	80	04 ↓	|	1515	|	4									Hold

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:	Charls Cacek	SES		
Received by:	Stasy A	P. EXP	8/1/12	12:05
~~Relinquished~~ Received by:	A. Podnosova	FBI	8/1/12	12:25
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 2 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 7, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 1, 2012 from the SOU_0797_20120801, F&BI 208024 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0807R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 1, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120801, F&BI 208024 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208024-01	B104-100-20120801
208024-02	B104-100-20120801-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B104-100-20120801	Client:	SoundEarth Strategies
Date Received:	08/01/12	Project:	SOU_0797_20120801, F&BI 208024
Date Extracted:	08/02/12	Lab ID:	208024-01
Date Analyzed:	08/02/12	Data File:	080211.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.24
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	11
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	5.3
Tetrachloroethene	15

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120801, F&BI 208024
Date Extracted:	08/02/12	Lab ID:	02-1329 mb
Date Analyzed:	08/02/12	Data File:	080210.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/07/12
Date Received: 08/01/12
Project: SOU_0797_20120801, F&BI 208024

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

Laboratory Code: 208023-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	99	36-166
Chloroethane	ug/L (ppb)	50	<1	148	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	60-136
Methylene chloride	ug/L (ppb)	50	<5	92	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	102	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	111	60-146
Trichloroethene	ug/L (ppb)	50	<1	90	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	100	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	103	100	50-154	3
Chloroethane	ug/L (ppb)	50	165 vo	142	58-146	15
1,1-Dichloroethene	ug/L (ppb)	50	99	99	67-136	0
Methylene chloride	ug/L (ppb)	50	89	89	39-148	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	100	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	102	101	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	106	104	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	101	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	114	113	83-130	1
Trichloroethene	ug/L (ppb)	50	93	93	80-120	0
Tetrachloroethene	ug/L (ppb)	50	108	109	76-121	1

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.

208024

SAMPLE CHAIN OF CUSTODY

ME 08/02/12 V2

Page # 1 of

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☒ ~~Standard (2 Weeks)~~
☒ RUSH 24 hr.
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Cvoc's		Notes
3104-100-20120801	Bldg	100	01A-D	8-1-12	1105	water	4							X		
B104-100-20120801FF	Bldg	100	02A-D	8-1-12	1105	water	4							X	←	Hold-prcc
																8/2/12 MC

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:	David Mendel	SES	8/1/12	0800
Received by:	Nhan Phan	FeBI	8/1/12	0800
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 16, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 10, 2012 from the SOU_0797_20120810, F&BI 208138 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0816R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 10, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120810, F&BI 208138 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208138-01	B105-80-20120809
208138-02	B105-80-20120809-F

The 8260C laboratory control sample and laboratory control sample duplicate failed the relative percent difference for chloroethane. The analyte was not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B105-80-20120809-F	Client:	SoundEarth Strategies
Date Received:	08/10/12	Project:	SOU_0797_20120810, F&BI 208138
Date Extracted:	08/10/12	Lab ID:	208138-02
Date Analyzed:	08/10/12	Data File:	081008.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120810, F&BI 208138
Date Extracted:	08/10/12	Lab ID:	02-1377 mb
Date Analyzed:	08/10/12	Data File:	081006.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/16/12
Date Received: 08/10/12
Project: SOU_0797_20120810, F&BI 208138

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

Laboratory Code: 208145-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	94	36-166
Chloroethane	ug/L (ppb)	50	<1	113	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	60-136
Methylene chloride	ug/L (ppb)	50	<5	92	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	107	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	113	60-146
Trichloroethene	ug/L (ppb)	50	<1	89	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	99	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	92	91	50-154	1
Chloroethane	ug/L (ppb)	50	110	141	58-146	25 vo
1,1-Dichloroethene	ug/L (ppb)	50	94	92	67-136	2
Methylene chloride	ug/L (ppb)	50	94	89	39-148	5
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	97	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	97	96	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	102	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	98	98	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	108	108	83-130	0
Trichloroethene	ug/L (ppb)	50	92	91	80-120	1
Tetrachloroethene	ug/L (ppb)	50	108	106	76-121	2

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.

208138

SAMPLE CHAIN OF CUSTODY ME 08-10-12

V1

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter 0797

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED								Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		
8105-80-20120809	8105	80	01 A-D	8/9/12	1330	H2O	4							X		~~hold~~ per CC 8/10/12 mg
8105-80-20120809-F	8105	80	02 A-B	8/9/12	1330	H2O	2							X		~~hold per CC 8/10/12 mg~~
																Run per CC 8/10/12 mg

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:		Robert A Hixson	SES	8-10-12	0755
Received by:	S. Olson	S. Olson	F&B, Inc	8/10/12	07:55
Relinquished by:					
Received by:			Samples received at 10 °C		

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 16, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 10, 2012 from the SOU_0797_20120810, F&BI 208158 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0816R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 10, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120810, F&BI 208158 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208158-01	B105-100-20120810
208158-02	B105-100-20120810-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B105-100-20120810-F	Client:	SoundEarth Strategies
Date Received:	08/10/12	Project:	SOU_0797_20120810, F&BI 208158
Date Extracted:	08/13/12	Lab ID:	208158-02
Date Analyzed:	08/13/12	Data File:	081323.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120810, F&BI 208158
Date Extracted:	08/13/12	Lab ID:	02-1379 mb
Date Analyzed:	08/13/12	Data File:	081320.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/16/12
Date Received: 08/10/12
Project: SOU_0797_20120810, F&BI 208158

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

Laboratory Code: 208103-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	92	76-124
Chloroethane	ug/L (ppb)	50	<1	87	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	90	75-118
Methylene chloride	ug/L (ppb)	50	<5	93	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	90	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	77-116
Trichloroethene	ug/L (ppb)	50	<1	83	79-105
Tetrachloroethene	ug/L (ppb)	50	<1	92	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	94	93	73-126	1
Chloroethane	ug/L (ppb)	50	87	84	69-125	4
1,1-Dichloroethene	ug/L (ppb)	50	90	91	72-122	1
Methylene chloride	ug/L (ppb)	50	95	93	56-128	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	88	74-122	3
1,1-Dichloroethane	ug/L (ppb)	50	96	94	85-107	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	93	92	85-105	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	91	85-107	1
1,1,1-Trichloroethane	ug/L (ppb)	50	96	94	81-114	2
Trichloroethene	ug/L (ppb)	50	86	84	80-104	2
Tetrachloroethene	ug/L (ppb)	50	95	96	81-106	1

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.

208158

SAMPLE CHAIN OF CUSTODY

ME 08-10-12 V/

Send Report To Chuck Cacek
Company SES
Address 2811 Fairview ave E Suite 2000
City, State, ZIP Seattle WA 98102
Phone # 206-306-1400 Fax # 206-306-1907

SAMPLERS (signature)
PROJECT NAME/NO. 700 Dexter 0797
PO #
REMARKS
GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOC's by 8270	RCRA-8 Metals	CVOC's		Notes
B105-100-20120810	B105	100	01A-D	8-10-12	1010	water	4							X		hold pcc 8/10/12 ms
B105-100-20120810-F	B105	100	02A-D	8-10-12	1010	water	4							X		~~Hold pcc 8/10/12~~ ms
																Run pcc 8/10 ms

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:		Robert A. Hunsberger	SES	8-10-12	1425
Received by:		Dao Vo	F&BI	"	"
Relinquished by:					
Received by:				Samples received at 5 °C	

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 17, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 13, 2012 from the SOU_0797_20120813, F&BI 208166 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0817R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 13, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120813, F&BI 208166 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208166-01	W-MW-02-20120813

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-02-20120813	Client:	SoundEarth Strategies
Date Received:	08/13/12	Project:	SOU_0797_20120813, F&BI 208166
Date Extracted:	08/13/12	Lab ID:	208166-01
Date Analyzed:	08/13/12	Data File:	081327.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	66
Chloroethane	<1
1,1-Dichloroethene	9.9
Methylene chloride	<5
trans-1,2-Dichloroethene	4.1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2,100 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1,300 ve
Tetrachloroethene	2,700 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-02-20120813	Client:	SoundEarth Strategies
Date Received:	08/13/12	Project:	SOU_0797_20120813, F&BI 208166
Date Extracted:	08/13/12	Lab ID:	208166-01 1/100
Date Analyzed:	08/15/12	Data File:	081431.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	63
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	2,200
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	1,300
Tetrachloroethene	3,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120813, F&BI 208166
Date Extracted:	08/13/12	Lab ID:	02-1379 mb
Date Analyzed:	08/13/12	Data File:	081320.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/17/12
Date Received: 08/13/12
Project: SOU_0797_20120813, F&BI 208166

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

Laboratory Code: 208103-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	92	76-124
Chloroethane	ug/L (ppb)	50	<1	87	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	90	75-118
Methylene chloride	ug/L (ppb)	50	<5	93	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	90	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	77-116
Trichloroethene	ug/L (ppb)	50	<1	83	79-105
Tetrachloroethene	ug/L (ppb)	50	<1	92	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	94	93	73-126	1
Chloroethane	ug/L (ppb)	50	87	84	69-125	4
1,1-Dichloroethene	ug/L (ppb)	50	90	91	72-122	1
Methylene chloride	ug/L (ppb)	50	95	93	56-128	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	88	74-122	3
1,1-Dichloroethane	ug/L (ppb)	50	96	94	85-107	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	93	92	85-105	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	91	85-107	1
1,1,1-Trichloroethane	ug/L (ppb)	50	96	94	81-114	2
Trichloroethene	ug/L (ppb)	50	86	84	80-104	2
Tetrachloroethene	ug/L (ppb)	50	95	96	81-106	1

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.

208166

SAMPLE CHAIN OF CUSTODY ME 08-13-12

V1

Page # 1 of 1

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☐ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☒ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED								Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		
W-MW-02-20120813	W-MW-02	75	01 A-D	8/13/12	1140	H2O	4							X		

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	David Mendel	SES	8/13/12	1235
Received by:	HONG NGUYEN	FBI	✓	✓
Relinquished by:				
Received by:		Samples received at 4 °C		

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 27, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 15, 2012 from the SOU_0797_20120815, F&BI 208199 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0827R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on August 15, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120815, F&BI 208199 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208199-01	B106-35-20120814
208199-02	B106-35-20120814-F
208199-03	B106-50-20120814
208199-04	B106-50-20120814-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-35-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-01
Date Analyzed:	08/17/12	Data File:	081631.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.36
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	8.2

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-50-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-03
Date Analyzed:	08/17/12	Data File:	081633.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	20
Chloroethane	<1
1,1-Dichloroethene	2.1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	220 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	110
Tetrachloroethene	970 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-50-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-03 1/10
Date Analyzed:	08/20/12	Data File:	082026.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	9.3
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	76
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	210
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	120
Tetrachloroethene	1,100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	02-1386 mb
Date Analyzed:	08/16/12	Data File:	081619.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/27/12
Date Received: 08/15/12
Project: SOU_0797_20120815, F&BI 208199

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

Laboratory Code: 208199-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	6.7	133 vo	76-124
Chloroethane	ug/L (ppb)	50	<1	126 vo	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	129 vo	75-118
Methylene chloride	ug/L (ppb)	50	<5	145 vo	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	127 vo	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	32	46 b	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	92	77-116
Trichloroethene	ug/L (ppb)	50	2.6	82	79-105
Tetrachloroethene	ug/L (ppb)	50	21	65 b	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	90	92	73-126	2
Chloroethane	ug/L (ppb)	50	85	84	69-125	1
1,1-Dichloroethene	ug/L (ppb)	50	88	90	72-122	2
Methylene chloride	ug/L (ppb)	50	95	92	56-128	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	87	86	74-122	1
1,1-Dichloroethane	ug/L (ppb)	50	94	94	85-107	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	92	85-105	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	85-107	0
1,1,1-Trichloroethane	ug/L (ppb)	50	94	94	81-114	0
Trichloroethene	ug/L (ppb)	50	84	87	80-104	4
Tetrachloroethene	ug/L (ppb)	50	91	93	81-106	2

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.

208199 **SAMPLE CHAIN OF CUSTODY** ME 08-15-12 V2

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS *(signature)*

PROJECT NAME/NO. 700 Dexter / 0797

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	cVOC's		Notes
B106-35-20120814	B106	35	01 A-D	8-14-12	1250	water	4							X		
B106-35-20120814-F		35	02		1250	water	4							X		
B106-50-20120814		50	03		1435	water	4							X		
B106-50-20120814-F		50	04		1435	water	4							X		

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:		David Mendel	SES	8/15/12	1030
Received by:		[illegible]	F&BI	11	11
Relinquished by:					
Received by:			Samples received at 6 °C		

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 21, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included is the amended report from the testing of material submitted on August 15, 2012 from the SOU_0797_20120815, F&BI 208199 project. A qualifier has been added to the methylene chloride to the dilution of sample B106-50-20120814 stating that the result is due to laboratory contamination.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon, Audrey Hackett
SOU0827R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

3012 16th Avenue West
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e-mail: fbi@isomedia.com

August 27, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 15, 2012 from the SOU_0797_20120815, F&BI 208199 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0827R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 15, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120815, F&BI 208199 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208199-01	B106-35-20120814
208199-02	B106-35-20120814-F
208199-03	B106-50-20120814
208199-04	B106-50-20120814-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-35-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-01
Date Analyzed:	08/17/12	Data File:	081631.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.36
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	8.2

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-50-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-03
Date Analyzed:	08/17/12	Data File:	081633.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	20
Chloroethane	<1
1,1-Dichloroethene	2.1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	220 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	110
Tetrachloroethene	970 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-50-20120814	Client:	SoundEarth Strategies
Date Received:	08/15/12	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	208199-03 1/10
Date Analyzed:	08/20/12	Data File:	082026.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	9.3
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	76 lc
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	210
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	120
Tetrachloroethene	1,100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120815, F&BI 208199
Date Extracted:	08/16/12	Lab ID:	02-1386 mb
Date Analyzed:	08/16/12	Data File:	081619.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/27/12
Date Received: 08/15/12
Project: SOU_0797_20120815, F&BI 208199

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

Laboratory Code: 208199-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	6.7	133 vo	76-124
Chloroethane	ug/L (ppb)	50	<1	126 vo	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	129 vo	75-118
Methylene chloride	ug/L (ppb)	50	<5	145 vo	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	127 vo	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	32	46 b	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	92	77-116
Trichloroethene	ug/L (ppb)	50	2.6	82	79-105
Tetrachloroethene	ug/L (ppb)	50	21	65 b	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	90	92	73-126	2
Chloroethane	ug/L (ppb)	50	85	84	69-125	1
1,1-Dichloroethene	ug/L (ppb)	50	88	90	72-122	2
Methylene chloride	ug/L (ppb)	50	95	92	56-128	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	87	86	74-122	1
1,1-Dichloroethane	ug/L (ppb)	50	94	94	85-107	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	92	85-105	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	85-107	0
1,1,1-Trichloroethane	ug/L (ppb)	50	94	94	81-114	0
Trichloroethene	ug/L (ppb)	50	84	87	80-104	4
Tetrachloroethene	ug/L (ppb)	50	91	93	81-106	2

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.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 17, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 16, 2012 from the SOU_0797_20120816, F&BI 208222 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0817R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 16, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120816, F&BI 208222 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208222-01	B106-90-20120815
208222-02	B106-90-20120815-F

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B106-90-20120815	Client:	SoundEarth Strategies
Date Received:	08/16/12	Project:	SOU_0797_20120816, F&BI 208222
Date Extracted:	08/16/12	Lab ID:	208222-01
Date Analyzed:	08/16/12	Data File:	081630.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.62
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	9.7
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2.3
Tetrachloroethene	19

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120816, F&BI 208222
Date Extracted:	08/16/12	Lab ID:	02-1386 mb
Date Analyzed:	08/16/12	Data File:	081619.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/17/12
Date Received: 08/16/12
Project: SOU_0797_20120816, F&BI 208222

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

Laboratory Code: 208199-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	6.7	133 vo	76-124
Chloroethane	ug/L (ppb)	50	<1	126 vo	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	129 vo	75-118
Methylene chloride	ug/L (ppb)	50	<5	145 vo	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	127 vo	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	32	46 b	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	92	77-116
Trichloroethene	ug/L (ppb)	50	2.6	82	79-105
Tetrachloroethene	ug/L (ppb)	50	21	65 b	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	90	92	73-126	2
Chloroethane	ug/L (ppb)	50	85	84	69-125	1
1,1-Dichloroethene	ug/L (ppb)	50	88	90	72-122	2
Methylene chloride	ug/L (ppb)	50	95	92	56-128	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	87	86	74-122	1
1,1-Dichloroethane	ug/L (ppb)	50	94	94	85-107	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	92	85-105	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	85-107	0
1,1,1-Trichloroethane	ug/L (ppb)	50	94	94	81-114	0
Trichloroethene	ug/L (ppb)	50	84	87	80-104	4
Tetrachloroethene	ug/L (ppb)	50	91	93	81-106	2

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.

208222

SAMPLE CHAIN OF CUSTODY

ME 08-16-12 V2

Page # 1 of 1

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☑ Standard (2 Weeks)

☒ RUSH 48hr

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	cVoc's		Notes
B106-90-20120815	B106	90	01A-D	8-15-12	1300	water	4							X		
B106-90-20120815-F	B106	90	02 T	8-15-12	1300	water	4							X		+Hold per CC 8/16/12 me

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:		David Mendel	SES	8/16/12	1220
Received by:		HONG NGUYEN	FBI	〃	〃
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 12 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 17, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 16, 2012 from the SOU_0797_20120816, F&BI 208223 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0817R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 16, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120816, F&BI 208223 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208223-01	MW102-20120816
208223-02	MW104-20120816
208223-03	MW105-20120816

Several 8260C compounds exceeded the acceptance criteria in the matrix spike samples. The laboratory control samples met the acceptance criteria, therefore the data were likely due to sample matrix effect.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW102-20120816	Client:	SoundEarth Strategies
Date Received:	08/16/12	Project:	SOU_0797_20120816, F&BI 208223
Date Extracted:	08/16/12	Lab ID:	208223-01
Date Analyzed:	08/16/12	Data File:	081627.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW104-20120816	Client:	SoundEarth Strategies
Date Received:	08/16/12	Project:	SOU_0797_20120816, F&BI 208223
Date Extracted:	08/16/12	Lab ID:	208223-02
Date Analyzed:	08/16/12	Data File:	081628.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW105-20120816	Client:	SoundEarth Strategies
Date Received:	08/16/12	Project:	SOU_0797_20120816, F&BI 208223
Date Extracted:	08/16/12	Lab ID:	208223-03
Date Analyzed:	08/16/12	Data File:	081629.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.32
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120816, F&BI 208223
Date Extracted:	08/16/12	Lab ID:	02-1386 mb
Date Analyzed:	08/16/12	Data File:	081619.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	95	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/17/12
Date Received: 08/16/12
Project: SOU_0797_20120816, F&BI 208223

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

Laboratory Code: 208199-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	6.7	133 vo	76-124
Chloroethane	ug/L (ppb)	50	<1	126 vo	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	129 vo	75-118
Methylene chloride	ug/L (ppb)	50	<5	145 vo	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	127 vo	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	32	46 b	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	92	77-116
Trichloroethene	ug/L (ppb)	50	2.6	82	79-105
Tetrachloroethene	ug/L (ppb)	50	21	65 b	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	90	92	73-126	2
Chloroethane	ug/L (ppb)	50	85	84	69-125	1
1,1-Dichloroethene	ug/L (ppb)	50	88	90	72-122	2
Methylene chloride	ug/L (ppb)	50	95	92	56-128	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	87	86	74-122	1
1,1-Dichloroethane	ug/L (ppb)	50	94	94	85-107	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	92	85-105	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	85-107	0
1,1,1-Trichloroethane	ug/L (ppb)	50	94	94	81-114	0
Trichloroethene	ug/L (ppb)	50	84	87	80-104	4
Tetrachloroethene	ug/L (ppb)	50	91	93	81-106	2

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.

208223

SAMPLE CHAIN OF CUSTODY ME 08-16-12 V3

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS *(signature)*

PROJECT NAME/NO. 700 Dexter / 0797

PO #

REMARKS 48-hour Turn

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME

☒ Standard (2 Weeks)

☒ RUSH @48 hrs

Rush charges authorized by: ccc

SAMPLE DISPOSAL

☒ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		Notes
MW102-20120816	MW102		01A-D	8/16/12	0935	H2O	4							X		
MW104-20120816	MW104		02		1040	H2O	4							X		
MW105-20120816	MW105		03		1133	H2O	4							X		

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:		David Mondel	SES	8/16/12	1200
Received by:		HONG-NGUYEN	FBI	✓	✓
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 12 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

August 29, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on August 22, 2012 from the SOU_0797_20120822, F&BI 208316 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0829R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 22, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20120822, F&BI 208316 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
208316-01	MW106-20120822

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW106-20120822	Client:	SoundEarth Strategies
Date Received:	08/22/12	Project:	SOU_0797_20120822, F&BI 208316
Date Extracted:	08/22/12	Lab ID:	208316-01
Date Analyzed:	08/22/12	Data File:	082225.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20120822, F&BI 208316
Date Extracted:	08/22/12	Lab ID:	02-1481 mb
Date Analyzed:	08/22/12	Data File:	082218.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 08/29/12
Date Received: 08/22/12
Project: SOU_0797_20120822, F&BI 208316

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

Laboratory Code: 208291-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	112	76-124
Chloroethane	ug/L (ppb)	50	<1	103	69-123
1,1-Dichloroethene	ug/L (ppb)	50	<1	108	75-118
Methylene chloride	ug/L (ppb)	50	<5	97	64-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	82-109
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	83-109
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	106	77-116
Trichloroethene	ug/L (ppb)	50	<1	91	79-105
Tetrachloroethene	ug/L (ppb)	50	<1	101	69-114

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	112	108	73-126	4
Chloroethane	ug/L (ppb)	50	101	97	69-125	4
1,1-Dichloroethene	ug/L (ppb)	50	109	104	72-122	5
Methylene chloride	ug/L (ppb)	50	99	95	56-128	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	97	74-122	5
1,1-Dichloroethane	ug/L (ppb)	50	98	95	85-107	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	102	97	85-105	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	97	93	85-107	4
1,1,1-Trichloroethane	ug/L (ppb)	50	106	103	81-114	3
Trichloroethene	ug/L (ppb)	50	91	88	80-104	3
Tetrachloroethene	ug/L (ppb)	50	100	97	81-106	3

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.

208316 [redacted]

SAMPLE CHAIN OF CUSTODY

ME 08/22/12 [redacted]

Page # 1 of 1 V2

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206-306-1900 Fax # 206.306.1907

SAMPLERS *(signature)*

PROJECT NAME/NO. 700 Dexter / 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☐ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	CVOCs		Notes
MW106-20120822	MW106	135	01A-D	8/22/12	1050	H2O	4							X		

m 8/22/12

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:		David Mendel	SES	8/22/12	1150
Received by:		S. Oborn	F&B, Inc	8/22/12	11:50A
Relinquished by:					
Received by:					

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 13 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

September 19, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on September 5, 2012 from the SOU_0797-001-02_20120905, F&BI 209044 project. There are 20 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0919R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 5, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797-001-02_20120905, F&BI 209044 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
209044-01	MW103-20120905
209044-02	MW105-20120905
209044-03	MW106-20120905
209044-04	W-MW-02-20120905
209044-05	RMW-1-20120905
209044-06	RMW-5-20120905
209044-07	RMW-6-20120905
209044-08	BB-8-20120905
209044-09	MW102-20120905
209044-10	MW99-20120905

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW103-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-01
Date Analyzed:	09/06/12	Data File:	090626.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	8.3
Vinyl chloride	110	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	80	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	22	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	1.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW105-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-02
Date Analyzed:	09/06/12	Data File:	090627.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.23	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW106-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-03
Date Analyzed:	09/06/12	Data File:	090628.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-02-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-04
Date Analyzed:	09/06/12	Data File:	090629.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	2,900 ve
Vinyl chloride	69	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	10	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	5.0	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	3,000 ve	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	1,400 ve	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	1.4	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-02-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-04 1/100
Date Analyzed:	09/10/12	Data File:	091024.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	2,600
Vinyl chloride	63	Dibromochloromethane	<100
Bromomethane	<100	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	<100
Acetone	<1,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Methylene chloride	<500	o-Xylene	<100
Methyl t-butyl ether (MTBE)	<100	Styrene	<100
trans-1,2-Dichloroethene	<100	Isopropylbenzene	<100
1,1-Dichloroethane	<100	Bromoform	<100
2,2-Dichloropropane	<100	n-Propylbenzene	<100
cis-1,2-Dichloroethene	2,800	Bromobenzene	<100
Chloroform	<100	1,3,5-Trimethylbenzene	<100
2-Butanone (MEK)	<1,000	1,1,2,2-Tetrachloroethane	<100
1,2-Dichloroethane (EDC)	<100	1,2,3-Trichloropropane	<100
1,1,1-Trichloroethane	<100	2-Chlorotoluene	<100
1,1-Dichloropropene	<100	4-Chlorotoluene	<100
Carbon tetrachloride	<100	tert-Butylbenzene	<100
Benzene	<35	1,2,4-Trimethylbenzene	<100
Trichloroethene	1,300	sec-Butylbenzene	<100
1,2-Dichloropropane	<100	p-Isopropyltoluene	<100
Bromodichloromethane	<100	1,3-Dichlorobenzene	<100
Dibromomethane	<100	1,4-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dichlorobenzene	<100
cis-1,3-Dichloropropene	<100	1,2-Dibromo-3-chloropropane	<1,000
Toluene	<100	1,2,4-Trichlorobenzene	<100
trans-1,3-Dichloropropene	<100	Hexachlorobutadiene	<100
1,1,2-Trichloroethane	<100	Naphthalene	<100
2-Hexanone	<1,000	1,2,3-Trichlorobenzene	<100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	RMW-1-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-05
Date Analyzed:	09/10/12	Data File:	091021.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	16
Vinyl chloride	2.2	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	2.1	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	3.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	RMW-5-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-06
Date Analyzed:	09/06/12	Data File:	090631.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	93	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	RMW-6-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-07
Date Analyzed:	09/06/12	Data File:	090632.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	BB-8-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-08
Date Analyzed:	09/06/12	Data File:	090633.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	210 ve
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	28	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	41	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	BB-8-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-08 1/10
Date Analyzed:	09/10/12	Data File:	091025.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	200
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	<10
Acetone	<100	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	<20
Methylene chloride	<50	o-Xylene	<10
Methyl t-butyl ether (MTBE)	<10	Styrene	<10
trans-1,2-Dichloroethene	<10	Isopropylbenzene	<10
1,1-Dichloroethane	<10	Bromoform	<10
2,2-Dichloropropane	<10	n-Propylbenzene	<10
cis-1,2-Dichloroethene	29	Bromobenzene	<10
Chloroform	<10	1,3,5-Trimethylbenzene	<10
2-Butanone (MEK)	<100	1,1,2,2-Tetrachloroethane	<10
1,2-Dichloroethane (EDC)	<10	1,2,3-Trichloropropane	<10
1,1,1-Trichloroethane	<10	2-Chlorotoluene	<10
1,1-Dichloropropene	<10	4-Chlorotoluene	<10
Carbon tetrachloride	<10	tert-Butylbenzene	<10
Benzene	<3.5	1,2,4-Trimethylbenzene	<10
Trichloroethene	38	sec-Butylbenzene	<10
1,2-Dichloropropane	<10	p-Isopropyltoluene	<10
Bromodichloromethane	<10	1,3-Dichlorobenzene	<10
Dibromomethane	<10	1,4-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dichlorobenzene	<10
cis-1,3-Dichloropropene	<10	1,2-Dibromo-3-chloropropane	<100
Toluene	<10	1,2,4-Trichlorobenzene	<10
trans-1,3-Dichloropropene	<10	Hexachlorobutadiene	<10
1,1,2-Trichloroethane	<10	Naphthalene	<10
2-Hexanone	<100	1,2,3-Trichlorobenzene	<10

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW102-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-09
Date Analyzed:	09/07/12	Data File:	090634.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	94	50	150

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	1.2	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW99-20120905	Client:	SoundEarth Strategies
Date Received:	09/05/12	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	209044-10
Date Analyzed:	09/07/12	Data File:	090635.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

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

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	8.1
Vinyl chloride	120	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	85	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	22	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	1.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/06/12	Lab ID:	02-1590 mb
Date Analyzed:	09/06/12	Data File:	090612.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20120905, F&BI 209044
Date Extracted:	09/10/12	Lab ID:	02-1613 mb
Date Analyzed:	09/10/12	Data File:	091020.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

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

Date of Report: 09/19/12
Date Received: 09/05/12
Project: SOU_0797-001-02_20120905, F&BI 209044

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

Laboratory Code: 209046-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	97	62-131
Chloromethane	ug/L (ppb)	50	<10	98	68-127
Vinyl chloride	ug/L (ppb)	50	<0.2	109	76-124
Bromomethane	ug/L (ppb)	50	<1	104	67-127
Chloroethane	ug/L (ppb)	50	<1	103	69-123
Trichlorofluoromethane	ug/L (ppb)	50	<1	108	75-121
Acetone	ug/L (ppb)	250	<10	86	68-137
1,1-Dichloroethene	ug/L (ppb)	50	<1	98	75-118
Methylene chloride	ug/L (ppb)	50	<5	93	64-120
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	96	74-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	82-109
2,2-Dichloropropane	ug/L (ppb)	50	<1	95	62-124
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	83-109
Chloroform	ug/L (ppb)	50	<1	96	81-110
2-Butanone (MEK)	ug/L (ppb)	250	<10	84	75-122
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	77-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	92	81-110
Carbon tetrachloride	ug/L (ppb)	50	<1	105	74-119
Benzene	ug/L (ppb)	50	<0.35	96	79-108
Trichloroethene	ug/L (ppb)	50	<1	98	79-105
1,2-Dichloropropane	ug/L (ppb)	50	<1	97	83-110
Bromodichloromethane	ug/L (ppb)	50	<1	100	77-118
Dibromomethane	ug/L (ppb)	50	<1	101	82-109
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	97	78-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	97	76-120
Toluene	ug/L (ppb)	50	<1	91	82-108
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	88	77-118
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	94	83-110
2-Hexanone	ug/L (ppb)	250	<10	92	75-128
1,3-Dichloropropane	ug/L (ppb)	50	<1	93	84-109
Tetrachloroethene	ug/L (ppb)	50	<1	94	69-114
Dibromochloromethane	ug/L (ppb)	50	<1	101	66-133
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	99	85-110
Chlorobenzene	ug/L (ppb)	50	<1	95	82-107
Ethylbenzene	ug/L (ppb)	50	<1	93	79-112
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	78-118
m,p-Xylene	ug/L (ppb)	100	<2	96	81-111
o-Xylene	ug/L (ppb)	50	<1	95	82-110
Styrene	ug/L (ppb)	50	<1	98	73-116
Isopropylbenzene	ug/L (ppb)	50	<1	98	80-112
Bromoform	ug/L (ppb)	50	<1	88	45-151
n-Propylbenzene	ug/L (ppb)	50	<1	89	77-116
Bromobenzene	ug/L (ppb)	50	<1	93	84-110
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	96	78-114
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	95	82-117
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	87	77-116
2-Chlorotoluene	ug/L (ppb)	50	<1	88	79-112
4-Chlorotoluene	ug/L (ppb)	50	<1	90	80-112
tert-Butylbenzene	ug/L (ppb)	50	<1	96	81-114
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	95	76-115
sec-Butylbenzene	ug/L (ppb)	50	<1	94	80-115
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	78-116
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	93	81-110
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	92	79-109
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	81-110
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	96	67-128
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	81	77-113
Hexachlorobutadiene	ug/L (ppb)	50	<1	83	66-122
Naphthalene	ug/L (ppb)	50	<1	98	79-120
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	91	78-115

Date of Report: 09/19/12
Date Received: 09/05/12
Project: SOU_0797-001-02_20120905, F&BI 209044

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	134	133	56-138	1
Chloromethane	ug/L (ppb)	50	111	111	66-131	0
Vinyl chloride	ug/L (ppb)	50	119	119	73-126	0
Bromomethane	ug/L (ppb)	50	108	107	65-131	1
Chloroethane	ug/L (ppb)	50	111	111	69-125	0
Trichlorofluoromethane	ug/L (ppb)	50	111	110	75-124	1
Acetone	ug/L (ppb)	250	87	86	64-136	1
1,1-Dichloroethene	ug/L (ppb)	50	101	101	72-122	0
Methylene chloride	ug/L (ppb)	50	94	94	56-128	0
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	101	102	76-120	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	99	74-122	2
1,1-Dichloroethane	ug/L (ppb)	50	102	101	85-107	1
2,2-Dichloropropane	ug/L (ppb)	50	113	111	83-119	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	101	101	85-105	0
Chloroform	ug/L (ppb)	50	99	99	83-107	0
2-Butanone (MEK)	ug/L (ppb)	250	88	88	75-118	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	97	97	85-107	0
1,1,1-Trichloroethane	ug/L (ppb)	50	104	104	81-114	0
1,1-Dichloropropene	ug/L (ppb)	50	100	100	85-107	0
Carbon tetrachloride	ug/L (ppb)	50	104	104	77-118	0
Benzene	ug/L (ppb)	50	100	100	81-107	0
Trichloroethene	ug/L (ppb)	50	99	99	80-104	0
1,2-Dichloropropane	ug/L (ppb)	50	100	100	86-106	0
Bromodichloromethane	ug/L (ppb)	50	103	102	76-117	1
Dibromomethane	ug/L (ppb)	50	100	100	86-106	0
4-Methyl-2-pentanone	ug/L (ppb)	250	97	96	85-113	1
cis-1,3-Dichloropropene	ug/L (ppb)	50	114	113	78-120	1
Toluene	ug/L (ppb)	50	99	99	86-105	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	110	109	82-116	1
1,1,2-Trichloroethane	ug/L (ppb)	50	101	99	87-106	2
2-Hexanone	ug/L (ppb)	250	95	94	84-117	1
1,3-Dichloropropane	ug/L (ppb)	50	101	100	86-107	1
Tetrachloroethene	ug/L (ppb)	50	99	98	81-106	1
Dibromochloromethane	ug/L (ppb)	50	105	105	57-138	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	104	102	89-107	2
Chlorobenzene	ug/L (ppb)	50	98	98	86-104	0
Ethylbenzene	ug/L (ppb)	50	100	99	87-107	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	103	102	79-117	1
m,p-Xylene	ug/L (ppb)	100	101	100	87-107	1
o-Xylene	ug/L (ppb)	50	100	100	86-107	0
Styrene	ug/L (ppb)	50	106	105	87-110	1
Isopropylbenzene	ug/L (ppb)	50	103	102	87-108	1
Bromoform	ug/L (ppb)	50	98	99	27-167	1
n-Propylbenzene	ug/L (ppb)	50	101	99	87-109	2
Bromobenzene	ug/L (ppb)	50	97	96	86-108	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	104	103	88-108	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	106	104	82-116	2
1,2,3-Trichloropropane	ug/L (ppb)	50	97	96	75-117	1
2-Chlorotoluene	ug/L (ppb)	50	98	97	85-109	1
4-Chlorotoluene	ug/L (ppb)	50	100	98	87-107	2
tert-Butylbenzene	ug/L (ppb)	50	102	101	86-110	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	103	101	87-109	2
sec-Butylbenzene	ug/L (ppb)	50	102	101	88-110	1
p-Isopropyltoluene	ug/L (ppb)	50	103	102	87-112	1
1,3-Dichlorobenzene	ug/L (ppb)	50	98	97	88-105	1
1,4-Dichlorobenzene	ug/L (ppb)	50	97	95	87-104	2
1,2-Dichlorobenzene	ug/L (ppb)	50	99	97	86-107	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	105	104	65-126	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	94	94	86-109	0
Hexachlorobutadiene	ug/L (ppb)	50	102	102	78-116	0
Naphthalene	ug/L (ppb)	50	107	105	89-114	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	106	106	89-111	0

Date of Report: 09/19/12
Date Received: 09/05/12
Project: SOU_0797-001-02_20120905, F&BI 209044

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

Laboratory Code: 209075-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	117	62-131
Chloromethane	ug/L (ppb)	50	<10	103	68-127
Vinyl chloride	ug/L (ppb)	50	1.6	114	76-124
Bromomethane	ug/L (ppb)	50	<1	99	67-127
Chloroethane	ug/L (ppb)	50	<1	103	69-123
Trichlorofluoromethane	ug/L (ppb)	50	<1	105	75-121
Acetone	ug/L (ppb)	250	<10	86	68-137
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	75-118
Methylene chloride	ug/L (ppb)	50	<5	90	64-120
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	74-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	95	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	82-109
2,2-Dichloropropane	ug/L (ppb)	50	<1	95	62-124
cis-1,2-Dichloroethene	ug/L (ppb)	50	6.1	97	83-109
Chloroform	ug/L (ppb)	50	<1	96	81-110
2-Butanone (MEK)	ug/L (ppb)	250	<10	89	75-122
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	77-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	96	81-110
Carbon tetrachloride	ug/L (ppb)	50	<1	100	74-119
Benzene	ug/L (ppb)	50	0.73	97	79-108
Trichloroethene	ug/L (ppb)	50	4.1	93	79-105
1,2-Dichloropropane	ug/L (ppb)	50	<1	99	83-110
Bromodichloromethane	ug/L (ppb)	50	<1	100	77-118
Dibromomethane	ug/L (ppb)	50	<1	96	82-109
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	94	78-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	104	76-120
Toluene	ug/L (ppb)	50	<1	96	82-108
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	100	77-118
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	98	83-110
2-Hexanone	ug/L (ppb)	250	<10	94	75-128
1,3-Dichloropropane	ug/L (ppb)	50	<1	97	84-109
Tetrachloroethene	ug/L (ppb)	50	22	97 b	69-114
Dibromochloromethane	ug/L (ppb)	50	<1	101	66-133
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	85-110
Chlorobenzene	ug/L (ppb)	50	<1	94	82-107
Ethylbenzene	ug/L (ppb)	50	<1	95	79-112
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	78-118
m,p-Xylene	ug/L (ppb)	100	<2	94	81-111
o-Xylene	ug/L (ppb)	50	<1	94	82-110
Styrene	ug/L (ppb)	50	<1	92	73-116
Isopropylbenzene	ug/L (ppb)	50	<1	98	80-112
Bromoform	ug/L (ppb)	50	<1	93	45-151
n-Propylbenzene	ug/L (ppb)	50	<1	95	77-116
Bromobenzene	ug/L (ppb)	50	<1	93	84-110
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	78-114
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	82-117
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	95	77-116
2-Chlorotoluene	ug/L (ppb)	50	<1	94	79-112
4-Chlorotoluene	ug/L (ppb)	50	<1	93	80-112
tert-Butylbenzene	ug/L (ppb)	50	<1	96	81-114
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	94	76-115
sec-Butylbenzene	ug/L (ppb)	50	<1	96	80-115
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	78-116
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	93	81-110
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	92	79-109
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	81-110
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	102	67-128
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	88	77-113
Hexachlorobutadiene	ug/L (ppb)	50	<1	94	66-122
Naphthalene	ug/L (ppb)	50	<1	97	79-120
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	97	78-115

Date of Report: 09/19/12
Date Received: 09/05/12
Project: SOU_0797-001-02_20120905, F&BI 209044

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	111	119	56-138	7
Chloromethane	ug/L (ppb)	50	102	103	66-131	1
Vinyl chloride	ug/L (ppb)	50	113	114	73-126	1
Bromomethane	ug/L (ppb)	50	100	102	65-131	2
Chloroethane	ug/L (ppb)	50	104	107	69-125	3
Trichlorofluoromethane	ug/L (ppb)	50	104	106	75-124	2
Acetone	ug/L (ppb)	250	81	83	64-136	2
1,1-Dichloroethene	ug/L (ppb)	50	97	99	72-122	2
Methylene chloride	ug/L (ppb)	50	90	93	56-128	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	98	100	76-120	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	94	98	74-122	4
1,1-Dichloroethane	ug/L (ppb)	50	97	99	85-107	2
2,2-Dichloropropane	ug/L (ppb)	50	105	108	83-119	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	98	85-105	1
Chloroform	ug/L (ppb)	50	95	97	83-107	2
2-Butanone (MEK)	ug/L (ppb)	250	85	87	75-118	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	93	85-107	1
1,1,1-Trichloroethane	ug/L (ppb)	50	98	101	81-114	3
1,1-Dichloropropene	ug/L (ppb)	50	95	97	85-107	2
Carbon tetrachloride	ug/L (ppb)	50	100	103	77-118	3
Benzene	ug/L (ppb)	50	95	97	81-107	2
Trichloroethene	ug/L (ppb)	50	94	97	80-104	3
1,2-Dichloropropane	ug/L (ppb)	50	97	99	86-106	2
Bromodichloromethane	ug/L (ppb)	50	101	102	76-117	1
Dibromomethane	ug/L (ppb)	50	95	98	86-106	3
4-Methyl-2-pentanone	ug/L (ppb)	250	92	96	85-113	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	112	114	78-120	2
Toluene	ug/L (ppb)	50	95	96	86-105	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	110	112	82-116	2
1,1,2-Trichloroethane	ug/L (ppb)	50	97	98	87-106	1
2-Hexanone	ug/L (ppb)	250	90	91	84-117	1
1,3-Dichloropropane	ug/L (ppb)	50	97	98	86-107	1
Tetrachloroethene	ug/L (ppb)	50	97	97	81-106	0
Dibromochloromethane	ug/L (ppb)	50	107	109	57-138	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	101	89-107	3
Chlorobenzene	ug/L (ppb)	50	94	96	86-104	2
Ethylbenzene	ug/L (ppb)	50	96	97	87-107	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	98	100	79-117	2
m,p-Xylene	ug/L (ppb)	100	97	98	87-107	1
o-Xylene	ug/L (ppb)	50	96	98	86-107	2
Styrene	ug/L (ppb)	50	102	103	87-110	1
Isopropylbenzene	ug/L (ppb)	50	99	101	87-108	2
Bromoform	ug/L (ppb)	50	107	107	27-167	0
n-Propylbenzene	ug/L (ppb)	50	97	99	87-109	2
Bromobenzene	ug/L (ppb)	50	96	97	86-108	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	103	88-108	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	104	82-116	1
1,2,3-Trichloropropane	ug/L (ppb)	50	94	97	75-117	3
2-Chlorotoluene	ug/L (ppb)	50	95	97	85-109	2
4-Chlorotoluene	ug/L (ppb)	50	95	97	87-107	2
tert-Butylbenzene	ug/L (ppb)	50	99	101	86-110	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	99	102	87-109	3
sec-Butylbenzene	ug/L (ppb)	50	99	101	88-110	2
p-Isopropyltoluene	ug/L (ppb)	50	100	101	87-112	1
1,3-Dichlorobenzene	ug/L (ppb)	50	95	97	88-105	2
1,4-Dichlorobenzene	ug/L (ppb)	50	92	95	87-104	3
1,2-Dichlorobenzene	ug/L (ppb)	50	96	98	86-107	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	102	106	65-126	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	94	96	86-109	2
Hexachlorobutadiene	ug/L (ppb)	50	101	101	78-116	0
Naphthalene	ug/L (ppb)	50	103	108	89-114	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	108	89-111	6

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.

209044

SAMPLE CHAIN OF CUSTODY

ME 09/05/12

V3

Send Report To Chuck Cacek, Brian Dixon

Company SoundEarth Strategies

Address 2811 Fairview Ave E, Suite 200

City, State, ZIP Seattle, WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)	PO #
PROJECT NAME/NO. Alsco Property (700 Dexter) 0797-001-02	/
REMARKS	GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
X Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
X Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	~~CVOC's~~ Full VOCs by 8260C	RCRA-8 Metals			Notes
MW103-20120905	MW103	108.5	01 A-D	9/5/12	1046	H2O	4					X				
MW105-20120905	MW105	135	02		1507							X				
MW106-20120905	MW106	135	03		1218							X				
WMW02-20120905	WMW02	75	04		0946							X				
RMW1 - 20120905	RMW1	12	05A-C		1157							X				
RMW5 - 20120905	RMW5	25	06		1350							X				
RMW6 - 20120905	RMW6	21	07		1052							X				
BB8 - 20120905	BB8	35	08		1506							X				
MW102-20120905	MW102	120	09		1353							X				
MW99-20120905		108.5	10		1049							X				
					WBC											

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:	Will Camarda	SES	9/5/12	1558
Received by:	VINH	FBI	9/5/12	1555
Relinquished by:				
Received by:		Samples received at 7 °C		

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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September 19, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on September 4, 2012 from the SOU_0797-001-02_20120904, F&BI 209016 project. There are 8 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0919R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 4, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797-001-02_20120904, F&BI 209016 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
209016-01	MW-9-20120904
209016-02	R-MW2-20120904
209016-03	R-MW3-20120904

Several compounds in the 8260C laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-9-20120904	Client:	SoundEarth Strategies
Date Received:	09/04/12	Project:	SOU_0797-001-02_20120904, F&BI 209016
Date Extracted:	09/05/12	Lab ID:	209016-01
Date Analyzed:	09/05/12	Data File:	090520.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.61	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 jl
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 jl
Dibromomethane	<1	1,4-Dichlorobenzene	<1 jl
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 jl
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	R-MW2-20120904	Client:	SoundEarth Strategies
Date Received:	09/04/12	Project:	SOU_0797-001-02_20120904, F&BI 209016
Date Extracted:	09/05/12	Lab ID:	209016-02
Date Analyzed:	09/05/12	Data File:	090521.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

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	21
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	28
cis-1,2-Dichloroethene	<1	Bromobenzene	<1 jl
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	5.2
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1 jl
Dibromomethane	<1	1,4-Dichlorobenzene	<1 jl
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 jl
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	R-MW3-20120904	Client:	SoundEarth Strategies
Date Received:	09/04/12	Project:	SOU_0797-001-02_20120904, F&BI 209016
Date Extracted:	09/05/12	Lab ID:	209016-03
Date Analyzed:	09/05/12	Data File:	090522.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	6.4
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 jl
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 jl
Dibromomethane	<1	1,4-Dichlorobenzene	<1 jl
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 jl
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20120904, F&BI 209016
Date Extracted:	09/05/12	Lab ID:	02-1576 mb
Date Analyzed:	09/05/12	Data File:	090519.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

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 jl
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 jl
Dibromomethane	<1	1,4-Dichlorobenzene	<1 jl
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 jl
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

Date of Report: 09/19/12
Date Received: 09/04/12
Project: SOU_0797-001-02_20120904, F&BI 209016

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

Laboratory Code: 209016-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	104	62-131
Chloromethane	ug/L (ppb)	50	<10	98	68-127
Vinyl chloride	ug/L (ppb)	50	0.61	103	76-124
Bromomethane	ug/L (ppb)	50	<1	94	67-127
Chloroethane	ug/L (ppb)	50	<1	101	69-123
Trichlorofluoromethane	ug/L (ppb)	50	<1	100	75-121
Acetone	ug/L (ppb)	250	<10	84	68-137
1,1-Dichloroethene	ug/L (ppb)	50	<1	92	75-118
Methylene chloride	ug/L (ppb)	50	<5	85	64-120
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	82-109
2,2-Dichloropropane	ug/L (ppb)	50	<1	95	62-124
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	83-109
Chloroform	ug/L (ppb)	50	<1	92	81-110
2-Butanone (MEK)	ug/L (ppb)	250	<10	86	75-122
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	90	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	77-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	93	81-110
Carbon tetrachloride	ug/L (ppb)	50	<1	95	74-119
Benzene	ug/L (ppb)	50	<0.35	93	79-108
Trichloroethene	ug/L (ppb)	50	<1	91	79-105
1,2-Dichloropropane	ug/L (ppb)	50	<1	93	83-110
Bromodichloromethane	ug/L (ppb)	50	<1	96	77-118
Dibromomethane	ug/L (ppb)	50	<1	93	82-109
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	92	78-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	76-120
Toluene	ug/L (ppb)	50	<1	92	82-108
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	97	77-118
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	92	83-110
2-Hexanone	ug/L (ppb)	250	<10	92	75-128
1,3-Dichloropropane	ug/L (ppb)	50	<1	93	84-109
Tetrachloroethene	ug/L (ppb)	50	<1	91	69-114
Dibromochloromethane	ug/L (ppb)	50	<1	96	66-133
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	94	85-110
Chlorobenzene	ug/L (ppb)	50	<1	90	82-107
Ethylbenzene	ug/L (ppb)	50	<1	91	79-112
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	93	78-118
m,p-Xylene	ug/L (ppb)	100	<2	93	81-111
o-Xylene	ug/L (ppb)	50	<1	92	82-110
Styrene	ug/L (ppb)	50	<1	95	73-116
Isopropylbenzene	ug/L (ppb)	50	<1	94	80-112
Bromoform	ug/L (ppb)	50	<1	90	45-151
n-Propylbenzene	ug/L (ppb)	50	<1	92	77-116
Bromobenzene	ug/L (ppb)	50	<1	90	84-110
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	78-114
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	82-117
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	91	77-116
2-Chlorotoluene	ug/L (ppb)	50	<1	89	79-112
4-Chlorotoluene	ug/L (ppb)	50	<1	91	80-112
tert-Butylbenzene	ug/L (ppb)	50	<1	94	81-114
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	94	76-115
sec-Butylbenzene	ug/L (ppb)	50	<1	93	80-115
p-Isopropyltoluene	ug/L (ppb)	50	<1	94	78-116
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	90	81-110
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	88	79-109
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	91	81-110
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	98	67-128
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	84	77-113
Hexachlorobutadiene	ug/L (ppb)	50	<1	90	66-122
Naphthalene	ug/L (ppb)	50	<1	96	79-120
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	94	78-115

Date of Report: 09/19/12
Date Received: 09/04/12
Project: SOU_0797-001-02_20120904, F&BI 209016

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	95	94	56-138	1
Chloromethane	ug/L (ppb)	50	93	92	66-131	1
Vinyl chloride	ug/L (ppb)	50	101	101	73-126	0
Bromomethane	ug/L (ppb)	50	90	91	65-131	1
Chloroethane	ug/L (ppb)	50	95	95	69-125	0
Trichlorofluoromethane	ug/L (ppb)	50	94	92	75-124	2
Acetone	ug/L (ppb)	250	76	77	64-136	1
1,1-Dichloroethene	ug/L (ppb)	50	87	87	72-122	0
Methylene chloride	ug/L (ppb)	50	83	85	56-128	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	89	90	76-120	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	86	86	74-122	0
1,1-Dichloroethane	ug/L (ppb)	50	90	90	85-107	0
2,2-Dichloropropane	ug/L (ppb)	50	95	95	83-119	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	89	89	85-105	0
Chloroform	ug/L (ppb)	50	86	88	83-107	2
2-Butanone (MEK)	ug/L (ppb)	250	79	79	75-118	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	85	86	85-107	1
1,1,1-Trichloroethane	ug/L (ppb)	50	89	91	81-114	2
1,1-Dichloropropene	ug/L (ppb)	50	87	88	85-107	1
Carbon tetrachloride	ug/L (ppb)	50	91	90	77-118	1
Benzene	ug/L (ppb)	50	87	88	81-107	1
Trichloroethene	ug/L (ppb)	50	89	89	80-104	0
1,2-Dichloropropane	ug/L (ppb)	50	88	90	86-106	2
Bromodichloromethane	ug/L (ppb)	50	92	93	76-117	1
Dibromomethane	ug/L (ppb)	50	87	88	86-106	1
4-Methyl-2-pentanone	ug/L (ppb)	250	85	85	85-113	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	103	103	78-120	0
Toluene	ug/L (ppb)	50	87	88	86-105	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	99	101	82-116	2
1,1,2-Trichloroethane	ug/L (ppb)	50	90	90	87-106	0
2-Hexanone	ug/L (ppb)	250	84	86	84-117	2
1,3-Dichloropropane	ug/L (ppb)	50	88	90	86-107	2
Tetrachloroethene	ug/L (ppb)	50	87	89	81-106	2
Dibromochloromethane	ug/L (ppb)	50	95	98	57-138	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	89	92	89-107	3
Chlorobenzene	ug/L (ppb)	50	86	88	86-104	2
Ethylbenzene	ug/L (ppb)	50	87	89	87-107	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	89	90	79-117	1
m,p-Xylene	ug/L (ppb)	100	88	89	87-107	1
o-Xylene	ug/L (ppb)	50	88	89	86-107	1
Styrene	ug/L (ppb)	50	92	94	87-110	2
Isopropylbenzene	ug/L (ppb)	50	90	91	87-108	1
Bromoform	ug/L (ppb)	50	93	95	27-167	2
n-Propylbenzene	ug/L (ppb)	50	88	89	87-109	1
Bromobenzene	ug/L (ppb)	50	84 vo	87	86-108	4
1,3,5-Trimethylbenzene	ug/L (ppb)	50	91	92	88-108	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	90	91	82-116	1
1,2,3-Trichloropropane	ug/L (ppb)	50	86	87	75-117	1
2-Chlorotoluene	ug/L (ppb)	50	86	88	85-109	2
4-Chlorotoluene	ug/L (ppb)	50	87	87	87-107	0
tert-Butylbenzene	ug/L (ppb)	50	89	90	86-110	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	90	90	87-109	0
sec-Butylbenzene	ug/L (ppb)	50	89	90	88-110	1
p-Isopropyltoluene	ug/L (ppb)	50	89	91	87-112	2
1,3-Dichlorobenzene	ug/L (ppb)	50	85 vo	86 vo	88-105	1
1,4-Dichlorobenzene	ug/L (ppb)	50	83 vo	85 vo	87-104	2
1,2-Dichlorobenzene	ug/L (ppb)	50	86	87	86-107	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	94	97	65-126	3
1,2,4-Trichlorobenzene	ug/L (ppb)	50	84 vo	86	86-109	2
Hexachlorobutadiene	ug/L (ppb)	50	88	92	78-116	4
Naphthalene	ug/L (ppb)	50	95	96	89-114	1
1,2,3-Trichlorobenzene	ug/L (ppb)	50	94	95	89-111	1

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.

209016

SAMPLE CHAIN OF CUSTODY

ME 09-04-12 V2

Send Report To Chuck Cacek, Brian Dixon

Company SoundEarth Strategies

Address 2811 Fairview Ave E, Suite 200

City, State, ZIP Seattle, WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.	PO #
Alsco Property (700 Dexter) 0797-001-02	
REMARKS	GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
X Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
X Dispose after 30 days
☐ Return samples
☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	**Sample Location**	**Sample Depth**	**Lab ID**	**Date Sampled**	**Time Sampled**	**Matrix**	**# of jars**	**NWTPH-Dx**	**NWTPH-Gx**	**BTEX by 8021B**	**VOC's by 8260**	Full VOCs ~~**CVOC's**~~ **by 8260C**	**RCRA-8 Metals**			**Notes**
MW-9-20120904	MW-9	19.5	01 A-D	9/4/12	1403	H2O	4					X				
R-MW2-20120904	R-MW2	14.0	02	↓	1413	↓	↓					X				
R-MW3-20120904	R-MW3	16.0	03	↓	1515	↓	↓					X				

WB

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:	WILL CAMARDA	SES	9/4/12	1557
Received by:	DO VO	F+BI	11	11
Relinquished by:				
Received by:		Samples received at 5 °C		

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

September 19, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on September 6, 2012 from the SOU_0797-001-02_20120906, F&BI 209058 project. There are 23 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0919R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 6, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797-001-02_20120906, F&BI 209058 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
209058-01	W-MW01-20120906
209058-02	W-MW03-20120906
209058-03	G-MW1-20120906
209058-04	G-MW3-20120906
209058-05	MW101-20120906
209058-06	W-MW-04-20120906
209058-07	MW104-20120906
209058-08	G-MW2-20120906
209058-09	MW98-20120906

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW01-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-01
Date Analyzed:	09/07/12	Data File:	090709.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	2.8	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	2.0	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	1.7	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW03-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-02
Date Analyzed:	09/07/12	Data File:	090710.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	13
Vinyl chloride	120	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	20	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	2.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW1-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-03
Date Analyzed:	09/07/12	Data File:	090711.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	20,000 ve
Vinyl chloride	35	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	56	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	1.1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	1.5	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	32	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	1,000 ve	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	7.4	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW1-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-03 1/1000
Date Analyzed:	09/10/12	Data File:	091027.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1,000	1,3-Dichloropropane	<1,000
Chloromethane	<10,000	Tetrachloroethene	66,000
Vinyl chloride	<200 pr	Dibromochloromethane	<1,000
Bromomethane	<1,000	1,2-Dibromoethane (EDB)	<1,000
Chloroethane	<1,000	Chlorobenzene	<1,000
Trichlorofluoromethane	<1,000	Ethylbenzene	<1,000
Acetone	<10,000	1,1,1,2-Tetrachloroethane	<1,000
1,1-Dichloroethene	<1,000	m,p-Xylene	<2,000
Methylene chloride	<5,000	o-Xylene	<1,000
Methyl t-butyl ether (MTBE)	<1,000	Styrene	<1,000
trans-1,2-Dichloroethene	<1,000	Isopropylbenzene	<1,000
1,1-Dichloroethane	<1,000	Bromoform	<1,000
2,2-Dichloropropane	<1,000	n-Propylbenzene	<1,000
cis-1,2-Dichloroethene	<1,000	Bromobenzene	<1,000
Chloroform	<1,000	1,3,5-Trimethylbenzene	<1,000
2-Butanone (MEK)	<10,000	1,1,2,2-Tetrachloroethane	<1,000
1,2-Dichloroethane (EDC)	<1,000	1,2,3-Trichloropropane	<1,000
1,1,1-Trichloroethane	<1,000	2-Chlorotoluene	<1,000
1,1-Dichloropropene	<1,000	4-Chlorotoluene	<1,000
Carbon tetrachloride	<1,000	tert-Butylbenzene	<1,000
Benzene	<350	1,2,4-Trimethylbenzene	<1,000
Trichloroethene	1,100	sec-Butylbenzene	<1,000
1,2-Dichloropropane	<1,000	p-Isopropyltoluene	<1,000
Bromodichloromethane	<1,000	1,3-Dichlorobenzene	<1,000
Dibromomethane	<1,000	1,4-Dichlorobenzene	<1,000
4-Methyl-2-pentanone	<10,000	1,2-Dichlorobenzene	<1,000
cis-1,3-Dichloropropene	<1,000	1,2-Dibromo-3-chloropropane	<10,000
Toluene	<1,000	1,2,4-Trichlorobenzene	<1,000
trans-1,3-Dichloropropene	<1,000	Hexachlorobutadiene	<1,000
1,1,2-Trichloroethane	<1,000	Naphthalene	<1,000
2-Hexanone	<10,000	1,2,3-Trichlorobenzene	<1,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW3-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-04
Date Analyzed:	09/08/12	Data File:	090733.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	13,000 ve
Vinyl chloride	280 ve	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	9.3	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	5.9	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	1,600 ve	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	1,100 ve	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	1.5	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW3-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-04 1/1000
Date Analyzed:	09/10/12	Data File:	091028.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1,000	1,3-Dichloropropane	<1,000
Chloromethane	<10,000	Tetrachloroethene	31,000
Vinyl chloride	290	Dibromochloromethane	<1,000
Bromomethane	<1,000	1,2-Dibromoethane (EDB)	<1,000
Chloroethane	<1,000	Chlorobenzene	<1,000
Trichlorofluoromethane	<1,000	Ethylbenzene	<1,000
Acetone	<10,000	1,1,1,2-Tetrachloroethane	<1,000
1,1-Dichloroethene	<1,000	m,p-Xylene	<2,000
Methylene chloride	<5,000	o-Xylene	<1,000
Methyl t-butyl ether (MTBE)	<1,000	Styrene	<1,000
trans-1,2-Dichloroethene	<1,000	Isopropylbenzene	<1,000
1,1-Dichloroethane	<1,000	Bromoform	<1,000
2,2-Dichloropropane	<1,000	n-Propylbenzene	<1,000
cis-1,2-Dichloroethene	1,600	Bromobenzene	<1,000
Chloroform	<1,000	1,3,5-Trimethylbenzene	<1,000
2-Butanone (MEK)	<10,000	1,1,2,2-Tetrachloroethane	<1,000
1,2-Dichloroethane (EDC)	<1,000	1,2,3-Trichloropropane	<1,000
1,1,1-Trichloroethane	<1,000	2-Chlorotoluene	<1,000
1,1-Dichloropropene	<1,000	4-Chlorotoluene	<1,000
Carbon tetrachloride	<1,000	tert-Butylbenzene	<1,000
Benzene	<350	1,2,4-Trimethylbenzene	<1,000
Trichloroethene	1,200	sec-Butylbenzene	<1,000
1,2-Dichloropropane	<1,000	p-Isopropyltoluene	<1,000
Bromodichloromethane	<1,000	1,3-Dichlorobenzene	<1,000
Dibromomethane	<1,000	1,4-Dichlorobenzene	<1,000
4-Methyl-2-pentanone	<10,000	1,2-Dichlorobenzene	<1,000
cis-1,3-Dichloropropene	<1,000	1,2-Dibromo-3-chloropropane	<10,000
Toluene	<1,000	1,2,4-Trichlorobenzene	<1,000
trans-1,3-Dichloropropene	<1,000	Hexachlorobutadiene	<1,000
1,1,2-Trichloroethane	<1,000	Naphthalene	<1,000
2-Hexanone	<10,000	1,2,3-Trichlorobenzene	<1,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW101-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-05
Date Analyzed:	09/10/12	Data File:	091022.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	95	50	150

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	1.4	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-04-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-06
Date Analyzed:	09/08/12	Data File:	090735.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	430 ve
Vinyl chloride	530 ve	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	8.1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	4.0	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	1,800 ve	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	420 ve	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	W-MW-04-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-06 1/100
Date Analyzed:	09/10/12	Data File:	091031.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	460
Vinyl chloride	630	Dibromochloromethane	<100
Bromomethane	<100	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	<100
Acetone	<1,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Methylene chloride	<500	o-Xylene	<100
Methyl t-butyl ether (MTBE)	<100	Styrene	<100
trans-1,2-Dichloroethene	<100	Isopropylbenzene	<100
1,1-Dichloroethane	<100	Bromoform	<100
2,2-Dichloropropane	<100	n-Propylbenzene	<100
cis-1,2-Dichloroethene	1,900	Bromobenzene	<100
Chloroform	<100	1,3,5-Trimethylbenzene	<100
2-Butanone (MEK)	<1,000	1,1,2,2-Tetrachloroethane	<100
1,2-Dichloroethane (EDC)	<100	1,2,3-Trichloropropane	<100
1,1,1-Trichloroethane	<100	2-Chlorotoluene	<100
1,1-Dichloropropene	<100	4-Chlorotoluene	<100
Carbon tetrachloride	<100	tert-Butylbenzene	<100
Benzene	<35	1,2,4-Trimethylbenzene	<100
Trichloroethene	440	sec-Butylbenzene	<100
1,2-Dichloropropane	<100	p-Isopropyltoluene	<100
Bromodichloromethane	<100	1,3-Dichlorobenzene	<100
Dibromomethane	<100	1,4-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dichlorobenzene	<100
cis-1,3-Dichloropropene	<100	1,2-Dibromo-3-chloropropane	<1,000
Toluene	<100	1,2,4-Trichlorobenzene	<100
trans-1,3-Dichloropropene	<100	Hexachlorobutadiene	<100
1,1,2-Trichloroethane	<100	Naphthalene	<100
2-Hexanone	<1,000	1,2,3-Trichlorobenzene	<100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW104-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-07
Date Analyzed:	09/10/12	Data File:	091023.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

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

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW2-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-08
Date Analyzed:	09/08/12	Data File:	090737.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	111	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	31,000 ve
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	1.1
Acetone	53	1,1,1,2-Tetrachloroethane	6.5
1,1-Dichloroethene	1.5	m,p-Xylene	2.6
Methylene chloride	<5	o-Xylene	2.1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	1.4	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	300 ve	Bromobenzene	<1
Chloroform	2.8	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	5.7	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	2.4
Trichloroethene	340 ve	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	12	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW2-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-08 1/100
Date Analyzed:	09/11/12	Data File:	091128.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	160,000 ve
Vinyl chloride	<20	Dibromochloromethane	<100
Bromomethane	<100	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	<100
Acetone	<1,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Methylene chloride	<500	o-Xylene	<100
Methyl t-butyl ether (MTBE)	<100	Styrene	<100
trans-1,2-Dichloroethene	<100	Isopropylbenzene	<100
1,1-Dichloroethane	<100	Bromoform	<100
2,2-Dichloropropane	<100	n-Propylbenzene	<100
cis-1,2-Dichloroethene	260	Bromobenzene	<100
Chloroform	<100	1,3,5-Trimethylbenzene	<100
2-Butanone (MEK)	<1,000	1,1,2,2-Tetrachloroethane	<100
1,2-Dichloroethane (EDC)	<100	1,2,3-Trichloropropane	<100
1,1,1-Trichloroethane	<100	2-Chlorotoluene	<100
1,1-Dichloropropene	<100	4-Chlorotoluene	<100
Carbon tetrachloride	<100	tert-Butylbenzene	<100
Benzene	<35	1,2,4-Trimethylbenzene	<100
Trichloroethene	320	sec-Butylbenzene	<100
1,2-Dichloropropane	<100	p-Isopropyltoluene	<100
Bromodichloromethane	<100	1,3-Dichlorobenzene	<100
Dibromomethane	<100	1,4-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dichlorobenzene	<100
cis-1,3-Dichloropropene	<100	1,2-Dibromo-3-chloropropane	<1,000
Toluene	<100	1,2,4-Trichlorobenzene	<100
trans-1,3-Dichloropropene	<100	Hexachlorobutadiene	<100
1,1,2-Trichloroethane	<100	Naphthalene	<100
2-Hexanone	<1,000	1,2,3-Trichlorobenzene	<100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	G-MW2-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-08 1/1000
Date Analyzed:	09/10/12	Data File:	091029.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1,000	1,3-Dichloropropane	<1,000
Chloromethane	<10,000	Tetrachloroethene	150,000
Vinyl chloride	<200	Dibromochloromethane	<1,000
Bromomethane	<1,000	1,2-Dibromoethane (EDB)	<1,000
Chloroethane	<1,000	Chlorobenzene	<1,000
Trichlorofluoromethane	<1,000	Ethylbenzene	<1,000
Acetone	<10,000	1,1,1,2-Tetrachloroethane	<1,000
1,1-Dichloroethene	<1,000	m,p-Xylene	<2,000
Methylene chloride	<5,000	o-Xylene	<1,000
Methyl t-butyl ether (MTBE)	<1,000	Styrene	<1,000
trans-1,2-Dichloroethene	<1,000	Isopropylbenzene	<1,000
1,1-Dichloroethane	<1,000	Bromoform	<1,000
2,2-Dichloropropane	<1,000	n-Propylbenzene	<1,000
cis-1,2-Dichloroethene	<1,000	Bromobenzene	<1,000
Chloroform	<1,000	1,3,5-Trimethylbenzene	<1,000
2-Butanone (MEK)	<10,000	1,1,2,2-Tetrachloroethane	<1,000
1,2-Dichloroethane (EDC)	<1,000	1,2,3-Trichloropropane	<1,000
1,1,1-Trichloroethane	<1,000	2-Chlorotoluene	<1,000
1,1-Dichloropropene	<1,000	4-Chlorotoluene	<1,000
Carbon tetrachloride	<1,000	tert-Butylbenzene	<1,000
Benzene	<350	1,2,4-Trimethylbenzene	<1,000
Trichloroethene	<1,000	sec-Butylbenzene	<1,000
1,2-Dichloropropane	<1,000	p-Isopropyltoluene	<1,000
Bromodichloromethane	<1,000	1,3-Dichlorobenzene	<1,000
Dibromomethane	<1,000	1,4-Dichlorobenzene	<1,000
4-Methyl-2-pentanone	<10,000	1,2-Dichlorobenzene	<1,000
cis-1,3-Dichloropropene	<1,000	1,2-Dibromo-3-chloropropane	<10,000
Toluene	<1,000	1,2,4-Trichlorobenzene	<1,000
trans-1,3-Dichloropropene	<1,000	Hexachlorobutadiene	<1,000
1,1,2-Trichloroethane	<1,000	Naphthalene	<1,000
2-Hexanone	<10,000	1,2,3-Trichlorobenzene	<1,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW98-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	209058-09
Date Analyzed:	09/08/12	Data File:	090738.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	103	63	127
4-Bromofluorobenzene	113	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	21,000 ve
Vinyl chloride	33	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	57	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	1.0
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	1.4	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	30	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	1,000 ve	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	7.6	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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW98-20120906	Client:	SoundEarth Strategies
Date Received:	09/06/12	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	209058-09 1/1000
Date Analyzed:	09/10/12	Data File:	091030.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1,000	1,3-Dichloropropane	<1,000
Chloromethane	<10,000	Tetrachloroethene	64,000
Vinyl chloride	<200	Dibromochloromethane	<1,000
Bromomethane	<1,000	1,2-Dibromoethane (EDB)	<1,000
Chloroethane	<1,000	Chlorobenzene	<1,000
Trichlorofluoromethane	<1,000	Ethylbenzene	<1,000
Acetone	<10,000	1,1,1,2-Tetrachloroethane	<1,000
1,1-Dichloroethene	<1,000	m,p-Xylene	<2,000
Methylene chloride	<5,000	o-Xylene	<1,000
Methyl t-butyl ether (MTBE)	<1,000	Styrene	<1,000
trans-1,2-Dichloroethene	<1,000	Isopropylbenzene	<1,000
1,1-Dichloroethane	<1,000	Bromoform	<1,000
2,2-Dichloropropane	<1,000	n-Propylbenzene	<1,000
cis-1,2-Dichloroethene	<1,000	Bromobenzene	<1,000
Chloroform	<1,000	1,3,5-Trimethylbenzene	<1,000
2-Butanone (MEK)	<10,000	1,1,2,2-Tetrachloroethane	<1,000
1,2-Dichloroethane (EDC)	<1,000	1,2,3-Trichloropropane	<1,000
1,1,1-Trichloroethane	<1,000	2-Chlorotoluene	<1,000
1,1-Dichloropropene	<1,000	4-Chlorotoluene	<1,000
Carbon tetrachloride	<1,000	tert-Butylbenzene	<1,000
Benzene	<350	1,2,4-Trimethylbenzene	<1,000
Trichloroethene	1,100	sec-Butylbenzene	<1,000
1,2-Dichloropropane	<1,000	p-Isopropyltoluene	<1,000
Bromodichloromethane	<1,000	1,3-Dichlorobenzene	<1,000
Dibromomethane	<1,000	1,4-Dichlorobenzene	<1,000
4-Methyl-2-pentanone	<10,000	1,2-Dichlorobenzene	<1,000
cis-1,3-Dichloropropene	<1,000	1,2-Dibromo-3-chloropropane	<10,000
Toluene	<1,000	1,2,4-Trichlorobenzene	<1,000
trans-1,3-Dichloropropene	<1,000	Hexachlorobutadiene	<1,000
1,1,2-Trichloroethane	<1,000	Naphthalene	<1,000
2-Hexanone	<10,000	1,2,3-Trichlorobenzene	<1,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/07/12	Lab ID:	02-1591 mb
Date Analyzed:	09/07/12	Data File:	090708.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	96	63	127
4-Bromofluorobenzene	102	60	133

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

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20120906, F&BI 209058
Date Extracted:	09/10/12	Lab ID:	02-1613 mb
Date Analyzed:	09/10/12	Data File:	091020.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	99	50	150

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

Date of Report: 09/19/12
Date Received: 09/06/12
Project: SOU_0797-001-02_20120906, F&BI 209058

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

Laboratory Code: 209058-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	90	10-172
Chloromethane	ug/L (ppb)	50	<10	82	25-166
Vinyl chloride	ug/L (ppb)	50	2.8	93	36-166
Bromomethane	ug/L (ppb)	50	<1	90	47-169
Chloroethane	ug/L (ppb)	50	<1	94	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	98	44-165
Acetone	ug/L (ppb)	250	<10	87	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	60-136
Methylene chloride	ug/L (ppb)	50	<5	90	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	94	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	97	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	98	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	2.0	98	71-127
Chloroform	ug/L (ppb)	50	<1	95	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	98	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	100	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	99	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	100	56-152
Benzene	ug/L (ppb)	50	<0.35	96	76-125
Trichloroethene	ug/L (ppb)	50	<1	93	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	96	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	101	61-150
Dibromomethane	ug/L (ppb)	50	<1	97	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	106	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	97	72-132
Toluene	ug/L (ppb)	50	1.7	95	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	102	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	94	68-131
2-Hexanone	ug/L (ppb)	250	<10	104	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	97	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	367 vo	73-129
Dibromochloromethane	ug/L (ppb)	50	<1	108	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	96	69-134
Chlorobenzene	ug/L (ppb)	50	<1	95	77-122
Ethylbenzene	ug/L (ppb)	50	<1	99	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	97	73-137
m,p-Xylene	ug/L (ppb)	100	<2	100	69-135
o-Xylene	ug/L (ppb)	50	<1	105	68-137
Styrene	ug/L (ppb)	50	<1	105	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	103	65-142
Bromoform	ug/L (ppb)	50	<1	108	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	98	58-144
Bromobenzene	ug/L (ppb)	50	<1	96	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	100	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	92	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	96	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	99	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	101	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	100	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	98	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	102	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	94	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	95	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	105	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	102	76-132
Hexachlorobutadiene	ug/L (ppb)	50	<1	90	60-143
Naphthalene	ug/L (ppb)	50	<1	105	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	102	69-148

Date of Report: 09/19/12
Date Received: 09/06/12
Project: SOU_0797-001-02_20120906, F&BI 209058

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	92	93	25-158	1
Chloromethane	ug/L (ppb)	50	88	89	45-156	1
Vinyl chloride	ug/L (ppb)	50	96	101	50-154	5
Bromomethane	ug/L (ppb)	50	90	93	55-143	3
Chloroethane	ug/L (ppb)	50	89	98	58-146	10
Trichlorofluoromethane	ug/L (ppb)	50	97	101	50-150	4
Acetone	ug/L (ppb)	250	93	99	60-155	6
1,1-Dichloroethene	ug/L (ppb)	50	95	99	67-136	4
Methylene chloride	ug/L (ppb)	50	94	90	39-148	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	100	102	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	98	100	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	96	100	79-121	4
2,2-Dichloropropane	ug/L (ppb)	50	103	106	55-143	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	105	80-123	5
Chloroform	ug/L (ppb)	50	97	99	80-121	2
2-Butanone (MEK)	ug/L (ppb)	250	104	106	57-149	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	98	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	97	101	83-130	4
1,1-Dichloropropene	ug/L (ppb)	50	102	106	77-129	4
Carbon tetrachloride	ug/L (ppb)	50	103	105	75-158	2
Benzene	ug/L (ppb)	50	97	101	69-134	4
Trichloroethene	ug/L (ppb)	50	94	97	80-120	3
1,2-Dichloropropane	ug/L (ppb)	50	98	102	77-123	4
Bromodichloromethane	ug/L (ppb)	50	99	102	81-133	3
Dibromomethane	ug/L (ppb)	50	97	101	82-125	4
4-Methyl-2-pentanone	ug/L (ppb)	250	106	112	70-140	6
cis-1,3-Dichloropropene	ug/L (ppb)	50	108	109	82-132	1
Toluene	ug/L (ppb)	50	97	102	72-122	5
trans-1,3-Dichloropropene	ug/L (ppb)	50	111	111	80-136	0
1,1,2-Trichloroethane	ug/L (ppb)	50	96	101	75-124	5
2-Hexanone	ug/L (ppb)	250	106	112	64-152	6
1,3-Dichloropropane	ug/L (ppb)	50	98	102	76-126	4
Tetrachloroethene	ug/L (ppb)	50	97	100	76-121	3
Dibromochloromethane	ug/L (ppb)	50	105	106	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	100	103	82-125	3
Chlorobenzene	ug/L (ppb)	50	96	100	83-114	4
Ethylbenzene	ug/L (ppb)	50	99	105	77-124	6
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	98	102	84-127	4
m,p-Xylene	ug/L (ppb)	100	102	106	83-125	4
o-Xylene	ug/L (ppb)	50	107	111	86-121	4
Styrene	ug/L (ppb)	50	106	110	85-127	4
Isopropylbenzene	ug/L (ppb)	50	106	109	87-122	3
Bromoform	ug/L (ppb)	50	102	99	74-136	3
n-Propylbenzene	ug/L (ppb)	50	101	106	74-126	5
Bromobenzene	ug/L (ppb)	50	97	104	80-121	7
1,3,5-Trimethylbenzene	ug/L (ppb)	50	103	107	80-126	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	99	105	66-126	6
1,2,3-Trichloropropane	ug/L (ppb)	50	93	100	67-124	7
2-Chlorotoluene	ug/L (ppb)	50	99	104	77-127	5
4-Chlorotoluene	ug/L (ppb)	50	102	106	78-128	4
tert-Butylbenzene	ug/L (ppb)	50	104	109	85-127	5
1,2,4-Trimethylbenzene	ug/L (ppb)	50	103	108	82-125	5
sec-Butylbenzene	ug/L (ppb)	50	102	107	80-125	5
p-Isopropyltoluene	ug/L (ppb)	50	105	108	82-127	3
1,3-Dichlorobenzene	ug/L (ppb)	50	98	103	85-116	5
1,4-Dichlorobenzene	ug/L (ppb)	50	96	101	84-121	5
1,2-Dichlorobenzene	ug/L (ppb)	50	98	102	85-116	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	107	106	57-141	1
1,2,4-Trichlorobenzene	ug/L (ppb)	50	107	111	72-130	4
Hexachlorobutadiene	ug/L (ppb)	50	94	101	53-141	7
Naphthalene	ug/L (ppb)	50	109	115	64-133	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	109	65-136	7

Date of Report: 09/19/12
Date Received: 09/06/12
Project: SOU_0797-001-02_20120906, F&BI 209058

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

Laboratory Code: 209075-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	117	62-131
Chloromethane	ug/L (ppb)	50	<10	103	68-127
Vinyl chloride	ug/L (ppb)	50	1.6	114	76-124
Bromomethane	ug/L (ppb)	50	<1	99	67-127
Chloroethane	ug/L (ppb)	50	<1	103	69-123
Trichlorofluoromethane	ug/L (ppb)	50	<1	105	75-121
Acetone	ug/L (ppb)	250	<10	86	68-137
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	75-118
Methylene chloride	ug/L (ppb)	50	<5	90	64-120
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	74-120
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	95	75-119
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	82-109
2,2-Dichloropropane	ug/L (ppb)	50	<1	95	62-124
cis-1,2-Dichloroethene	ug/L (ppb)	50	6.1	97	83-109
Chloroform	ug/L (ppb)	50	<1	96	81-110
2-Butanone (MEK)	ug/L (ppb)	250	<10	89	75-122
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	76-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	99	77-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	96	81-110
Carbon tetrachloride	ug/L (ppb)	50	<1	100	74-119
Benzene	ug/L (ppb)	50	0.73	97	79-108
Trichloroethene	ug/L (ppb)	50	4.1	93	79-105
1,2-Dichloropropane	ug/L (ppb)	50	<1	99	83-110
Bromodichloromethane	ug/L (ppb)	50	<1	100	77-118
Dibromomethane	ug/L (ppb)	50	<1	96	82-109
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	94	78-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	104	76-120
Toluene	ug/L (ppb)	50	<1	96	82-108
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	100	77-118
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	98	83-110
2-Hexanone	ug/L (ppb)	250	<10	94	75-128
1,3-Dichloropropane	ug/L (ppb)	50	<1	97	84-109
Tetrachloroethene	ug/L (ppb)	50	22	97 b	69-114
Dibromochloromethane	ug/L (ppb)	50	<1	101	66-133
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	98	85-110
Chlorobenzene	ug/L (ppb)	50	<1	94	82-107
Ethylbenzene	ug/L (ppb)	50	<1	95	79-112
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	78-118
m,p-Xylene	ug/L (ppb)	100	<2	94	81-111
o-Xylene	ug/L (ppb)	50	<1	94	82-110
Styrene	ug/L (ppb)	50	<1	92	73-116
Isopropylbenzene	ug/L (ppb)	50	<1	98	80-112
Bromoform	ug/L (ppb)	50	<1	93	45-151
n-Propylbenzene	ug/L (ppb)	50	<1	95	77-116
Bromobenzene	ug/L (ppb)	50	<1	93	84-110
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	94	78-114
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	104	82-117
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	95	77-116
2-Chlorotoluene	ug/L (ppb)	50	<1	94	79-112
4-Chlorotoluene	ug/L (ppb)	50	<1	93	80-112
tert-Butylbenzene	ug/L (ppb)	50	<1	96	81-114
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	94	76-115
sec-Butylbenzene	ug/L (ppb)	50	<1	96	80-115
p-Isopropyltoluene	ug/L (ppb)	50	<1	96	78-116
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	93	81-110
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	92	79-109
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	94	81-110
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	102	67-128
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	88	77-113
Hexachlorobutadiene	ug/L (ppb)	50	<1	94	66-122
Naphthalene	ug/L (ppb)	50	<1	97	79-120
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	97	78-115

Date of Report: 09/19/12
Date Received: 09/06/12
Project: SOU_0797-001-02_20120906, F&BI 209058

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	111	119	56-138	7
Chloromethane	ug/L (ppb)	50	102	103	66-131	1
Vinyl chloride	ug/L (ppb)	50	113	114	73-126	1
Bromomethane	ug/L (ppb)	50	100	102	65-131	2
Chloroethane	ug/L (ppb)	50	104	107	69-125	3
Trichlorofluoromethane	ug/L (ppb)	50	104	106	75-124	2
Acetone	ug/L (ppb)	250	81	83	64-136	2
1,1-Dichloroethene	ug/L (ppb)	50	97	99	72-122	2
Methylene chloride	ug/L (ppb)	50	90	93	56-128	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	98	100	76-120	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	94	98	74-122	4
1,1-Dichloroethane	ug/L (ppb)	50	97	99	85-107	2
2,2-Dichloropropane	ug/L (ppb)	50	105	108	83-119	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	98	85-105	1
Chloroform	ug/L (ppb)	50	95	97	83-107	2
2-Butanone (MEK)	ug/L (ppb)	250	85	87	75-118	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	93	85-107	1
1,1,1-Trichloroethane	ug/L (ppb)	50	98	101	81-114	3
1,1-Dichloropropene	ug/L (ppb)	50	95	97	85-107	2
Carbon tetrachloride	ug/L (ppb)	50	100	103	77-118	3
Benzene	ug/L (ppb)	50	95	97	81-107	2
Trichloroethene	ug/L (ppb)	50	94	97	80-104	3
1,2-Dichloropropane	ug/L (ppb)	50	97	99	86-106	2
Bromodichloromethane	ug/L (ppb)	50	101	102	76-117	1
Dibromomethane	ug/L (ppb)	50	95	98	86-106	3
4-Methyl-2-pentanone	ug/L (ppb)	250	92	96	85-113	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	112	114	78-120	2
Toluene	ug/L (ppb)	50	95	96	86-105	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	110	112	82-116	2
1,1,2-Trichloroethane	ug/L (ppb)	50	97	98	87-106	1
2-Hexanone	ug/L (ppb)	250	90	91	84-117	1
1,3-Dichloropropane	ug/L (ppb)	50	97	98	86-107	1
Tetrachloroethene	ug/L (ppb)	50	97	97	81-106	0
Dibromochloromethane	ug/L (ppb)	50	107	109	57-138	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	98	101	89-107	3
Chlorobenzene	ug/L (ppb)	50	94	96	86-104	2
Ethylbenzene	ug/L (ppb)	50	96	97	87-107	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	98	100	79-117	2
m,p-Xylene	ug/L (ppb)	100	97	98	87-107	1
o-Xylene	ug/L (ppb)	50	96	98	86-107	2
Styrene	ug/L (ppb)	50	102	103	87-110	1
Isopropylbenzene	ug/L (ppb)	50	99	101	87-108	2
Bromoform	ug/L (ppb)	50	107	107	27-167	0
n-Propylbenzene	ug/L (ppb)	50	97	99	87-109	2
Bromobenzene	ug/L (ppb)	50	96	97	86-108	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	103	88-108	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	104	82-116	1
1,2,3-Trichloropropane	ug/L (ppb)	50	94	97	75-117	3
2-Chlorotoluene	ug/L (ppb)	50	95	97	85-109	2
4-Chlorotoluene	ug/L (ppb)	50	95	97	87-107	2
tert-Butylbenzene	ug/L (ppb)	50	99	101	86-110	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	99	102	87-109	3
sec-Butylbenzene	ug/L (ppb)	50	99	101	88-110	2
p-Isopropyltoluene	ug/L (ppb)	50	100	101	87-112	1
1,3-Dichlorobenzene	ug/L (ppb)	50	95	97	88-105	2
1,4-Dichlorobenzene	ug/L (ppb)	50	92	95	87-104	3
1,2-Dichlorobenzene	ug/L (ppb)	50	96	98	86-107	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	102	106	65-126	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	94	96	86-109	2
Hexachlorobutadiene	ug/L (ppb)	50	101	101	78-116	0
Naphthalene	ug/L (ppb)	50	103	108	89-114	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	102	108	89-111	6

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.

209058

SAMPLE CHAIN OF CUSTODY

ME 09-06-12

V2

Send Report To Chuck Cacek, Brian Dixon

Company SoundEarth Strategies

Address 2811 Fairview Ave E, Suite 200

City, State, ZIP Seattle, WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.	PO #
Alsco Property (700 Dexter) 0797-001-02	
REMARKS	GEMS Y / N

Page # 1 of 1

TURNAROUND TIME

X Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

X Dispose after 30 days

☐ Return samples

☐ Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	Full VOCs GVOC's by 8260C	RCRA-8 Metals			Notes
WMW01-20120906	W-MW-01	75	01 A-D	09/06/12	0922	H2O	4					X				
WMW03-20120906	W-MW-03	69	02	↓	1048	↓	↓					X				
GMW1-20120906	G-MW1	32.5	03		1247							X				
GMW3-20120906	G-MW3	31	04		1150							X				
~~MW~~ MW101-20120906	MW101	110	05		1105							X				
W-MW-04-20120906	W-MW-04	80	06		1218							X				
MW104-20120906	MW104	124	07		0941							X				
G-MW3-20120906	G-MW3	13	08	↓	1327	↓	↓					X				
MW98-20120906	MW98	32.5	09	↓	1308	↓	↓					X				

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:		WILL CAMARDA	SES	9/6/12	
Received by:	Dave	DAVO	F&BI	11	14.15
Relinquished by:					
Received by:					

Samples received at 5 °C

FORMS\COC\SESGEMSR1.DOC (Revision 1)

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

December 14, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on December 7, 2012 from the SOU_0797_20121207, F&BI 212137 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU1214R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 7, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20121207, F&BI 212137 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
212137-01	MW116-20121207

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW116-20121207	Client:	SoundEarth Strategies
Date Received:	12/07/12	Project:	SOU_0797_20121207, F&BI 212137
Date Extracted:	12/10/12	Lab ID:	212137-01
Date Analyzed:	12/10/12	Data File:	121010.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	6.8

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20121207, F&BI 212137
Date Extracted:	12/10/12	Lab ID:	02-2243 mb
Date Analyzed:	12/10/12	Data File:	121007.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 12/14/12
Date Received: 12/07/12
Project: SOU_0797_20121207, F&BI 212137

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

Laboratory Code: 212125-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	102	36-166
Chloroethane	ug/L (ppb)	50	<1	97	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	100	60-136
Methylene chloride	ug/L (ppb)	50	<5	92	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	97	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	99	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	106	60-146
Trichloroethene	ug/L (ppb)	50	<1	96	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	101	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	103	103	50-154	0
Chloroethane	ug/L (ppb)	50	98	99	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	95	95	67-136	0
Methylene chloride	ug/L (ppb)	50	90	87	39-148	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	97	98	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	100	99	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	99	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	101	73-132	1
1,1,1-Trichloroethane	ug/L (ppb)	50	107	106	83-130	1
Trichloroethene	ug/L (ppb)	50	97	97	80-120	0
Tetrachloroethene	ug/L (ppb)	50	100	100	76-121	0

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.

212137

SAMPLE CHAIN OF CUSTODY

ME 12-07-12

V1

Send Report To Chuck Creek
Company SES
Address 2811 Fairview Ave E Ste 2000
City, State, ZIP Seattle WA 98102
Phone # 206 508-1900 Fax # 206-508-1907

SAMPLERS (signature)

PROJECT NAME/NO.
700 Dexter
0797

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24hr. perc 12/7/12
Rush charges authorized by:

MK

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

X-perc 12/7/12 MK

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Chlorinated Solvents		Notes
MW116-20121207	MW116	—	01A-D	12-7-12	1230	Water	4							X		~~Hold~~

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:	Robert A Hausberger	SES	12-7-12	1440
Received by:	Nhan Phan	FeBI	12/7/12	1440
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

December 18, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on December 13, 2012 from the SOU_0797_20121213, F&BI 212233 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU1218R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 13, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20121213, F&BI 212233 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
212233-01	MW115-20121213

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW115-20121213	Client:	SoundEarth Strategies
Date Received:	12/13/12	Project:	SOU_0797_20121213, F&BI 212233
Date Extracted:	12/13/12	Lab ID:	212233-01
Date Analyzed:	12/13/12	Data File:	121319.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.6
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	3.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.1
Tetrachloroethene	15

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20121213, F&BI 212233
Date Extracted:	12/13/12	Lab ID:	02-2252 mb
Date Analyzed:	12/13/12	Data File:	121308.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 12/18/12
Date Received: 12/13/12
Project: SOU_0797_20121213, F&BI 212233

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

Laboratory Code: 212233-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	97	73-131
Chloroethane	ug/L (ppb)	50	<1	86	70-127
1,1-Dichloroethene	ug/L (ppb)	50	<1	96	74-123
Methylene chloride	ug/L (ppb)	50	<5	84	62-125
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	74-123
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	82-110
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	100	75-117
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	100	79-117
Trichloroethene	ug/L (ppb)	50	<1	97	78-108
Tetrachloroethene	ug/L (ppb)	50	<1	97	70-115

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	92	92	73-132	0
Chloroethane	ug/L (ppb)	50	83	85	72-125	2
1,1-Dichloroethene	ug/L (ppb)	50	93	94	75-119	1
Methylene chloride	ug/L (ppb)	50	78	79	71-112	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	95	95	76-118	0
1,1-Dichloroethane	ug/L (ppb)	50	94	96	82-110	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	97	83-110	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	92	94	80-110	2
1,1,1-Trichloroethane	ug/L (ppb)	50	98	98	80-116	0
Trichloroethene	ug/L (ppb)	50	93	93	77-108	0
Tetrachloroethene	ug/L (ppb)	50	97	96	81-109	1

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.

212233

SAMPLE CHAIN OF CUSTODY

ME 12/13/12

V1

Page # 1 of 1

Send Report To Chuck Cacek

Company SES

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206 306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.
0797
700 Dexter

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24hr TAT
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	VOC's		Notes
MW115-20121213	MW115	—	01A-D	12-13-12	1315	water	4							X		

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:	David Mandel	SES	12/13/12	1345
Received by:	Nhan Phan	FeBI	12/13/12	1345
Relinquished by:				
Received by:		Samples received at	5 °C	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

December 28, 2012

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on December 21, 2012 from the SOU_0797_20121221, F&BI 212393 project. There are 29 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU1228R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 21, 2012 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20121221, F&BI 212393 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
212393-01	MW116-20121221
212393-02	MW112-20121221
212393-03	MW113-20121221
212393-04	MW108-20121221
212393-05	MW115-20121221
212393-06	MW109-20121221
212393-07	MW114-20121221
212393-08	MW107-20121221
212393-09	MW110-20121221
212393-10	MW99-20121221
212393-11	MW111-20121221

The tetrachloroethene detection in sample MW113-20121221 is due to carryover from a previous sample. The data were flagged accordingly.

Methylene chloride was detected in the 8260C analysis of sample MW111-20121221. The data were flagged as due to laboratory contamination.

All other quality control requirements were acceptable.

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393
Date Extracted: 12/26/12
Date Analyzed: 12/26/12

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW107-20121221 212393-08 1/10	240,000 x	91
Method Blank 02-2366 MB	<100	91

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393
Date Extracted: 12/26/12
Date Analyzed: 12/26/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW107-20121221 212393-08	190 x	<250	106
Method Blank 02-2379 MB	<50	<250	87

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW116-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-01
Date Analyzed:	12/24/12	Data File:	122409.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	2.7

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW112-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-02
Date Analyzed:	12/24/12	Data File:	122410.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW113-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-03
Date Analyzed:	12/24/12	Data File:	122434.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	160 ve
Chloroethane	<1
1,1-Dichloroethene	3.7
Methylene chloride	<5
trans-1,2-Dichloroethene	4.1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	5,100 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	460 ve
Tetrachloroethene	1.3 c

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW113-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-03 1/100
Date Analyzed:	12/26/12	Data File:	122614.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	150
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	5,500
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	440
Tetrachloroethene	<100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW108-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/26/12	Lab ID:	212393-04
Date Analyzed:	12/26/12	Data File:	122610.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	220 ve
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	2.1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	390 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	1.8
Tetrachloroethene	3.4

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW108-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/26/12	Lab ID:	212393-04 1/10
Date Analyzed:	12/26/12	Data File:	122609.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	210 pr
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	400
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	<10

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW115-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/26/12	Lab ID:	212393-05
Date Analyzed:	12/26/12	Data File:	122608.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	16
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	38
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	3.0
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW109-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-06
Date Analyzed:	12/24/12	Data File:	122417.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.5
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	18
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	64
Tetrachloroethene	91

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW114-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-07
Date Analyzed:	12/24/12	Data File:	122421.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	110	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	14
Chloroethane	<1
1,1-Dichloroethene	3.0
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	270 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	290 ve
Tetrachloroethene	1,200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW114-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-07 1/100
Date Analyzed:	12/26/12	Data File:	122610.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	260
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	290
Tetrachloroethene	1,400

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW107-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-08 1/10
Date Analyzed:	12/24/12	Data File:	122422.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	111	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<3.5
Toluene	<10
Ethylbenzene	<10
m,p-Xylene	<20
o-Xylene	<10
Vinyl chloride	200
Chloroethane	<10
1,1-Dichloroethene	15
Methylene chloride	<50
trans-1,2-Dichloroethene	41
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	5,300 ve
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	2,900 ve
Tetrachloroethene	34,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW107-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-08 1/1000
Date Analyzed:	12/26/12	Data File:	122612.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	109	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<350
Toluene	<1,000
Ethylbenzene	<1,000
m,p-Xylene	<2,000
o-Xylene	<1,000
Vinyl chloride	210
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	5,100
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	2,800
Tetrachloroethene	47,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW110-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-09
Date Analyzed:	12/24/12	Data File:	122431.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	103	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	33
Chloroethane	<1
1,1-Dichloroethene	1.7
Methylene chloride	<5
trans-1,2-Dichloroethene	3.0
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	500 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	220 ve
Tetrachloroethene	1,300 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW110-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-09 1/100
Date Analyzed:	12/26/12	Data File:	122613.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	37
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	470
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	220
Tetrachloroethene	1,100

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW99-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-10
Date Analyzed:	12/24/12	Data File:	122411.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	220 ve
Chloroethane	<1
1,1-Dichloroethene	16
Methylene chloride	<5
trans-1,2-Dichloroethene	44
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	4,100 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	2,700 ve
Tetrachloroethene	9,600 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW99-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-10 1/1000
Date Analyzed:	12/26/12	Data File:	122611.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	108	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	270
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	5,200
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	3,000
Tetrachloroethene	50,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW111-20121221	Client:	SoundEarth Strategies
Date Received:	12/21/12	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	212393-11
Date Analyzed:	12/24/12	Data File:	122413.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	112	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.8
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	5.0 lc
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	37
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	32
Tetrachloroethene	110

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	02-2310 mb
Date Analyzed:	12/24/12	Data File:	122408.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	102	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/24/12	Lab ID:	02-2311 mb
Date Analyzed:	12/24/12	Data File:	122408.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)
Benzene	<0.35
Toluene	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0797_20121221, F&BI 212393
Date Extracted:	12/25/12	Lab ID:	02-2312 mb
Date Analyzed:	12/26/12	Data File:	122607.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	97	99	70-119	2

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	110	111	58-134	1

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393

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

Laboratory Code: 212393-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	118	50-150
Chloroethane	ug/L (ppb)	50	<1	107	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	101	50-150
Methylene chloride	ug/L (ppb)	50	<5	87	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	100	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	97	50-150
Benzene	ug/L (ppb)	50	<0.35	95	50-150
Trichloroethene	ug/L (ppb)	50	<1	94	50-150
Toluene	ug/L (ppb)	50	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	50	2.7	115	50-150
Ethylbenzene	ug/L (ppb)	50	<1	98	50-150
m,p-Xylene	ug/L (ppb)	100	<2	98	50-150
o-Xylene	ug/L (ppb)	50	<1	100	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	104	109	70-130	5
Chloroethane	ug/L (ppb)	50	103	101	70-130	2
1,1-Dichloroethene	ug/L (ppb)	50	100	99	70-130	1
Methylene chloride	ug/L (ppb)	50	89	87	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	97	98	70-130	1
1,1-Dichloroethane	ug/L (ppb)	50	99	99	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	99	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	96	94	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	50	101	101	70-130	0
Benzene	ug/L (ppb)	50	96	96	70-130	0
Trichloroethene	ug/L (ppb)	50	93	93	70-130	0
Toluene	ug/L (ppb)	50	95	93	70-130	2
Tetrachloroethene	ug/L (ppb)	50	94	93	70-130	1
Ethylbenzene	ug/L (ppb)	50	99	97	70-130	2
m,p-Xylene	ug/L (ppb)	100	99	97	70-130	2
o-Xylene	ug/L (ppb)	50	99	97	70-130	2

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393

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

Laboratory Code: 212361-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	107	36-166
Chloroethane	ug/L (ppb)	50	<1	106	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	100	60-136
Methylene chloride	ug/L (ppb)	50	<5	95	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	99	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	98	60-146
Trichloroethene	ug/L (ppb)	50	<1	92	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	91	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	108	105	50-154	3
Chloroethane	ug/L (ppb)	50	94	95	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	100	99	67-136	1
Methylene chloride	ug/L (ppb)	50	96	95	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	100	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	101	99	79-121	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	101	98	80-123	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	98	96	73-132	2
1,1,1-Trichloroethane	ug/L (ppb)	50	101	101	83-130	0
Trichloroethene	ug/L (ppb)	50	95	95	80-120	0
Tetrachloroethene	ug/L (ppb)	50	97	97	76-121	0

Date of Report: 12/28/12
Date Received: 12/21/12
Project: SOU_0797_20121221, F&BI 212393

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)
Vinyl chloride	ug/L (ppb)	50	95	96	50-154	1
Chloroethane	ug/L (ppb)	50	101	99	58-146	2
1,1-Dichloroethene	ug/L (ppb)	50	96	95	67-136	1
Methylene chloride	ug/L (ppb)	50	91	93	39-148	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	96	98	68-128	2
1,1-Dichloroethane	ug/L (ppb)	50	97	98	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	96	97	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	95	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	99	99	83-130	0
Trichloroethene	ug/L (ppb)	50	92	92	80-120	0
Tetrachloroethene	ug/L (ppb)	50	94	93	76-121	1

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.

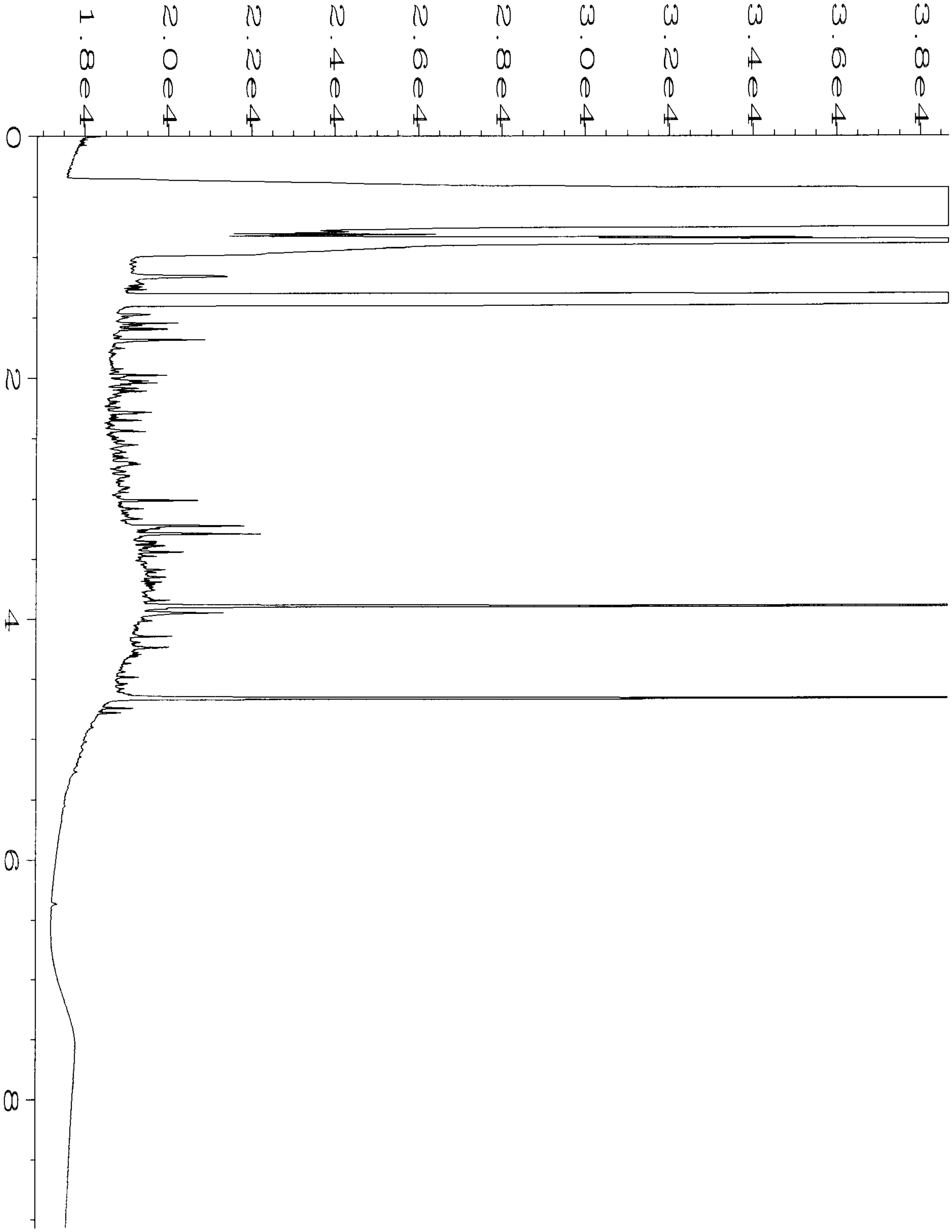
pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

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.



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Data File Name    : C:\HPCHEM\6\DATA\12-26-12\015F0501.D
Operator          : mwdl                          Page Number      : 1
Instrument        : GC #6                         Vial Number      : 15
Sample Name       : 212393-08                     Injection Number : 1
Run Time Bar Code:                                Sequence Line    : 5
Acquired on       : 26 Dec 12   11:46 AM          Instrument Method: DX.MTH
Report Created on: 27 Dec 12   08:35 AM           Analysis Method  : DX.MTH
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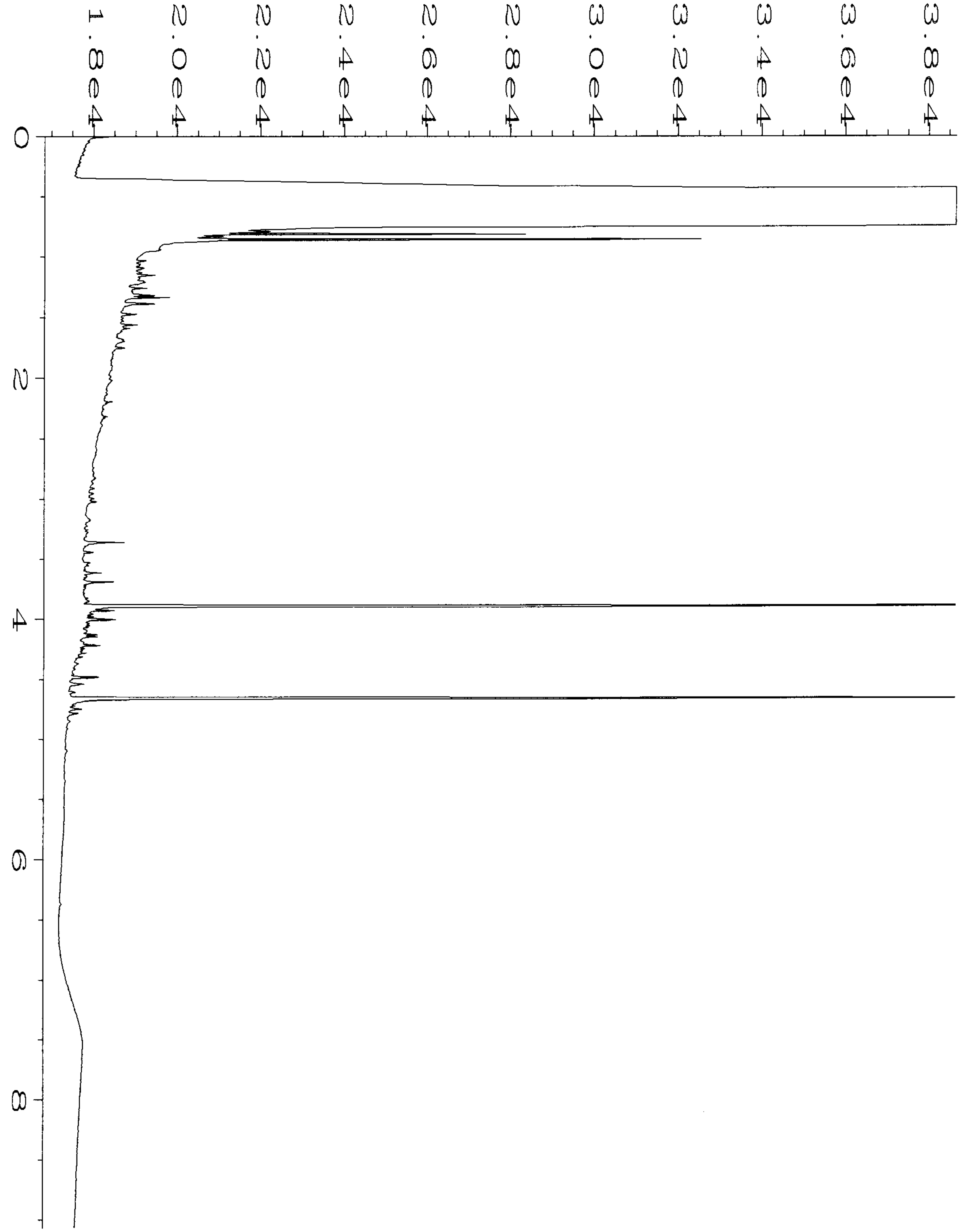

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Operator          : mwdl                                  Page Number       : 1
Instrument        : GC #6                                 Vial Number       : 16
Sample Name       : 02-2379 mb                            Injection Number : 1
Run Time Bar Code:                                        Sequence Line     : 5
Acquired on       : 26 Dec 12   11:59 AM                  Instrument Method: DX.MTH
Report Created on: 27 Dec 12   08:35 AM                   Analysis Method   : DX.MTH
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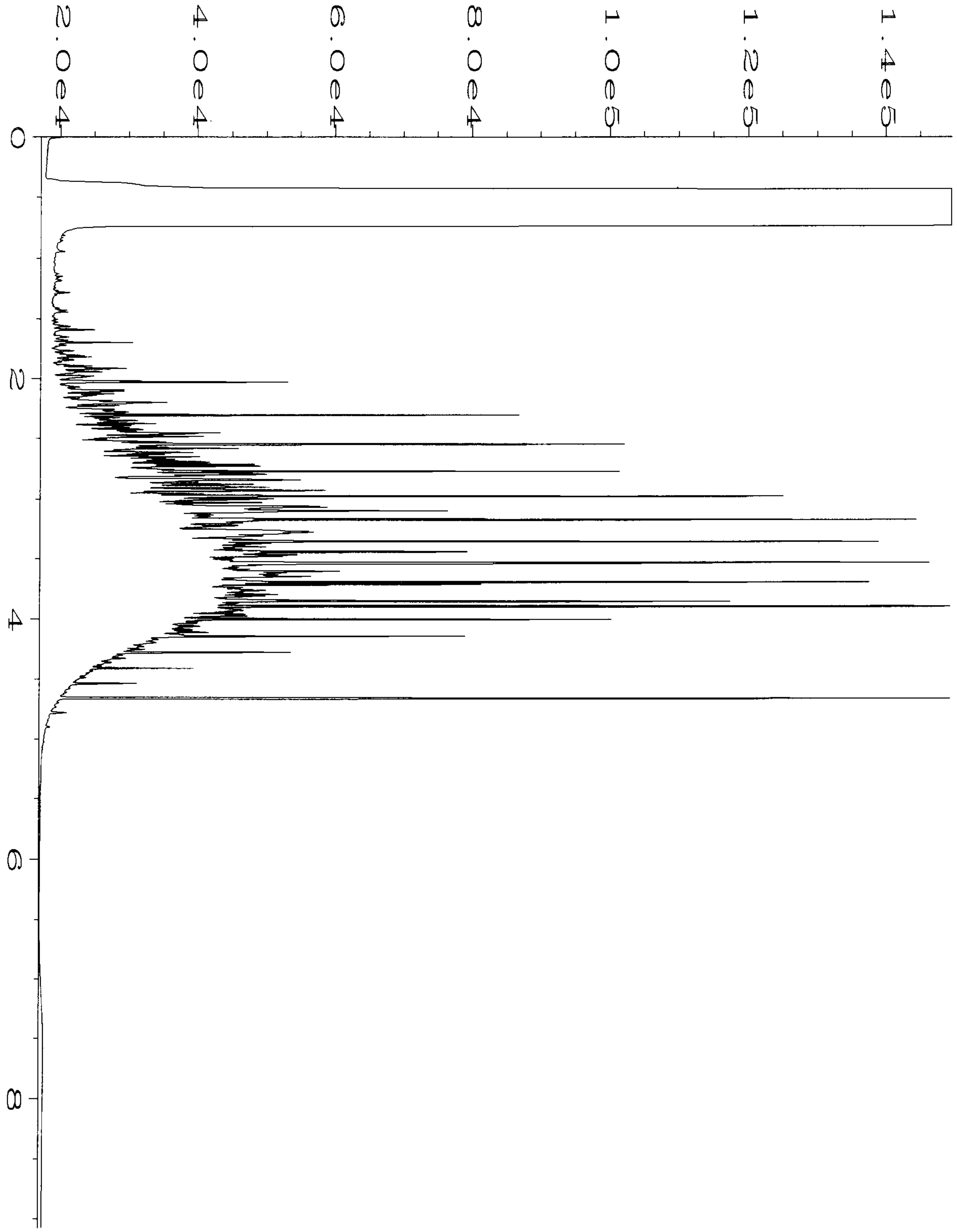

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Data File Name    : C:\HPCHEM\6\DATA\12-26-12\003F0201.D
Operator          : mwdl                         Page Number       : 1
Instrument        : GC #6                        Vial Number       : 3
Sample Name       : 500 Dx 39-143C               Injection Number : 1
Run Time Bar Code:                               Sequence Line     : 2
Acquired on       : 26 Dec 12   08:31 AM         Instrument Method: DX.MTH
Report Created on: 27 Dec 12   08:35 AM          Analysis Method   : DX.MTH
```

(NP) ~~[illegible]~~ 212393

SAMPLE CHAIN OF CUSTODY

ME 12/21/12 V3/B031

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS *(signature)*

Page # 1 of

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS 48-hour TAT

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 48 hr
Rush charges authorized by: CCC

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED								Notes
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals			
MW116-20121221	MW116		01 A-D	12/21/12	1133	H2O	4				X					
MW112-20121221	MW112		02		1230		4				X					
MW113-20121221	MW113		03		1315		4				X					
MW108-20121221	MW108		04		1345		4				X					
MW115-20121221	MW115		05		1405		4				X					
MW109-20121221	MW109		06		1445		4				X					
MW114-20121221	MW114		07		1445		4				X					
MW107-20121221	MW107		08 A-H		1547		8	X	X	X	X					
MW110-20121221	MW110		09 A-D		1549		4				X					
MW99-20121221	MW99		10		1559		4				X					
MW111-20121221	MW111		11		1600		4				X					

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:	Brandon Iwasaki	SoundEarth	12/21/12	1730
Received by:	VINH	FBI	12/21/12	1730
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

February 12, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on February 8, 2013 from the SOU_0797-001-02_20130208, F&BI 302101 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0212R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 8, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797-001-02_20130208, F&BI 302101 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
302101 -01	MW117-20130208

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW117-20130208	Client:	SoundEarth Strategies
Date Received:	02/08/13	Project:	SOU_0797-001-02_20130208, F&BI 302101
Date Extracted:	02/08/13	Lab ID:	302101-01
Date Analyzed:	02/08/13	Data File:	020811.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	91	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797-001-02_20130208, F&BI 302101
Date Extracted:	02/08/13	Lab ID:	03-0131 MB
Date Analyzed:	02/08/13	Data File:	020810.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	91	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 02/12/13
Date Received: 02/08/13
Project: SOU_0797-001-02_20130208, F&BI 302101

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

Laboratory Code: 302101-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	88	36-166
Chloroethane	ug/L (ppb)	50	<1	87	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	91	60-136
Methylene chloride	ug/L (ppb)	50	<5	79	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	88	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	86	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	87	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	85	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	90	60-146
Trichloroethene	ug/L (ppb)	50	<1	82	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	89	73-129

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	92	93	50-154	1
Chloroethane	ug/L (ppb)	50	90	92	58-146	2
1,1-Dichloroethene	ug/L (ppb)	50	92	94	67-136	2
Methylene chloride	ug/L (ppb)	50	81	82	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	89	90	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	88	89	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	89	90	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	87	87	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	93	94	83-130	1
Trichloroethene	ug/L (ppb)	50	83	84	80-120	1
Tetrachloroethene	ug/L (ppb)	50	91	93	76-121	2

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.

~~302101~~

SAMPLE CHAIN OF CUSTODY

~~ME 2/8/13 V1 / AI3~~

Send Report To Chuck Cacek
Company SoundEarth Strategies Inc
Address 2811 Fairview Ave E #2000
City, State, ZIP Seattle WA 9810~~4~~
Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS *(signature)*
PROJECT NAME/NO. 6797-001-02 ALSCO Property
PO #
REMARKS

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 48 hr TAT
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	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HVOCs by 8260s					Notes
MW~~18~~117-20130208	01A-E	2/8/13	1054	w	5							X					
		2/8/13															

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Andrea Liljegren	SES	2/8/13	1140
Received by:	James Bruya	F&B	2/8/13	1140
Relinquished by:				
Received by:				

Samples received at 10 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 25, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 18, 2013 from the SOU_0797_20130318, F&BI 303244 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0325R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 18, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130318, F&BI 303244 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303244 -01	DB02_20130318
303244 -02	DB01_20130318

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	DB02_20130318	Client:	SoundEarth Strategies
Date Received:	03/18/13	Project:	SOU_0797_20130318, F&BI 303244
Date Extracted:	03/19/13	Lab ID:	303244-01
Date Analyzed:	03/19/13	Data File:	031918.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	0.35
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	14
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	19
Tetrachloroethene	140

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	DB01_20130318	Client:	SoundEarth Strategies
Date Received:	03/18/13	Project:	SOU_0797_20130318, F&BI 303244
Date Extracted:	03/19/13	Lab ID:	303244-02
Date Analyzed:	03/19/13	Data File:	031919.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	2.4
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	1.4

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130318, F&BI 303244
Date Extracted:	03/19/13	Lab ID:	03-0400 mb
Date Analyzed:	03/19/13	Data File:	031908.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/25/13
Date Received: 03/18/13
Project: SOU_0797_20130318, F&BI 303244

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

Laboratory Code: 303244-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	85	50-150
Chloroethane	ug/L (ppb)	50	<1	102	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	50-150
Methylene chloride	ug/L (ppb)	50	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	89	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	2.4	94	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	93	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	50-150
Trichloroethene	ug/L (ppb)	50	<1	89	50-150
Tetrachloroethene	ug/L (ppb)	50	1.4	97	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	87	85	70-130	2
Chloroethane	ug/L (ppb)	50	105	103	70-130	2
1,1-Dichloroethene	ug/L (ppb)	50	94	94	70-130	0
Methylene chloride	ug/L (ppb)	50	102	98	70-130	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	91	70-130	0
1,1-Dichloroethane	ug/L (ppb)	50	92	92	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	94	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	50	100	97	70-130	3
Trichloroethene	ug/L (ppb)	50	89	87	70-130	2
Tetrachloroethene	ug/L (ppb)	50	91	92	70-130	1

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.

303244

[redacted]

SAMPLE CHAIN OF CUSTODY

ME 03/18/13 [redacted] Page # 1 of 1 V2

Send Report To Chuck Cacek

Company Second Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0797 700 Dexter

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 3 day DW
Rush charges authorized by: CCC

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals	CVOCS	HVOCs	Notes
DB02_20130317 20130318-B-2	DB02 B-2	—	01 A-D	3-18-13	1130	Water	4								X	Filter
20130318-B-1	B-1	—	02 A-D	3-18-13	1450	water	4								X	Filter
	DB01															
DB01 DB02_20130318																

3/18/13

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-
Ph. (206) 285-8282
Fax (206) 283-5044
FORMS\COC\COC.DOC (Revision 1)

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		David Model	SES	3/18/13	1710
Received by:		Jon Shiffman	FBI	3/18/13	17:15
Relinquished by:					
Received by:					

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 21, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 19, 2013 from the SOU_0797_20130319, F&BI 303260 project. There are 8 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0321R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 19, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130319, F&BI 303260 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303260 -01	20130319-DB09-40
303260 -02	20130319-DB09-70

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130319-DB09-40	Client:	SoundEarth Strategies
Date Received:	03/19/13	Project:	SOU_0797_20130319, F&BI 303260
Date Extracted:	03/19/13	Lab ID:	303260-01
Date Analyzed:	03/19/13	Data File:	031920.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	4.8
Chloroethane	<1
1,1-Dichloroethene	2.0
Methylene chloride	<5
trans-1,2-Dichloroethene	3.1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	660 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	380 ve
Tetrachloroethene	3,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130319-DB09-40	Client:	SoundEarth Strategies
Date Received:	03/19/13	Project:	SOU_0797_20130319, F&BI 303260
Date Extracted:	03/19/13	Lab ID:	303260-01 1/100
Date Analyzed:	03/20/13	Data File:	032009.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	700
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	400
Tetrachloroethene	5,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130319-DB09-70	Client:	SoundEarth Strategies
Date Received:	03/19/13	Project:	SOU_0797_20130319, F&BI 303260
Date Extracted:	03/19/13	Lab ID:	303260-02
Date Analyzed:	03/19/13	Data File:	031921.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	2.3
Chloroethane	<1
1,1-Dichloroethene	1.3
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	440 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	430 ve
Tetrachloroethene	1,500 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130319-DB09-70	Client:	SoundEarth Strategies
Date Received:	03/19/13	Project:	SOU_0797_20130319, F&BI 303260
Date Extracted:	03/19/13	Lab ID:	303260-02 1/100
Date Analyzed:	03/20/13	Data File:	032010.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	460
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	460
Tetrachloroethene	1,900

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130319, F&BI 303260
Date Extracted:	03/19/13	Lab ID:	03-0400 mb
Date Analyzed:	03/19/13	Data File:	031908.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/21/13
Date Received: 03/19/13
Project: SOU_0797_20130319, F&BI 303260

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

Laboratory Code: 303244-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	85	50-150
Chloroethane	ug/L (ppb)	50	<1	102	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	93	50-150
Methylene chloride	ug/L (ppb)	50	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	89	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	94	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	2.4	94	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	93	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	50-150
Trichloroethene	ug/L (ppb)	50	<1	89	50-150
Tetrachloroethene	ug/L (ppb)	50	1.4	97	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	87	85	70-130	2
Chloroethane	ug/L (ppb)	50	105	103	70-130	2
1,1-Dichloroethene	ug/L (ppb)	50	94	94	70-130	0
Methylene chloride	ug/L (ppb)	50	102	98	70-130	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	91	91	70-130	0
1,1-Dichloroethane	ug/L (ppb)	50	92	92	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	94	94	70-130	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	91	91	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	50	100	97	70-130	3
Trichloroethene	ug/L (ppb)	50	89	87	70-130	2
Tetrachloroethene	ug/L (ppb)	50	91	92	70-130	1

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.

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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.

303260

SAMPLE CHAIN OF CUSTODY

ME 03/19/13

V2

Send Report To Chuck Cacek

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0797 700 Dexter

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME

☐ Standard (2 Weeks)
☑ RUSH 24hr TAT
Rush charges authorized by:

SAMPLE DISPOSAL

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	RCRA-8 Metals	HVOC's		Notes
20130319-DB09-40	DB09	40	01 A-F	3-19-13	1010	water	6							X		~~Hold~~
20130319-DB09-70	|	70	02 |	3-19-13	1245	water	6							X		

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:	David Mendel	SES	3/19/13	1430
Received by:	HONG NGUYEN	FBI	V	V
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 8 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 25, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 21, 2013 from the SOU_0797_20130321, F&BI 303301 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0325R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 21, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130321, F&BI 303301 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303301 -01	20130321-DB08-60

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130321-DB08-60	Client:	SoundEarth Strategies
Date Received:	03/21/13	Project:	SOU_0797_20130321, F&BI 303301
Date Extracted:	03/21/13	Lab ID:	303301-01 1/10
Date Analyzed:	03/21/13	Data File:	032116.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	38
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	1,300
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	1,100
Tetrachloroethene	6,900 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130321-DB08-60	Client:	SoundEarth Strategies
Date Received:	03/21/13	Project:	SOU_0797_20130321, F&BI 303301
Date Extracted:	03/21/13	Lab ID:	303301-01 1/100
Date Analyzed:	03/21/13	Data File:	032115.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	38
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	1,200
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	1,100
Tetrachloroethene	7,300

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130321, F&BI 303301
Date Extracted:	03/21/13	Lab ID:	03-0474 mb
Date Analyzed:	03/21/13	Data File:	032107.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/25/13
Date Received: 03/21/13
Project: SOU_0797_20130321, F&BI 303301

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

Laboratory Code: 303291-07 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	<0.2	<0.2	nm
Chloroethane	ug/L (ppb)	<1	<1	nm
1,1-Dichloroethene	ug/L (ppb)	<1	<1	nm
Methylene chloride	ug/L (ppb)	<5	<5	nm
trans-1,2-Dichloroethene	ug/L (ppb)	<1	<1	nm
1,1-Dichloroethane	ug/L (ppb)	<1	<1	nm
cis-1,2-Dichloroethene	ug/L (ppb)	<1	<1	nm
1,2-Dichloroethane (EDC)	ug/L (ppb)	<1	<1	nm
1,1,1-Trichloroethane	ug/L (ppb)	<1	<1	nm
Trichloroethene	ug/L (ppb)	<1	<1	nm
Tetrachloroethene	ug/L (ppb)	<1	<1	nm

Date of Report: 03/25/13
Date Received: 03/21/13
Project: SOU_0797_20130321, F&BI 303301

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)
Vinyl chloride	ug/L (ppb)	50	98	101	73-132	3
Chloroethane	ug/L (ppb)	50	117	125	68-126	7
1,1-Dichloroethene	ug/L (ppb)	50	105	103	75-119	2
Methylene chloride	ug/L (ppb)	50	99	100	63-132	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	101	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	99	102	80-116	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	97	99	81-111	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	99	99	79-109	0
1,1,1-Trichloroethane	ug/L (ppb)	50	104	111	80-116	7
Trichloroethene	ug/L (ppb)	50	97	98	77-108	1
Tetrachloroethene	ug/L (ppb)	50	101	101	78-109	0

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.

303301

SAMPLE CHAIN OF CUSTODY

ME 3/21/13 V2

Send Report To Chuck Cacek

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.
0797
700 Dexter

PO #

REMARKS

GEMS Y / N

~~Page #~~ of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24hr TAT
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Hvoc's		Notes
20130321-DB08-60	DB08	60	01 A-F	3-21-13	0840	water	6							X		

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:	David Mendel	SES	3/21/13	1520
Received by:	Nhan Phan	FeB I	3/21/13	1520
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 3 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 26, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 22, 2013 from the SOU_0797_20130322, F&BI 303321 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
C: Brian Dixon
SOU0326R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 22, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130322, F&BI 303321 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303321 -01	20130322-DB04-60

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130322-DB04-60	Client:	SoundEarth Strategies
Date Received:	03/22/13	Project:	SOU_0797_20130322, F&BI 303321
Date Extracted:	03/22/13	Lab ID:	30332101
Date Analyzed:	03/22/13	Data File:	032216.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	15

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130322, F&BI 303321
Date Extracted:	03/22/13	Lab ID:	030476 mb
Date Analyzed:	03/22/13	Data File:	032208.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/26/13
Date Received: 03/22/13
Project: SOU_0797_20130322, F&BI 303321

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

Laboratory Code: 303296-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	96	50-150
Chloroethane	ug/L (ppb)	50	<1	111	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	97	50-150
Methylene chloride	ug/L (ppb)	50	<5	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	97	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	96	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	97	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	91	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	96	50-150
Trichloroethene	ug/L (ppb)	50	<1	93	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	93	50-150

Date of Report: 03/26/13
Date Received: 03/22/13
Project: SOU_0797_20130322, F&BI 303321

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)
Vinyl chloride	ug/L (ppb)	50	99	97	70-130	2
Chloroethane	ug/L (ppb)	50	118	115	70-130	3
1,1-Dichloroethene	ug/L (ppb)	50	103	97	70-130	6
Methylene chloride	ug/L (ppb)	50	102	99	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	95	70-130	6
1,1-Dichloroethane	ug/L (ppb)	50	97	93	70-130	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	94	70-130	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	90	70-130	5
1,1,1-Trichloroethane	ug/L (ppb)	50	100	96	70-130	4
Trichloroethene	ug/L (ppb)	50	95	92	70-130	3
Tetrachloroethene	ug/L (ppb)	50	97	91	70-130	6

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.

SAMPLE CHAIN OF CUSTODY ME 03-22-13 V2

303321

Send Report To Chuck Cacek
Company SoundEarth Strategies
Address 2811 Fairview Ave E Suite 2000
City, State, ZIP Seattle WA 98102
Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0747 Two Dexter

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24 hr TAT
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOCs by 8270	RCRA-8 Metals	HVOC's		Notes
20130322-DB04-GW	DB04	GW	01 A-F	3-22-13	0955	water	6							X		

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:	Robert A. Hunsley	SES	3-22-13	1107
Received by: Dano	DO VO	F+BI	〃	〃
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 3 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 27, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 25, 2013 from the SOU_0797_20130325, F&BI 303350 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0327R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 25, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130325, F&BI 303350 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303350 -01	20130325-B06-80

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130325-B06-80	Client:	SoundEarth Strategies
Date Received:	03/25/13	Project:	SOU_0797_20130325, F&BI 303350
Date Extracted:	03/25/13	Lab ID:	303350-01
Date Analyzed:	03/25/13	Data File:	032526.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	5.0
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	4.4
Tetrachloroethene	200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130325-B06-80	Client:	SoundEarth Strategies
Date Received:	03/25/13	Project:	SOU_0797_20130325, F&BI 303350
Date Extracted:	03/26/13	Lab ID:	303350-01 1/10
Date Analyzed:	03/26/13	Data File:	032610.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<2
Chloroethane	<10
1,1-Dichloroethene	<10
Methylene chloride	<50
trans-1,2-Dichloroethene	<10
1,1-Dichloroethane	<10
cis-1,2-Dichloroethene	<10
1,2-Dichloroethane (EDC)	<10
1,1,1-Trichloroethane	<10
Trichloroethene	<10
Tetrachloroethene	170

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130325, F&BI 303350
Date Extracted:	03/25/13	Lab ID:	03-0516 mb
Date Analyzed:	03/25/13	Data File:	032525.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/27/13
Date Received: 03/25/13
Project: SOU_0797_20130325, F&BI 303350

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

Laboratory Code: 303350-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	98	61-139
Chloroethane	ug/L (ppb)	50	<1	117	68-126
1,1-Dichloroethene	ug/L (ppb)	50	<1	106	71-123
Methylene chloride	ug/L (ppb)	50	<5	102	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	104	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	102	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	5.0	101	73-119
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	114	79-116
Trichloroethene	ug/L (ppb)	50	4.4	100	75-109
Tetrachloroethene	ug/L (ppb)	50	200	99 b	72-113

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	93	94	73-132	1
Chloroethane	ug/L (ppb)	50	113	116	68-126	3
1,1-Dichloroethene	ug/L (ppb)	50	95	97	75-119	2
Methylene chloride	ug/L (ppb)	50	93	94	63-132	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	95	96	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	95	95	80-116	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	92	94	81-111	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	93	92	79-109	1
1,1,1-Trichloroethane	ug/L (ppb)	50	106	109	80-116	3
Trichloroethene	ug/L (ppb)	50	92	94	77-108	2
Tetrachloroethene	ug/L (ppb)	50	95	97	78-109	2

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.

303350

[redacted]

SAMPLE CHAIN OF CUSTODY

ME 03/25/13 V2

[redacted] Page # 1 of 1

Send Report To Chuck Cacek

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1407

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter 0797

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME

☐ Standard (2 Weeks)
☒ RUSH 24 hr TAT
Rush charges authorized by:

SAMPLE DISPOSAL

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOCs by 8270	RCRA-8 Metals	HVOC's		Notes
20130325-DB06-80	DB06	80	01A-F	3-25-13	1225	water	6							X		

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:	David Mendel	SES	3/25/13	1350
Received by:	Nhan Phan	FeBI	3/25/13	1350
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 8 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

March 28, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 26, 2013 from the SOU_0797_20130326, F&BI 303379 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0328R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 26, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130326, F&BI 303379 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303379 -01	20130326-DB05-70

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130326-DB05-70	Client:	SoundEarth Strategies
Date Received:	03/26/13	Project:	SOU_0797_20130326, F&BI 303379
Date Extracted:	03/26/13	Lab ID:	303379-01
Date Analyzed:	03/26/13	Data File:	032612.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	1.7
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	11
Tetrachloroethene	1,700 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130326-DB05-70	Client:	SoundEarth Strategies
Date Received:	03/26/13	Project:	SOU_0797_20130326, F&BI 303379
Date Extracted:	03/26/13	Lab ID:	303379-01 1/100
Date Analyzed:	03/27/13	Data File:	032710.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	<100
Tetrachloroethene	1,400

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130326, F&BI 303379
Date Extracted:	03/26/13	Lab ID:	03-0517 mb
Date Analyzed:	03/26/13	Data File:	032611.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	96	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 03/28/13
Date Received: 03/26/13
Project: SOU_0797_20130326, F&BI 303379

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

Laboratory Code: 303386-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	92	50-150
Chloroethane	ug/L (ppb)	50	<1	82	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	94	50-150
Methylene chloride	ug/L (ppb)	50	<5	103	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	97	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	98	50-150
Trichloroethene	ug/L (ppb)	50	<1	98	50-150
Tetrachloroethene	ug/L (ppb)	50	7	100	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	98	95	70-130	3
Chloroethane	ug/L (ppb)	50	90	86	70-130	5
1,1-Dichloroethene	ug/L (ppb)	50	97	97	70-130	0
Methylene chloride	ug/L (ppb)	50	105	104	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	98	70-130	1
1,1-Dichloroethane	ug/L (ppb)	50	98	99	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	100	101	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	97	96	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	50	103	102	70-130	1
Trichloroethene	ug/L (ppb)	50	98	100	70-130	2
Tetrachloroethene	ug/L (ppb)	50	101	101	70-130	0

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.

303379

SAMPLE CHAIN OF CUSTODY

ME 03/26/13 V2

[redacted] Page # 1 of 1

Send Report To Chuck Cecil

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206 306-1900 Fax # 206 306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0797 700 Dexter

PO #

REMARKS

GEMS Y / N

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24hr TAT
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOCs by 8270	RCRA-8 Metals	LVOCs		Notes
20130326-DB05-70	DB05	70	01A-F	3-26-13	0450	water	6							X		

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:	Robert A Hucke	Soundearth	3-26-13	1100
Received by:	Nhan Phan	FeBI	3/26/13	1100
Relinquished by:				
Received by:				

FORMS\COC\SESGEMSR1.DOC (Revision 1)

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 2, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 27, 2013 from the SOU_0797_20130327, F&BI 303414 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0402R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 27, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130327, F&BI 303414 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303414 -01	20130327-DB03-60

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130327-DB03-60	Client:	SoundEarth Strategies
Date Received:	03/27/13	Project:	SOU_0797_20130327, F&BI 303414
Date Extracted:	03/27/13	Lab ID:	303414-01
Date Analyzed:	03/27/13	Data File:	032735.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	12
Chloroethane	<1
1,1-Dichloroethene	5.8
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	400 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	380 ve
Tetrachloroethene	3,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130327-DB03-60	Client:	SoundEarth Strategies
Date Received:	03/27/13	Project:	SOU_0797_20130327, F&BI 303414
Date Extracted:	03/27/13	Lab ID:	303414-01 1/100
Date Analyzed:	03/28/13	Data File:	032810.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	420
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	420
Tetrachloroethene	6,700

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130327, F&BI 303414
Date Extracted:	03/27/13	Lab ID:	03-0521 mb
Date Analyzed:	03/27/13	Data File:	032731.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	96	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/02/13
Date Received: 03/27/13
Project: SOU_0797_20130327, F&BI 303414

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

Laboratory Code: 303404-07 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	<0.2	81	61-139
Chloroethane	ug/L (ppb)	50	<1	105	68-126
1,1-Dichloroethene	ug/L (ppb)	50	<1	92	71-123
Methylene chloride	ug/L (ppb)	50	<5	89	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	92	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	92	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	91	73-119
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	92	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	103	79-116
Trichloroethene	ug/L (ppb)	50	<1	93	75-109
Tetrachloroethene	ug/L (ppb)	50	2.2	90	72-113

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	96	86	73-132	11
Chloroethane	ug/L (ppb)	50	121	110	68-126	10
1,1-Dichloroethene	ug/L (ppb)	50	104	98	75-119	6
Methylene chloride	ug/L (ppb)	50	102	94	63-132	8
trans-1,2-Dichloroethene	ug/L (ppb)	50	103	95	76-118	8
1,1-Dichloroethane	ug/L (ppb)	50	102	94	80-116	8
cis-1,2-Dichloroethene	ug/L (ppb)	50	101	91	81-111	10
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	89	79-109	7
1,1,1-Trichloroethane	ug/L (ppb)	50	116	107	80-116	8
Trichloroethene	ug/L (ppb)	50	101	93	77-108	8
Tetrachloroethene	ug/L (ppb)	50	104	96	78-109	8

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.

303414

SAMPLE CHAIN OF CUSTODY

ME ~~03-13~~ 03-27-13 IAV

V2

Send Report To Chuck Cacek
Company Sound Earth Strategies
Address 2811 Fairview Av E Suite 2000
City, State, ZIP Seattle WA 98102
Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0797 700 Dexter

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24 TAT
Rush charges authorized by: CCC

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	HVOC's		Notes
20130327-DB3-60	DB3	60	01 A-F	3-27-13	0935	water	6							X		

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:		David Mendel	SES	3/27/13	1350
Received by:	Dovo	D O V O	F&BI	"	"
Relinquished by:					
Received by:					

FORMS\COC\COCGEMSR1.DOC (Revision 1)

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 5, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 28, 2013 from the SOU_0797_20130328, F&BI 303446 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0405R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 28, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130328, F&BI 303446 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303446 -01	20130328-DB05A-45
303446 -02	20130328-DB07-70

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130328-DB05A-45	Client:	SoundEarth Strategies
Date Received:	03/28/13	Project:	SOU_0797_20130328, F&BI 303446
Date Extracted:	03/28/13	Lab ID:	303446-01
Date Analyzed:	03/28/13	Data File:	032828.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	1.2
Chloroethane	<1
1,1-Dichloroethene	4.8
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	42
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	790 ve
Tetrachloroethene	13,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130328-DB05A-45	Client:	SoundEarth Strategies
Date Received:	03/28/13	Project:	SOU_0797_20130328, F&BI 303446
Date Extracted:	03/29/13	Lab ID:	303446-01 1/2000
Date Analyzed:	03/29/13	Data File:	032926.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<400
Chloroethane	<2,000
1,1-Dichloroethene	<2,000
Methylene chloride	<10,000
trans-1,2-Dichloroethene	<2,000
1,1-Dichloroethane	<2,000
cis-1,2-Dichloroethene	<2,000
1,2-Dichloroethane (EDC)	<2,000
1,1,1-Trichloroethane	<2,000
Trichloroethene	<2,000
Tetrachloroethene	230,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130328-DB07-70	Client:	SoundEarth Strategies
Date Received:	03/28/13	Project:	SOU_0797_20130328, F&BI 303446
Date Extracted:	03/28/13	Lab ID:	303446-02 1/1000
Date Analyzed:	03/29/13	Data File:	032911.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<200
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	<1,000
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	<1,000
Tetrachloroethene	15,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130328, F&BI 303446
Date Extracted:	03/29/13	Lab ID:	03-0524 mb
Date Analyzed:	03/29/13	Data File:	032908.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130328, F&BI 303446
Date Extracted:	03/28/13	Lab ID:	03-0523 mb
Date Analyzed:	03/28/13	Data File:	032827.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	JS

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

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/05/13
Date Received: 03/28/13
Project: SOU_0797_20130328, F&BI 303446

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

Laboratory Code: 303446-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	1.2	90	61-139
Chloroethane	ug/L (ppb)	50	<1	118	68-126
1,1-Dichloroethene	ug/L (ppb)	50	4.8	98	71-123
Methylene chloride	ug/L (ppb)	50	<5	97	61-126
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	79-113
cis-1,2-Dichloroethene	ug/L (ppb)	50	42	93 b	73-119
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	95	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	108	79-116
Trichloroethene	ug/L (ppb)	50	790	56 b	75-109
Tetrachloroethene	ug/L (ppb)	50	13,000	0 b	72-113

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	84	86	73-132	2
Chloroethane	ug/L (ppb)	50	108	110	68-126	2
1,1-Dichloroethene	ug/L (ppb)	50	97	99	75-119	2
Methylene chloride	ug/L (ppb)	50	95	96	63-132	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	96	98	76-118	2
1,1-Dichloroethane	ug/L (ppb)	50	96	97	80-116	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	96	97	81-111	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	95	96	79-109	1
1,1,1-Trichloroethane	ug/L (ppb)	50	114	117 vo	80-116	3
Trichloroethene	ug/L (ppb)	50	96	98	77-108	2
Tetrachloroethene	ug/L (ppb)	50	101	102	78-109	1

Date of Report: 04/05/13
Date Received: 03/28/13
Project: SOU_0797_20130328, F&BI 303446

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)
Vinyl chloride	ug/L (ppb)	50	104	104	50-154	0
Chloroethane	ug/L (ppb)	50	111	112	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	106	107	67-136	1
Methylene chloride	ug/L (ppb)	50	96	95	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	104	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	103	102	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	106	105	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	102	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	105	105	83-130	0
Trichloroethene	ug/L (ppb)	50	103	102	80-120	1
Tetrachloroethene	ug/L (ppb)	50	102	105	76-121	3

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.

303446 ME 3/28/13 V2

SAMPLE CHAIN OF COUSTODY

Send Report To Chuck Cacek

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206 306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 7w Deeper 0757

PO #

REMARKS

GEMS Y / N

Page # ______ of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24hr TAT
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	Hvo's		Notes
20130328-DB05A-45	DB05A	45	01 A-F	3-28-13	1110	water	6							X		
20130328-DB07-70	DB07	70	02 A-F	3-28-13	1400	water	6							X		

Samples received at 6 °C

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:		Robert A. Hornberger	Sound Earth	3-28-13	1510
Received by:		DO VO	F&BI	"	"
Relinquished by:					
Received by:					

FORMS\COC\COCGEMSR1.DOC (Revision 1)

Samples received at ______ °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 3, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on March 29, 2013 from the SOU_0797_20130329, F&BI 303468 project. There are 6 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0403R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 29, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130329, F&BI 303468 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
303468 -01	20130329_DB10-40

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130329_DB10-40	Client:	SoundEarth Strategies
Date Received:	03/29/13	Project:	SOU_0797_20130329, F&BI 303468
Date Extracted:	03/29/13	Lab ID:	303468-01 1/1000
Date Analyzed:	03/29/13	Data File:	032934.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<200
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	<1,000
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	1,700
Tetrachloroethene	200,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130329_DB10-40	Client:	SoundEarth Strategies
Date Received:	03/29/13	Project:	SOU_0797_20130329, F&BI 303468
Date Extracted:	03/29/13	Lab ID:	303468-01 1/2000
Date Analyzed:	04/01/13	Data File:	040108.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<400
Chloroethane	<2,000
1,1-Dichloroethene	<2,000
Methylene chloride	<10,000
trans-1,2-Dichloroethene	<2,000
1,1-Dichloroethane	<2,000
cis-1,2-Dichloroethene	<2,000
1,2-Dichloroethane (EDC)	<2,000
1,1,1-Trichloroethane	<2,000
Trichloroethene	<2,000
Tetrachloroethene	200,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130329, F&BI 303468
Date Extracted:	03/29/13	Lab ID:	03-0524 mb
Date Analyzed:	03/29/13	Data File:	032908.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	57	121
Toluene-d8	98	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/03/13
Date Received: 03/29/13
Project: SOU_0797_20130329, F&BI 303468

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)
Vinyl chloride	ug/L (ppb)	50	104	104	50-154	0
Chloroethane	ug/L (ppb)	50	111	112	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	106	107	67-136	1
Methylene chloride	ug/L (ppb)	50	96	95	39-148	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	105	104	68-128	1
1,1-Dichloroethane	ug/L (ppb)	50	103	102	79-121	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	106	105	80-123	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	102	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	105	105	83-130	0
Trichloroethene	ug/L (ppb)	50	103	102	80-120	1
Tetrachloroethene	ug/L (ppb)	50	102	105	76-121	3

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.

303468

SAMPLE CHAIN OF CUSTODY ME 03/29/13

V6

Send Report To Chuck Cacek
Company SoundEarth Strategies
Address 2811 Fairview Ave E Suite 2000
City, State, ZIP Seattle WA 98102
Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0797 700 Dexter

PO #

REMARKS
Very high concentrations expected

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24hr TAT
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	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HVOC's					Notes
20130329-DB10-40	01 A-F	3-29-13	0935	water	6							X					

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:	David Mendel	SES	3/29/13	1100
Received by:	Nhan Phan	FEBI	3/29/13	1100
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

Samples received at 5 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 3, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on April 1, 2013 from the SOU_0797_20130401, F&BI 304007 project. There are 5 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0403R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 1, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies 0797 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
304007 -01	20130401-DB10-70

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130401-DB10-70	Client:	SoundEarth Strategies
Date Received:	04/01/13	Project:	SOU_0797_20130401, F&BI 304007
Date Extracted:	04/01/13	Lab ID:	304007-01 1/100
Date Analyzed:	04/01/13	Data File:	040126.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	<100
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	<100
Tetrachloroethene	6,900

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130401, F&BI 304007
Date Extracted:	04/01/13	Lab ID:	03-0558 mb
Date Analyzed:	04/01/13	Data File:	040107.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/03/13
Date Received: 04/01/13
Project: SOU_0797_20130401, F&BI 304007

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)
Vinyl chloride	ug/L (ppb)	50	102	102	50-154	0
Chloroethane	ug/L (ppb)	50	112	111	58-146	1
1,1-Dichloroethene	ug/L (ppb)	50	105	105	67-136	0
Methylene chloride	ug/L (ppb)	50	94	94	39-148	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	102	68-128	0
1,1-Dichloroethane	ug/L (ppb)	50	102	102	79-121	0
cis-1,2-Dichloroethene	ug/L (ppb)	50	104	102	80-123	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	102	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	105	104	83-130	1
Trichloroethene	ug/L (ppb)	50	99	101	80-120	2
Tetrachloroethene	ug/L (ppb)	50	98	99	76-121	1

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.

304007

SAMPLE CHAIN OF CUSTODY

ME 04-01-13 VI

Send Report To Chuck Creek
Company Sound Earth Strategies
Address 2811 Fairview ave E Suite 2000
City, State, ZIP Seattle WA 98102
Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO. 0747 700 Dexter

PO #

REMARKS

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24hr TAT
Rush charges authorized by:

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

						ANALYSES REQUESTED												
Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	Hvoc's						Notes
20130401-DB10-70	01 A-F	4-1-13	1115	water	6							X						

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:	Robert A. Hornberger	Sound Earth	4-1-13	1220
Received by:				
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 29, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the additional results from the testing of material submitted on April 3, 2013 from the SOU_0797_20130403, F&BI 304064 project. There are 4 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0429R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 3, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130403, F&BI 304064 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
304064 -01	20130403-DB12-15
304064 -02	20130403-DB12-45
304064 -03	20130403-DB13-15
304064 -04	20130403-DB13-45

All quality control requirements were acceptable.

Date of Report: 04/29/13
Date Received: 04/03/13
Project: SOU_0797_20130403, F&BI 304064
Date Extracted: NA
Date Analyzed: 04/22/13

RESULTS FROM THE SCREENING ANALYSIS OF WATER SAMPLES FOR CONDUCTIVITY

Results Reported as µS/cm

Sample ID Laboratory ID	Conductivity
20130403-DB12-15 304064-01	1,040
20130403-DB12-45 304064-02	438
20130403-DB13-15 304064-03	894
20130403-DB13-45 304064-04	933
Method Blank	<10

Date of Report: 04/29/13
Date Received: 04/03/13
Project: SOU_0797_20130403, F&BI 304064

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR CONDUCTIVITY (SCREEN)

Laboratory Code: 303468-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Conductivity	µS/cm	696	700	1	0-20

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.

304064

SAMPLE CHAIN OF CUSTODY

ME 04-03-13 V2

Send Report To Chuck Cook

Company Sound Earth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.
0747
Joe Dunbar

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24 hrs
Rush charges authorized by:

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

								ANALYSES REQUESTED									
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	Conductivity RCRA-8 Metals	Hutc's		Notes
20130403-DB11-15	DB11	15	01 A-F	4-3-13	0945	water	6						X	X		K-per CC 4/3/13 ME
20130403-DB12-45	|	45	02	|	0925	water	6						X	X		
20130403-DB13-15	DB13	15	03	|	1055	water	6						X	X		
20130403-DB13-15			04	|	1150	water	6						X	X	*	Added at lab ME 4/3/13

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:	Robt A. Hultgren	SES	4-3-13	1257
Received by:	VINH	FBI	4/3/13	1257
Relinquished by:				
Received by:				

FORMS\COC\COCGEMSRL.DOC (Revision 1)

Samples received at 7 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 9, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on April 3, 2013 from the SOU_0797_20130403, F&BI 304064 project. There are 10 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0409R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on April 3, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies SOU_0797_20130403, F&BI 304064 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
304064 -01	20130403-DB12-15
304064 -02	20130403-DB12-45
304064 -03	20130403-DB13-15
304064 -04	20130403-DB13-45

All quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB12-15	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-01 1/2000
Date Analyzed:	04/04/13	Data File:	040408.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<400
Chloroethane	<2,000
1,1-Dichloroethene	<2,000
Methylene chloride	<10,000
trans-1,2-Dichloroethene	<2,000
1,1-Dichloroethane	<2,000
cis-1,2-Dichloroethene	3,100
1,2-Dichloroethane (EDC)	<2,000
1,1,1-Trichloroethane	<2,000
Trichloroethene	4,800
Tetrachloroethene	170,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB12-45	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-02 1/1000
Date Analyzed:	04/04/13	Data File:	040409.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<200
Chloroethane	<1,000
1,1-Dichloroethene	<1,000
Methylene chloride	<5,000
trans-1,2-Dichloroethene	<1,000
1,1-Dichloroethane	<1,000
cis-1,2-Dichloroethene	<1,000
1,2-Dichloroethane (EDC)	<1,000
1,1,1-Trichloroethane	<1,000
Trichloroethene	1,100
Tetrachloroethene	46,000

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB13-15	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-03
Date Analyzed:	04/03/13	Data File:	040335.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	101	63	127
4-Bromofluorobenzene	101	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	1.8
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	150 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	100
Tetrachloroethene	2,000 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB13-15	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-03 1/100
Date Analyzed:	04/04/13	Data File:	040412.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	99	63	127
4-Bromofluorobenzene	100	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<20 pr
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	160
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	100
Tetrachloroethene	2,500

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB13-45	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-04
Date Analyzed:	04/03/13	Data File:	040336.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	102	63	127
4-Bromofluorobenzene	106	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	3.0
Chloroethane	<1
1,1-Dichloroethene	5.2
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	430 ve
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	800 ve
Tetrachloroethene	4,200 ve

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130403-DB13-45	Client:	SoundEarth Strategies
Date Received:	04/03/13	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	304064-04 1/2000
Date Analyzed:	04/04/13	Data File:	040410A.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<400 pr
Chloroethane	<2,000
1,1-Dichloroethene	<2,000
Methylene chloride	<10,000
trans-1,2-Dichloroethene	<2,000
1,1-Dichloroethane	<2,000
cis-1,2-Dichloroethene	<2,000
1,2-Dichloroethane (EDC)	<2,000
1,1,1-Trichloroethane	<2,000
Trichloroethene	<2,000
Tetrachloroethene	8,200

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	Not Applicable	Project:	SOU_0797_20130403, F&BI 304064
Date Extracted:	04/03/13	Lab ID:	03-0591 mb
Date Analyzed:	04/03/13	Data File:	040310.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	99	60	133

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/09/13
Date Received: 04/03/13
Project: SOU_0797_20130403, F&BI 304064

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

Laboratory Code: 304055-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	0.75	100	36-166
Chloroethane	ug/L (ppb)	50	<1	107	46-160
1,1-Dichloroethene	ug/L (ppb)	50	<1	111	60-136
Methylene chloride	ug/L (ppb)	50	<5	96	67-132
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	107	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	104	70-128
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	109	71-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	108	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	108	60-146
Trichloroethene	ug/L (ppb)	50	7.9	104	66-135
Tetrachloroethene	ug/L (ppb)	50	<1	103	10-226

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	100	96	50-154	4
Chloroethane	ug/L (ppb)	50	108	104	58-146	4
1,1-Dichloroethene	ug/L (ppb)	50	109	105	67-136	4
Methylene chloride	ug/L (ppb)	50	94	90	39-148	4
trans-1,2-Dichloroethene	ug/L (ppb)	50	104	98	68-128	6
1,1-Dichloroethane	ug/L (ppb)	50	102	97	79-121	5
cis-1,2-Dichloroethene	ug/L (ppb)	50	105	98	80-123	7
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	105	99	73-132	6
1,1,1-Trichloroethane	ug/L (ppb)	50	104	100	83-130	4
Trichloroethene	ug/L (ppb)	50	104	97	80-120	7
Tetrachloroethene	ug/L (ppb)	50	105	98	76-121	7

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.

SAMPLE CHAIN OF CUSTODY ME 04-03-13

V2

304064

Send Report To Chuck Cacek

Company Sound Earth Strategies

Address 2811 Fairview ave E Suite 2000

City, State, ZIP Seattle WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS (signature)

PROJECT NAME/NO.
0747
Joe Dunbar

PO #

REMARKS

GEMS Y / N

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☑ RUSH 24 hrs
Rush charges authorized by:

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

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOC's by 8260	SVOC's by 8270	RCRA-8 Metals	HVOC'S		Notes K-per CC 4/3/13
20130403-DB12-15	DB12	15	01 A-F	4-3-13	0845	water	6							X		MC
20130403-DB12-45	|	45	02	|	0925	water	6							X		
20130403-DB13-15	DB13	15	03	|	1055	water	6							X		
20130403-DB13-45			04	|	1150	water	6							X	*	Added at lab (MC) 4/3/13

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:	Robt A. [illegible]	SES	4-3-13	1257
Received by:	VINH	FBI	4/3/13	1257
Relinquished by:				
Received by:				

FORMS\COC\COC GEMSR1.DOC (Revision 1)

Samples received at 7 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 29, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the additional results from the testing of material submitted on April 4, 2013 from the SOU_0797_20130404, F&BI 304100 project. There are 4 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0429R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies 0797 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
304100 -01	20130404-DB14-15
304100 -02	20130404-DB14-45

All quality control requirements were acceptable.

Date of Report: 04/29/13
Date Received: 04/04/13
Project: SOU_0797_20130404, F&BI 304100
Date Extracted: NA
Date Analyzed: 04/22/13

RESULTS FROM THE SCREENING ANALYSIS OF WATER SAMPLES FOR CONDUCTIVITY

Results Reported as µS/cm

Sample ID Laboratory ID	Conductivity
20130404-DB14-15 304100-01	1,820
20130404-DB14-45 304100-02	1,320
Method Blank	<10

Date of Report: 04/29/13
Date Received: 04/04/13
Project: SOU_0797_20130404, F&BI 304100

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR CONDUCTIVITY (SCREEN)

Laboratory Code: 303468-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Conductivity	µS/cm	696	700	1	0-20

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.

304100

SAMPLE CHAIN OF CUSTODY

ME 04-04-13 VV

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (signature)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

Page # 1 of 1

TURNAROUND TIME

☐ Standard (2 Weeks)

☒ RUSH 24 Hrs

Rush charges authorized by CC

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HVOCs	Conductivity				Notes
2030404-DB14-15	01 A-F	4/4/13	0835	H2O	6		X	X					★				HOLD
2030404-DB14-45	02	↓	0920	↓	↓							X	★				

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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	David Mendel	SES	4/4/13	1045
Received by:	DA VO	F&BI	"	"
Relinquished by:				
Received by:				

Samples received at 6 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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
e-mail: fbi@isomedia.com

April 11, 2013

Chuck Cacek, Project Manager
SoundEarth Strategies
2811 Fairview Ave. East, Suite 2000
Seattle, WA 98102

Dear Mr. Cacek:

Included are the results from the testing of material submitted on April 4, 2013 from the SOU_0797_20130404, F&BI 304100 project. There are 7 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 should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Brian Dixon
SOU0411R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 4, 2013 by Friedman & Bruya, Inc. from the SoundEarth Strategies 0797 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	SoundEarth Strategies
304100 -01	20130404-DB14-15
304100 -02	20130404-DB14-45

All quality control requirements were acceptable.

Date of Report: 04/11/13
Date Received: 04/04/13
Project: SOU_0797_20130404, F&BI 304100
Date Extracted: 04/05/13
Date Analyzed: 04/05/13

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
20130404-DB14-15 304100-01 1/40	100	<40	90	130	7,200	111
Method Blank 03-0579 MB	<1	<1	<1	<3	<100	109

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	20130404-DB14-45	Client:	SoundEarth Strategies
Date Received:	04/04/13	Project:	SOU_0797_20130404, F&BI 304100
Date Extracted:	04/04/13	Lab ID:	304100-02 1/100
Date Analyzed:	04/05/13	Data File:	040507.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	140
Chloroethane	<100
1,1-Dichloroethene	<100
Methylene chloride	<500
trans-1,2-Dichloroethene	<100
1,1-Dichloroethane	<100
cis-1,2-Dichloroethene	840
1,2-Dichloroethane (EDC)	<100
1,1,1-Trichloroethane	<100
Trichloroethene	210
Tetrachloroethene	470

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	SoundEarth Strategies
Date Received:	NA	Project:	SOU_0797_20130404, F&BI 304100
Date Extracted:	04/04/13	Lab ID:	03-0594 mb
Date Analyzed:	04/04/13	Data File:	040407.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
Vinyl chloride	<0.2
Chloroethane	<1
1,1-Dichloroethene	<1
Methylene chloride	<5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane	<1
cis-1,2-Dichloroethene	<1
1,2-Dichloroethane (EDC)	<1
1,1,1-Trichloroethane	<1
Trichloroethene	<1
Tetrachloroethene	<1

Date of Report: 04/11/13
Date Received: 04/04/13
Project: SOU_0797_20130404, F&BI 304100

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 304083-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	91	65-118
Toluene	ug/L (ppb)	50	89	72-122
Ethylbenzene	ug/L (ppb)	50	89	73-126
Xylenes	ug/L (ppb)	150	89	74-118
Gasoline	ug/L (ppb)	1,000	99	69-134

Date of Report: 04/11/13
Date Received: 04/04/13
Project: SOU_0797_20130404, F&BI 304100

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

Laboratory Code: 304081-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Vinyl chloride	ug/L (ppb)	50	12	102 b	50-150
Chloroethane	ug/L (ppb)	50	<1	112	50-150
1,1-Dichloroethene	ug/L (ppb)	50	<1	113	50-150
Methylene chloride	ug/L (ppb)	50	<5	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	103	50-150
1,1-Dichloroethane	ug/L (ppb)	50	<1	109	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	50	5.1	106	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	109	50-150
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	104	50-150
Trichloroethene	ug/L (ppb)	50	1.9	99	50-150
Tetrachloroethene	ug/L (ppb)	50	<1	112	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Vinyl chloride	ug/L (ppb)	50	108	108	70-130	0
Chloroethane	ug/L (ppb)	50	111	113	70-130	2
1,1-Dichloroethene	ug/L (ppb)	50	119	117	70-130	2
Methylene chloride	ug/L (ppb)	50	96	96	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	109	108	70-130	1
1,1-Dichloroethane	ug/L (ppb)	50	113	114	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	50	112	111	70-130	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	112	113	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	50	109	111	70-130	2
Trichloroethene	ug/L (ppb)	50	106	105	70-130	1
Tetrachloroethene	ug/L (ppb)	50	112	114	70-130	2

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.

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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.

304100

SAMPLE CHAIN OF CUSTODY

ME 04-04-13 VL

Send Report To Chuck Cacek

Company SoundEarth Strategies

Address 2811 Fairview Ave E Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS (*signature*)

PROJECT NAME/NO. 700 Dexter/0797

PO #

REMARKS

Page # 1 of 1

TURNAROUND TIME

☐ Standard (2 Weeks)

☑ RUSH 24 hrs

Rush charges authorized by CCC

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	HVOCs					Notes
20130404-D814-15	01 A-F	4/4/13	0835	H2O	6		X	X									HOLD
20130404-D814-45	02 ↓	↓	0920	↓	↓							X					

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

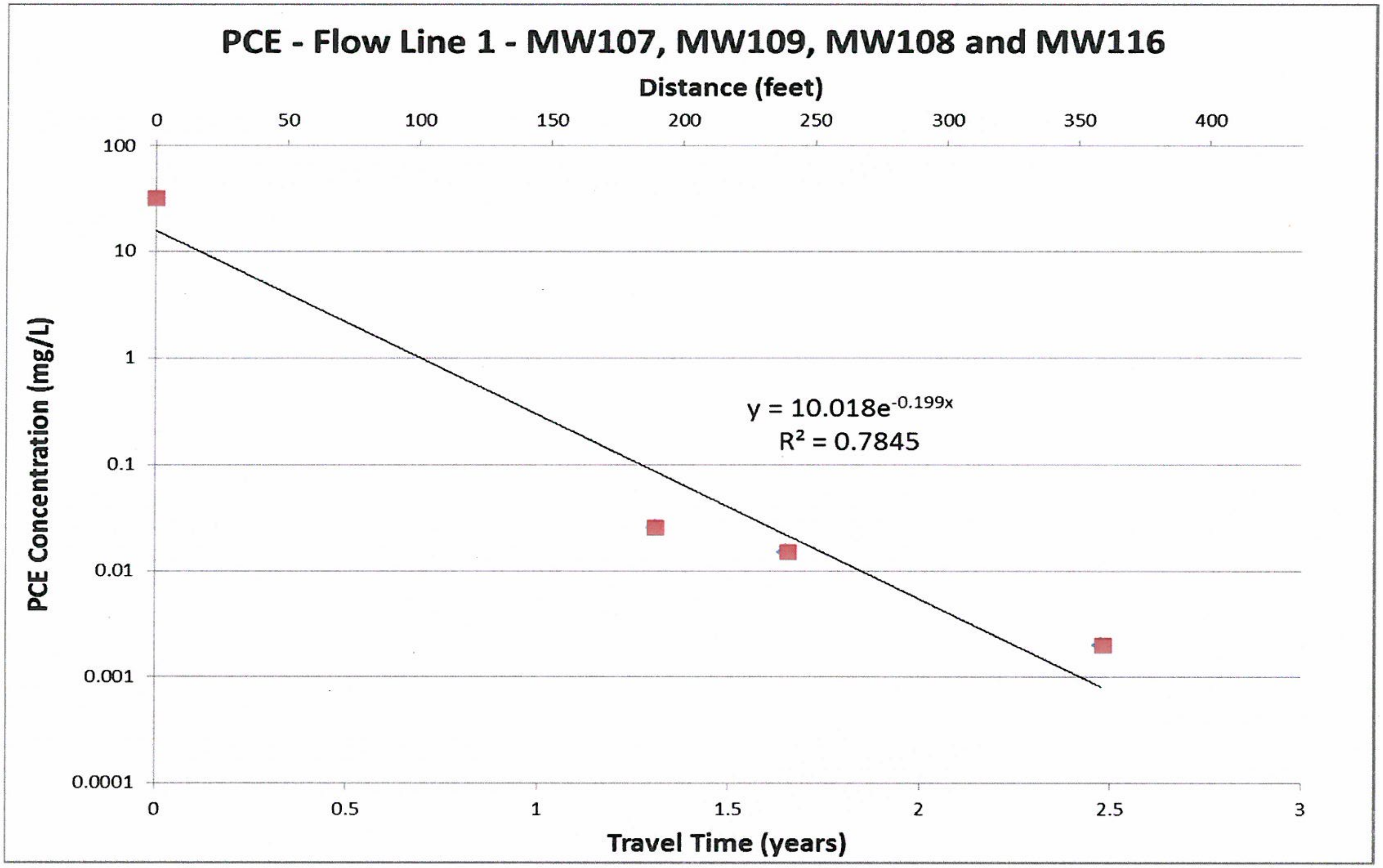
FORMS\COC\COC.DOC

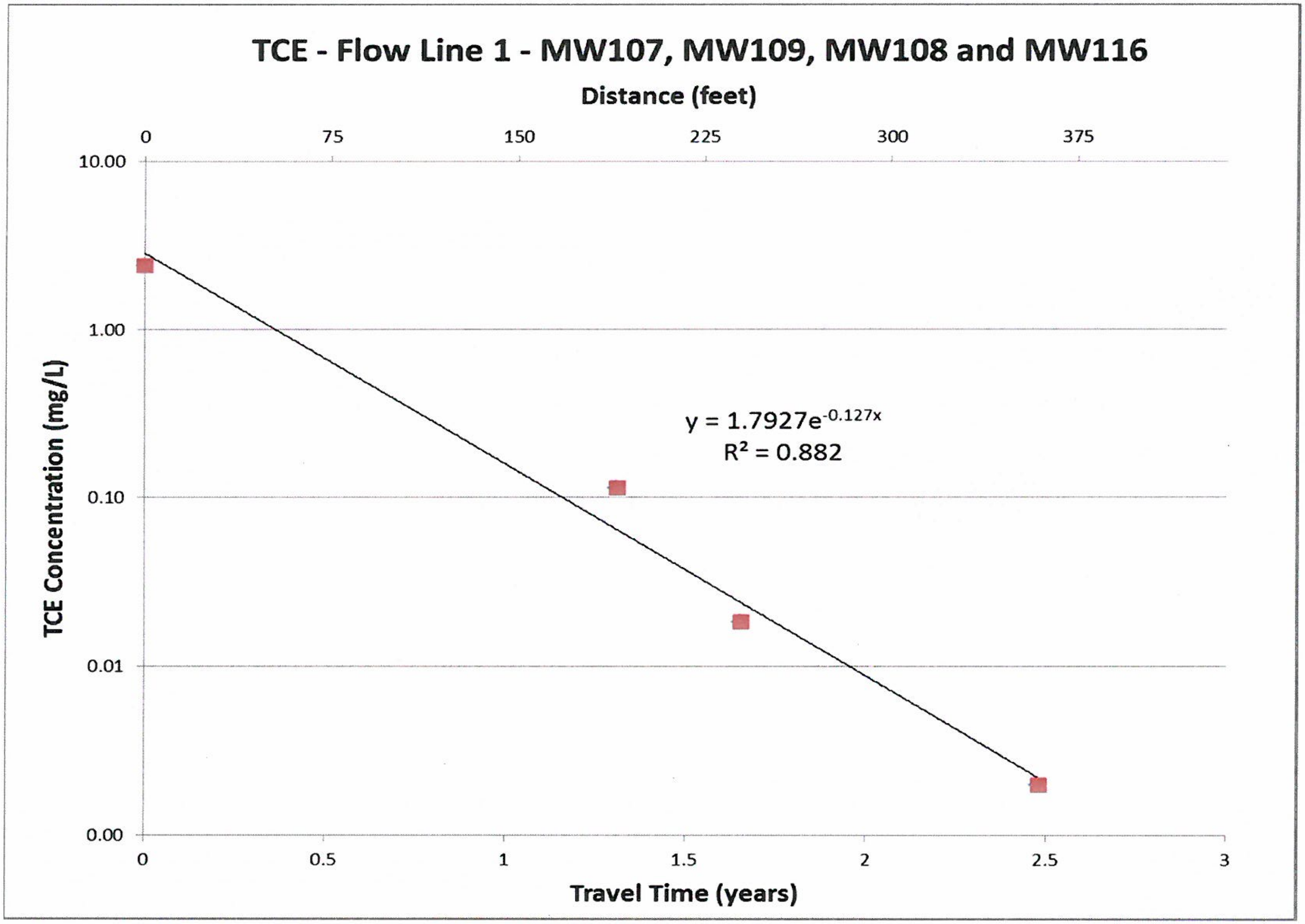
SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	David Mendel	SES	4/4/13	1045
Received by:	DD VO	F+BI	"	"
Relinquished by:				
Received by:				

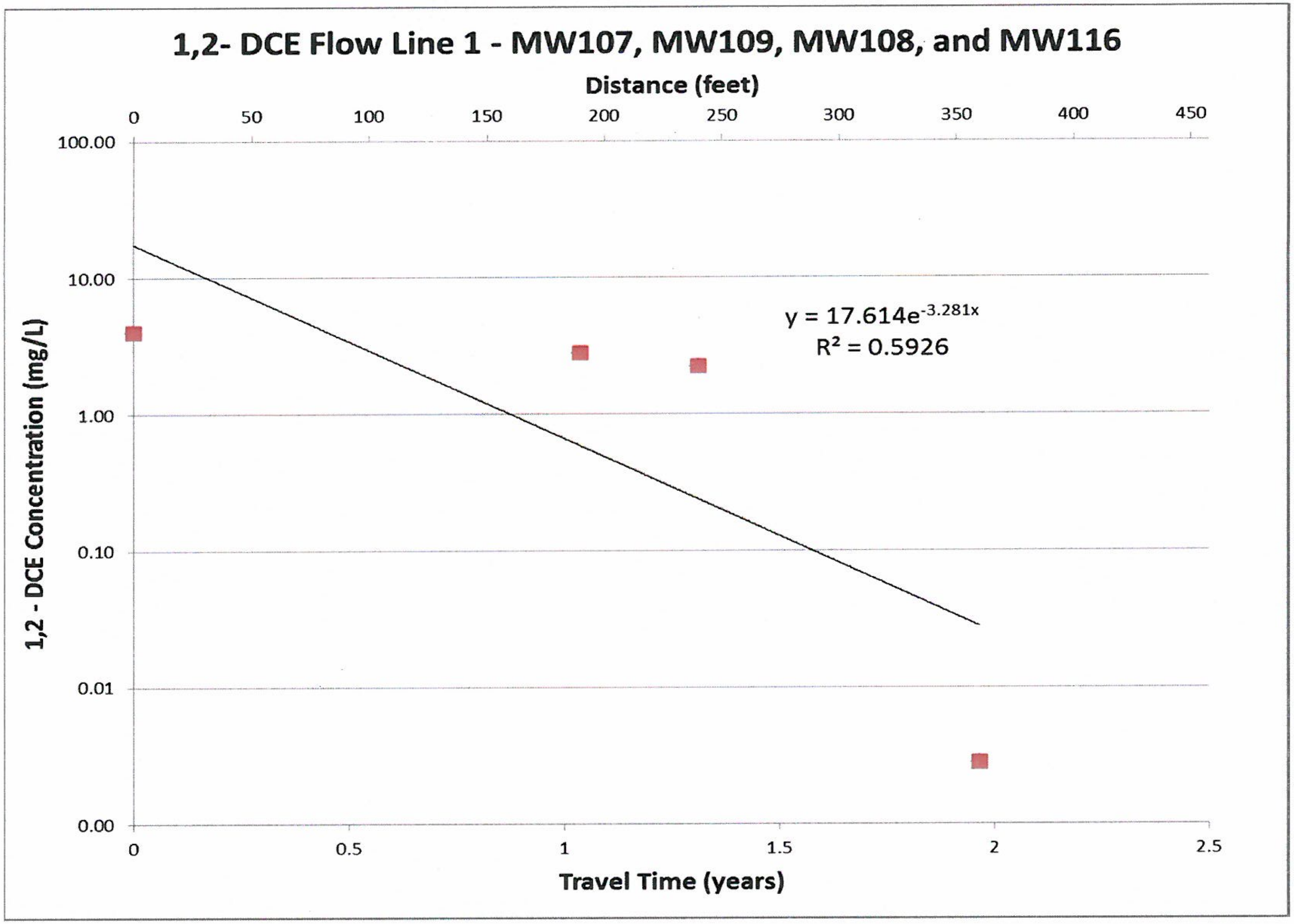
Samples received at 6 °C

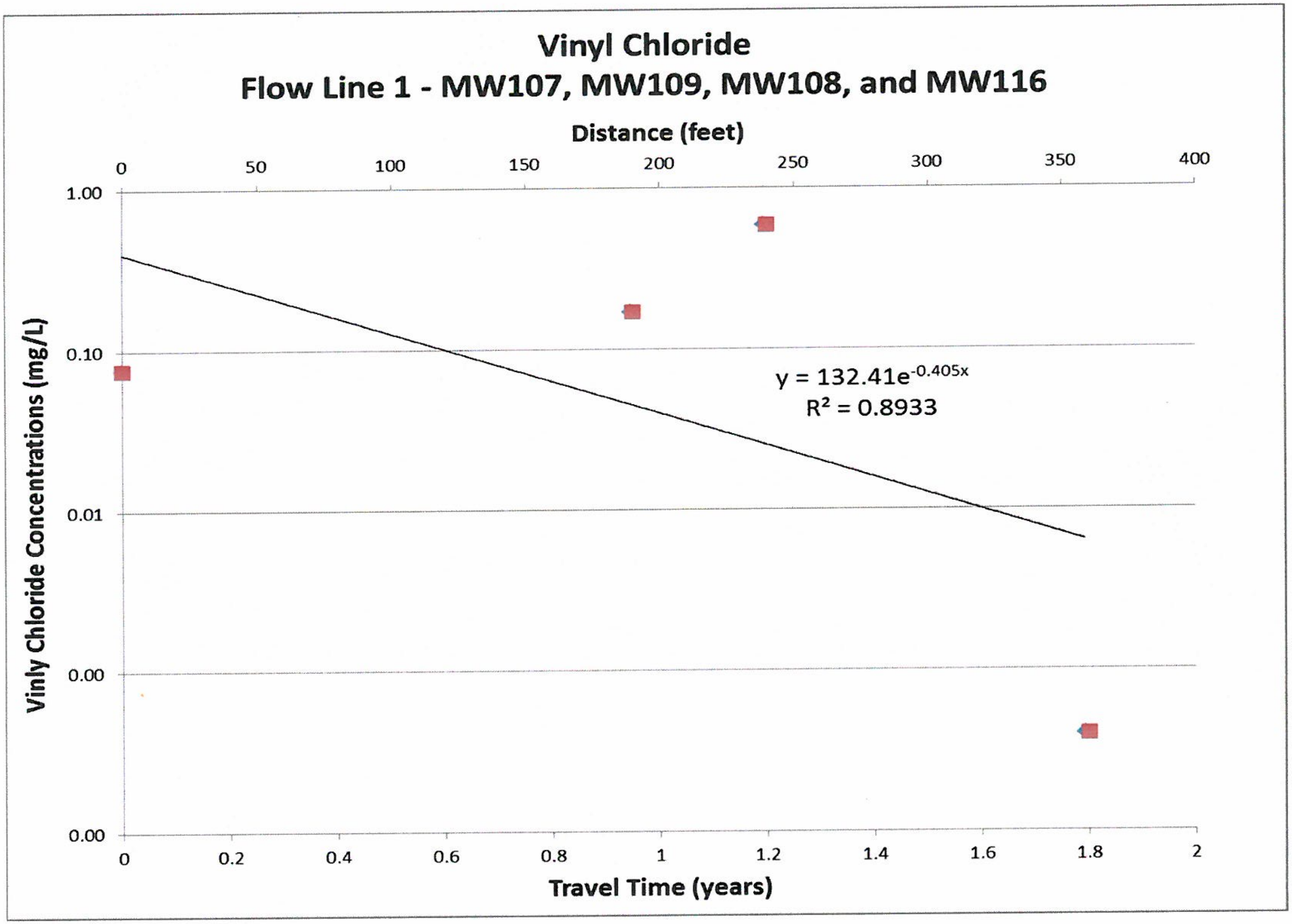
APPENDIX D

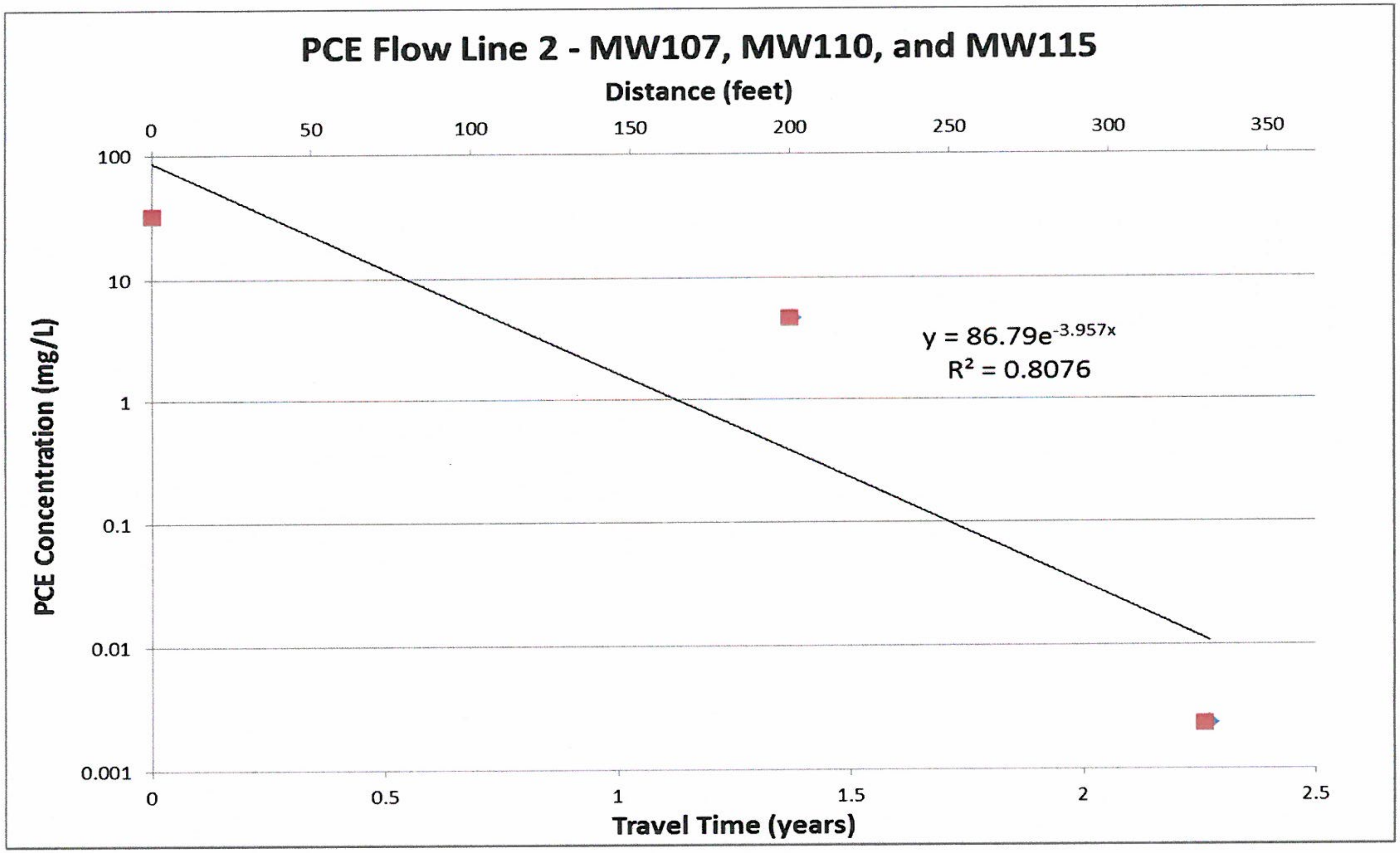
DECAY RATES AND GEOCHEMICAL PARAMETERS


PCE - Flow Line 1 - MW107, MW109, MW108 and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
100
10
1
0.1
0.01
0.001
0.0001
PCE Concentration (mg/L)
y = 10.018e^-0.199x
R² = 0.7845
0
0.5
1
1.5
2
2.5
3
Travel Time (years)


TCE - Flow Line 1 - MW107, MW109, MW108 and MW116
Distance (feet)
0
75
150
225
300
375
10.00
1.00
0.10
0.01
0.00
TCE Concentration (mg/L)
$y = 1.7927e^{-0.127x}$
$R^2 = 0.882$
0
0.5
1
1.5
2
2.5
3
Travel Time (years)


1,2- DCE Flow Line 1 - MW107, MW109, MW108, and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
450
100.00
10.00
1.00
0.10
0.01
0.00
1,2 - DCE Concentration (mg/L)
y = 17.614e^-3.281x
R² = 0.5926
0
0.5
1
1.5
2
2.5
Travel Time (years)


Vinyl Chloride
Flow Line 1 - MW107, MW109, MW108, and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
1.00
0.10
0.01
0.00
0.00
Vinly Chloride Concentrations (mg/L)
y = 132.41e-0.405x
R² = 0.8933
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Travel Time (years)


PCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
100
10
1
0.1
0.01
0.001
PCE Concentration (mg/L)
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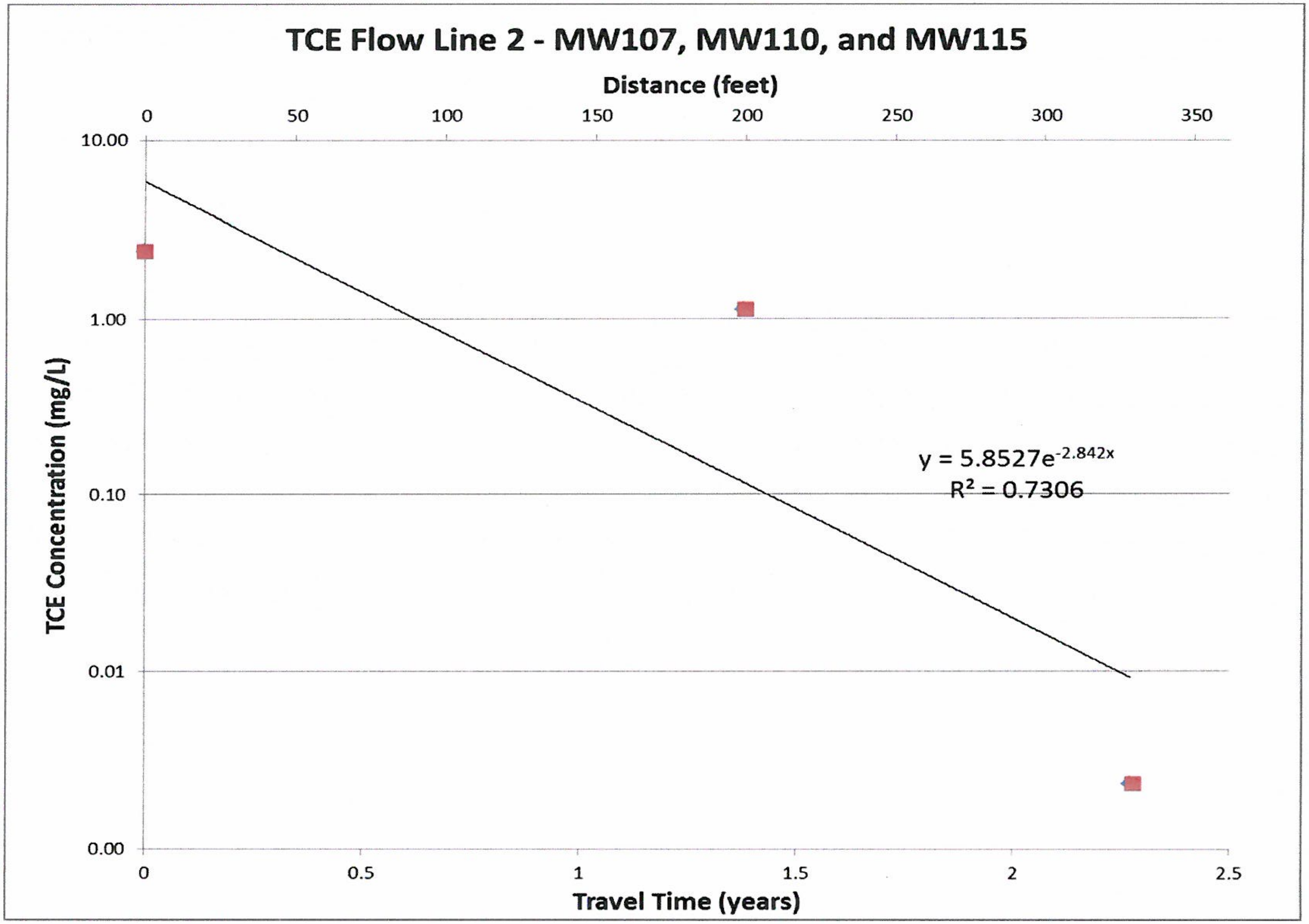
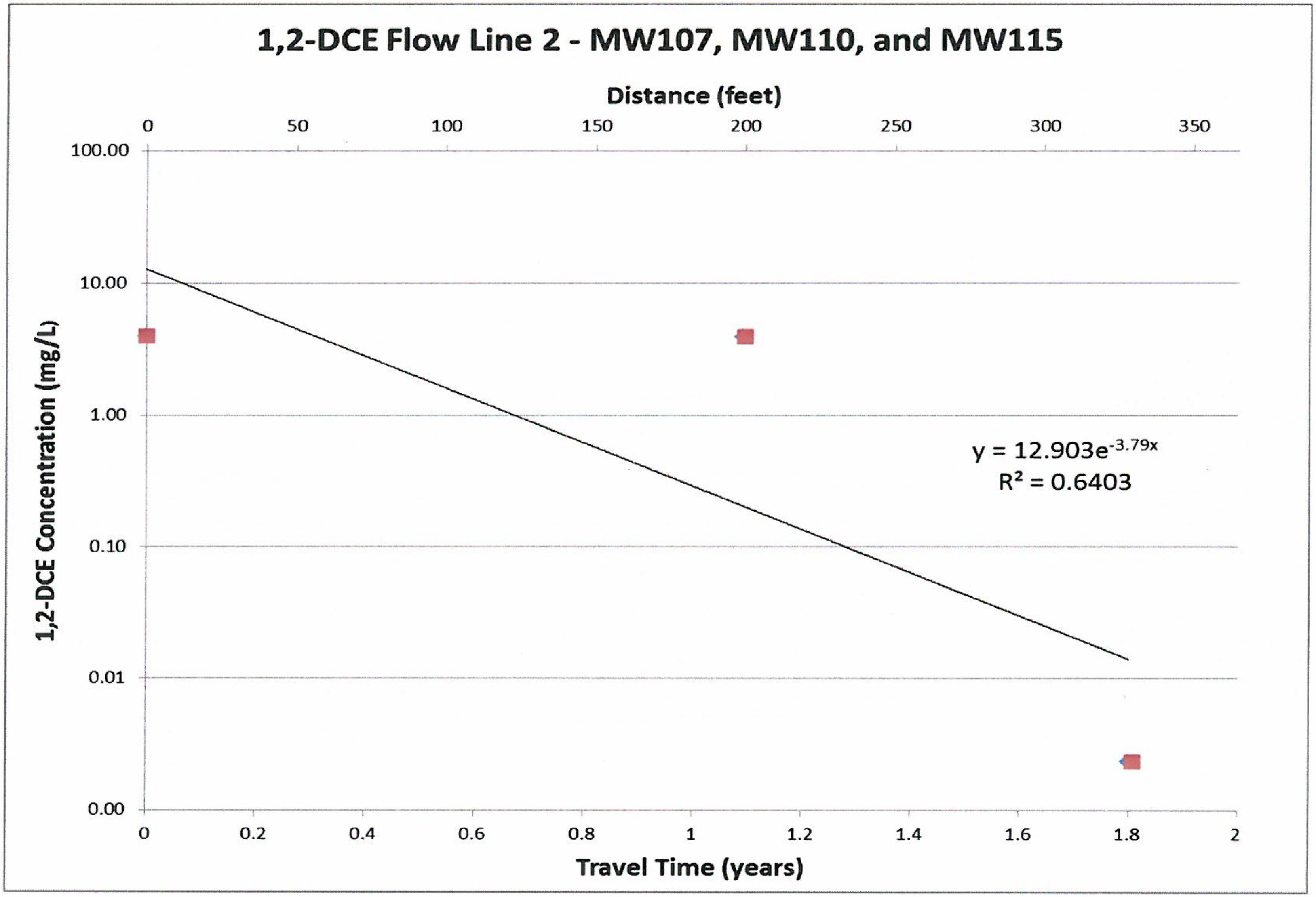
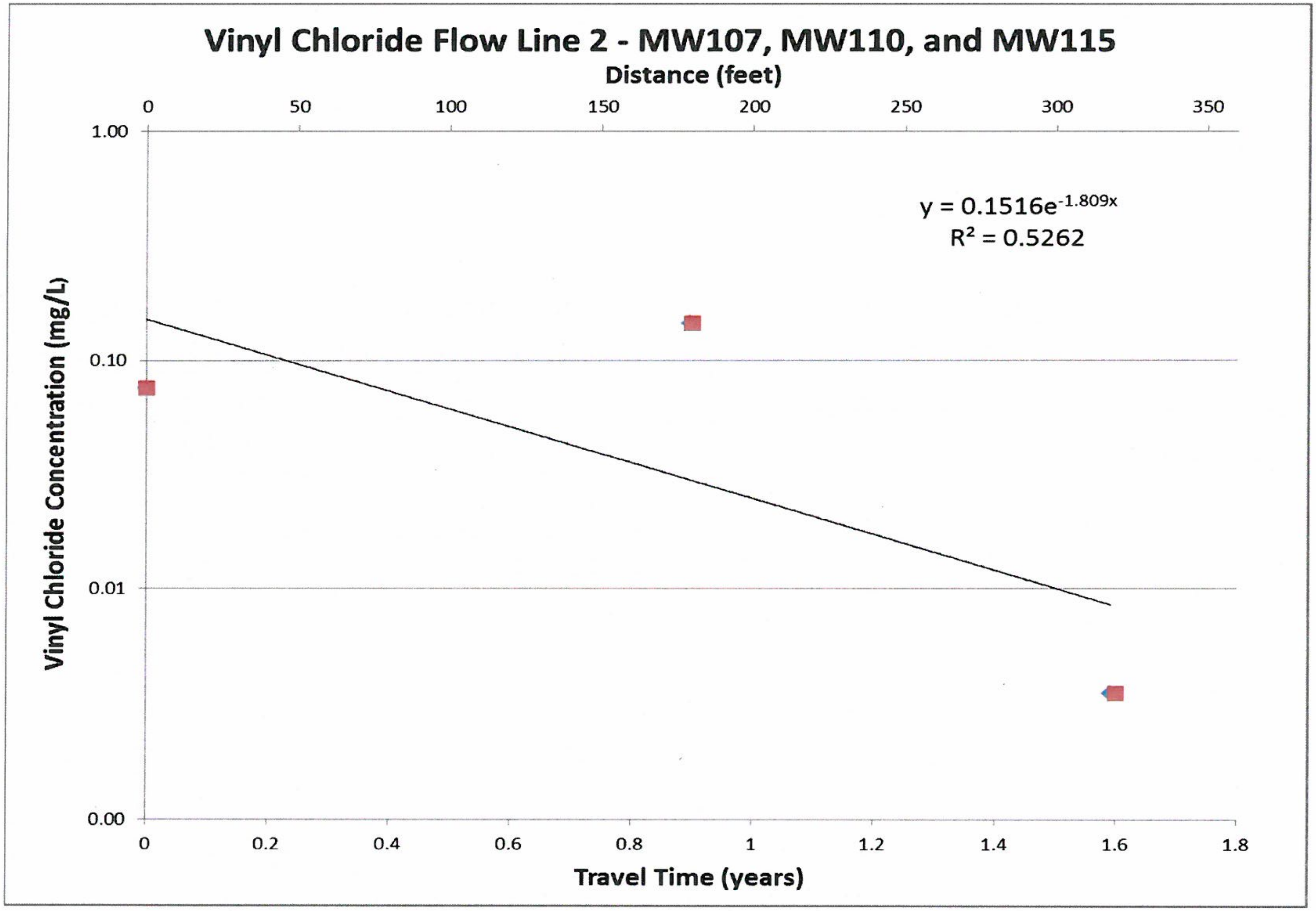
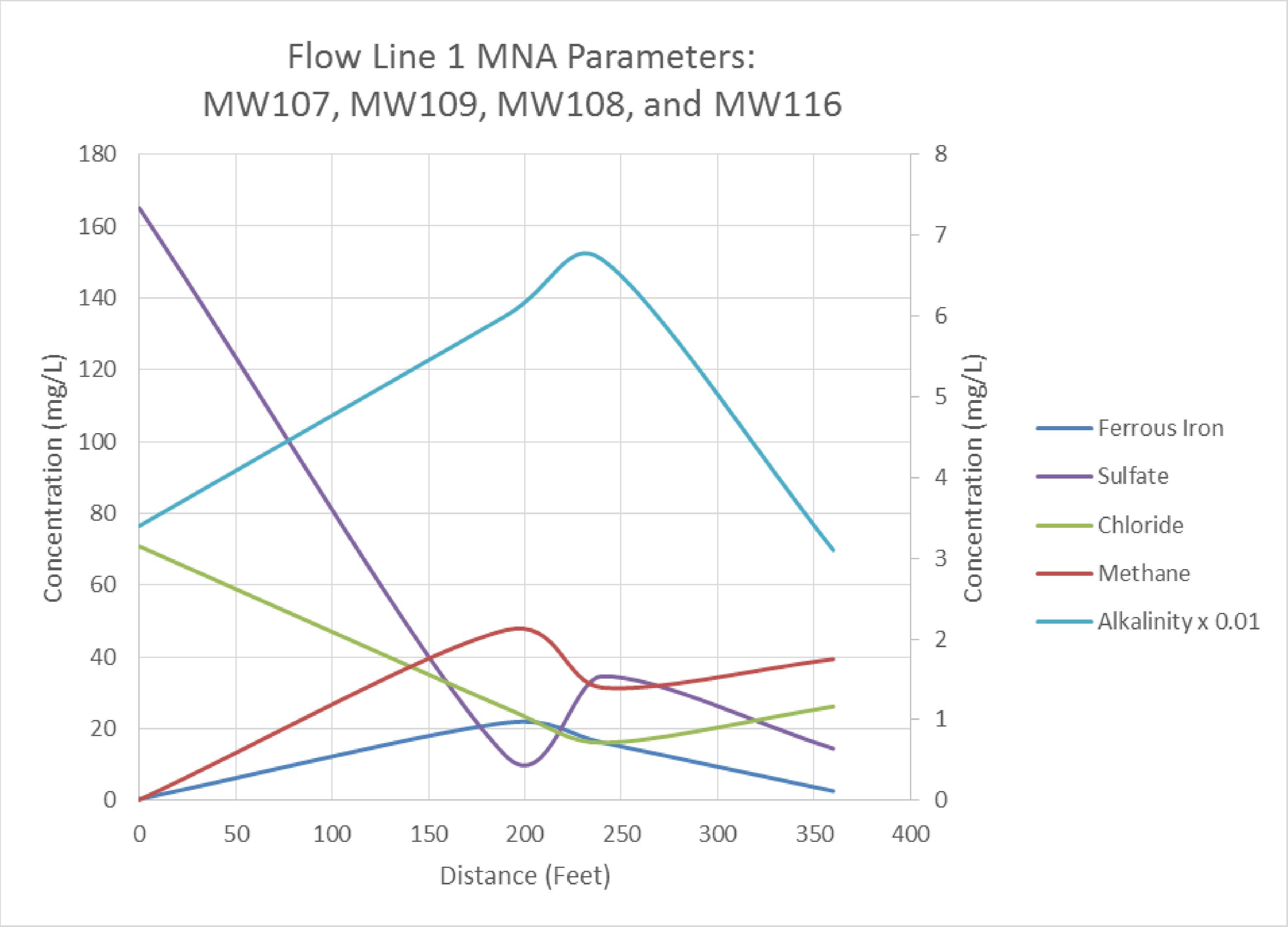
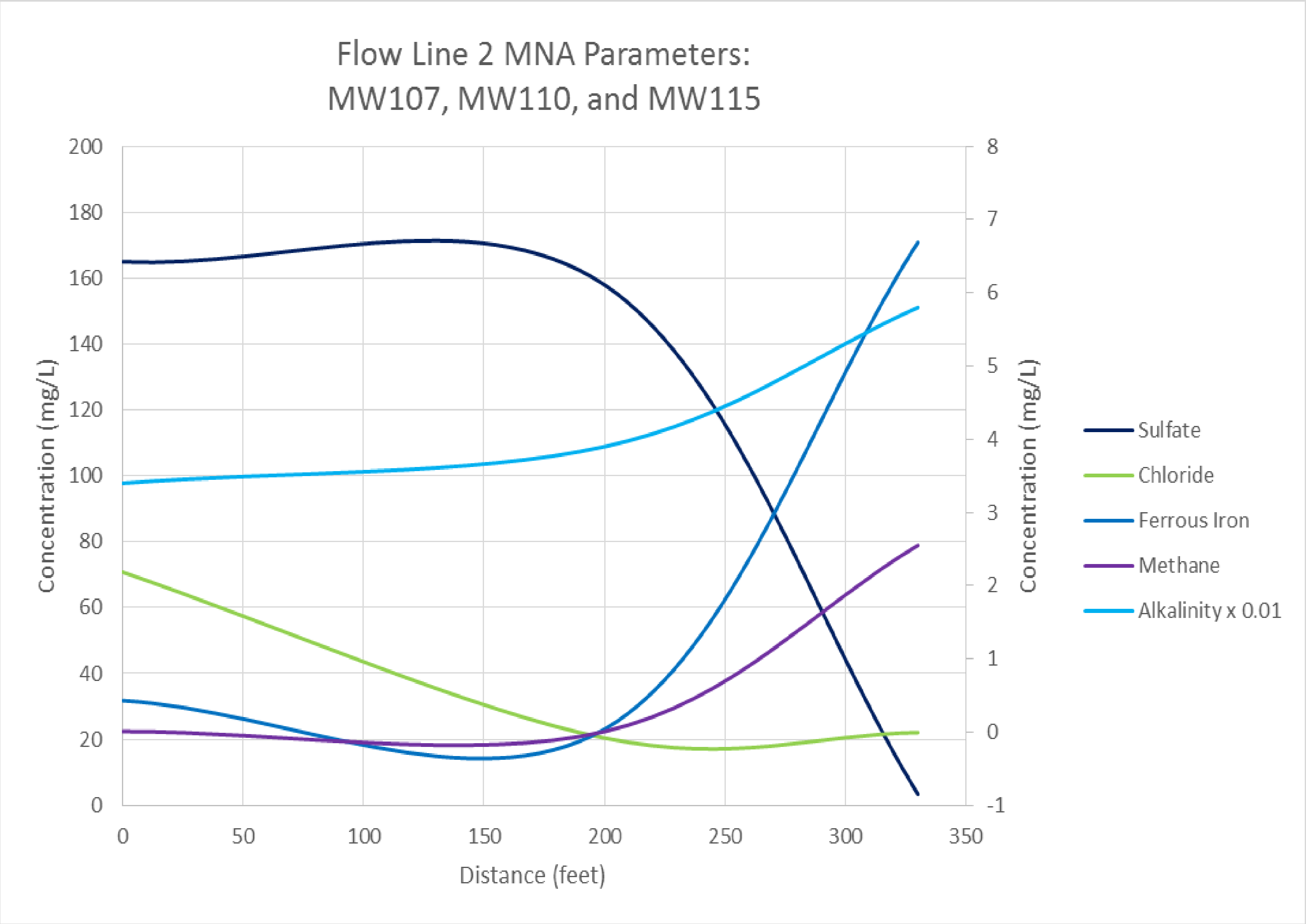
R² = 0.8076
0
0.5
1
1.5
2
2.5
Travel Time (years)

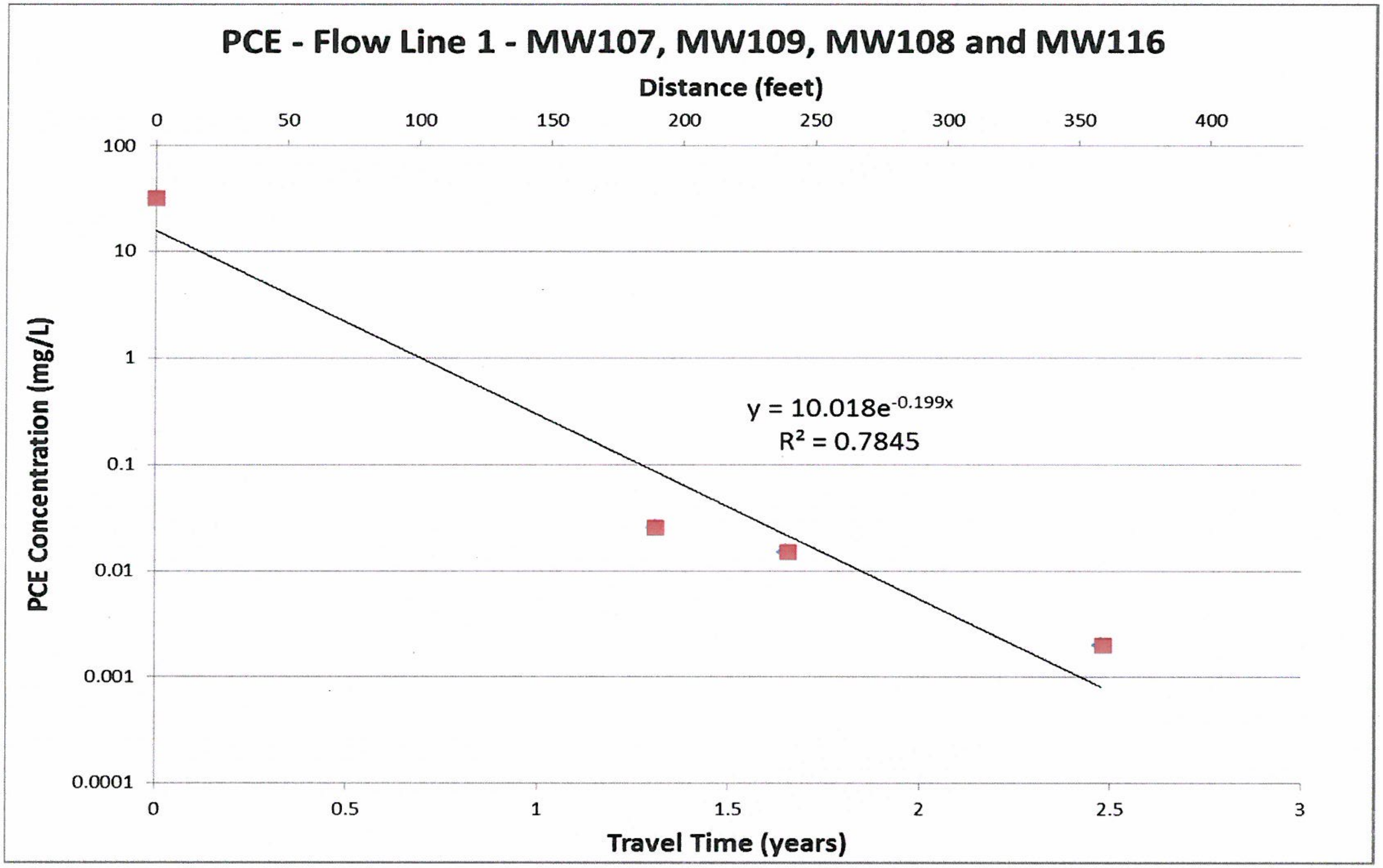

TCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
10.00
1.00
0.10
0.01
0.00
TCE Concentration (mg/L)
$y = 5.8527e^{-2.842x}$
$R^2 = 0.7306$
0
0.5
1
1.5
2
2.5
Travel Time (years)


1,2-DCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
100.00
10.00
1.00
0.10
0.01
0.00
1,2-DCE Concentration (mg/L)
y = 12.903e-3.79x
R² = 0.6403
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Travel Time (years)


Vinyl Chloride Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
1.00
0.10
0.01
0.00
Vinyl Chloride Concentration (mg/L)
y = 0.1516e^-1.809x
R² = 0.5262
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
Travel Time (years)


Flow Line 1 MNA Parameters:
MW107, MW109, MW108, and MW116
Concentration (mg/L)
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
250
300
350
400
Distance (Feet)
Concentration (mg/L)
8
7
6
5
4
3
2
1
0
Ferrous Iron
Sulfate
Chloride
Methane
Alkalinity x 0.01


Flow Line 2 MNA Parameters:
MW107, MW110, and MW115
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Concentration (mg/L)
8
7
6
5
4
3
2
1
0
-1
0
50
100
150
200
250
300
350
Distance (feet)
Sulfate
Chloride
Ferrous Iron
Methane
Alkalinity x 0.01


PCE - Flow Line 1 - MW107, MW109, MW108 and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
100
10
1
0.1
0.01
0.001
0.0001
PCE Concentration (mg/L)
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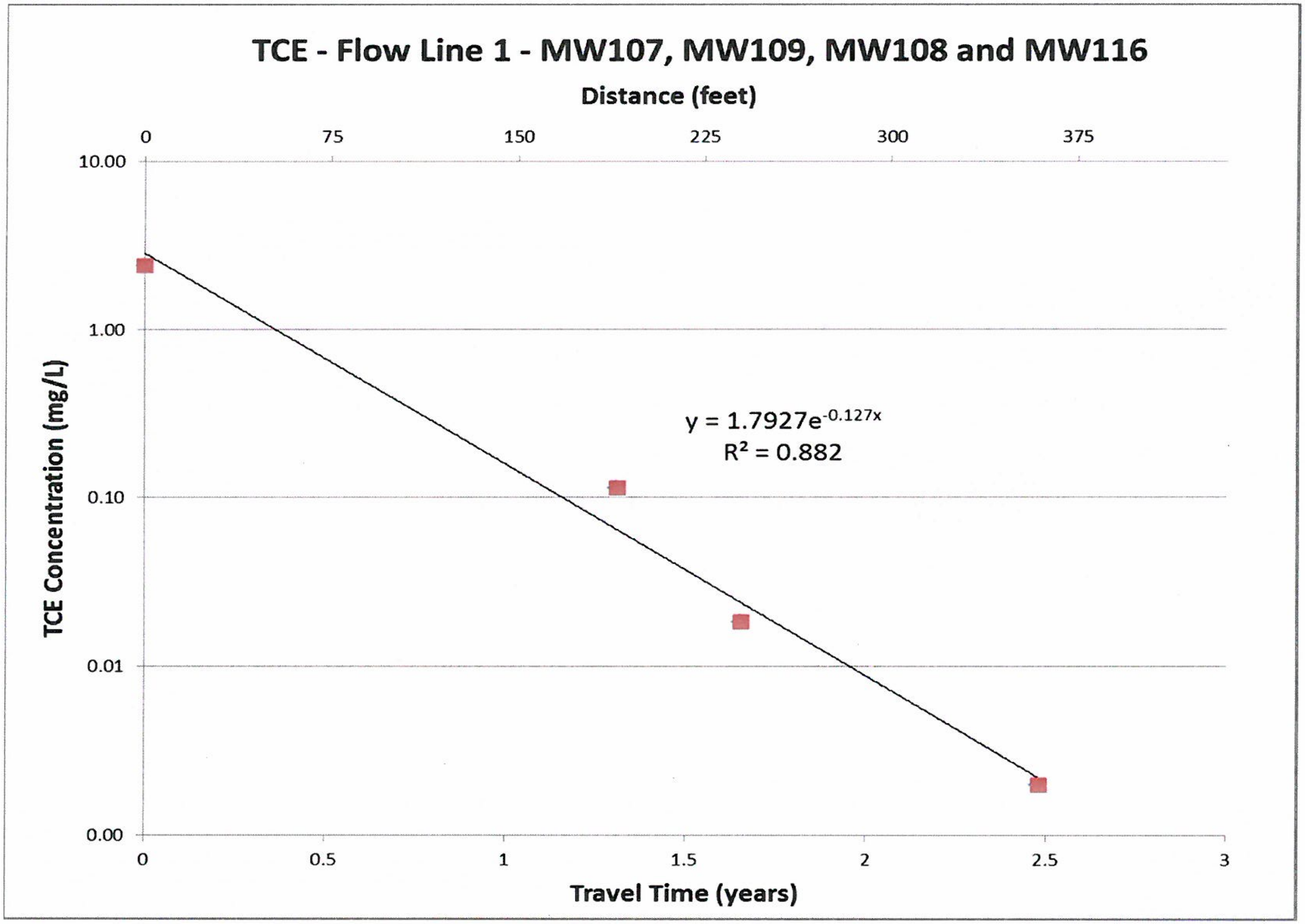
R² = 0.7845
0
0.5
1
1.5
2
2.5
3
Travel Time (years)



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1.00
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0.01
0.00
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R² = 0.882
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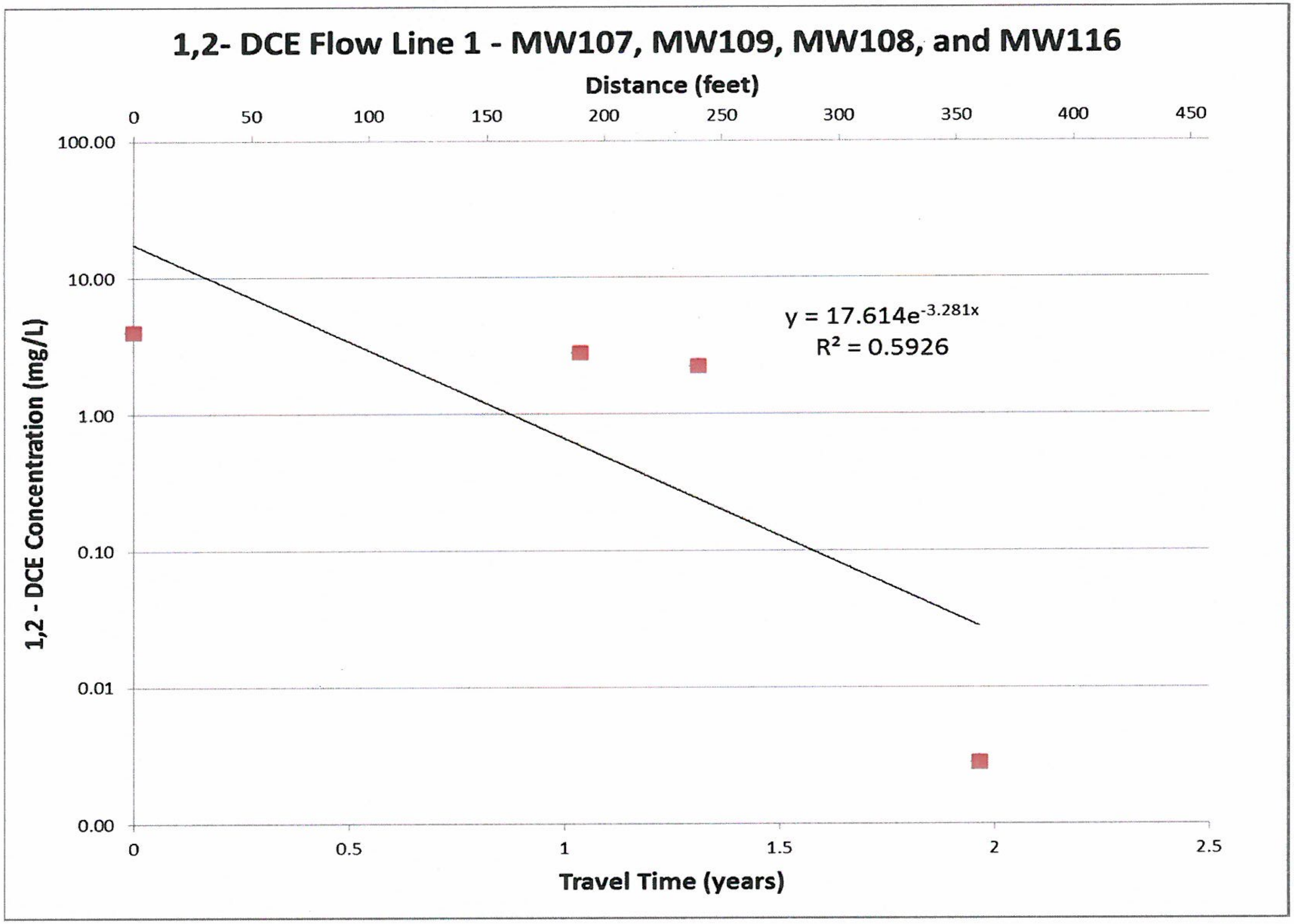
0.5
1
1.5
2
2.5
3
Travel Time (years)


1,2- DCE Flow Line 1 - MW107, MW109, MW108, and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
450
100.00
10.00
1.00
0.10
0.01
0.00
1,2 - DCE Concentration (mg/L)
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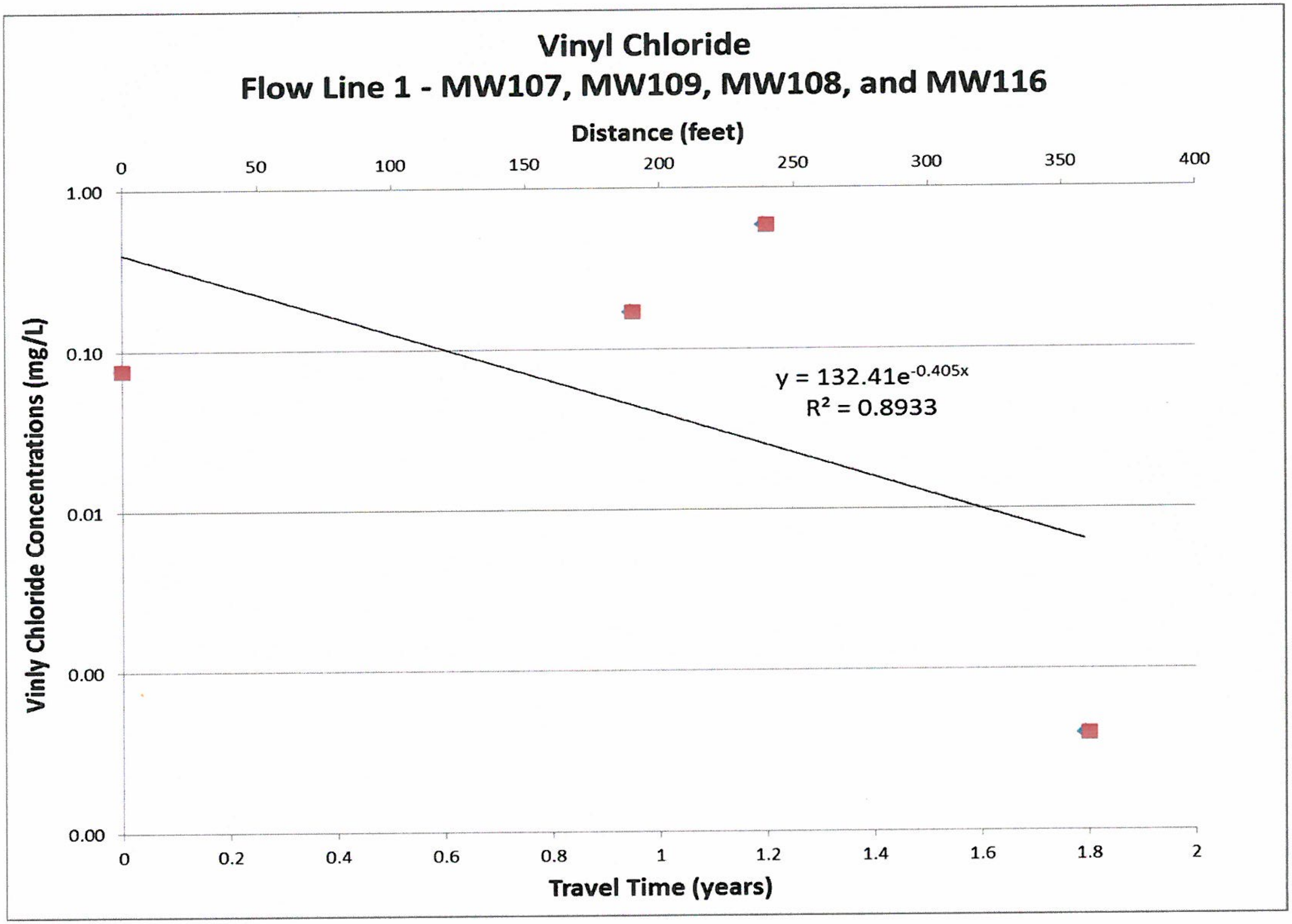
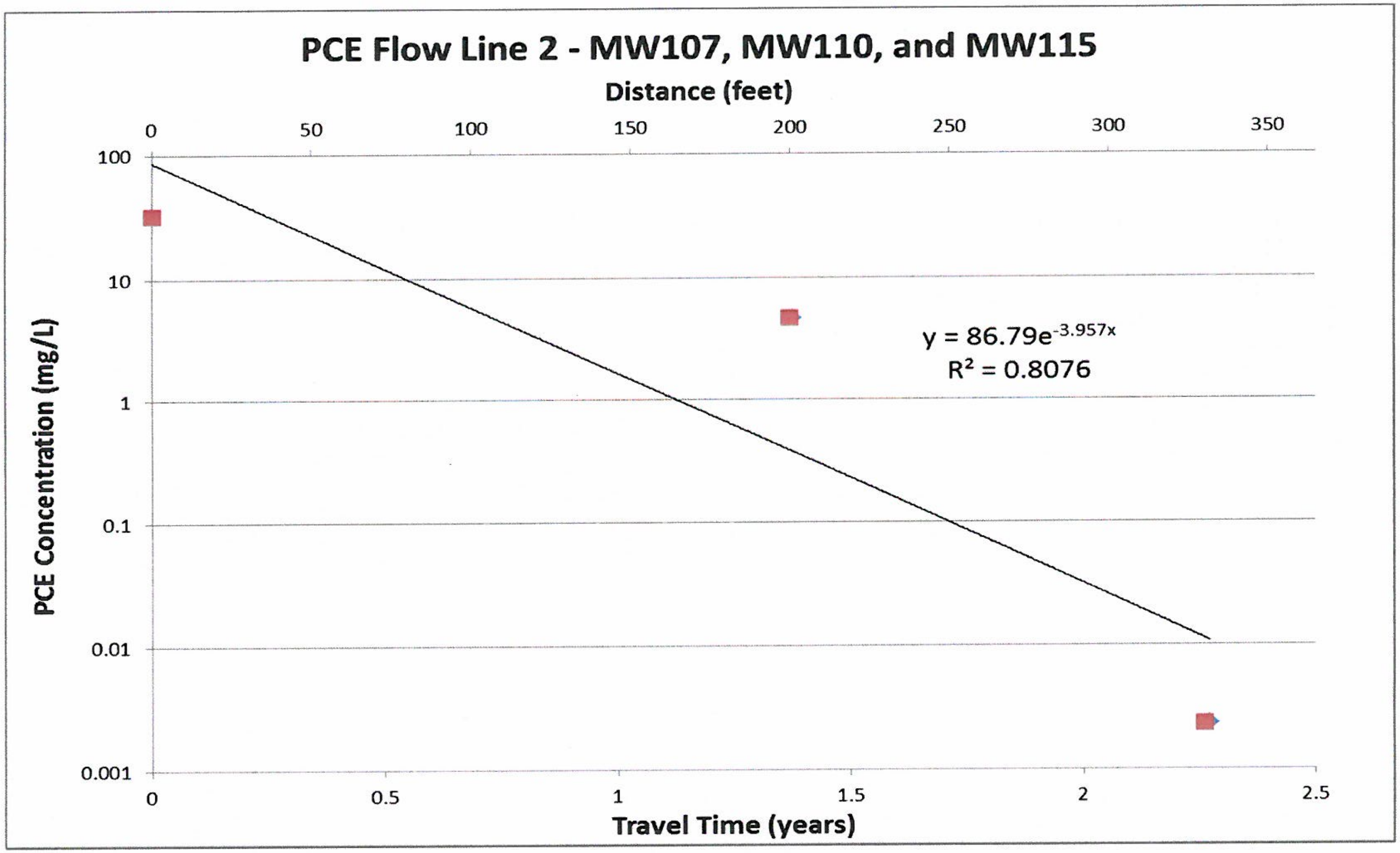
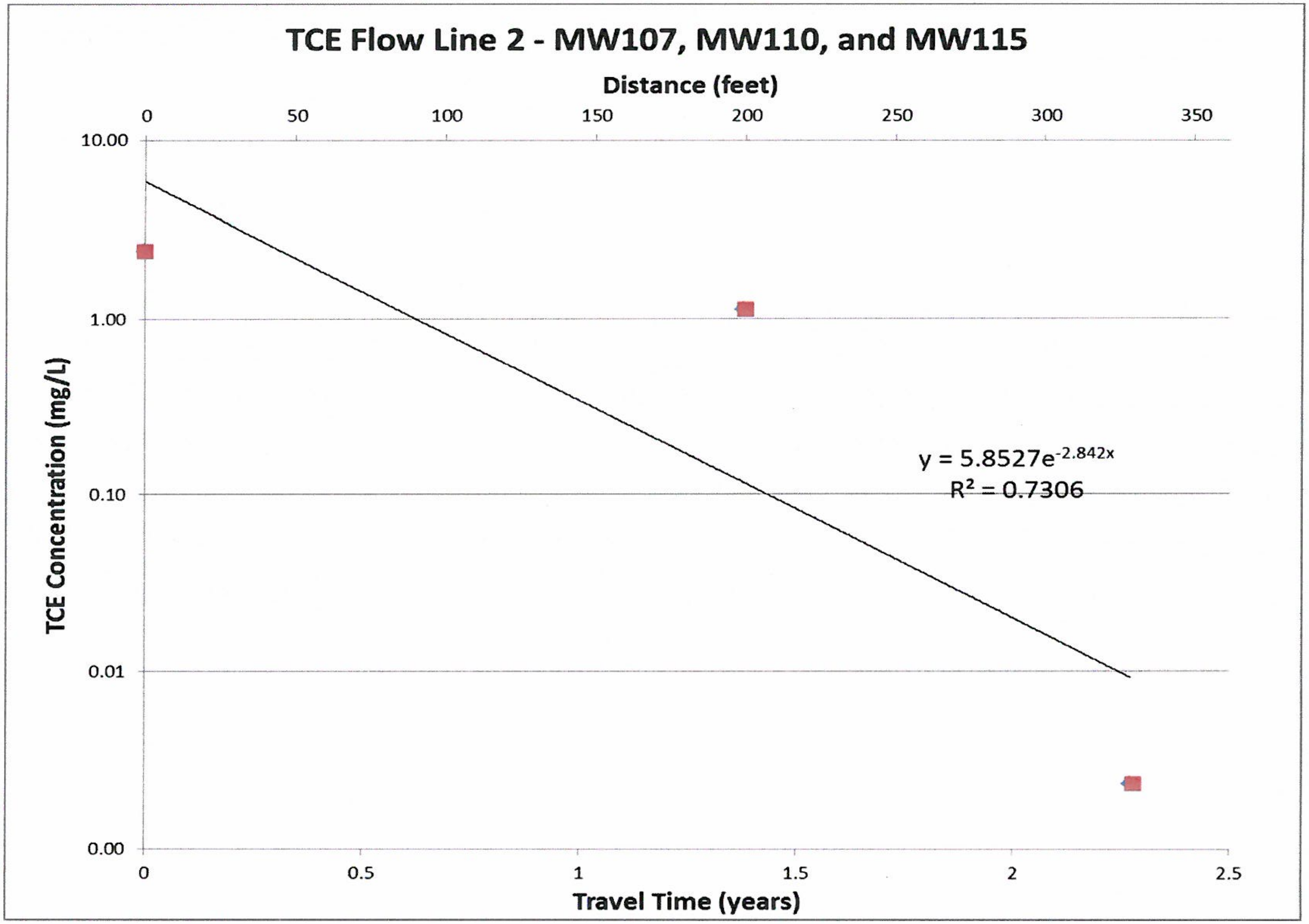
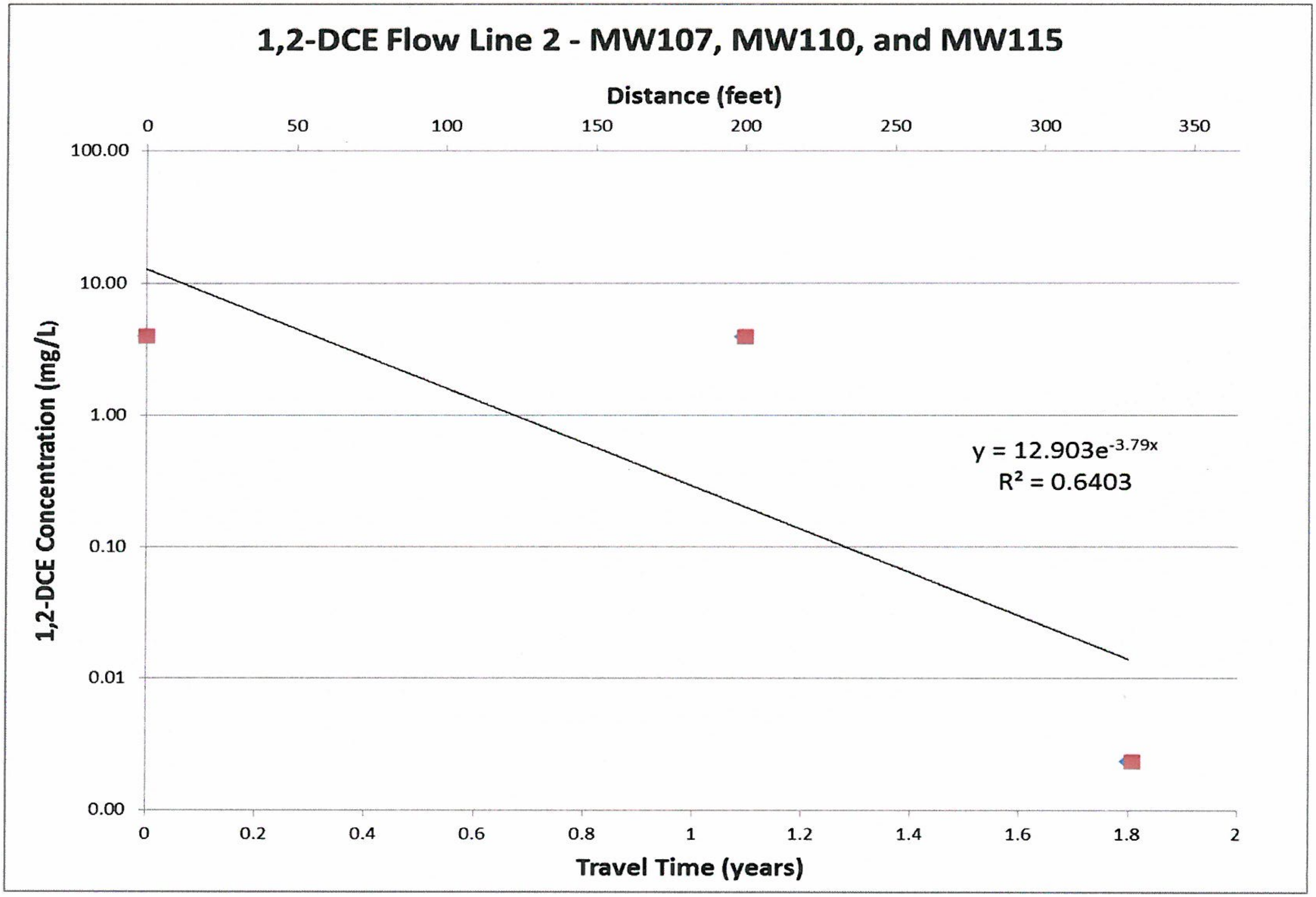
R² = 0.5926
0
0.5
1
1.5
2
2.5
Travel Time (years)

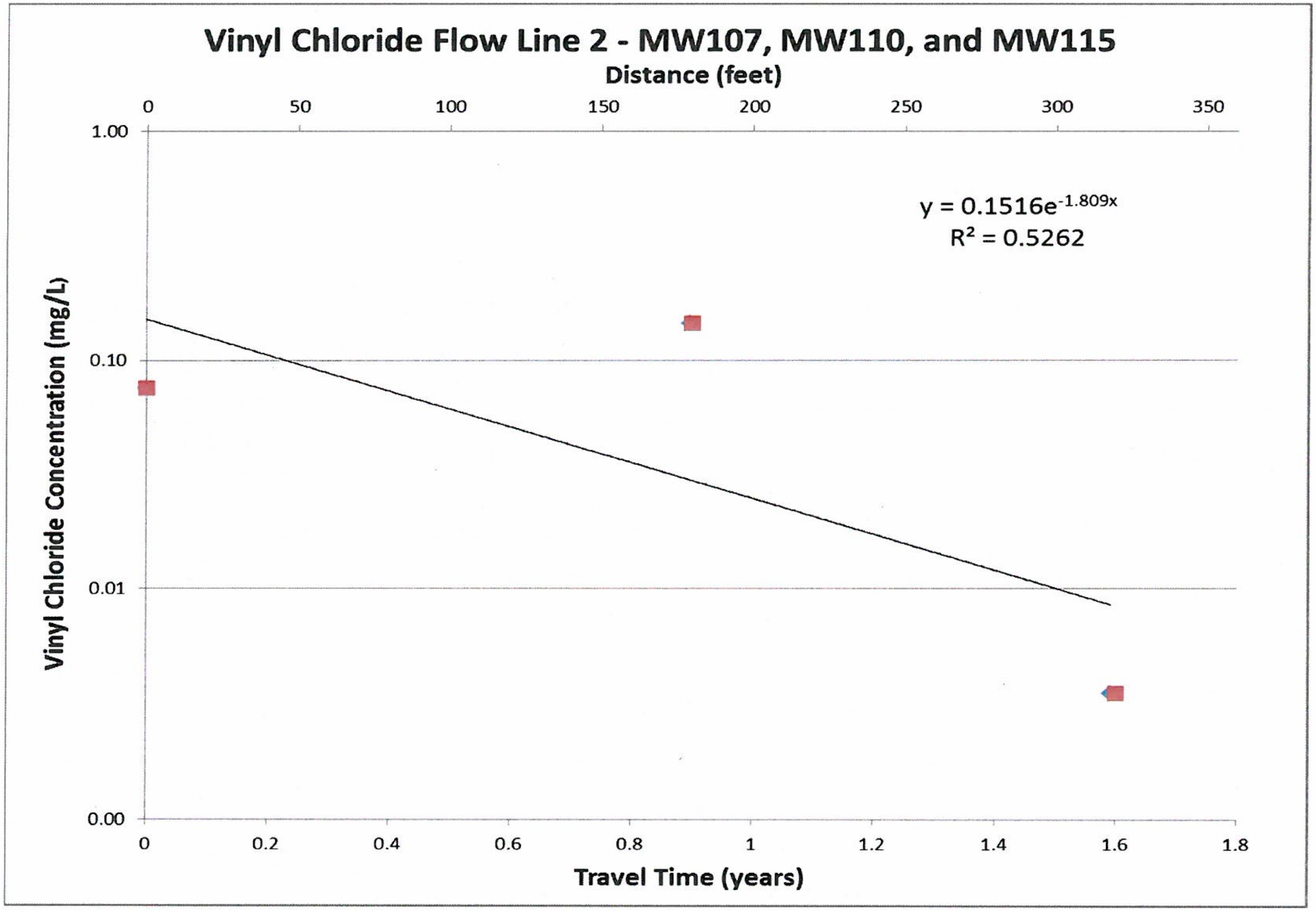

Vinyl Chloride
Flow Line 1 - MW107, MW109, MW108, and MW116
Distance (feet)
0
50
100
150
200
250
300
350
400
1.00
0.10
0.01
0.00
0.00
Vinly Chloride Concentrations (mg/L)
y = 132.41e^-0.405x
R² = 0.8933
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Travel Time (years)

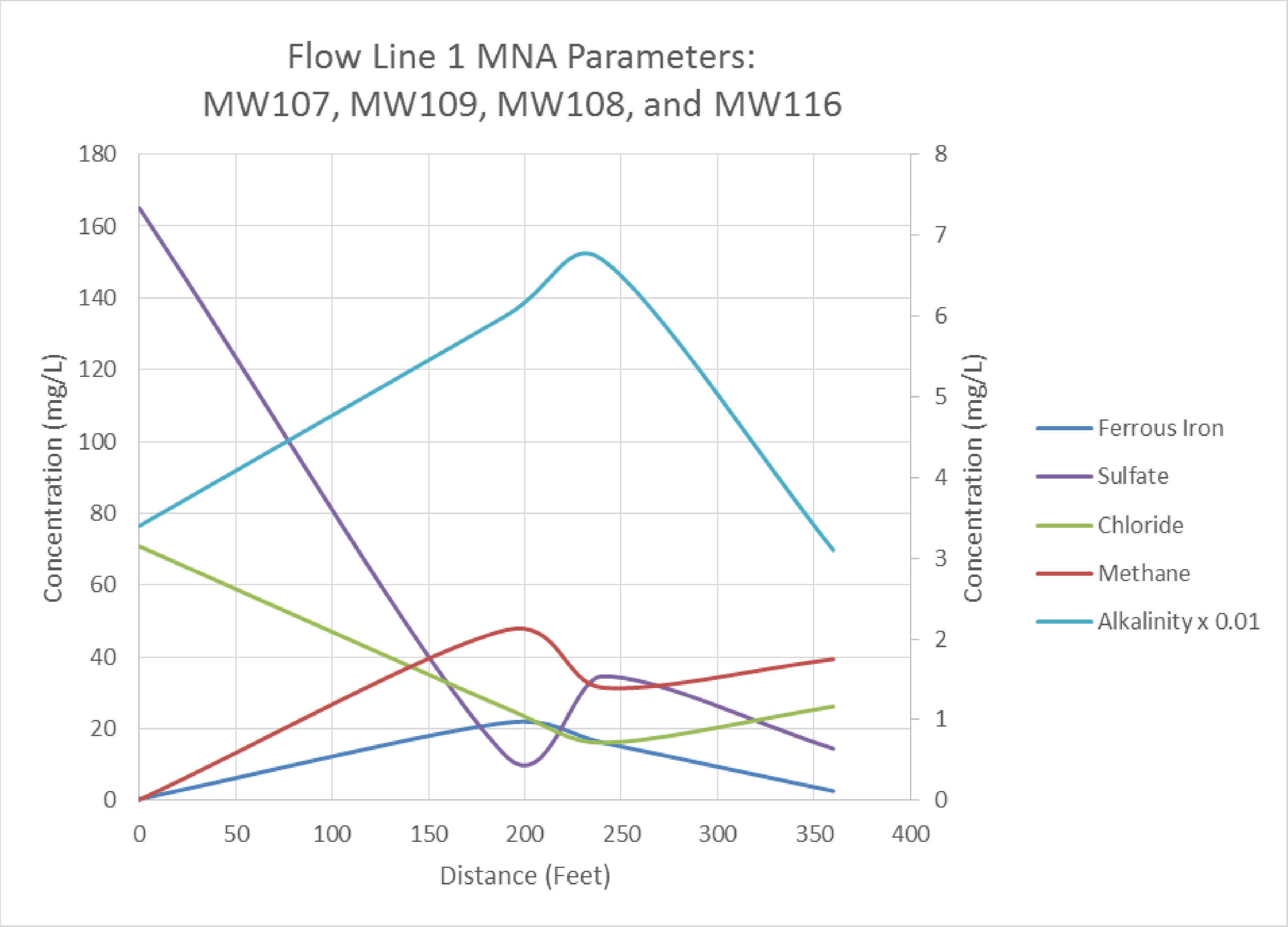

PCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
100
10
1
0.1
0.01
0.001
PCE Concentration (mg/L)
y = 86.79e^-3.957x
R² = 0.8076
0
0.5
1
1.5
2
2.5
Travel Time (years)

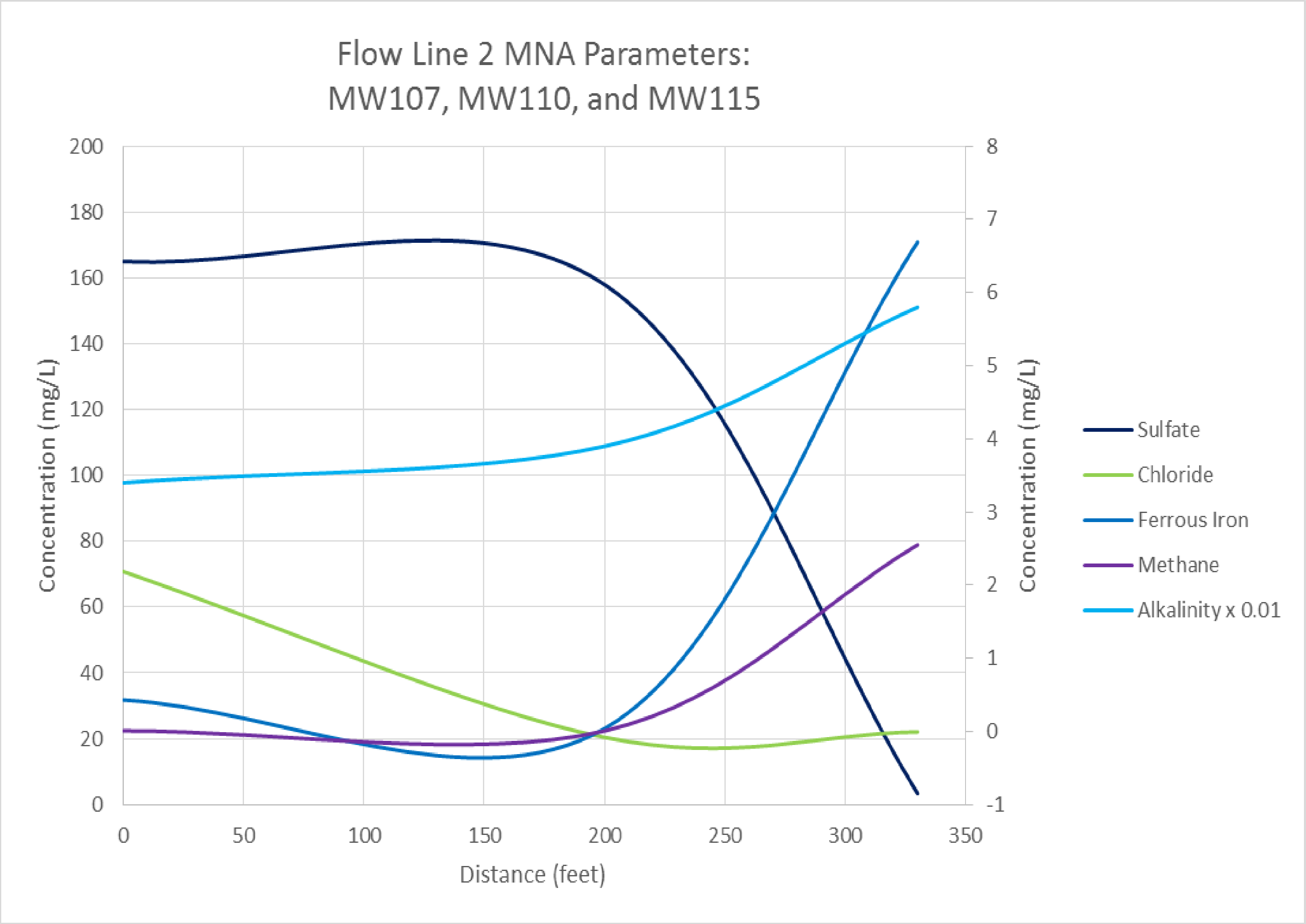

TCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
10.00
1.00
0.10
0.01
0.00
TCE Concentration (mg/L)
y = 5.8527e^-2.842x
R² = 0.7306
0
0.5
1
1.5
2
2.5
Travel Time (years)



1,2-DCE Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
100.00
10.00
1.00
0.10
0.01
0.00
1,2-DCE Concentration (mg/L)
$y = 12.903e^{-3.79x}$
$R^2 = 0.6403$
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Travel Time (years)


Vinyl Chloride Flow Line 2 - MW107, MW110, and MW115
Distance (feet)
0
50
100
150
200
250
300
350
1.00
0.10
0.01
0.00
y = 0.1516e-1.809x
R² = 0.5262
Vinyl Chloride Concentration (mg/L)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
Travel Time (years)


Flow Line 1 MNA Parameters:
MW107, MW109, MW108, and MW116
Concentration (mg/L)
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
250
300
350
400
Distance (Feet)
Concentration (mg/L)
8
7
6
5
4
3
2
1
0
Ferrous Iron
Sulfate
Chloride
Methane
Alkalinity x 0.01


Flow Line 2 MNA Parameters:
MW107, MW110, and MW115
Concentration (mg/L)
200
180
160
140
120
100
80
60
40
20
0
8
7
6
5
4
3
2
1
0
-1
0
50
100
150
200
250
300
350
Distance (feet)
Sulfate
Chloride
Ferrous Iron
Methane
Alkalinity x 0.01

APPENDIX E
SAMPLING AND ANALYSIS PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

SAMPLING AND ANALYSIS PLAN

APPENDIX E OF THE CLEANUP ACTION PLAN

Property:
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Prepared for:
Frontier Environmental Management, LLC
1821 Blake Street, Suite 3C
Denver, Colorado

Report Date:
January 31, 2014

DRAFT – ISSUED FOR ECOLOGY REVIEW

Sampling and Analysis Plan

700 Dexter Property
700 Dexter Avenue North
Seattle, Washington 98109

Prepared for:

Frontier Environmental Management, LLC
1821 Blake Street, Suite 3C
Denver, Colorado 80202

Project No.: 0797-001

Prepared by:

DRAFT

____
Brian Dixon
Associate Scientist

Reviewed by:

DRAFT

____
John R. Funderburk, MSPH
Principal

January 31, 2014

SoundEarth
Strategies

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ACRONYMS AND ABBREVIATIONS

%R	percent recovery
µg/L	micrograms per liter
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CAP	Cleanup Action Plan
COC	chemical of concern
CVOC	chlorinated volatile organic compound
DHC	*Dehalococcoides* genus bacteria
DRPH	diesel-range petroleum hydrocarbons
DQO	data quality objective
Ecology	Washington State Department of Ecology
EOS	edible oil substrate
EPA	U.S. Environmental Protection Agency
ERH	electrical resistance heating
FC	Field Coordinator
FEM	Frontier Environmental Management, LLC
gpm	gallons per minute
GRPH	gasoline-range petroleum hydrocarbons
HASP	Health and Safety Plan
HSA	hollow stem auger
ID	identifier
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate

ACRONYMS AND ABBREVIATIONS (CONTINUED)

MTCA	Washington State Model Toxics Control Act
NAVD88	North American Vertical Datum of 1988
NWTPH	Northwest Total Petroleum Hydrocarbon
ORP	oxidation-reduction potential
ORPH	oil-range petroleum hydrocarbons
PCE	tetrachloroethylene
PCS	petroleum-contaminated soil
PCU	Power Control Unit
PID	photoionization detector
PQL	practical quantitation limit
the Property	700 Dexter Avenue North, Seattle Washington
QC	quality control
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
RPD	relative percent difference
SAP	Sampling and Analysis Plan
the Site	soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons; tetrachloroethylene; trichloroethylene; vinyl chloride, and/or cis-1,2-dichloroethylene beneath the Property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th and Westlake Avenues North and Valley, Roy, and Broad Streets rights-of-way
SoundEarth	SoundEarth Strategies, Inc.
SVE	soil vapor extraction
TCE	trichloroethylene
TMP	temporary monitoring point

ACRONYMS AND ABBREVIATIONS (CONTINUED)

TSDF	treatment, storage, and disposal facility
USCS	Unified Soil Classification System
UST	underground storage tank
VOA	volatile organic analysis
VOC	volatile organic compound
WAC	Washington Administrative Code

1.0 INTRODUCTION

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Sampling and Analysis Plan (SAP) for the 700 Dexter Property located at 700 Dexter Avenue North in Seattle, Washington (the Property; Figure E-1). In accordance with the Washington State Model Toxics Control Act (MTCA) Cleanup Regulations as established in Section 200 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-200), the Site is defined by the full lateral and vertical extent of contamination that has resulted from the former operation of a commercial laundry, dry cleaning facility, and gasoline service stations on the Property. Based on the information gathered to date, the Site includes soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH, DRPH, and ORPH, respectively); tetrachloroethylene (PCE); trichloroethylene (TCE); vinyl chloride, and/or cis-1,2-dichloroethylene beneath the Property and portions of the south- and east-adjoining properties, as well as beneath the 8th, 9th and Westlake Avenues North and Valley, Roy, and Broad Streets rights-of-way (ROWs). The impacts beneath the Site likely are associated with the following: (1) a release of chlorinated solvents from the industrial laundry and dry cleaning facility that operated on the Property between 1925 and 1995 and (2) the operation of at least two refueling facilities on the northern portion of the Property and on the east-adjoining properties. The highest concentrations of chlorinated solvents are located in the west-central portion of the Property.

This SAP was developed to meet the requirements of a SAP as defined by MTCA (WAC 173-340-820).

1.1 PURPOSE AND OBJECTIVES

The purpose of the SAP is to describe the sample collection, handling, and analysis procedures to be implemented during the cleanup action in accordance with WAC 173-340-380 of MTCA. This SAP identifies specific sampling and analysis protocols, project schedule, and organization and responsibilities. It also provides detailed information regarding the sampling and data quality objectives, sample location and frequency, equipment, and procedures to be used during the cleanup action; sample handling and analysis; procedures for management of waste; quality assurance protocols for field activities and laboratory analysis; and reporting requirements.

1.2 SAMPLING AND ANALYSIS PLAN ORGANIZATION

The SAP is organized into the following sections:

- **Section 1.0, Introduction.** This section describes the purpose of the SAP and provides a description of the Property features and location, a brief summary of the current and historical uses of the Property, and a summary of the results of previous investigations conducted at the Site.
- **Section 2.0, Project Organization and Management.** This section presents the project team, including field personnel and management.
- **Section 3.0, Cleanup Action Plan Field Program.** This section presents the cleanup action objectives and construction activity summary.
- **Section 4.0, Performance and Confirmational Monitoring.** This section provides details regarding the performance and confirmational monitoring that will be conducted as part of the cleanup action.

- **Section 5.0, Sample Handling and Quality Control Procedures.** This section describes the sample handling techniques and quality assurance procedures that will be followed during the cleanup action.
- **Section 6.0, Analytical Testing.** This section describes the type and number of sample analyses that will be conducted on soil, groundwater, and process water samples during the cleanup action.
- **Section 7.0, Management of Investigation-Derived Waste.** This section provides details on handling and disposal procedures that will be implemented during the cleanup action.
- **Section 8.0, Data Quality Objectives.** This section summarizes the data quality objectives that will need to be met to ensure the validity of the analytical results.
- **Section 9.0, Data Collection.** This section describes the type, transfer, inventory management, and validation procedures of the data that will be gathered during the cleanup action.
- **Section 10.0, Quality Control Procedures.** This section provides details regarding the quality control (QC) procedures for both field activities and laboratory analysis.
- **Section 11.0, Corrective Actions.** This section identifies the approaches that will be used to correct any protocols that may compromise the quality of the data.
- **Section 12.0, Documentation and Records.** This section outlines the documentation that will be prepared during the cleanup action. It includes a discussion of document management, waste disposal tracking, and compliance reports.
- **Section 13.0, Health and Safety Procedures.** This section summarizes the health and safety procedures outlined in the Project-Specific Health and Safety Plan (Appendix F of the Cleanup Action Plan [CAP]).

1.3 BACKGROUND

This section provides a description of the Property features and location, a summary of historical Property use, and a summary of previous investigations conducted at the Property and adjoining parcels and ROWs.

1.3.1 Property Location and Description

The Property is comprised of a single tax parcel (King County parcel number 224900-0285) that covers approximately 61,440 square feet (1.4 acres) of land in the South Lake Union neighborhood of Seattle, Washington. The Property is listed at 700 Dexter Avenue North. American Linen Supply Company currently owns the Property.

The on-Property buildings were demolished in February and March 2013. The Property was formerly improved with a building with four additions, including the following: the original 1925-vintage, single-story building with basement and mezzanine (Building A) in the southeastern portion of the Property; a 1947-vintage, single-story masonry garage (Building B) in the northeast portion of the Property; a 1947-vintage, one-story addition with basement and mezzanine in the southwestern portion of the Property; and a 1966-vintage, one-story concrete building with basement and mezzanine in the northwestern portion of the Property (Building C).

Building A was reportedly heated by a natural-gas-fueled hot water furnace. Potable water and sewer service are not currently provided to the Property. However, according to the earliest side sewer cards of the Property maintained by the Seattle Engineering Department, the sanitary sewer was connected to the Property in 1925. Seattle City Light provides electricity to the Property. No waste disposal services are currently provided to the Property.

1.3.2 Property History

Residences exclusively occupied the Property from at least 1893 until 1925, when Building A was constructed on the southern half of the Property. In 1930, a refueling facility was constructed on the northwest corner of the Property and was reportedly equipped with several underground storage tanks (USTs) and two dispenser islands. Building additions were constructed to the north between 1947 and 1966. Building B was constructed in the northeast portion of the Property as an addition to Building A in 1947 and operated initially as a parking garage and automotive repair facility. Four 6,000-gallon USTs containing heating oil in association with the boiler system were installed beneath Building A in 1947. Building C was constructed on the northwest portion of the Property in 1966. The 1930-vintage gasoline service station was demolished the same year. Building C housed laundry operations, a garage, and offices. A fuel dispenser with as many as three USTs was constructed on the northeast portion of the Property between 1947 and 1966. Building plans indicate that dry cleaning was conducted on the Property as early as 1966. According to reports by others, dry cleaning machines operated on the western portion of Building A in the 1978 and reportedly leaked solvents into the subsurface. The dry cleaning machines were no longer present on the Property by 1990. In 1986, Building B was redeveloped as a wastewater treatment facility for the commercial laundry operations, and several aboveground storage tanks containing acids, caustics, polymers, sludge, and water were installed. Waste material derived from the wastewater treatment facility was either directly discharged through the sewer system or conveyed into a disposal container to the north of Building B. In the mid-1990s, commercial laundry operations ceased, the wastewater treatment system was removed, and the buildings were leased to various tenants, including several automotive repair shops, a bakery, and a car rental office.

1.3.3 Findings of Previous Investigations

The results of previous subsurface investigations and the remedial investigation conducted at the Site suggest that the chlorinated solvent impacts confirmed in soil and groundwater beneath the Site are the result of a release from the laundry and dry cleaning facility that operated on the Property from 1925 through 1995. Historical building plans indicated that the bulk of the dry cleaning operations were conducted in Building A, with piping leading from the dry cleaning machines to the sumps in the boiler room on the western portion of Building A. Consistent with this information, the highest concentrations of chlorinated solvents are located near Building A in the west-central portion of the Property.

The high concentrations of PCE in soil and groundwater are inferred to be evidence of a release from the former dry cleaning facility that operated on the Property. Concentrations of PCE and associated chemicals of concern (COCs) in the soil decrease rapidly upgradient of the source area and are carried through advective transport downgradient of the source area. Vertical distribution of solvent-contaminated soil is limited in large part by the presence of a layer of hard silt that underlies the Property at elevations between -5 and 5 feet above sea level (i.e., 35 to 45 feet below ground surface [bgs]). Approximately 70 percent of the solvent mass is held up by the silt layer; the remaining soil contamination extends up to 80 feet bgs.

As with solvent-contaminated soil, the bulk of the solvent contamination in groundwater remains above the hard silt layer underlying the Property. The highest concentrations of chlorinated solvents have been detected within the shallow and intermediate water-bearing zones, with relatively low levels detected in the deep water-bearing zone.

The lateral distribution of chlorinated solvent contamination is consistent with groundwater flow direction and is bound to the north by monitoring wells MW102, MW123, MW124, and MW126; to the west by monitoring wells MW112 and MW117, and to the south by monitoring well MW118. The eastern extent of the plume appears to end approximately 450 to 500 feet east of the Property (between 9th Avenue North and Westlake Avenue North) based on the relatively low concentrations of vinyl chloride detected in monitoring wells MW113 (0.41 micrograms per liter [µg/L]) and MW115 (0.75 µg/L). It appears a secondary source is present east of 9th Avenue North based on the dramatic increase of vinyl chloride concentration detected in monitoring well MW128 (250 µg/L), located on the corner of Westlake Avenue North and Broad Street. Several historical land use practices in this area could have resulted in a release of chlorinated solvents to the subsurface.

Concentrations of petroleum hydrocarbons exceed their respective cleanup levels in soil and groundwater samples collected on the northern portion of the Property and within the 8th Avenue North ROW. The petroleum contamination is attributed to the historical operation of refueling facilities on the Property and on the east-adjoining properties. The petroleum hydrocarbon contamination appears vertically limited to the shallow and intermediate water-bearing zones. The lateral distribution of petroleum contamination in soil and groundwater is bound to the west by monitoring well W-MW-04, to the north by monitoring wells MW125 and MW-9, to the east by monitoring well MW121, and to the south by monitoring well W-MW-02.

1.4 CLEANUP ACTION PLAN TASK DESCRIPTIONS

The tasks proposed as part of the CAP include the following:

- SAP and the Project-Specific Health and Safety Plan (HASP) development
- Electrical resistive heating (ERH) and soil vapor extraction (SVE) system installation
- In situ reductive dechlorination of groundwater
- Excavation and land disposal of contaminated soil
- Site preparation and mobilization
- Well decommissioning
- Shoring installation
- Shoring and excavation
- Construction dewatering

2.0 PROJECT ORGANIZATION AND MANAGEMENT

This section describes the overall project management strategy for implementing the cleanup action.

To ensure efficient decision making for field sampling and laboratory analysis, key data collection decisions, decision criteria, process for decision-making, quality assurance/quality control (QA/QC) procedures, and responsibilities are described below and detailed in Table E-1.

These decision and communication plans will be followed by field personal under direction of the field coordinator and task manager. Site quality control to ensure proper communication and adherence to this SAP is discussed below in Section 10.0.

The cleanup action is being conducted by SoundEarth on behalf of Frontier Environmental Management, LLC (FEM). The following key personnel have been identified for the project. A summary of key personnel roles and responsibilities is provided in Table E-1.

Regulatory Agency. The Washington State Department of Ecology (Ecology) is the lead regulatory agency for the Site, as promulgated in MTCA. The cleanup action is being conducted as an independent remedial action in accordance with WAC 173-340-515 of MTCA. Ecology's Site Manager for the Project is:

Mr. Eugene Freeman
Washington State Department of Ecology
3190 160th Avenue Southeast
Bellevue, Washington 98008
425-649-7191
eufr461@ecy.wa.gov

Project Contact. SoundEarth has been contracted by FEM to plan and implement the cleanup action at the Property. The Project Contact for FEM is:

Ms. Nicole Christ
Frontier Environmental Management, LLC
1821 Blake Street, Suite 3C
Denver, Colorado 80202
720-746-7720
nchrist@FrontierEM.com

Project Principal. The Project Principal provides oversight of all project activities and reviews all data and deliverables prior to their submittal to the project contact or regulatory agency. The Project Principal for SoundEarth is:

Mr. John R. Funderburk
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
jfunderburk@soundearthinc.com

Project Manager. The Project Manager has overall responsibility for developing the SAP, monitoring the quality of the technical and managerial aspects of the cleanup action, and implementing the SAP and corresponding corrective measures, where necessary. The Project Manager for SoundEarth is:

Mr. Tom Cammarata
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
tcammarata@soundearthinc.com

Laboratory Project Manager. The Laboratory Project Manager will provide analytical support and will be responsible for providing certified, pre-cleaned sample containers and sample preservatives (as appropriate) and for ensuring that all chemical analyses meet the project quality specifications detailed in this SAP. Friedman & Bruya Inc., of Seattle, Washington, has been contracted by SoundEarth to perform the chemical and physical analysis for compliance samples collected during the cleanup action. The Laboratory Project Manager is:

Mr. Mike Erdahl
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, Washington 98119
206-285-8282
merdahl@friedmanandbruya.com

Project QA/QC Officer. The Project QA/QC Officer has the responsibility to monitor and verify that the work is performed in accordance with the SAP and other applicable procedures. The Project QA/QC Officer has the responsibility to assess the effectiveness of the QA/QC program and to recommend modifications to the program when applicable. The Project QA/QC Officer is responsible for assuring that the personnel assigned to the project are trained relative to the requirements of the QA/QC program and for reviewing and verifying the disposition of nonconformance and corrective action reports. The Project QA/QC Officer for SoundEarth is:

Mr. Tom Cammarata
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
tcammarata@soundearthinc.com

Field Coordinator. The Field Coordinator (FC) will supervise field collection of all samples. The FC will ensure proper recording of sample locations, depths, and identification; sampling and handling requirements, including field decontamination procedures; physical evaluation and logging of samples; and completing of chain-of-custody forms. The FC will ensure that all SoundEarth field staff follows the SAP, will ensure that the physical evaluation and logging of soil is based on the Unified Soil Classification

System (USCS), and will adhere to standardized methods for sample acceptability and physical description of samples. The FC will ensure that field staff maintain records of field sampling events using the forms included as Attachment A of this SAP. The FC will be responsible for proper completion and storage of field forms. The FC for SoundEarth is:

Mr. Chuck Cacek
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
ccacek@soundearthinc.com

Field Staff. Members of the field staff must understand and implement the QA/QC program, coordinate and participate in the field sampling activities, coordinate sample deliveries to the laboratory, and report any deviations from project plans as they relate to the cleanup action objectives as presented in the SAP. Major deviations from the SAP, such as the inability to collect a sample from a specific sampling location, obtaining an insufficient sample volume for the required analyses, or a change in sampling method, must be reported to the Project Manager.

Subcontractors. All subcontractors will follow the protocols outlined in this SAP and will be overseen and directed by SoundEarth. The following subcontractors have been identified:

Private Utility Locator:

Mr. Kemp Garcia
Bravo Environmental
6437 South 144th Street
Tukwila, Washington 98168
425-424-9000
kgarcia@bravonw.com

Electrical Resistance Heating Contractor:

Mr. Thomas Powell
TRS Group, Inc.
2325 Hudson Street
Longview, Washington 98632
406-837-0862
tpowerll@trhermalrs.com

3.0 CLEANUP ACTION PLAN FIELD PROGRAM

The objectives of the cleanup action have been established in consideration of human health and the environment and the future use of the Property, and include the following:

- Excavate on-Property soil containing PCE and other COCs at concentrations that present a risk to human health and the environment.

- Use in situ treatment methods to reduce COCs in groundwater beneath the Site exceeding cleanup levels.
- Prevent further off-Property migration of COCs in groundwater at concentrations exceeding cleanup levels.
- Provide engineering controls to prevent the unacceptable risks to human health posed by COCs in groundwater until cleanup levels are achieved.
- Acquire a determination of No Further Action.

A discussion of the field program is provided in the following sections.

3.1 CONSTRUCTION ACTIVITY SUMMARY—ELECTRICAL RESISTIVE HEATING

The ERH system will encompass 37,943 square feet and consist of 165 electrodes and 16 temperature monitoring points (TMPs) that will be installed in the approximate spacing shown on Figure 31. The electrodes will be constructed in borings advanced to 0 feet North American Vertical Datum of 1988 (NAVD88; i.e., approximately 30 feet into the saturated zone) within the Property boundaries using standard hollow-stem auger (HSA) drilling techniques. The electrodes will be comprised of Schedule 40 steel. Groundwater within the treatment zone will be heated to a temperature of 100 degrees Celsius to transfer the dissolved COCs to the vapor phase for subsequent recovery by vapor extraction. During heating, subsurface temperatures will be measured at TMPs located within the treatment area. Each of the TMPs will consist of Schedule 80 PVC pipe installed in borings advanced using standard HSA drilling techniques. Pipes for the collection of recovered soil vapor will be connected to the electrodes to convey soil vapor from the treatment area by vacuum to a treatment building (Figure 32 of the CAP). The treatment system, consisting of the power control unit, condenser, two SVE blowers, and the granular-activated carbon units associated with treating the condensate and vapor generated by the system, will be located on the northern portion of the Property (Figure 32 of the CAP).

After installation of the electrodes, TMPs, and the vapor extraction mechanical and treatment equipment, the system will be subjected to startup and testing. After testing, power will be applied to the Property continuously except for during system adjustments and routine maintenance. Thermocouples in the TMPs will be monitored continuously using a Power Control Unit (PCU) control and remote monitoring systems. The PCU is a variable transformer system capable of providing three simultaneous power outputs at automatically adjustable voltages. During operations, the heating contractor will monitor the system remotely and provide weekly updates and conduct site visits every other week for visual inspection and maintenance of the ERH components of the system. Additional trips will be made, as necessary, to verify that the ERH system is functioning efficiently and effectively.

3.2 CONSTRUCTION ACTIVITY SUMMARY—IN SITU REDUCTIVE DECHLORINATION OF GROUNDWATER

As illustrated on Figures 35 through 37 of the CAP, injection wells will be installed across the Property for source zone treatment and as barrier treatment walls along the eastern and southern Property boundaries for the purpose of injecting edible oil substrate (EOS) to treat the residual solvent plume. EOS will be used as a carbon source to deplete dissolved oxygen present in the aquifer, generate free hydrogen, and sustain a robust anaerobic dechlorinating microbial population. The indigenous microbial population will consume oxygen and generate an anaerobic environment, which is needed for *Dehalococcoides* genus bacteria (DHC)-mediated reductive dechlorination to occur. Reductive dechlorination of chlorinated volatile organic compounds (CVOCs) occurs under strictly anaerobic conditions. Unlike in aerobic conditions where bacteria obtain energy by oxidizing reduced compounds (i.e., petroleum) while utilizing oxygen as the electron acceptor, reductive dechlorination is mediated by anaerobic bacteria (e.g., DHC), which obtain energy by oxidizing hydrogen and utilizing the CVOC as the electron acceptor. Through this process, chlorine atoms within the solvent molecules are replaced by hydrogen one by one. As such, PCE is reduced to TCE, which is reduced to cis-1,2-DCE, which is reduced to vinyl chloride, which is reduced to ethene, which is reduced to carbon dioxide as a detoxified final degradation product. The presence of degradation products in groundwater beneath the Property confirms that conditions are conducive to reductive dechlorination, and enhancing this naturally occurring process with EOS will significantly reduce the remedial time frame.

Based on observed Site conditions, it is anticipated that the groundwater plume south of Roy Street and east of 8th Avenue North will be addressed by natural attenuation. The treatment of the source zone with ERH and SVE, excavation of vadose zone soil, and the in situ groundwater treatment on the Property will significantly reduce the concentrations in groundwater beneath the Property and Site. Primary and secondary lines of evidence will be used to evaluate whether natural attenuation is occurring in the groundwater south of Roy Street and east of 8th Avenue North. Primary lines of evidence will include analytical data that define a contaminated groundwater plume as shrinking, stable, or expanding for the COCs (trend analyses and isoconcentrations maps). Secondary lines of evidence for natural attenuation will include the evaluation of geochemical indicators (dissolved oxygen, oxidation-reduction potential [ORP], pH, alkalinity, nitrate, total manganese, ferric and ferrous iron, sulfate, methane, ethene, ethane, chloride, and fatty acids) for naturally occurring biodegradation and estimates of natural attenuation rates and biodegradation capacity.

Currently, preliminary evidence indicates that biodegradation is occurring in off-Property wells based on the presence of PCE degradation products. Should natural attenuation prove insufficient in remediating off-Property groundwater, contingency injection wells would then be utilized.

The spacing of the injection wells along each transect is based on soil bulk density estimates developed by EOS Remediation, as well as the relatively permeable soil texture. This information was used to develop the approximate volume of EOS necessary to support a zone of anaerobic dechlorination sufficient to degrade the chlorinated solvents within groundwater beneath the Site. Based on the reaction time of the EOS, injection transects will be spaced a distance equivalent to the distance travelled by groundwater in 3 years. The groundwater seepage velocity for each treatment zone was based on the average seepage velocity for each water-bearing zone and was estimated at 150 feet per year for the shallow treatment zone, and 25 feet per year for the intermediate treatment zone. The seepage velocity for each water-bearing zone is discussed in greater detail in Section 2.5.3 of the Feasibility Study Report prepared by SoundEarth.

Based on the seepage velocity in the shallow treatment zone, injection transects could be spaced up to 450 feet apart; however, a more aggressive network will be installed in the shallow source area to take advantage of the ERH electrodes and treat the expected residual mass that remains after implementation of the ERH treatment. The more aggressive injection approach in the source area will be accomplished by converting the 165 ERH electrodes, spaced on 17-foot centers, into injection points, as well as installing additional shallow injection points to the north of the ERH treatment boundary, with the positioning dependent on performance of the ERH system and its effect on mass outside of the direct treatment zone. If necessary, the same 17-foot-centers design associated with the ERH system will be utilized outside the ERH treatment boundary. However, wells in the shallow water-bearing zone could be placed on 25^{+}-foot centers, based on a combination of total EOS volume required, the ability of the formation to accept the required EOS, and the groundwater seepage velocity.

The injection points installed within in the intermediate treatment zone will be placed on a north-south spacing of 20 feet and an east-west transect spacing of approximately 75 feet. The placement of these wells was designed to accomplish full coverage of EOS using a 1-foot to 5-foot dispersion ratio (dispersion rate: groundwater velocity) and the calculated seepage velocity discussed above. The barrier treatment wall injection points in both the shallow and intermediate treatment zones is designed for a single injection event with the wells placed on 10-foot centers to prevent further off-Property migration of COCs in groundwater at concentrations exceeding cleanup levels. This provides a level of conservatism since it is designed to treat all of the contamination coming from the Property, ignoring the extensive injection scheme implemented within the source area.

Manifold piping will be used to introduce EOS into each of the injection wells. Upon completion of the EOS injection on Property, the interior injection wells and those within the excavation footprint will be decommissioned and the remedial excavation would commence.

3.3 CONTAMINATED SOIL EXCAVATION

Prior to conducting excavation activities on the Property, performance soil samples will be collected from the vadose zone (30 to 40 feet NAVD88) to evaluate the effectiveness of the system in reducing concentrations of PCE to below 14 milligrams per kilogram (mg/kg; Washington State dangerous waste criteria) to allow for the disposal of the soil at a non-hazardous, Subtitle D landfill under Ecology's contained-in determination.

The bulk excavation will commence after the completion of the following items:

- Acquiring a contained-in determination and profiling for waste disposal from Ecology.
- Installing temporary erosion and sediment control measures.
- Establishing site security and fencing.
- Preparing ingress and egress pathways.
- Decommissioning ERH electrodes, TMPs, existing monitoring wells, and EOS injection wells within the remedial excavation area.
- Installing the shoring system.

The excavation limits will extend from lot-line to lot-line and to 30 feet NAVD88 and involve excavating contaminated soil from the vadose zone (30 to 40 feet NAVD88) and transporting the excavated material off the Property for land disposal. To address petroleum-contaminated soil (PCS) detected above MTCA Method A cleanup levels beneath the northeast portion of the Property, this area would be overexcavated to approximately 20 feet NAVD88. Field screening and soil stockpile samples would be used to document COC concentrations in soil and to confirm compliance with the contained-in determination.

It is anticipated that all contaminated soil removed from the excavation area will meet the contained-in criteria for PCE for disposal at a Subtitle D disposal facility. To meet the requirements of the contained-in determination, detectable concentrations of PCE in soil must be below 14 mg/kg. Approximately 32,000 tons of soil will be removed from the Property for off-site disposal. No land ban dangerous waste (i.e., PCE concentrations greater than 60 mg/kg) or dangerous waste suitable for land disposal at a Resource Conservation and Recovery Act (RCRA) Subtitle C disposal facility (i.e., PCE concentrations greater than 14 mg/kg and less than 60 mg/kg) is anticipated to be generated during excavation activities. After the final grades are achieved, the vapor barrier would be incorporated as a component of the underground parking foundation.

3.3.1 Contingency Plan to Address Unknown Contamination

The presence of aesthetic impacts and conditions encountered by site employees and equipment operators during the construction excavation activities at the Property may be indicative of conditions associated with contaminated media. Equipment operators will be instructed to use these criteria to alert the site superintendent and construction manager of potential issues of previously unidentified contamination at the Property. Any of the following occurrences are considered common sense criteria that may require a mitigation or remediation response. These criteria include, but are not limited to the following:

- Obvious petroleum staining, sheen, or colored hues in soil or standing water.
- The presence of petroleum products or leachate of other chemicals.
- The presence of utility pipelines with sludge or trapped liquid indicating petroleum or chemical discharge sludge.
- The presence of buried pipes, conduits, tanks, or unexplained metallic objects or debris.
- Materials with a granular texture that suggests industrial origin.
- Vapors causing eye irritation or nose tingling or burning.
- White, chalky compounds or fine particulate soil layers.
- Presence of gasoline- or oil-like vapor or odor.
- Burnt debris or the presence of slag-like material.

Any criteria identified by on-site personnel will be evaluated and, as appropriate, a sampling plan will be developed to properly characterize and manage the material in accordance with state and federal regulations.

3.3.2 Construction Dewatering

Extensive dewatering is not anticipated due to the relatively shallow limits of the excavation (approximately 30 feet NAVD88, i.e., 10 feet bgs). The overexcavation of PCS will require dewatering to reach 20 feet NAVD88 because shallow groundwater beneath the Property is at approximately 30 feet NAVD88. As the excavation proceeds, it will encounter the shallow water-bearing zone across the Property. The water will be collected at a low point in the excavation where it will be pumped to a water storage tank at the ground surface for treatment and disposal.

4.0 PERFORMANCE AND CONFIRMATIONAL MONITORING

Performance and confirmational monitoring will be conducted as part of the cleanup action. Details regarding procedures for sample collection and handling are described below.

4.1 PERFORMANCE GROUNDWATER MONITORING

Performance groundwater monitoring will be conducted on and off Property as part of the cleanup action.

4.1.1 Performance Groundwater Monitoring—On Property

Nine monitoring wells will be completed on the Property within the ERH treatment area. The wells will be installed to a depth of approximately 40 feet bgs (0 feet NAVD88) and screened from approximately 10 feet to 40 feet bgs. Each monitoring well will be constructed of 1-inch-diameter blank stainless steel casing, flush-threaded to 0.010-inch slotted well screen. The bottom of each of the wells will be fitted with a threaded bottom cap. The annulus of the monitoring wells will be filled with #10/20 silica sand to 2 feet above the top of the screened interval. The wells will be completed at the surface with 8 feet of neat cement grout.

The monitoring wells will be developed by SoundEarth field staff and will consist of surging and purging until a minimum of five well volumes are removed and the groundwater no longer appears turbid. Turbidity will be measured visually by field staff conducting development activities. Groundwater samples will be collected at least 24 hours following well development.

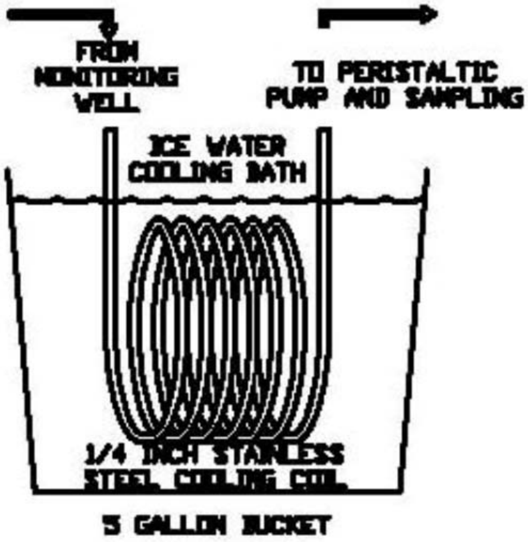
Groundwater samples will be submitted to the laboratory and analyzed for chlorinated solvents. The analytical results will be used to assess when the cleanup goals for groundwater have been achieved.

4.1.1.1 Sample Collection and Handling Procedures

Groundwater heated through the ERH process presents both a potential safety hazard and a potential concern for collecting representative samples. If a boiling or near-boiling liquid is collected in a volatile organic analysis (VOA) vial, the formation of air bubbles as the sample cools within the VOA vial renders the sample non-representative. In addition, hot liquids collected in the VOA vial may result in failure of the VOA septum.

An ice bath is designed to cool the groundwater prior to sampling while limiting the impact on groundwater chemistry and contaminant concentrations. Cooling the groundwater prior to sampling allows for both the safe handling of high water temperatures and prevents the formation of volatile organic compound (VOC) bubbles in the VOA vial after sample collection.

Prior to sampling, a cooling coil shall be constructed by wrapping a 10-foot length of 0.25-inch-diameter, stainless steel or copper tubing six full turns around a 4-inch-diameter pipe. The ends of the tubing shall be fashioned such that both ends of the tubing extend upward, as shown in the diagram below.



In addition, SoundEarth field staff will follow the procedures described below when collecting groundwater samples:

- Each monitoring well will be purged at a low-flow rate (100 to 300 milliliters per minute) using a bladder pump and dedicated polyethylene tubing. The pump intake will be placed at the approximate center of the screened interval. Temperature, pH, specific conductivity, dissolved oxygen, and ORP will be monitored during purging using a water quality meter equipped with a flow-through cell to determine when these parameters stabilize.
- Groundwater samples will be collected directly from the pump outlet following stabilization of temperature, pH, specific conductance, turbidity, dissolved oxygen, and ORP. If the monitoring well is completely dewatered during purging, samples will be collected when the groundwater in the well has recovered to at least 80 percent of the prepurge casing volume.
- The sample containers, as described in Table E-2, will be filled directly if collected from a pump, or the water samples will be transferred immediately from the bailer into laboratory-supplied sample containers, taking care to minimize turbulence. Care will be taken not to handle the seal or lid of the container when decanting the sample into the containers. The containers will be filled completely to eliminate any headspace, and the seals/lid will be secured.
- Each sample container will be labeled and handled following the protocols described in Section 5.0, Sample Handling and Quality Control Procedures.
- The chain-of-custody protocols will be maintained during sample transport and submittal to the laboratory.

Field personnel will be required to prepare Groundwater Purge and Sample Forms during groundwater monitoring and sampling activities. The forms will include water quality measurements, including pH, temperature, dissolved oxygen, specific conductance, ORP, and/or turbidity. In addition, the sample identifier (ID), date of sample collection, and analyses will be recorded on the form. An example of the Groundwater Purge and Sample Form is included in Attachment A.

4.1.2 Performance Groundwater Monitoring—Off Property

Monitoring wells to be included in the natural attenuation network are as follows:

- Intermediate Water-Bearing Zone: MW107, MW108, MW109, MW110, MW111, MW112, MW114, MW115, MW116, MW117, MW118, MW119, MW120, and MW128
- Deep Water-Bearing Zone: MW102, MW103, MW104, MW105, MW106, MW113, and MW122

4.1.2.1 Sample Collection and Handling Procedures

Groundwater samples will be collected quarterly and handled in accordance with the 1996 U.S. Environmental Protection Agency (EPA) guidance document, *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* at least 24 hours following well development. SoundEarth field staff with follow the procedures described below when collecting groundwater samples:

- The locking well cap from the monitoring well will be removed and the groundwater level in the well will be allowed to equilibrate to atmospheric pressure for a minimum of 20 minutes.
- The depth to groundwater in the monitoring well will be measured relative to the top of well casing to the nearest 0.01 foot using an electronic water-level meter. The depth to the monitoring well bottom will also be measured to evaluate siltation of the monitoring well and to calculate the estimated purge water volume. All nondisposable equipment will be decontaminated between uses.
- Each monitoring well will be purged at a low-flow rate (100 to 300 milliliters per minute) using a bladder pump and dedicated polyethylene tubing. The pump intake will be placed at the approximate center of the screened interval. Temperature, pH, specific conductivity, dissolved oxygen, and ORP will be monitored during purging using a water quality meter equipped with a flow-through cell while purging to determine when stabilization of these parameters occurs.
- Groundwater samples will be collected directly from the pump outlet following stabilization of temperature, pH, specific conductance, turbidity, dissolved oxygen, and oxygen-reduction potential. If the monitoring well is completely dewatered during purging, samples will be collected when the groundwater in the well has recovered to at least 80 percent of the prepurge casing volume.
- If low-flow sampling methods are not practical, the monitoring well will be allowed to recharge for no longer than 2 hours following cessation of purging and will be sampled using a dedicated, disposable, polyethylene double-check valve bailer and sampling cord.
- The sample containers, as described in Table E-2, will be filled directly if collected from a pump, or the water samples will be transferred immediately from the bailer into laboratory-supplied sample containers, taking care to minimize turbulence. Care will be taken not to handle the seal or lid of the container when decanting the

sample into the containers. The containers will be filled completely to eliminate any headspace, and the seals/lid will be secured.

- Each sample container will be labeled and handled following the protocols described in Section 5.0, Sample Handling and Quality Control Procedures.
- The chain-of-custody protocols will be maintained during sample transport and submittal to the laboratory.
- The well cap and monument will be secured following sampling. Any damaged or defective well caps or monuments will be noted and scheduled for replacement, if necessary.

Field personnel will be required to prepare Groundwater Purge and Sample Forms during groundwater monitoring and sampling activities. The forms will include depth to groundwater and total depth measurements, as well as water quality measurements, including pH, temperature, dissolved oxygen, specific conductance, ORP, and/or turbidity. In addition, the sample ID, date of sample collection, and analyses will be recorded on the form. An example of the Groundwater Purge and Sample Form is included in Attachment A.

4.2 CONFIRMATIONAL GROUNDWATER MONITORING

Several monitoring wells will be installed as confirmational monitoring points within the Property. The planned Property improvements are not currently finalized; therefore, the exact locations of these monitoring wells have not been confirmed. Existing off-Property monitoring wells will be utilized to establish the points of compliance for the Site-wide plume. Each monitoring well will be constructed of 2-inch-diameter blank PVC casing, flush-threaded to 0.010-inch slotted well screen. The bottom of each well will be fitted with a threaded PVC bottom cap, and the top of each well will be fitted with a locking compression-fit well cap. The annulus of the monitoring wells will be filled with #10/20 silica sand to a minimum height of 1 foot above the top of the screened interval. A bentonite seal with a minimum thickness of 1 foot will be installed above the sand pack. The wells will be completed at the surface with a flush-mounted, traffic-rated well box set in concrete. The well completion details will be recorded in boring logs, examples of which are provided in Attachment A of this SAP.

4.2.1 Sample Collection and Handling Procedures

Sampling collection and handling procedures are the same as those discussed above in section 4.1.2.1.

4.3 PERFORMANCE SOIL SAMPLING—ERH/SVE

Performance soil samples will be collected and analyzed using an EPA-accredited laboratory to evaluate the effectiveness of the system in reducing the concentrations of PCE to below 14 mg/kg to allow for the disposal of the soil at a non-hazardous, Subtitle D landfill under Ecology's contained-in determination.

Four soil borings will be advanced within the Hot Spot Area as shown on Figure E-2. This area is characterized by vadose zone soil which contains concentrations of PCE in excess of 14mg/kg. Vadose zone soil outside of the Hot Spot Area has been shown to contain concentrations below 14mg/kg; this soil can therefore be disposed of at a Subtitle D landfill under Ecology's contained-in determination and does not require additional performance sampling. The four soil borings will be advanced beneath the

Property to depths ranging from 30 to 20 feet NAVD88 (10 to 20 feet bgs), and the analytical results will be used to assess when the cleanup goals have been achieved.

4.3.1 Sample Collection and Handling Procedures

Borings will be advanced using an HSA drill rig and sampled at approximate 5-foot intervals from ground surface to the total depths explored. After the maximum depth is achieved in each sample interval, relatively undisturbed, discrete soil samples will be collected from the soil borings. The soil will be classified using the USCS. Soil characteristics, including moisture content, relative density, texture, and color, will be recorded on boring logs. The depths at which changes in soil lithology are observed and at what depth groundwater is first encountered will also be included on the boring logs. Selected portions of recovered soil core samples will be placed in a plastic bag so the presence or absence of VOCs can be quantified using a photoionization detector (PID).

4.4 PERFORMANCE SOIL SAMPLING—REMEDIAL EXCAVATION (PCS)

Performance monitoring for soil will be conducted during the remedial excavation to confirm that all of the PCS has been removed from the northeast corner of the Property. It is anticipated that the remedial excavation will extend to an approximate depth of 20 feet NAVD88 (20 feet bgs).

4.4.1 Sample Collection and Handling Procedures

Soil samples will be collected directly from the sidewalls and/or bottom of the excavation using either stainless steel or plastic sampling tools. Soil samples collected at depths of less than 4 feet bgs will be collected manually. Samples collected at depths below 4 feet bgs will be collected with the backhoe bucket unless engineering controls are in place that allow for manual sample collection at depths greater than 4 feet bgs. The location of these soil samples will be selected based on their position relative to a soil sampling grid as described in section 5.1.1.

All non-dedicated sampling equipment will be decontaminated between uses. The samples will be submitted for laboratory analysis, and the analytical results will be used to assess when the points of compliance for soil have been achieved within the dangerous waste excavation area.

4.5 CONFIRMATIONAL SOIL SAMPLING

Confirmational monitoring for soil will be conducted to verify that soil concentrations of COCs are below the levels required for protection of groundwater beneath the Site.

Upon completion of the cleanup action and the anticipated restoration time frame, soil borings will be advanced at several locations beneath the Site. The planned Property improvements are not currently finalized; therefore, the exact locations of the on-Property borings are not known. The off-Property boring will be advanced within public ROWs, the locations of which may change over time.

The soil borings will be advanced beneath the Site, to an approximate depth of -40 NAVD88 (80 feet bgs), in locations where previous data indicated that concentrations of PCE were above the MTCA Method A Cleanup Level.

4.5.1 Sample Collection and Handling Procedures

Borings will be advanced using an HSA drill rig and sampled at approximate 5-foot intervals from ground surface to the total depths explored. After the maximum depth is achieved in each sample interval, relatively undisturbed, discrete soil samples will be collected from the soil borings. The soil will be classified using USCS. Soil characteristics, including moisture content, relative density, texture, and color, will be recorded on boring logs. The depths at which changes in soil lithology are observed and at what depth groundwater is first encountered will also be included on the boring logs. Selected portions of recovered soil core samples will be placed in a plastic bag so the presence or absence of VOCs can be quantified using a PID.

5.0 SAMPLE HANDLING AND QUALITY CONTROL PROCEDURES

Sections 5.1 through 5.5 summarize sample labeling, containers, handling, chain of custody, and field quality control procedures to be applied during the cleanup action.

5.1 SAMPLE IDENTIFICATION

Each sample collected during the cleanup action will be assigned a unique sample ID and number. Sample ID labels will be filled out and affixed to appropriate containers immediately prior to sample collection. The label is filled out in indelible ink and will include the following information: media, date, time sampled, sample ID and number, project name, project number, sampler's initials, and analyte preservative(s) if any. An example of the Sample ID Label is included in Attachment A of this SAP.

5.1.1 Soil

Soil samples collected to assess the performance of the ERH/SVE System will be identified by the boring and depth at which they were collected. For example, a soil sample collected from boring B01 at a depth of 24 feet bgs would be identified as B01-24.

Samples collected during the remedial excavation of PCS will be identified by their position relative to a grid measuring 120 feet (east-west) by 100 feet (north-south), and segregated into 30 discrete grid cells (A1 through E6), each measuring 20 feet by 20 feet (Figure E-3).

Bottom and sidewall samples will be assigned a unique identifier that will include the components listed below:

- The grid cell identification (e.g., A1)
- The compass heading of the sidewall (e.g., N)
- The sample type (e.g., bottom "B", sidewall "SW")
- The number of samples collected in that area (e.g., 01, 02, 03)
- The depth in feet bgs (e.g., 16)

For example, the first soil sample collected from the bottom of the remedial excavation in grid cell A1 at a depth of 16 feet bgs would be identified as A1B01-16.

Likewise, a soil sample collected from the north side wall of grid cell E6 at a depth of 10 feet would be identified as E6NSW01-10. If this sidewall required overexcavation and further sampling within the same grid cell and depth, a second sample would be collected and would be identified as E6NSW02-10. The sample identification would be recorded on the Sample ID Label, Field Report form, Sample Summary Form, and Sample Chain of Custody form.

5.1.2 Groundwater

Groundwater sample IDs will include a prefix of the well identification and the date. For example, the groundwater sample collected from monitoring well MW14 on October 22, 2014, would be numbered MW14-20141022. The sample identification will be placed on the Sample ID label, the Field Report form, the Groundwater Purge and Sample Form, and the Sample Chain of Custody form.

5.2 DECONTAMINATION PROCEDURES

Decontamination of all nondisposable tools and equipment will be conducted prior to each sampling event and between each sampling location, including stainless steel bowls/containers, stainless steel spoons/spatulas, stainless steel core catcher, hack saw blades, and drill bits. A sufficient supply of pre-decontaminated small equipment will be mobilized to the sampling locations to minimize the need for performing field decontamination. Field personnel will change disposable latex or nitrile gloves before collecting each sample and before decontamination procedures and will take precautions to prevent contaminating themselves with water used in the decontamination process. The following steps will be followed to decontaminate reusable soil and groundwater sampling equipment:

- The equipment will be washed with a solution of Alconox (or an equivalent detergent) and water.
- The equipment will be rinsed with tap water.
- A final rinse will be conducted with distilled or deionized water.

Residual sample media from the equipment, used decontamination solutions and associated materials, and disposable contaminated media will be disposed of according to the procedures described in Section 7.0, Management of Investigation-Derived Waste.

5.3 SAMPLE CONTAINER AND HANDLING PROCEDURES

Soil samples collected for analysis of VOCs will be collected in accordance with EPA Method 5035. Groundwater samples will be collected in general accordance with the EPA’s 1996 guidance *Low Flow (Minimal Drawdown) Ground-Water Sampling Procedures*. Required containers, preservation, and holding times for each anticipated analysis are listed in Table E-2.

SoundEarth personnel will be responsible for following the container handling procedures below:

- Each sample container will be labeled and handled with the date and time sampled, well identification number, project number, and preservative(s), if any.
- All sample collection information will be documented on a Sample Chain of Custody form; the sample will be placed in a cooler chilled to near 4 degrees Celsius and transported to the laboratory.

The field coordinator will check all container labels, chain of custody for entries, and field notes for completeness and accuracy at the end of each day.

5.4 SAMPLE CHAIN-OF-CUSTODY PROCEDURES

The written procedures that will be followed whenever samples are collected, transferred, stored, analyzed, or destroyed are designed to create an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis and reporting of analytical values. This written record, the Sample Chain of Custody form, will be filled out by the field sampling team at the time the sample is obtained. An example of the Sample Chain of Custody form is included in Attachment A.

All samples submitted to the laboratory are accompanied by the Sample Chain of Custody form. This form is checked for accuracy and completeness and then signed and dated by the laboratory sample custodian accepting the sample. At the laboratory, each sample is assigned a unique, sequential laboratory identification number that is stamped or written on the Sample Chain of Custody form.

All samples are held under internal chain of custody in the sample control room using the appropriate storage technique (i.e., ambient, refrigeration, frozen). The Laboratory Project Manager assigned to a particular client will be responsible for tracking the status of the samples throughout the laboratory. Samples will be signed out of the sample control room in a sample control logbook by the analyst who will prepare the samples for analysis.

The Sample Chain of Custody form will include the following information: client, project name and number, date and time sampled, sample ID, sampler’s initials, analysis, and analyte preservative(s), if any.

5.5 FIELD QUALITY ASSURANCE SAMPLING

Field and laboratory activities will be conducted in such a manner that the results be valid and meet the data quality objectives for this project. QA/QC groundwater samples will be collected during the course of the groundwater monitoring to provide for data validation as detailed in Section 8.0. QA/QC samples will consist of field duplicates. QA/QC samples will be collected and sent to the laboratory along with the primary field samples. Based on the sampling frequency and number of groundwater samples anticipated, it is estimated that one groundwater field duplicate sample will be submitted per sampling event. The QA/QC samples will be assigned a unique sample identifier and number. The number will include a prefix of MW99 for field duplicates. For example, a field duplicate collected on October 22, 2014, would be labeled MW99-20141022. SoundEarth will note the locations of the field duplicates in the field notes.

6.0 ANALYTICAL TESTING

All samples will be submitted to Friedman & Bruya, Inc., an Ecology-accredited analytical laboratory, on a standard 7- to 10-day turnaround time. All chemical and physical testing will adhere to EPA’s SW-846 QA/QC procedures and analysis protocols or follow the appropriate Ecology methods. In completing chemical analyses for this project, the laboratory will meet the following minimum requirements:

- Adhere to the methods outlined in this SAP, including methods referenced for each analytical procedure.
- Provide a detailed discussion of any modifications made to previously approved analytical methods.

- Deliver PDF and electronic data as specified.
- Meet reporting requirements for deliverables.
- Meet turnaround times for deliverables.
- Implement QA/QC procedures discussed in Section 8.0, including data quality objectives (DQOs), laboratory quality control requirements, and performance evaluation testing requirements.
- Notify the Project QA/QC Officer of any QA/QC problems when they are identified to allow for quick resolution.
- Allow laboratory and data audits to be performed, if deemed necessary.

Copies of the *Laboratory Quality Assurance Manual* from Friedman & Bruya, Inc. are on file at SoundEarth's offices for review and reference and will be followed throughout the cleanup action. Access to laboratory personnel, equipment, and records pertaining to samples, collection, transportation, and analysis can be provided. Container requirements, holding times, and preservation methods for soil and water are summarized in Table E-2.

Sample laboratory analytical results for each analyte will be compared to regulatory limits applicable to the cleanup action. A detailed description of the analytical methods, laboratory practical quantitation limits (PQLs), and applicable regulatory limits for each analyte is provided in Table E-3 and is summarized in the Sections 6.1 through 6.3 below for each medium to be sampled during the cleanup action.

6.1 SOIL

Select soil samples will be submitted for laboratory analysis of CVOCs by EPA Method 8260C; GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx; DRPH and ORPH by Method NWTPH-Dx; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B or 8260C.

6.2 GROUNDWATER

Select groundwater samples will be submitted for laboratory analysis of CVOCs by EPA Method 8260C (unpreserved sample containers will be used for vinyl chloride analyses); GRPH by Method NWTPH-Gx, DRPH and ORPH by Method NWTPH-Dx; and BTEX by EPA Method 8021B or 8260C.

7.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Contaminated soil, groundwater, and disposable equipment generated during the cleanup action will be handled in accordance with a contained-in determination and/or in accordance with state and federal regulations. The procedures for managing investigation-derived waste for the expected waste streams are discussed in Sections 7.1 through 7.3 below.

7.1 SOIL

Wastes generated during the remedial activities require analytical testing before disposal. Generally, the treatment, storage, and disposal facility (TSDF) receiving the waste specifies the minimum number of samples and analyses before accepting wastes from a site; at the Property, data generated during the remedial investigation activities will be sufficient to develop a waste profile. Wastes that will be generated from the remedial action and destined for off-Site disposal include the following:

- Soil contaminated with PCE and its degradation products; GRPH, DRPH, ORPH, and associated compounds
- Contaminated groundwater from excavation dewatering
- Contaminated personal protective equipment
- Decontamination solutions
- Miscellaneous solid wastes

Each waste stream will be profiled separately in accordance with the minimum waste analyses requirements of the respective permitted TSDF. If unforeseen soil conditions are encountered, additional waste profiling may be required to ensure proper classification and disposal. The solvent-contaminated soil will be disposed of in accordance with the contained-in determination. Material Import and Export Summary forms (Attachment A of this SAP) demonstrating compliance with the determination will be submitted to Ecology upon receipts of the disposal tickets.

Soil waste generated during drilling will be stored in labeled 55-gallon drums or loaded onto trucks for disposal. Composite soil samples will be collected from the drums for waste characterization purposes. The drums will be labeled with the source (soil boring ID and depths) and disposed of in accordance with the requirements based on the analytical results of sampling. A Hazardous or Non-Hazardous Waste Label will be affixed to each drum, and the number and type of drums will be documented on a Drum Inventory Sheet (Attachment A).

7.2 WATER

The ERH/SVE system uses heat to volatize contaminants and groundwater, which are collected under vacuum by a vapor treatment system. In order to optimize vapor-phase treatment, the steam produced during the heating process is condensed before vapor treatment begins. This condensation is carried out within a heat exchanger that is cooled with an evaporative cooling tower. The combined effluent from the process is expected to be approximately 8 gallons per minute (gpm). It will include 7 gpm of condensate and 1 gpm of cooling tower blowdown. Additional wastewater may be generated from groundwater purging and sampling.

All wastewater will be disposed of into the municipal sanitary sewer under King County Discharge Authorization #4256-01.

7.3 DISPOSABLES

Disposable personal protective clothing (e.g., TYVEK suits, rubber gloves, and boot covers) and disposable sampling devices (e.g., plastic tubing, plastic scoops, and bailers) will be placed in plastic garbage bags and disposed of as nonhazardous waste.

8.0 DATA QUALITY OBJECTIVES

Field and laboratory activities will be conducted in such a manner that the results will be valid and will meet the data quality objectives for this project. Guidance for QA/QC will be derived from the protocols developed for the cited methods within EPA's documents *Test Methods for Evaluating of Solid Waste Physical/Chemical Methods, also known* SW-846, and the National Contract Laboratory Review Program, National Functional Guidelines for Organic Data Review. The data quality objectives are designed to:

- Assist the project manager and project team to focus on the factors affecting data quality during the planning stage of the project.
- Facilitate communication among field, laboratory, and project staff as the project progresses.
- Document the planning, implementation, and assessment procedures for QA/QC activities for the cleanup action.
- Verify that the DQOs are achieved.
- Provide a record of the project to facilitate final report preparation.

The DQOs for the project include both qualitative and quantitative objectives, which define the appropriate type of data and specify the tolerable levels of potential decision errors that will be used as a basis for establishing the quality and quantity of data needed to support the cleanup action. To verify that the DQOs are achieved, this SAP details aspects of sample collection and analysis including analytical methods, QA/QC procedures, and data quality reviews. This SAP describes both qualitative and quantitative measures of data quality to verify that the DQOs are achieved.

Detailed QA/QC procedures in the field and at the laboratory are provided in the following sections. The DQOs for the cleanup action will be used to develop and implement procedures to verify that data collected are of sufficient quality to adequately address the objectives of the cleanup action. All observations and measurements will be made and recorded in such a manner as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness will be met by verifying that sampling locations are selected properly, that a sufficient number of samples are collected, and that field screening and laboratory analyses are conducted properly.

The quality of the laboratory data will be assessed by precision, accuracy, representativeness, completeness, comparability, and sensitivity. Definitions of these parameters and the applicable QC procedures are described in Sections 8.1 through 8.6. Quantitative DQOs are provided following each definition. Laboratory DQOs have been established by the analytical laboratory. Applicable quantitative goals for these DQOs are listed in Table E-4.

8.1 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of two or more measurements compared to their average values. Precision is calculated from results of duplicate sample analyses. Precision is quantitatively expressed as the relative percent difference (RPD) and is calculated as follows:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} x\,100$$

<u>Where:</u>

RPD = relative percent difference

C_1 = larger of the two duplicate results (i.e., the highest detected concentration)

C_2 = smaller of the two duplicate results (i.e., the lowest detected concentration)

There are no specific RPD criteria for organic chemical analyses. Quantitative RPD criteria for organic analyses will be based on laboratory-derived control limits.

8.2 ACCURACY

Accuracy is a measure of the closeness (bias) of the measured value to the true value. The accuracy of chemical analytical results is assessed by "spiking" samples in the laboratory with known standards (a surrogate or matrix spike of known concentration) and determining the percent recovery. The accuracy is measured as the percent recovery (%R) and is calculated as follows:

$$\%R = \frac{(M_{sa} - M_{ua})}{C_{sa}} x\,100$$

Where:

%R = percent recovery

M_{sa} = measured concentration in spiked aliquot

M_{ua} = measured concentration in unspiked aliquot

C_{sa} = actual concentration of spike added

Laboratory matrix spikes and surrogates will be carried out at the analytical laboratory in accordance with EPA SW-846 and Ecology methods and procedures for inorganic and organic chemical analyses. The frequency of matrix spikes and matrix spike duplicates will each be one per batch of 20 samples or less for soil samples. Quantitative percent recovery criteria for organic analyses will be based on laboratory-derived control limits for surrogate recovery and matrix spike results.

The accuracy of sample results can also be affected by the introduction of contaminants to the sample during collection, handling, or analysis. Contamination of the sample can occur because of improperly cleaned sampling equipment, exposing samples to chemical concentrations in the field or during transport to the laboratory, or because of chemical concentrations in the laboratory. To demonstrate that the samples collected are not contaminated, laboratory method blank samples will be analyzed. The laboratory will run method blanks at a minimum frequency of 5 percent or one per batch to assess potential contamination of the sample within the laboratory.

8.3 REPRESENTATIVENESS

Representativeness is a qualitative assessment of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the matrix sampled. The sampling plan design, sample collection techniques, sample handling protocols, sample analysis methods, and data review procedures have been developed to verify that the results obtained are representative of the site conditions. These issues are addressed in detail in Section 6.0, Analytical Testing and Section 10.0, Quality Control Procedures.

8.4 COMPLETENESS

Completeness is defined as the percentage of measurements judged to be valid. Results will be considered valid if they are not rejected during data validation (Section 10.0, Quality Control Procedures). Completeness is calculated as follows:

$$C = \frac{(Number\ of\ Valid\ Measurements)}{(Total\ Number\ of\ Measurements)}\ x\ 100$$

Objectives for completeness are based, in part, on the subsequent uses of the data (i.e., the more critical the use, the greater the completeness objective). The objectives for completeness of samples are expressed as percentages, which refer to the minimum acceptable percentages of samples received at the laboratory in good condition and acceptable for analysis. The objectives of completeness for other samples are 95 percent for soil and water samples. These objectives will be met through the use of proper sample containers, proper sample packaging procedures to prevent breakage during shipment, proper sample preservation, and proper labeling and chain-of-custody procedures. A loss of 5 to 10 percent of intended samples is common, and the goals set are sufficient for intended data uses.

The objectives for completeness of chemical analyses are also expressed as percentages and refer to the percentages of analytical requests for which usable analytical data are produced. The initial objective for completeness of chemical analyses in the laboratory is 95 percent.

8.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. The use of standard Ecology and EPA methods and procedures for both sample collection and laboratory analysis will make the data collected comparable to both internal and other data generated.

8.6 SENSITIVITY

Analytical sensitivities are measured by PQLs, which are defined as the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. PQLs are determined by the laboratory. The specific analytes and their corresponding PQLs that will be required for the cleanup action are presented in Table E-3. The detection or reporting limits for actual samples may be higher depending on the sample matrix and laboratory dilution factors.

9.0 DATA COLLECTION

This section outlines the procedures to be followed for the inventory, control, storage, and retrieval of data collected during performance of the cleanup action. The procedures contained in this SAP are designed to verify that the integrity of the collected data is maintained for subsequent use. Moreover, project-tracking data (e.g., schedules and progress reports) will be maintained to monitor, manage, and document the progress of the cleanup action.

9.1 DATA COLLECTION APPROACH

Procedures that will be used to collect, preserve, transport, and store samples are described in Section 5.0, Sample Handling and Quality Control Procedures. All sampling protocols will be performed in accordance with generally accepted environmental practices and will meet or exceed current regulatory standards and guidelines. Sampling procedures may be modified, if necessary, to satisfy amendments to current regulations, methods, or guidelines. The data collection approach for key elements of the cleanup action field program will verify the project DQOs are met or exceeded. The key elements include soil samples collected and analytical results used to demonstrate that the concentrations of COCs at the limits of the remedial excavation are below applicable cleanup levels as defined in the SAP. The total number of samples collected and specific analyses to be performed will be based on field screening results, field observations, and analytical results for performance and confirmational monitoring.

9.2 DATA TYPES

A variety of data will be generated during the cleanup action, including sampling and analytical data. The laboratory analytical data will be transmitted to SoundEarth as an electronic file, in addition to a hardcopy laboratory data report. This method will facilitate the subsequent validation and analysis of these data while avoiding transcription errors that may occur with computer data entry. Examples of data types include manually recorded field data, such as boring logs, and electronically reported laboratory data.

9.3 DATA TRANSFER

Procedures controlling the receipt and distribution of incoming data packages to SoundEarth and outgoing data reports from SoundEarth include the following:

- Incoming documents will be date-stamped and filed. Correspondence and transmittal letters for all reports, maps, and data will be filed chronologically. Data packages, such as those from field personnel, laboratories (such as soil data) and surveyors (elevation data), will be filed by project task, subject heading, and date. If distribution is required, the appropriate number of copies will be made and distributed to the appropriate persons or agencies.
- A transmittal sheet will be attached to all project data and reports sent out. A copy of each transmittal sheet will be kept in the administrative file and the project file. The Project Manager and Project QA/QC Officer will review all outgoing reports and maps.

9.4 DATA INVENTORY

Procedures for filing, storage, and retrieval of project data and reports are discussed below.

9.4.1 Document Filing and Storage

As previously discussed, project files and raw data files will be maintained at SoundEarth's office. Files will be organized by project tasks or subject heading and maintained by the document control clerk. Hard copy project files will be archived for a minimum of 3 years after completion of the project. Electronic copies of files will be maintained in a project directory and backed up daily, weekly, and monthly.

9.4.2 Access to Project Files

Access to project files will be controlled by and limited to FEM and its authorized representatives, Ecology, and SoundEarth personnel. When a hard copy file is removed for use, a sign-out procedure will be used to track custody. If a document is to be used for a long period, a copy will be used, and the original will be returned to the project file. Electronic access to final reports, figures, and tables will be write-protected in the project directory.

9.5 DATA VALIDATION

Data quality review will be performed where applicable in accordance with the current EPA guidance as set forth in *Guidance on Environmental Data Verification and Data Validation* (EPA QA/G-8, EPA/240/R-02-004, November 2002). The following types of QC information will be reviewed, as appropriate:

- Method deviations
- Sample extraction and holding times
- Method reporting limits
- Blank samples (equipment rinsate and laboratory method)
- Duplicate samples
- Matrix spike/matrix spike duplicate samples (accuracy)
- Surrogate recoveries
- Percent completeness and RPD (precision)
- A quality assurance review of the final analytical data packages for samples collected during the cleanup action

9.6 DATA REDUCTION AND ANALYSIS

The Project Manager and Project QA/QC Officer are responsible for data review and validation. Data validation parameters are outlined as quantitative DQOs in Section 8.0, Data Quality Objectives. The particular type of analyses and presentation method selected for any given data set will depend on the type, quantity, quality, and prospective use of the data in question. The analysis of the project data will require data reduction for the preparation of tables, charts, and maps. To verify that data are accurately transferred during the reduction process, two data reviews will be performed, one by the Project QA/QC Officer or Project Manager and another by the Project Principal, prior to issuing the documents. Any incorrect transfers of data will be highlighted and changed.

10.0 QUALITY CONTROL PROCEDURES

This section provides a description of the QC procedures for both field activities and laboratory analysis. The field QC procedures include standard operating procedures for sample collection and handling, equipment calibration, and field QC samples.

10.1 FIELD QUALITY CONTROL

Field QC samples (e.g., duplicate samples) will be collected during this project and will follow the standard operating procedures during field screening activities. The procedural basis for these field data collection activities will be documented on the field report forms, as described in Section 12.1, Field Documentation. Any deviations from the established protocols will be documented on the field report forms.

QA/QC groundwater samples will be collected during the cleanup action to provide for data validation, as described in Section 8.0 Data Quality Objectives. QA/QC samples will consist of field duplicates. QA/QC samples will be collected and shipped to the laboratory along with the primary field samples. Based on the sampling frequency and number of groundwater samples anticipated, it is estimated that one field duplicate sample will be submitted per sampling event. The QA/QC samples will be assigned a unique sample identifier and number. The number will include a prefix of MW99 or MW98 (if two field duplicates are collected) for field duplicates. For example, a field duplicate collected on October 22, 2014, would be labeled MW99-20141022. SoundEarth will note the locations of the field duplicates in the field notes.

10.2 LABORATORY QUALITY CONTROL

Analytical laboratory QA/QC procedures are provided in the *Laboratory Quality Assurance Manual* that is on file at SoundEarth's office for Friedman & Bruya, Inc. and are summarized below:

- **Laboratory Quality Control Criteria.** Results of the QC samples from each sample group will be reviewed by the analyst immediately after a sample group has been analyzed. The QC sample results will then be evaluated to determine whether control limits were exceeded. If control limits are exceeded in the sample group, corrective action (e.g., method modifications followed by reprocessing the affected samples) will be initiated prior to processing a subsequent group of samples. All primary chemical standards and standard solutions used in this project will be traceable to documented and reliable commercial sources. Standards will be validated to determine their accuracy by comparison with an independent standard. Any impurities identified in the standard will be documented.

The following paragraphs summarize the procedures that will be used to assess data quality throughout sample analysis:

- **Laboratory Duplicates.** Analytical duplicates provide information on the precision of the analysis and are useful in assessing potential sample heterogeneity and matrix effects. Analytical duplicates are subsamples of the original sample that are prepared and analyzed as a separate sample. A minimum of 1 duplicate will be analyzed per sample group or for every 20 samples, whichever is more frequent.
- **Matrix Spikes and Matrix Spike Duplicates.** Analysis of matrix spike (MS) samples provides information on the extraction efficiency of the method on the sample matrix. By performing matrix spike duplicate (MSD) analyses, information on the precision of the method is also provided for organic analyses. A minimum of 1 MS/MSD will be analyzed for every sample group or for every 20 samples, whichever is more frequent.
- **Laboratory Control Samples.** A laboratory control sample is a method blank sample carried throughout the same process as the samples to be analyzed, with a known amount of standard added. The blank spike compound recovery assesses analytical accuracy in the absence of any sample heterogeneity or matrix effects.
- **Surrogate Spikes.** All project samples analyzed for organic compounds will be spiked with appropriate surrogate compounds as defined in the analytical methods. Surrogate recoveries will be reported by the laboratories; however, no sample result will be corrected for recovery using these values.
- **Method Blanks.** Method blanks are analyzed to assess possible laboratory contamination at all stages of sample preparation and analysis. A minimum of 1 method blank will be analyzed for every extraction batch or for every 20 samples, whichever is more frequent.

10.3 DATA QUALITY CONTROL

All data generated by Friedman & Bruya, Inc. will undergo two levels of QA/QC evaluation: one by the laboratory and one by SoundEarth. As specified in Friedman & Bruya, Inc.'s *Laboratory Quality*

Assurance Manual, the laboratory will perform initial data reduction, evaluation, and reporting. The analytical data will then be validated at SoundEarth under the supervision of the Project QA/QC Officer. The following types of QC information will be reviewed, as appropriate:

- Method deviations
- Sample transport conditions (temperature and integrity)
- Sample extraction and holding times
- Method reporting limits
- Blank samples
- Duplicate samples
- Surrogate recoveries
- Percent completeness
- RPD (precision)

SoundEarth will review field records and results of field observations and measurements to verify procedures were properly performed and documented. The review of field procedures will include the following:

- Completeness and legibility of field logs
- Preparation and frequency of field QC samples
- Equipment calibration and maintenance
- Sample Chain-of-Custody forms

Corrective actions are described in Section 11.0, Corrective Actions.

10.4 DATA ASSESSMENT PROCEDURES

The Project Manager and Project QA/QC Officer are responsible for data review and validation. Upon receipt of each data package from the laboratory, calculations using the equations presented for precision, accuracy, and completeness will be performed. Results will be compared to quantitative DQOs, where established, or qualitative DQOs. Data validation parameters are outlined in Section 8.0, Data Quality Objectives.

10.5 PERFORMANCE AUDITS

Performance audits will be completed for both sampling and analysis work. Field performance will be monitored through regular review of Sample Chain-of-Custody forms, field forms, and field measurements. The Project Manager and/or the Project QA/QC Officer may also perform periodic review of work in progress at the Site.

Accreditations received from Ecology for each analysis by Friedman & Bruya, Inc. demonstrate the laboratory’s ability to properly perform the requested methods. Therefore, a system audit of the analytical laboratory during the course of this project will not be conducted.

The Project Manager and/or Project QA/QC Officer will oversee communication with the analytical laboratory on a frequent basis while samples are being processed and analyzed at the laboratory. This will allow SoundEarth to assess progress toward meeting the DQOs and to take corrective measures if problems arise.

The analytical laboratory will be responsible for identifying and correcting, as appropriate, any deviations from performance standards as discussed in Friedman & Bruya, Inc.'s *Laboratory Quality Assurance Manual.* The laboratory will communicate to the Project Manager or the Project QA/QC Officer all deviations to the performance standards and the appropriate corrective measures made during sample analysis. Corrective actions are discussed in Section 11.0.

11.0 CORRECTIVE ACTIONS

Corrective actions will be the joint responsibility of the Project Manager and the Project QA/QC Officer. Corrective procedures can include the following:

- Identifying the source of the violation.
- Reanalyzing samples, if holding time criteria permit.
- Resampling and analyzing.
- Re-measuring parameter.
- Evaluating and amending sampling and analytical procedures.
- Qualifying data to indicate the level of uncertainty.

During field sampling operations, the Project Manager and field staff will be responsible for identifying and correcting protocols that may compromise the quality of the data. All corrective actions taken will be documented in the field notes.

12.0 DOCUMENTATION AND RECORDS

Project files and raw data files will be maintained at SoundEarth's office. Project records will be stored and maintained in a secure manner. Each project team member is responsible for filing all necessary project information or providing it to the person responsible for the filing system. Individual team members may maintain files for individual tasks, but must provide such files to the central project files upon completion of each task. A project-specific index of file contents will be kept with the project files. Hard copy documents will be kept on file at SoundEarth or at a document storage facility throughout the duration of the project, and all electronic data will be maintained in the database at SoundEarth. All sampling data will be submitted to Ecology in both printed and electronic formats pursuant to WAC 173-340-840(5) and Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements).

12.1 FIELD DOCUMENTATION

Documentation of field activities will be included on Field Report forms, Boring Log forms, Groundwater Purge and Sample Forms, Sample ID Labels, Waste Material Labels, Waste Inventory Forms, Drum Inventory forms, Material Import and Export Summary Forms, Sample Summary Forms, and Sample Chain-of-Custody forms, examples of which are provided in Attachment A. Field forms will be scanned and saved to an electronic project folder. Original and copied forms will be filed in a binder that will be maintained by the Project Manager.

Field personnel will be required to keep a daily field log on a Field Report form. Field notes will be as descriptive and as inclusive as possible, allowing independent parties to reconstruct the sampling situation from the recorded information. Language will be objective, factual, and free of inappropriate terminology. A summary of each day's events will be completed on a Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and activities performed in a manner other than specified in the SAP. In addition, if other forms are completed or used (e.g., Sample Chain-of-Custody form), they will be referred to in and attached to the Field Report form. Field personnel will sign the Field Report form.

12.2 ANALYTICAL RECORDS

Analytical data records will be retained by the laboratory and stored electronically in the SoundEarth project file and project database. For all analyses, the data reporting requirements will include those items necessary to complete data validation, including copies of all raw data. The analytical laboratory will be required to report the following, as applicable: project narrative, chain-of-custody records, sample results, QA/QC summaries, calibration data summary, method blank analysis, surrogate spike recovery, matrix spike recovery, matrix duplicate, and laboratory control sample(s).

13.0 HEALTH AND SAFETY PROCEDURES

Field personnel will adhere to health and safety procedures that will be detailed under a separate cover as the Project-Specific HASP. The health and safety and emergency response protocols outlined in the HASP are designed to ensure compliance with state and federal regulations governing worker safety on hazardous waste sites. The Department of Labor has published final rules (Part 1910.120 of Title 29 of the Code of Federal Regulations, March 6, 1990) that amend the existing Occupational Safety and Health Administration standards for hazardous waste operations and emergency response. Within Washington State, these requirements are addressed in WAC 296-843, Hazardous Waste Operations. These regulations apply to the activities to be performed at this Site as a site remediation, or cleanup, under RCRA 1976 and/or MTCA.

Subcontractors to SoundEarth are required to prepare and effectively implement their own HASP based on their unique scope of work and professional expertise. Each subcontractor’s HASP must comply with all applicable federal, state, and local regulations. The subcontractor’s HASP should employ appropriate best practices to protect all personnel working on the Site, as well as the public, and to prevent negative impacts to the project or Site.

The responsibilities of SoundEarth for safety on this Site are limited to the following:

- Implementation of the provisions of this HASP for the protection of its employees and visitors on the Site to the extent that the Site and its hazards are under the control of SoundEarth.
- Protection of the Site, other personnel, and the public from damage, injury, or illness as a result of the activities of SoundEarth and its employees while on the Site.

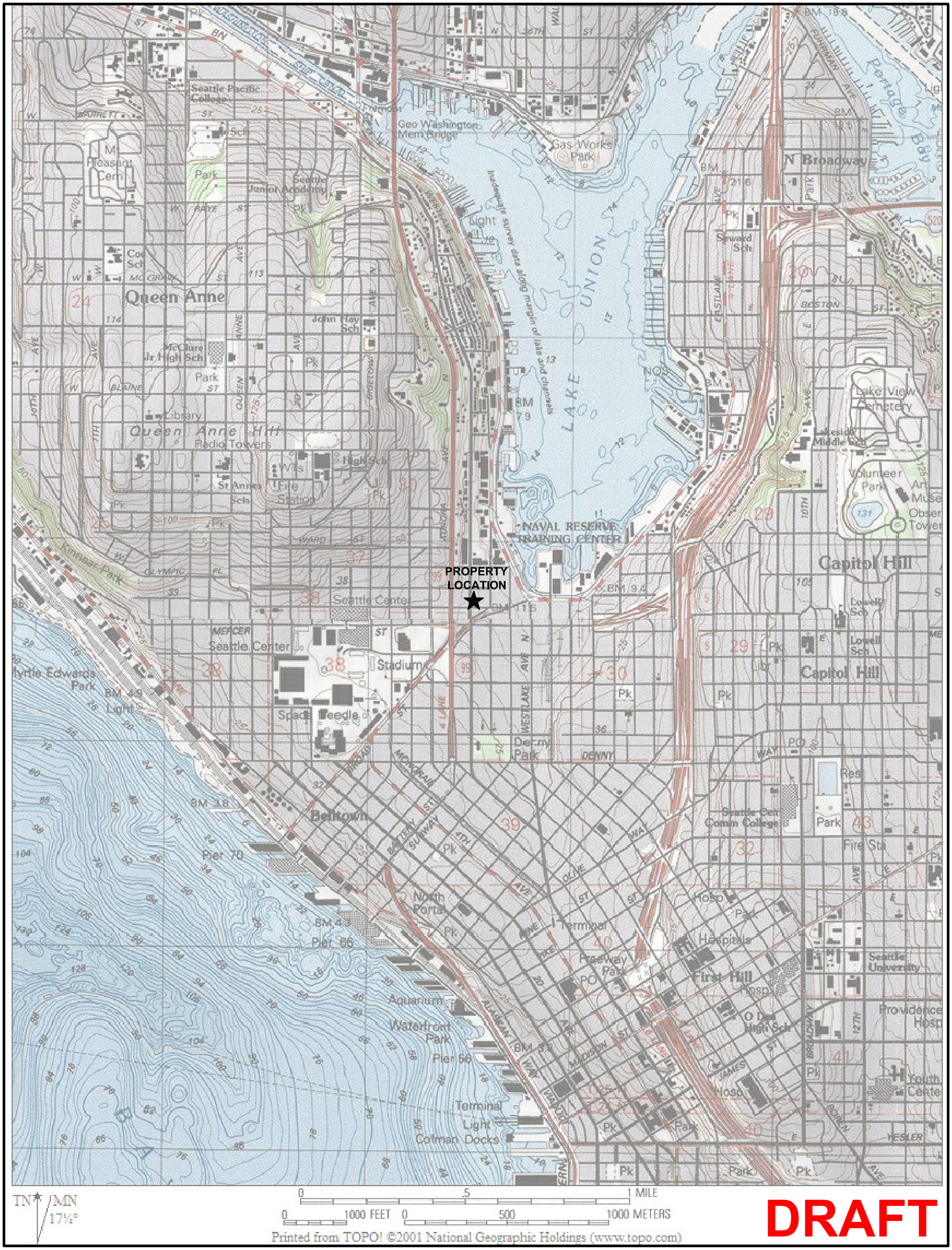
- Provision of additional safety-related advice and/or management as contractually determined between the parties.

It is anticipated that all field work will be performed during the cleanup action in Level D personal protective equipment. Potential hazards that may be encountered during the cleanup action field activities include exposure to contaminants; traffic/mobile equipment; process hazards; unstable ground; noise exposure; overhead and underground utilities; slips, trips, and falls; powered tools and equipment; working around heavy equipment; rolling and/or pinching objects; and exposure to weather conditions.

FIGURES

1/31/2014

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2013 SAP\0797-001_FIG1.DWG



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DRAFT

WWW.SOUNDEARTHINC.COM

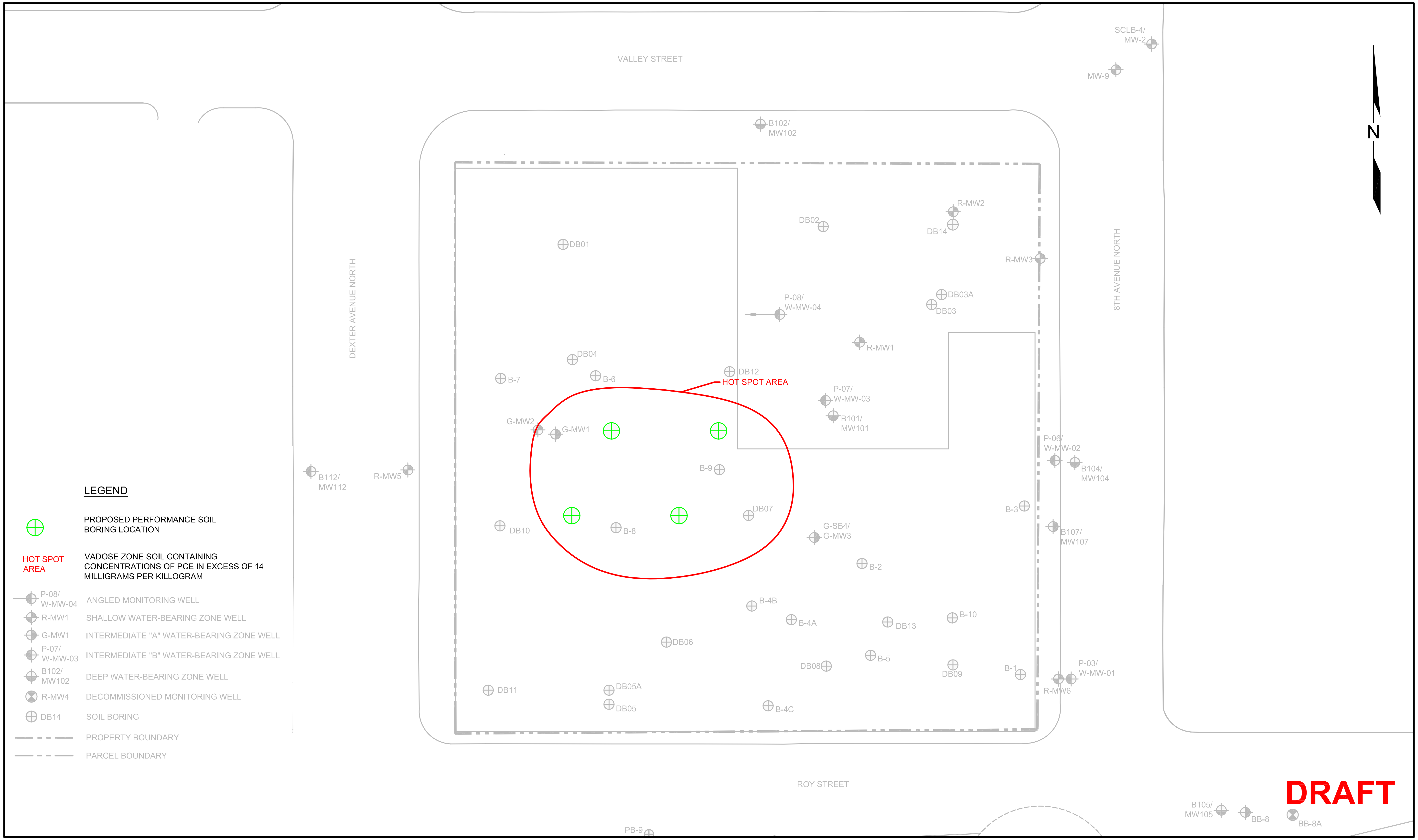
DATE: 11/07/12
DRAWN BY: NAC
CHECKED BY: BAD
CAD FILE: 0797-001_FIG1

PROJECT NAME: 700 DEXTER PROPERTY
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

FIGURE E-1

PROPERTY LOCATION MAP

WWW.SOUNDEARTHINC.COM



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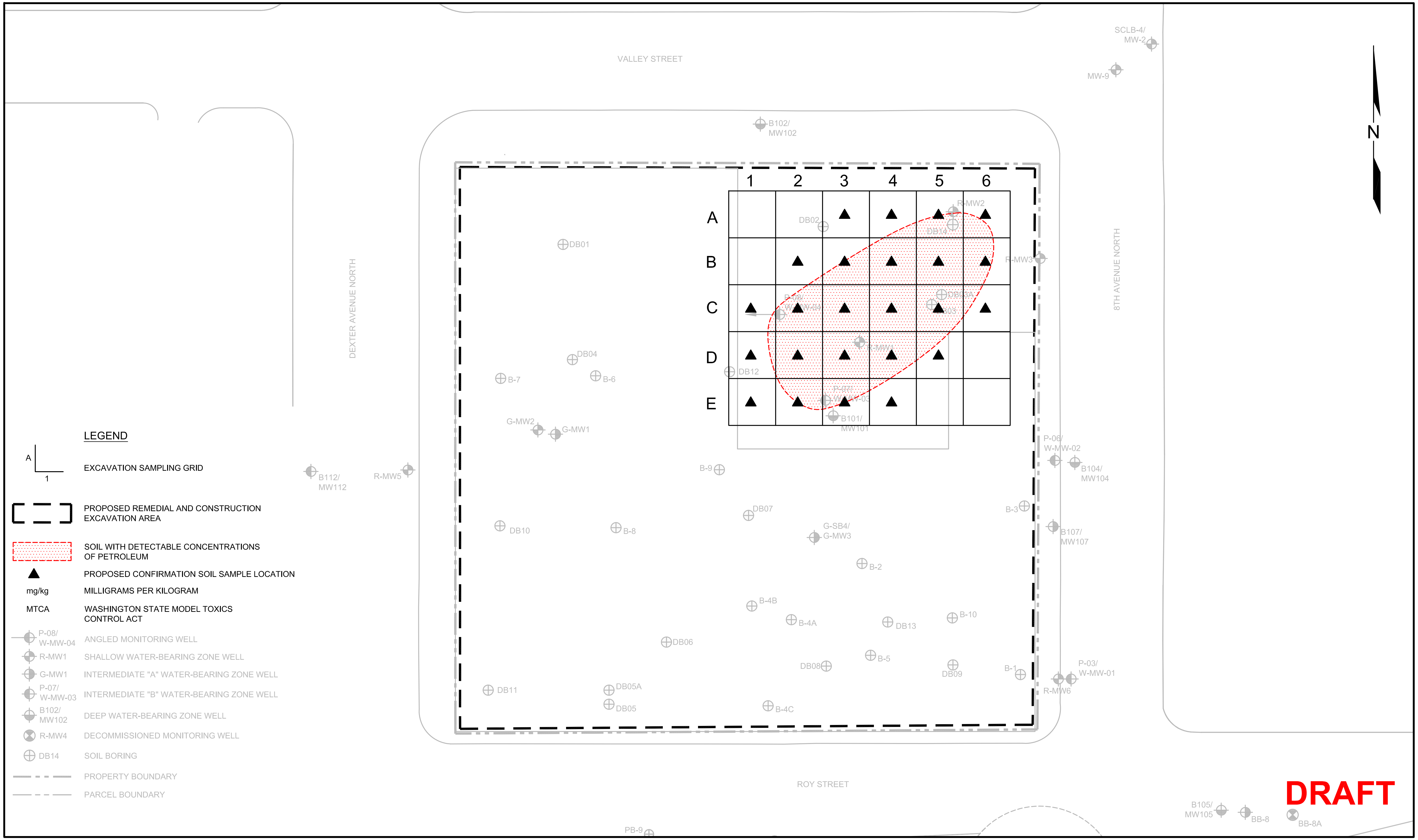
SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2013SAP_PEL

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:

FIGURE E-2
PROPOSED PERFORMANCE SOIL BORING LOCATIONS



LEGEND

A / 1 EXCAVATION SAMPLING GRID

PROPOSED REMEDIAL AND CONSTRUCTION EXCAVATION AREA

SOIL WITH DETECTABLE CONCENTRATIONS OF PETROLEUM

▲ PROPOSED CONFIRMATION SOIL SAMPLE LOCATION

mg/kg MILLIGRAMS PER KILOGRAM

MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT

P-08/ W-MW-04 ANGLED MONITORING WELL

R-MW1 SHALLOW WATER-BEARING ZONE WELL

G-MW1 INTERMEDIATE "A" WATER-BEARING ZONE WELL

P-07/ W-MW-03 INTERMEDIATE "B" WATER-BEARING ZONE WELL

B102/ MW102 DEEP WATER-BEARING ZONE WELL

R-MW4 DECOMMISSIONED MONITORING WELL

DB14 SOIL BORING

PROPERTY BOUNDARY

PARCEL BOUNDARY

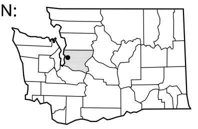
DRAFT

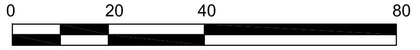
SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 07/24/13
DRAWN BY: NAC
CHECKED BY: SES
CAD FILE: 0797-001_2013ICAP_SSG

PROJECT NAME: 700 DEXTER
PROJECT NUMBER: 0797-001
STREET ADDRESS: 700 DEXTER AVENUE NORTH
CITY, STATE: SEATTLE, WASHINGTON

REGION:





APPROXIMATE SCALE IN FEET

FIGURE E-3
SOIL SAMPLING GRID

P:\0797 FRONTIER ENV MGMT\700 DEXTER\TECHNICAL\CAD\2013 SAP\0797-001_2013SAP_SSG.DWG
9/13/2013

TABLES

SoundEarth Strategies

DRAFT

Table E-1
Key Personnel and Responsibilities
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Project Title	Name	Project Role	Organization	Mailing Address	Email Address	Phone
Regulatory Agency	Eugene Freeman	Regulatory project management. Reviews and approves all submittals to Ecology.	Ecology	3190 160th Avenue Southeast Bellevue, Washington 98008	eufr461@ecy.wa.gov	(425) 649-7191
Project Contact	Nicole Christ	Project contact.	Frontier Environmental Management, LLC	1821 Blake St., Suite 3C Denver, CO 80202	nchrist@frontierem.com	(720) 746-7720
Project Principal	John F. Funderburk, MSPH	Reviews and oversees all project activities. Reviews all data and deliverables prior to submittal to project contact or Ecology.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	jfunderburk@soundearthinc.com	(206) 306-1900
Project Manager	Tom Cammarata	Overall project management, including SAP development, field oversight, document preparation and submittal, and project coordination.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	tcammarata@soundearthinc.com	(206) 306-1900
Project QA/QC Officer	Tom Cammarata	Coordinates with laboratory to ensure that SAP requirements are followed and that laboratory quality assurance objectives are met.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	tcammarata@soundearthinc.com	(206) 306-1900
Field Coordinator	Chuck Cacek	Reports to the project manager. Ensures all project health and safety requirements are followed; coordinates and participates in the field sampling activities; coordinates sample deliveries to laboratory; coordinates sampling activities with site owner subcontractors; reports any deviations from project plans.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	ccacek@soundearthinc.com	(206) 306-1900
Field Staff	Various licensed geologists and environmental professionals	Reports to field coordinator. Conducts sampling activities.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington		(206) 306-1900
Data Manager	Jenny Cheng	Ensures that analytical data is incorporated into site database with appropriate qualifiers following validation.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	jcheng@soundearthinc.com	(206) 306-1900
Data Validation	Audrey Hackett	Coordinates with laboratory to ensure that the SAP requirements and laboratory QA/QC objectives are met.	SoundEarth	2811 Fairview Avenue South, Suite 2000 Seattle, Washington	ahackett@soundearthinc.com	(206) 306-1900
Laboratory Project Manager	Michael Erdahl	Provides analytical support and will be responsible for providing certified, precleaned sample containers and sample preservatives (as appropriate) and for ensuring that all chemical analyses meet the project quality specifications detailed in the SAP.	Friedman & Bruya, Inc.	3012 16th Avenue West Seattle, Washington	merdahl@friedmanandbruya.com	(206) 285-8282
Private Utility Locator (Subcontractor)	Bravo Environmental	Under the oversight of SoundEarth, clears all boring locations for utilities prior to drilling.	Bravo Environmental	6437 South 144th Street Tukwila, Washington	kgarcia@bravonw.com	(425) 424-9000
Driller (Subcontractor)	Cascade Drilling, L.P.	Conducts drilling activities using a full-size hollow-stem auger drill rig.	Cascade Drilling, LP	19404 Woodinville-Snohomish Road Woodinville, Washington	jmurnane@cascadedrilling.com	(425) 485-8908
Electrical Resistive Heating Contractor	Tom Powell	Coordinates the installation and operation of the electrical resistance heating system.	TRS Group, Inc.	2325 Hudson Street Longview, Washington	tpowell@trhermalrs.com	(406) 837-0862

NOTES:

Ecology = Washington State Department of Ecology

QA/QC = quality control/quality assurance

SAP = Sampling and Analysis Plan

SoundEarth = SoundEarth Strategies, Inc.

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Table E-2
Analytical Methods, Container, Preservation, and Holding Time Requirements
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Analyte and Analytical Method	Size and Type of Container	Number of Containers	Preservation Requirements	Holding Time
Soil Samples				
GRPH by Method NWTPH-Gx	40-mL VOA	3	4°C/-7°C at the laboratory	48 hours/2 weeks
BTEX by EPA Method 8021B or 8260B				
CVOCs by EPA Method 8260C	40-mL VOA	3	4°C/-7°C at the laboratory	48 hours/2 weeks
DRPH and ORPH by Method NWTPH-Dx	4-oz glass jar	1	4°C/-7°C at the laboratory	14 days
Water Samples				
GRPH by Method NWTPH-Gx	40-mL VOA vial	3	HCl/4°C	14 days
BTEX by EPA Method 8021B				
CVOCs by EPA Method 8260C	40-mL VOA vial	3	4°C	7 days
DRPH and ORPH by Method NWTPH-Dx	500-mL amber	1	4°C	7 days

NOTES:

°C = degrees Celsius

BTEX = benzene, toluene, ethylbenzene, and total xylenes

CVOC = chlorinated volatile compound

DRPH = diesel-range petroleum hydrocarbons

EPA = U.S. Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

HCl = hydrochloric acid

mL = milliliter

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

oz = ounce

VOA = volatile organic analysis

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Table E-3
Analytes, Analytical Methods, Laboratory Practical Quantitation Limits, and Applicable Regulatory Limits
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Analyte	Analytical Method	Unit	Laboratory PQL(1)	Applicable Regulatory Limit(2)
Soil				
GRPH	NWTPH-Gx	mg/kg	<2	0.0
Benzene	EPA Method 8021B	mg/kg	<0.02	0.03
Toluene	EPA Method 8021B	mg/kg	<0.02	7
Ethylbenzene	EPA Method 8021B	mg/kg	<0.02	6
Total xylenes	EPA Method 8021B	mg/kg	<0.06	9
DRPH	NWTPH-Dx	mg/kg	<50	2,000
ORPH	NWTPH-Dx	mg/kg	<250	2,000
PCE	EPA Method 8260C	mg/kg	<0.025	0.05
TCE	EPA Method 8260C	mg/kg	<0.03	0.03
Vinyl chloride	EPA Method 8260C	mg/kg	<0.05	0.67
cis-1,2-DCE	EPA Method 8260C	mg/kg	<0.05	160
Water				
GRPH	NWTPH-Gx	µg/L	<100	800/1,000(3)/100,000(4)
Benzene	EPA Method 8021B	µg/L	<1	5/NE
Toluene	EPA Method 8021B	µg/L	<1	1,000/NE
Ethylbenzene	EPA Method 8021B	µg/L	<1	700/NE
Total xylenes	EPA Method 8021B	µg/L	<3	1,000/NE
DRPH	NWTPH-Dx	µg/L	<50	500/100,000(4)
ORPH	NWTPH-Dx	µg/L	<250	500/100,000(4)
PCE	EPA Method 8021B	µg/L	<1	5/NE
TCE	EPA Method 8260C	µg/L	<1	5/NE
Vinyl chloride	EPA Method 8260C	µg/L	<0.2	0.2/NE
cis-1,2-DCE	EPA Method 8260C	µg/L	<1	16/NE

NOTES:

(1)Standard laboratory PQLs for Friedman & Bruya, Inc.

(2)MTCA Method A or B Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

(3)Cleanup levels for gasoline in soil and groundwater without benzene are 100 mg/kg and 1,000 µg/L, respectively. Cleanup levels for gasoline in soil and groundwater that also contain benzene are 30 mg/kg and 800 µg/L, respectively.

(4)King County Industrial Waste Local Discharge Limit.

µg/L = micrograms per liter
cis-1,2-DCE = cis-1,2-dichloroethylene
DRPH = diesel-range petroleum hydrocarbons
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
mg/kg = milligrams per kilogram
MTCA = Washington State Model Toxics Control Act
NE = no King County Industrial Waste Local Discharge Limit established
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
PQL = practical quantitation limit
TCE = trichloroethylene

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Table E-4
Quantitative Goals of Data Quality Objectives
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Analyte	Analytical Method	Precision[1]	Accuracy[2]			Completeness	Sensitivity[4]
		RPD (%)	Surrogate (% Recovery)	MS (% Recovery)	LCS (% Recovery)	(%)[3]	PQL[5]
Soil							
GRPH	NWTPH-Gx	20	50-150	50-150	50-150	95	<2
Benzene	EPA Method 8021B	20	50-150	50-150	50-150	95	<0.02
Toluene	EPA Method 8021B	20	50-150	50-150	50-150	95	<0.02
Ethylbenzene	EPA Method 8021B	20	50-150	50-150	50-150	95	<0.02
Total Xylenes	EPA Method 8021B	20	50-150	50-150	50-150	95	<0.06
DRPH	NWTPH-Dx	20	50-150	50-150	50-150	95	<50
OPRH	NWTPH-Dx	20	50-150	50-150	50-150	95	<250
PCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<0.025
TCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<0.03
Vinyl Chloride	EPA Method 8260C	20	36-160	36-160	50-150	95	<0.05
cis-1,2-DCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<0.05
Water							
GRPH	NWTPH-Gx	20	50-150	50-150	50-150	95	<100
Benzene	EPA Method 8021B	20	50-150	50-150	50-150	95	<1
Toluene	EPA Method 8021B	20	50-150	50-150	50-150	95	<1
Ethylbenzene	EPA Method 8021B	20	50-150	50-150	50-150	95	<1
Total Xylenes	EPA Method 8021B	20	50-150	50-150	50-150	95	<3
DRPH	NWTPH-Dx	20	50-150	50-150	50-150	95	<50
OPRH	NWTPH-Dx	20	50-150	50-150	50-150	95	<250
PCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<1
TCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<1
Vinyl Chloride	EPA Method 8260C	20	36-160	36-160	50-150	95	<0.2
cis-1,2-DCE	EPA Method 8260C	20	36-160	36-160	50-150	95	<1

NOTES:

[1] Precision measured in RPD between sample and lab duplicate, LCS and LCS duplicate, and/or MS and MS duplicate.

[2] Laboratory to follow in accordance with the EPA SW-846 and Ecology methods and procedures for inorganic and organic chemical analyses. Method Blanks will be analyzed for each analyte in addition to the quantitative data quality objectives listed in this table.

[3] Refers to the minimum acceptable percentages of samples received at the laboratory in good condition that are acceptable for analysis.

[4] Sensitivity is measured by the laboratory PQL for each analyte.

[5] Standard PQLs for Friedman & Bruya, Inc., standard PQLs.

cis-1,2-DCE = cis-1,2-dichloroethylene
DRPH = diesel-range petroleum hydrocarbons
Ecology = Washington State Department of Ecology
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
LCS = laboratory control sample
MS = matrix spike
NWTPH = Northwest Total Petroleum Hydrocarbon Method
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethylene
PQL = practical quantitation limit
RPD = relative percent difference
TCE = trichloroethylene

ATTACHMENT A

FIELD FORMS

SoundEarth Strategies

DRUM INVENTORY SHEET

Site Name: ______________________
Site Address: ______________________
Reason for Site Visit: ______________________
Date of Inventory: ______________________
Field Personnel: ______________________
____

Drum #[1] (eg. 001)	Content Information	Date(s) Accumulated	Fullness (%)	Sample Analysis Performed?	Composite Soil Sample (RCRA 8 metals) [2] (Y/N)	Saturated Soil[3] (Y/N)	Drum Labeled (Y/N)	Drum Location Photo (Y/N)	Drum Access[4]
Eg. 001	Soil, B05, 5'-15'	2/3/10	100%	Gx, BTEX	Y	N	Y	Y	Combo lock #xxxx
Eg. 002	Purge Water	2/3/10	100%	Gx, BTEX	N/A	N/A	Y	Y	Combo lock #xxxx

NOTES:

[1] Drum #— Write the Drum # on the drum lid, as well as on the non-hazardous or hazardous waste labels.

[2] Composite Soil Sample—For all sites, collect one composite soil sample from each drum onsite. Place sample on hold at the laboratory, for future RCRA 8 metals analysis. Collect sample in one-4 ounce jar.

[3] Saturated soil—Add bentonite chips or kitty litter to the water that has accumulated or may accumulate inside the drum. Bentonite chips available in the garage.

[4] Drum access for pickup—(eg. fenced, owner notification, lock combination?)

Page ________ of ________

SAMPLE CHAIN OF CUSTODY

Send Report to ______________________________

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS *(signature)*

PROJECT NAME/NO.	PO #

REMARKS

Page # _________ of _________

TURNAROUND TIME
Standard (2 Weeks)
RUSH____________________
Rush charges authorized by:
____

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

								ANALYSES REQUESTED								
Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	DRPH & ORPH by NWTPH-Dx	GRPH by NWTPH-Gx	VOCs by EPA 8260C	RCRA 8 Metals by EPA 200.8 & 1631E					Notes

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:				
Received by:				
Relinquished by:				
Received by:				

SoundEarth Strategies
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
P: (206) 306-1900 F: (206) 306-1907

FIELD REPORT

Page 1 of ___

Client & Site Name/Number:		**SoundEarth Project Number:**	**Date:**
Site Address:		**Purpose of Visit/Task #:**	**Field Report Prepared by:**
Temp/Weather:	**Permit Required to Work:**	**Time of Arrival/Departure** (2400): _______ onsite to _______ offsite	**Personnel Onsite:**

Attachments:

Client: _____________ **Project No.:**_____________

Site Name/Number: _____________ **Date:**_____________

Page 2 of ____

Client: _____________ **Project No.:_____________**

Site Name/Number: _____________ **Date:_____________**

Page 3 of ____

SoundEarth Strategies

GROUNDWATER PURGE AND SAMPLE FORM
LOW FLOW PUMP

General Info

Client: ____________ Project #: ____________

Site Name/ #: ____________ Field/Sampling Personnel: ____________ **Well ID Number:** ____________

Well Details

Total Depth (TD)	Depth to Water (DTW) (Immediately Prior to Purging)	Water Column (WC) =TD-DTW	Casing Diameter Volume Conversion Factor (VC)					Casing Volume =WC x VC
			0.75”	1”	2”	4”	6”	
Feet BTOC	Feet BTOC	Feet BTOC	0.023	0.041	0.16	0.65	1.44	gallons

Screened Interval: ________ to ________ Feet bgs

Screen Submerged? ☐ **NO** ⟹ Place tubing intake 2 to 3 feet below depth to water
☐ **YES** ⟹ Place tubing intake at approximate center of screen

Equipment

Pump Method: ☐ Peristaltic ☐ Other: ________ Owner/ID #: ________ **Water Quality Meter** Brand/Model: ________ Owner/ID #: ________

Water Level Instrument: ☐ WL Meter ☐ Bubbler ☐ Interface ☐ Other: ________ Owner/ID #: ________

Sampling

Depth of Tubing Intake: ______ Feet BTOC Time Start Purge: ________

Time (3-5 min intervals)	Water Level (feet) drawdown <0.33 feet	**Purge Rate** (L/min) 0.1 – 0.5	**pH**[1] *± 0.1*	**Specific Conductivity**[1] **UNITS:** ________ *± 3%*	**Turbidity**[1] (NTU) *If ≥10, ±10%* *if <10, stabilized*	**Dissolved Oxygen**[1] (mg/L) *If ≥1.00, ± 10%* *if ≤1.00, ± 0.2*	Temperature (ºC)	ORP (mV)
Minimum # of Readings								

Sample Date: ________ **Sample Time:** ________ **Field Duplicate Sample Time:** ________ **Time Sampling Ended:** ________

Sampling Comments: ________________

Analytical

Sample Number/ID	Container Type	Preservative	Field Filtered?			Analysis Request
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	

Purge Water

Sheen? ☐ NO ☐ YES **Odor?** ☐ NO ☐ YES ⟹ Describe: ________ Color (describe): ________

Total Discharged (1Gal = 3.88 liter): ________ gallons Disposal Method: ☐ Drummed ☐ Remediation System ☐ Other: ________

Well Condition

Well/Security Devices in good condition (i.e.: Monument, Bolts, Seals, J-cap, Lock)? ☐ YES ☐ NO ⟹ Describe: ________

Water in Monument? ☐ NO ☐YES ⟹ Describe: ________

Additional Well Condition Comments or Explanation of any Access Issues: ________

---

[1] At minimum, pH, specific conductivity, and dissolved oxygen and/or turbidity must stabilize within the limits (indicated in *italics*) for three successive readings prior to sampling.

GROUNDWATER PURGE AND SAMPLE FORM
LOW FLOW PUMP – *Continued*

General Info

Client: ________________

Project #: ________________________

Site Name/ #: ________________

Field/Sampling Personnel: ________________________

Well ID Number: ____________________________

See Page 1 for well construction and purge water information

Sample Date: ________________ **Sample Time:** ____________ **Field Duplicate Sample Time:** ______________ **Time Sampling Ended:** ______________

Sampling *(Continued from Page 1)*

Time (3-5 min intervals)	Water Level (feet) drawdown <0.33 feet	**Purge Rate** (L/min) 0.1 – 0.5	**pH**[1] *± 0.1*	**Specific Conductivity**[1] **UNITS:** __________ *± 3%*	**Turbidity**[1] (NTU) *If ≥10, ±10%* *if <10, stabilized*	**Dissolved Oxygen**[1] (mg/L) *If ≥1.00, ± 10%* *if ≤1.00, ± 0.2*	Temperature (ºC)	ORP (mV)

Additional Sampling Comments: ____

---

[1] At minimum, pH, specific conductivity, and dissolved oxygen and/or turbidity must stabilize within the limits (indicated in *italics*) for three successive readings prior to sampling.

Material Import and Export Summary

Truck Company	Truck Number	Date	Time	Volume (note: tons or yards)	Type of Material	Destination of Material

FRIEDMAN & BRUYA, INC.

Client:

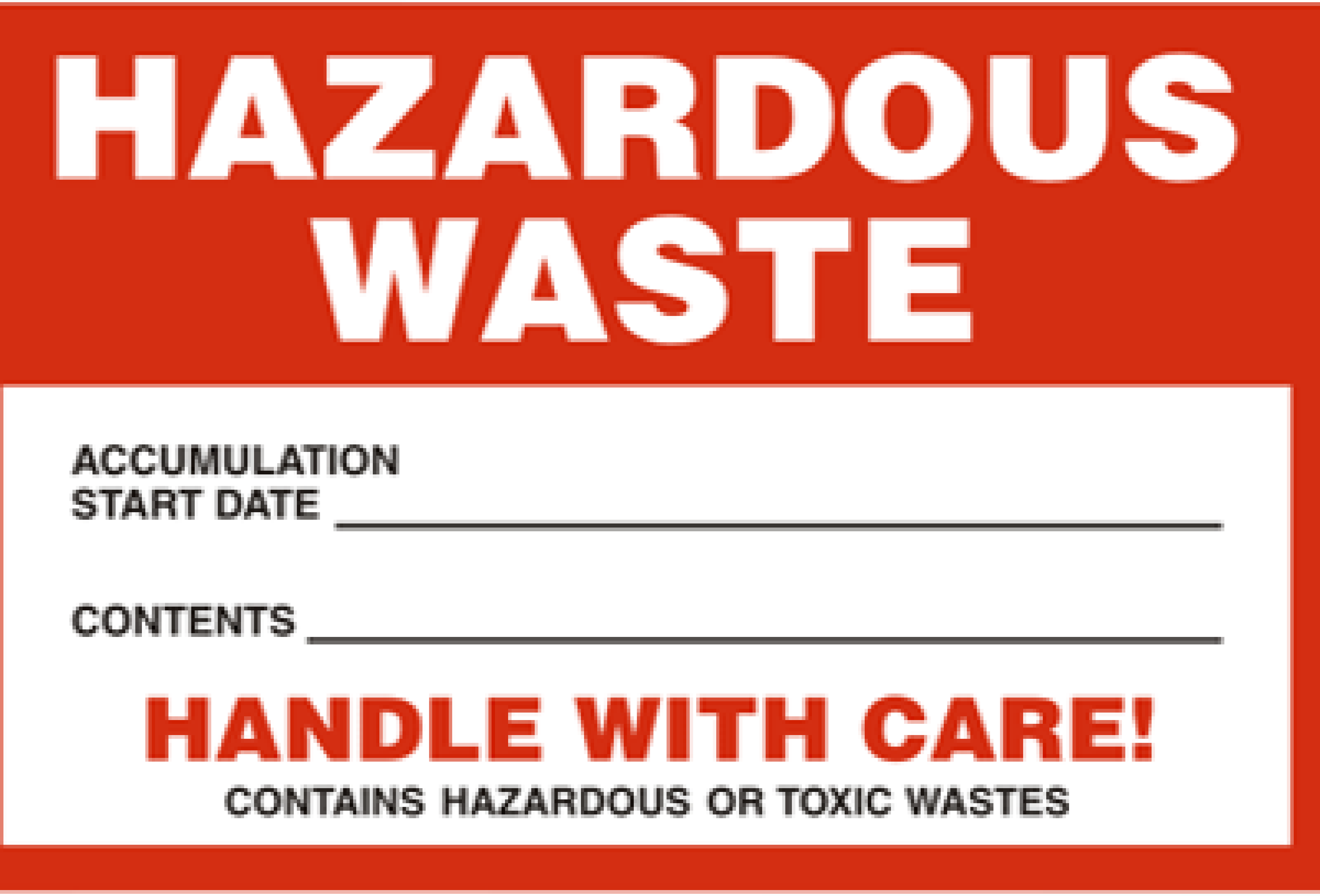
Sample ID:

Date Sampled: Time:

Project:

Analysis Request:

Preservative:



HAZARDOUS WASTE

ACCUMULATION
START DATE ______________________________

CONTENTS ______________________________

HANDLE WITH CARE!

CONTAINS HAZARDOUS OR TOXIC WASTES

NON-HAZARDOUS

WASTE

GENERATOR INFORMATION (Optional)

SHIPPER ________________________________

ADDRESS ________________________________

CITY, STATE, ZIP __________________________

CONTENTS _______________________________

____

APPENDIX F

PROJECT-SPECIFIC HEALTH AND SAFETY PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

PROJECT-SPECIFIC HEALTH AND SAFETY PLAN

APPENDIX F OF THE CLEANUP ACTION PLAN

Property:
700 Dexter Property
700 Dexter Avenue North
Seattle, Washington

Prepared for:
Frontier Environmental Management, LLC
1821 Blake Street, Suite 3C
Denver, Colorado

Report Date:
January 31, 2014

DRAFT – ISSUED FOR ECOLOGY REVIEW

Project-Specific Health and Safety Plan

Prepared for:

Frontier Environmental Management, LLC
1821 Blake Street, Suite 3C
Denver, Colorado 80202

700 Dexter Property
700 Dexter Avenue North
Seattle, Washington 98109

Project No.: 0797-001

Prepared by:

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SoundEarth Strategies

HAZARD SUMMARY

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Project-specific Health and Safety Plan (HASP) for the 700 Dexter Property, located at 700 Dexter Avenue North in Seattle, Washington (the Property). The Project-specific HASP was written in general accordance with the Washington State Model Toxics Control Act (MTCA) as promulgated in Chapter 173-340-350 of the Washington Administrative Code.

PROPERTY DESCRIPTION

The Property consists of the entire block formed by the intersection of Dexter Avenue North, Valley Street, 8th Avenue North, and Roy Street. A commercial laundry facility operated on the Property between 1925 and the 1980s. Dry cleaning activities reportedly occurred on the Property from the mid-1960s through the 1980s. Four 6,000-gallon underground storage tanks (USTs), formerly used for the storage of fuel oil, were also present on the Property. The use of these tanks was discontinued in the 1980s.

A commercial gasoline service station operated on the northwest portion of the Property between 1931 and 1966. The facility was removed in order the construct the current 1966-vintage commercial laundry building. Construction of this building included a 20-foot-deep excavation for a basement. A second gasoline fueling facility was constructed on the northeast corner of the Property in 1946. This facility was used for refueling delivery trucks for the American Linen Supply Company. The USTs for this facility were removed in 1990.

Numerous environmental investigations were conducted at the Property between 1992 and 2013. The investigations confirmed releases of chlorinated solvents and petroleum hydrocarbons to soil and groundwater at concentrations exceeding Washington State MTCA cleanup levels. Tetrachloroethylene concentrations indicative of dense nonaqueous-phase liquid have been observed in groundwater beneath the Property.

PROJECT HAZARDS

Hazards present for the project.

<u>Chemical</u>

- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- Cis-1,2-Dichloroethylene (cis-1,2-DCE)
- Trans-1,2-Dichloroethylene
- Vinyl chloride
- Diesel-range petroleum hydrocarbons (DRPH)
- Gasoline-range petroleum hydrocarbons (GRPH)
- Oil-range petroleum hydrocarbons (ORPH)

HAZARD SUMMARY (CONTINUED)

- Benzene
- Toluene
- Ethylbenzene
- Xylenes

Physical

- Heavy equipment
- Demolition equipment
- Chemical exposure
- Traffic
- Noise
- Slips/trips/falls/cuts
- Unsecure/uncontrolled site
- Potential flammable/explosive equipment

Electrical Resistance Heating

- Electrical voltages
- High temperatures
- Steam

Field Activities

- Drilling
- Subsurface soil and groundwater sampling
- Construct, operate, and monitor an electrical resistance heating (ERH) and soil vapor extraction (SVE) system
- Injection of edible oil substrate.

The following hazard controls, based on the tasks identified in the Fieldwork Activities above, are required for employees of SoundEarth while performing work on the Property:

- Level D personal protective equipment (PPE), which includes hard hats, steel-toed boots, safety glasses, and a reflective safety vest
- Traffic control devices in compliance with traffic control plans required for individual borings; delineators and/or traffic cones around drill rig
- Hearing protection
- Traffic control

HAZARD SUMMARY (CONTINUED)

- Caution tape
- Metal plates

Required Air Monitoring During Subsurface Investigations

- Vinyl chloride colorimetric gas detection tubes in areas known to contain TCE and its degradation products.
- Breathing space monitoring with photoionization detector (PID).

This hazard summary is presented solely for introductory purposes, and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the project, Property conditions, investigation methods, and investigation results can be found in previous reports referenced in Section 5.1.1, Reports that Provide Chemical Data.

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ATTACHMENTS

1.0 INTRODUCTION

This Project-specific Health and Safety Plan (HASP) was written for the use of SoundEarth Strategies, Inc. (SoundEarth) and its employees. The health and safety and emergency response protocols outlined in this plan are designed to ensure compliance with state and federal regulations governing worker safety on hazardous waste sites. The Department of Labor has published final rules (Part 1910.120 of Title 29 of the Code of Federal Regulations, March 6, 1990) that amend the existing part per million (ppm).

Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations and emergency response. Within the state of Washington, these requirements are addressed in Chapter 296-843 of the Washington Administrative Code, Hazardous Waste Operations. These regulations apply to the activities to be performed at this Property as a remediation, or cleanup, under the Federal Resource Conservation and Recovery Act of 1976 and/or the Washington State Model Toxics Control Act (MTCA).

Subcontractors to SoundEarth are required to prepare and effectively implement their own HASP based on their unique scope of work and professional expertise. Each subcontractor's HASP must comply with all applicable federal, state, and local regulations. The subcontractor's HASP should employ appropriate best practices to protect all personnel working on the Property, as well as the public, and to prevent negative impacts to the project.

The responsibilities of SoundEarth for safety on this Property are limited to:

- Implementation of the provisions of this HASP for the protection of its employees and visitors on the Property to the extent that the Property and its hazards are under the control of SoundEarth.
- **Protection of the Property**, other personnel, and the public from damage, injury, or illness as a result of the activities of SoundEarth and its employees while on the Property.
- **Provision** of additional safety-related advice and/or management as contractually determined between the parties.

This plan is active for this Property until 1 year from the date of the HASP or until SoundEarth implements a scope of work change not covered by this HASP, whichever comes first, after which time it must be reviewed and extended.

NOTE: Reference identifications (08-01, Project Responsibilities through 08-23, Work Near Water) incorporated into this Project-specific HASP refer to the *HASP Reference Manual*, prepared by SoundEarth and dated January 2011, which is a stand-alone document that compiles detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this Project-specific HASP. The *HASP Reference Manual* and this Project-specific HASP **MUST** be present at the Site during field activities.

2.0 PROPERTY INFORMATION

Name: 700 Dexter Property
Address: 700 Dexter Avenue North, Seattle, Washington
Owner: Frontier Environmental Management, LLC
Tenant: None
Nature of Activities at this Property: Vacant

3.0 PROJECT RESPONSIBILITIES

Personnel shall acknowledge that they have reviewed a copy of the HASP for this project, that they understand it, and that they agree to comply with all of its provisions by signing and dating the Acknowledgement and Agreement form found in Attachment A.

A daily health and safety tailgate meeting shall take place at the start of every day in the field. Persons attending this meeting are to print and sign their name on the attached Daily Health and Safety Briefing Log, found in Attachment B.

(Reference 08-01, Project Responsibilities, provides more information.)

Project Manager: Tom Cammarata
Health and Safety Officer: Charles C Cacek
Principal-in-Charge: John Funderburk
Corporate Health and Safety Administrators: Chris Carter, John Funderburk
Certified Industrial Hygienist (CIH) working for SoundEarth: Michelle Copeland from Occupational Safety Resource Inc., Seattle, Washington

4.0 EMERGENCY INFORMATION

For a critical emergency, 911 should be called. (The definition of critical emergency can be found in Reference 08-02, Emergency Response Plan. If there is any doubt, call 911 immediately. Institute First Aid measures, including CPR (cardiopulmonary resuscitation), as appropriate).

Note: A SoundEarth employee MAY NOT transport a non-SoundEarth employee off of the Property for medical attention.

Local Emergency Numbers		
Institution/Department	**Name/Address**	**Phone Number**
Hospital	Virginia Mason 1100 9th Avenue Seattle, Washington	911 or 206-223-6600
Ambulance		911
Police/Sheriff	Seattle Police Department 610 5th Avenue Seattle, Washington	911
Fire	Seattle Fire Department 301 2nd Avenue South Seattle, Washington	911

Project Emergency Numbers		
Title	**Name**	**Phone Number**
Project Manager	Tom Cammarata	O: 206-436-5940 C: 206-261-8046
Site Manager/Health and Safety Officer	Charles Cacek	O: 206-436-5904 C: 206-300-6237
Principal-in-Charge	John Funderburk	O: 206-436-5933 C: 425-922-9922
Corporate Health and Safety Representative	Chris Carter	O: 206-436-5905 C: 206-618-0306
Certified Industrial Hygienist working for SoundEarth	Michelle Copeland	O: 206-729-5018 C: 206-612-6355
TRS Group Inc. (TRS) Site Health and Safety Officer	Doug Seiler	C: 360-430-8876

Attachment C, Hospital Route, provides the location and driving directions. The route must be posted at the Site.

5.0 GENERAL PROJECT HAZARD ANALYSIS

This section is used to determine the project's potential health and safety hazards specifically as they relate to the Property where the work will occur. Task-related hazards are analyzed in Section 6.0, Task-Related Site Hazard Control Summary.

5.1 GENERAL PROJECT HAZARD ANALYSIS—CHEMICAL

This section describes and identifies potential and known chemical hazards that may be encountered at the Property (summarized in Table 1). Reference 08-03, Chemical Hazards Analysis, provides more information.

5.1.1 Reports that Provide Chemical Data

- SoundEarth Strategies, Inc. *Remedial Investigation Report, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington*. 2013-In review.
- SoundEarth Strategies, Inc. *Feasibility Study Report, 700 Dexter Property, 700 Dexter Avenue North, Seattle, Washington.* 2013-In review.

5.1.2 Summary of Potential Chemical Hazards

- PCE, TCE, cis- and trans-1,2 DCE, and vinyl chloride in soil and groundwater.
- GRPH, DRPH, ORPH and benzene, toluene, ethylbenzene, and total xylenes in soil and groundwater.

5.1.3 Past Opportunities for Chemical Contamination

The Property formerly contained a dry-cleaning facility from approximately the mid-1960s through the mid-1980s. Four medium-sized, 6,000-gallon USTs that contained fuel oil also existed within the 1947 building. The use of these USTs was discontinued in the 1980s when the facility was renovated for the use of natural gas to operate the boilers.

An early-era commercial gasoline service station was operated on the northwest corner of the Property from 1931 until 1966, when the present commercial laundry building was constructed with a basement floor that required a 20-foot-deep excavation. A second gasoline fueling operation was constructed in 1946 in the northeast corner of the Property. The USTs for this area were removed in 1990.

Environmental investigations conducted at the Property from 1992 to 2013 confirmed releases of chlorinated solvents and petroleum hydrocarbons to soil and groundwater from the historical dry cleaning and fueling operations, and contaminant concentrations in soil and groundwater in excess of applicable cleanup criteria established under MTCA.

5.1.4 Opportunities for Unknown or Unidentified Chemical Contamination

None identified in previous investigations.

5.1.5 Existing Controls in Place

The Property is currently capped by asphalt and concrete, preventing direct contact with contaminated soil and/or groundwater.

5.1.6 Chemical Analytical Results

For the applicable media, refer to the document/report that contains the table with analytical data. Identified chemicals are included in Table 1 below.

- Summary of Soil Analytical Results (Table 1 of the 2010 Cleanup Action Plan)
- Summary of Groundwater Analytical Results (Table 2 of the 2010 Cleanup Action Plan)

TABLE 1 CHEMICAL HAZARDS

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure	Exposure Symptoms	Target Organs	Recommended PPE	Recommended Monitoring/ Sampling Method
			Warning Properties			**Respiratory Protection**	
1,2-DCE (1,2-Dichloroethylene)	DOSH PEL: 200 ppm TWA 250 ppm STEL	NIOSH REL: 200 ppm TWA IDLH: 1,000 ppm FP: 36–39°F LEL: 5.6%	Inhalation, ingestion, skin or eye contact	Eye and respiratory system irritation, central nervous system depression	Eyes, respiratory system, central nervous system	■ Impermeable, chemical-resistant, disposable clothing ■ Silver Shield/ composite glove	If potential for exposure exists: ■ Initial personal air sampling ■ Additional sampling if necessary based on initial results ■ Verify method with laboratory prior to ordering media and equipment Real Time: ■ 10.2 or 10.6 eV PID
			Slightly acidic, chloroform-like odor			If PEL is exceeded, min SA continuous flow or PAPR OV cartridge	

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure	Exposure Symptoms	Target Organs	Recommended PPE	Recommended Monitoring/ Sampling Method
			Warning Properties			**Respiratory Protection**	
Benzene (component of gasoline)	DOSH PEL: 1 ppm TWA 5 ppm STEL DOSH AL: 0.5 ppm TWA	NIOSH REL: 0.1 ppm TWA 1 ppm STEL IDLH: 500 ppm FP: 12°F LEL: 1.2% Carcinogen	Inhalation, ingestion, skin absorption, eye contact	Irritation of eyes, skin, nose, respiratory system; dizziness; headache; nausea (Carcinogen)	Eyes, skin, respiratory system, blood, central nervous system, bone marrow	▪ Impermeable, disposable clothing ▪ Nitrile or Neoprene gloves ▪ Min ½ Mask AP/HEPA	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ Detector Tube ▪ 10.2 or 10.6 eV PID
			Aromatic odor			If PEL is exceeded, min full-face SA respirator in positive pressure/ pressure demand mode. ▪ Higher APF if per air monitoring	

Chemical (or Class)	**DOSH PEL/AL (OSHA PEL if different)**	**Other Pertinent Limits**	**Routes of Exposure** **Warning Properties**	**Exposure Symptoms**	**Target Organs**	**Recommended PPE** **Respiratory Protection**	**Recommended Monitoring/ Sampling Method**
Tetra-chloroethylene (PCE)	DOSH PEL 25 ppm TWA 38 ppm STEL Skin OSHA PEL 100 ppm TWA	IDLH: 150 ppm Carcinogen	Inhalation, ingestion, skin absorption, skin or eye contact Mild, chloroform-like odor	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	■ Impermeable, chemical resistant disposable clothing ■ Nitrile ■ If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ■ Initial personal air sampling ■ Additional sampling if necessary based on initial results ■ Verify method with laboratory prior to ordering media and equipment Real Time: 10.2 or 10.6 eV PID
TPH as Diesel (petroleum distillates as a surrogate)	DOSH PEL: 100 ppm TWA 150 ppm STEL OSHA PEL: 500 ppm TWA	NIOSH REL: 86 ppm TWA 444 ppm STEL IDLH: 1,100 ppm FP: -40 to -86°F LEL: 1.1%	Inhalation, ingestion, skin or eye contact Gasoline or kerosene-like odor	Irritation of eyes, nose, throat; dizziness; drowsiness; headache; nausea; dry cracked skin; inflammation of lungs	Eyes, skin, respiratory system, central nervous system	■ Impermeable, chemical-resistant, disposable clothing ■ Nitrile or Neoprene gloves If PEL is exceeded, any SA respirator	If potential for exposure exists: ■ Initial personal air sampling ■ Additional sampling if necessary based on initial results ■ Verify method with laboratory prior to ordering media and equipment Real Time: ■ 10.2 or 10.6 eV PID

Chemical (or Class)	**DOSH PEL/AL (OSHA PEL if different)**	**Other Pertinent Limits**	**Routes of Exposure** **Warning Properties**	**Exposure Symptoms**	**Target Organs**	**Recommended PPE** **Respiratory Protection**	**Recommended Monitoring/ Sampling Method**
TPH as Gasoline	DOSH PEL: 300 ppm TWA 500 ppm STEL OSHA PEL: None	FP: -45°F LEL: 1.4% Carcinogen	Inhalation, ingestion, skin absorption, skin or eye contact Characteristic odor	Irritation of eyes, skin, and mucous membranes; inflammation of skin and lungs; headache; weakness; exhaustion; blurred vision; dizziness, slurred speech; confusion; convulsions; possible liver and kidney damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, central nervous system, liver, kidneys	▪ Impermeable, chemical-resistant, disposable clothing ▪ Nitrile gloves If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE Respiratory Protection	Recommended Monitoring/ Sampling Method
Trichloroethylene	DOSH PEL: 50 ppm TWA 200 ppm STEL OSHA PEL: 100 ppm TWA 200 ppm C 300 ppm (5k-minute maximum peak in any 2 hours)	NIOSH REL: 25 ppm TWA (10-hour) IDLH: 1,000 ppm LEL: 8% Carcinogen	Inhalation, skin absorption, ingestion, skin or eye contact Chloroform-like odor	Irritation of eyes and skin; headache; visual disturbance; weakness; exhaustion; dizziness; tremor; drowsiness; nausea; vomiting; tingling, pricking, and inflammation of skin; cardiac arrhythmias; liver injury (potential occupational carcinogen)	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	■ Impermeable, chemical resistant disposable clothing ■ Nitrile gloves If PEL is exceeded, min full-face SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ■ Initial personal air sampling ■ Additional sampling if necessary based on initial results ■ Verify method with laboratory prior to ordering media and equipment Real Time: ■ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE Respiratory Protection	Recommended Monitoring/ Sampling Method
Vinyl Chloride	DOSH PEL 1 ppm TWA 5 ppm STEL OSHA PEL 1 ppm TWA 5 ppm C (15 minute)	FP: N/A (gas) LEL: 3.6% Carcinogen	Inhalation, ingestion, skin or eye contact Pleasant odor at high concentrations	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Liver, central nervous system, blood, respiratory system, lymphatic system	▪ Impermeable, chemical resistant disposable clothing ▪ Silver Shield / composite gloves ▪ If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

NOTES:

The NIOSH Pocket Guide provides more information for the chemical in question or for a chemical not listed.

AL = action limit
AP = air purifying respirator
APF = assigned protection factor
C = ceiling exposure limit
DOSH = Washington State Department of Labor and Industries, Division of Occupational Safety and Health (formerly the Washington Industrial Safety and Health Act)
eV = electron volt
°F = degrees Fahrenheit
FP = flash point
HEPA = high efficiency particulate air cartridge
IDLH = immediately dangerous to life and health
LEL = lower explosive limit
min = minimum
N/A = not applicable
NIOSH = National Institute of Safety and Health
OSHA = Occupational Safety and Health Administration
OV = organic vapor cartridge
PAPR = powered air purifying respirator
PEL = permissible exposure limit
PID = photoionization detector
PPE = personal protective equipment
ppm = parts per million
REL = recommended exposure limit
SA = supplied air respirator
STEL = short-term exposure limit, 15 minutes, unless otherwise noted
TPH = total petroleum hydrocarbon
TWA = time-weighted average

5.1.7 Protection Against Chemical Hazards

5.1.7.1 PPE

The minimum PPE on any SoundEarth worksite includes safety vest, safety glasses, steel-toed work shoes or boots, hearing protection around noisy operations, and hard hat where there is an overhead hazard. Unless otherwise specified, nitrile or neoprene gloves should be worn when collecting samples.

All PPE must be properly fitted to each employee who will use it. It must be kept clean, sanitary, and properly maintained. Cleaning is particularly important for eye and face protection, because dirty or fogged lenses could impair vision. Personnel must inspect, clean, and maintain PPE according to the manufacturers' instructions before and after each use. The Site Manager/Health and Safety Officer can answer any questions about the appropriate PPE for the project or the correct care of it.

In addition to minimum level D PPE, workers in direct contact with potentially impacted soil and groundwater will wear double nitrile gloves. Outer gloves will be replaced after each contact, and both inner and outer gloves will be replaced after no longer than 1 hour. Alternatively, Viton gloves may be used.

5.1.7.2 Air Monitoring

Air monitoring will be performed with a PID equipped with a 10.8 eV lamp on a continuous basis, with recording capability and alarm at pre-determined set point of 5 ppm or periodically (usually between 15 minutes and 1 hour, depending on the location) with manually recorded data. If exceedances of 5 ppm occur, monitoring frequency will be reduced to 5 minutes. If the subsequent reading in excess of 5 ppm occurs, workers will utilize half-face or full face respirators with volatile organic compound cartridges until reading drop below 5 ppm.

If elevated vapors are deemed present by PID monitoring, vinyl chloride colorimetric gas detection tubes will be utilized on a daily basis during the greatest risk of exposure.

5.1.7.3 Investigation-Derived Waste Monitoring and Spill Response

Investigation-derived waste, including soil and groundwater, will be stored in 55-gallon drums or other appropriate containment devices.

In the event that a release occurs from the drum storage a satellite accumulation area, spilled media would be swept up or contained with sorbent booms which will be stored on the Property in case of such an event. As with other site work, potential exposure will be monitored by way of PID screening, and appropriate PPE will be utilized accordingly.

5.2 GENERAL SITE HAZARD ANALYSIS—PHYSICAL

This section addresses known and potential physical hazards specific to the Property. Reference 08-04, Physical Hazards Analysis, provides more information. Worksite documents provided by the client/owner/tenant can be helpful to identify Project specific physical hazards (non-SoundEarth HASPs, Traffic Control Plans, Operation and Maintenance Plans, and others documents).

5.2.1 General Project-Specific Physical Hazards

Described below are physical hazards that may be encountered while on the Site:

- Heavy equipment (fork lift, drill rig, support vehicle, all operated by drilling subcontractor)
- Traffic
- Noise—Use of 17 decibel reduction hearing protection
- Slips/trips/falls/cuts
- Unsecure/uncontrolled site—measures taken to secure and control the site include:
    - Barriers to drilling and sampling areas
    - Traffic control plans to limited non-worker access to work zones

5.2.2 Utility Hazards

Described below are utility hazards that are present at the Site. The Utilities Underground Location Center was called at 800-424-5555, private locates have been completed for all boring locations, side sewer cards should be reviewed, owner/tenant documents should be reviewed, and the Site should be visually inspected.

5.2.2.1 Underground Utilities (Reference 08-19, Underground Services Location and Protection)

- Cable, natural gas, water, phone, and sanitary sewer

5.2.2.2 Overhead Utilities (Reference 08-10, Electrical Safety)

- Overhead power: observed lines and identified with One-Call Location Service and private locate

Overhead power located along the east side of 8th Avenue North is 26 kV service. The drilling contractor indicated they will maintain a working distance of 15 feet from the lines. At no point during setup or operation will the drilling mast be closer than 15 feet to the lines.

5.3 GENERAL SITE HAZARD ANALYSIS—ELECTRICAL RESISTANCE HEATING

This section describes and identifies potential and known ERH system operational hazards that may be encountered at the Property, courtesy of TRS Group, Inc. (TRS). The following subsections are direct excerpts from Section 3.4 of the TRS Health and Safety Plan Electrical Resistance Heating for 700 Dexter Avenue dated May 2013.

5.3.1 Electrical Voltages

Dangerous voltages will be present in the subsurface of the ERH field during heating operations. Startup and initial unattended operations of the ERH power control unit are performed only when the ERH Start-Up Checklist has been completed and signed off by the appropriate TRS operations personnel in accordance with TRS internal Standard Operating Procedure (SOP) 1.2, Application of Electrical Power to ERH Sites.

In the Treatment Area, the region containing the electrode field will be a personnel restricted zone. During start-up, a reduced voltage will be applied to the electrodes. Specifically trained TRS personnel will carefully survey and log the surfaces of the electrode field for step-and-touch electrical potential measurements in accordance with TRS internal SOP 1.3, Voltage Surveys.

Multiple points will be measured; however, only points with greater than 1 volt will be logged. The measured step-and-touch voltage potentials will be compared to TRS's internal policy limit.

The TRS electrical safety policy limit for exposed voltage is:

15 volts alternative current (VAC) for all Touch Potentials

30 VAC for all Step-and-Step Potentials

This limit provides a margin of safety beyond the OSHA limit of 50 volts. In general, the step-and-touch voltages will increase in proportion to the electrode voltage (a doubling of the applied electrode voltages will tend to double all of the step-and-touch voltages). If some surface-voltage potentials are marginal, personnel can correct the problem implementing the following engineering controls:

- Connect the subject voltage location to an electrically neutral location.
- Electrically insulate/isolate the subject voltage location so that personnel cannot make contact with the location.
- Create and ERH Exclusion Zone to isolate a specific area of concern and prevent any personnel from entering the area.

The above engineering controls are the preferred correction methods for mitigating surface voltage potentials.

During start-up of the ERH system, the voltage applied to the electrodes will be slowly increased. During this voltage ramp-up, the step-and-touch voltage surveys area completed repeatedly in accordance with SOP 1.2 and 1.3. Special attention is directed toward metal objects located within 50 feet of the electrode field.

5.3.2 High temperatures

The application of ERH will increase subsurface soil and water temperatures and increase the temperature of electrode and vapor recovery (VR) system components. Typically, the electrodes do not get any hotter than the boiling point of the contaminant/water mix at depth. Electrodes are constructed inside polyvinyl chloride over sleeves and caps that protect the operators from both hazardous voltages and high temperatures during ERH operation. Following ERH shutdown, it may take several days or weeks for the electrodes to cool below a safe handling temperature of 60 degrees Celsius or 140 degrees Fahrenheit. Severe burns may result from contact with these components without the use of proper PPE; however, there are no planned activities that would require entering the over sleeves and touching the casing while they are hot. Gloves providing protection from burns will be required to handle well attachments during this period. Care should be taken with regard to these temperatures for several weeks following shutdown of the ERH system.

5.3.3 Steam

Steam will be generated in the subsurface during operation of the ERH system and will be present throughout the treatment area. In addition, steam may be present in the VR piping running from the VR wells in the vicinity of the treatment area to the condenser, and within the condenser.

Steam that is below the water table will have a positive pressure equal to the hydrostatic pressure at that depth. The subsurface will remain very hot immediately after an ERH shutdown, and steam generation can occur spontaneously if the hydrostatic head pressure is changed while groundwater is at the hydrostatic head boiling point. This might occur during groundwater sampling or dewatering activities.

Care must be taken to avoid exposing personnel to any source of steam. At all times when opening an VR piping or well that may contain steam (including groundwater monitoring wells in or adjacent to the electrode field), all personnel must wear face fields, gloves, and heat resistant rain clothing as protection from burns.

5.4 TASK-RELATED SITE HAZARD ANALYSIS

This section outlines the health and safety hazards that may be present on the Property as a result of the tasks to be performed by SoundEarth or subcontractors as they relate to the chemical, physical, and ERH hazards identified in Sections 5.1, 5.2, and 5.3 above. References noted in Table 2 for the controls and any PPE required should be reviewed. Reference identifications (08-01, Project Responsibilities through 08-23, Work Near Water) incorporated into Table 2 refer to the *HASP Reference Manual,* dated January 2011, which is a stand-alone document that compiles detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this Project-specific HASP. A summary of the controls specific to the Site is presented in Section 6.0, Task-Related Site Hazard Controls Summary.

6.0 TASK-RELATED SITE HAZARD CONTROLS SUMMARY

The following controls are required for SoundEarth employees while performing work on the Property:

- Level D PPE, which includes hard hats, steel-toed boots, safety glasses, and a reflective safety vest.
- Delineators and/or traffic cones around drill rig
- Hearing protection
- Caution tape
- Lockout and tagout the ERH power control unit prior to performing work in the restricted zone if there is a potential exposure to electrical current.
- During the operational ERH phase, no one may enter the remediation zone or sample monitoring wells until they have been trained by TRS and signed the associated Restricted Zone Training Acknowledgement Form found in Appendix A of the TRS May 2013 HASP.

TABLE 2 PROJECT-SPECIFIC TASK-RELATED HAZARDS

Tasks	Role	Hazard	References
Sampling – Environmental	Task performed by SoundEarth	Chemicals	Table 1, Chemical Hazards; 08-06, Chemical Hazard Controls; 08-17, Sample Collection
		Confined spaces	08-09, Confined Space Awareness
		Emergency response	08-02, Emergency Response Plan
		Ergonomics	08-11, Ergonomics
		General site hazards	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes
		Ladders or heights	08-22, Work at Heights
		Processes	08-21, Work Around Hazardous Processes
		Spills	08-06, Chemical Hazard Controls; 08-24, Safe Handling of Flammable Liquids
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unstable ground	08-20, Unstable Ground
		Visibility	08-07, General Site Safety Requirements; 08-18, Traffic and Moving Equipment Hazards
		Water hazards	08-23, Work Near Water

Tasks	Role	Hazard	References
Drilling and Subsurface Investigation	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards; 08-06, Site-Specific Chemical Hazard Controls; 08-17, Sample Collection
		Emergency response	08-02, Emergency Response Plan
		Ergonomics	08-11, Ergonomics
		General site hazards	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes
		Noise	08-15, Noise and Hearing Protection
		Overhead electric utilities	08-10, Electrical Safety
		Powered tools and equipment	08-10, Electrical Safety;
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unsecure/uncontrolled Site	08-08, Site Security and Overall Site Control
		Underground utilities and features	08-19, Underground Services Location and Protection; 08-10, Electrical Safety
		Unstable ground	08-20, Unstable Ground
Excavation and Trenching	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards; 08-06, Chemical Hazard Controls; 08-17, Sample Collection
		Confined spaces	08-09, Confined Space Awareness
		Cutting/welding	08-10, Electrical Safety; 08-14, Hot Work Awareness
		Emergency response	08-02, Emergency Response Plan

Tasks	Role	Hazard	References
Excavation and Trenching (continued)	Subcontractor Observation	Ergonomics	08-11, Ergonomics
		General site hazards	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes
		Noise	08-15, Noise and Hearing Protection
		Overhead utilities and features	08-10, Electrical Safety; 08-16, Overhead Hazards
		Powered tools and equipment	08-10, Electrical Safety
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unsecure/uncontrolled Site	08-08, Site Security and Overall Site Control
		Underground utilities and features	08-10, Electrical Safety; 08-19, Underground Services Location and Protection
		Unstable ground	08-20, Unstable Ground
		Visibility	08-07, General Site Safety Requirements; 08-18, Traffic and Moving Equipment Hazards
Remediation System Installation	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards; 08-06, Chemical Hazard Controls;
		Emergency response	08-02, Emergency Response Plan
		Energized machinery	08-10, Electrical Safety 08-12, Energy Control (Lockout/Tagout) Awareness
		Ergonomics	08-11, Ergonomics
		General site hazards	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes

Tasks	Role	Hazard	References
Remediation System Installation *(continued)*	Subcontractor Observation	Noise	08-15, Noise and Hearing Protection
		Overhead utilities and features	08-10, Electrical Safety; 08-16, Overhead Hazards
		Powered tools and equipment	08-10, Electrical Safety;
		Underground utilities and features	08-10, Electrical Safety; 08-19, Underground Services Location and Protection
		Unsecure/uncontrolled Site	08-08, Site Security and Overall Site Control
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unstable ground	08-20, Unstable Ground
		Visibility	08-07, General Site Safety Requirements; 08-18, Traffic and Moving Equipment Hazards
Remediation System Operation	Task performed by SoundEarth	Chemicals	Table 1, Chemical Hazards; 08-06, Chemical Hazard Controls 08-17, Sample Collection
		Emergency response	08-02, Emergency Response Plan
		Energized machinery	08-10, Electrical Safety 08-12, Energy Control (Lockout/Tagout) Awareness
		Ergonomics	08-11, Ergonomics
		General site hazards	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes

Tasks	Role	Hazard	References
Remediation System Operation *(continued)*	Task performed by SoundEarth	Noise	08-15, Noise and Hearing Protection
		Powered tools and equipment	08-10, Electrical Safety;
		Unsecure/uncontrolled Site	08-08, Site Security and Overall Site Control
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unstable ground	08-20, Unstable Ground
		Visibility	08-07, General Site Safety Requirements; 08-18, Traffic and Moving Equipment Hazards

ATTACHMENT A

ACKNOWLEDGEMENT AND AGREEMENT FORM

ACKNOWLEDGEMENT AND AGREEMENT FORM

I acknowledge that I have reviewed a copy of the Health and Safety Plan for this project, that I understand it, and that I agree to comply with all of its provisions. I also understand that I could be prohibited by the Site Manager/Health and Safety Officer or other SoundEarth personnel from working on this project if I fail to comply with any aspect of this Health and Safety Plan:

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

Name *Signature* *Company* *Date*

ATTACHMENT B

DAILY HEALTH AND SAFETY BRIEFING LOG

SoundEarth
Strategies

DAILY HEALTH AND SAFETY BRIEFING LOG

Date: ______________________________ **Start Time:** ______________

Sites Discussed: ______________________________

Subjects Discussed: ______________________________

ATTENDEES

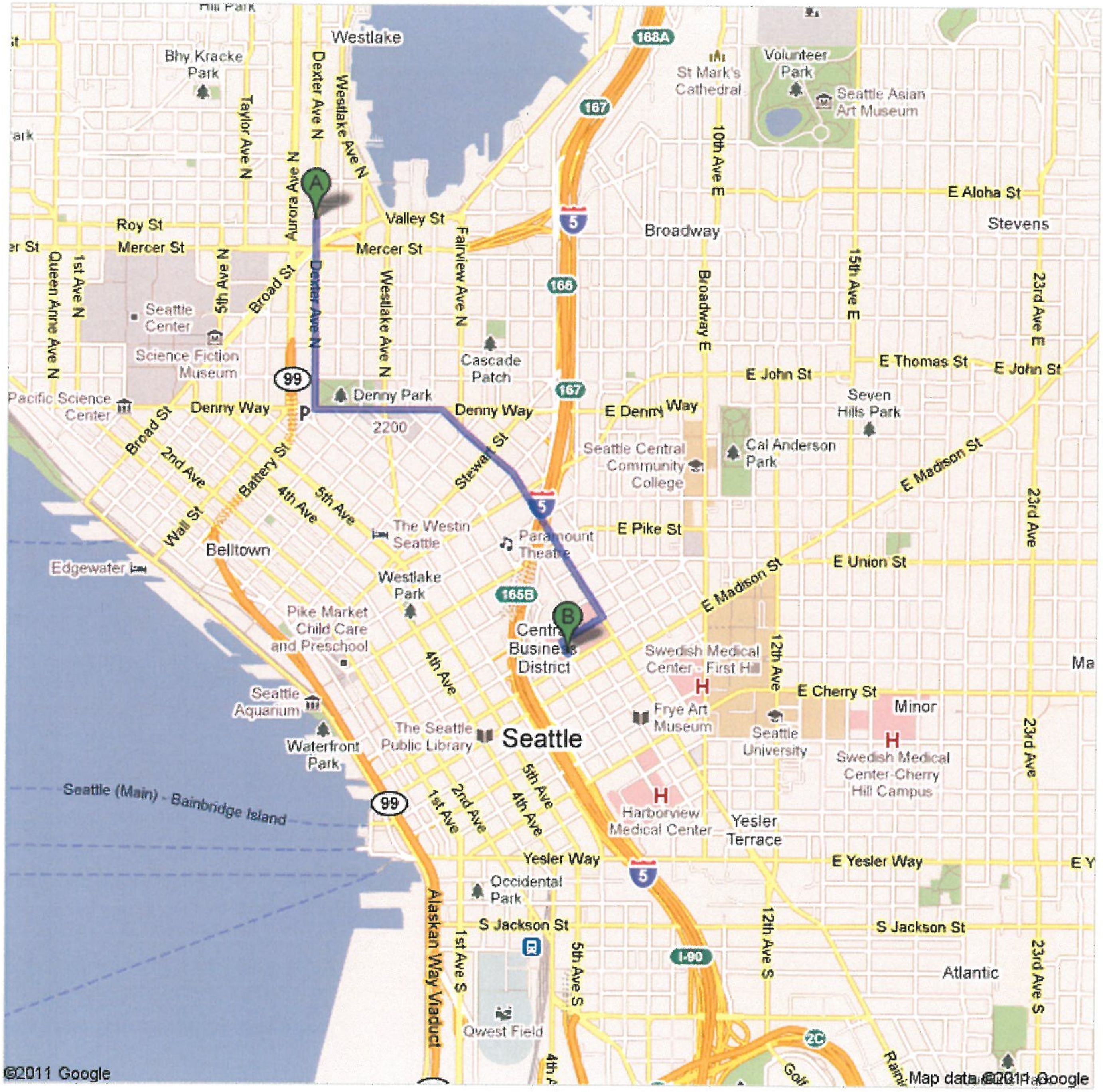
Print Name	**Signature**

Meeting Conducted by ______________________ **Date Signed**______________

ATTACHMENT C

HOSPITAL ROUTE

Directions to Virginia Mason Hospital: Seattle
925 Seneca Street, Seattle, WA 98101 - (206) 223-6600
1.7 mi – about **7 mins**



A 700 Dexter Ave N, Seattle, WA 98109

1. Head **south** on **Dexter Ave N** toward **Roy St** About 1 min	go 0.5 mi total 0.5 mi
2. Turn left onto **Denny Way** About 2 mins	go 0.3 mi total 0.8 mi
3. Slight right onto **Boren Ave** About 3 mins	go 0.7 mi total 1.5 mi
4. Turn right onto **Seneca St**	go 0.1 mi total 1.6 mi
5. Take the 1st left onto **9th Ave** Destination will be on the left	go 184 ft total 1.7 mi

B **Virginia Mason Hospital: Seattle**
925 Seneca Street, Seattle, WA 98101 - (206) 223-6600