Former Pace National Site
500 7TH Avenue South
Kirkland, Washington

Site Cleanup ID# 5063
Facility Site ID# 2159

Cleanup Action Plan

DEPARTMENT OF ECOLOGY
State of Washington

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

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ACRONYMS AND ABBREVIATIONS

µg/L	microgram(s) per liter
4,4-DDD	dichlorodiphenyldichloroethane
ARAR	applicable or relevant and appropriate requirement
AS	air sparge
AST	aboveground storage tank
BNSF	Burlington Northern Santa Fe
CAP	Cleanup Action Plan
CMP	Compliance Monitoring Plan
COC	chemical of concern
Consent Decree	legal agreement for Cleanup Action Plan to be implemented _____
CVOC	chlorinated volatile organic compound
Defendant	Ultra Corporation, a Washington corporation, and its successors and assigns
DHC	Dehalococcoides
DRPH	diesel-range petroleum hydrocarbons
Ecology	Washington State Department of Ecology
Eh	redox potential
EPA	U.S. Environmental Protection Agency
EHC	controlled-release, integrated carbon and zero valent iron
EIM	Environmental Information Management
FETA	Former Ecology Tank Area
Galloway	Galloway Environmental, Inc.
GRPH	gasoline-range petroleum hydrocarbons
Hart Crowser	Hart Crowser, Inc.
HASP	Health and Safety Plan

ACRONYMS AND ABBREVIATIONS (CONTINUED)

MNA	monitored natural attenuation
MTCA	Washington State Model Toxics Control Act
ORC	Oxygen Release Compound
ORPH	oil-range petroleum hydrocarbons
Pace	Pace National
PCE	tetrachloroethene
PCP	pentachlorophenol
Periodic Review	Periodic review consists of a review by Ecology of post-cleanup site conditions and monitoring results to assure that human health and the environment are being protected following WAC 173-340-420.
Property	500 7th Avenue South, Kirkland, Washington
PSCI	PSCI Environmental
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
RI	remedial investigation
RI/FS Report	*Remedial Investigation/Feasibility Study, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington*, prepared by Sound Environmental Strategies and dated December 13, 2010
ROW	right-of-way
RUA	Railroad Unloading Area
SCS	SCS Engineers
Site	the extent of historical and current contamination
SoundEarth	SoundEarth Strategies, Inc. (formerly Sound Environmental Strategies)
SVE	soil vapor extraction
TCE	trichloroethene

ACRONYMS AND ABBREVIATIONS (CONTINUED)

Ultra	Ultra Corporation
UST	underground storage tank
VOC	volatile organic compound
WAC	Washington Administrative Code

1.0 INTRODUCTION

This Cleanup Action Plan (CAP) is for the Former Pace National facility located at 500 7th Avenue South in Kirkland, Washington (hereinafter referred to as the Property), shown on Figures 1 and 2. The Property is located in Section 8, Township 25 North, Range 5 West in King County, Kirkland, Washington, southwest of the intersection of 7th Avenue South and the Burlington Northern Santa Fe (BNSF) Railroad. The Property comprises Parcel Number 7882600120 containing Lots 12, 15, and 16 for a total of 5.07 acres (Hart Crowser 2003a, King County 2008). This CAP is required as part of the Site cleanup process under the Model Toxics Control Act (MTCA), Ch. 70.105D RCW, implemented by the Washington State Department of Ecology (Ecology). The cleanup action decision is based on the *Remedial Investigation/Feasibility Study, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington,* prepared by Sound Environmental Strategies and dated December 13, 2010 (RI/FS Report) and other relevant documents in the administrative record.

For the purposes of this cleanup action, the Site is defined in the Consent Decree as the historical and current area where hazardous substances had come to be located on the Ultra Property and requires remedial action in accordance with the Consent Decree. The area of the Site with remaining impacts is shown on Figure 3.

1.1 BACKGROUND

Background information on the Property is provided in the RI/FS Report. The RI/FS Report includes a detailed discussion of previous subsurface investigations, interim remedial actions, pilot test studies, groundwater monitoring events, a conceptual site model for the Site, an evaluation of remedial alternatives, and the rationale for selected cleanup action for the Site.

1.2 PURPOSE

The CAP has been developed in accordance with Chapter 340-380 of Title 173 of the Washington Administrative Code (WAC 173-340-380) and is being performed in accordance with the Consent Decree. The purpose of the cleanup action is to protect human health and the environment and to restore beneficial uses of groundwater at all points of compliance for the Site. In accordance with WAC 173-340-360(2), the selected cleanup action will meet the cleanup levels at the defined points of compliance, protect human health and the environment, comply with applicable state and federal laws, provide for compliance monitoring, and provide a permanent solution, to the maximum extent practicable.

The selected cleanup action for contaminated groundwater at the Site is monitored natural attenuation (MNA) with groundwater compliance monitoring (Figure 3). Primary and secondary lines of evidence gathered during the remedial investigation (RI), and in conjunction with removal of source areas during the interim remedial actions conducted at the Site, provide support for the conclusion that MNA is a feasible cleanup alternative for the Site in accordance with minimum requirements under WAC 173-340-360 (2) at the defined points of compliance. Groundwater compliance monitoring will be conducted at selected monitoring wells during the cleanup action. The groundwater compliance monitoring is to confirm the completion of cleanup action and to confirm that the cleanup action level has been achieved and maintained at the point of compliance for four consecutive monitoring events. The

Compliance Monitoring Plan (CMP), Quality Assurance Project Plan (QAPP), and the Health and Safety Plan (HASP) for the cleanup action are presented in Appendix A, B, and C, respectively.

1.3 REPORT ORGANIZATION

The CAP has been organized into the following sections:

- **Section 2.0, Property Description and History**. This section provides a description and history of the Property. A detailed discussion of the Property history is presented in RI/FS Report.
- **Section 3.0, Interim Remedial Actions**. This section includes a discussion of interim remedial actions, pilot test studies, and groundwater monitoring events conducted at the Site.
- **Section 4.0, Groundwater Quality and Monitoring**. This section includes a discussion of groundwater quality and monitoring at the Site.
- **Section 5.0, Technical Elements**. This section provides a summary of the technical elements of the CAP, including a discussion of the applicable or relevant and appropriate requirements (ARARs), chemicals of concern (COCs), media of concern, and cleanup standards for the Site.
- **Section 6.0, Identification and Screening of Remedial Alternatives**. This section includes a discussion of previous pilot test studies conducted to evaluate potential remedial alternative for the Site.
- **Section 7.0, Selected Cleanup Action**. This section presents an evaluation of remedial alternatives, identifies the selected cleanup action, and presents the cleanup action objectives and anticipated schedule for implementing the cleanup action for the Site.
- **Section 8.0, Cleanup Action Components**. This section describes the components of the cleanup action, including, compliance monitoring, Restrictive Covenant Closure, and periodic review.
- **Section 9.0, Documentation Requirements**. This section describes the documentation to be provided for the cleanup action, including document management and compliance reports.
- **Section 10, Bibliography**. This section lists the documents used in preparation of the CAP.
- **Section 11, Limitations**. This section presents SoundEarth Strategies, Inc. (SoundEarth's) limitations with respect to the CAP.

2.0 PROPERTY DESCRIPTION AND HISTORY

This section provides a description and history of the Property. A detailed discussion of the Property history is presented in the RI/FS Report.

2.1 PROPERTY DESCRIPTION

The Property is located in Section 8, Township 25 North, Range 5 West in King County, Kirkland, Washington, southwest of the intersection of 7th Avenue South and the BNSF Railroad (Figure 1). Residential properties are located to the north, south, and west of the Property. East of the Property is the BNSF Railway right-of-way (ROW) and the Google Campus (Figure 2). The Property comprises Parcel Number 7882600120 containing Lots 12, 15, and 16 for a total of 5.07 acres (Hart Crowser 2003a, King County 2008). The Property formerly contained the following features:

- A two-story, 37,799-square-foot main building, containing offices, warehouse space, workshop, and loading docks (Figure 2), was located on the northern portion of the Property.
- A former Railroad Unloading Area (RUA) was located in the northeast corner of the Property adjacent to the former Underground Storage Tank Area. Product was piped from railcars located at the RUA to the underground storage tanks (USTs). The railroad spur entered the Property at the east from the BNSF Railway ROW (Figure 2).
- The former Underground Storage Tank Area contained fourteen USTs, ranging in capacity from 1,000 to 8,000 gallons, which contained solvents, glycol, fatty acids, and petroleum products that were packaged at the facility (Figure 2). The USTs were located at the northeast corner of the Property and removed in 1990 (SRH 1991).
- An oil/water separator in combination with a 1,000-gallon underground flow-through ecology tank (hereinafter referred to as the Former Ecology Tank Area [FETA]) formerly occupied the northwest corner of the former Pace National warehouse and office building (hereinafter referred to as the former Pace Main Building) (Figure 2). The oil/water separator and FETA were removed in 1999 (PSCI 1999).
- An asphalt-paved Drum Storage Yard was located adjacent to and south of the former Pace Main Building. An aboveground storage tank (AST) with a capacity of 8,000 gallons with unknown content was located in the Drum Storage Yard. The AST was removed in 1999 (PSCI 1999, Figure 2).
- Subsurface utilities at the Property included catch basins on the exterior of the former Pace Main Building, the FETA, and indoor floor drains on the interior of the former Pace Main Building (Figure 2). Indoor floor drains discharged to the FETA. Water exiting this tank discharged to a sanitary sewer line located along 7th Avenue South. Storm drains on the Property discharged to stormwater lines also located along 7th Avenue South (Figure 2).

The subsurface utilities formerly entered the Property from the north and included sanitary and stormwater service and municipal water service. Catch basins were located throughout the Property and drained to the on-Property oil/water treatment system or municipal utilities (Figure 2). The Property is currently vacant and is owned by Ultra. Municipal subsurface utilities are located in the BNSF Railway ROW and along 7th Avenue South (Figure 2).

2.2 PROPERTY HISTORY

The Property originally contained residential dwellings from the 1910s to the 1920s. By 1965, the residential dwellings were absent from the Property and one building was located in the northeastern corner of the Property. Tax records indicated that the building was used as an office building for the Seattle Door Company. In 1969, Pace National (Pace, currently known as Ultra Corporation [Ultra]) purchased the Property from the Tyee Lumber and Manufacturing Company (Galloway 1999a). In 1971, the former Pace Main Building was constructed (Hart Crowser 2006b, Figure 2). Pace operated a specialty chemical mixing and packaging business from 1971 to approximately 1990. After 1990, the Property was used as a warehouse and storage facility for retail purposes; no industrial activities have occurred at the Property since 1990. The southern two-thirds of the Property, which are wooded, were never developed (Hart Crowser 2006a). The former Pace Main Building was demolished in 2006.

3.0 INTERIM REMEDIAL ACTIONS

Between 1999 and 2006 interim remedial actions were conducted at the Site to remove contaminated soil from the RUA, FETA, and the Pace Main Building (Hart Crowser 2003a and 2008, Galloway 1999a and 2000a). A summary of interim remedial actions is presented below. A detailed discussion of the interim remedial actions are presented in the RI/FS Report and in the referenced reports prepared by others (Section 10 of RI/FS Report).

3.1 SPECIFIC INTERIM REMEDIAL ACTIONS

In 1999, Galloway Environmental, Inc. (Galloway) excavated contaminated soil containing chlordane, pentachlorophenol (PCP), and/or 4,4-DDD at the FETA (Galloway 1999a). The contaminated soil was previously identified by others as part of the removal of the oil/water separator and ecology flow-through tank at the FETA (Figure 4; PSCI 1999, Galloway 1999a). The removal action included excavating contaminated soil, collecting confirmation soil samples from the remedial excavation, and treating stockpile-contaminated soil. Analytical results for confirmation soil samples collected from the excavation and stockpile soil samples collected after treatment of the soil stockpile indicated that concentrations of PCP and organochlorine pesticides were below MTCA Method B cleanups levels and/or laboratory reporting limits (Tables 1 and 2).

In March 2000, Galloway excavated contaminated soil containing petroleum hydrocarbons and volatile organic compounds (VOCs) in the RUA. The contaminated soil was identified by others during previous subsurface investigations (Hart Crowser 1991, Galloway 2000a). The removal action included excavating contaminated soil, collecting confirmation soil samples from the remedial excavation, and disposing of contaminated soil off the Property. Analytical results for confirmation soil samples collected from the remedial excavation indicated the petroleum hydrocarbon concentrations in the confirmation soil samples were below MTCA cleanup levels and/or the concentrations were not reported above laboratory reporting limits (Figure 5, Table 3). Approximately 45 tons of petroleum-contaminated soil were removed from the RUA and disposed of at a thermal treatment facility (Galloway 2000a).

In October 2003, Hart Crowser, Inc. (Hart Crowser) excavated contaminated soil containing petroleum hydrocarbons and VOCs in the RUA and the FETA (Figure 6; Hart Crowser 2003a). Hart Crowser identified additional contaminated soil and groundwater in the RUA and FETA during RI activities conducted in July and August 2003. The removal action included excavating contaminated soil in the RUA and FETA, collecting confirmation soil samples from the remedial excavations, and disposing of contaminated soil off the Property. Analytical results for confirmation samples collected at the RUA and FETA excavation indicated that the samples did not contain concentrations of petroleum hydrocarbon or VOCs above MTCA cleanup levels and/or concentrations were not reported above laboratory reporting limits (Tables 3 and 4).

In 2006, Hart Crowser excavated contaminated soil containing petroleum hydrocarbons and VOCs in the Underground Storage Tank Area, RUA, FETA, and Pace Main Building. The contaminated soil and groundwater in these areas of the Property were identified in remediation investigation activities conducted 2004 through 2006 by Hart Crowser and others (Hart Crowser 2004, 2006a and 2006b, and SCS 2005). The interim actions were conducted in conjunction with the demolition of the Pace Main Building. The interim actions were conducted in five areas of the Site designated as Areas A through D and SB-15 (Figure 7). The removal action included excavating contaminated soil in Areas A through D

and SB-15, collecting confirmation soil samples from the remedial excavations, and disposing of contaminated soil off the Property. Analytical results for confirmation samples collected at the as Areas A through D and SB-15 excavations indicated that the samples did not contain concentrations of petroleum hydrocarbons or VOCs above MTCA cleanup levels and/or concentrations were not reported above laboratory reporting limits (Tables 3 and 4; Hart Crowser 2008). Approximately 5,840 tons of contaminated soil were disposed of off the Property at a facility permitted to accept soil containing petroleum hydrocarbons and VOCs.

4.0 GROUNDWATER QUALITY AND MONITORING

The direction of groundwater flow at the Site ranges west–northwest. In June 2010, the hydraulic gradients at the Site ranged from approximately 0.03 to 0.06 feet per foot (Figure 8). Depth to groundwater at the Site in June 2010 ranged from 0.55 feet at monitoring well HC-MW-1 to 12.30 feet at monitoring well HC-MW-11. Groundwater elevations ranged from 133.93 at monitoring well SES-MW-25 to 163.27 at monitoring well HC-MW-2 (Figure 8).

Prior to the 2006 interim remedial action, chlorinated volatile organic compounds (CVOCs), a subset of volatile organic compounds, and petroleum hydrocarbons were present in Site groundwater at concentrations that exceeded MTCA Method A and/or B cleanup levels. After the 2006 interim remedial action, with the exception of vinyl chloride, CVOCs and petroleum hydrocarbons have not been detected in groundwater downgradient of the interim remedial action areas at concentrations that exceeded MTCA Method A cleanup levels (Figures 4 through 7 and 9; Tables 5 and 6). Since 2006, groundwater monitoring results have shown the vinyl chloride groundwater plume at the Site is shrinking (Figures 9, 10, and 11). The shrinking groundwater plume suggests that interim remedial actions eliminated the soil-to-groundwater pathway and removed the source for CVOCs and petroleum hydrocarbons and that the residual vinyl chloride plume is migrating downgradient independent of the former source area.

Simulation of migration of the vinyl chloride plume in the groundwater using the BIOCHLOR screening model, which simulates remediation by natural attenuation of dissolved solvents in groundwater (EPA 2000), indicates the concentration of vinyl chloride in the groundwater will be less than 1 microgram per liter (µg/L) at a distance of 80 feet downgradient of the west Property boundary. Groundwater samples collected in 2010 from groundwater monitoring wells SES-MW25 through SES-MW27 installed 80 feet downgradient of the west Property boundary did not contain concentrations of vinyl chloride that exceeded the laboratory reporting limit, which is equivalent to the MTCA Method A cleanup level for vinyl chloride. A detailed discussion of field activities and results for compliance monitoring events is presented in the RI/FS Report and the referenced reports prepared by others.

5.0 TECHNICAL ELEMENTS

Results from the RI were used to develop and evaluate technically feasible cleanup alternatives for the Site and to prepare the CAP. The CAP defines the technical elements of the cleanup action and includes a discussion of ARARs, COCs, media of concern, cleanup standards, objectives of the cleanup action, and components of the cleanup action.

5.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

WAC 173-340-710(1) requires that all cleanup actions comply with all applicable state and federal law. It further states that the term “applicable state and federal laws” shall include legally applicable

requirements and those requirements that the department determines "…are relevant and appropriate requirements." This section discusses applicable state and federal law, relevant and appropriate requirements, and local permitting requirements which were considered and were of primary importance in selecting cleanup requirements. If other requirements are identified at a later date, they will be applied to the cleanup actions at that time.

Although Ecology will be the lead agency for compliance, the cleanup action will also be conducted in accordance with local permit requirements.

The primary ARARs related to the cleanup action include:

- MTCA, Chapter 70.105, of the Revised Code of Washington (RCW 70.105)
- Cleanup and Monitoring Provisions of MTCA, WAC 173-340
- Water Quality Standards for Ground Waters of the State of Washington, WAC 173-200
- Washington State Hazardous Waste Management Act, RCW 70.105
- Washington State Dangerous Waste Regulations, WAC 173-303
- Washington State Environmental Policy Act, WAC 197-11

These primary ARARs are anticipated to be most applicable to the cleanup action because they provide the framework for the cleanup action, including applicable and relevant regulatory guidelines, cleanup standards, waste disposal criteria, references for additional ARARs, and standards for documentation of the cleanup action.

Other ARARs related to the cleanup action include:

- Occupational Safety and Health Act, Part 1910 of Title 29 of the Code of Federal Regulations
- Safety Standards for Construction Work, WAC 296-155
- Minimum Standards for Construction and Maintenance of Wells, WAC 173-160
- Washington State Solid Waste Management Laws and Regulations, RCW 70.95, and WAC 173-351 and 173-304
- Accreditation of Environmental Laboratories, WAC 173-50.8.2

5.2 CHEMICALS OF CONCERN

The COCs at the Site are the chemical constituents that were detected in affected media at concentrations exceeding the applicable cleanup levels. Analytical results from subsurface investigations and compliance monitoring have shown that concentrations of tetrachloroethene also called perchloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene, vinyl chloride, gasoline-range petroleum hydrocarbons (GRPH), diesel-range petroleum hydrocarbons (DRPH), oil-range petroleum hydrocarbons (ORPH), and arsenic exceeded MTCA Method A and B cleanup levels in soil and/or groundwater prior to 2006. Since 2006 and with the exception of vinyl chloride in groundwater, concentrations of remaining VOCs, semi-volatile organic compounds, metals, pesticides, herbicides, GRPH, DRPH, and ORPH and alcohols in groundwater and soil at the Site can be eliminated as COCs because their concentrations did not exceed the MTCA Method A and B cleanup levels in confirmation soil samples collected during interim remedial actions conducted at the Site or in subsequent

groundwater samples collected after the 2006 interim remedial action. Therefore, the only COC currently for the Site is vinyl chloride in groundwater.

5.3 MEDIA OF CONCERN

Prior to 2006, the media of concern for the Site included both soil and groundwater. The air pathway for volatile organic substances was evaluated and determined not to be a pathway of concern at this Site (section 10.2.3 in the RI/FS Report). Based on results from previous investigations, removal actions, and the RI, concentrations of PCE, TCE, and petroleum hydrocarbons were present in soil and/or groundwater at the former RUA, former Underground Storage Tank Area, FETA, and/or former Pace Main Building and Drum Storage Yard at concentrations that exceeded MTCA Method A and/or B cleanup levels. Interim remedial action conducted at the Site between 2000 and 2006 resulted in the cleanup and removal of contaminated soil from the RUA, former Underground Storage Tank Area, FETA, and/or former Pace Main Building and Drum Storage Yard. Groundwater monitoring conducted after the 2006 interim remediation indicates that vinyl chloride remains in the groundwater in the west portion of the Site at concentrations that exceed the MTCA Method A cleanup level. Therefore, groundwater remains the only medium of concern for the Site.

5.4 CLEANUP STANDARDS

As defined in WAC 173-340-700, cleanup standards include establishing cleanup levels and the points of compliance at which the cleanup levels are to be attained. The cleanup standards for the cleanup action at the Site have been established in accordance with WAC 173-340-700 through 173-340-760. The established cleanup standards are protective of human health and the environment.

5.5 CLEANUP LEVELS

The cleanup levels are the concentrations of COCs that are to be met for each medium of concern at the points of compliance defined for the Site. The cleanup level for vinyl chloride, the COC for the Site, in groundwater is 0.2 µg/L.

5.6 POINTS OF COMPLIANCE

The points of compliance are the locations at which cleanup levels for the COCs in each medium of concern must be attained to meet the cleanup objectives for the Site. The points of compliance for groundwater, the medium of concern for the Site, were established in accordance with WAC 173-340-720(8). The point of compliance for groundwater is defined as the concentration of vinyl chloride in groundwater at the west Property boundary, identified in Figure 12. The initial groundwater monitoring wells to be sampled in assessing achievement of the clean-up level at the point of compliance are monitoring wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW25 through SES-MW27 located at the west portion of the Site (Figure 12). Groundwater monitoring and sampling events conducted in September 2011 and January–February 2012 represent the first year of semiannual compliance monitoring for the Site. The number and sampling frequency for compliance monitoring wells will be periodically revaluated based on analytical results.

Currently, except for a single anomalous sample, analytical results for groundwater samples collected at monitoring wells SES-MW25 through SES-MW27 show that concentrations of vinyl chloride in groundwater have not been reported above laboratory reporting limits. Based on current and historical groundwater analytical results, compliance monitoring will be conducted semiannually for 2 years.

6.0 IDENTIFICATION AND SCREENING OF REMEDIAL ALTERNATIVES

This section summarizes the remedial alternatives that were evaluated for the Site and describes the selected cleanup action. Also presented in this section are the cleanup action objectives and a schedule for implementing the CAP.

6.1 EVALUATION OF REMEDIAL ALTERNATIVES AND CLEANUP ACTION DESCRIPTION

In accordance with WAC 173-340-360 (2), several potential remedial components were evaluated to produce a short list for further evaluation. A detailed discussion of the remedial alternative screening is presented in the RI/FS Report. Components evaluated include the following:

- Oxygen Release Compound or ORC
- EHC Reactive Barrier Wall
- Bioaugmentation
- Monitored Natural Attenuation (MNA)
- Air Sparge (AS) with Soil Vapor Extraction (SVE)

6.2 ORC CLEANUP ACTION

In February and March 2006, Hart Crowser injected Advanced Formula ORC upgradient of the west Property boundary (Figure 2). ORC is a patented formulation of phosphate intercalated calcium oxy-hydroxide, manufactured as fine powder, which is designed to function as a time-release source of oxygen (Hart Crower 2006a and 2010). ORC provides oxygen to stimulate the aerobic degradation of compounds like vinyl chloride and petroleum hydrocarbons. ORC was injected at the west Property boundary using direct-push borings to inject the ORC to the designated depth. ORC was injected at depths ranging from 16 to 20 feet below ground surface. The ORC was expected to have a lifetime of up to 1 year.

Following the injection of ORC, performance groundwater samples were collected from monitoring wells HC-MW-7 through HC-MW-12, SB-9 through SB-11, and SB-14. Monitoring wells HC-MW-11 and HC-MW-12 were used to monitor the performance of the upgradient ORC injection points. Monitoring wells HC-MW-7 through HC-MW-10 were used to monitor the performance of the downgradient ORC injection points. Analytical results for vinyl chloride in performance groundwater samples collected after the injection of ORC initially showed a slight decrease in vinyl chloride concentrations in the groundwater at some performance monitoring wells. Concentrations of dissolved oxygen also increased in some performance monitoring wells. However, the decrease in the vinyl chloride concentrations was not significant enough to differentiate the analytical results from analytical and/or field sampling variability between sampling events. A detailed discussion of the ORC pilot test is presented in the RI/FS Report.

6.3 EHC REACTIVE BARRIER WALL PILOT TEST

In 2009, SoundEarth installed an EHC reactive barrier wall at the Site to treat vinyl chloride in groundwater. EHC is a controlled-release, integrated carbon and zero valent iron source that yields redox potential (Eh) in the 500 to 650 millivolt range. Eh potentials in this range facilitate the timely and effective removal of normally recalcitrant CVOCs. The EHC reactive barrier wall pilot test was conducted

proximate to the west Property boundary (Figure 2). The location of the pilot test was selected based on the location of the vinyl chloride plume and the location of existing monitoring wells for performance monitoring. Based on the results of the performance groundwater monitoring events, the EHC reactive barrier wall did not create conditions that are conducive to degradation of vinyl chloride in the groundwater at the Site. A detailed discussion of the EHC reactive barrier wall pilot test is presented in the RI/FS Report.

6.4 IN SITU BIOAUGMENTATION PILOT TEST

The use of bioaugmentation to treat vinyl chloride-contaminated groundwater at the Site was evaluated using the Dehalococcoides microbe (DHC). The bioaugmentation pilot test was conducted on the groundwater in monitoring well HC-MW-11 (Figure 2). Performance monitoring to evaluate the DHC pilot test consisted of collecting and analyzing groundwater samples from monitoring well HC-MW-11. Based on the results of the performance groundwater monitoring events, the DHC pilot test did not reduce vinyl chloride concentrations in groundwater at the monitoring well HC–MW-11. Geochemical and field parameters and DHC assays indicate that conditions in the groundwater at monitoring well HC-MW-11 are not conducive to biotic degradation of vinyl chloride. A detailed discussion of the EHC reactive barrier wall pilot test is presented in the RI/FS Report.

6.5 MONITORED NATURAL ATTENUATION OF SHALLOW GROUNDWATER

The primary lines of evidence supporting MNA of vinyl chloride at the Site include a shrinking vinyl chloride groundwater plume after the 2006 interim remedial action at the Site. Prior to 2006, groundwater containing vinyl chloride concentrations, which exceeded the MTCA Method A cleanup level, extended from the east to west boundary of the Site (Figure 10). After the 2006 interim remedial action, analytical results showed that groundwater containing concentrations of vinyl chloride that exceeded the MTCA Method A cleanup level had decreased and now is confined to the area downgradient of the former Pace Main Building (Figure 11). Analytical results for groundwater samples collected from downgradient monitoring wells located at the west of the Property indicate that natural attenuation processes are reducing the vinyl chloride concentrations in the groundwater to below laboratory reporting limits.

The secondary lines of evidence supporting MNA of vinyl chloride at the Site include fate and transport model results. A simulation of the migration of the vinyl chloride plume in the shallow groundwater using the BIOCHLOR Model estimates that the concentration of vinyl chloride will be less than 1 µg/L at a distance of 80 feet downgradient of the west Property boundary, which is approximately the distance to groundwater monitoring wells SES-MW25 through SES-MW27 (Figure 11). In addition, the source of vinyl chloride and other COCs have been removed by excavation and other interim remedial actions.

6.6 IN SITU TREATMENT OF SHALLOW GROUNDWATER WITH AIR SPARGE AND SOIL VAPOR EXTRACTION

Installation of an air sparge/soil vapor extraction (AS/SVE) remediation system was evaluated to reduce the concentrations of vinyl chloride in shallow groundwater to below MTCA Method A cleanup levels. The combined AS/SVE remediation system would purge vinyl chloride from the groundwater and capture and remove vinyl chloride vapors in the vadose zone. Implementation of SVE involves the installation of vertical or horizontal wells within the zone of contamination and the application of a vacuum to the vadose zone to induce the flow of air and enhance the recovery of vinyl chloride vapors in subsurface soil above the groundwater table known as the vadose zone. Air sparge involves injecting

air into shallow groundwater to induce convective airflow through the soil column. This condition creates an underground air stripping mechanism to remove vinyl chloride. The injected air effectively transports the stripped contaminants into the vadose zone wherein they can be captured and removed by the SVE system. The AS/SVE remediation system would be installed at the west Property boundary proximate to monitoring wells HC-MW-7 through HC-MW-10 (Figure 13). The AS/SVE remediation system was evaluated and determined to be not effective at this Site. The RI/FS Report includes more details.

7.0 SELECTED CLEANUP ACTION

After performing the comparative analysis and ranking of cleanup alternatives, MNA with compliance monitoring is the recommended cleanup alternative for the Site. This cleanup alternative meets each of the minimum requirements for remedial actions, and it will comply with WAC 173-340-360 and WAC 173-340-370. A detailed discussion of the ranking of feasible cleanup alternatives for the Site and rationale for selecting MNA is presented in the RI/FS Report.

MNA is a cleanup method using intrinsic biodegradation in conjunction with compliance monitoring to confirm cleanup progress. Compliance monitoring includes collecting groundwater samples from groundwater monitoring wells HC-MW-3, HC-MW-7 though HC-MW-10, and SES-MW25 through SES-MW27 (Figure 2). The purpose of compliance monitoring is to ensure that the natural attenuation process in groundwater continues to stabilize and shrink the vinyl chloride groundwater plume at the Site. Figure 14 shows the area of MNA at the Site.

After four semiannual sampling events, Ecology will evaluate the progress of the monitored natural attenuation remedial action and compliance monitoring. If the vinyl chloride concentration continues to decline, Ecology will require Ultra to revise the Groundwater Compliance Monitoring Plan to decrease the number of wells and/or change to select annual monitoring.

Alternatively, if the vinyl chloride concentrations remain constant, Defendant may submit a request for final closure and delisting of the Site conditioned upon recordation of appropriate restrictive covenants for the Site addressing groundwater usage and construction worker protection (hereinafter referred to as the Restrictive Covenant Closure). In such circumstance, no further monitoring of the groundwater would be required except in accordance with Periodic Review pursuant to Section XXIV of the Consent Decree. Any such restrictive covenant shall be recorded with the office of the King County Auditor against title to that portion of the Ultra Property then constituting the Site.

If after four semiannual sampling events the vinyl chloride concentration stays constant or increases, then Ecology may require additional action. These actions may include additional monitoring, additional data evaluation, and/or the institution of a contingency plan.

Compliance monitoring will be complete under the following circumstances: groundwater analytical results for compliance monitoring wells show four consecutive sampling events where the vinyl chloride concentration is at or below the MTCA Method A cleanup level of 0.2 μg/L, or the Restrictive Covenant Closure is effectuated.

7.1 CLEANUP ACTION OBJECTIVES

The cleanup action objectives are developed by evaluating the characteristics of the contaminated media, the characteristics of the hazardous substances present, migration and exposure pathways, and potential receptor points. In establishing the cleanup action objectives, the characteristics of the identified medium of concern and COC for the Site and the potential exposure pathways were taken into consideration.

The specific objectives of the cleanup action include the following:

- Prevent or minimize the potential for direct human contact with and ingestion of groundwater containing concentrations of vinyl chloride that exceed the MTCA Method A cleanup level.
- Restore beneficial uses of groundwater throughout the Site as confirmed at the points of compliance.

7.2 CLEANUP ACTION SCHEDULE

All work performed pursuant to the Consent Decree and Cleanup Action Plan shall be accomplished in accordance with WAC 173-340. The scope of work, with a schedule lists tasks to implement the cleanup actions at the Site, is detailed in Exhibit E of the Consent Decree. The tasks are to implement MNA in conjunction with groundwater compliance monitoring and semiannual progress reporting. Ecology will evaluate the effectiveness of MNA after four compliance monitoring events.

If the vinyl chloride concentration continues to decline, then Ecology will require Ultra to revise the Groundwater Monitoring Plan to decrease the number of wells monitored and/or change to annual monitoring. Alternatively, if the vinyl chloride concentration remains constant, Ultra may submit a request for final closure and delisting of the Site conditioned upon recordation of appropriate restrictive covenants for the Site addressing groundwater usage and construction worker protection (Restrictive Covenant Closure). In such circumstance, no further monitoring of the groundwater would be required except in accordance with Periodic Review pursuant to Section XXIV of the Consent Decree. If the vinyl chloride concentration stays constant or increases, then Ecology may require additional monitoring, additional data evaluation, and/or the institution of a contingency plan.

MNA with compliance monitoring shall continue until four consecutive monitoring events show compliance with the cleanup action level throughout the Site as measured at all points of compliance or implementation of the Restrictive Covenant Closure. A final Closure Report will be prepared to document completion of the cleanup action and to request closing the Consent Decree and delisting the Site.

8.0 CLEANUP ACTION COMPONENTS

The cleanup action will consist of the following components:

- To prepare for review and approval the CMP, QAPP and HASP.
- To implement the MNA in accordance with the Exhibit E of the Consent Decree.
- To monitor and confirm that the natural attenuation processes in groundwater continue to stabilize and shrink the vinyl chloride groundwater plume at the Site.

- To monitor groundwater quality at the specified compliance monitoring wells semiannually for 2 years and then Ecology will re-evaluate the sampling frequency in accordance with Section 7.2 of the CAP.
- To document MNA progress with groundwater compliance monitoring and prepare a semiannual Progress Report. Progress Reports with laboratory analytical results will be submitted to Ecology 45 days after laboratory analytical results are received for each monitoring event. The Progress Reports will be submitted in hard copy (two copies) and electronically (one copy) and to Ecology's Environmental Information Management (EIM) database.

The components of the selected cleanup action are discussed in detail in the following subsections.

8.1 CLEANUP ACTION IMPLEMENTATION DOCUMENTS

Ultra prepared the CMP to measure the progress and effectiveness of MNA and to confirm that the cleanup level has been achieved and maintained for four consecutive monitoring events. The purpose of the CMP is to ensure that the sample collection, handling, and analysis conducted after completion of the cleanup action will result in data that meets the data quality objectives for the cleanup action at the Site. The CMP specifies the requirements for sampling activities, including sampling frequency and location, analytical testing, documentation, and quality assurance/quality control (QA/QC) for confirmational monitoring and compliance monitoring. The CMP meets the requirements of WAC 173-340-410, and a QAPP and a HASP meet the requirements of WAC 173-340-810. The QAPP and HASP are presented in Appendices B and C of the CAP.

The purpose of the QAPP is to describe both quantitative and qualitative measures of data quality to ensure that the data quality objectives for the cleanup action are achieved. The QAPP identifies the data quality objectives and standard operating procedures for implementation during the cleanup action at the Site. The QAPP contains details regarding sample collection and analysis, including sample collection procedures, analytical methods, QA/QC procedures, and data quality reviews. The QAPP in presented in Appendix B of the CAP.

The purpose of the HASP is to outline the Site-specific health and safety requirements for the cleanup action. The HASP includes guidelines to reduce the potential for injury during implementation of the cleanup action. The HASP includes Site-specific 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. The HSAP is presented in Appendix C of the CAP.

Following completion of groundwater compliance monitoring or institution of the Restrictive Covenant Closure, Ultra will prepare a Closure Report. The Closure Report will document the completion of the remedial action and the compliance monitoring and will demonstrate that cleanup standards have been achieved at the points of compliance.

8.2 COMPLIANCE MONITORING

Compliance monitoring will be performed at the Site during implementation of the cleanup action and in accordance with the requirements of WAC 173-340-410 according to the CMP. Compliance monitoring

will address performance and confirmational monitoring for groundwater. A discussion of performance and confirmational monitoring is presented below and discussed in detail in the CMP (Appendix A).

8.2.1 Groundwater Performance and Confirmation Monitoring

Performance and confirmation groundwater samples will be collected from points of compliance monitoring wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW-25 through 27 during and after completion of the cleanup action at the Site. Performance groundwater samples will be collected for four semiannual sampling events to confirm the long-term effectiveness of the cleanup action, which will be re-evaluated by Ecology in accordance with Section 7.0 of the CAP. The frequency of compliance monitoring will be determined by Ecology in consultation with Ultra. Wastewater generated during the purging of the compliance monitoring wells will be disposed of at a facility permitted to accept hazardous waste.

8.3 PERIODIC REVIEW

As long as groundwater cleanup levels have not been achieved, WAC 173-340-420 states that at sites where a cleanup action requires an institutional control, a periodic review shall be completed no less frequently than every 5 years after the initiation of a cleanup action. Additionally, periodic reviews are required at sites that rely on institutional controls as part of the cleanup action. Periodic reviews will be required at this Site. After groundwater cleanup levels have been achieved, periodic reviews may still be required if institutional controls are a part of the final Site Closure approved by Ecology.

9.0 DOCUMENTATION REQUIREMENTS

Documentation of the cleanup action is necessary to meet MTCA requirements. Applicable and relevant documentation generated in connection with the cleanup action will be submitted to Ecology. Progress Reports and laboratory analytical results will be submitted to Ecology in hard copy (two copies) and electronic copy (one copy) and to Ecology's EIM database. Copies of the documents will be retained by Ultra for a minimum of 10 years after completion of the cleanup action.

9.1 DOCUMENTATION MANAGEMENT

An established document control system to be implemented during the cleanup action includes the following elements, as appropriate: field documentation, well purging and sampling documentation, sampling event data documentation, chain-of-custody forms, waste inventory documentation, waste management labels, and sample labels. An example of each of these documents will be provided in the CMP. Disposal manifests for the wastes generated at and disposed of from the Site will be maintained and will be submitted with the project documentation.

9.2 WASTE DISPOSAL TRACKING

Specific documentation requirements will be met for disposal of purge water from the MNA monitoring well water and for transportation and disposal of the purge water.

9.3 PROGRESS REPORTING

Progress Reports will be prepared during the course of the cleanup action for each monitoring event. The Progress Reports will provide analytical results for groundwater compliance monitoring during the cleanup action. At a minimum, the Progress Reports will include the following:

- A summary of the performance sampling analytical results, including summary tables and figures.
- A discussion of depth-to-groundwater measurements, groundwater elevations, groundwater flow direction, and hydraulic gradient at the Site, including a map showing groundwater elevation contours.
- An analysis of the groundwater analytical results for current and historic results including summary tables and figures.
- A discussion of conclusions and recommendations for progress in cleanup actions and/or alternative Restrictive Covenant Closure.

Progress reports will be submitted to Ecology 45 days after receipt of laboratory results. After Ecology's review and approval, Ultra will submit two hard copies and one electronic copy to Ecology, and one electronic copy to Ecology's EIM database.

9.4 SITE CLOSURE REPORT

A Site Closure Report will be prepared following completion of the groundwater compliance monitoring or upon institution of the Restrictive Covenant Closure in accordance with Section 7.0. The Closure report is to document the completion of the Site Cleanup Action Plan, Compliance Monitoring Plan, and the Consent Decree with Ecology approval and public comment period. The Closure Report with recommendation to close the Consent Decree and delist the Site is subject to public notice and a 30-day public comment period. After the 30-day comment period, Ecology will review all comments and make a determination to close the Consent Decree and delist the Site.

The Site Closure Report will include the following:

- A description and history of the Site.
- A description of Site closure performance standards.
- A description of Site closure activities.
- A description of the groundwater compliance monitoring activities.
- A figure depicting primary Site features and points of compliance monitoring well locations.
- A summary of the compliance sampling analytical results for groundwater samples, including summary tables and figures.
- Conclusions pertaining to the cleanup action following the completion groundwater compliance monitoring.

The Closure Report will be submitted to Ecology with two hard copies and one electronic copy, and one electronic copy to Ecology's EIM database in accordance with WAC 173-160.

10.0 BIBLIOGRAPHY

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11.0 LIMITATIONS

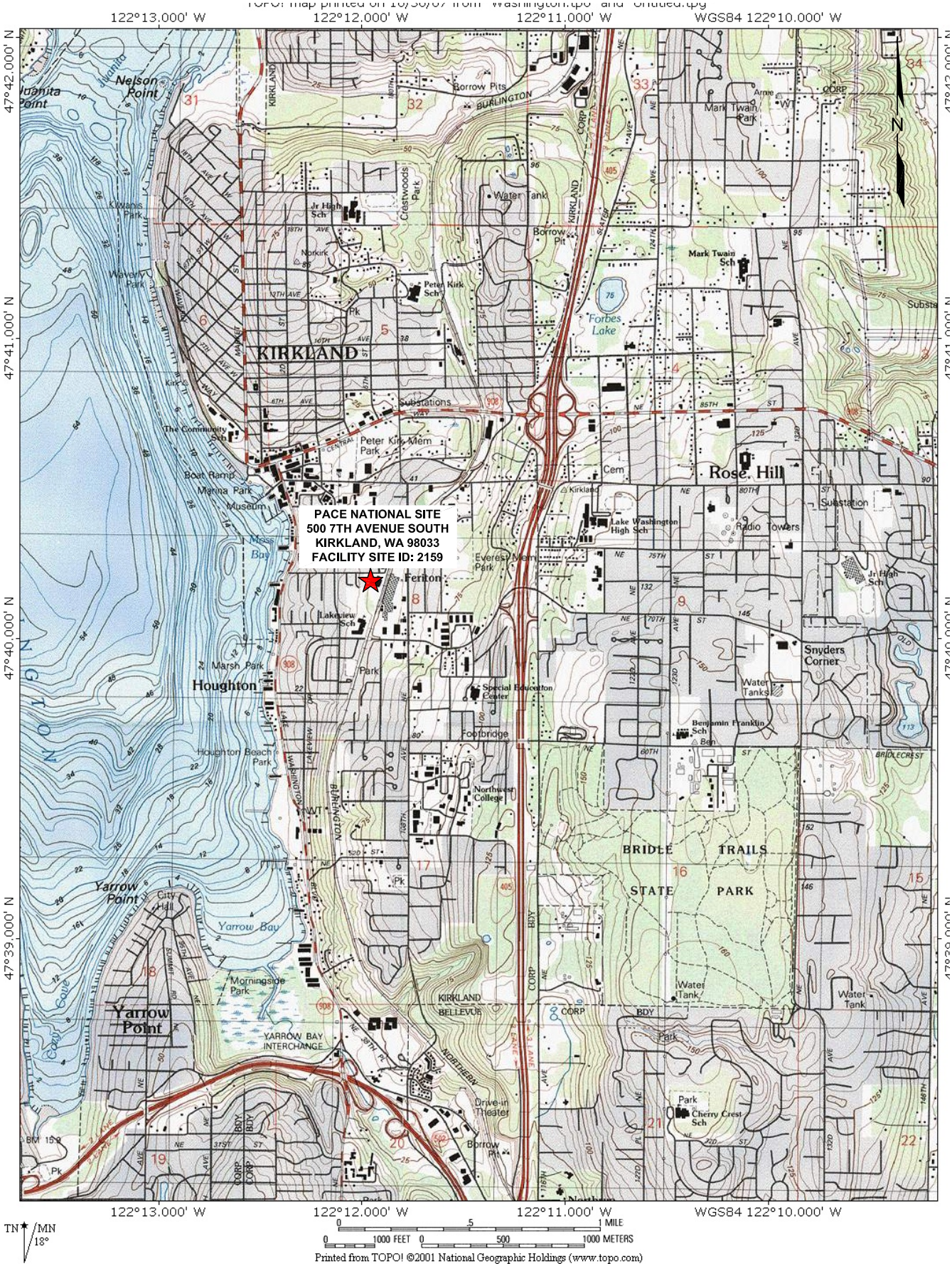
The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and 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.

FIGURES

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\FIGURE 1\0698-001 FIG1-VIC_BLR.DWG



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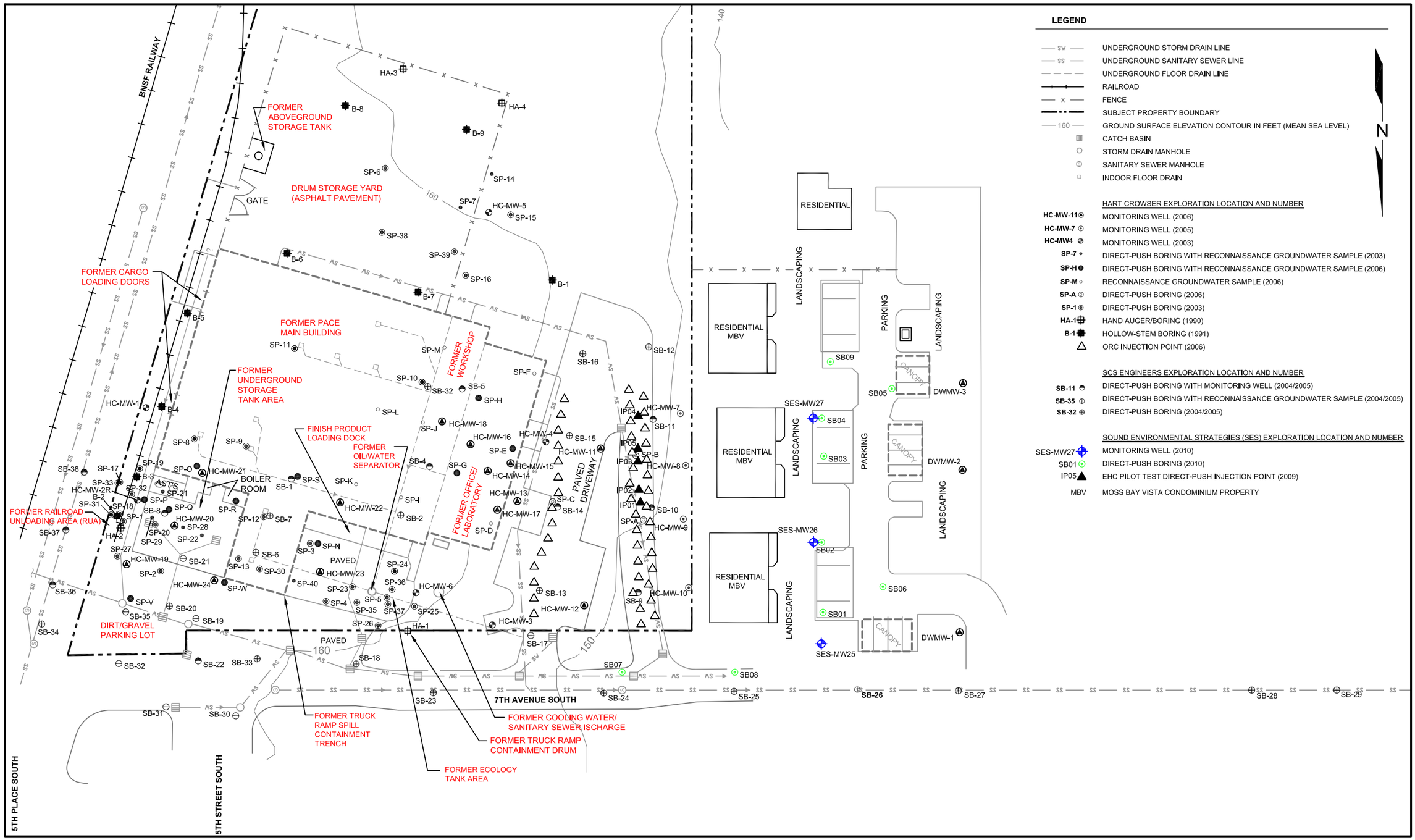
CAD FILE:	0698-001 FIG1-VIC

PROJECT NAME:	FORMER PACE NATIONAL SITE
PROJECT NUMBER:	0698-001
STREET ADDRESS:	500 7TH AVENUE SOUTH
CITY, STATE:	KIRKLAND, WASHINGTON

FIGURE 1
SITE VICINITY MAP



LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

HART CROWSER EXPLORATION LOCATION AND NUMBER

- HC-MW-11 MONITORING WELL (2006)
- HC-MW-7 MONITORING WELL (2005)
- HC-MW4 MONITORING WELL (2003)
- SP-7 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2003)
- SP-H DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-M RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-A DIRECT-PUSH BORING (2006)
- SP-1 DIRECT-PUSH BORING (2003)
- HA-1 HAND AUGER/BORING (1990)
- B-1 HOLLOW-STEM BORING (1991)
- ORC INJECTION POINT (2006)

SCS ENGINEERS EXPLORATION LOCATION AND NUMBER

- SB-11 DIRECT-PUSH BORING WITH MONITORING WELL (2004/2005)
- SB-35 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2004/2005)
- SB-32 DIRECT-PUSH BORING (2004/2005)

SOUND ENVIRONMENTAL STRATEGIES (SES) EXPLORATION LOCATION AND NUMBER

- SES-MW27 MONITORING WELL (2010)
- SB01 DIRECT-PUSH BORING (2010)
- IP05 EHC PILOT TEST DIRECT-PUSH INJECTION POINT (2009)
- MBV MOSS BAY VISTA CONDOMINIUM PROPERTY

N

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CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 2
MAP SHOWING SITE BORINGS, INJECTION POINTS, AND MONITORING WELL LOCATIONS

1/16/2012
P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012\CAP_REV\0699-001_2010CAP_SLOC_FIG2_F.DWG
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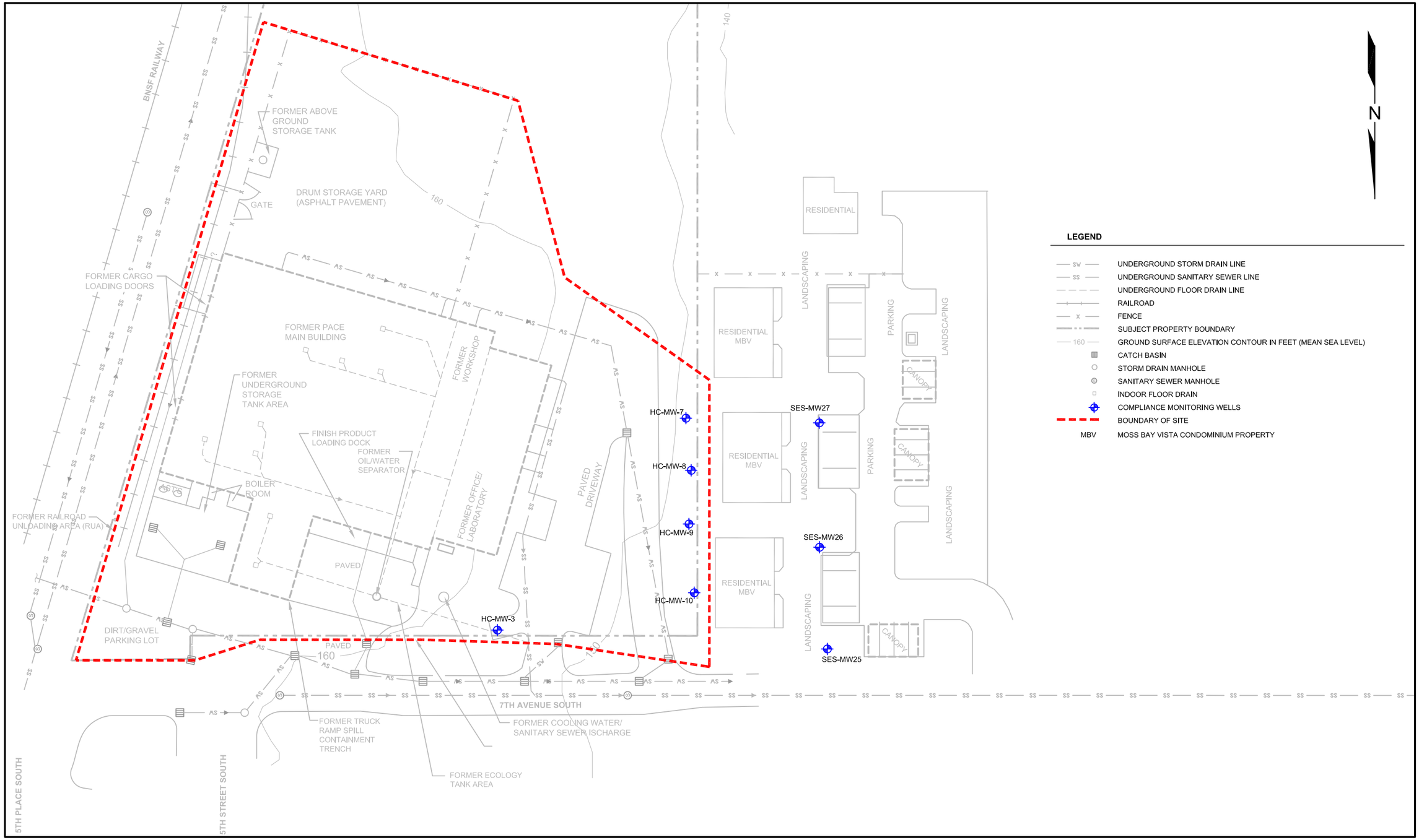

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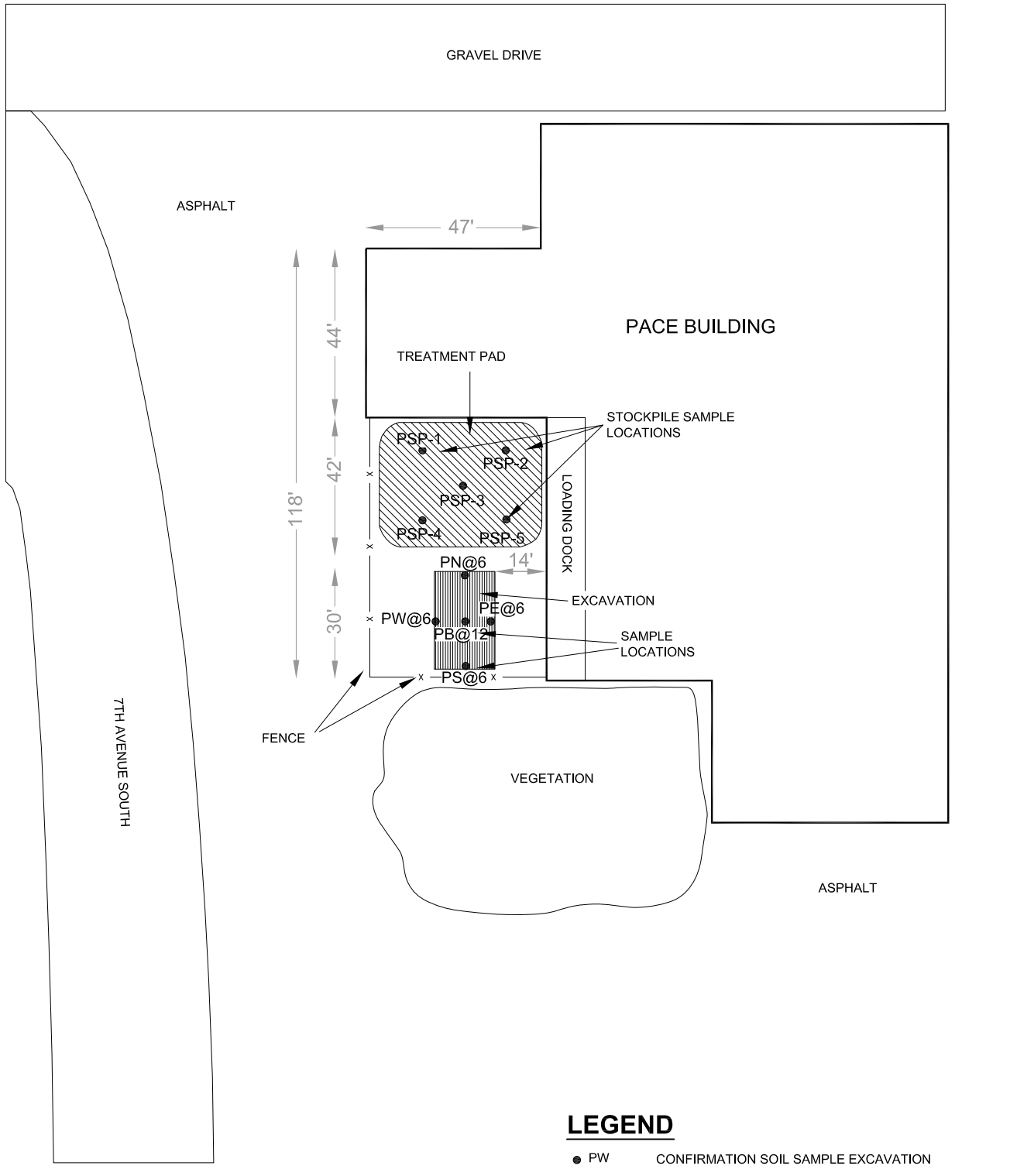
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 3
MAP SHOWING BOUNDARIES OF THE FORMER PACE NATIONAL SITE



LEGEND

- PW — CONFIRMATION SOIL SAMPLE EXCAVATION
- PSP-5 — CONFIRMATION STOCKPILE SOIL SAMPLE
- FORMER ECOLOGY TANK AREA (FETA) EXCAVATION
- SOIL STOCKPILE

NOTE: SOURCE FOR MAP GALLOWAY 1999A

0 20 40 80

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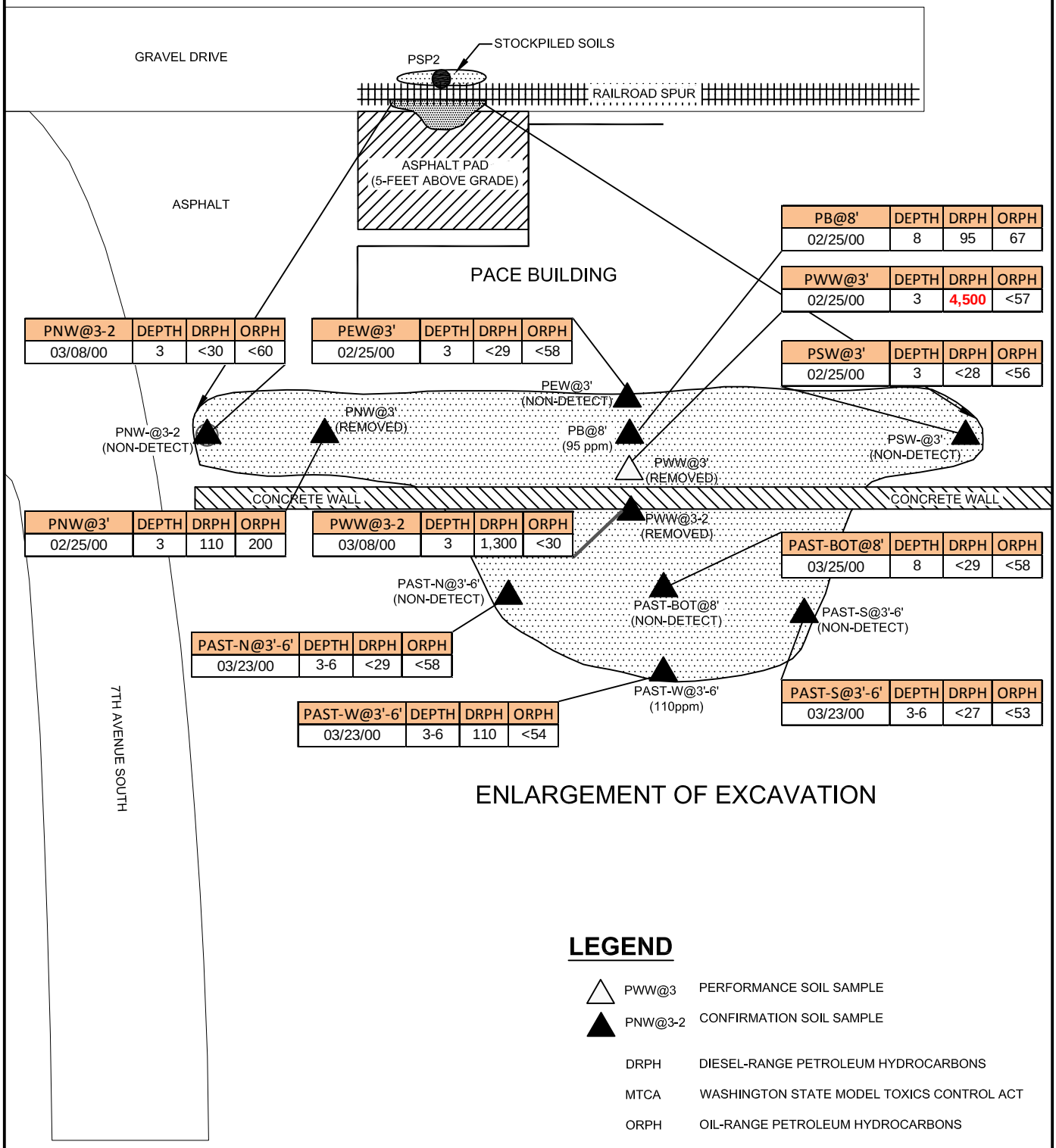
FIGURE 4
MAP SHOWING FETA SOIL SAMPLING LOCATIONS 1999



PB@8'	DEPTH	DRPH	ORPH
02/25/00	8	95	67

PWW@3'	DEPTH	DRPH	ORPH
02/25/00	3	4,500	<57

PSW@3'	DEPTH	DRPH	ORPH
02/25/00	3	<28	<56

PNW@3-2	DEPTH	DRPH	ORPH
03/08/00	3	<30	<60

PEW@3'	DEPTH	DRPH	ORPH
02/25/00	3	<29	<58

PNW@3'	DEPTH	DRPH	ORPH
02/25/00	3	110	200

PWW@3-2	DEPTH	DRPH	ORPH
03/08/00	3	1,300	<30

PAST-BOT@8'	DEPTH	DRPH	ORPH
03/25/00	8	<29	<58

PAST-N@3'-6'	DEPTH	DRPH	ORPH
03/23/00	3-6	<29	<58

PAST-W@3'-6'	DEPTH	DRPH	ORPH
03/23/00	3-6	110	<54

PAST-S@3'-6'	DEPTH	DRPH	ORPH
03/23/00	3-6	<27	<53

ENLARGEMENT OF EXCAVATION

LEGEND

△ PWW@3	PERFORMANCE SOIL SAMPLE
▲ PNW@3-2	CONFIRMATION SOIL SAMPLE
DRPH	DIESEL-RANGE PETROLEUM HYDROCARBONS
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
ORPH	OIL-RANGE PETROLEUM HYDROCARBONS
RUA	RAILROAD UNLOADING AREA
4,500	(RED) REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVELS FOR GROUNDWATER

RESULTS ARE REPORTED IN MICROGRAMS PER KILOGRAM.

	DEPTH	DRPH	ORPH
MTCA		2,000	2,000

NOTES: SOURCE FOR MAP GALLOWAY 1999A
NOT TO SCALE

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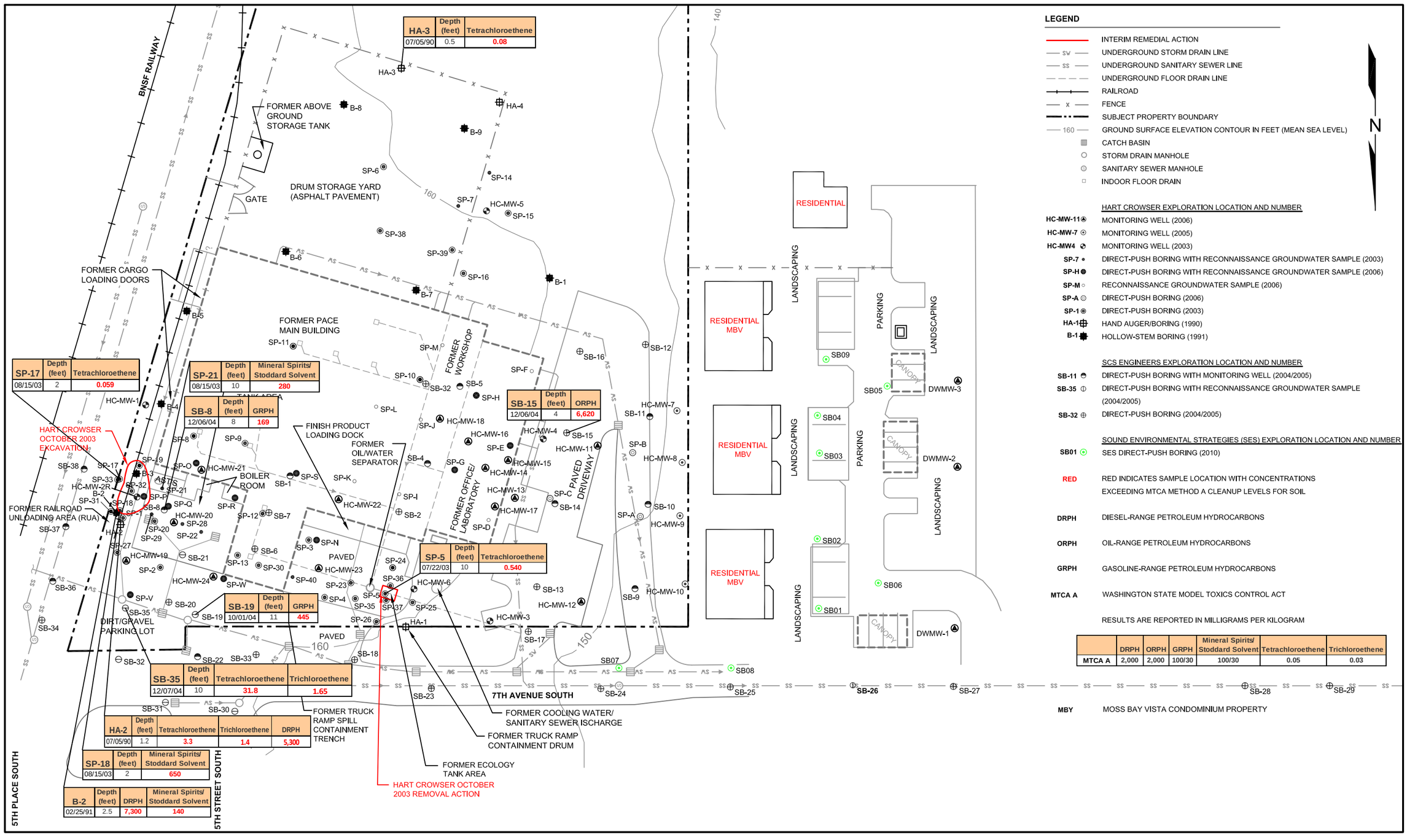
FIGURE 5
MAP SHOWING RUA SOIL SAMPLING LOCATIONS 2000



LEGEND

- INTERIM REMEDIAL ACTION
- SW — UNDERGROUND STORM DRAIN LINE
- SS — UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- x — FENCE
- SUBJECT PROPERTY BOUNDARY
- 160 — GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

HART CROWSER EXPLORATION LOCATION AND NUMBER

- HC-MW-11 — MONITORING WELL (2006)
- HC-MW-7 — MONITORING WELL (2005)
- HC-MW4 — MONITORING WELL (2003)
- SP-7 — DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2003)
- SP-H — DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-M — RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-A — DIRECT-PUSH BORING (2006)
- SP-1 — DIRECT-PUSH BORING (2003)
- HA-1 — HAND AUGER/BORING (1990)
- B-1 — HOLLOW-STEM BORING (1991)

SCS ENGINEERS EXPLORATION LOCATION AND NUMBER

- SB-11 — DIRECT-PUSH BORING WITH MONITORING WELL (2004/2005)
- SB-35 — DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2004/2005)
- SB-32 — DIRECT-PUSH BORING (2004/2005)

SOUND ENVIRONMENTAL STRATEGIES (SES) EXPLORATION LOCATION AND NUMBER

- SB01 — SES DIRECT-PUSH BORING (2010)

RED — RED INDICATES SAMPLE LOCATION WITH CONCENTRATIONS EXCEEDING MTCA METHOD A CLEANUP LEVELS FOR SOIL

DRPH — DIESEL-RANGE PETROLEUM HYDROCARBONS

ORPH — OIL-RANGE PETROLEUM HYDROCARBONS

GRPH — GASOLINE-RANGE PETROLEUM HYDROCARBONS

MTCA A — WASHINGTON STATE MODEL TOXICS CONTROL ACT

RESULTS ARE REPORTED IN MILLIGRAMS PER KILOGRAM

	DRPH	ORPH	GRPH	Mineral Spirits/ Stoddard Solvent	Tetrachloroethene	Trichloroethene
MTCA A	2,000	2,000	100/30	100/30	0.05	0.03

MBY — MOSS BAY VISTA CONDOMINIUM PROPERTY

N

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0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 6

MAP SHOWING 1990 THROUGH 2010 SOIL ANALYTICAL RESULTS THAT EXCEEDED MTCA CLEANUP LEVELS FOR SUBSURFACE INVESTIGATIONS

1/16/2012

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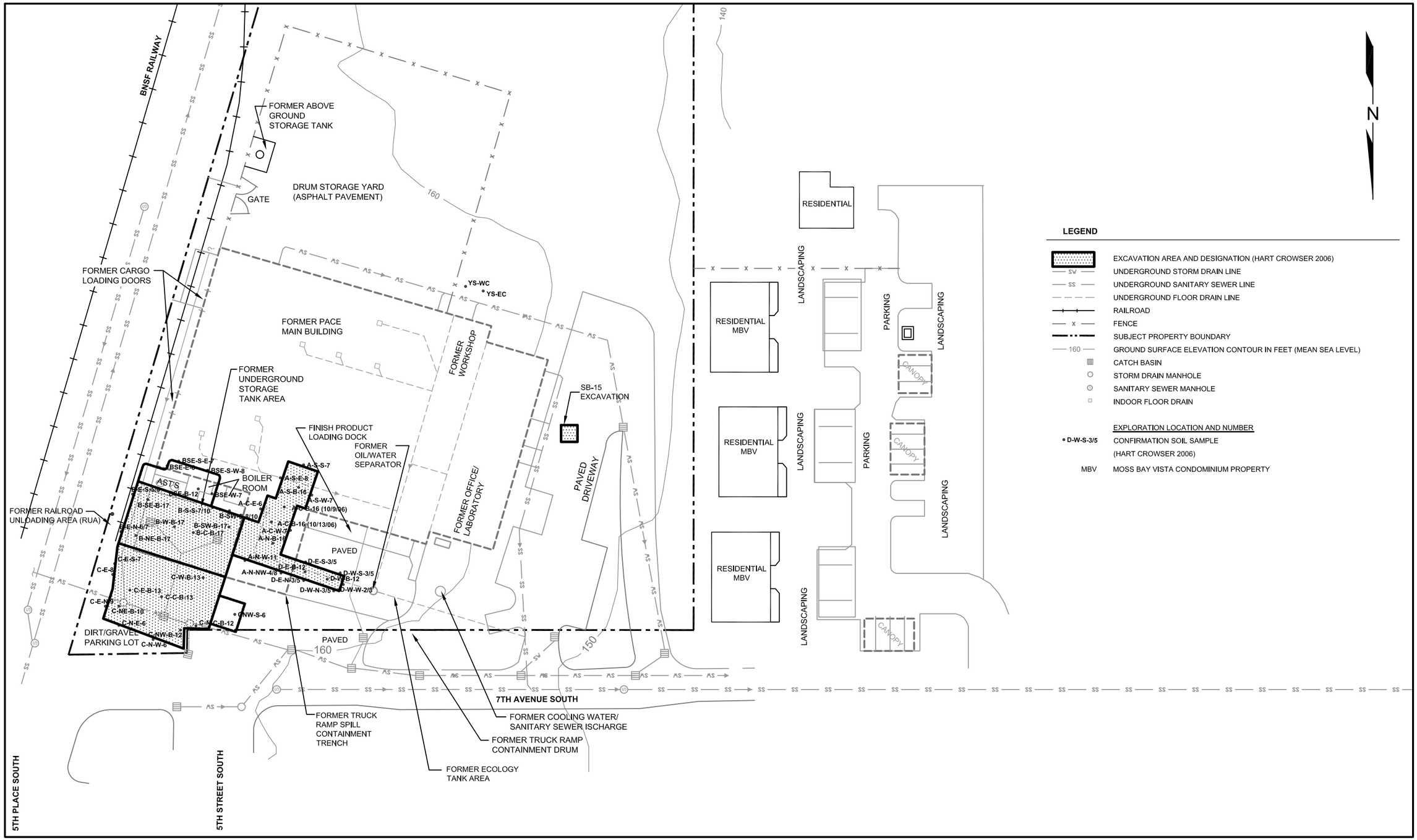

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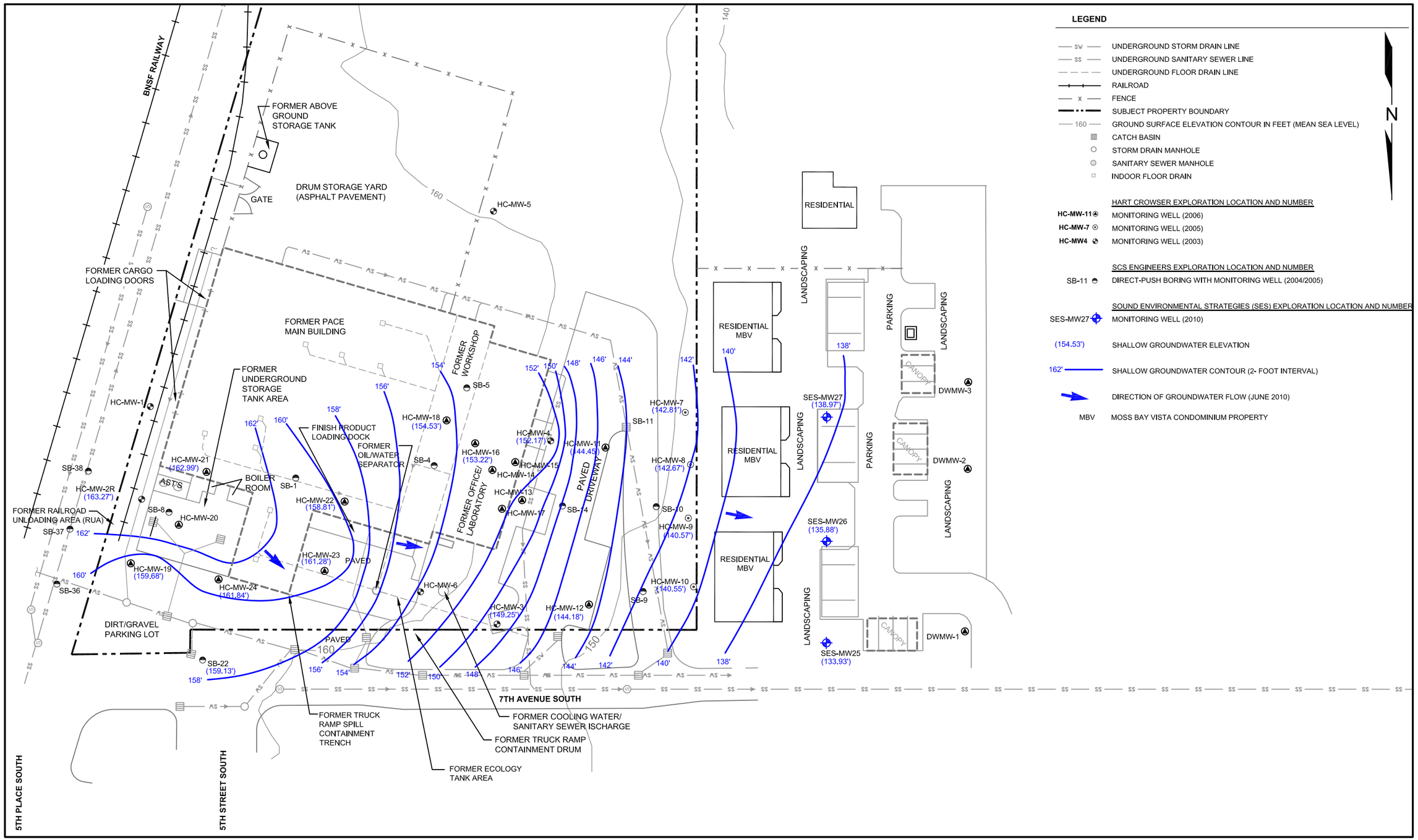
REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 7

MAP SHOWING INTERIM REMEDIAL ACTION CONFIRMATION SOIL SAMPLING LOCATIONS (HART CROWSER 2006)



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PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 8
MAP SHOWING GROUNDWATER ELEVATION CONTOURS (JUNE 2010)

1/16/2012
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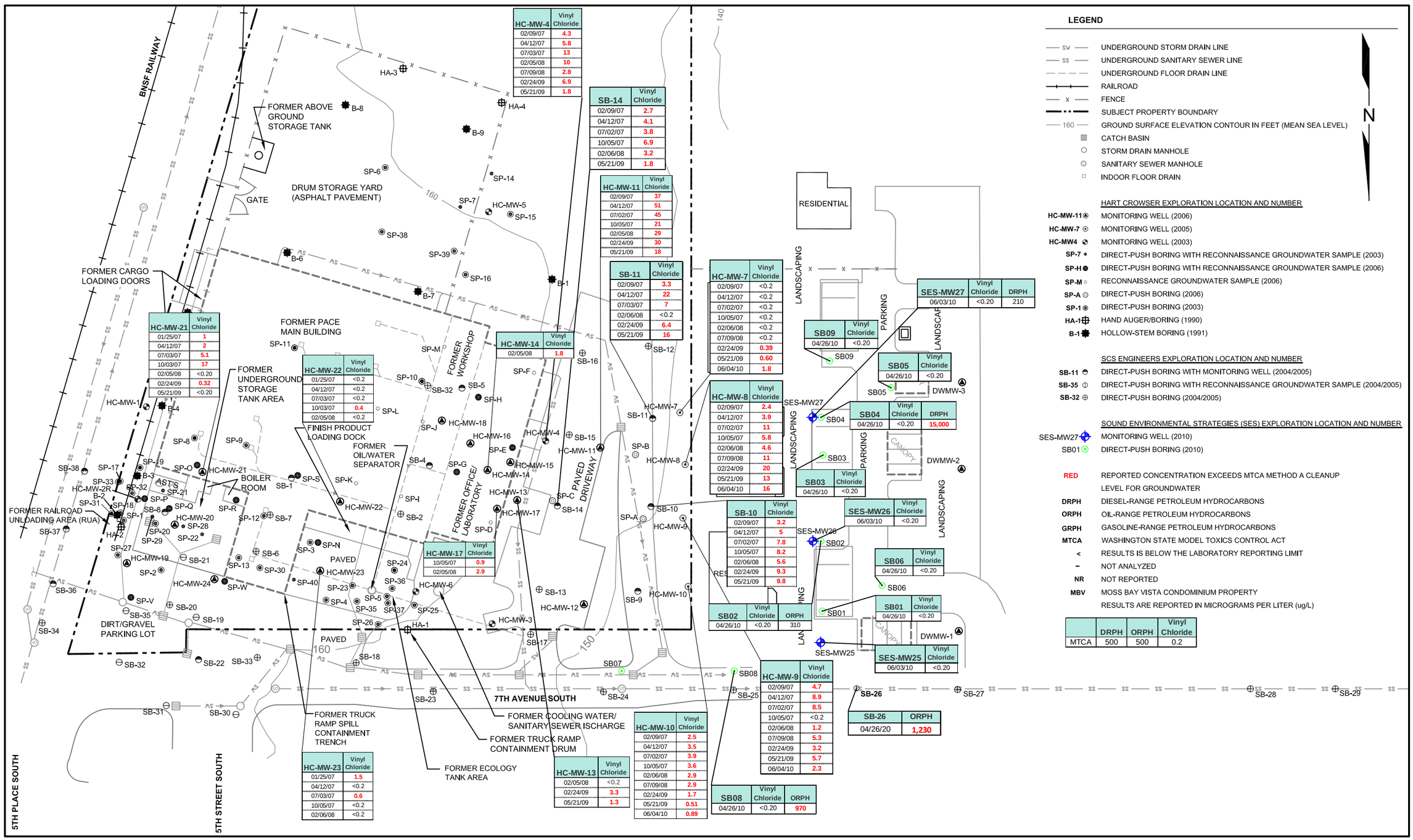

LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

HART CROWSER EXPLORATION LOCATION AND NUMBER

- HC-MW-11 MONITORING WELL (2006)
- HC-MW-7 MONITORING WELL (2005)
- HC-MW4 MONITORING WELL (2003)
- SP-7 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2003)
- SP-H DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-M RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-A DIRECT-PUSH BORING (2006)
- SP-1 DIRECT-PUSH BORING (2003)
- HA-1 HAND AUGER/BORING (1990)
- B-1 HOLLOW-STEM BORING (1991)

SCS ENGINEERS EXPLORATION LOCATION AND NUMBER

- SB-11 DIRECT-PUSH BORING WITH MONITORING WELL (2004/2005)
- SB-35 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2004/2005)
- SB-32 DIRECT-PUSH BORING (2004/2005)

SOUND ENVIRONMENTAL STRATEGIES (SES) EXPLORATION LOCATION AND NUMBER

- SES-MW27 MONITORING WELL (2010)
- SB01 DIRECT-PUSH BORING (2010)

- RED REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR GROUNDWATER
- DRPH DIESEL-RANGE PETROLEUM HYDROCARBONS
- ORPH OIL-RANGE PETROLEUM HYDROCARBONS
- GRPH GASOLINE-RANGE PETROLEUM HYDROCARBONS
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < RESULTS IS BELOW THE LABORATORY REPORTING LIMIT
- – NOT ANALYZED
- NR NOT REPORTED
- MBV MOSS BAY VISTA CONDOMINIUM PROPERTY
- RESULTS ARE REPORTED IN MICROGRAMS PER LITER (ug/L)

	DRPH	ORPH	Vinyl Chloride
MTCA	500	500	0.2

N

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PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 9

MAP SHOWING GROUNDWATER ANALYTICAL RESULTS FOR VINYL CHLORIDE, DRPH, AND ORPH (2007 THROUGH 2010)

1/16/2012
P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012CAP_REV\0698-001_2010CAP_GD10_FIG9_F.DWG
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BNSF RAILWAY

FORMER ABOVE GROUND STORAGE TANK

DRUM STORAGE YARD (ASPHALT PAVEMENT)

GATE

FORMER CARGO LOADING DOORS

FORMER PACE MAIN BUILDING

FORMER WORKSHOP

FORMER UNDERGROUND STORAGE TANK AREA

FINISH PRODUCT LOADING DOCK

FORMER OIL/WATER SEPARATOR

BOILER ROOM

AST'S

FORMER RAILROAD UNLOADING AREA (RUA)

DIRT/GRAVEL PARKING LOT

PAVED

FORMER OFFICE/ LABORATORY

PAVED DRIVEWAY

FORMER TRUCK RAMP SPILL CONTAINMENT TRENCH

FORMER COOLING WATER/ SANITARY SEWER ISCHARGE

FORMER TRUCK RAMP CONTAINMENT DRUM

FORMER ECOLOGY TANK AREA

RESIDENTIAL MBV

LANDSCAPING

PARKING

CANOPY

5TH PLACE SOUTH

5TH STREET SOUTH

7TH AVENUE SOUTH

LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

N

HART CROWSER EXPLORATION LOCATION AND NUMBER

- HC-MW-11 MONITORING WELL (2006)
- HC-MW-7 MONITORING WELL (2005)
- HC-MW4 MONITORING WELL (2003)
- SP-7 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2003)
- SP-H DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-M RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-A DIRECT-PUSH BORING (2006)
- SP-1 DIRECT-PUSH BORING (2003)
- HA-1 HAND AUGER/BORING (1990)
- B-1 HOLLOW-STEM BORING (1991)

SCS ENGINEERS EXPLORATION LOCATION AND NUMBER

- SB-11 DIRECT-PUSH BORING WITH MONITORING WELL (2004/2005)
- SB-35 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2004/2005)
- SB-32 DIRECT-PUSH BORING (2004/2005)

SOUND ENVIRONMENTAL STRATEGIES (SES) EXPLORATION LOCATION AND NUMBER

- SES-MW27 MONITORING WELL (2010)
- SB01 DIRECT-PUSH BORING (2010)

- BLUE CONCENTRATION LESS THAN LABORATORY REPORTING LIMIT
- RED RED INDICATES SAMPLE LOCATION WITH CONCENTRATIONS EXCEEDING MTCA METHOD CLEANUP LEVELS FOR GROUNDWATER
- < RESULTS NOT REPORTED ABOVE LABORATORY REPORTING LIMIT
- MTCA A WASHINGTON STATE MODEL TOXICS CONTROL ACT RESULTS ARE REPORTED IN MICROGRAMS PER LITER (µg/L)

- ISOCONCENTRATION-MTCA METHOD A GROUNDWATER CLEANUP LEVEL
- 148 GROUNDWATER ELEVATION CONTOUR IN FEET (FEBRUARY 2006)
- GROUNDWATER FLOW DIRECTION (FEBRUARY 2006)
- MBV MOSS BAY VISTA CONDOMINIUM PROPERTY

NOTE: THE REPORTED VINYL CHLORIDE RESULTS ARE FROM THE MOST RECENT FOR EACH WELL SAMPLED AS OF 2003, 2004, 2005, OR 2006.

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CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 10

MAP SHOWING VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER 2003, 2004, 2005, OR 2006

1/16/2012

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012\CAP REV\0698-001 2010CAP VOC09 FIG11 F.DWG

BNSF RAILWAY

FORMER ABOVE GROUND STORAGE TANK

DRUM STORAGE YARD (ASPHALT PAVEMENT)

GATE

FORMER CARGO LOADING DOORS

FORMER PACE MAIN BUILDING

FORMER WORKSHOP

FORMER UNDERGROUND STORAGE TANK AREA

FINISH PRODUCT LOADING DOCK

FORMER OIL/WATER SEPARATOR

BOILER ROOM

FORMER RAILROAD UNLOADING AREA (RUA)

FORMER OFFICE/ LABORATORY

PAVED DRIVEWAY

PAVED

DIRT/GRAVEL PARKING LOT

FORMER TRUCK RAMP SPILL CONTAINMENT TRENCH

FORMER COOLING WATER/ SANITARY SEWER ISCHARGE

FORMER TRUCK RAMP CONTAINMENT DRUM

FORMER ECOLOGY TANK AREA

7TH AVENUE SOUTH

5TH PLACE SOUTH

5TH STREET SOUTH

RESIDENTIAL MBV

LANDSCAPING

PARKING

CANOPY

SB09 SB04 SB03 SB02 SB01 SB06 SB07 SB08

DWMW-3 DWMW-2 DWMW-1

SES-MW27 <0.20

SES-MW26 <0.20

SES-MW25 <0.20

LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

HART CROWSER EXPLORATION LOCATION AND NUMBER

- HC-MW-11 MONITORING WELL (2006)
- HC-MW-7 MONITORING WELL (2005)
- HC-MW4 MONITORING WELL (2003)
- SP-7 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2003)
- SP-H DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-M RECONNAISSANCE GROUNDWATER SAMPLE (2006)
- SP-A DIRECT-PUSH BORING (2006)
- SP-1 DIRECT-PUSH BORING (2003)
- HA-1 HAND AUGER/BORING (1990)
- B-1 HOLLOW-STEM BORING (1991)

SCS ENGINEERS EXPLORATION LOCATION AND NUMBER

- SB-11 DIRECT-PUSH BORING WITH MONITORING WELL (2004/2005)
- SB-35 DIRECT-PUSH BORING WITH RECONNAISSANCE GROUNDWATER SAMPLE (2004/2005)
- SB-32 DIRECT-PUSH BORING (2004/2005)

SOUND ENVIRONMENTAL STRATEGIES (SES) EXPLORATION LOCATION AND NUMBER

- SES-MW27 MONITORING WELL (2010)
- SB01 DIRECT-PUSH BORING (2010)

- BLUE CONCENTRATION LESS THAN LABORATORY REPORTING LIMIT
- RED INDICATES SAMPLE LOCATION WITH CONCENTRATIONS EXCEEDING MTCA METHOD A CLEANUP LEVELS FOR GROUNDWATER
- < RESULTS NOT REPORTED ABOVE LABORATORY REPORTING LIMIT
- MTCA A WASHINGTON STATE MODEL TOXICS CONTROL ACT
- NA NOT ANALYZED

RESULTS ARE REPORTED IN MICROGRAMS PER LITER (µg/L)

- ISOCONCENTRATION-MTCA METHOD A GROUNDWATER CLEANUP LEVEL
- SHALLOW GROUNDWATER CONTOUR (FEBRUARY 2009)
- DIRECTION OF SHALLOW GROUNDWATER FLOW (FEBRUARY 2009)
- MBV MOSS BAY VISTA CONDOMINIUM PROPERTY

N

NOTE: THE REPORTED VINYL CHLORIDE RESULTS ARE THE MOST RECENT FOR EACH WELL SAMPLED AS OF 2007, 2008, OR 2009.

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CITY, STATE:	KIRKLAND, WASHINGTON

REGION:

0 30 60 120

APPROXIMATE SCALE IN FEET

FIGURE 11

MAP SHOWING VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER 2007, 2008, 2009, OR 2010

1/16/2012

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BNSF RAILWAY

FORMER ABOVE GROUND STORAGE TANK

DRUM STORAGE YARD (ASPHALT PAVEMENT)

GATE

FORMER CARGO LOADING DOORS

FORMER PACE MAIN BUILDING

FORMER WORKSHOP

FORMER UNDERGROUND STORAGE TANK AREA

FINISH PRODUCT LOADING DOCK

FORMER OIL/WATER SEPARATOR

AST'S

BOILER ROOM

FORMER RAILROAD UNLOADING AREA (RUA)

HC-MW-24

HC-MW-24	Vinyl Chloride
01/25/07	<0.2
04/12/07	<0.2
07/03/07	<0.2
10/03/07	<0.2
02/06/08	<0.2
09/14/10	<0.2

DIRT/GRAVEL PARKING LOT

PAVED

FORMER OFFICE/ LABORATORY

PAVED DRIVEWAY

HC-MW-3

HC-MW-3	Vinyl Chloride
03/05/04	<0.02
02/14/06	<1.0
06/20/05	--
02/09/07	<0.2
04/12/07	<0.2
02/06/08	<0.2

HC-MW-12

HC-MW-12	Vinyl Chloride
02/09/07	<0.2
04/12/07	<0.2
07/03/07	<0.2
10/05/07	<0.2
02/06/08	<0.2

7TH AVENUE SOUTH

FORMER TRUCK RAMP SPILL CONTAINMENT TRENCH

FORMER COOLING WATER/ SANITARY SEWER ISCHARGE

FORMER TRUCK RAMP CONTAINMENT DRUM

FORMER ECOLOGY TANK AREA

5TH PLACE SOUTH

5TH STREET SOUTH

HC-MW-10

HC-MW-10	Vinyl Chloride
02/09/07	2.5
04/12/07	3.5
07/02/07	3.9
10/05/07	3.6
02/06/08	2.9
07/09/08	2.9
02/24/09	1.7
05/21/09	0.51
06/04/10	0.89
09/14/10	1.8

HC-MW-7

HC-MW-7	Vinyl Chloride
02/09/07	<0.2
04/12/07	<0.2
07/02/07	<0.2
10/05/07	<0.2
02/06/08	<0.2
07/09/08	<0.2
02/24/09	0.39
05/21/09	0.60
06/04/10	1.8
09/14/10	4.6

HC-MW-8

HC-MW-8	Vinyl Chloride
02/09/07	2.4
04/12/07	3.9
07/02/07	11
10/05/07	5.8
02/06/08	4.6
07/09/08	11
02/24/09	20
05/21/09	13
06/04/10	16
09/14/10	14

HC-MW-9

HC-MW-9	Vinyl Chloride
02/09/07	4.7
04/12/07	8.9
07/02/07	8.5
10/05/07	<0.2
02/06/08	1.2
07/09/08	5.3
02/24/09	3.2
05/21/09	5.7
06/04/10	2.3
09/14/10	2.6

RESIDENTIAL

LANDSCAPING

PARKING

CANOPY

SES-MW27

SES-MW27	Vinyl Chloride	DRPH
06/03/10	<0.20	210

SES-MW26

SES-MW26	Vinyl Chloride
06/03/10	<0.20

RESIDENTIAL MBV

SES-MW25

SES-MW25	Vinyl Chloride
06/03/10	<0.20

LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN

SES-MW-12 MONITORING WELL (2006)

SES-MW27 COMPLIANCE MONITORING WELL (2010)

RED REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR GROUNDWATER

MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT

< RESULTS IS BELOW THE LABORATORY REPORTING LIMIT

– NOT ANALYZED

NR NOT REPORTED

MBV MOSS BAY VISTA CONDOMINIUM PROPERTY

HC HART CROWSER

SES SOUNDEARTH STRATEGIES

RESULTS ARE REPORTED IN MICROGRAMS PER LITER (ug/L)

	Vinyl Chloride
MTCA	0.2

N

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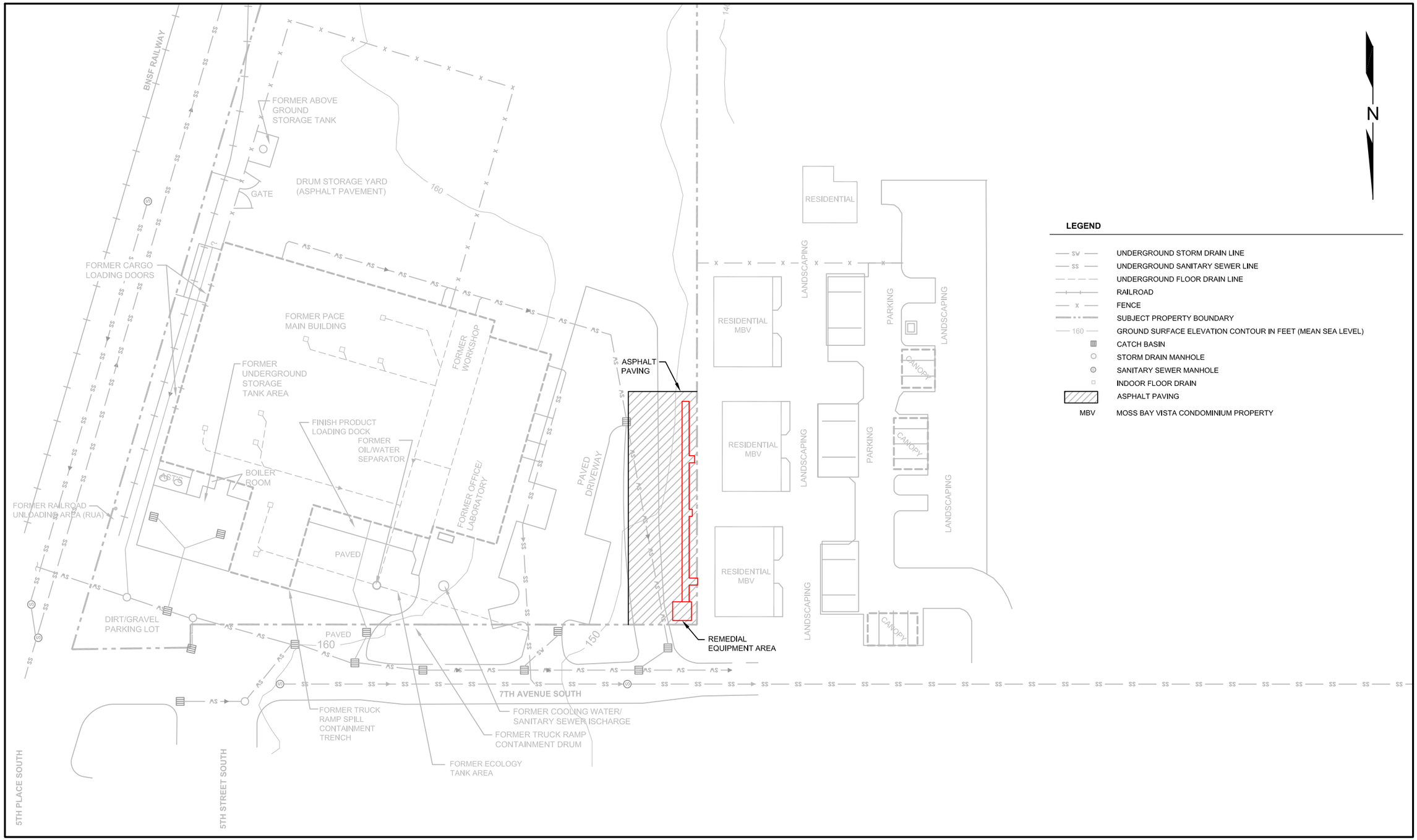
REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 12

MAP SHOWING VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER AT COMPLIANCE MONITORING WELLS



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CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 13
MAP SHOWING CLEANUP ALTERNATIVE
AIR SPARGE AND SOIL VAPOR
EXTRACTION REMEDIATION SYSTEM

1/16/2012

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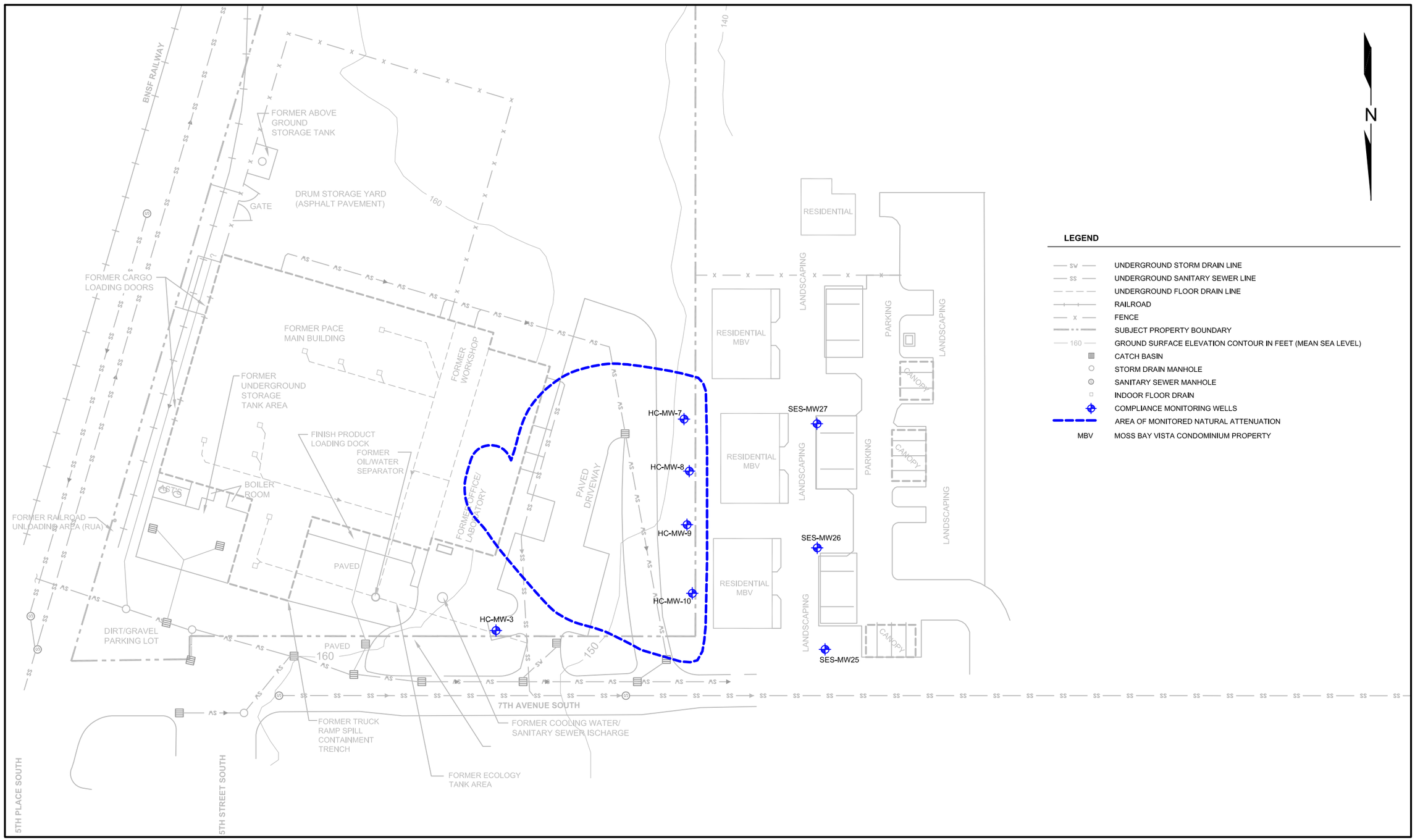

N

LEGEND

- SW — UNDERGROUND STORM DRAIN LINE
- SS — UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- x — FENCE
- SUBJECT PROPERTY BOUNDARY
- 160 — GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN
- COMPLIANCE MONITORING WELLS
- AREA OF MONITORED NATURAL ATTENUATION
- MBV — MOSS BAY VISTA CONDOMINIUM PROPERTY

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PROJECT NAME: FORMER PACE NATIONAL
PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 14
MAP SHOWING CLEANUP ALTERNATIVE
MONITORED NATURAL ATTENUATION

TABLES

SoundEarth Strategies

Table 1
Interim Remedial Action Analytical Results for Semi-Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																								
							1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,3,4,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Tribromophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dichlorophenol	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol (o-cresol)	2-Nitroaniline	2-Nitrophenol	3,3-Dichlorobenzidine	3,4-Methylphenol (m,p-cresc)	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenylphenylether
FETA																															
OWS-E-2.5	oil/water	Grab	2.5	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S1-SE-COMP	S and E sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S-2-NW-7	N and W sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S-3-B-10	bottom	Grab	10	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
North wall	PN@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
West wall	PW@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottom	PB@12	Grab	12	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North wall	PE@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South wall	PS@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PACE MAIN BUILDING																															
Pace Main Building	SS-4	Grab	Surface	Performance	03/17/06	Hart Crowser	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	--	<0.50	--	<0.10	<0.50	--	<0.10	--	<0.50	--	<0.10	--	--	<0.10
MTCA Cleanup Level for Soil							**800[a]**	**7,200[a]**	**NE**	**42[b]**	**2,400[a]**	**8,000[a]**	**NE**	**91[b]**	**240[a]**	**1,600[a]**	**160**	**160[a]**	**NE**	**80[a]**	**6,400[a]**	**400[a]**	**NE**	**4,000**	**NE**	**NE**	**2.2[b]**	**80[a]**	**NE**	**NE**	**NE**

Table 1
Interim Remedial Action Analytical Results
for Semi-Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																									
							4-Chloro-3-Methylphenol	4-Chloroaniline	4-Chlorophenylphenylether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Aniline	Anthracene	Benzidine	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Ideno(1,2,3-cd)pyrene	Benzo(ghi)perylene	Benzoic Acid	Benzyl Alcohol	Bis (2-chloroethoxy) methanol	Bis (2-chloroethyl) ether	Bis (2-chloroisopropyl) ether	Bis (2-ethylhexyl) ether	Bis (2-ethylhexyl) phthalate	Butylbenzylphthalate
FETA																																
OWS-E-2.5	oil/water	Grab	2.5	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S1-SE-COMP	S and E sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S-2-NW-7	N and W sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
S-3-B-10	bottom	Grab	10	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
North wall	PN@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
West wall	PW@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bottom	PB@12	Grab	12	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
North wall	PE@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South wall	PS@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PACE MAIN BUILDING																																
Pace Main Building	SS-4	Grab	Surface	Performance	03/17/06	Hart Crowser	<0.50	--	<0.50	--	<0.50	<0.10	<0.10	--	<0.10	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--	--	<0.50	--	--	<0.10	--	<0.50
MTCA Cleanup Level for Soil							**NE**	**320[a]**	**NE**	**NE**	**NE**	**4,800[a]**	**NE**	**180[b]**	**2,400[a]**	**0.0043[a]**	**0.1[c]**								**NE**	**320,000[a]**	**2,400[a]**	**40,000[a]**	**0.91[a]**	**3,200[a]**	**NE**	**71[a]**	**NE**

SoundEarth Strategies

Table 1
Interim Remedial Action Analytical Results for Semi-Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																									
							Carbazole	Dibenzofuran	Diethlyphthalate	Diethylphthalate	Dimethlyphthalate	Dimethylphthalate	Di-n-butylphthalate	Di-n-octylphthalate	Diphenylamine	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Isophorone	Naphthalene	Nitrobenzene	N-Nitrooso-di-n-propylamine	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
FETA																																
OWS-E-2.5	oil/water	Grab	2.5	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	6.4	NR	NR	NR
S1-SE-COMP	S and E sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4	NR	NR	NR
S-2-NW-7	N and W sidewall	Grab	7	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.055	NR	NR	NR
S-3-B-10	bottom	Grab	10	Performance	02/01/99	PSCI	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	NR	NR	NR
North wall	PN@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0067	--	--	--
West wall	PW@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0067	--	--	--
Bottom	PB@12	Grab	12	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0067	--	--	--
North wall	PE@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0067	--	--	--
South wall	PS@6	Grab	6	Confirmation	08/01/99	Galloway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0067	--	--	--
PACE MAIN BUILDING																																
Pace Main Building	SS-4	Grab	Surface	Performance	03/17/06	Hart Crowser	--	--	<0.10	--	<0.10	--	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	--	<0.10	--	--	--	<0.10	<0.50	<0.10	<0.50	<0.10
MTCA Cleanup Level for Soil							**50[b]**	**160**	**NE**	**NE**	**NE**	**NE**	**NE**	**1,600**	**2,000[a]**	**3,200[a]**	**3,200[a]**	**0.63[b]**	**13[b]**	**480[a]**	**71[b]**	**1,100[a]**	**5[c]**	**40[a]**	**0.14[b]**	**0.02[b]**	**200[b]**	**8.3[b]**	**NE**	**4,800[a]**	**2,400[a]**

NOTES:

[1]Analyzed by United States Environmental Protection Agency Method 8270.

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

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

[c]MTCA Cleanup Regulation, Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Uses of Chapter 173-340 of the WAC. Revised November 2007.

-- = not analyzed

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

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

FETA = Former Ecology Tank Area

Galloway = Galloway Environmental, Inc.

Hart Crowser = Hart Crowser, Inc.

MTCA = Washington State Model Toxics Control Act

NE = not established

NR = not reported by consultant or laboratory analytical reports not provided for review

PSCI = PSCI Environmental

WAC = Washington Administrative Code

Table 2
Interim Remedial Action Analytical Results
for Organochlorine Pesticides in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																					
							4,4-DDD	4,4-DDE	4,4-DDT	Aldrin	BHC, alpha	Chlordane, alpha	BHC, beta	BHC, delta	Dieldrin	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	BHC, gamma (Lindane)	Chlordane, gamma	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Hexachlorobutadiene	Methoxychlor	Toxaphene
FETA																												
North wall	PN@6	Grab	6	Confirmation	08/99	Galloway	<0.0033	<0.0033	NR	NR	NR	<0.0033	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	<0.0033	NR	<0.0017	NR	NR	NR	NR
West wall	PW@6	Grab	6	Confirmation	08/99	Galloway	<0.0033	<0.0033	NR	NR	NR	0.33	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	<0.0033	NR	<0.0017	NR	NR	NR	NR
Bottom	PB@12	Grab	12	Confirmation	08/99	Galloway	<0.0033	<0.0033	NR	NR	NR	<0.0033	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	<0.0033	NR	<0.0017	NR	NR	NR	NR
North wall	PE@6	Grab	6	Confirmation	08/99	Galloway	<0.0033	<0.0033	NR	NR	NR	<0.0033	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	<0.0033	NR	<0.0017	NR	NR	NR	NR
South wall	PS@6	Grab	6	Confirmation	08/99	Galloway	<0.0033	<0.0033	NR	NR	NR	<0.0033	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	<0.0017	NR	NR	NR	NR
MTCA Cleanup Level for Soil							**4.2**[a]	**2.9**[a]	**2.9**[a]	**0.059**[a]	**0.16**[a]	**2.9**[a]	**0.56**[a]	**NE**	**0.063**[a]	**480**[b]	**480**[b]	**480**[b]	**24**[b]	**24**[b]	**24**[b]	**0.01**[c]	**2.9**[a]	**0.22**[a]	**0.11**[a]	**0.63**[a]	**13**[a]	**400**[b]	**0.91**[a]

NOTES:

[1]Analyzed by United States Environmental Protection Agency Method SW 8081A.

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

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

[c]MTCA Cleanup Regulation, Chapter 173-340 WAC, CLARC, Soil, Method A, Unrestricted Land Use, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

< = not detected at a concentration exceeding the laboratory reporting limit
bgs = below ground surface
BHC = hexachlorocyclohexane
CLARC = Cleanup Levels and Risk Calculations
DDD= dichlorodiphenyldichloroethane
DDE = dichlorodiphenyldichloroethylene
DDT = dichlorodiphenyltrichloroethane
FETA = Former Ecology Tank Area
Galloway = Galloway Environmental, Inc.
MTCA = Washington State Model Toxics Control Act
NE = cleanup level not established
NR = not reported
WAC = Washington Admininstrative Code

Table 3
Interim Remedial Action Analytical Results for Total Petroleum Hydrocarbon Constituents in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth[1] (feet)	Compliance Status	Sample Date	Sampled By	Analytical Results (mg/kg)						
							HCID[2]	TPH	GRPH[3]	Mineral Spirits/Stoddard Solvent[3]	DRPH[4]	ORPH[4]	Kerosene/Jet Fuel[4]
FETA													
FETA	FETA-10'-11'	Grab	10	Investigation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	<20	<50	<20
PACE MAIN BUILDING													
Pace Main Building	SS-1[a]	Grab	Surface	Performance	03/17/06	Hart Crowser	--	--	<5.0	<5.0	1,100	<50	<20
Pace Main Building	SS-2[a]	Grab	Surface	Performance	03/17/06	Hart Crowser	--	--	<5.0	<5.0	<20	<50	<20
Pace Main Building	SS-4[a]	Grab	Surface	Performance	03/17/06	Hart Crowser	--	--	<5.0	**210**	250	<50	<20
RUA													
East wall	PEW@3'	Grab	3	Confirmation	02/25/00	Galloway	--	--	--	--	<200	--	--
West wall	PWW@3'	Grab	3	Performance	02/25/00	Galloway	--	--	--	--	**4,500**	--	--
North wall	PNW@3'	Grab	3	Confirmation	02/25/00	Galloway	--	--	--	--	<200	--	--
South wall	PSW@3'	Grab	3	Confirmation	02/25/00	Galloway	--	--	--	--	<200	--	--
Bottom	PB@8'	Grab	8	Confirmation	02/25/00	Galloway	--	--	--	--	95	--	--
West wall	PWW@3-2	Grab	3	Confirmation	03/08/00	Galloway	--	--	--	--	1,300	--	--
North wall	PNW@3-2	Grab	3	Confirmation	03/08/00	Galloway	--	--	--	--	<200	--	--
Bottom	PAST-BOT@8'	Grab	8	Confirmation	03/23/00	Galloway	--	--	--	--	<200	<58	--
North wall	PAST-N@3-6'	Grab	3 to 6	Confirmation	03/23/00	Galloway	--	--	--	--	<200	<58	--
West wall	PAST-W@3-6'	Grab	3 to 6	Confirmation	03/23/00	Galloway	--	--	--	--	110	<54	--
South wall	PAST-S@3'-6'	Grab	3 to 6	Confirmation	03/23/00	Galloway	--	--	--	--	<200	<53	--
RUA	LDA#1-Bottom	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	<20	<50	<20
RUA	LDA#2-North	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	<20	350	<20
RUA	LDA#3-East Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	<20	340	<20
RUA	LDA#4-South Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	62	<50	<20
RUA	LDA#5-West Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	--	--	<5.0	<5.0	<20	<50	<20
AREA A - Former Pace Main Building													
Area A	A-C-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-C-E-6	Grab	16	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-C-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-S-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-S-E-8	Grab	8	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-S-S-7	Grab	7	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-S-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-NE-9	Grab	9	Confirmation	10/10/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-N-B-16	Grab	16	Confirmation	10/11/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-N-NW-4/8	Grab	4 to 8	Confirmation	10/11/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-N-W-11	Grab	11	Confirmation	10/11/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area A	A-C-B-16	Grab	16	Confirmation	10/13/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
AREA B - UST Storage Tank Area													
Area B	B-SW-B-17	Grab	17	Confirmation	10/11/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-SW-S-8/10	Grab	8 to 10	Confirmation	10/11/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-S-S-7/10	Grab	7 to 10	Confirmation	10/12/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-C-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-W-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-E-N-6/7	Grab	6 to 7	Confirmation	10/16/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-E-S-5/6	Grab	7 to 9	Confirmation	10/16/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
MTCA Method A Soil Cleanup Level[5]							**NA**	**NA**	**100/30[b]**	**100/30[a]**	**2,000**	**2,000**	**2,000**

Table 3
Interim Remedial Action Analytical Results for Total Petroleum Hydrocarbon Constituents in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth[1] (feet)	Compliance Status	Sample Date	Sampled By	Analytical Results (mg/kg)						
							HCID[2]	TPH	GRPH[3]	Mineral Spirits/Stoddard Solvent[3]	DRPH[4]	ORPH[4]	Kerosene/Jet Fuel[4]
AREA B - UST Storage Tank Area													
Area B	BSE-B-12	Grab	12	Confirmation	10/23/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	BSE-E-6	Grab	6	Confirmation	10/23/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	BSE-W-7	Grab	7	Confirmation	10/23/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	BSE-S-E-7	Grab	7	Confirmation	10/25/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	BSE-S-W-8	Grab	8	Confirmation	10/25/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-NE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area B	B-SE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
AREA C - RUA													
Area C	C-C-B-13	Grab	13	Confirmation	10/13/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-E-8	Grab	8	Confirmation	10/13/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-W-B-13	Grab	13	Confirmation	10/16/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-NW-B-12	Grab	12	Confirmation	10/18/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-E-B-13	Grab	13	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-E-N-9	Grab	9	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-E-S-7	Grab	7	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-N-C-B-12	Grab	12	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-N-E-6	Grab	6	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-NE-B-10	Grab	10	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	C-N-W-6	Grab	6	Confirmation	10/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area C	CNW-S-6	Grab	3	Confirmation	10/25/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
AREA D - Subsurface Utility													
Area D	D-E-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-E-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-E-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-W-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-W-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-W-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
Area D	D-W-W-2/3	Grab	2 to 3	Confirmation	10/06/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
SB-15 EXCAVATION													
SB-15 Excavation	E1-B	Grab	6	Confirmation	02/16/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
SB-15 Excavation	E1-N	Grab	Unknown	Confirmation	02/17/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
SB-15 Excavation	E1-E	Grab	Unknown	Confirmation	02/18/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
SB-15 Excavation	E1-W	Grab	Unknown	Confirmation	02/19/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
SB-15 Excavation	E1-S	Grab	Unknown	Confirmation	02/20/06	Hart Crowser	--	--	<5	<5	<20	<50	<20
MTCA Method A Soil Cleanup Level[5]							**NA**	**NA**	**100/30[b]**	**100/30[a]**	**2,000**	**2,000**	**2,000**

NOTES:

Red denotes concentration exceeds MTCA Method A Soil Cleanup Level.

[1]Depth in feet below ground surface.

[2]Analyzed by Hydrocarbon Identification Method NWTPH-HCID.

[3]Analyzed by Method NWTPH-Gx.

[4]Analyzed by Method NWTPH-Dx.

[5]MTCA Cleanup Regulation, Table 740-1 Method A Cleanup Levels for Soil of Chapter 174-340-900 of the Washington Administrative Code.

[a]SS-1, SS-2, SS-3 - Samples of yellow material on surface soil.

[b]100 mg/kg when benzene is not present and 30 mg/kg when benzene is present.

-- = not analyzed
< = not detected at a concentration exceeding the laboratory reporting limit
DRPH = diesel-range petroleum hydrocarbons
FETA = Former Ecology Tank Area
Galloway = Galloway Environmental, Inc.
GRPH = gasoline-range petroleum hydrocarbons
Hart Crowser = Hart Crowser, Inc.
HCID= hydrocarbon identification
mg/kg = milligrams per kilogram
MTCA = Washington State Model Toxics Control Act
NA = Not Applicable
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH= oil-range petroleum hydrocarbons
RUA = Railroad Unloading Area
TPH = total petroleum hydrocarbons
UST = underground storage tank

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																				
							Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene
RUA																											
RUA	LDA#1-Bottom	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	0.085	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
RUA	LDA#2-North	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
RUA	LDA#3-East Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
RUA	LDA#4-South Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
RUA	LDA#5-West Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
AREA A - Former Main Pace Building																											
Area A	A-C-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-C-E-6	Grab	6	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-C-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-S-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-S-E-8	Grab	8	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-S-S-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-S-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-NE-9	Grab	9	Confirmation	10/10/06	Hart Crowser	<0.05	0.11	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-N-B-16	Grab	16	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-N-NW-4/8	Grab	4 to 8	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-N-W-11	Grab	11	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area A	A-C-B-16	Grab	16	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
AREA B - Underground Storage Tank Area																											
Area B	B-SW-B-17	Grab	17	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-SW-S-8/10	Grab	8 to 10	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-S-S-7/10	Grab	7 to 10	Confirmation	10/12/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-C-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-W-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-E-N-6/7	Grab	6 to 7	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-E-S-5/6	Grab	5 to 6	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-S-E-7/9	Grab	7 to 9	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	BSE-B-12	Grab	12	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	BSE-E-6	Grab	6	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	BSE-W-7	Grab	7	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	BSE-S-E-7	Grab	7	Confirmation	10/25/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	BSE-S-W-8	Grab	8	Confirmation	10/25/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-NE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area B	B-SE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil							**0.03[a]**	**7[a]**	**6[a]**	**9[a]**	**38[b]**	**2**	**5[b]**	**18[b]**	**10[c]**	**NE**	**5.6[b]**	**800[c]**	**0.14[b]**	**800[c]**	**4,000[c]**	**0.71[b]**	**0.005[b]**	**7,200[c]**	**11[b]**	**15[b]**	**4,000[c]**	**NE**

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																						
							1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chloroethyl Vinyl Ether	2-Chlorotoluene	2-Hexanone (MBK)	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene
RUA																												
RUA	LDA#1-Bottom	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	--	--	<0.05	--	<0.05	--	--	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RUA	LDA#2-North	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	--	--	<0.05	--	<0.05	--	--	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RUA	LDA#3-East Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	--	--	<0.05	--	<0.05	--	--	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RUA	LDA#4-South Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	--	--	<0.05	--	<0.05	--	--	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RUA	LDA#5-West Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.05	<0.05	<0.05	--	--	<0.05	--	<0.05	--	--	<0.05	<0.05	<0.05	<0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
AREA A - Former Main Pace Building																												
Area A	A-C-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-C-E-6	Grab	6	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-C-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-S-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-S-E-8	Grab	8	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-S-S-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-S-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-NE-9	Grab	9	Confirmation	10/10/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-N-B-16	Grab	16	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-N-NW-4/8	Grab	4 to 8	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-N-W-11	Grab	11	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area A	A-C-B-16	Grab	16	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
AREA B - Underground Storage Tank Area																												
Area B	B-SW-B-17	Grab	17	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-SW-S-8/10	Grab	8 to 10	Confirmation	10/11/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-S-S-7/10	Grab	7 to 10	Confirmation	10/12/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-C-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-W-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-E-N-6/7	Grab	6 to 7	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-E-S-5/6	Grab	5 to 6	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-S-E-7/9	Grab	7 to 9	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	BSE-B-12	Grab	12	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	BSE-E-6	Grab	6	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	BSE-W-7	Grab	7	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	BSE-S-E-7	Grab	7	Confirmation	10/25/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	BSE-S-W-8	Grab	8	Confirmation	10/25/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-NE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area B	B-SE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil							**15[b]**	**42[b]**	**15[b]**	**48,000[c]**	**0.91**	**1,600[c]**	**4,800**	**1,600[c]**	**6,400[c]**	**8,000[c]**	**400[c]**	**16[b]**	**130[b]**	**110[c]**	**8,000[c]**	**7.7[a]**	**1,600[c]**	**345[b]**	**164[c]**	**77[b]**	**800[a]**	**5.6[b]**

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																						
							Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Hexachloro-1,3-butadiene	Isopropylbenzene	Isopropyltoluene	Methyl Isobutyl Ketone	Methylene chloride	Methyl t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl chloride
RUA																													
RUA	LDA#1-Bottom	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	**<0.20**	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	--	<0.05
RUA	LDA#2-North	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	**<0.20**	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	--	<0.05
RUA	LDA#3-East Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	**<0.20**	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	--	<0.05
RUA	LDA#4-South Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	**<0.20**	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	--	<0.05
RUA	LDA#5-West Side	Grab	Unknown	Confirmation	10/10/03	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	**<0.20**	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	--	<0.05
AREA A - Former Main Pace Building																													
Area A	A-C-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-C-E-6	Grab	6	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-C-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-S-B-16	Grab	16	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-S-E-8	Grab	8	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-S-S-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-S-W-7	Grab	7	Confirmation	10/09/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-NE-9	Grab	9	Confirmation	10/10/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-N-B-16	Grab	16	Confirmation	10/11/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-N-NW-4/8	Grab	4 to 8	Confirmation	10/11/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-N-W-11	Grab	11	Confirmation	10/11/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area A	A-C-B-16	Grab	16	Confirmation	10/13/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
AREA B - Underground Storage Tank Area																													
Area B	B-SW-B-17	Grab	17	Confirmation	10/11/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-SW-S-8/10	Grab	8 to 10	Confirmation	10/11/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-S-S-7/10	Grab	7 to 10	Confirmation	10/12/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-C-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-W-B-17	Grab	17	Confirmation	10/13/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-E-N-6/7	Grab	6 to 7	Confirmation	10/16/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-E-S-5/6	Grab	5 to 6	Confirmation	10/16/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-S-E-7/9	Grab	7 to 9	Confirmation	10/16/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	BSE-B-12	Grab	12	Confirmation	10/23/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	BSE-E-6	Grab	6	Confirmation	10/23/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	BSE-W-7	Grab	7	Confirmation	10/23/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	BSE-S-E-7	Grab	7	Confirmation	10/25/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	BSE-S-W-8	Grab	8	Confirmation	10/25/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-NE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area B	B-SE-B-17	Grab	17	Confirmation	10/27/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
MTCA Cleanup Level for Soil							**12[b]**	**800[c]**	**16[c]**	**13[b]**	**8,000[c]**	**NE**	**6,400[c]**	**0.02[a]**	**0.1[a]**	**5[a]**	**NE**	**NE**	**NE**	**33[b]**	**NE**	**0.05[a]**	**1,600**	**5.6[b]**	**0.03**	**24,000[c]**	**80,000[c]**	**0.67[b]**

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																					
							Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene
AREA C - RUA																												
Area C	C-C-B-13	Grab	13	Confirmation	10/13/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-E-8	Grab	8	Confirmation	10/13/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-W-B-13	Grab	13	Confirmation	10/16/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-NW-B-12	Grab	12	Confirmation	10/18/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-E-B-13	Grab	13	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-E-N-9	Grab	9	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-E-S-7	Grab	7	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-N-C-B-12	Grab	12	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-N-E-6	Grab	6	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-NE-B-10	Grab	10	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-N-W-6	Grab	6	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-W-N-8	Grab	8	Confirmation	10/23/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	C-W-S-6	Grab	6	Confirmation	10/23/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area C	CNW-S-6	Grab	6	Confirmation	10/25/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
AREA D - Subsurface Utility																												
Area D	D-7 (Grab)	Grab	Unknown	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-E-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-E-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-E-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-W-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-W-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-W-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	D-W-W-2/3	Grab	2 to 3	Confirmation	10/06/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
Area D	Grab (Fill)	Grab	Unknown	Confirmation	10/17/06	Hart Crowser	**<0.05**	<0.05	0.05	0.051	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.44	<0.05	0.45	0.19	<0.05	<0.005	<0.05	<0.020	<0.05	0.23	<0.05
Area D	Grab 4	Grab	Unknown	Confirmation	10/19/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
SB-15 EXCAVATION																												
SB-15	E1-B	Grab	6	Investigation	02/16/06	Hart Crowser	**<0.05**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.05	<0.020	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil							**0.03**[a]	**7**[a]	**6**[a]	**9**[a]	**38**[b]	**2**	**5**[b]	**18**[b]	**10**[c]	**NE**	**5.6**[b]	**800**[c]	**0.14**[b]	**800**[c]	**4,000**[c]	**0.71**[b]	**0.005**[b]	**7,200**[c]	**11**[b]	**15**[b]	**4,000**[c]	**NE**

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																						
							1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chloroethyl Vinyl Ether	2-Chlorotoluene	2-Hexanone (MBK)	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone	Bromobenzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene
AREA C - RUA																													
Area C	C-C-B-13	Grab	13	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-E-8	Grab	8	Confirmation	10/13/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-W-B-13	Grab	13	Confirmation	10/16/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-NW-B-12	Grab	12	Confirmation	10/18/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-E-B-13	Grab	13	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-E-N-9	Grab	9	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-E-S-7	Grab	7	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-N-C-B-12	Grab	12	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-N-E-6	Grab	6	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-NE-B-10	Grab	10	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-N-W-6	Grab	6	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-W-N-8	Grab	8	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	C-W-S-6	Grab	6	Confirmation	10/23/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area C	CNW-S-6	Grab	6	Confirmation	10/25/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
AREA D - Subsurface Utility																													
Area D	D-7 (Grab)	Grab	Unknown	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-E-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-E-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-E-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-W-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-W-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-W-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	D-W-W-2/3	Grab	2 to 3	Confirmation	10/06/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	Grab (Fill)	Grab	Unknown	Confirmation	10/17/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Area D	Grab 4	Grab	Unknown	Confirmation	10/19/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SB-15 EXCAVATION																													
SB-15	E1-B	Grab	6	Investigation	02/16/06	Hart Crowser	<0.05	<0.05	<0.05	--	NR	<0.05	--	<0.05	--	NR	<0.05	<0.05	<0.05	<0.05	NR	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MTCA Cleanup Level for Soil							**15[b]**	**42[b]**	**15[b]**	**48,000[c]**	**0.91**	**1,600[c]**	**4,800**	**1,600[c]**	**6,400[c]**	**8,000[c]**	**400[c]**	**16[b]**	**130[b]**	**110[c]**	**8,000[c]**	**7.7[b]**	**1,600[c]**	**345[b]**	**164[c]**	**77[b]**	**800[a]**	**5.6[b]**

SoundEarth Strategies

Table 4
Interim Remedial Action Analytical Results for Volatile Organic Compounds in Soil
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample ID	Sample Type	Depth (feet bgs)	Compliance Status	Sample Date	Sampled By	Analytical Results[1] (milligrams per kilogram)																						
							Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Hexachloro-1,3-butadiene	Isopropylbenzene	Isopropyltoluene	Methyl Isobutyl Ketone	Methylene chloride	Methyl t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl chloride
AREA C - RUA																													
Area C	C-C-B-13	Grab	13	Confirmation	10/13/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-E-8	Grab	8	Confirmation	10/13/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-W-B-13	Grab	13	Confirmation	10/16/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-NW-B-12	Grab	12	Confirmation	10/18/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-E-B-13	Grab	13	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-E-N-9	Grab	9	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-E-S-7	Grab	7	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-N-C-B-12	Grab	12	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-N-E-6	Grab	6	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-NE-B-10	Grab	10	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-N-W-6	Grab	6	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-W-N-8	Grab	8	Confirmation	10/23/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	C-W-S-6	Grab	6	Confirmation	10/23/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area C	CNW-S-6	Grab	6	Confirmation	10/25/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
AREA D - Subsurface Utility																													
Area D	D-7 (Grab)	Grab	Unknown	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-E-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-E-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-E-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-W-B-12	Grab	12	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-W-N-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-W-S-3/5	Grab	3 to 5	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	D-W-W-2/3	Grab	2 to 3	Confirmation	10/06/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	Grab (Fill)	Grab	Unknown	Confirmation	10/17/06	Hart Crowser	<0.020	<0.05	<0.05	0.25	0.088	0.25	--	<0.02	--	0.71	0.36	0.13	0.056	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
Area D	Grab 4	Grab	Unknown	Confirmation	10/19/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.27**	<0.05	<0.05	**0.046**	<0.05	NR	<0.05
SB-15 EXCAVATION																													
SB-15	E1-B	Grab	6	Investigation	02/16/06	Hart Crowser	<0.020	<0.05	<0.05	<0.05	<0.05	<0.05	--	<0.02	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.05	NR	<0.05
MTCA Cleanup Level for Soil							**12[b]**	**800[c]**	**16[c]**	**13[b]**	**8,000[c]**	**NE**	**6,400[c]**	**0.02[a]**	**0.1[a]**	**5[a]**	**NE**	**NE**	**NE**	**33[b]**	**NE**	**0.05[a]**	**1,600**	**5.6[b]**	**0.03**	**24,000[c]**	**80,000[c]**	**0.67[b]**

NOTES:

Red denotes concentration exceeds MTCA Soil Cleanup Level.

Blue denotes result was not detected at a concentration exceeding the laboratory reporting limit, however, the laboratory reporting limit exceeds the MTCA cleanup level.

[1]Analyzed by United States Environmental Protection Agency Method 8260.

[a]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Soil, Method A, Unrestricted Land Use, Standard Formula Value, CLARC Web site <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

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

[c]MTCA, Chapter 173-340 WAC, CLARC, Soil, Method B, Non-Carcinogen, Standard Formula Value, CLARC Web site <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

-- = not analyzed

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

bgs = below ground surface

CLARC = Cleanup Levels and Risk Calculations

Hart Crowser = Hart Crowser, Inc.

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

NR = not reported by consultant or laboratory analytical reports not provided for review

RUA = railroad unloading area

WAC = Washington Administrative Code

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																													
				Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dibromo-3-Chloropropane	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3-Dichlorobenzene	1,3-Dichloropropane	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	2-Chlorotoluene	2,2 Dichloropropane	4-Chlorotoluene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
DOWNGRADIENT																																	
SB-14	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-11	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-10	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-12	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-11	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-10	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-9	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-8	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-7	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-4	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-3	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-14	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-11	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-10	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-12	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-11	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-10	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-9	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-8	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-7	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-4	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-3	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-14	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-10	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-11	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-10	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-9	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-8	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-7	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-11	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-12	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-4	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-14	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-10	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-12	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-11	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-10	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-9	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-8	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-7	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-13	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-11	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-4	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-14	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-11	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-10	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-12	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
MTCA Cleanup Level[2]				**5[a]**	**1,000[a]**	**700**	**1,000[a]**	**1,600[b]**	**400[b]**	**NE**	**200[a]**	**1.7[c]**	**0.22[c]**	**0.77[c]**	**0.031[c]**	**80[b]**	**0.0063[c]**	**80[c]**	**400[b]**	**720[b]**	**5[a]**	**0.64[c]**	**NE**	**0.24[c]**	**400[b]**	**1.8[c]**	**160**	**NE**	**NE**	**NE**	**0.52[b]**	**0.71[c]**	**5.5[c]**

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																												
				Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylene dibromide (EDB)	Hexachloro-1,3-butadiene	Isopropylbenzene	Isopropyltoluene	Methylene Chloride	Methyl t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butyl-benzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride
DOWNGRADIENT																																
SB-14	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7
SB-11	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.3
SB-10	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	3.2
HC-MW-12	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-11	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	14	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	37
HC-MW-10	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.5
HC-MW-9	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.7
HC-MW-8	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4
HC-MW-7	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-4	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	29	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.3
HC-MW-3	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-14	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.1
SB-11	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	22
SB-10	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.6	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
HC-MW-12	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-11	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	51
HC-MW-10	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.5
HC-MW-9	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.5	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.9
HC-MW-8	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9
HC-MW-7	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-4	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	21	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.8
HC-MW-3	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-14	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.8
SB-10	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.9	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.8
HC-MW-11	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	45
HC-MW-10	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9
HC-MW-9	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.4	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.5
HC-MW-8	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	16	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11
HC-MW-7	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-11	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7
HC-MW-12	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-4	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	17	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	13
SB-14	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.9
SB-10	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.2
HC-MW-12	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-11	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	21
HC-MW-10	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.6
HC-MW-9	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-8	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.8
HC-MW-7	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-13	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-11	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	29
HC-MW-4	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	30	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
SB-14	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.2
SB-11	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-10	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.5	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.6
HC-MW-12	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
MTCA Cleanup Level[2]				11[b]	0.34[c]	160[b]	15[c]	7.2[c]	3.4[c]	80[b]	0	0.52[c]	80[b]	1,600[b]	0.01[a]	0.56[c]	800[b]	NE	5[a]	20[a]	160[a]	NE	NE	NE	1.5[c]	NE	5[a]	5[b]	0.24[c]	5[a]	2,400[b]	0.2[a]

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																												
				Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dibromo-3-Chloropropane	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3-Dichlorobenzene	1,3-Dichloropropane	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	2-Chlorotoluene	2,2 Dichloropropane	4-Chlorotoluene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
DOWNGRADIENT																																
HC-MW-10	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-9	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-8	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-7	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-3	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-4	Groundwater	07/09/08	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-7	Groundwater	07/09/08	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-8	Groundwater	07/09/08	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-9	Groundwater	07/09/08	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-10	Groundwater	07/09/08	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-4	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	**<1.0**	<1.0
HC-MW-7	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-8	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-9	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-10	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-11	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-13	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
SB-10	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
SB-11	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--
HC-MW-4	Groundwater	05/21/09	SES	--	--	--	--	0.44	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.38	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-7	Groundwater	05/21/09	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-8	Groundwater	05/21/09	SES	--	--	--	--	0.54	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.72	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-9	Groundwater	05/21/09	SES	--	--	--	--	0.64	0.33	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.53	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-10	Groundwater	05/21/09	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-11	Groundwater	05/21/09	SES	--	--	--	--	0.63	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	1.1	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
HC-MW-13	Groundwater	05/21/09	SES	--	--	--	--	0.37	0.27	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
SB-10	Groundwater	05/21/09	SES	--	--	--	--	0.58	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.68	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
SB-11	Groundwater	05/21/09	SES	--	--	--	--	0.51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.69	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
SB-14	Groundwater	05/21/09	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20
SES-MW25	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	25	<0.20	<0.20	--
MW-99	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
SES-MW26	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
SES-MW27	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
HC-MW-7	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
HC-MW-8	Groundwater	06/07/10	SES	--	--	--	--	0.60	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.78	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
HC-MW-9	Groundwater	06/07/10	SES	--	--	--	--	0.49	0.25	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.33	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
MW-98	Groundwater	06/07/10	SES	--	--	--	--	0.53	0.24	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	0.35	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
HC-MW-10	Groundwater	06/07/10	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	--
UNDERGROUND STORAGE TANK AREA																																
HC-MW-24	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-20	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-24	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-20	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-20	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-24	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-20	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-24	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-20	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
HC-MW-24	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0
MTCA Cleanup Level[2]				**5[a]**	**1,000[a]**	**700**	**1,000[a]**	**1,600[b]**	**400[b]**	**NE**	**200[a]**	**1.7[c]**	**0.22[c]**	**0.77[c]**	**0.031[c]**	**80[b]**	**0.0063[c]**	**80[c]**	**400[b]**	**720[b]**	**5[a]**	**0.64[c]**	**NE**	**0.24[c]**	**400[b]**	**1.8[c]**	**160**	**NE**	**NE**	**NE**	**0.52[b]**	**0.71[c]**	**5.5[c]**

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																												
				Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylene dibromide (EDB)	Hexachloro-1,3-butadiene	Isopropylbenzene	Isopropyltoluene	Methylene Chloride	Methyl t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butyl-benzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride
DOWNGRADIENT																																
HC-MW-10	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.9
HC-MW-9	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.5	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2
HC-MW-8	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.4	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.6
HC-MW-7	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-3	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-4	Groundwater	07/09/08	SES	--	--	--	<1.0	--	--	9.2	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	2.8
HC-MW-7	Groundwater	07/09/08	SES	--	--	--	<1	--	--	<1	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	<0.2
HC-MW-8	Groundwater	07/09/08	SES	--	--	--	<1	--	--	13	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	11
HC-MW-9	Groundwater	07/09/08	SES	--	--	--	<1	--	--	6.4	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	5.3
HC-MW-10	Groundwater	07/09/08	SES	--	--	--	<1	--	--	<1	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	2.9
HC-MW-4	Groundwater	02/24/09	SES	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	20	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	6.9
HC-MW-7	Groundwater	02/24/09	SES	--	--	--	<1	--	--	<1	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	0.39
HC-MW-8	Groundwater	02/24/09	SES	--	--	--	<1	--	--	10	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	20
HC-MW-9	Groundwater	02/24/09	SES	--	--	--	<1	--	--	4.7	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	3.2
HC-MW-10	Groundwater	02/24/09	SES	--	--	--	<1	--	--	<1	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	1.7
HC-MW-11	Groundwater	02/24/09	SES	--	--	--	<1	--	--	3.0	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	30
HC-MW-13	Groundwater	02/24/09	SES	--	--	--	4.4	--	--	1.4	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	3.3
SB-10	Groundwater	02/24/09	SES	--	--	--	<1	--	--	6.3	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	9.3
SB-11	Groundwater	02/24/09	SES	--	--	--	<1	--	--	1.1	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	<1	<1	--	<1	--	6.4
HC-MW-4	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	11	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.46	<0.20	0.26	<0.20	1.8
HC-MW-7	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	0.60
HC-MW-8	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	8.6	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.56	<0.20	<0.20	<0.20	13
HC-MW-9	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	4.5	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.30	<0.20	<0.20	<0.20	5.7
HC-MW-10	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	0.29	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	0.51
HC-MW-11	Groundwater	05/21/09	SES	<0.20	0.20	<1.0	<0.20	<1.0	<1.0	1.8	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.82	<0.20	<0.20	<0.20	18
HC-MW-13	Groundwater	05/21/09	SES	<0.20	<0.20	1.6	<0.20	<1.0	<1.0	0.89	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	1.3
SB-10	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	4.4	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.48	<0.20	<0.20	<0.20	9.8
SB-11	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	0.61	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.56	<0.20	<0.20	<0.20	16
SB-14	Groundwater	05/21/09	SES	<0.20	<0.20	<1.0	<0.20	<1.0	<1.0	0.42	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	1.8
SES-MW25	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
MW-99	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
SES-MW26	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
SES-MW27	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
HC-MW-7	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	0.40	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	1.8
HC-MW-8	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	10	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	0.76	<0.20	<0.20	<0.20	16
HC-MW-9	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	3.5	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	2.3
MW-98	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	3.4	<0.20	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	2.3
HC-MW-10	Groundwater	06/07/10	SES	--	<0.20	<0.20	<1.0	<0.20	<1.0	0.45	<0.20	<0.20	--	<0.20	--	--	--	--	<1.0	--	--	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	0.89
UNDERGROUND STORAGE TANK AREA																																
HC-MW-24	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<0.2
HC-MW-20	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-24	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-20	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-20	Groundwater	07/02/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-24	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-20	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-24	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-20	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-24	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
MTCA Cleanup Level[2]				11[b]	0.34[c]	160[b]	15[c]	7.2[c]	3.4[c]	80[b]	0	0.52[c]	80[b]	1,600[b]	0.01[a]	0.56[c]	800[b]	NE	5[a]	20[a]	160[a]	NE	NE	NE	1.5[c]	NE	5[a]	5[b]	0.24[c]	5[a]	2,400[b]	0.2[a]

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																												
				Benzene	Toluene	Ethylbenzene	Total Xylenes	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,1,1-Trichloroethane	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,2-Dibromo-3-Chloropropane	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dichlorobenzene	1,2-Dichloroethane (EDC)	1,2-Dichloropropane	1,3-Dichlorobenzene	1,3-Dichloropropane	1,3,5-Trimethylbenzene	1,4-Dichlorobenzene	2-Chlorotoluene	2,2 Dichloropropane	4-Chlorotoluene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform
SUBSURFACE UTILITY																																
HC-MW-23	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-36	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-38	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-36	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-23	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
SB-38	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-23	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-22	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-23	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-22	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-19	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-19	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-22	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-19	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-22	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-17	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-18	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-17	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-16	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-15	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-14	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-22	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-23	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-19	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	**<1.0**	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**<1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	**<1.0**	<1.0
HC-MW-21	Groundwater	02/24/09	SES	--	--	--	--	<1	<1	--	<1	--	--	--	--	--	--	--	--	--	<1	--	--	--	--	--	--	--	--	--	--	--	--
HC-MW-21	Groundwater	05/21/09	SES	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	**<1.0**	<0.20	**<0.20**	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0
MTCA Cleanup Level[2]				**5[a]**	**1,000[a]**	**700**	**1,000[a]**	**1,600[b]**	**400[b]**	**NE**	**200[a]**	**1.7[c]**	**0.22[c]**	**0.77[c]**	**0.031[c]**	**80[b]**	**0.0063[c]**	**80[c]**	**400[b]**	**720[b]**	**5[a]**	**0.64[c]**	**NE**	**0.24[c]**	**400[b]**	**1.8[c]**	**160**	**NE**	**NE**	**NE**	**0.52[b]**	**0.71[c]**	**5.5[c]**

SoundEarth Strategies

Table 5
Summary of Analytical Results for Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)[1]																												
				Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethylene dibromide (EDB)	Hexachloro-1,3-butadiene	Isopropylbenzene	Isopropyltoluene	Methylene Chloride	Methyl t-butyl ether	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butyl-benzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride
SUBSURFACE UTILITY																																
HC-MW-23	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.9	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	1.5
SB-36	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-38	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-36	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-23	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
SB-38	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-23	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	<1.0	<0.2
HC-MW-22	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-21	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.1
HC-MW-23	Groundwater	07/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	0.6
HC-MW-22	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-21	Groundwater	01/25/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.8	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1
HC-MW-19	Groundwater	02/09/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-19	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-22	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-21	Groundwater	04/12/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2
HC-MW-19	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-22	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.4
HC-MW-21	Groundwater	10/03/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.9	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	17
HC-MW-17	Groundwater	10/05/07	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.9
HC-MW-18	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-17	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.9
HC-MW-16	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-15	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-14	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8
HC-MW-22	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-21	Groundwater	02/05/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-23	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	1	<1.0	<0.2
HC-MW-19	Groundwater	02/06/08	Hart Crowser	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2
HC-MW-21	Groundwater	02/24/09	SES	--	--	--	<1	--	--	2.3	--	--	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	<1	<1	--	<1	--	0.32
HC-MW-21	Groundwater	05/21/09	SES	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	4.1	<0.20	<0.20	<0.20	<0.20	--	<0.20	--	--	<1.0	--	--	--	--	--	--	--	--	0.28	<0.20	<0.20	1.2	<0.20	<0.20
MTCA Cleanup Level[2]				**11[b]**	**0.34[c]**	**160[b]**	**15[c]**	**7.2[c]**	**3.4[c]**	**80[b]**	**0**	**0.52[c]**	**80[b]**	**1,600[b]**	**0.01[a]**	**0.56[c]**	**800[b]**	**NE**	**5[a]**	**20[a]**	**160[a]**	**NE**	**NE**	**NE**	**1.5[c]**	**NE**	**5[a]**	**5[b]**	**0.24[c]**	**5[a]**	**2,400[b]**	**0.2[a]**

Table 5
Summary of Analytical Results for
Volatile Organic Compounds in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

NOTES:

Red denotes concentration exceeds MTCA cleanup level.

Blue denotes result was not detected at a concentration exceeding the laboratory reporting limit, however, the laboratory reporting limit exceeds the MTCA cleanup level.

[1]Analyzed with EPA Method 8260.

[2]MTCA Cleanup Regulation, Table 720-1 Method A Cleanup Levels for Groundwater of Chapter 173-340-900 of WAC. Revised November 2007.

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

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

[c]EPA and State of Washington Maximum Contaminant Level.

-- = not analyzed

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

CLARC = Cleanup Levels and Risk Calculations

EPA = United States Environmental Protection Agency

Hart Crowser = Hart Crowser, Inc.

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

SES = Sound Environmental Strategies

WAC = Washington Administrative Code

Table 6
Summary of Analytical Results for
Total Petroleum Hydrocarbon Constituents in Groundwater
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Location	Sample Type	Sample Date	Sampled By	Analytical Results (micrograms per liter)						
				HCID[1]	TPH[2]	GRPH[3]	Mineral Spirits/ Stoddard Solvent[3]	DRPH[4]	ORPH[4]	Kerosene/Jet Fuel[4]
UNDERGROUND STORAGE TANK AREA										
HC-MW-20	Groundwater	01/25/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-24	Groundwater	01/25/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-20	Groundwater	10/03/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-24	Groundwater	10/03/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-20	Groundwater	02/05/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-24	Groundwater	02/06/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-24	Groundwater	06/03/10	SES	--	--	<100	--	<280	<450	--
PACE MAIN BUILDING										
HC-MW-21	Groundwater	01/25/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-22	Groundwater	01/25/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-21	Groundwater	10/03/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-22	Groundwater	10/03/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-21	Groundwater	02/05/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-22	Groundwater	02/05/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-19	Groundwater	02/06/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-21	Groundwater	06/03/10	SES	--	--	<100	--	<270	<430	--
SUBSURFACE UTILITY										
HC-MW-3	Groundwater	06/07/10	SES	--	--	<400	--	<290	<460	--
SB-22	Groundwater	06/07/10	SES	--	--	<100	--	<280	<440	--
HC-MW-23	Groundwater	01/25/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-23	Groundwater	10/05/07	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-23	Groundwater	02/06/08	Hart Crowser	--	--	<100	<100	<200	<500	<200
HC-MW-18	Groundwater	06/04/10	SES	--	--	<100	--	<160	<250	--
RUA										
HC-MW2R	Groundwater	06/03/10	SES	--	--	<100	--	<270	<430	--
DOWNGRADIENT										
SES-MW25	Groundwater	06/07/10	SES	--	--	<100	--	<260	<420	--
SES-MW26	Groundwater	06/07/10	SES	--	--	<100	--	<300	<480	--
SES-MW27	Groundwater	06/07/10	SES	--	--	<400	--	<210	<250	--
HC-MW-4	Groundwater	06/04/10	SES	--	--	<100	--	<310	<490	--
HC-MW-7	Groundwater	06/04/10	SES	--	--	<100	--	<300	<470	--
HC-MW-8	Groundwater	06/04/10	SES	--	--	<100	--	<300	<480	--
HC-MW-9	Groundwater	06/04/10	SES	--	--	<100	--	<170	<270	--
HC-MW-10	Groundwater	06/04/10	SES	--	--	<100	--	<260	<420	--
MTCA Method A Cleanup Level[5]				**NA**	**800/1,000[a]**	**800/1,000[a]**	**800/1,000[a]**	**500**	**500**	**500**

NOTES:

Red denotes concentration exceeds MTCA Method A Cleanup Level.

[1]Analyzed by Hydrocarbon Identification Method NWTPH-HCID.

[2]Analyzed by United States Environmental Protection Agency 8015(mod).

[3]Analyzed by Method NWTPH-Gx.

[4]Analyzed by Method NWTPH-Dx.

[5]MTCA Cleanup Regulation, Table 720-1 Method A Soil Cleanup Levels for Groundwater of Chapter 173-340 of the Washington Administrative Code. Revised November 2007.

[a]800 µg/L when benzene is present, 1,000 µg/L when benzene is not present.

-- = not analyzed

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

DRPH = diesel-range petroleum hydrocarbons

GRPH = gasoline-range petroleum hydrocarbons

Hart Crowser = Hart Crowser, Inc.

HCID = hydrocarbon identification

MTCA = Washington State Model Toxics Control Act

NA = not applicable

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH= oil-range petroleum hydrocarbons

RUA = Railroad Unloading Area

SES = Sound Environmental Strategies

TPH = total petroleum hydrocarbons

APPENDIX A
COMPLIANCE MONITORING PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

COMPLIANCE MONITORING PLAN

APPENDIX A OF THE CLEANUP ACTION PLAN

Property:
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Prepared for:
Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington

Report Date:
January 17, 2012

COMPLIANCE MONITORING PLAN
Appendix A of the Cleanup Action Plan

Prepared for:

Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington 98105

Prepared for:

Former Pace National Site
500 7th Avenue South
Kirkland, Washington 98033

Project No.: 0698-001-03

Prepared by:

Thomas J. Cammarata, LG, LHG
Senior Environmental Geochemist

Reviewed by:

John R. Funderburk MSPH
Principal Scientist

January 17, 2012

SoundEarth Strategies

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ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

CMP	Compliance Monitoring Plan
Consent Decree	Legal agreement for Cleanup Action Plan to be implemented
Defendant	Ultra Corporation, a Washington corporation, and its successors and assigns
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
HASP	Health and Safety Plan
MNA	monitored natural attenuation
MTCA	Washington State Model Toxics Control Act
OnSite	OnSite Environmental Inc.
Periodic Review	Periodic review consists of a review by Ecology of post-cleanup Site conditions and monitoring results to assure that human health and the environment are being protected, following WAC 173-340-420
the Property	500 7th Avenue South, Kirkland, Washington
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
Restrictive Covenant Closure	A delisting of the Site conditioned upon recordation of appropriate restrictive covenants
the Site	the extent of historical and current contamination
SoundEarth	SoundEarth Strategies, Inc.
TSD	treatment, storage, and disposal
Ultra	Ultra Corporation
WAC	Washington Administrative Code

1.0 INTRODUCTION

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Compliance Monitoring Plan (CMP) for the Former Pace National facility located at 500 7th Avenue South in Kirkland, Washington (hereinafter referred to as the Property), shown on Figures A-1 and A-2. The Property is located in Section 8, Township 25 North, Range 5 West in King County, Kirkland, Washington, southwest of the intersection of 7th Avenue South and the Burlington Northern Santa Fe Railroad. For the purposes of this cleanup action, the Site is defined in the Consent Decree as the historical and current area where hazardous substances had come to be located on the Ultra Property and requires remedial action in accordance with the Consent Decree and with the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation as established in Section 200 of Chapter 340 of Title 173 of the Washington Administrative Code (WAC 173-340-200). The boundaries of the Site are shown on Figure A-3. This CMP has been prepared on behalf of Ultra Corporation (Ultra), the owner of the Property, in accordance with the Consent Decree and WAC 173-340-410 of the MTCA.

The purpose of the CMP is to provide the protocols pertaining to sample locations, measurement frequencies, sampling equipment and procedures, and sample handling and analysis that will be used during the cleanup action. In addition, the CMP provides a basis for planning field activities and a mechanism for implementing quality assurance requirements. The Quality Assurance Project Plan (QAPP) and the Health and Safety Plan (HASP) for the cleanup action at the Site are provided under separate cover (Exhibit B of the Consent Decree). The QAPP describes both quantitative and qualitative measures of data quality to ensure that the data quality objectives for the cleanup action are achieved. The HASP outlines the Site-specific health and safety requirements for the cleanup action.

1.1 ORGANIZATION

The CMP is organized into the following sections:

- **Section 1, Introduction.** This section describes the purpose of the CMP and the cleanup action.
- **Section 2, Cleanup Action Components.** Section 2 provides a description of the components for the cleanup action at the Site. The cleanup action components include preparation of the CMP, QAPP, and HASP and compliance monitoring and reporting.
- **Section 3, Sampling Protocols and Procedures.** Section 3 presents details regarding sampling equipment and procedures for the collection of groundwater samples, as well as the sample designation and numbering system for groundwater samples.
- **Section 4, Laboratory Analyses.** Section 4 lists the laboratory analytical methods that will be used for compliance monitoring.
- **Section 5, Sample Handling.** Section 5 provides details on groundwater sampling containers, preservation and hold times, and sample packaging and shipment.
- **Section 6, Management of Investigation-Derived Waste.** Section 6 provides details on waste sampling, profiling, and handling.
- Section **7, Field Documentation.** Section 7 summarizes the field documentation procedures to be implemented during the cleanup action.

2.0 CLEANUP ACTION COMPONENTS

This section provides a description of the cleanup action components intended to reduce concentrations of vinyl chloride exceeding the MTCA Method A cleanup level in groundwater at the Site. The cleanup action will consist of the following components:

- Preparing the CMP, a QAPP, and a HASP for implementation of the cleanup action.
- Monitoring groundwater quality at monitoring wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW25 through SES-MW27 (Figure A-3).
- Documenting the cleanup action and Site closure activities.

The components of the selected cleanup action are discussed in detail in the following subsections.

2.1 CLEANUP ACTION IMPLEMENTATION DOCUMENTS

SoundEarth has prepared the CMP which includes the QAPP and HASP prior to implementation of the cleanup action. The purpose of the CMP is to ensure that the sample collection, handling, and analysis conducted after completion of the cleanup action will result in data that meet the data quality objectives for the cleanup action at the Site. The CMP will include requirements for sampling activities, including sampling frequency and location, analytical testing, documentation, and quality assurance/quality control (QA/QC) for confirmational monitoring and compliance monitoring.

The purpose of the QAPP is to describe both quantitative and qualitative measures of data quality to ensure that the data quality objectives for the cleanup action are achieved. The QAPP identifies the data quality objectives and standard operating procedures for implementation during the cleanup action at the Site. The QAPP contains details regarding sample collection and analysis, including sample collection procedures, analytical methods, QA/QC procedures, and data quality reviews.

The purpose of the HASP is to outline the Site-specific health and safety requirements for the cleanup action. The HASP will include guidelines for SoundEarth personnel to reduce the potential for injury during implementation of the cleanup action. The HASP will include Site-specific 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.

2.2 REMEDIATION SYSTEM

The selected cleanup alternative for the Site is monitored natural attenuation (MNA). The area of MNA for the Site is shown on Figure A-3. The MNA will include the following components:

- Monitoring changes in groundwater quality and environment that may reduce efficacy of the natural attenuation processes.
- Verifying that the vinyl chloride plume is shrinking or stable.
- Evaluating performance and progress of natural attenuation toward achieving the cleanup level for vinyl chloride.

2.3 COMPLIANCE MONITORING

Compliance monitoring will be performed at the Site during implementation of the cleanup action and in accordance with the requirements of WAC 173-340-410. Compliance monitoring will address performance and confirmational monitoring for groundwater. A discussion of performance and confirmational monitoring is presented below.

2.3.1 Groundwater Performance and Confirmational Monitoring

Performance and confirmation groundwater samples will be collected from groundwater monitoring wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW25 through SES-MW27. Performance groundwater samples will be collected from the monitoring wells semiannually during cleanup action. The direction and gradient of groundwater flow at the Site will be determined for each compliance monitoring event. Confirmation groundwater samples will be collected once the groundwater vinyl chloride concentrations at the compliance monitoring wells are less than the MTCA Method A cleanup level for vinyl chloride in groundwater (0.20 micrograms per liter [μg/L]). Groundwater monitoring and sampling events conducted in September 2011 and January 2012 represent the first year of semiannual compliance monitoring for the Site.

After four semiannual sampling events, Ecology will evaluate the progress of MNA and compliance monitoring. If the vinyl chloride concentration continues to decline, then the Washington State Department of Ecology (Ecology) will require Ultra to revise the CMP to decrease the number of wells monitored and/or change to annual monitoring until four consecutive monitoring events demonstrate that the vinyl chloride concentration is at or below MTCA Method A cleanup level for unrestricted land use at all points of compliance.

If the vinyl chloride concentration remains constant, Defendant may submit a request for final closure and delisting of the Site conditioned upon recordation of appropriate restrictive covenants for the Site addressing groundwater usage and construction worker protection (the Restrictive Covenant Closure). In such circumstance, no further monitoring of the groundwater would be required except in accordance with Periodic Review pursuant to Section XXIV of this Decree. Any such restrictive covenant shall be recorded with the office of the King County Auditor against title to that portion of the Ultra Property then constituting the Site.

If the vinyl chloride concentration stays constant or increases, then Ecology may require additional monitoring, additional data evaluation, and/or the institution of a contingency plan.

Compliance monitoring will be complete after concentrations of vinyl chloride in groundwater samples collected from compliance monitoring wells are at or less than 0.2 micrograms μg/L for four consecutive sampling events. Table A-1 presents the number of anticipated performance and confirmation groundwater samples to be collected during the cleanup action.

Wastewater generated during the development and purging of the compliance monitoring wells will be stored temporarily in properly labeled 55-gallon drums on the Site pending receipt of the analytical results for waste profiling. The wastewater will be removed by a subcontractor on a semiannual basis and will be transported to a permitted treatment, storage, and disposal (TSD) facility for proper disposal if groundwater monitoring results indicate that concentrations of vinyl chloride exceed the MTCA Method A cleanup levels.

2.4 SITE RESTORATION

Following completion of the cleanup action, monitoring wells at the Site will be abandoned in-place in accordance with WAC 173-160-381, *Minimum Standards for Construction and Maintenance of Wells.*

3.0 SAMPLING PROTOCOLS AND PROCEDURES

The following subsections summarize the protocols and procedures that will be implemented during the field data collection phase of the cleanup action. Any deviations from the protocols and procedures presented below will be approved by Ecology and the Project Manager prior to implementation and will be discussed in the Closure Report for the Site.

3.1 SAMPLING PROCEDURES

The field sampling procedures for groundwater sample collection and handling are discussed in detail below. All field sampling data will be recorded and documented on field forms as described in Section 7.0, Field Documentation.

3.1.1 Performance and Confirmation Monitoring

Performance groundwater monitoring will be conducted throughout the cleanup action to assess the effectiveness of the cleanup remedy at reducing concentrations of vinyl chloride in groundwater to below the MTCA Method A cleanup level for vinyl chloride. Confirmation groundwater samples will be collected for a selected period of time after analytical results for performance samples indicate the MTCA Method A cleanup level has been achieved for vinyl chloride at the compliance monitoring wells. The duration and frequency of confirmation groundwater sampling will be determined in consultation with Ecology. Procedures for collecting groundwater performance and confirmation samples are discussed below.

3.1.1.1 Groundwater Performance and Confirmation Sampling Procedures

Performance and confirmation groundwater samples will be collected from groundwater monitoring wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW25 through SES-MW27. Performance groundwater samples will be collected from the monitoring wells semiannually during cleanup action, and the direction and gradient of groundwater flow at the Site will be determined for each compliance monitoring event. Groundwater samples will be collected from compliance monitoring wells semiannually. Compliance monitoring will be complete after concentrations of vinyl chloride in groundwater samples collected from compliance monitoring wells are at or less than 0.2 μg/L for four consecutive sampling events. Wastewater generated during the purging of the compliance monitoring wells will be disposed of at TSD facility permitted to accept hazardous waste.

Sampling procedures for performance and confirmation groundwater sampling activities will be as follows:

- The cap for each monitoring well will be removed 15 minutes prior to sampling to allow equilibrium between the groundwater and the ambient air.
- The depth to the top of the groundwater table in each monitoring well will be measured to an accuracy of 0.01 feet using an electronic water-level meter.

- The monitoring wells will be sampled using low-flow techniques to minimize volatilization of contaminants. A peristaltic pump with dedicated polyethylene tubing will be used to purge groundwater from each monitoring well at rates ranging from 100 to 500 milliliters per minute. Field analysis of pH, temperature, conductivity, dissolved oxygen, and oxidation-reduction potential will be monitored and recorded during purging to evaluate aquifer stabilization. The groundwater monitoring wells will be purged until water quality parameters indicate stability or 3 casing volumes of groundwater have been removed.
- Performance and confirmation groundwater samples will be collected from the discharge tubing of each monitoring well and decanted directly into laboratory-prepared sample containers.
- Performance and confirmation groundwater samples will be labeled, placed on ice in a cooler, and submitted for chemical analysis to the analytical laboratory.
- Performance and confirmation groundwater samples will be submitted to the laboratory and analyzed for vinyl chloride by U.S. Environmental Protection Agency (EPA) Method 8260B.
- Sample containers will be labeled with the following information: client, project name and number, date and time sampled, sample identification, and sampler's initials.
- Samples will be logged on a Chain of Custody form and placed in a chilled cooler at 4 degrees Celsius for transport to the laboratory while maintaining chain-of-custody protocols.
- Duplicate groundwater samples will be used as field QA/QC samples.
- All disposable sampling and health and safety supplies and equipment will be discarded in an appropriate waste dumpster at the Site.
- Decontamination water and purge water generated during performance and confirmational monitoring will be placed into appropriately labeled 55-gallon drums approved by the U.S. Department of Transportation and temporarily stored on the Site. Analytical results from the groundwater samples will be used to develop a waste profile for disposal of investigation-derived waste. Investigation-derived waste will be disposed of on a semiannual basis.

3.2 SAMPLE DESIGNATION

Each sample collected during the cleanup action will be assigned a unique sample identifier and number. The sample identifier and number will be filled out in indelible ink and affixed to appropriate containers immediately prior to sample collection. In addition to the sample identifier and number, the sample labels will include the following information: client name, project name and number, date and time of sample collection, and sampler's initials. A Sample Summary Form will be maintained as each sample is collected; the form will include the sample location and depth, sample number and identifier, and other observations regarding the sample. The sample designation procedures for groundwater samples collected during the cleanup action are detailed below. The Sample Summary Form is included in Attachment A of the CMP.

3.2.1 Groundwater Sampling

Groundwater samples collected from the compliance monitoring wells will be assigned a unique sample identifier that will include the components listed below:

- The monitoring well identification (e.g., HC-MW-9)
- Date sample collected (e.g., 071011)

For example, a groundwater sample collected from monitoring well HC-MW-9 on July 10, 2011, would be identified as HC-MW-9-071011. The sample identification will be placed on the sample label, Field Report, Sample Summary Form, and Chain-of-Custody form. Duplicate samples will be identified with the addition of a "D" at the end of the sample number (e.g., HC-MW-9-071011D).

4.0 LABORATORY ANALYSES

OnSite Environmental Inc. (OnSite) of Redmond, Washington, has been selected as the laboratory to conduct the analysis of samples collected for the cleanup action. OnSite is certified by Ecology and meets the QA/QC requirements of Ecology and the EPA. A copy of the laboratory quality assurance manuals for OnSite is on file at SoundEarth's offices for review and reference and will be followed throughout the cleanup action. Information relating to laboratory personnel and equipment and records pertaining to sample collection, transportation, and analysis are also available. The laboratory reporting limit for vinyl chloride is presented in Table A-2.

Groundwater collected for the cleanup action will be submitted for laboratory analysis for vinyl chloride analysis by EPA Method 8260B. QA/QC groundwater samples, which will include a duplicate sample, will be collected to provide for data validation as detailed in the QAPP. A duplicate groundwater sample will be collected during each compliance groundwater monitoring and sampling event.

5.0 SAMPLE HANDLING

This section discusses the sample handling methods to be used for the cleanup action. The protocols discussed include sample handling, sample packaging and shipment, sample documentation, and QA/QC samples.

Upon transfer of the samples to laboratory personnel or arrival of samples at the laboratory, the laboratory will assume responsibility for custody of the samples. Laboratory personnel will document the status of shipping and handling containers. The laboratory will use its standard chain-of-custody procedures for tracking each sample through all stages of laboratory processing.

5.1 SAMPLING CONTAINERS, PRESERVATION, AND HOLDING TIMES

Sample container requirements for the cleanup action are based on the medium to be sampled and the types of analyses to be performed. The containers, preservation procedures, and holding times for each matrix to be sampled are shown in Table A-3 and follow standard laboratory protocols.

5.2 SAMPLE PACKAGING AND SHIPMENT

All samples shipped for laboratory analysis will be packaged according to applicable regulations. Samples will be expeditiously transported to the analytical laboratory after being sealed in iced coolers. The sampling team may drive the samples from the Site or SouthEarth's office in Seattle, Washington, to the laboratory, or samples will be shipped by a same-day courier service to OnSite.

The following procedures are to be used for sample packaging and represent the minimum shipping and handling requirements.

- Sample labels will be affixed to corresponding sample containers at the time of sample collection.
- Bubble wrap bags, or equivalent, will be used to protect glass sample jars and/or vials.
- Sample containers will be placed in a cooler and checked against the chain-of-custody record to ensure that all samples are listed and are in the correct cooler.
- One copy of the Chain-of-Custody form will be detached and retained.
- Remaining paperwork will be sealed in a re-sealable plastic bag. The bag will be taped to the inside of the cooler lid.
- One to three re-sealable bags will be filled with ice and/or chemical equivalent and included in the cooler shipment. All ice should be double-bagged in heavy-duty bags and/or garbage bags.
- The cooler will be sealed with a chain-of-custody seal.
- The cooler will be taped shut using strapping tape.
- The laboratory address will be affixed to the cooler.
- Extraneous stickers will be removed from the cooler.
- SoundEarth's return address will be affixed on the cooler.

5.3 SAMPLE DOCUMENTATION

All sample containers will be adequately identified with a durable label, and the sample identification will be recorded on the applicable forms. Sample containers will be labeled with the following information: client, project name and number, date and time sampled, sample identification, and sampler's initials. Other sample documentation to be maintained by field personnel includes Chain-of-Custody forms and seals and sample labels. Examples of these forms are included in Attachment A.

At the time that sampling occurs, the appropriate sample containers will be selected and the sample number for each sample will be recorded on the Field Report form. Samples will be recounted before leaving the Site to verify that no samples are misplaced and a chain-of-custody seal will be used to seal the cooler shut before shipping. Prior to transfer of the samples off of the Site, chain-of-custody entries will be made for all samples on the Chain-of-Custody form. A chain-of-custody seal is used to show that no tampering has occurred between the time the cooler was relinquished by the field personnel and when it arrived at the laboratory. The chain-of-custody seal will be attached so that it must be broken to open the shipping container. Information on the seals will be checked against sample summary log entries.

Each Chain-of-Custody form will contain the following information: media, date, time sampled, sample identification and number, project name, project number, sampler's initials, and analyte preservative(s), if any.

6.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Wastewater generated during collection of groundwater samples will be handled in accordance with the draft Cleanup Action Plan. The procedures for managing investigation-derived waste for each of the expected waste streams are as follows:

- Wastewater generated during the development and purging of groundwater monitoring wells will be stored temporarily in labeled 55-gallon drums on the Site pending receipt of the analytical results for waste profiling. The wastewater will be removed by a subcontractor on a semiannual basis and will be transported to a permitted facility for proper disposal.

6.1 DISPOSABLES

Disposable personal protective clothing (e.g., Tyvek® suits, rubber gloves, boot covers) and disposable sampling devices (e.g., plastic tubing, plastic scoops, bailers) will be placed in plastic garbage bags and disposed of as nonhazardous waste.

7.0 FIELD DOCUMENTATION

Documentation of field activities will be included on Field Report forms, Groundwater Purge and Sample Forms, Sample Summary Forms, Sample labels, Waste Material labels, Chain-of-Custody forms, and Drum Inventory Sheets. Documentation generated during the field program will be retained in the project file and included in the reports generated, as appropriate.

7.1 FIELD REPORT FORM

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 CMP. In addition, if other forms are completed or used (e.g., 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. An example of the Field Report form is included in Attachment A.

7.2 GROUNDWATER PURGE AND SAMPLE FORM

Field personnel will be required to document groundwater sampling procedures and measured field parameters on the groundwater purge and sample form. Information reported will include but is not limited to date and time of sampling, site name, depth to water, well depth, purge volume, purge rate, sample analyses, and dissolved oxygen concentration and pH, oxidation-reduction, conductivity, and temperature readings. An example of the Groundwater Purge and Sample form is included in Attachment A.

7.3 SAMPLE SUMMARY FORM

Field personnel will be required to keep a Sample Summary Form when collecting performance and confirmation samples during the cleanup action at the Site. At a minimum, field notes on the form will include the monitoring well number, sample collection data, the date, job number, project identification and location, field equipment used, and activities performed in a manner other than specified in the CMP. An example of the Sample Summary Form is included in Attachment A.

7.4 SAMPLE LABELS

Sample labels will be filled out and affixed to appropriate containers immediately prior to sample collection. The labels will be filled out in indelible ink and will include the following information: media, date, time sampled, sample identification and number, project name, project number, sampler's initials, and analyte preservative(s) if any. An example of the sample label is included in Attachment A.

7.5 WASTE MATERIAL LABEL

The waste material labels will be filled out and affixed to the appropriate waste container immediately upon filling. The labels will be filled out in indelible ink and will include the following information: job number and name, address where waste was generated, contents of the container, operation, date, consultant's name and phone number, and sampler's initials. An example of the waste material label is included in Attachment A.

7.6 CHAIN-OF-CUSTODY FORM

The written procedures that are 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 Chain-of-Custody form, will be filled out by the field sampling team at the time the sample is obtained. An example of the Chain-of-Custody form is included in Attachment A.

All samples submitted to the laboratory are accompanied by the Chain-of-Custody form. This form will be checked for accuracy and completeness and then signed and dated by the laboratory sample custodian accepting the sample. At the laboratory, each sample will be assigned a unique, sequential laboratory identification number that will be stamped or written on the Chain-of-Custody form.

All samples will be 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 Chain-of-Custody form will include the following information: client, project name and number, date and time sampled, sample identification, sampler's initials, analysis, and analyte preservative(s), if any.

7.7 DRUM INVENTORY SHEET

An accurate written record will be created to trace the possession and handling waste generated during groundwater monitoring events. This written record, Drum Inventory Sheet, will be filled out by the field sampling team at the time of each groundwater sampling event. An example of the Drum Inventory Sheet is included in Attachment A.

8.0 REPORTING

Compliance monitoring results will be presented in Compliance Monitoring Process Reports. The reports will be submitted to Ecology with two hard copies and one electronic copy, and submitted electronically to Ecology's Environmental Information Management database. Deliverables will be prepared in accordance with the CAP.

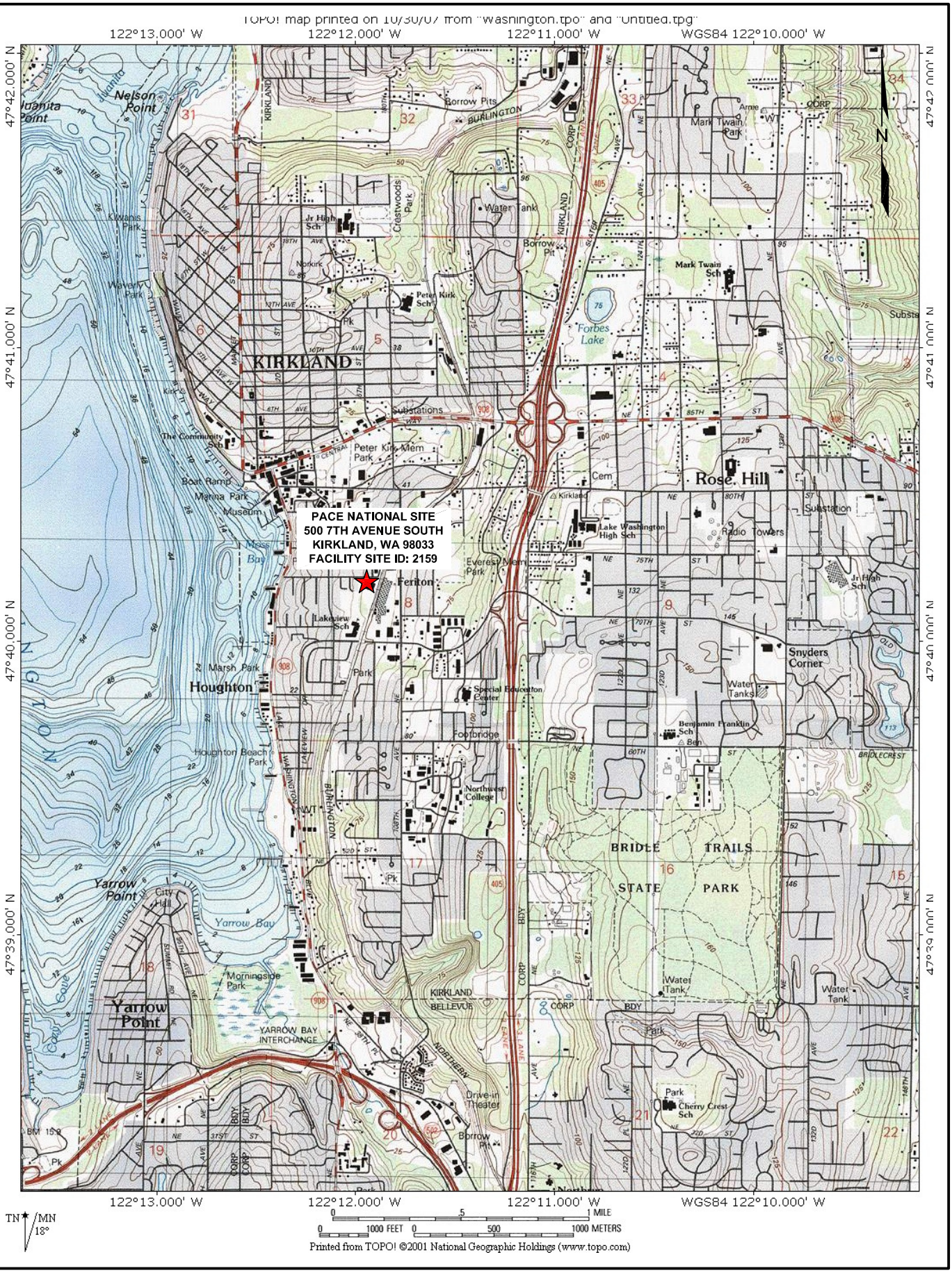
9.0 LIMITATIONS

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 our client. 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.

FIGURES

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012CMP_REV\0698-001 FIG1-VIC_F.DWG



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

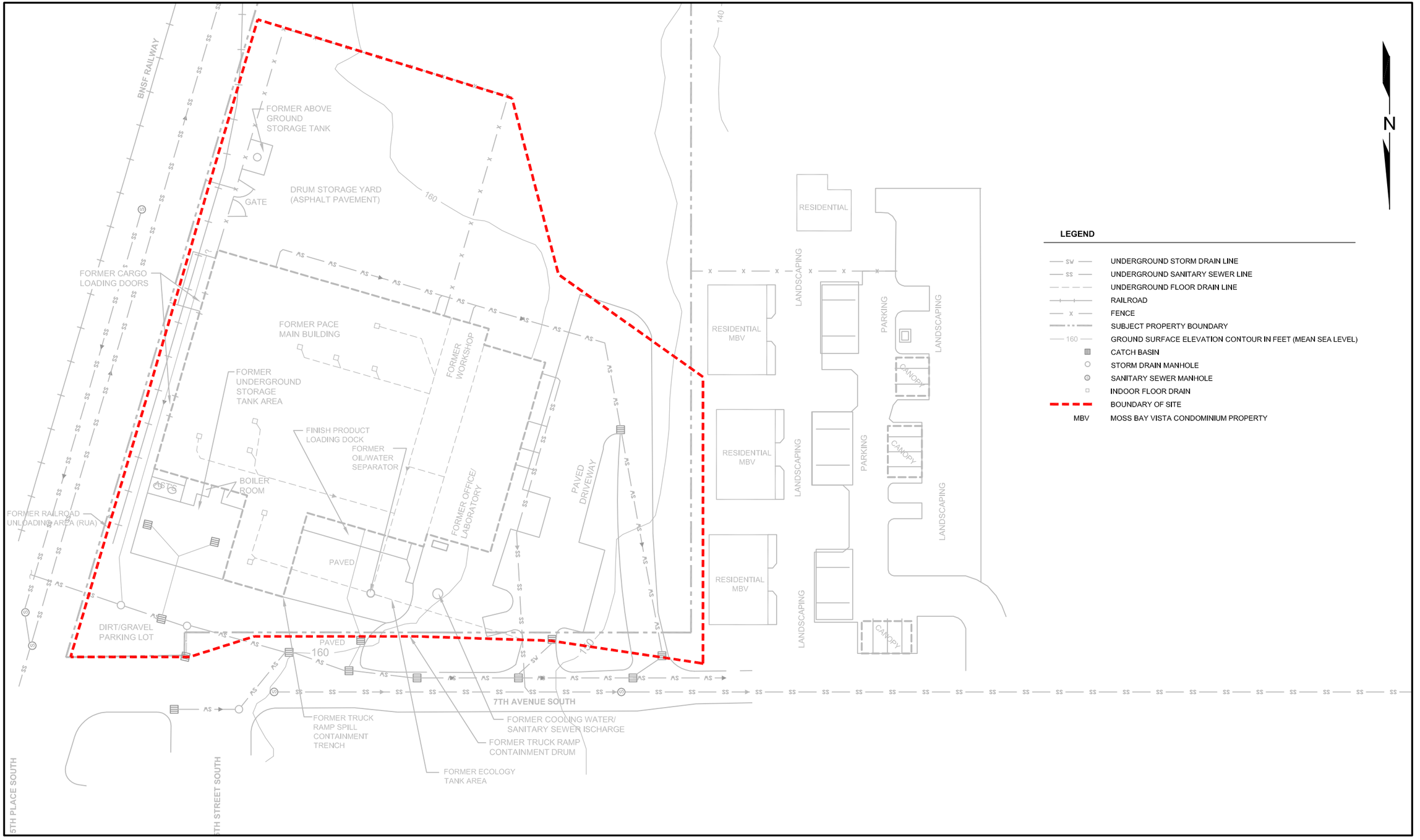
DATE:	01/03/2011
DRAWN BY:	BLR
CHECKED BY:	DMB/TJC
CAD FILE:	0698-001 FIG1-VIC

PROJECT NAME:	FORMER PACE NATIONAL SITE
PROJECT NUMBER:	0698-001
STREET ADDRESS:	500 7TH AVENUE SOUTH
CITY, STATE:	KIRKLAND, WASHINGTON

FIGURE A-1
SITE VICINITY MAP

1/16/2012

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012CMP_REV\0698-001_2010CMP_BS_F.DWG



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 01/03/2011
DRAWN BY: NAC/BLR
CHECKED BY: TJC
CAD FILE: 0698-001-2010CMP_BS

PROJECT NAME: FORMER PACE NATIONAL
PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WA

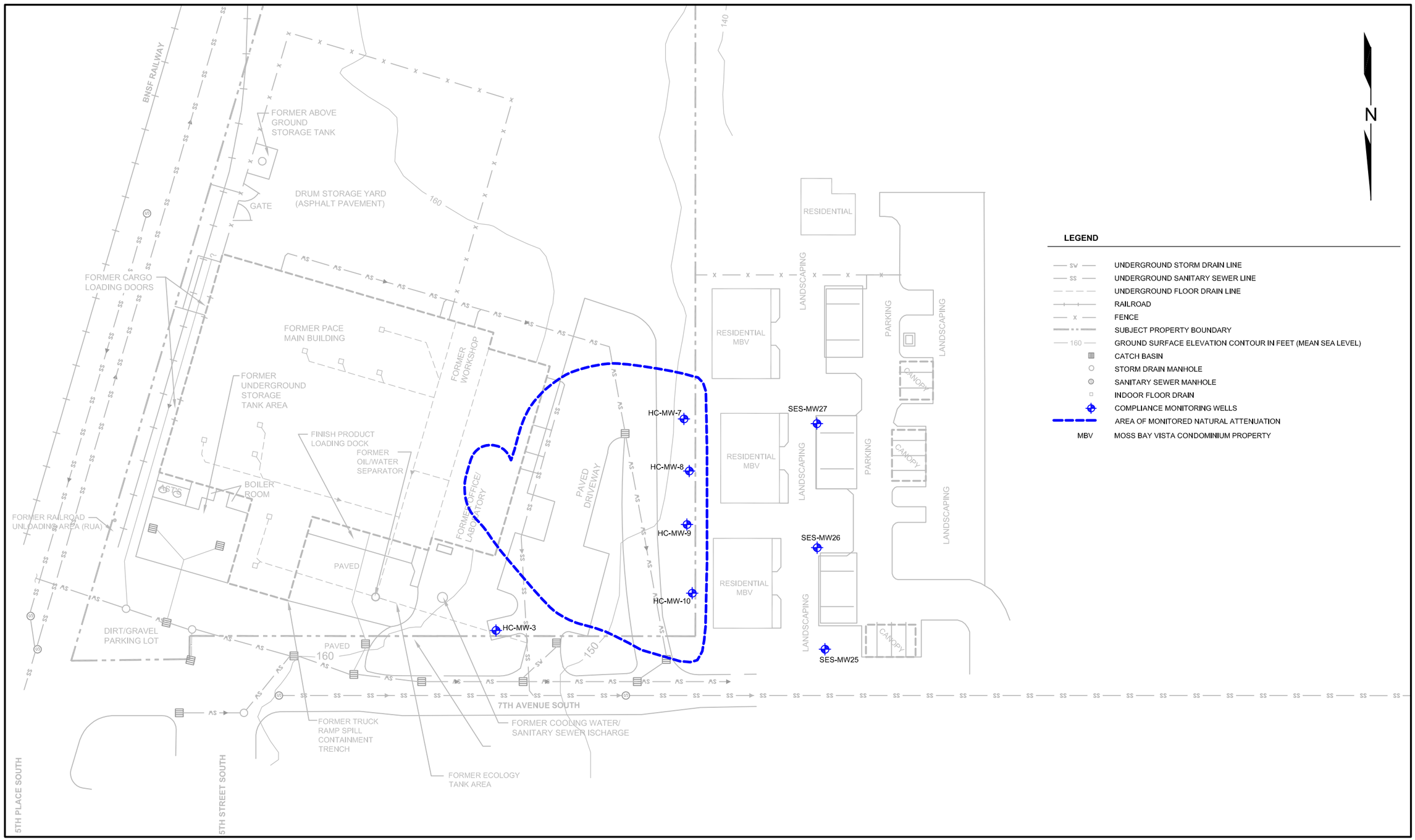
REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE A-2
MAP SHOWING BOUNDARIES OF FORMER PACE NATIONAL SITE

WWW.SOUNDEARTHINC.COM

1/16/2012



LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN
- COMPLIANCE MONITORING WELLS
- AREA OF MONITORED NATURAL ATTENUATION
- MBV — MOSS BAY VISTA CONDOMINIUM PROPERTY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 3/9/2011
DRAWN BY: NAC/BLR
CHECKED BY: TJC
CAD FILE: 0698-001-2010CMP_CP1

PROJECT NAME: FORMER PACE NATIONAL
PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE A-3
MAP SHOWING AREA OF MONITORED NATURAL ATTENUATION AND COMPLIANCE MONITORING WELLS

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2012CMP REV\0698-001 2010CMP CP1 F.DWG

TABLES

Table A-1
Laboratory Analysis Summary
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Matrix	Analysis	Performance Samples	Confirmation Samples	Estimated Total
Groundwater	Vinyl Chloride by EPA 8260B	40[1, (a)]	10[2, (a)]	50

NOTES:

[1] Assumes semiannual monitoring for two years

[2] Assumes semiannual sampling for one year

(a) = Includes one duplicate sample for each groundwater sampling event.

EPA = U.S. Environmental Protection Agency

Table A-2
Laboratory Practical Quantitation Limits,
and MTCA Method A Cleanup Levels
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Chemicals of Concern	GROUNDWATER	
	Laboratory Water PQLs[1] (µg/L)	MTCA Cleanup Levels (µg/L)
Vinyl Chloride	<0.2	0.2[a]

NOTES:

[1] OnSite Environmental Inc. standard PQLs.

[a] MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

µg/L = micrograms per liter

< = less than

MTCA = Washington State Model Toxics Control Act

PQLs = practical quantitation limits

Table A-3
Analytical Methods, Container, Preservation, and Holding Time Requirements
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Analytical Method	Container	Number of Containers	Preservation Requirements	Holding Temperature	Holding Time
Vinyl Chloride by EPA 8260B	40 ml VOA vial	3	hydrochloric acid	4°C	14 days

NOTES:
°C = degrees Celsius
EPA = U.S. Environmental Protection Agency
ml = milliliters
VOA = volatile organic analysis

APPENDIX A
FIELD FORMS

SoundEarth Strategies 2811 Fairview Avenue East, Suite 2000 Seattle, Washington 98102 P: (206) 306-1900 F: (206) 306-1907	**FIELD REPORT**	**Project Number:**	Page _____ of _____
	Client / Project Title:		**Date:**
	Location:	**Time of Arrival/Departure:** _____to _____ (military time)	**Purpose of Visit:**
Prepared by:	**Weather:**	**Travel Time:** **Mileage:**	**Permit:**

Attachments:

Distribution:

GROUNDWATER PURGE AND SAMPLE FORM

Client:_____ Project #: _____

Site: _____ Site #: _____ Well ID Number: _____

Field/Sampling Personnel: _____

Total Depth	Depth to Water (Prior To Purging)	Water Column (TD – DTW)	Casing Diameter (inches) 1	2	4	6	Casing Volume (WC X CD)	Total Purge Volume
			0.041	0.16	0.64	1.44		

Water Quality Meter: Type_____ ID #_____ **Date of Sampling**:_____

Sampling Method: Peristaltic Bladder Bailer
Other: _____

Purge/Sampling Method: Low Flow Other: _____ **Time of Sampling:**_____

Screened Interval: Sampling Depth (*approx. the center of saturated screen*):

Time Start Purge: Time End Purge:

Time (3-5 min intervals)	Water Level (*drawdown <0.33'*) WL Meter or Bubbler	Rate of Purging (Liter/min) 0.1 – 0.5	pH ± 0.1	Specific Conductivity _____ ± 3% (UNITS)	Turbidity (NTU)	Dissolved Oxygen (mg/L) ± 10% or if <1.00 mg/L, ± 0.2	Temperature (ºC) ± 3%	ORP (mV)

Sampling Comments:

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	

PURGE WATER DISPOSAL NOTES:

Total Discharge (1Gal=3.8785Ltr):	Disposal Method: Drummed Remed. System Other:

Well/Site Condition Information:

Well/Security Devices in good condition? (i.e.: Monument, Bolts, Seals, J-cap, Lock) Yes No

Surface Water Infiltration (if yes, describe)? **NO** **YES** ⟹ Monument Well Casing

Action Items (e.g.: repair of any monitoring well components)? Yes No

Additional Well Condition Comments or Explanation of any Access Issues:

_____

_____

- *Three successive readings should be within the indicated parameter limits prior to sampling*
- *All units of measurement are in feet and/or gallons unless otherwise indicated*
- *If static water level is above the screen, avoid drawdown of water level into the screen*

GROUNDWATER PURGE AND SAMPLE FORM (Continued)

Client : _____ Project #: _____ Well ID Number: _____

Site: _____ Site #: _____

Field/Sampling Personnel: _____ Sample Date: _____

Water Quality Meter: Type: _____ ID: _____ Sample Time: _____

Sampling Equipment: Peristaltic Bladder Bailer Other: _____ Sample Number: _____

Purge/Sampling Method: Low Flow Other: _____

Screened Interval:				Sampling Depth (Approx. center of saturated *screen*):				
Time Start Purge:				Time End Purge:				
Time (in 3-5 min intervals)	Depth to Water (*drawdown <0.33'*) WL Meter Bubbler	Rate of Purging (Liter/min) 0.1 – 0.5	pH ± 0.1	Specific Conductivity _____ ± 3% **(UNITS)**	Turbidity (NTU)	Dissolved Oxygen (mg/L) ± 10% or if <1.00 mg/L, ± 0.2	Temperature (ºC) ± 3%	ORP (mV)

Sampling Comments:

_____

_____

_____

_____

Sample Summary Form

Project Name: _____ **Date:** _____

Project Number: _____

Sample Name	Date Collected	Time Collected	Location	PID (ppm)	Odors	Observations

OnSite Environmental Inc.
14648 NE 95th Street
Redmond, WA 98052
(425) 883-3881

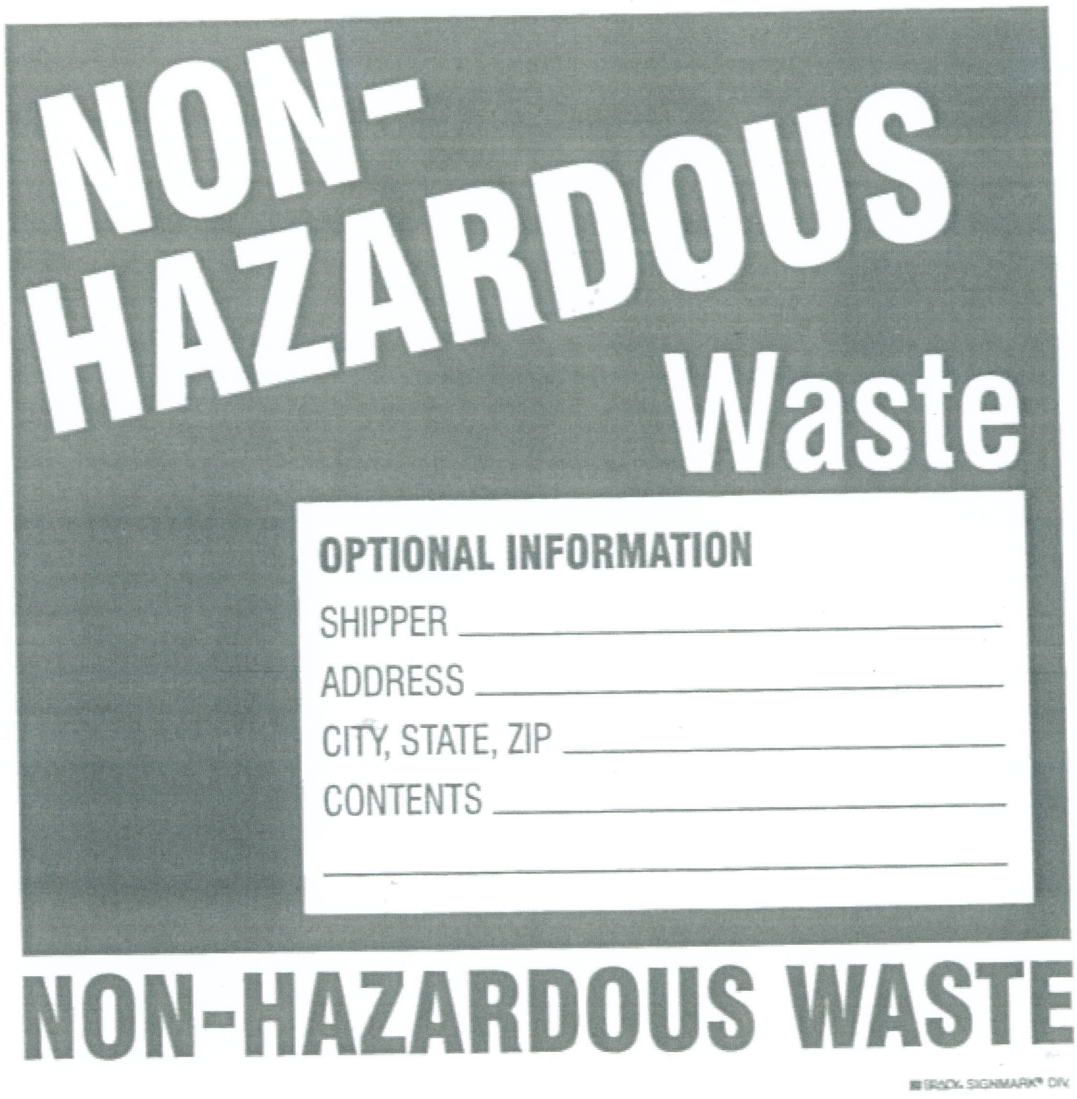
Client _____

Project _____

Sample ID _____

Date _____ Time _____

Analysis _____ Preservative _____


NON-
HAZARDOUS
Waste
OPTIONAL INFORMATION
SHIPPER
ADDRESS
CITY, STATE, ZIP
CONTENTS
NON-HAZARDOUS WASTE

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Page _____ of _____

Company:

Project Number:

Project Name:

Project Manager:

Sampled by:

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Days ☐ 3 Days

☐ Standard (7 Days)
(TPH analysis 5 Days)

☐ _____
(other)

Laboratory Number:

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260B	Halogenated Volatiles 8260B	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081A	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA / MTCA Metals (circle one)	TCLP Metals	HEM (oil and grease) 1664							% Moisture

	Signature	Company	Date	Time
Relinquished				
Received				
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

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]

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?)

APPENDIX B

QUALITY ASSURANCE PROJECT PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

QUALITY ASSURANCE PROJECT PLAN

APPENDIX B OF THE CLEANUP ACTION PLAN

Property:
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Prepared for:
Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington

Report Date:
January 17, 2012

QUALITY ASSURANCE PROJECT PLAN
Appendix B of the Cleanup Action Plan

Prepared for:

Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington 98105

Prepared for:

Former Pace National Site
500 7th Avenue South
Kirkland, Washington 98033

Project No.: 0698-001-03

Prepared by:

Thomas J. Cammarata, LG, LHG
Senior Environmental Geochemist

Reviewed by:

John R. Funderburk, MSPH
Principal Scientist

January 17, 2012

SoundEarth Strategies

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ACRONYMS AND ABBREVIATIONS

%R	percent recovery
CAP	Cleanup Action Plan
CMP	Compliance Monitoring Plan
COC	chemical of concern
DQO	data quality objective
CAP	Cleanup Action Plan
Consent Decree	legal agreement for Cleanup Action Plan to be implemented
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
MTCA	Washington State Model Toxics Control Act
OnSite	OnSite Environmental Inc.
the Property	500 7th Avenue South in Kirkland, Washington
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
RPD	relative percent difference
the Site	the extent of historical and current contamination
SoundEarth	SoundEarth Strategies, Inc.
Ultra	Ultra Corporation
WAC	Washington Administrative Code

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been prepared by SoundEarth Strategies, Inc. (SoundEarth) for the Former Pace National facility located at 500 7th Avenue South in Kirkland, Washington (hereinafter referred to as the Property) on behalf of Ultra Corporation (Ultra), the owner of the property. This QAPP was prepared in accordance with Consent Decree and the Washington State Model Toxics Control Act (MCTA) Cleanup Regulation as established in Section 380 of Chapter 340 of Title 173 of the Washington Administrative Code (WAC 173-340-380) The QAPP provides specific requirements for quality assurance and quality control (QA/QC) procedures for the cleanup action for the Property. The Former Pace National Site (the Site) is defined in the Consent Decree as the extent of historical and current contamination (Figure B-1).

This QAPP is part of the Compliance Monitoring Plan (CMP) prepared for the cleanup action. The cleanup action at the Site will be conducted in accordance with the Cleanup Action Plan (CAP), and Exhibit B of the Consent Decree.

The purpose of this QAPP is 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.
- Ensure that the data quality objectives (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 ensure that the DQOs are achieved, this QAPP details aspects of sample collection and analysis, including analytical methods, QA/QC procedures, and data quality reviews. This QAPP describes both qualitative and quantitative measures of data quality to ensure that the DQOs are achieved.

2.0 PROJECT ORGANIZATION

The project organization for the completion of the cleanup action, including identification of key personnel and their responsibilities, is described below.

2.1 KEY PERSONNEL

SoundEarth has been contracted by Ultra to plan and implement the cleanup action at the Site. The Project Contact for the Site is:

Ultra Corporation
c/o Ms. Andrea Lieberman
5101 25th Avenue Northeast #C335
Seattle, Washington 98105

The Project Manager for SoundEarth is:

Mr. Thomas Cammarata, LG, LHG
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
(206) 306-1900
Fax (206) 306-1907
tcammarata@soundearthinc.com

The Project QA/QC Officer for SoundEarth is:

Mr. Ron Honsberger
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
(206) 306-1900
Fax (206) 306-1907
rhonsberger@soundearthinc.com

2.2 RESPONSIBILITIES OF KEY PERSONNEL

The responsibilities of key personnel involved in the cleanup action are described below.

2.2.1 Regulatory Agency

The Washington State Department of Ecology (Ecology) is the lead regulatory agency for the cleanup action at the Site as promulgated in the MTCA Cleanup Regulation. The cleanup action is being conducted in accordance with the Consent Decree and the MTCA Cleanup Regulations as established in WAC 173-340-380

2.2.2 Project Manager

The Project Manager has overall responsibility for developing the QAPP, monitoring the quality of the technical and managerial aspects of the cleanup action, and implementing the QAPP and corresponding corrective measures, where necessary.

2.2.3 Project QA/QC Officer

The Project QA/QC Officer has the responsibility of monitoring and verifying that the work is performed in accordance with the CMP and other applicable procedures. The Project QA/QC

Officer has the responsibility of assessing the effectiveness of the QA/QC program and of recommending 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.

2.2.4 Project Staff

Members of the project staff are responsible for understanding and implementing the QA/QC program as it relates to the cleanup action objectives as presented in the CAP.

3.0 DATA QUALITY OBJECTIVES

The DQOs for the cleanup action will be used to develop and implement procedures to ensure that data collected is of sufficient quality to adequately address the objectives of the cleanup action at the Site as defined in the CAP. 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 ensuring 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, and comparability. Definitions of these parameters and the applicable quality control procedures are described in Subsections 3.2 through 3.6 of this QAPP. Quantitative DQOs for applicable parameters (e.g., precision, accuracy, completeness) are provided following each definition. Laboratory DQOs have been established by the analytical laboratory.

3.1 QUANTITATION LIMITS

The specific analytes and corresponding laboratory practical quantitation limits that will be required for the cleanup action are presented in Table B-1. The detection or reporting limits for actual samples may be higher depending on the sample matrix, moisture content, and laboratory dilution factors. Laboratory control limits for each analyte are presented in Table B-2.

3.2 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:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} x\,100$$

Where:

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.

3.3 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 the U.S. Environmental Protection Agency (EPA) SW-846 and Ecology for inorganic and organic chemical analyses. The frequency of matrix spikes and matrix spike duplicates will each be one per batch of samples. Quantitative %R 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.

3.3.1 Laboratory Method Blanks

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.

3.4 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 CMP and in this document.

3.5 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 6.0, Data Management, Reduction, Quality Assurance, Review, and Reporting). 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 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.

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.

3.6 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.

4.0 DATA COLLECTION APPROACH

Procedures that will be used to collect, preserve, transport, and store samples are described in Section 5.0 of the CMP. 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 ensure the project DQOs are met or exceeded. The key elements include groundwater samples collected and analytical results used to demonstrate that the concentrations of chemicals of concern (COCs) at the points of compliance for groundwater are below applicable cleanup levels as defined in the CMP. 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.

5.0 ANALYTICAL PROCEDURES

OnSite Environmental Inc. (OnSite) has been selected as the laboratory to conduct the COCs analysis of the samples collected for the cleanup action. OnSite is certified by Ecology and meets the QA/QC requirements of both Ecology and the EPA. The contact for OnSite is:

Mr. David A. Baumeister
OnSite Environmental, Inc.
14648 Northeast 95th Street
Redmond, Washington 98052
(425) 883-3881

Copies of the *Laboratory Quality Assurance Manual* from OnSite 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. Groundwater samples collected during the cleanup action will be analyzed by EPA Method 8260B for vinyl chloride.

Preservation and holding times for each analyte and media of concern are presented in Table B-3.

6.0 DATA MANAGEMENT, REDUCTION, QUALITY ASSURANCE, REVIEW, AND REPORTING

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 QAPP are designed to ensure 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.

6.1 DATA TYPES

A variety of data will be generated by 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 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 sampling logs, and electronically reported laboratory data.

6.2 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), 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.

6.3 DATA INVENTORY

Procedures for filing, storage, and retrieval of project data and reports are discussed below.

6.3.1 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. Hardcopy 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 on a daily, weekly, and monthly basis.

6.3.2 Access to Project Files

Access to project files will be controlled and limited to Ultra and their authorized representatives, Ecology, and SoundEarth personnel. When a hardcopy 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, tables, and figures will be write-protected in the project directory.

6.4 INDEPENDENT DATA QUALITY REVIEW

Data quality review will be performed, where applicable, using the current EPA Functional Guidelines for Organic Data Quality Review. The following types of quality control information will be reviewed, as appropriate:

- Method deviations
- Sample extraction and holding times
- Method reporting limits
- Blank samples (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

6.5 DATA REDUCTION AND ANALYSIS

The Project Manager and Project QA/QC Officer are responsible for data review and validation. Data validation parameters are outlined in Section 3.0, 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 ensure 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.

6.5.1 Data Reporting Formats

The physical and chemical characterization information developed in connection with the cleanup action will be presented in the final report in the following format.

6.5.1.1 Summary Tables and Plots

The laboratory reports will be sorted according to various parameters to summarize the information for easier assimilation and presentation. Groundwater sampling and analysis data

will be sorted several ways, including by sample point number, constituent, and date of sample collection. The parameters chosen for sorting will depend on the selection of the most appropriate format and the utility of that format in demonstrating the physical and chemical characteristics of interest.

6.5.1.2 Maps

Plan maps needed to illustrate results of the cleanup action will be assembled or prepared. They may include, but are not limited to, plan maps of the Site showing confirmed and suspected sources, sampling locations, chemical concentrations for individual chemicals and groups of chemicals, groundwater elevation contour maps, the Site features and potential preferential pathways (e.g., sewer lines), and cross section locations.

6.5.1.3 Cross Sections

Vertical profiles or cross sections may be generated from field data to display the Site stratigraphy or other aspects of the cleanup action.

Reports will be submitted to Ecology in hard copy and electronically to Ecology's Environmental Information Management and database and Document Storage and Retrieval System.

6.6 QUALITY CONTROL SUMMARY REPORT

A quality control summary report will be prepared by SoundEarth based on the quality control summary data provided by the laboratory and validation report provided by the QA/QC validator. QC summary reports may be incorporated into Annual Progress Reports but will not be submitted as separate deliverables. A discussion of deliverable related to the cleanup action is presented in the CAP.

7.0 QUALITY CONTROL PROCEDURES

This section provides a description of the quality control procedures for both field activities and laboratory analysis. The field quality control procedures include standard operating procedures for sample collection and handling, equipment calibration, and field quality control samples.

7.1 FIELD QUALITY CONTROL

Field quality control samples (e.g., duplicate samples) to be collected during this project are described in the CMP. The purpose of these samples is also discussed in Section 3.0 of this document. In addition, standard operating procedures will be implemented during field screening activities. The procedural basis for these field data collection activities will be documented on the field report forms, as described in Sections 7.0 of the CMP. Any deviations from the established protocols will be documented on the field report forms.

7.2 LABORATORY QUALITY CONTROL

Analytical laboratory QA/QC procedures are provided in the OnSite *Laboratory Quality Assurance Manual* that is on file at SoundEarth's offices.

7.3 DATA QUALITY CONTROL

All data generated by OnSite will undergo two levels of QA/QC evaluation: one by the laboratory and one by SoundEarth. As specified in OnSite'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 quality control 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 ensure 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 quality control samples
- Equipment calibration and maintenance
- Chain-of-Custody forms

Corrective actions are described in Section 10.0.

7.4 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 3.0 of this QAPP.

7.5 QUALITY CONTROL SUMMARY REPORT

A quality control summary report will be prepared by SoundEarth based on the quality control summary data provided by the laboratory.

8.0 PERFORMANCE AND SYSTEM AUDITS

Performance audits will be completed for both sampling and analysis work. Field performance will be monitored through regular review of Chain-of-Custody forms, field forms, and field measurements. The Project Manager and/or the Project QA/QC Officer may also perform periodic on-Site review of work in progress.

Accreditations received from Ecology for each analysis by the analytical laboratory 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 the laboratory QA/QC plan. 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 10.0.

9.0 PREVENTIVE MAINTENANCE

Operation and maintenance manuals will accompany all field parameter analysis and measurement equipment. Included in these manuals will be procedures for calibration, operation, and troubleshooting. All maintenance activities will be documented in the project field report forms and/or equipment logbooks. A schedule of preventive maintenance activities will be maintained. In addition, spare parts and tools will be included in each equipment storage case to minimize equipment downtime.

10.0 CORRECTIVE ACTION

Corrective actions will be the joint responsibility of the Project Manager and the Project QA/QC Officer. Corrective procedures can include:

- Identifying the source of the violation.
- Re-analyzing samples, if holding time criteria permit.
- Re-sampling 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 team members 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.

11.0 QUALITY ASSURANCE REPORTS

The Cleanup Action Report will include a quality assurance section that summarizes data quality information in the deliverables generated during the project. This summary will include at a minimum:

- Assessment of data accuracy and completeness.

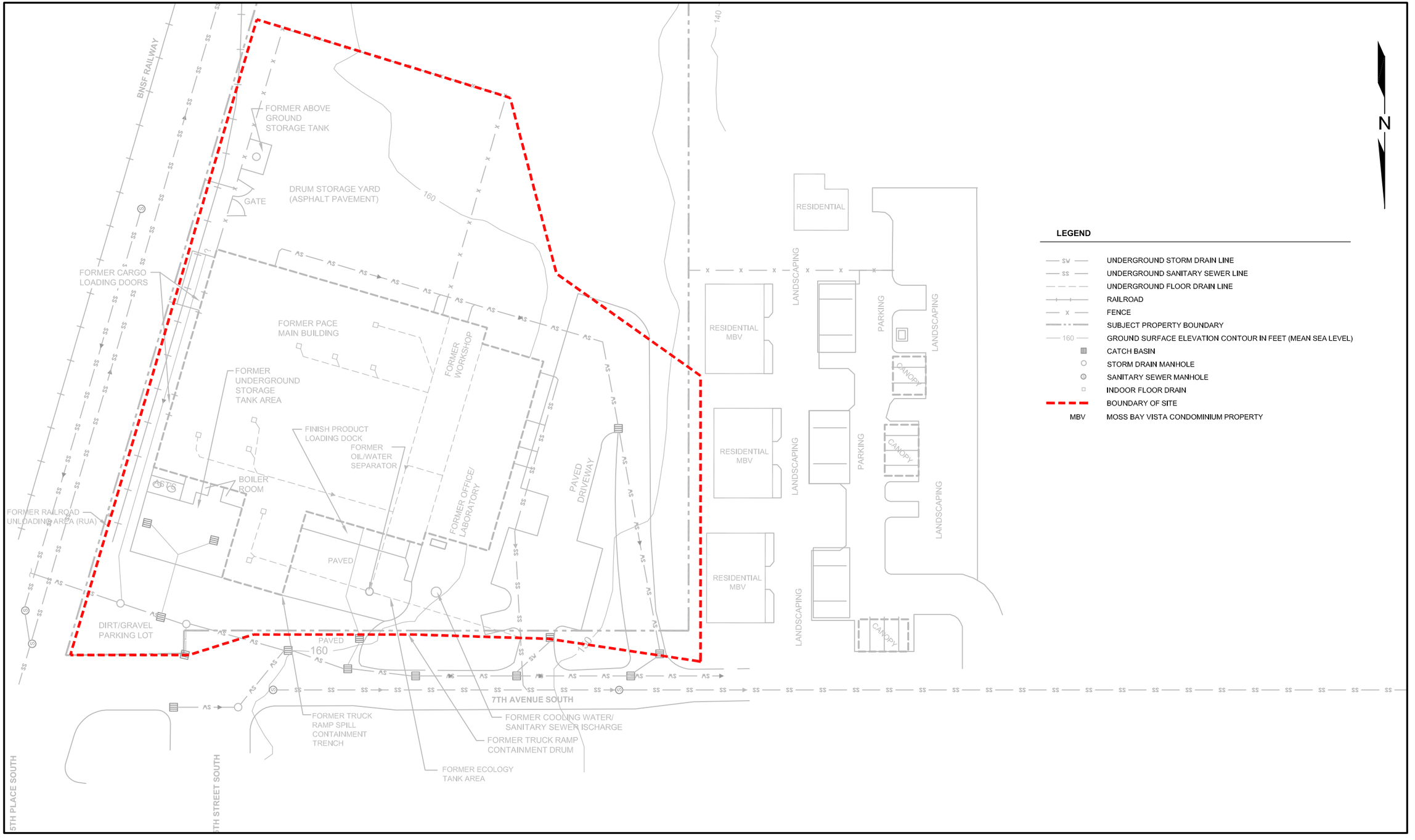
- Results of performance and/or system audits.
- Significant quality assurance problems and their impacts on the DQOs.

12.0 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 our client. 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.

FIGURE



LEGEND

SW	UNDERGROUND STORM DRAIN LINE
SS	UNDERGROUND SANITARY SEWER LINE
	UNDERGROUND FLOOR DRAIN LINE
	RAILROAD
x	FENCE
	SUBJECT PROPERTY BOUNDARY
160	GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
	CATCH BASIN
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
	INDOOR FLOOR DRAIN
	BOUNDARY OF SITE
MBV	MOSS BAY VISTA CONDOMINIUM PROPERTY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 01/03/2011
DRAWN BY: NAC/BLR
CHECKED BY: TJC
CAD FILE: 0698-001-2010CMP_BS

PROJECT NAME: FORMER PACE NATIONAL
PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WA

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE B-1
MAP SHOWING BOUNDARIES OF FORMER PACE NATIONAL SITE

TABLES

Table B-1
Analytical Methods Practical Quantitation Limits
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Compounds	Water PQL (µg/L)
Vinyl chloride	< 0.2

NOTES:

< = less than

µg/L = micrograms per liter

PQL = practical quantitation limit

Table B-2
Laboratory Control Limits
Former Pace National Site
500 7th Avenue South
Seattle, Washington

Analytical Method	QC Parameter	Matrix	Analyte	Lower QC Limit	Upper QC Limit	RPD
8260B	Surrogate	Water	Dibromofluoromethane	71	126	NA
8260B	Surrogate	Water	Toluene-d8	76	116	NA
8260B	Surrogate	Water	4-Bromofluorobenzene	70	123	NA
8260B	LCS	Water	1,1-Dichloroethene	70	130	NA
8260B	LCS	Water	Benzene	73	130	NA
8260B	LCS	Water	Trichloroethene	79	122	NA
8260B	LCS	Water	Toluene	80	121	NA
8260B	LCS	Water	Chloroebenzne	83	116	NA
8260B	LCSD	Water	1,1-Dichloroethene	NA	NA	25
8260B	LCSD	Water	Benzene	NA	NA	25
8260B	LCSD	Water	Trichloroethene	NA	NA	25
8260B	LCSD	Water	Toluene	NA	NA	25
8260B	LCSD	Water	Chloroebenzne	NA	NA	25

NOTES:
LCS = laboratory control sample
LCSD = laboratory control sample duplicate
NA = not applicable
QC = Quality Control
QC = quality control
RPD = relative percent difference

Table B-3
Analytical Methods, Container, Preservation, and Holding Time Requirements
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Analytical Method	Container	Number of Containers	Preservation Requirements	Holding Time
Groundwater Samples				
Vinyl Chloride by EPA 8260B	40 ml VOA vial	3	hydrochloric acid/4°C	14 days

NOTES:

°C = degrees Celsius

EPA = U.S. Environmental Protection Agency

ml = milliliters

VOA = volatile organic analysis

APPENDIX C
HEALTH AND SAFETY PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

HEALTH AND SAFETY PLAN

APPENDIX C OF THE CLEANUP ACTION PLAN

Property:

Former Pace National Site
500 7th Avenue South
Kirkland, Washington

Prepared for:

Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington

Report Date:
January 17, 2012

HEALTH AND SAFETY PLAN
Appendix C of the Cleanup Action Plan

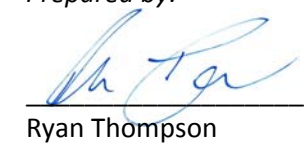
Prepared for:

Ultra Corporation
5101 25th Avenue Northeast #C335
Seattle, Washington 98105

Former Pace National Site
500 7th Avenue South
Kirkland, Washington 98033

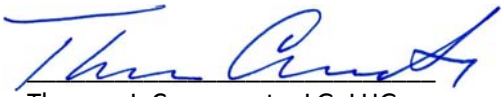
Project No.: 0698-001-03

Prepared by:



Ryan Thompson
Project Scientist

Reviewed by:



Thomas J. Cammarata, LG, LHG
Senior Environmental Geochemist

Initiation Date: January 17, 2012
Expiration Date: January 17, 2013

SoundEarth Strategies

HAZARD SUMMARY

SoundEarth Strategies, Inc. has prepared this Health and Safety Plan for the Former Pace National Site, located at 500 7th Avenue South, Kirkland, Washington (the Property). This Health and Safety Plan was written in general accordance with the Washington State Model Toxics Control Act as promulgated in Section 350 of Chapter 340 of Title 173 of the Washington Administrative Code.

PROJECT DESCRIPTION

The Property was operated as a specialty chemical mixing and packaging facility from 1971 to approximately 1990. The Property has been vacant since 2006. Currently, most of the northern portion of the Property is paved, although its margins along the northern and western Property lines are largely vegetated. The southern portion of the Property is generally unpaved. The Site is bounded to the east by a railway, to the west by a residential development, to the north by 7th Avenue South, and to the south by an undeveloped area covered with vegetation. Topographically, the Site and its vicinity have a gentle downward slope toward the west.

PROJECT HAZARDS

Hazards present at the Property/Site include the following:

Chemical

- Vinyl chloride

Physical

- Traffic
- Noise exposure
- Heavy equipment/machine safety
- Unsecure/uncontrolled site
- Underground utilities and features
- Slips/trips/falls/cuts
- Temperature Extremes

Field Activities

- Groundwater monitoring and sampling

The following hazard controls, based on the tasks identified in the Field Activities above, are required for employees of SoundEarth while performing work as part of this project:

- Work clothing or coveralls (no shorts)
- Steel-toed work boots
- Safety glasses

- Nitrile gloves
- Traffic cones

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 is in previous reports referenced in Section 5.1.1, Reports that Provide Chemical Data.

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) was written for the use of SoundEarth Strategies, Inc. (SoundEarth, formerly known as Sound Environmental Strategies Corporation) 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 U.S. 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 (OSHA) standards for hazardous waste operations and emergency response. Within the State of Washington, these requirements are addressed in Chapter 843 of Title 296 of the Washington Administrative Code, Hazardous Waste Operations. These regulations apply to the activities to be performed at this Site as a site remediation, or cleanup, under the Federal Resource Conservation and Recovery Act of 1976 and/or the Washington State Model Toxics Control Act.

Each subcontractor to SoundEarth is required to prepare and effectively implement its own HASP based on its 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 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 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 and adjoining properties/rights of way (ROWs).
- **Provision** of additional safety-related advice and/or management as contractually determined between the parties.

This plan is active for this project 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 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 HASP. The *HASP Reference Manual* and this HASP **MUST** be present at the Property during field activities.

2.0 SITE INFORMATION

Property Name: Former Pace National Site
Property Address: 500 7th Avenue South, Kirkland, Washington
Property Owner: Ultra Corporation
Property Tenant: Vacant
Nature of Activities at this Site: Current: The Pace National Property is a Vacant lot. Past: Specialty chemical mixing and packaging facility from 1971 to approximately 1990.
Figures 1 and 2 show the Property location and features.

3.0 PROJECT RESPONSIBILITIES

Field 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 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, in Attachment B.

(Reference 08-01, Project Responsibilities, provides more information.)

Project Manager: Tom Cammarata
Field Manager/Health and Safety Officer: Rob Honsberger
Principle-in-Charge: John Funderburk
Corporate Health and Safety Administrators: Paula Houston, Chris Carter, John Funderburk

4.0 EMERGENCY INFORMATION

For a critical emergency, 911 should be called. (The definition of critical emergency is in Reference 08-02, Emergency Response Plan.)

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	**Evergreen Hospital Medical Center** 12040 NE 128th St, Kirkland, WA 98034	911 or 425 899-1000
Ambulance	**Shannon Ambulance** Kirkland, WA 98033	911 or 425 827.5632
Police/Sheriff	**Kirkland Police Department** 123 Fifth Ave, Kirkland, WA 98033	911 or 425 577-5656
Fire	**Kirkland Fire Department** 123 Fifth Ave, Kirkland, WA 98033	911 or 425 587.3650
Other: Fatality or Multiple Injury Reporting (within 8 hours)	Not applicable	1.800.4BE.SAFE or 1.800.423.7233

Project Emergency Numbers		
Title	**Name**	**Phone Number**
Project Manager	Tom Cammarata	O: (206) 306-1900 C: (206) 261.8046
Field Manager/Health and Safety Officer	Rob Honsberger	O: (206) 306-1900 C: (206) 261.8046
Principal-in-Charge	John Funderburk	O: (206) 306-1900 C: (425) 922.9922
Corporate Health and Safety Representative	Paula Houston	O: (206) 306-1900 C: (206) 617-7296
Certified Industrial Hygienist working for SoundEarth	Michelle Copeland	O: (206) 612-6355
Northwest Utility Notification Center		(800) 424-5555

Attachment C, Hospital Route, should be reviewed for the location and driving directions. The route must be posted at the Property.

5.0 GENERAL SITE HAZARD ANALYSIS

This section is used to determine the project's potential health and safety hazards specifically as they relate to the location where the work will occur. Task-related hazards are analyzed in Section 6.0, Task-Related Site Hazard Analysis.

5.1 GENERAL SITE HAZARD ANALYSIS—CHEMICAL

This section describes and identifies potential and known chemical hazards that may be encountered (summarized in Table 1). Reference 08-03, Chemical Hazards Analysis, provides more information.

5.1.1 Reports that Provide Chemical Data

- *Remedial Investigation/Feasibility Study Report, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington*, prepared by SoundEarth, dated December 13, 2010 (RI/FS Report).
- *Groundwater Monitoring and Sampling Report, Third Quarter 2011*, *Former Pace National Site, 500 7th Avenue South, Kirkland, Washington,* prepared by SoundEarth, dated October 3, 2011 (2011 GW Report).

5.1.2 Summary of Potential Chemical Hazards

- Vinyl chloride

5.1.3 Past Opportunities for Chemical Contamination

The Property was operated as a specialty chemical mixing and packaging facility from 1971 to approximately 1990, resulting in a release of chlorinated volatile organic compounds to soil and groundwater beneath the Property.

5.1.4 Opportunities for Unknown or Unidentified Chemical Contamination

- None identified.

5.1.5 Existing Controls in Place

- None identified.

5.1.6 Chemical Analytical Results

Applicable media is discussed in the document/report that contains the table with analytical data. Identified chemicals are included in Table 1 of this HASP and below.

- Summary of Groundwater Analytical Results (Table 2 of the 2011 GW Report)

TABLE C-1. CHEMICAL HAZARDS

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 Action Limit	Recommended Monitoring/Sampling Method
Vinyl Chloride	DOSH PEL 1 ppm TWA 5 ppm STEL	Gas (FP N/A) 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
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
FP = flash point
LEL = lower explosive limit
N/A = not applicable
NIOSH = National Institute of Safety and Health
OSHA = Occupational Safety and Health Administration
PEL = permissible exposure limit
PID = photoionization detector
PPE = personal protective equipment
ppm = parts per million
SA = supplied air respirator
STEL = short-term exposure limit, 15 minutes, unless otherwise noted
TWA = time-weighted average

5.2 GENERAL PROJECT HAZARD ANALYSIS—PHYSICAL

This section addresses known and potential physical hazards specific to the project. Reference 08-04, Physical Hazards Analysis, provides more information. Project documents provided by the client/owner/tenant can be helpful to identify hazards (non-SoundEarth HASPs, Traffic Control Plans, Operation and Maintenance Plans, and others documents).

5.2.1 Physical Hazards

Described below are physical hazards that may be encountered while on the Site.

- Traffic
- Noise exposure
- Heavy equipment/machine safety
- Unsecure/uncontrolled site
- Underground utilities and features
- Slips/trips/falls/cuts
- Temperature extremes

5.2.2 Utility Hazards

Described below are utility hazards that may be present at the Property. In order to locate utilities, call the Northwest Utility Notification Center at (800) 424-5555, schedule a private locate (as appropriate), review side sewer cards, review owner/tenant documents, and visually inspect the Site.

5.2.2.1 Underground Utilities (See Reference 08-19, Underground Services Location and Protection.)

- Underground utilities on the Property include sanitary sewer lines and stormwater lines, which are primarily located at the northwest portion of the Site. Municipal subsurface utilities are located in the Burlington Northern Santa Fe Railway ROW and along 7th Avenue South (Figure 2).

5.2.2.2 Overhead Utilities (See Reference 08-10, Electrical Safety)

- No overhead utilities are present on the Property.

6.0 TASK-RELATED HAZARD ANALYSIS

This section outlines the health and safety hazards that may be present as a result of the tasks to be performed by SoundEarth or subcontractors as they relate to the chemical and physical hazards identified in Sections 5.1 and 5.2, above. Please review references noted in Table 2 for the controls and any personal protective equipment (PPE) required. 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 HASP. A summary of the controls specific to the project is presented in Section 7.0, Task-Related Hazard Controls Summary.

7.0 TASK-RELATED SITE HAZARD CONTROLS SUMMARY

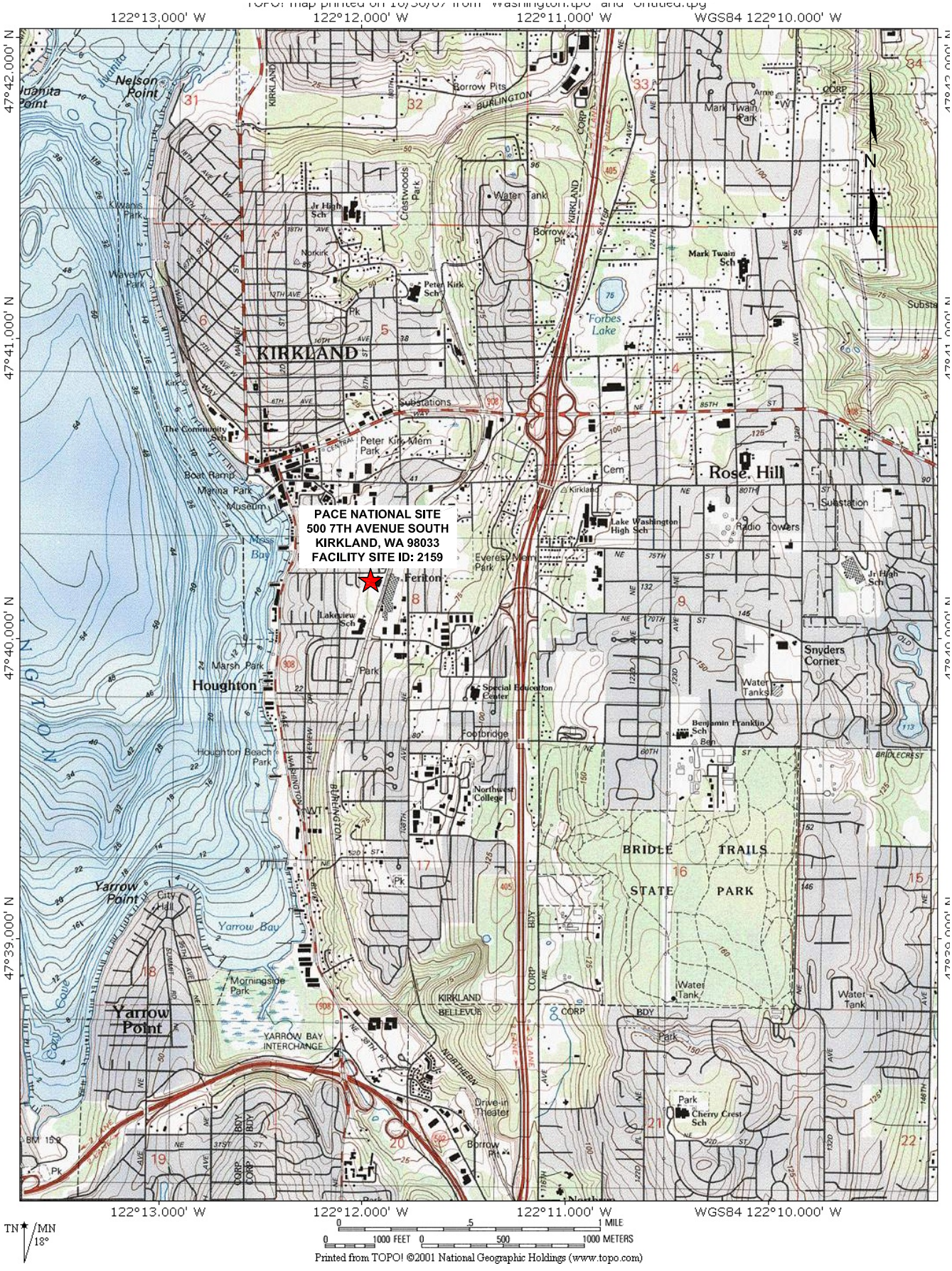
The following controls are required for SoundEarth employees while performing work on the Site:

- Work clothing or coveralls (no shorts)
- Steel-toed work boots
- Safety glasses
- Nitrile gloves
- Traffic cones

TABLE C-2. TASK-RELATED HAZARDS

Tasks	Role	Hazard	References
Sampling – Environmental	Task performed by SoundEarth	Chemicals	Table 1, Chemical Hazards 08-17, Sample Collection
		Emergency	08-02, Emergency Response Plan
		Heat stress/hypothermia	08-13, Temperature Extremes
		PPE, meetings, inspections	08-07, General Site Safety Requirements
		Process hazards	08-21, Work Around Hazardous Processes
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Water hazards	08-23, Work Near Water

FIGURES



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

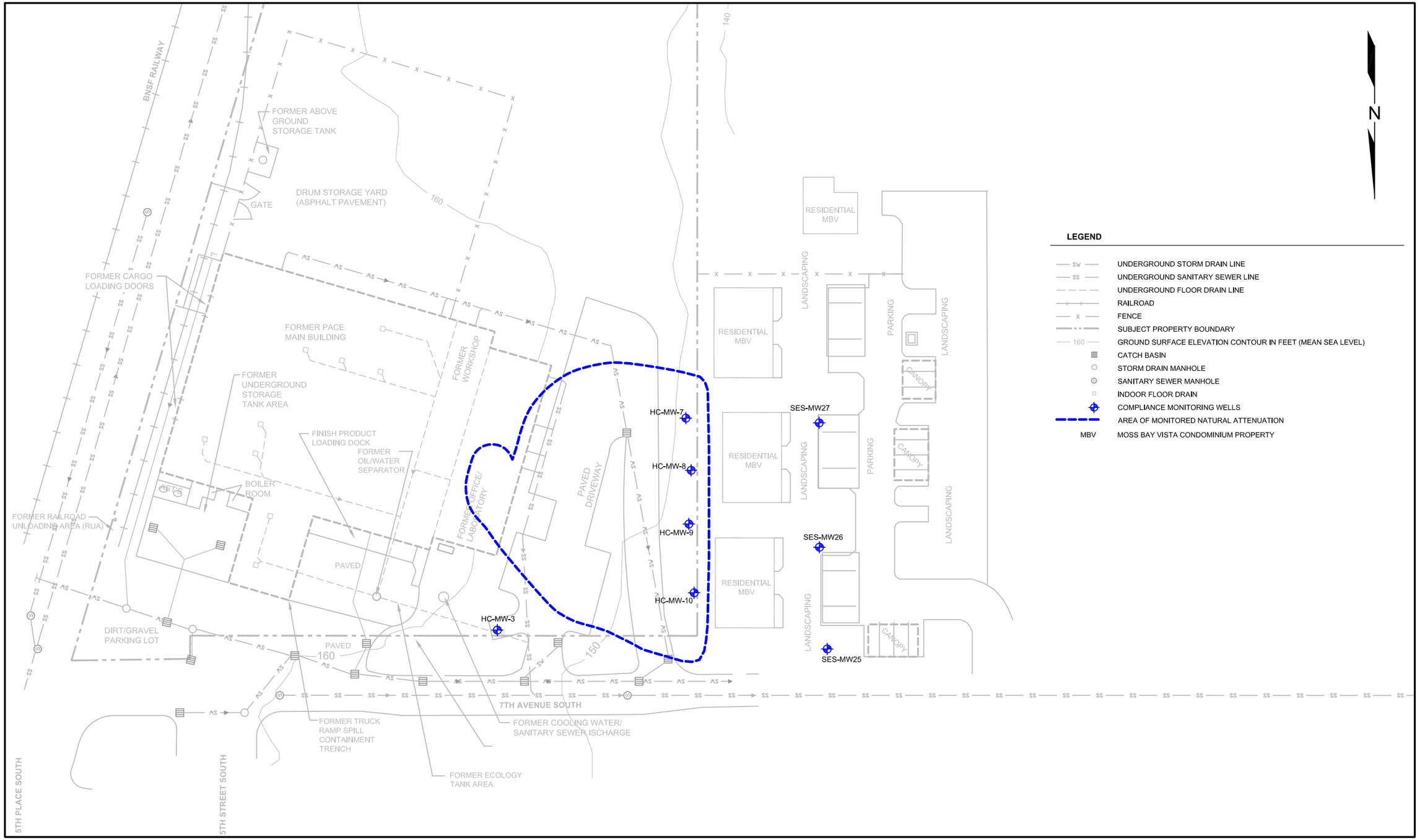
DATE:	01/03/2011
DRAWN BY:	BLR
CHECKED BY:	DMB/TJC
CAD FILE:	0698-001 FIG1-VIC

PROJECT NAME:	FORMER PACE NATIONAL SITE
PROJECT NUMBER:	0698-001
STREET ADDRESS:	500 7TH AVENUE SOUTH
CITY, STATE:	KIRKLAND, WASHINGTON

FIGURE C-1
SITE VICINITY MAP

1/10/2012

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\REVISED CAP\HASP\0698-001 2011HASP FIG2.DWG



LEGEND

- SW — UNDERGROUND STORM DRAIN LINE
- SS — UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- x — FENCE
- SUBJECT PROPERTY BOUNDARY
- 160 — GROUND SURFACE ELEVATION CONTOUR IN FEET (MEAN SEA LEVEL)
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN
- COMPLIANCE MONITORING WELLS
- AREA OF MONITORED NATURAL ATTENUATION
- MBV — MOSS BAY VISTA CONDOMINIUM PROPERTY

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 3/9/2011
DRAWN BY: NAC/BLR
CHECKED BY: TJC
CAD FILE: 0698-001-2010CMP_CP1

PROJECT NAME: FORMER PACE NATIONAL
PROJECT NUMBER: 0698-001-03
STREET ADDRESS: 500 7TH AVENUE SOUTH
CITY, STATE: KIRKLAND, WASHINGTON

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE C-2
MAP SHOWING AREA OF MONITORED NATURAL ATTENUATION AND COMPLIANCE MONITORING WELLS

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*

ATTACHMENT B

DAILY HEALTH AND SAFETY BRIEFING LOG

DAILY HEALTH AND SAFETY BRIEFING LOG

Date: _____ **Start Time:** _____

Sites Discussed: _____

_____

_____

_____

Subjects Discussed: _____

_____

_____

_____

_____

ATTENDEES

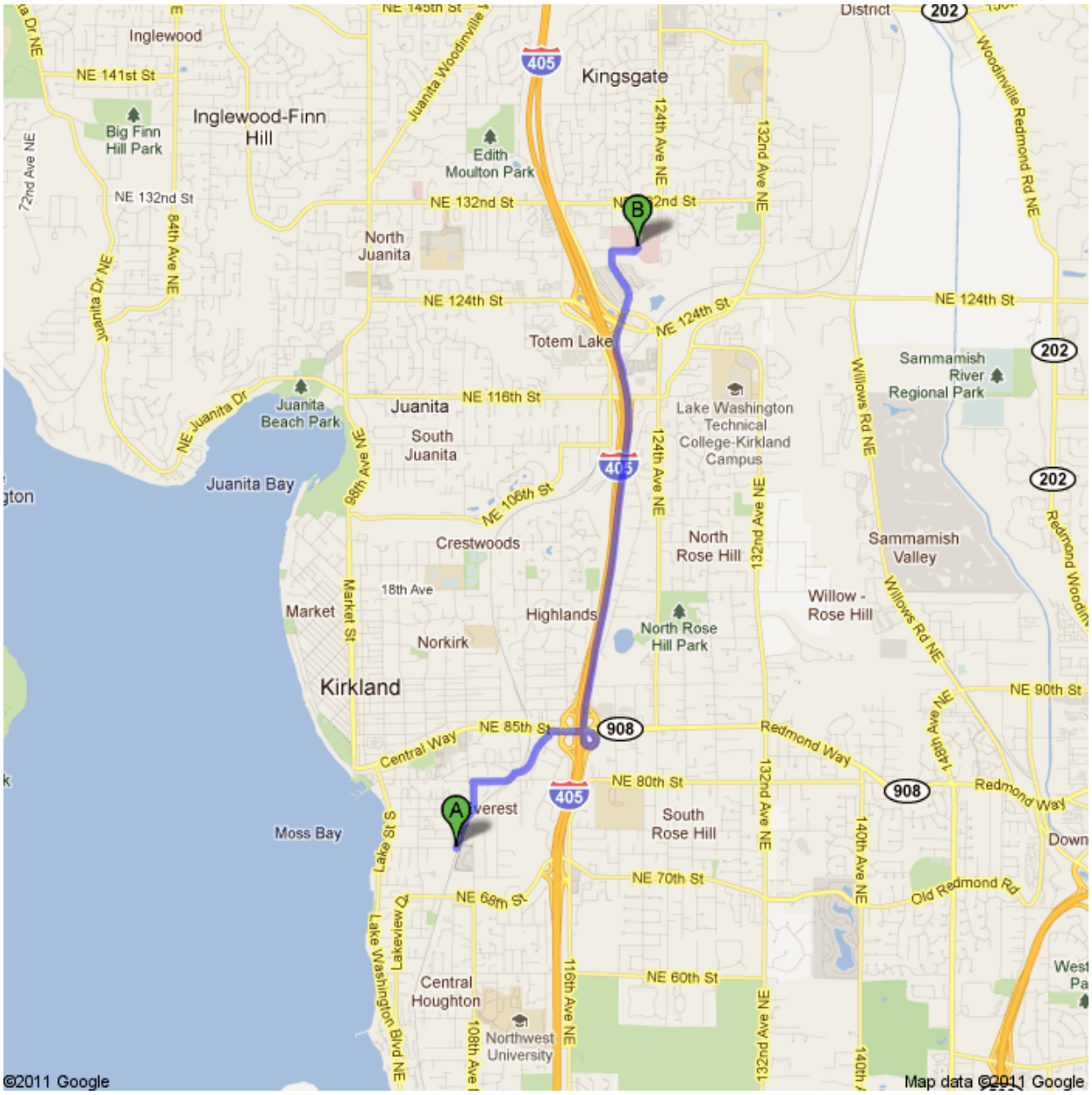
Print Name	Signature

Meeting Conducted by _____ **Date Signed**_____

ATTACHMENT C

HOSPITAL ROUTE

HOSPITAL ROUTE



HOSPITAL ROUTE

500 7th Ave S, Kirkland, WA 98033

	1. Head **north** on **5th Pl S** toward **6th St S**	go 0.2 mi total 0.2 mi
	2. Turn left onto **6th St S**	go 0.1 mi total 0.4 mi
	3. Take the 1st right onto **Kirkland Ave** About 1 min	go 0.2 mi total 0.6 mi
	4. Turn right onto **Kirkland Way** About 1 min	go 0.3 mi total 0.9 mi
	5. Turn right onto **NE 85th St** About 1 min	go 0.2 mi total 1.1 mi
405	6. Merge onto **I-405 N** via the ramp to **Everett** About 3 mins	go 2.1 mi total 3.2 mi
	7. Take exit **20B** for **Totem Lake Blvd**	go 0.3 mi total 3.5 mi
	8. Merge onto **120th Ave NE** About 1 min	go 0.3 mi total 3.8 mi
	9. Turn right onto **NE 128th St**	go 0.1 mi total 4.0 mi
	10. Turn left Destination will be on the left	go 148 ft total 4.0 mi

Evergreen Hospital Medical Center
12040 Northeast 128th Street, Kirkland, WA 98034-3013 - (425) 899-3000