PES Environmental, Inc.
Engineering & Environmental Services

November 19, 2015

1006.008.03

Washington State Department of Ecology
Toxics Cleanup Program – NWRO
3190 160th Avenue SE
Bellevue, Washington 98008-5452

Attention: Ms. Maura O'Brien

SITE CLOSURE REPORT AND COMPLIANCE GROUNDWATER MONITORING REPORT
FORMER PACE NATIONAL SITE
500 7TH AVENUE SOUTH
KIRKLAND, WASHINGTON

SITE CLEANUP ID #5063
FACILITY SITE ID #2159

Dear Ms. O'Brien:

On behalf of SRMKII, LLC (SRMKII), PES Environmental, Inc. (PES) has prepared this Site Closure Report and Compliance Groundwater Monitoring Report ("Report") for the Former Pace National Site (Site; Figure 1). This Report includes a presentation of the fourth compliance groundwater monitoring event conducted in October 2015.

The Site is comprised of the northern portion of the property located at 500 7th Avenue South, in Kirkland, Washington (Property; see Figure 2) and is the subject of a cleanup action being performed pursuant to a Consent Decree[1] between the Washington State Department of Ecology (Ecology) and the Ultra Corporation (Ultra). The cleanup action being performed at the Site is described in detail in the Cleanup Action Plan (CAP) prepared by Ecology and included as Exhibit B to the Consent Decree[2].

SRMKII purchased the Property from Ultra in September 2013 and SRMKII was added as a Defendant to the Consent Decree on September 27, 2013[3]. SRMKII proposed to redevelop the Property into an office building with two floors of subsurface parking. As part of the Property acquisition, SRMKII conducted independent investigations at the Site to develop the necessary plans to manage excavated soil containing detectable concentrations of contaminants, including concentrations below applicable cleanup levels (referred to as "gray soil") that required off-site disposal at a permitted facility. The gray soil area removals were conducted as part of site

[1] State of Washington, King County Superior Court, Consent Decree, No. 12-2-16257-3. May 7, 2012.
[2] Ecology, 2012. *Cleanup Action Plan, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington. Site Cleanup ID# 5063, Facility Site ID# 2159.* January.
[3] State of Washington, King County Superior Court, Consent Decree, No. 12-2-16257-3, First Amendment to Consent Decree Re: Pace National, September 27, 2013.

redevelopment in order to properly manage the soil to be excavated for the parking structure and were not required by the Consent Decree.

In addition, SRMKII conducted an independent investigation and developed and executed a plan to remove saturated soils within the portion of the Site containing vinyl chloride in groundwater. The vinyl chloride area excavation was also not required by the Consent Decree.

These additional investigations and subsequent soil excavation and confirmation soil sampling activities conducted during Property redevelopment, as well as four consecutive rounds of compliance monitoring activities conducted after completion of the soil excavations, are described in this Report.

SITE BACKGROUND AND HISTORY

Pace National operated a specialty chemical mixing and packaging business on the Property from 1971 to approximately 1990. Historically, potential contaminants of concern (COCs) included petroleum hydrocarbons, semi-volatile organic compounds, and chlorinated solvents. Extensive investigation and remediation activities have occurred at the Property as independent cleanup actions (prior to 2009) and pursuant to an Agreed Order between Ultra Corporation (f/k/a Pace National Corporation) and Ecology. The historical investigations and cleanup actions are summarized in Sound Environmental Strategies' (n/k/a SoundEarth Strategies, Inc. ["SES"]) *Remedial Investigation/Feasibility Study Report*.[4] At the conclusion of interim remedial actions, the remaining COC was identified as vinyl chloride in groundwater.

SELECTED CLEANUP ACTION AND CLOSURE PERFORMANCE STANDARDS

As indicated in the CAP, the selected final cleanup action for contaminated groundwater at the Site was monitored natural attenuation (MNA) with groundwater compliance monitoring at the defined points of compliance. The groundwater compliance monitoring was to confirm the completion of cleanup actions and to confirm that the cleanup action level has been achieved and maintained at the point of compliance (the concentration of vinyl chloride in groundwater at the west Property boundary) for four consecutive monitoring events.

Groundwater compliance monitoring requirements pursuant to the Consent Decree are described in the Compliance Monitoring Plan[5] (CMP) included as Appendix A to the CAP. The CMP specified groundwater performance and confirmational monitoring to include collecting groundwater samples from wells HC-MW-3, HC-MW-7 through HC-MW-10, and SES-MW25 through SES-MW27 for vinyl chloride analysis (Figure 3). The CMP specified that after four semi-annual sampling events were completed, Ecology would conduct an evaluation of the progress of MNA at the Site and determine whether a modification to the number of wells sampled and/or the frequency of sampling was warranted. The fourth semi-annual sampling event was conducted in February 2013, and the

[4] Sound Environmental Strategies, 2010. *Remedial Investigation/Feasibility Study, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington*. December 13.
[5] SoundEarth Strategies, Inc. 2012. *Compliance Monitoring Plan, Appendix A to the Cleanup Action Plan, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington.*

results were submitted to Ecology in a letter prepared by SES and dated March 1, 2013.[6] The results of the groundwater sampling are provided in tables and figures from SES's *Draft Semiannual Groundwater Monitoring and Sampling Report – February 2013* (Attachment A).

On May 15, 2013, Ecology met with representatives of Ultra and SRMKII to discuss the compliance monitoring results, revisions to the CMP, proposed redevelopment of the Property, and amendment of the Consent Decree. During this meeting, SRMKII proposed conducting additional soil excavation activities during redevelopment to remove gray soil and saturated soils within the vinyl chloride area groundwater plume (described in detail below).

Based on the results of SES's four sampling events and considering the proposed redevelopment activities, Ecology recommended changes to the CMP in an e-mail dated May 21, 2013. The compliance monitoring well network was reduced to wells SES-MW-25 through SES-MW-27. All other existing monitoring wells were approved to be decommissioned by a licensed well driller in accordance with WAC 173-160-460. The frequency of monitoring was revised to annual monitoring beginning with the February 2013 event. Ecology recommended reviewing with SRMKII the option to revise the frequency of sampling to semiannual after the completion of excavation and subsurface disturbance.

PROPERTY REDEVELOPMENT ACTIVITIES

As part of the construction of an office building with two floors of subsurface parking, the Property was to be excavated to a general construction grade elevation of 142.5 feet above mean sea level (amsl).

A small portion of the soils to be excavated during Property redevelopment for the construction of the subsurface parking garage contained detectable concentrations of contaminants, including gray soil, and required off-site disposal at a permitted facility. In addition, as part of Property redevelopment and soil excavation activities for the subsurface parking garage, SRMKII proposed excavating and removing the saturated soils within the vinyl chloride area groundwater plume.

Supplemental Site Investigations

PES conducted a site investigation in 2012 to characterize the soil that would be excavated during future Property re-development activities and determine the appropriate disposal method. Following the soil assessment, PES prepared a *Sampling and* Analy*sis Plan (SAP)*[7]. The SAP described the procedures to: (1) conduct a pre-excavation assessment of the vinyl chloride area; (2) define soil sampling procedures during gray soil removal; and (3) define soil sampling procedures during the vinyl chloride area excavation. The pre-excavation assessment was conducted in 2013 and delineated the extent of the vinyl chloride-impacted perched water and identified additional gray soil areas. The results of the investigations are described below.

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[6] SoundEarth Strategies, Inc.. 2013. Letter from T. Cammarata (SES) to M. O'Brien (Ecology), Semiannual Groundwater Monitoring and Sampling Report, February 2013, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington. March 1. (Draft - Issued for Ecology Review)

[7] PES, 2013. *Sampling and Analysis Plan, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington*. February 14.

Gray Soil Areas
From August 13 to August 17, 2012, PES oversaw the drilling of 4 shallow borings (HA-5 through HA-8) and 21 deeper borings (GP-1 through GP-5, GP-7 through GP-10, GP-12 through GP-20, GP-23, GP-24, and GP-25). A total of 63 soil samples were analyzed from 25 locations throughout the Property. Nine soil samples from eight soil borings had detections of one or more of the following: gasoline range organics (GRO), diesel range organics (DRO), heavy-oil range organics (HO), petroleum-related Volatile Organic Compounds (VOCs), and/or chlordane. The results of the investigation identified eight gray soil areas with soils to be excavated and properly managed prior to the clean soil mass excavation (Figure 4). The results are documented in PES's *Soil Assessment Report.*[8]

During the vinyl chloride area assessment conducted in 2013 (described below), two additional areas were identified for gray soil removal (Areas 10 and 11 on Figure 4) due to detections of naphthalene, toluene, diesel and/or heavy oil. These results are summarized in PES's *Vinyl Chloride Area Assessment Report.*[9]

Vinyl Chloride Area
On April 10 and 11, 2013, PES oversaw the drilling of seven borings with temporary wells (GP-26 through GP-31 and GP-27A) to delineate the horizontal and vertical limits of the vinyl chloride concentrations in perched water. The investigation was conducted in accordance with PES's SAP.

Vinyl chloride was not detected in any of the soil samples, but was detected in the water samples collected from two of the temporary wells. The results are summarized in PES's *Vinyl Chloride Area Assessment Report.*[10] The assumed area of vinyl chloride-impacted groundwater was based on the area requiring cleanup as specified in the CAP and revised based on the results of the vinyl chloride area investigation. This area was identified as "Area 9" (Figure 4). The water was perched on a glaciolacustrine layer (the "confining silt layer"), located at estimated elevations ranging from 130 to 148 feet amsl (Figure 5).

Gray Soil and Vinyl Chloride Area Excavations

In connection with the planned remedial excavations, PES prepared a *Post Excavation Compliance Monitoring Plan*[11] (Post Ex CMP). The Post Ex CMP was approved by Ecology in an e-mail dated October 11, 2013. PES also prepared a *Contaminated Soil Management Plan* (CSMP)[12] to provide information regarding the location, depth, and disposal classification type of contaminated soil present at the Property to assist the excavation contractor with proper soil management and disposal.

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[8] PES Environmental, Inc. 2012. *Soil Assessment Report*. *Former Pace National Property, 500 7th Avenue South, Kirkland, Washington*. November 15.
[9] PES, 2013. *Vinyl Chloride Area Assessment Report, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington.* June 7.
[10] PES, 2013. *Vinyl Chloride Area Assessment Report, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington.* June 7.
[11] PES, 2013. *Post Excavation Compliance Monitoring Plan, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington.* October 10.
[12] PES, 2013. *Contaminated Soil Management Plan, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington*. August 30.

Soil (including clean soil) was excavated from the Property from November 2013 to May 2014. Prior to the excavation activities, all on-site monitoring wells (HC-MW-3, HC-MW-5, HC-MW-7 through HC-MW-11, and HC-MW-24) were decommissioned by a licensed driller, with prior approval from Ecology.

Gray Soil Areas

SRMKII excavated soils in the locations of previous borings with detectable contaminant concentrations prior to the start of the redevelopment mass excavation (each, a designated Area). The soil excavation activities were conducted within each of the identified Areas beginning at the locations with the documented soil contamination and extending radially outward 10 feet and one to two feet below the depth of the soil sample with a detection. Gray soil excavation activities were conducted from November 2013 to January 2014. A total of 5,965.19 tons of soil were excavated and disposed of from the gray soil areas.

PES oversaw the gray soil excavation activities and conducted confirmation soil sampling in accordance with PES's Post Ex CMP. The soil sample locations and analytical parameters were based on historical detections as well as field observations and excavation sampling results. The purpose of the gray soil excavation activities was to remove soil with all detectable concentrations so that the areas could be cleared for mass excavation. A total of 74 final confirmation soil samples were collected and analyzed. With the exception of two soil samples collected from Areas 1 and 11, both within the vinyl chloride area (Area 9), confirmation soil samples did not contain contaminant concentrations at or above the applicable Practical Quantitation Limits (PQLs). The heavy oil concentrations detected in the southern sidewall of Area 1 and the western sidewall of Area 11 were confirmed to be removed with the vinyl chloride area excavation (see below). The excavation activities and soil sampling results are summarized in PES's *Post-Excavation Compliance Soil Sampling Report*[13], which was approved by Ecology in a letter dated March 31, 2014.

Vinyl Chloride Area

Saturated soils located above the confining silt layer in the northwest corner of the Property that contained groundwater with vinyl chloride were removed during Property redevelopment. From December 2013 to January 2014, a total of 11,325.17 tons of soil from the vinyl chloride area were excavated and disposed of off-site. PES oversaw the vinyl chloride area excavation activities and conducted confirmation soil sampling in accordance with PES's Post Ex CMP.

The purpose of the vinyl chloride area excavation activities was to remove saturated soils within the extent of the vinyl chloride contaminated perched water. The excavation activities were not directed based solely on soil analytical results.

A total of 36 confirmation soil samples were collected and analyzed from the vinyl chloride area. The samples were analyzed for constituents previously detected in the vinyl chloride area as well as for vinyl chloride. Only one vinyl chloride area confirmation sample contained a detected constituent. The base sample Area9-Base10-134 contained naphthalene at a concentration of 0.0584 mg/kg. As the concentration is below the MTCA Method A cleanup level of 5 mg/kg, and

[13] PES, 2014. *Post-Excavation Compliance Soil Sampling Report, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington.* March 17.

the location is outside of the garage footprint and is below the redevelopment depth, this location was not over-excavated.

Based on the results of the confirmation soil sampling performed during excavation activities, PES concluded that all of the vinyl chloride saturated soil had been effectively removed from the Property. The excavation activities and soil sampling results are summarized in PES's *Post-Excavation Compliance Soil Sampling Report*[14], which was approved by Ecology in a letter dated March 31, 2014.

GROUNDWATER COMPLIANCE MONITORING

Per Ecology's e-mail dated September 26, 2013, compliance groundwater sampling was to begin after all subsurface disturbing activities were completed. SRMKII completed the final footing excavations in early May 2014. The groundwater compliance monitoring was conducted in accordance with the Consent Decree (as described in the CMP included as Appendix A to the CAP) and in accordance with PES's Post Ex CMP.

Previous Groundwater Compliance Monitoring Results

The first round of compliance monitoring was conducted on May 13, 2014. The results of the May 2014 compliance monitoring are summarized in PES's *Compliance Groundwater Monitoring – May 2014 Final Report*[15]. The groundwater monitoring results indicated that the cleanup level for vinyl chloride was achieved in the samples collected from all three compliance monitoring wells. This report also included a request to modify the compliance sampling schedule from annual to semi-annual sampling. Ecology approved the modification in an e-mail dated June 18, 2014.

Two additional rounds of groundwater compliance monitoring and sampling were conducted on November 10, 2014 and May 7, 2015. The results of the November 2014 compliance monitoring are summarized in PES's *Compliance Groundwater Monitoring – November 2014 Report*[16], and the results of the May 2015 compliance monitoring are summarized in PES's *Compliance Groundwater Monitoring – May 2015 Report*[17]. The groundwater monitoring results indicated that the cleanup level for vinyl chloride was achieved in the samples collected from all three compliance monitoring wells during both rounds.

Groundwater Monitoring Results for October 2015

The fourth groundwater compliance monitoring and sampling event was conducted on October 20, 2015, and the results are summarized below.

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[14] PES, 2014. *Post-Excavation Compliance Soil Sampling Report, Former Pace National Property, 500 7th Avenue South, Kirkland, Washington.* March 17.
[15] PES, 2014. *Compliance Groundwater Monitoring – May 2014 Final Report, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington.* June 23.
[16] PES, 2014. *Compliance Groundwater Monitoring – November 2014 Report, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington.* December 23.
[17] PES, 2015. *Compliance Groundwater Monitoring – May 2015 Report, Former Pace National Site, 500 7th Avenue South, Kirkland, Washington.* July 9.

Groundwater Level Monitoring
Groundwater level monitoring was conducted on October 20, 2015, in monitoring wells SES-MW25, SES-MW26, and SES-MW27. Depth to water was measured from the surveyed top of casing (TOC) to the nearest 0.01 foot using an electronic water level probe.

Groundwater Sampling
Groundwater samples were collected on October 20, 2015, using low-flow sampling techniques from wells SES-MW25, SES-MW26, and SES-MW27. A peristaltic pump with new tubing was lowered into each well, and the groundwater was purged prior to sample collection until field parameters stabilized. Field parameters measured during sampling consisted of temperature, pH, specific conductance, dissolved oxygen (DO), and oxidation reduction potential (ORP).

Samples were collected into preserved 40-ml VOA sampling containers and submitted to Fremont Analytical, Inc. (Fremont), in Seattle, Washington (an Ecology accredited laboratory) for analysis of vinyl chloride by United States Environmental Protection Agency (USEPA) Method 8260B.

Quality Assurance/Quality Control
One field duplicate sample was collected from well SES-MW27. One set of trip blanks was included in the coolers and was returned to Fremont for vinyl chloride analysis.

Groundwater Monitoring Results
Field parameter measurements, groundwater level measurements, and groundwater elevations are summarized in Table 1. Groundwater elevations ranged from 131.83 to 134.04 feet (relative to an arbitrary vertical datum) and were consistent with historical observations. The groundwater elevations are shown on Figure 3.

Groundwater Analytical Results
The laboratory analytical results from the October 2015 sampling event for vinyl chloride are summarized in Table 1 and on Figure 3. Vinyl chloride was not detected in any sample at or above the laboratory PQL of 0.2 micrograms per liter (µg/L). The PQL is equal to the Model Toxics Control Act (MTCA) Method A cleanup level for vinyl chloride. Vinyl chloride was not detected at or above the PQL in the trip blank sample.

Laboratory Data Validation
The laboratory analytical report was validated in accordance with the USEPA guidelines for organic data review[18]. All of the data were judged to be acceptable for their intended use. A copy of the laboratory analytical report and data validation memorandum are included as Attachment B.

CONCLUSIONS

Groundwater samples were collected from compliance wells SES-MW25, SES-MW26, and SES-MW27 and submitted for analysis of vinyl chloride by USEPA Method 8260B. Vinyl chloride has not been detected at or above the PQL (equivalent to the cleanup level) in any of the three wells

[18] *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. OSWER 9240.1-05A-P PB99-963506 EPA540/R-99/008, October.

during the four compliance monitoring events conducted in 2014 and 2015. The groundwater analytical results are presented in Table 1 and on Figure 3. The laboratory analytical reports and data validation memoranda are included in Attachment B.

Based on four consecutive monitoring events for unrestricted land use at all points of compliance, showing vinyl chloride concentrations below the MTCA Method A cleanup level, PES, on behalf of SRMKII, is requesting Ecology to close the Consent Decree and delist the Site.

If you have any questions regarding this report, or need any additional information, please feel free to contact either of us at (206) 529-3980.

Sincerely,

PES ENVIRONMENTAL, INC.

DRAFT

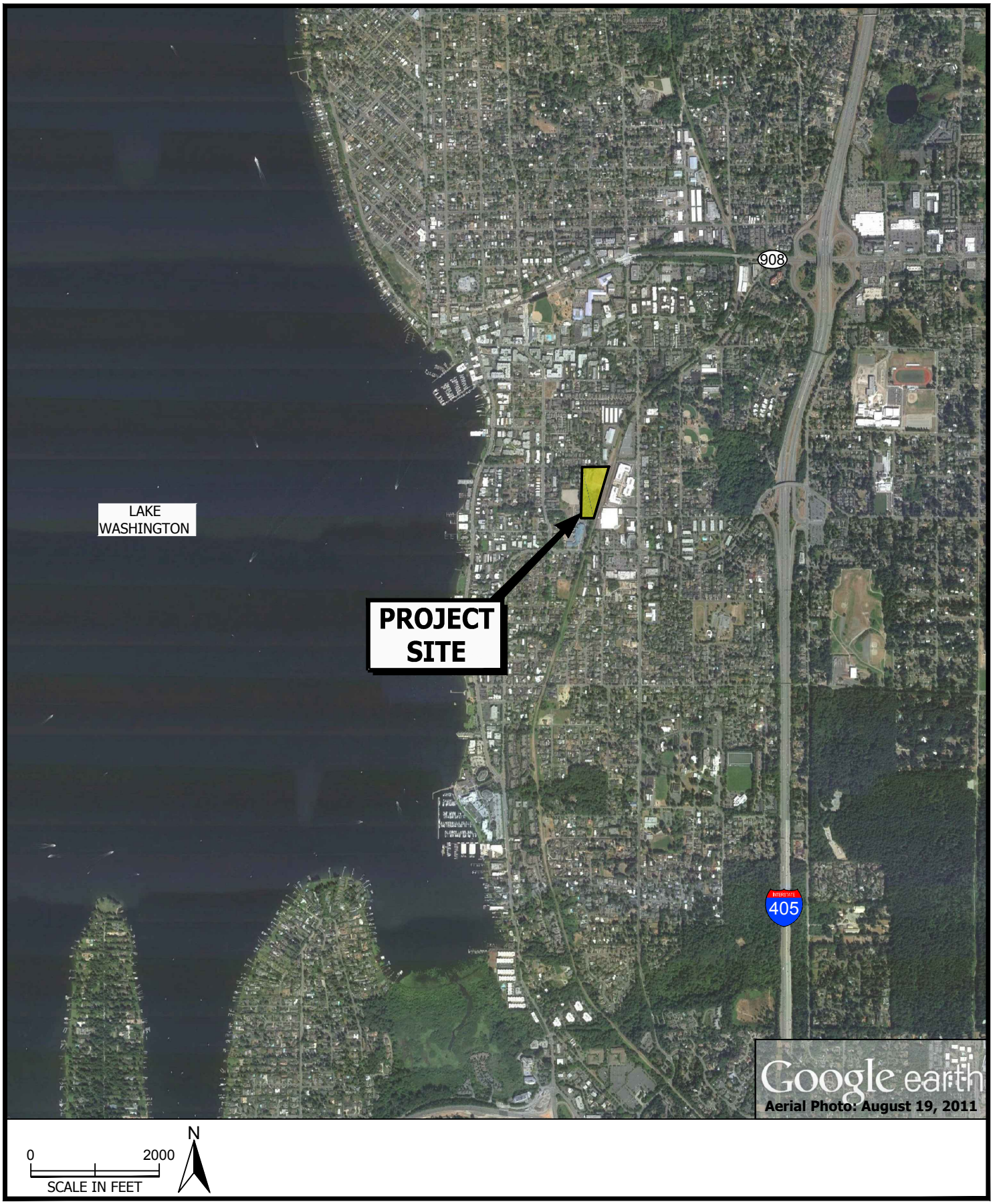
Kelly L. Rankich
Project Engineer

DRAFT

Daniel A. Balbiani, P.E.
Principal Engineer

Attachments:

Figure 1– Site Location Map
Figure 2 – Property and Site Boundaries
Figure 3 – Groundwater Elevations and Vinyl Chloride Results –October 2015
Figure 4 – Planned Soil Excavation Locations and Cross Section Location
Figure 5 – Cross Section A-A'
Table 1 – Summary of Groundwater Data
Attachment A – Tables and Figures from SES *Draft Semiannual Groundwater Monitoring and Sampling Report – February 2013*
Attachment B – Laboratory Reports and Data Validation Memoranda



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

FIGURE
1

1006.008.03.005	100600803005_SCR_1	DRAFT	11/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

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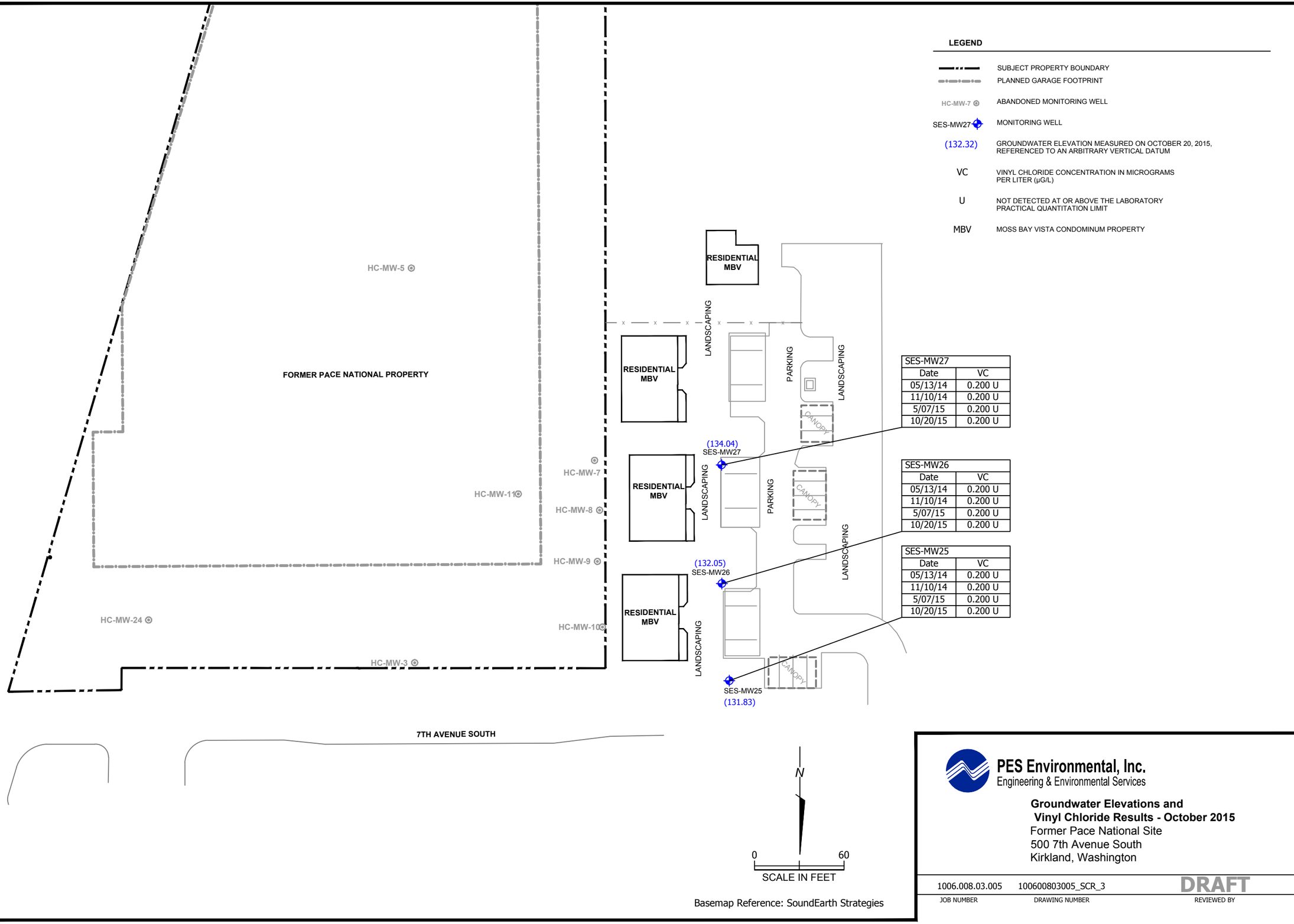
Property and Site Boundaries
Former Pace National Property
500 7th Avenue South
Kirkland, Washington

FIGURE
2

1006.008.03.005	100600803005_SCR_2	DRAFT	11/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



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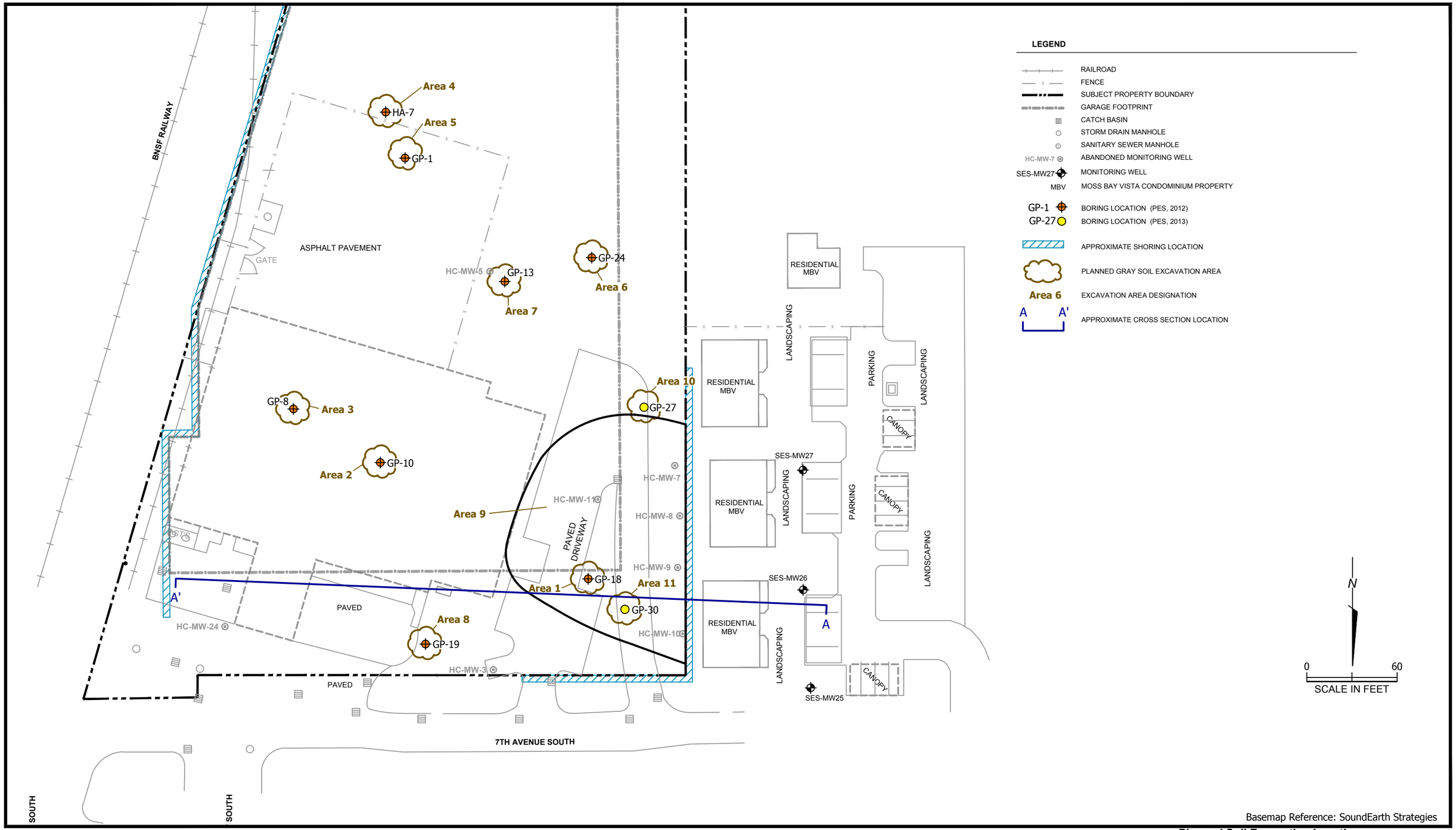
Groundwater Elevations and Vinyl Chloride Results - October 2015
Former Pace National Site
500 7th Avenue South
Kirkland, Washington

FIGURE 3

1006.008.03.005	100600803005_SCR_3	DRAFT	11/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Basemap Reference: SoundEarth Strategies

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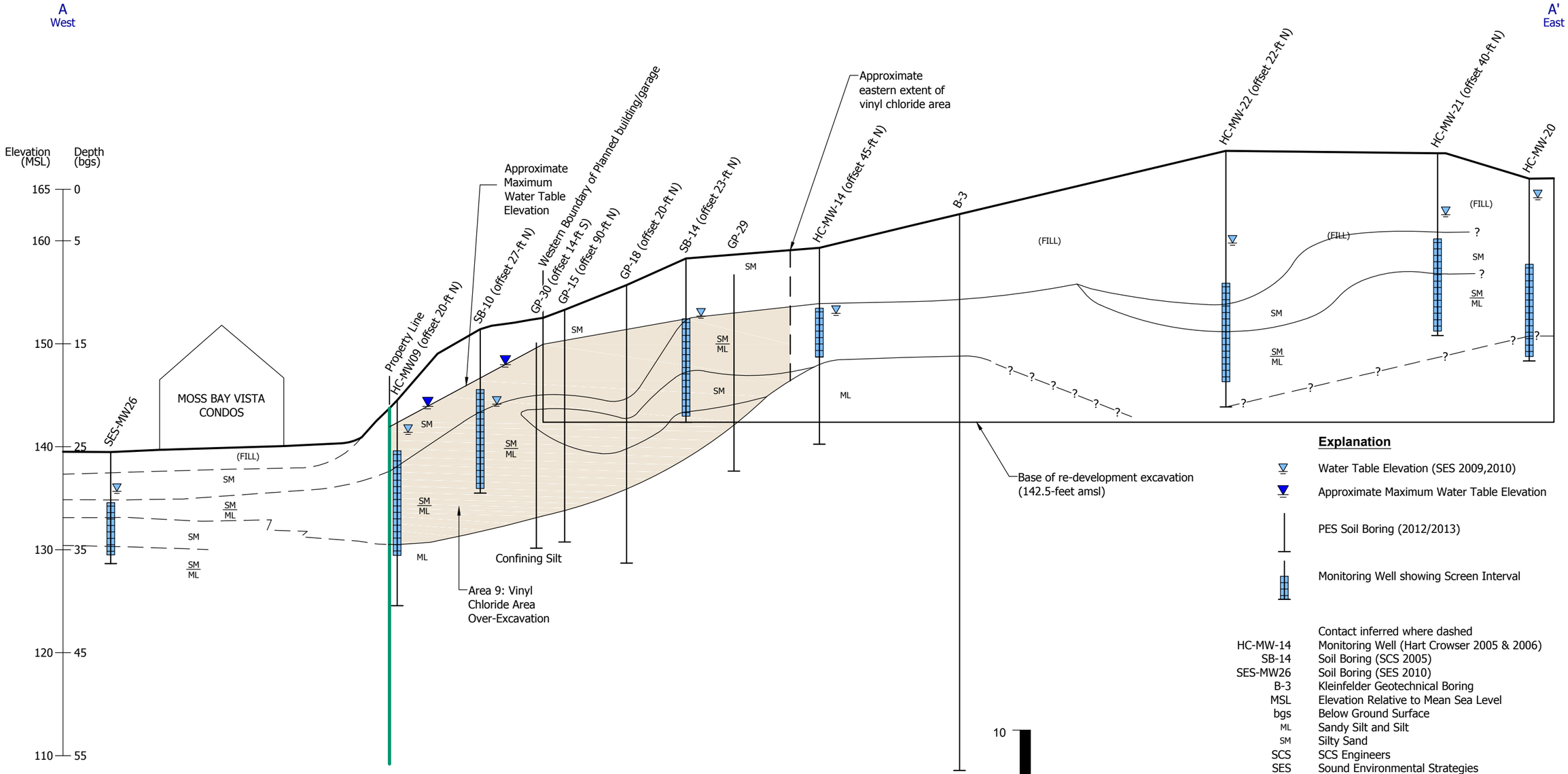
Planned Soil Excavation Locations and Cross Section Location
Former Pace National Property
500 7th Avenue South
Kirkland, Washington

FIGURE
4

1006.008.03.005	100600803005_SCR_4	DRAFT	11/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Source Reference: SoundEarth Strategies' Figure 4, Generalized Geologic Cross Section A-A', Remedial Investigation/Feasibility Study , December 13, 2010

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Cross-Section A-A'
Former Pace National Property
500 7th Avenue South
Kirkland, Washington

FIGURE
5

1006.008.03.005	100600803005_SCR_5	DRAFT	11/15
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

Table 1
Summary of Groundwater Data
Former Pace National Property
Kirkland, Washington

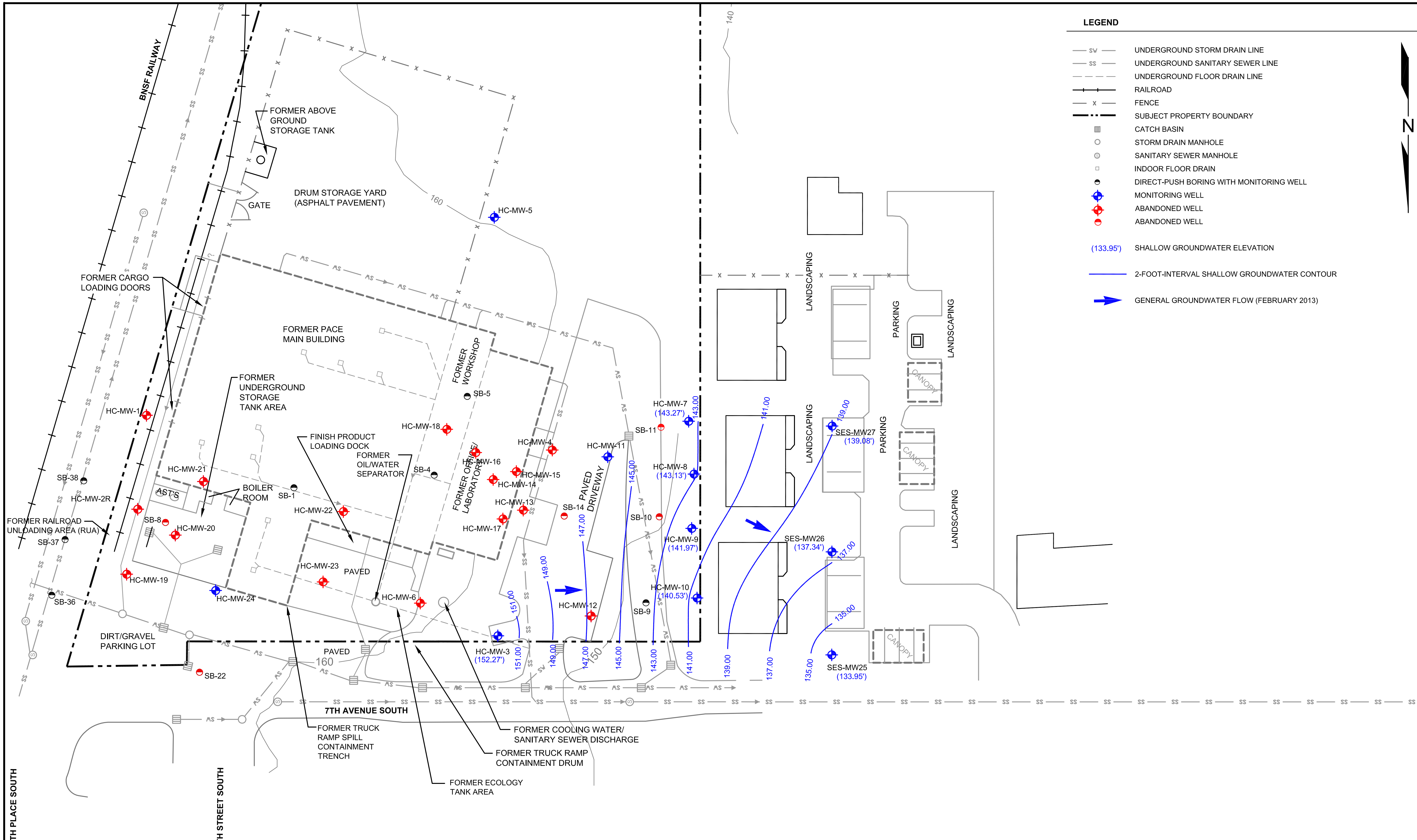
Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Water (feet TOC)	Groundwater Elevation (feet)	pH (units)	Specific Conductivity (µS/cm)	Temp (°C)	DO (mg/L)	ORP (mV)	Vinyl Chloride (µg/L)	
MTCA Method A Ground Water Cleanup Level										**0.2**	
SES-MW25	138.48	05/13/14	5.35	133.13	6.61	630	16.1	0.2	-126.9	0.200	U
		11/10/14	4.85	133.63	6.51	424	13.4	0	-96	0.200	U
		05/07/15	6.16	132.32	6.93	720	14.5	0.3	-82.0	0.200	U
		10/20/15	6.65	131.83	6.80	571	14.6	1.5	-17.9	0.200	U
SES-MW26	139.54	05/13/14	4.80	134.74	6.29	309	13.7	0.7	-76	0.200	U
		11/10/14	4.91	134.63	6.38	277	12.8	0.1	-39.1	0.200	U
		05/07/15	5.30	134.24	6.25	375	11.7	2.7	151.6	0.200	U
		10/20/15	7.49	132.05	6.54	340	14.9	2.0	23.2	0.200	U
SES-MW27	139.73	05/13/14	2.80	136.93	6.38	330	15.6	0.6	12.9	0.200	U
(Dup)		05/13/14	--	--	--	--	--	--	--	0.200	U
		11/10/14	2.48	137.25	6.39	374	13.5	0.1	-41.7	0.200	U
(Dup)		11/10/14	--	--	--	--	--	--	--	0.200	U
		05/07/15	3.02	136.71	6.66	375	13.7	0.9	61.4	0.200	U
(Dup)		05/07/15	--	--	--	--	--	--	--	0.200	U
		10/20/15	5.69	134.04	6.72	427	16.0	1.1	31.7	0.200	U
(Dup)		10/20/15	--	--	--	--	--	--	--	0.200	U

NOTES:

1. TOC = top of casing (TOC) elevations provided by Sound Earth and referenced to an arbitrary vertical datum.
2. units: pH standard units reported to 0.01.
3. µS/cm = microsiemens per centimeter @ 25 degrees Celsius (°C).
4. Dissolved Oxygen (DO) reported to 0.1 milligrams per liter (mg/L).
5. ORP = oxidation-reduction potential.
6. mV = millivolts.
7. Vinyl chloride concentrations in migrograms per liter (µg/l).
8.. Groundwater samples analyzed using USEPA Method 8260B.
9. U = concentration not detected at or above the laboratory practical quantitation limit (PQL).
10. -- = not applicable
11. Dup = field duplicate sample

ATTACHMENT A

Tables and Figures from SES Report


LEGEND
UNDERGROUND STORM DRAIN LINE
UNDERGROUND SANITARY SEWER LINE
UNDERGROUND FLOOR DRAIN LINE
RAILROAD
FENCE
SUBJECT PROPERTY BOUNDARY
CATCH BASIN
STORM DRAIN MANHOLE
SANITARY SEWER MANHOLE
INDOOR FLOOR DRAIN
DIRECT-PUSH BORING WITH MONITORING WELL
MONITORING WELL
ABANDONED WELL
ABANDONED WELL
(133.95') SHALLOW GROUNDWATER ELEVATION
2-FOOT-INTERVAL SHALLOW GROUNDWATER CONTOUR
GENERAL GROUNDWATER FLOW (FEBRUARY 2013)
N
BNSF RAILWAY
FORMER ABOVE GROUND STORAGE TANK
GATE
DRUM STORAGE YARD (ASPHALT PAVEMENT)
FORMER CARGO LOADING DOORS
FORMER PACE MAIN BUILDING
FORMER WORKSHOP
FORMER UNDERGROUND STORAGE TANK AREA
FINISH PRODUCT LOADING DOCK
FORMER OIL/WATER SEPARATOR
FORMER OFFICE/ LABORATORY
BOILER ROOM
ASTS
FORMER RAILROAD UNLOADING AREA (RUA)
PAVED
PAVED DRIVEWAY
DIRT/GRAVEL PARKING LOT
7TH AVENUE SOUTH
5TH PLACE SOUTH
5TH STREET SOUTH
FORMER TRUCK RAMP SPILL CONTAINMENT TRENCH
FORMER ECOLOGY TANK AREA
FORMER TRUCK RAMP CONTAINMENT DRUM
FORMER COOLING WATER/ SANITARY SEWER DISCHARGE
LANDSCAPING
PARKING
CANOPY
HC-MW-1
HC-MW-2R
HC-MW-3 (152.27')
HC-MW-4
HC-MW-5
HC-MW-6
HC-MW-7 (143.27')
HC-MW-8 (143.13')
HC-MW-9 (141.97')
HC-MW-10 (140.53')
HC-MW-11
HC-MW-12
HC-MW-13
HC-MW-14
HC-MW-15
HC-MW-16
HC-MW-17
HC-MW-18
HC-MW-19
HC-MW-20
HC-MW-21
HC-MW-22
HC-MW-23
HC-MW-24
SES-MW25 (133.95')
SES-MW26 (137.34')
SES-MW27 (139.08')
SB-1
SB-4
SB-5
SB-8
SB-9
SB-10
SB-11
SB-14
SB-22
SB-36
SB-37
SB-38
151.00
149.00
147.00
145.00
143.00
141.00
139.00
137.00
135.00
160
150
140

DATE:	03/01/13
DRAWN BY:	JQC
CHECKED BY:	TJC
CAD FILE:	0698-001-2013Q1_CM

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

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

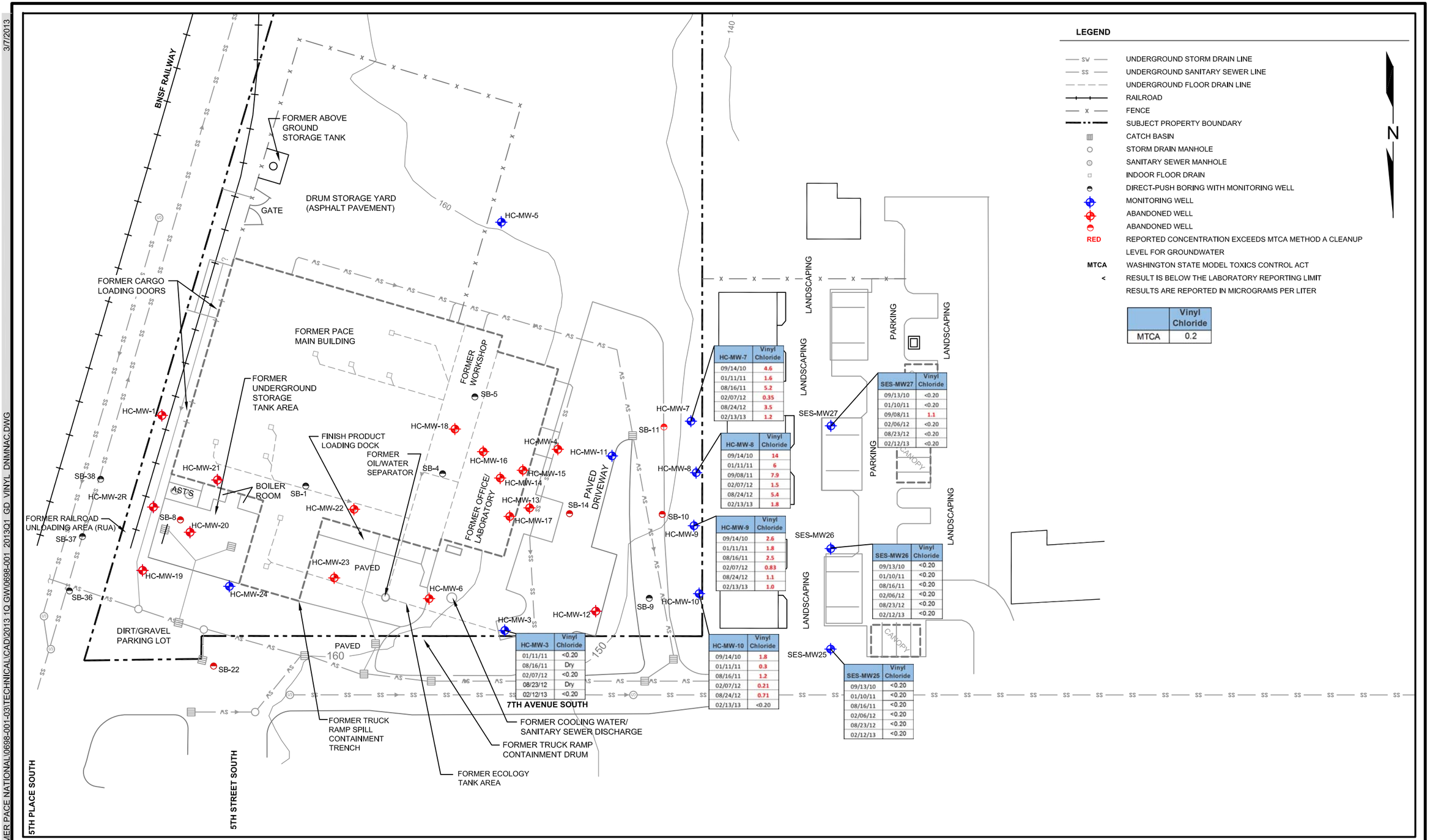
REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 2
MAP SHOWING
GROUNDWATER ELEVATION CONTOURS
(FEBRUARY 2013)

3/7/2013

P:\0698 ULTRA - FORMER PACE NATIONAL\0698-001-03\TECHNICAL\CAD\2013 1Q GW\0698-001 2013Q1 GD VINYL DNMNAC.DWG



HC-MW-7	Vinyl Chloride
09/14/10	4.6
01/11/11	1.6
08/16/11	5.2
02/07/12	0.35
08/24/12	3.5
02/13/13	1.2

HC-MW-8	Vinyl Chloride
09/14/10	14
01/11/11	6
09/08/11	7.9
02/07/12	1.5
08/24/12	5.4
02/13/13	1.8

HC-MW-9	Vinyl Chloride
09/14/10	2.6
01/11/11	1.8
08/16/11	2.5
02/07/12	0.83
08/24/12	1.1
02/13/13	1.0

HC-MW-10	Vinyl Chloride
09/14/10	1.8
01/11/11	0.3
08/16/11	1.2
02/07/12	0.21
08/24/12	0.71
02/13/13	<0.20

HC-MW-3	Vinyl Chloride
01/11/11	<0.20
08/16/11	Dry
02/07/12	<0.20
08/23/12	Dry
02/12/13	<0.20

SES-MW27	Vinyl Chloride
09/13/10	<0.20
01/10/11	<0.20
09/08/11	1.1
02/06/12	<0.20
08/23/12	<0.20
02/12/13	<0.20

SES-MW26	Vinyl Chloride
09/13/10	<0.20
01/10/11	<0.20
08/16/11	<0.20
02/06/12	<0.20
08/23/12	<0.20
02/12/13	<0.20

SES-MW25	Vinyl Chloride
09/13/10	<0.20
01/10/11	<0.20
08/16/11	<0.20
02/06/12	<0.20
08/23/12	<0.20
02/12/13	<0.20

LEGEND

- UNDERGROUND STORM DRAIN LINE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND FLOOR DRAIN LINE
- RAILROAD
- FENCE
- SUBJECT PROPERTY BOUNDARY
- CATCH BASIN
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- INDOOR FLOOR DRAIN
- DIRECT-PUSH BORING WITH MONITORING WELL
- MONITORING WELL
- ABANDONED WELL
- ABANDONED WELL
- RED — REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR GROUNDWATER
- MTCA — WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < — RESULT IS BELOW THE LABORATORY REPORTING LIMIT
- RESULTS ARE REPORTED IN MICROGRAMS PER LITER

	Vinyl Chloride
MTCA	0.2

N

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DATE: 03/01/13
DRAWN BY: JQC
CHECKED BY: TJC
CAD FILE: 0698-001-2013Q1_GD_VINYL

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

REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 3
MAP SHOWING GROUNDWATER ANALYTICAL RESULTS FOR VINYL CHLORIDE

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SoundEarth Strategies

Table 1
Summary of Groundwater Elevation Data
Former PACE National Site
500 7th Avenue South
Kirkland, Washington

Draft - Issued for Ecology Review

Well Identification	Date Measured	Top of Well Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Groundwater Elevation[1] (feet)
HC-MW-3	02/24/09	154.91	4.69	150.22
	05/20/09	154.91	4.34	150.57
	08/10/09	154.91	Dry	NA
	09/13/10	154.91	Dry	NA
	01/10/11	154.91	2.54	152.37
	09/08/11	154.91	Dry	NA
	02/06/12	154.91	2.66	152.25
	08/23/12	154.91	Dry	NA
	02/12/13	154.91	2.64	152.27
HC-MW-7	07/09/08	148.03	7.16	140.87
	02/24/09	148.03	5.51	142.52
	05/20/09	148.03	4.83	143.20
	08/10/09	148.03	8.02	140.01
	09/13/10	148.03	7.66	140.37
	01/10/11	148.03	4.61	143.42
	09/08/11	148.03	8.00	140.03
	02/06/12	148.03	4.72	143.31
	08/23/12	148.03	7.83	140.20
	02/12/13	148.03	4.76	143.27
HC-MW-8	07/09/08	146.92	3.15	143.77
	02/24/09	146.92	4.53	142.39
	05/20/09	146.92	3.82	143.10
	08/10/09	146.92	6.85	140.07
	09/13/10	146.92	6.61	140.31
	01/10/11	146.92	3.59	143.33
	09/08/11	146.92	6.96	139.96
	02/06/12	146.92	3.76	143.16
	08/23/12	146.92	6.78	140.14
	02/12/13	146.92	3.79	143.13
HC-MW-9	07/09/08	144.45	4.60	139.85
	02/24/09	144.45	3.15	141.30
	05/20/09	144.45	2.39	142.06
	08/10/09	144.45	5.17	139.28
	09/13/10	144.45	4.91	139.54
	01/10/11	144.45	2.40	142.05
	09/08/11	144.45	5.31	139.14
	02/06/12	144.45	2.33	142.12
	08/23/12	144.45	5.04	139.41
	02/12/13	144.45	2.48	141.97
HC-MW-10	07/09/08	141.31	2.40	138.91
	02/24/09	141.31	1.15	140.16
	05/20/09	141.31	0.54	140.77
	08/10/09	141.31	3.34	137.97
	09/13/10	141.31	2.76	138.55
	01/10/11	141.31	0.60	140.71
	09/08/11	141.31	0.66	140.65
	02/06/12	141.31	0.84	140.47
	08/23/12	141.31	3.19	138.12
	02/12/13	141.31	0.78	140.53

Table 1
Summary of Groundwater Elevation Data
Former PACE National Site
500 7th Avenue South
Kirkland, Washington

Well Identification	Date Measured	Top of Well Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Groundwater Elevation[1] (feet)
SES-MW25	06/30/10	138.48	4.55	133.93
	09/13/10	138.48	6.32	132.16
	01/10/11	138.48	4.15	134.33
	09/08/11	138.48	7.05	131.43
	02/06/12	138.48	4.52	133.96
	08/23/12	138.48	6.86	131.62
	02/12/13	138.48	4.53	133.95
SES-MW26	06/30/10	139.54	3.66	135.88
	09/13/10	139.54	5.98	133.56
	01/10/11	139.54	2.28	137.26
	09/08/11	139.54	6.48	133.06
	02/06/12	139.54	2.53	137.01
	08/23/12	139.54	6.03	133.51
	02/12/13	139.54	2.20	137.34
SES-MW27	06/30/10	139.73	0.76	138.97
	09/13/10	139.73	4.28	135.45
	01/10/11	139.73	0.30	139.43
	09/08/11	139.73	4.58	135.15
	02/06/12	139.73	0.48	139.25
	08/23/12	139.73	3.92	135.81
	02/12/13	139.73	0.65	139.08

NOTES:

[1]Measured relative to a temporary benchmark with an assumed elevation of 100.00 feet.

[2]As measured from a fixed point at the top of the well casing.

DRY = no measurable groundwater encountered within the screened interval in the well

NA = not available

SoundEarth Strategies

Table 2
Summary of Groundwater Analytical Data
Chlorinated Volatile Organic Compounds
Former PACE National Site
500 7th Avenue South
Kirkland, Washington

Draft - Issued for Ecology Review

Well ID	Sample Date	Analytical Results[1] (micrograms per liter)											
		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2- Dichloroethene	Vinyl Chloride	Chloroethane	1,1-Dichloroethene	Methylene Chloride	1,1-Dichloroethane	1,2-Dichloroethane	1,1,1- Trichloroethane	1,2-Dichloropropane
HC-MW-3	01/11/11	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	**Well Dry**											
	02/07/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	08/23/12	**Well Dry**											
	02/12/13	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
HC-MW-7	07/09/08	<1	<1	<1	<1	<0.2	<1	<1	<5	<1	<1	<1	<1
	02/24/09	<1	<1	<1	<1	**0.39**	<1	<1	<5	<1	<1	<1	<1
	05/21/09	<0.20	<0.20	<0.20	<0.20	**0.60**	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/11/09	<0.20	<0.20	<0.20	0.72	**3.5**	<1.0	<0.20	<1.0	0.36	<0.20	<0.20	<0.20
	06/04/10	<0.20	<0.20	<0.20	0.4	**1.8**	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	09/14/10	<0.20	<0.20	<0.20	0.63	**4.6**	<1.0	<0.20	<1.0	0.27	<0.20	<0.20	<0.20
	01/11/11	<0.20	<0.20	<0.20	0.30	**1.6**	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	NA	NA	NA	NA	**5.2**	NA	NA	NA	NA	NA	NA	NA
	02/07/12	NA	NA	NA	NA	**0.4**	NA	NA	NA	NA	NA	NA	NA
	08/24/12	NA	NA	NA	NA	**3.5**	NA	NA	NA	NA	NA	NA	NA
	02/13/13	NA	NA	NA	NA	**1.2**	NA	NA	NA	NA	NA	NA	NA
HC-MW-8	07/09/08	<1	<1	<1	13	**11**	<1	<1	<5	<1	<1	<1	<1
	02/24/09	<1	<1	<1	10	**20**	<1	<1	<5	<1	<1	<1	<1
	05/21/09	<0.20	<0.20	0.56	8.6	**13**	<1.0	<0.20	<1.0	0.54	<0.20	<0.20	0.72
	08/11/09	<0.20	<0.20	0.99	18	**24**	<1.0	<0.20	<1.0	0.95	<0.20	<0.20	0.89
	06/04/10	<0.20	<0.20	0.76	10	**16**	<1.0	<0.20	<1.0	0.60	<0.20	<0.20	0.78
	09/14/10	<0.20	<0.20	0.59	9.8	**14**	<1.0	<0.20	<1.0	0.50	<0.20	<0.20	0.82
	01/11/11	<0.20	<0.20	0.29	3.9	**6**	<1.0	<0.20	<1.0	0.23	<0.20	<0.20	0.34
	09/08/11	NA	NA	NA	NA	**7.9**	NA	NA	NA	NA	NA	NA	NA
	02/07/12	NA	NA	NA	NA	**1.5**	NA	NA	NA	NA	NA	NA	NA
	08/24/12	NA	NA	NA	NA	**5.4**	NA	NA	NA	NA	NA	NA	NA
	02/13/13	NA	NA	NA	NA	**1.8**	NA	NA	NA	NA	NA	NA	NA
MTCA Cleanup Level		**5[a]**	**5[a]**	**160[b]**	**80[b]**	**0.2[a]**	**15[b]**	**400[b]**	**5[a]**	**1,600[b]**	**5[a]**	**200[a]**	**5[c]**

SoundEarth Strategies

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Well ID	Sample Date	Analytical Results[1] (micrograms per liter)											
		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2- Dichloroethene	Vinyl Chloride	Chloroethane	1,1-Dichloroethene	Methylene Chloride	1,1-Dichloroethane	1,2-Dichloroethane	1,1,1- Trichloroethane	1,2-Dichloropropane
HC-MW-9	07/09/08	<1	<1	<1	6.4	5.3	<1	<1	<5	<1	<1	<1	<1
	02/24/09	<1	<1	<1	4.7	3.2	<1	<1	<5	<1	<1	<1	<1
	05/21/09	<0.20	<0.20	0.30	4.5	5.7	<1.0	0.33	<1.0	0.64	<0.20	<0.20	0.53
	08/11/09	<0.20	<0.20	0.42	8.3	5.9	<1.0	0.74	<1.0	1.3	<0.20	<0.20	0.77
	06/04/10	<0.20	<0.20	<0.20	3.5	2.3	<1.0	0.25	<1.0	0.49	<0.20	<0.20	0.33
	09/14/10	<0.20	<0.20	0.22	4.0	2.6	<1.0	0.23	<1.0	0.47	<0.20	<0.20	0.43
	01/11/11	<0.20	<0.20	<0.20	2.7	1.8	<1.0	0.31	<1.0	0.51	<0.20	<0.20	0.26
	08/16/11	NA	NA	NA	NA	2.5	NA	NA	NA	NA	NA	NA	NA
	02/07/12	NA	NA	NA	NA	0.83	NA	NA	NA	NA	NA	NA	NA
	08/24/12	NA	NA	NA	NA	1.1	NA	NA	NA	NA	NA	NA	NA
	02/13/13	NA	NA	NA	NA	1.0	NA	NA	NA	NA	NA	NA	NA
HC-MW-10	07/09/08	<1	<1	<1	<1	2.9	<1	<1	<5	<1	<1	<1	NA
	02/24/09	<1	<1	<1	<1	1.7	<1	<1	<5	<1	<1	<1	NA
	05/21/09	<0.20	<0.20	<0.20	0.29	0.51	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/11/09	<0.20	<0.20	<0.20	0.57	2.7	<1.0	<0.20	<1.0	0.34	<0.20	<0.20	<0.20
	06/04/10	<0.20	<0.20	<0.20	0.45	0.89	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	09/14/10	<0.20	<0.20	<0.20	0.40	1.8	<1.0	<0.20	<1.0	0.29	<0.20	<0.20	<0.20
	01/11/11	<0.20	<0.20	<0.20	<0.20	0.3	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA
	02/07/12	NA	NA	NA	NA	0.21	NA	NA	NA	NA	NA	NA	NA
	08/24/12	NA	NA	NA	NA	0.71	NA	NA	NA	NA	NA	NA	NA
	02/13/13	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
MTCA Cleanup Level		**5[a]**	**5[a]**	**160[b]**	**80[b]**	**0.2[a]**	**15[b]**	**400[b]**	**5[a]**	**1,600[b]**	**5[a]**	**200[a]**	**5[c]**

SoundEarth Strategies

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

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Well ID	Sample Date	Analytical Results[1] (micrograms per liter)											
		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2- Dichloroethene	Vinyl Chloride	Chloroethane	1,1-Dichloroethene	Methylene Chloride	1,1-Dichloroethane	1,2-Dichloroethane	1,1,1- Trichloroethane	1,2-Dichloropropane
SES-MW25	06/03/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	09/14/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	01/10/11	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	02/06/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	08/23/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	02/12/13	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
SES-MW26	06/03/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	09/13/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	01/10/11	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	02/06/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	08/23/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	02/12/13	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
SES-MW27	06/03/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	09/13/10	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	01/10/11	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20
	08/16/11	NA	NA	NA	NA	**0.53**	NA	NA	NA	NA	NA	NA	NA
	09/08/11	NA	NA	NA	NA	**1.1**	NA	NA	NA	NA	NA	NA	NA
	02/06/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	08/23/12	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
	02/12/13	NA	NA	NA	NA	<0.20	NA	NA	NA	NA	NA	NA	NA
MTCA Cleanup Level		**5[a]**	**5[a]**	**160[b]**	**80[b]**	**0.2[a]**	**15[b]**	**400[b]**	**5[a]**	**1,600[b]**	**5[a]**	**200[a]**	**5[c]**

NOTES:

Red denotes concentration exceeds MTCA cleanup level for groundwater.

Samples analyzed by Friedman & Bruya, Inc., of Seattle, Washington, Analytical Resources, Incorporated, and/or Onsite Enivronmental Inc. of Redmond, Washington.

[1]Analyzed by EPA Method 8260B or 8260C.

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

[b]CLARC Groundwater MTCA Method B Carcinogenic and Non-carcinogenic Standard Formula, Unrestricted Land Use.

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

< = not detected at concentrations exceeding the laboratory reporting limit

CLARC = Cleanup Levels and Risk Calculations

EPA = U.S. Environmental Protection Agency

MTCA = Washington State Model Toxics Control Act

NA = not analyzed

ATTACHMENT B

Laboratory Reports and Data Validation Memoranda

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace National/Google Phase !!
Lab ID: 1405111

May 20, 2014

Attention Kelly Rankich:

Fremont Analytical, Inc. received 5 sample(s) on 5/13/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *05/20/2014*

CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!
Lab Order: 1405111

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1405111-001	SES-MW25-20140513	05/13/2014 10:30 AM	05/13/2014 12:45 PM
1405111-002	SES-MW26-20140513	05/13/2014 11:30 AM	05/13/2014 12:45 PM
1405111-003	SES-MW27-20140513	05/13/2014 12:15 PM	05/13/2014 12:45 PM
1405111-004	SES-MW27-20140513-D	05/13/2014 12:30 PM	05/13/2014 12:45 PM
1405111-005	Trip Blank	05/07/2014 10:00 AM	05/13/2014 12:45 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1405111**
Date: **5/20/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1405111**
Date Reported: **5/20/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

Lab ID: 1405111-001 **Collection Date:** 5/13/2014 10:30:00 AM
Client Sample ID: **SES-MW25-20140513** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14218		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2014 7:39:00 PM
Surr: Dibromofluoromethane	99.6	61.7-130		%REC	1	5/13/2014 7:39:00 PM
Surr: Toluene-d8	100	62.1-129		%REC	1	5/13/2014 7:39:00 PM
Surr: 1-Bromo-4-fluorobenzene	103	66.8-124		%REC	1	5/13/2014 7:39:00 PM

Lab ID: 1405111-002 **Collection Date:** 5/13/2014 11:30:00 AM
Client Sample ID: **SES-MW26-20140513** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14218		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2014 8:09:00 PM
Surr: Dibromofluoromethane	100	61.7-130		%REC	1	5/13/2014 8:09:00 PM
Surr: Toluene-d8	102	62.1-129		%REC	1	5/13/2014 8:09:00 PM
Surr: 1-Bromo-4-fluorobenzene	100	66.8-124		%REC	1	5/13/2014 8:09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1405111**
Date Reported: **5/20/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

Lab ID: 1405111-003 **Collection Date:** 5/13/2014 12:15:00 PM
Client Sample ID: **SES-MW27-20140513** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14218		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2014 8:39:00 PM
Surr: Dibromofluoromethane	99.3	61.7-130		%REC	1	5/13/2014 8:39:00 PM
Surr: Toluene-d8	101	62.1-129		%REC	1	5/13/2014 8:39:00 PM
Surr: 1-Bromo-4-fluorobenzene	103	66.8-124		%REC	1	5/13/2014 8:39:00 PM

Lab ID: 1405111-004 **Collection Date:** 5/13/2014 12:30:00 PM
Client Sample ID: **SES-MW27-20140513-D** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14218		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2014 9:08:00 PM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	5/13/2014 9:08:00 PM
Surr: Toluene-d8	102	62.1-129		%REC	1	5/13/2014 9:08:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	66.8-124		%REC	1	5/13/2014 9:08:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1405111**
Date Reported: **5/20/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

Lab ID: 1405111-005 **Collection Date:** 5/7/2014 10:00:00 AM
Client Sample ID: **Trip Blank** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R14218		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2014 7:10:00 PM
Surr: Dibromofluoromethane	98.0	61.7-130		%REC	1	5/13/2014 7:10:00 PM
Surr: Toluene-d8	98.9	62.1-129		%REC	1	5/13/2014 7:10:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.8	66.8-124		%REC	1	5/13/2014 7:10:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405111
CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **LCS-R14218**	SampType: **LCS**	Units: **µg/L**	Prep Date: **5/13/2014**	RunNo: **14218**
Client ID: **LCSW**	Batch ID: **R14218**		Analysis Date: **5/13/2014**	SeqNo: **290723**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	18.7	0.200	20.00	0	93.3	53.6	139				
Surr: Dibromofluoromethane	49.7		50.00		99.5	61.7	130				
Surr: Toluene-d8	52.3		50.00		105	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	53.0		50.00		106	66.8	124				

Sample ID: **MB-R14218**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **5/13/2014**	RunNo: **14218**
Client ID: **MBLKW**	Batch ID: **R14218**		Analysis Date: **5/13/2014**	SeqNo: **290724**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
Surr: Dibromofluoromethane	51.6		50.00		103	61.7	130				
Surr: Toluene-d8	50.8		50.00		102	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	51.5		50.00		103	66.8	124				

Sample ID: **1405109-003ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **5/13/2014**	RunNo: **14218**
Client ID: **BATCH**	Batch ID: **R14218**		Analysis Date: **5/13/2014**	SeqNo: **291420**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
Surr: Dibromofluoromethane	48.4		50.00		96.7	61.7	130		0		
Surr: Toluene-d8	49.5		50.00		99.0	62.1	129		0		
Surr: 1-Bromo-4-fluorobenzene	50.6		50.00		101	66.8	124		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1405111
CLIENT: PES Environmental, Inc.
Project: Former Pace National/Google Phase !!

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1405109-004AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/13/2014** RunNo: **14218**
Client ID: **BATCH** Batch ID: **R14218** Analysis Date: **5/13/2014** SeqNo: **291421**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	19.3	0.200	20.00	0	96.7	58.1	158				
Surr: Dibromofluoromethane	48.4		50.00		96.8	61.7	130				
Surr: Toluene-d8	50.8		50.00		102	62.1	129				
Surr: 1-Bromo-4-fluorobenzene	51.8		50.00		104	66.8	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1405111**
Logged by:	**Chelsea Ward**	Date Received:	**5/13/2014 12:45:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	2.2	Good
Sample	5.2	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1405111
Date: 5-13-14
Page: 1 of: 1

Client: PES
Address: 1215 4th Avenue Suite 1350
City, State, Zip: Seattle, WA 98161 Tel: 206-529-3980
Reports To (PM): Kelly Rankich Fax: 206-529-3985 Email: KRankich@pesenv.com

Project Name: Former Pace National / Google Phase II
Location: Kirkland, WA
Collected by: K. Springstead
Project No: 1006.008.04.005

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)	VOC (EPA 8260)	GX/BTEX by EPA 8021b	BTEX by 8260	Gasoline Range Organics	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Cl Pesticides (EPA 8081)	Cl Herbicides (EPA 8151A)	Metals* (6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)**	Comments/Depth
1	SES-MW25-20140513	5-13-14	1030	W	X														Vinyl Chloride ONLY
2	SES-MW26-20140513	5-13-14	1130	W	X														Vinyl Chloride ONLY
3	SES-MW27-20140513	5-13-14	1215	W	X														Vinyl Chloride ONLY
4	SES-MW27-20140513-D	5-13-14	1230	W	X														Vinyl Chloride ONLY
5	Trip Blank	—	—	W	X														Vinyl Chloride ONLY
6																			
7																			
8																			
9																			
10																			

*Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

**Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Special Remarks: Report to MRLS EDD IN EIM Format

Relinquished	Date/Time	Received	Date/Time
x	5-13-14 / 1245	x	5-13-14 / 12:45
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT --> Next Day 2 Day 3 Day (STD)

Distribution: White - Lab, Yellow - File, Pink - Originator

MEMORANDUM

TO: Project File **DATE:** May 21, 2014

FROM: Jerry Harris

SUBJECT: Laboratory Data Validation Review

PROJECT: Former Pace Facility Kirkland, WA

PROJECT #: 1006.008.03.005

TASK: May 13, 2014 Water Samples

LAB: Fremont Analytical Service Request No. 1405111

Groundwater sampling was conducted at the former Pace facility in Kirkland, Washington on May 13, 2014. Three primary water samples were collected and one field duplicate sample (ID SES-MW27-20140513-D) was collected with primary sample SES-MW27-20140513. In addition, one trip blank was prepared by the laboratory and traveled with the sample.

The samples were analyzed for vinyl chloride by United States Environmental Protection Agency (USEPA) Method 8260. The vinyl chloride analyses were performed in one primary analysis group (ID 14218). Laboratory analytical services were provided by Fremont Analytical (FA) of Seattle, Washington. FA Project number: 1405111.

The quality assurance review of the groundwater samples data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested.

Sample Collection and Preservation

The samples were collected in appropriately preserved containers supplied by the analytical laboratory. The laboratory reported that the samples were received in good condition. The laboratory received the samples in one cooler at a cooler temperature of 2.2 degrees centigrade (°C). A sample in the cooler had a temperature of 5.2°C. The cooler and sample temperatures

were within the USEPA recommended temperature range of 4° ± 2°C. The samples in both coolers were appropriately preserved with ice/gel packs and no shipping anomalies were identified by the laboratory. No data qualifications were warranted based upon the laboratory receipt temperatures.

Holding Times

USEPA Method 8260
The analyses for vinyl chloride were performed within the recommended 14 day holding time limit for water samples. No data were qualified based upon holding times.

Initial Calibration

Hard copies of the initial calibration verification (ICV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in initial calibration results associated with the project analyses if they occur. No discrepancies were reported; therefore no additional data qualifications were warranted.

Continuing Calibration

Hard copies of the continuing calibration verification (CCV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in continuing calibration results associated with the project analyses. No discrepancies were reported; therefore no data qualifications were warranted.

Method Blank Results

USEPA Method 8260
One method blank was analyzed for the single USEPA Method 8260 analysis group. This meets the required method blank frequency for the analytical method. The method blank result did not report vinyl chloride at a concentration at or above the MRLs. No data qualifications were warranted.

Trip Blank Results

USEPA Method 8260
A trip blank analysis was performed for the USEPA 8260 method. Vinyl chloride was not detected in the trip blank. No data qualifications were warranted based on the trip blank result.

Field Duplicate Analyses

USEPA Method 8260
A field duplicate from sample location SES-MW27 was collected and analyzed for vinyl chloride. Vinyl chloride was not detected in the primary or duplicate sample. No data qualifications were warranted.

Laboratory Duplicate Analyses

USEPA Method 8260
The laboratory prepared and analyzed a batch (non-project) sample for analysis group 14218. The primary and laboratory duplicate pair was analyzed for vinyl chloride by USEPA Method 8260. The RPD for vinyl chloride in the primary and duplicate samples was within the laboratory control criteria of 30 RPD. No data were qualified.

Surrogate Recoveries

USEPA Method 8260
The surrogate %R results for all USEPA Method 8260 project samples, laboratory control samples, matrix spikes, duplicates and method blanks were within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

USEPA Method 8260
One LCS was prepared and analyzed for the single USEPA Method 8260 analytical group. The LCS %R for vinyl chloride was within the laboratory control criterion. No qualifications were warranted.

Matrix Spike/Matrix Spike Duplicates

USEPA Method 8260
A batch (non-project) matrix spike (MS) sample was prepared and analyzed with the 14218 analysis group. The MS %R for vinyl chloride was within the laboratory control limit. No data qualifications were warranted based upon the MS results for analysis group 14218.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

The MRLs were acceptable for the project; therefore, no data qualifiers were assigned based upon MRLs. No quantitation issues were identified.

Data Assessment

No data were qualified. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace - Google Phase II
Lab ID: 1411091

November 17, 2014

Attention Kelly Rankich:

Fremont Analytical, Inc. received 5 sample(s) on 11/10/2014 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Date: *11/17/2014*

CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II
Lab Order: 1411091

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1411091-001	SES-MW25-20141110	11/10/2014 11:00 AM	11/10/2014 1:35 PM
1411091-002	SES-MW26-20141110	11/10/2014 11:45 AM	11/10/2014 1:35 PM
1411091-003	SES-MW27-20141110	11/10/2014 12:00 AM	11/10/2014 1:35 PM
1411091-004	SES-MW27-20141110-D	11/10/2014 12:00 AM	11/10/2014 1:35 PM
1411091-005	Trip Blank	11/04/2014 12:47 PM	11/10/2014 1:35 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1411091**
Date: **11/17/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1411091**
Date Reported: **11/17/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

Lab ID: 1411091-001 **Collection Date:** 11/10/2014 11:00:00 AM
Client Sample ID: **SES-MW25-20141110** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R18058		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	11/15/2014 8:27:00 AM
Surr: Dibromofluoromethane	101	61.7-130		%REC	1	11/15/2014 8:27:00 AM
Surr: Toluene-d8	99.2	40.1-139		%REC	1	11/15/2014 8:27:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.8	68.2-127		%REC	1	11/15/2014 8:27:00 AM

Lab ID: 1411091-002 **Collection Date:** 11/10/2014 11:45:00 AM
Client Sample ID: **SES-MW26-20141110** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R18058		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	11/15/2014 10:15:00 AM
Surr: Dibromofluoromethane	102	61.7-130		%REC	1	11/15/2014 10:15:00 AM
Surr: Toluene-d8	99.8	40.1-139		%REC	1	11/15/2014 10:15:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.3	68.2-127		%REC	1	11/15/2014 10:15:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1411091**
Date Reported: **11/17/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

Lab ID: 1411091-003 **Collection Date:** 11/10/2014
Client Sample ID: **SES-MW27-20141110** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R18058		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	11/15/2014 10:42:00 AM
Surr: Dibromofluoromethane	104	61.7-130		%REC	1	11/15/2014 10:42:00 AM
Surr: Toluene-d8	99.9	40.1-139		%REC	1	11/15/2014 10:42:00 AM
Surr: 1-Bromo-4-fluorobenzene	96.4	68.2-127		%REC	1	11/15/2014 10:42:00 AM

Lab ID: 1411091-004 **Collection Date:** 11/10/2014
Client Sample ID: **SES-MW27-20141110-D** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R18058		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	11/15/2014 11:10:00 AM
Surr: Dibromofluoromethane	99.8	61.7-130		%REC	1	11/15/2014 11:10:00 AM
Surr: Toluene-d8	97.5	40.1-139		%REC	1	11/15/2014 11:10:00 AM
Surr: 1-Bromo-4-fluorobenzene	101	68.2-127		%REC	1	11/15/2014 11:10:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1411091**
Date Reported: **11/17/2014**

CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

Lab ID: 1411091-005 **Collection Date:** 11/4/2014 12:47:00 PM
Client Sample ID: **Trip Blank** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R18058		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	11/15/2014 8:00:00 AM
Surr: Dibromofluoromethane	100	61.7-130		%REC	1	11/15/2014 8:00:00 AM
Surr: Toluene-d8	100	40.1-139		%REC	1	11/15/2014 8:00:00 AM
Surr: 1-Bromo-4-fluorobenzene	98.6	68.2-127		%REC	1	11/15/2014 8:00:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1411091
CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **1411140-001ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **11/15/2014**	RunNo: **18058**
Client ID: **BATCH**	Batch ID: **R18058**		Analysis Date: **11/15/2014**	SeqNo: **359967**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
Surr: Dibromofluoromethane	50.2		50.00		100	61.7	130		0		
Surr: Toluene-d8	49.8		50.00		99.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	49.1		50.00		98.2	68.2	127		0		

Sample ID: **1411091-001AMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **11/15/2014**	RunNo: **18058**
Client ID: **SES-MW25-20141110**	Batch ID: **R18058**		Analysis Date: **11/15/2014**	SeqNo: **359977**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	18.0	0.200	20.00	0	90.1	58.1	158				
Surr: Dibromofluoromethane	51.1		50.00		102	61.7	130				
Surr: Toluene-d8	49.0		50.00		97.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	49.7		50.00		99.4	68.2	127				

Sample ID: **LCS-R18058**	SampType: **LCS**	Units: **µg/L**	Prep Date: **11/15/2014**	RunNo: **18058**
Client ID: **LCSW**	Batch ID: **R18058**		Analysis Date: **11/15/2014**	SeqNo: **359983**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	18.1	0.200	20.00	0	90.4	53.6	139				
Surr: Dibromofluoromethane	49.9		50.00		99.9	61.7	130				
Surr: Toluene-d8	49.2		50.00		98.4	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	48.3		50.00		96.6	68.2	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1411091
CLIENT: PES Environmental, Inc.
Project: Former Pace - Google Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID: **MB-R18058** SampType: **MBLK** Units: **µg/L** Prep Date: **11/15/2014** RunNo: **18058**
Client ID: **MBLKW** Batch ID: **R18058** Analysis Date: **11/15/2014** SeqNo: **359984**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
Surr: Dibromofluoromethane	50.4		50.00		101	61.7	130				
Surr: Toluene-d8	49.1		50.00		98.1	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	48.4		50.00		96.7	68.2	127				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1411091**
Logged by:	**Erica Silva**	Date Received:	**11/10/2014 1:35:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp ºC	Condition
Cooler	4.7	Good
Sample	0.4	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1411091

Date: 11-10-14

Page: 1 of: 1

Client: PES Environment, Inc.
Address: 1215 4th Ave Ste 1350
City, State, Zip: Seattle, WA 98161
Tel: 206-529-3800
Reports To (PM): Kelly Rankich
Fax: 206-529-3905
Email: KRankich@pesnw.com

Project Name: Former PAE - Google Phase II
Location: Seattle, WA
Collected by: Karsten Springstead
Project No: 1606.008.03.005

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	Comments/Depth
1	~~SES~~-MW25-20141110	11-10-14	1100	W	X													VC ONLY
2	SES-MW26-20141110	11-10-14	1145	W	X													VC ONLY
3	SES_MW27-20141110	11-10-14		W	X													VC ONLY
4	SES-MW27-20141110-D	11-10-14		W	X													VC ONLY
5	TRIP BLANK	—	—	—	X													VC ONLY
6																		
7																		
8																		
9																		
10																		

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x	11-10-14/1334	x	11/10/14 13:35
Relinquished	Date/Time	Received	Date/Time
x		x	

Special Remarks:
Report to MRLS
EDD in EIM Format
Vinyl Chloride Only

TAT -> SameDay^ NextDay^ 2 Day 3 Day (STD)
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

MEMORANDUM

TO: Project File **DATE:** November 21, 2014

FROM: Jerry Harris

SUBJECT: Laboratory Data Validation Review

PROJECT: Former Pace Facility Kirkland, WA

PROJECT #: 1006.008.03.005

TASK: November 10, 2014 Water Samples

LAB: Fremont Analytical Service Request No. 1411091

Groundwater sampling was conducted at the former Pace facility in Kirkland, Washington on November 10, 2014. Three primary water samples were collected and one field duplicate sample (ID SES-MW27-20141110-D) was collected with primary sample SES-MW27-20141110. In addition, one trip blank was prepared by the laboratory and traveled with the sample.

The samples were analyzed for vinyl chloride by United States Environmental Protection Agency (USEPA) Method 8260. The vinyl chloride analyses were performed in one primary analysis group (ID 18058). Laboratory analytical services were provided by Fremont Analytical (FA) of Seattle, Washington. FA Project number: 1411091.

The quality assurance review of the groundwater samples data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested.

Sample Collection and Preservation

The samples were collected in appropriately preserved containers supplied by the analytical laboratory. The laboratory reported that the samples were received in good condition. The laboratory received the samples in one cooler at a cooler temperature of 4.7 degrees centigrade (°C). A sample in the cooler had a temperature of 0.4°C. The cooler temperature was within the

USEPA recommended temperature range of 4° ± 2°C and the sample temperature was below the recommended range but above freezing. The samples in the cooler were appropriately preserved with ice/gel packs and no shipping anomalies were identified by the laboratory. None of the sample containers showed any signs of low temperature impacts (i.e. no frozen, leaking or cracked containers). Because the samples were appropriately preserved and shipped, and because the samples did not have evidence of low temperature impacts, the low, but above freezing, temperature of the sample is not considered sufficient cause to warrant qualification of the data. No data qualifications were warranted based upon the laboratory receipt temperatures.

Holding Times

USEPA Method 8260
The analyses for vinyl chloride were performed within the recommended 14 day holding time limit for water samples. No data were qualified based upon holding times.

Initial Calibration

Hard copies of the initial calibration verification (ICV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in initial calibration results associated with the project analyses if they occur. No discrepancies were reported; therefore no additional data qualifications were warranted.

Continuing Calibration

Hard copies of the continuing calibration verification (CCV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in continuing calibration results associated with the project analyses. No discrepancies were reported; therefore no data qualifications were warranted.

Method Blank Results

USEPA Method 8260
One method blank was analyzed for the single USEPA Method 8260 analysis group. This meets the required method blank frequency for the analytical method. The method blank result did not report vinyl chloride at a concentration at or above the MRLs. No data qualifications were warranted.

Trip Blank Results

USEPA Method 8260
A trip blank analysis was performed for the USEPA 8260 method. Vinyl chloride was not detected in the trip blank. No data qualifications were warranted based on the trip blank result.

Field Duplicate Analyses

USEPA Method 8260
A field duplicate from sample location SES-MW-27 was collected and analyzed for vinyl

chloride. Vinyl chloride was not detected in the primary or duplicate sample. No data qualifications were warranted.

Laboratory Duplicate Analyses

USEPA Method 8260
The laboratory prepared and analyzed a batch (non-project) sample for analysis group 18058. The primary and laboratory duplicate pair was analyzed for vinyl chloride by USEPA Method 8260. The RPD for vinyl chloride in the primary and duplicate samples was within the laboratory control criteria of 30 RPD. No data were qualified.

Surrogate Recoveries

USEPA Method 8260
The surrogate %R results for all USEPA Method 8260 project samples, laboratory control samples, matrix spikes, duplicates and method blanks were within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

USEPA Method 8260
One LCS was prepared and analyzed for the single USEPA Method 8260 analytical group. The LCS %R for vinyl chloride was within the laboratory control criterion. No qualifications were warranted.

Matrix Spike/Matrix Spike Duplicates

USEPA Method 8260
A matrix spike (MS) sample was prepared from project sample SES-MW25 and analyzed with the 18058 analysis group. The MS %R for vinyl chloride was within the laboratory control limit. No data qualifications were warranted based upon the MS results for analysis group 18058.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

The MRLs were acceptable for the project; therefore, no data qualifiers were assigned based upon MRLs. No quantitation issues were identified.

Data Assessment

No data were qualified. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace National
Lab ID: 1505053

May 13, 2015

Attention Kelly Rankich:

Fremont Analytical, Inc. received 5 sample(s) on 5/7/2015 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Date: *05/13/2015*

CLIENT: PES Environmental, Inc.
Project: Former Pace National
Lab Order: 1505053

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1505053-001	SES-MW26-050715	05/07/2015 9:40 AM	05/07/2015 12:22 PM
1505053-002	SES-MW25-050715	05/07/2015 10:30 AM	05/07/2015 12:22 PM
1505053-003	SES-MW27-050715	05/07/2015 11:20 AM	05/07/2015 12:22 PM
1505053-004	SES-MW27-050715-D	05/07/2015 11:30 AM	05/07/2015 12:22 PM
1505053-005	Trip Blank	04/30/2015 9:40 AM	05/07/2015 12:22 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1505053**

Date: **5/13/2015**

CLIENT: PES Environmental, Inc.

Project: Former Pace National

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below LOQ
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

WO#: **1505053**
Date Reported: **5/13/2015**

CLIENT: PES Environmental, Inc.
Project: Former Pace National

Lab ID: 1505053-001 **Collection Date:** 5/7/2015 9:40:00 AM
Client Sample ID: **SES-MW26-050715** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R22267		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	5/9/2015 3:07:00 AM
Surr: Dibromofluoromethane	96.4	77.4-147		%REC	1	5/9/2015 3:07:00 AM
Surr: Toluene-d8	94.9	40.1-139		%REC	1	5/9/2015 3:07:00 AM
Surr: 1-Bromo-4-fluorobenzene	88.5	64.2-128		%REC	1	5/9/2015 3:07:00 AM

Lab ID: 1505053-002 **Collection Date:** 5/7/2015 10:30:00 AM
Client Sample ID: **SES-MW25-050715** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R22267		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	5/9/2015 3:36:00 AM
Surr: Dibromofluoromethane	98.5	77.4-147		%REC	1	5/9/2015 3:36:00 AM
Surr: Toluene-d8	94.8	40.1-139		%REC	1	5/9/2015 3:36:00 AM
Surr: 1-Bromo-4-fluorobenzene	88.8	64.2-128		%REC	1	5/9/2015 3:36:00 AM

Lab ID: 1505053-003 **Collection Date:** 5/7/2015 11:20:00 AM
Client Sample ID: **SES-MW27-050715** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R22267		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	5/9/2015 4:06:00 AM
Surr: Dibromofluoromethane	99.0	77.4-147		%REC	1	5/9/2015 4:06:00 AM
Surr: Toluene-d8	94.7	40.1-139		%REC	1	5/9/2015 4:06:00 AM
Surr: 1-Bromo-4-fluorobenzene	89.0	64.2-128		%REC	1	5/9/2015 4:06:00 AM

Analytical Report

WO#: **1505053**
Date Reported: **5/13/2015**

CLIENT: PES Environmental, Inc.
Project: Former Pace National

Lab ID: 1505053-004 **Collection Date:** 5/7/2015 11:30:00 AM
Client Sample ID: **SES-MW27-050715-D** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R22267		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	5/9/2015 4:35:00 AM
Surr: Dibromofluoromethane	97.0	77.4-147		%REC	1	5/9/2015 4:35:00 AM
Surr: Toluene-d8	93.6	40.1-139		%REC	1	5/9/2015 4:35:00 AM
Surr: 1-Bromo-4-fluorobenzene	87.0	64.2-128		%REC	1	5/9/2015 4:35:00 AM

Lab ID: 1505053-005 **Collection Date:** 4/30/2015 9:40:00 AM
Client Sample ID: **Trip Blank** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R22267		Analyst: BC
Vinyl chloride	ND	0.200		µg/L	1	5/8/2015 11:42:00 PM
Surr: Dibromofluoromethane	98.8	77.4-147		%REC	1	5/8/2015 11:42:00 PM
Surr: Toluene-d8	94.7	40.1-139		%REC	1	5/8/2015 11:42:00 PM
Surr: 1-Bromo-4-fluorobenzene	89.4	64.2-128		%REC	1	5/8/2015 11:42:00 PM

Work Order: 1505053
CLIENT: PES Environmental, Inc.
Project: Former Pace National

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1505030-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **BATCH** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422453**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	30.6	0.200	20.00	0	153	58.1	158				
Surr: Dibromofluoromethane	26.3		25.00		105	77.4	147				
Surr: Toluene-d8	24.4		25.00		97.5	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	22.9		25.00		91.8	64.2	128				

Sample ID **1505043-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **BATCH** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422457**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
Surr: Dibromofluoromethane	24.5		25.00		97.8	77.4	147		0		
Surr: Toluene-d8	23.9		25.00		95.4	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.1		25.00		88.4	64.2	128		0		

Sample ID **LCSD-R22267** SampType: **LCSD** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **LCSW02** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422470**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.9	0.200	20.00	0	105	53.6	139	23.60	11.9	20	
Surr: Dibromofluoromethane	25.8		25.00		103	77.4	147		0		
Surr: Toluene-d8	24.1		25.00		96.5	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.4		25.00		89.4	64.2	128		0		

Sample ID **LCS-R22267** SampType: **LCS** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **LCSW** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422471**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	23.6	0.200	20.00	0	118	53.6	139				
Surr: Dibromofluoromethane	26.0		25.00		104	77.4	147				
Surr: Toluene-d8	24.3		25.00		97.3	40.1	139				

Date: *5/13/2015*

Work Order: 1505053
CLIENT: PES Environmental, Inc.
Project: Former Pace National

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **LCS-R22267** SampType: **LCS** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **LCSW** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422471**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1-Bromo-4-fluorobenzene	22.8		25.00		91.1	64.2	128				

Sample ID **MB-R22267** SampType: **MBLK** Units: **µg/L** Prep Date: **5/8/2015** RunNo: **22267**
Client ID: **MBLKW** Batch ID: **R22267** Analysis Date: **5/8/2015** SeqNo: **422472**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
Surr: Dibromofluoromethane	24.8		25.00		99.2	77.4	147				
Surr: Toluene-d8	23.7		25.00		94.7	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	22.0		25.00		87.9	64.2	128				

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1505053**
Logged by:	**Erica Silva**	Date Received:	**5/7/2015 12:22:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all coolers received at a temperature of >0°C to 10.0°C	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is the headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp ºC	Condition
Cooler	3.2	Good
Sample	2.1	Good

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1505053

Date: 5-7-15 Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1350
City, State, Zip Seattle, WA 98161
Tel: (206) 529-3980 Fax: (206) 529-3985

Project Name: Former Pace National
Project No: 1806.008.03.005 Collected by: C. DeBoer
Location: Kirkland, WA.
Reports To (PM): Kelly RamKich
Email: KramKich@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, WW = Waste Water, SW = Strom Water

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOC (EPA 8260) *	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SEMI VOL (EPA 8270)	PAH (EPA 8270 - SIM)	PCBs (EPA 8082)	Metals** (6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	Comments/Depth
1	SES-MW26-050715	5/7/15	940	GW	X														
2	SES-MW25-050715		1080	GW	X														
3	SES-MW27-050715		1120	GW	X														
4	SES-MW29-050715-D		1130	GW	X														
5	TRIP BLANK				X														
6																			
7																			
8																			
9																			
10																			

Chris DeBoer 5/7/15

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:
* vinyl chloride only

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	5/7/15 1222	x	5/7/15 1222
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT -> SameDay^ NextDay^ 2 Day 3 Day (STD)
^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

MEMORANDUM

TO: Project File **DATE:** May 27, 2015

FROM: Jerry Harris

SUBJECT: Laboratory Data Validation Review

PROJECT: Former Pace Facility Kirkland, WA

PROJECT #: 1006.008.03.005

TASK: May 7, 2015 Water Samples

LAB: Fremont Analytical Service Request No. 1505053

Groundwater sampling was conducted at the former Pace facility in Kirkland, Washington on May 7, 2015. Three primary water samples were collected and one field duplicate sample (ID SES-MW27-050715-D) was collected with primary sample SES-MW27-050715. In addition, one trip blank was prepared by the laboratory and traveled with the sample.

The samples were analyzed for vinyl chloride by United States Environmental Protection Agency (USEPA) Method 8260. The vinyl chloride analyses were performed in one primary analysis group (ID 22267). Laboratory analytical services were provided by Fremont Analytical (FA) of Seattle, Washington. FA Project number: 1505053.

The quality assurance review of the groundwater samples data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested.

Sample Collection and Preservation

The samples were collected in appropriately preserved containers supplied by the analytical laboratory. The laboratory reported that the samples were received in good condition. The laboratory received the samples in one cooler at a cooler temperature of 3.2 degrees centigrade (°C). A sample in the cooler had a temperature of 2.1°C. The cooler and sample temperatures

were within the USEPA recommended temperature range of 4° ± 2°C. The samples in both coolers were appropriately preserved with ice/gel packs and no shipping anomalies were identified by the laboratory. No data qualifications were warranted based upon the laboratory receipt temperatures.

Holding Times

USEPA Method 8260
The analyses for vinyl chloride were performed within the recommended 14 day holding time limit for water samples. No data were qualified based upon holding times.

Initial Calibration

Hard copies of the initial calibration verification (ICV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in initial calibration results associated with the project analyses if they occur. No discrepancies were reported; therefore no additional data qualifications were warranted.

Continuing Calibration

Hard copies of the continuing calibration verification (CCV) data for this project are not required in the data deliverable. The laboratory is required to discuss discrepancies in continuing calibration results associated with the project analyses. No discrepancies were reported; therefore no data qualifications were warranted.

Method Blank Results

USEPA Method 8260
One method blank was analyzed for the single USEPA Method 8260 analysis group. This meets the required method blank frequency for the analytical method. The method blank result did not report vinyl chloride at a concentration at or above the MRL. No data qualifications were warranted.

Trip Blank Results

USEPA Method 8260
A trip blank analysis was performed for the USEPA 8260 method. Vinyl chloride was not detected in the trip blank. No data qualifications were warranted based on the trip blank result.

Field Duplicate Analyses

USEPA Method 8260
A field duplicate from sample location SES-MW27-050715 was collected and analyzed for vinyl chloride. Vinyl chloride was not detected in the primary or duplicate sample. No data qualifications were warranted.

Laboratory Duplicate Analyses

USEPA Method 8260
The laboratory prepared and analyzed a batch (non-project) sample for analysis group 22267. The primary and laboratory duplicate pair was analyzed for vinyl chloride by USEPA Method 8260. The RPD for vinyl chloride in the primary and duplicate samples was within the laboratory control criteria of 30 RPD. No data were qualified.

Surrogate Recoveries

USEPA Method 8260
The surrogate %R results for all USEPA Method 8260 project samples, laboratory control samples, matrix spikes, duplicates and method blanks were within the laboratory surrogate control limits. No data qualifications were warranted.

Laboratory Control Samples

USEPA Method 8260
One LCS was prepared and analyzed for the single USEPA Method 8260 analytical group. The LCS %R for vinyl chloride was within the laboratory control criterion. In addition, a LCS duplicate (LCSD) was prepared and analyzed. The LCSD %R was within the control criterion and the LCS-LCSD RPD was also within the control criterion. No qualifications were warranted.

Matrix Spike/Matrix Spike Duplicates

USEPA Method 8260
A batch (non-project) matrix spike (MS) sample was prepared and analyzed with the 22267 analysis group. The MS %R for vinyl chloride was within the laboratory control limit. No data qualifications were warranted based upon the MS results for analysis group 22267.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

The MRLs were acceptable for the project; therefore, no data qualifiers were assigned based upon MRLs. No quantitation issues were identified.

Data Assessment

No data were qualified. All data are judged to be acceptable for their intended use.

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace National
Lab ID: 1510263

October 26, 2015

Attention Kelly Rankich:

Fremont Analytical, Inc. received 5 sample(s) on 10/20/2015 for the analyses presented in the following report.

Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager

Date: *10/28/2015*

CLIENT: PES Environmental, Inc.
Project: Former Pace National
Lab Order: 1510263

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1510263-001	SES-MW26-20151020	10/20/2015 9:20 AM	10/20/2015 11:13 AM
1510263-002	SES-MW25-20151020	10/20/2015 9:45 AM	10/20/2015 11:13 AM
1510263-003	SES-MW27-20151020	10/20/2015 10:30 AM	10/20/2015 11:13 AM
1510263-004	SES-MW27-20151020-D	10/20/2015 10:40 AM	10/20/2015 11:13 AM
1510263-005	Trip Blank	10/14/2015 10:45 AM	10/20/2015 11:13 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1510263**

Date: **10/26/2015**

CLIENT: PES Environmental, Inc.

Project: Former Pace National

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

WO#: **1510263**
Date Reported: **10/26/2015**

CLIENT: PES Environmental, Inc.
Project: Former Pace National

Lab ID: 1510263-001 **Collection Date:** 10/20/2015 9:20:00 AM
Client Sample ID: **SES-MW26-20151020** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R25659		Analyst: NG
Vinyl chloride	ND	0.200		µg/L	1	10/22/2015 5:08:00 PM
Surr: Dibromofluoromethane	99.5	45.4-152		%REC	1	10/22/2015 5:08:00 PM
Surr: Toluene-d8	101	40.1-139		%REC	1	10/22/2015 5:08:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.3	64.2-128		%REC	1	10/22/2015 5:08:00 PM

Lab ID: 1510263-002 **Collection Date:** 10/20/2015 9:45:00 AM
Client Sample ID: **SES-MW25-20151020** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R25659		Analyst: NG
Vinyl chloride	ND	0.200		µg/L	1	10/22/2015 5:36:00 PM
Surr: Dibromofluoromethane	99.8	45.4-152		%REC	1	10/22/2015 5:36:00 PM
Surr: Toluene-d8	100	40.1-139		%REC	1	10/22/2015 5:36:00 PM
Surr: 1-Bromo-4-fluorobenzene	99.6	64.2-128		%REC	1	10/22/2015 5:36:00 PM

Lab ID: 1510263-003 **Collection Date:** 10/20/2015 10:30:00 AM
Client Sample ID: **SES-MW27-20151020** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R25659		Analyst: NG
Vinyl chloride	ND	0.200		µg/L	1	10/22/2015 6:04:00 PM
Surr: Dibromofluoromethane	101	45.4-152		%REC	1	10/22/2015 6:04:00 PM
Surr: Toluene-d8	101	40.1-139		%REC	1	10/22/2015 6:04:00 PM
Surr: 1-Bromo-4-fluorobenzene	101	64.2-128		%REC	1	10/22/2015 6:04:00 PM

Analytical Report

WO#: **1510263**
Date Reported: **10/26/2015**

CLIENT: PES Environmental, Inc.
Project: Former Pace National

Lab ID: 1510263-004 **Collection Date:** 10/20/2015 10:40:00 AM
Client Sample ID: **SES-MW27-20151020-D** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R25659		Analyst: NG
Vinyl chloride	ND	0.200		µg/L	1	10/22/2015 1:50:00 PM
Surr: Dibromofluoromethane	104	45.4-152		%REC	1	10/22/2015 1:50:00 PM
Surr: Toluene-d8	103	40.1-139		%REC	1	10/22/2015 1:50:00 PM
Surr: 1-Bromo-4-fluorobenzene	98.8	64.2-128		%REC	1	10/22/2015 1:50:00 PM

Lab ID: 1510263-005 **Collection Date:** 10/14/2015 10:45:00 AM
Client Sample ID: **Trip Blank** **Matrix:** Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260				Batch ID: R25691		Analyst: EM
Vinyl chloride	ND	0.200		µg/L	1	10/23/2015 6:00:00 PM
Surr: Dibromofluoromethane	96.9	45.4-152		%REC	1	10/23/2015 6:00:00 PM
Surr: Toluene-d8	95.9	40.1-139		%REC	1	10/23/2015 6:00:00 PM
Surr: 1-Bromo-4-fluorobenzene	95.9	64.2-128		%REC	1	10/23/2015 6:00:00 PM

Work Order: 1510263
CLIENT: PES Environmental, Inc.
Project: Former Pace National

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **LCS-R25659** SampType: **LCS** Units: **µg/L** Prep Date: **10/22/2015** RunNo: **25659**
Client ID: **LCSW** Batch ID: **R25659** Analysis Date: **10/22/2015** SeqNo: **484112**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	21.9	0.200	20.00	0	110	53.6	139				
Surr: Dibromofluoromethane	24.8		25.00		99.4	45.4	152				
Surr: Toluene-d8	24.9		25.00		99.5	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.9		25.00		104	64.2	128				

Sample ID **MB-R25659** SampType: **MBLK** Units: **µg/L** Prep Date: **10/22/2015** RunNo: **25659**
Client ID: **MBLKW** Batch ID: **R25659** Analysis Date: **10/22/2015** SeqNo: **484242**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
Surr: Dibromofluoromethane	24.7		25.00		99.0	45.4	152				
Surr: Toluene-d8	25.3		25.00		101	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.7		25.00		99.0	64.2	128				

Sample ID **1510275-001BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/22/2015** RunNo: **25659**
Client ID: **BATCH** Batch ID: **R25659** Analysis Date: **10/22/2015** SeqNo: **484108**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
Surr: Dibromofluoromethane	25.7		25.00		103	45.4	152		0		
Surr: Toluene-d8	25.3		25.00		101	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	64.2	128		0		

Sample ID **1510263-004AMS** SampType: **MS** Units: **µg/L** Prep Date: **10/22/2015** RunNo: **25659**
Client ID: **SES-MW27-20151020-D** Batch ID: **R25659** Analysis Date: **10/22/2015** SeqNo: **484245**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	20.6	0.200	20.00	0	103	58.1	158				
Surr: Dibromofluoromethane	25.5		25.00		102	45.4	152				
Surr: Toluene-d8	25.6		25.00		102	40.1	139				

Work Order: 1510263
CLIENT: PES Environmental, Inc.
Project: Former Pace National

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1510263-004AMS** SampType: **MS** Units: **µg/L** Prep Date: **10/22/2015** RunNo: **25659**
Client ID: **SES-MW27-20151020-D** Batch ID: **R25659** Analysis Date: **10/22/2015** SeqNo: **484245**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	64.2	128				

Sample ID **LCS-R25691** SampType: **LCS** Units: **µg/L** Prep Date: **10/23/2015** RunNo: **25691**
Client ID: **LCSW** Batch ID: **R25691** Analysis Date: **10/23/2015** SeqNo: **484803**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	18.5	0.200	20.00	0	92.5	53.6	139				
Surr: Dibromofluoromethane	24.5		25.00		98.0	45.4	152				
Surr: Toluene-d8	24.7		25.00		98.8	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.2		25.00		101	64.2	128				

Sample ID **MB-R25691** SampType: **MBLK** Units: **µg/L** Prep Date: **10/23/2015** RunNo: **25691**
Client ID: **MBLKW** Batch ID: **R25691** Analysis Date: **10/23/2015** SeqNo: **484804**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
Surr: Dibromofluoromethane	23.2		25.00		93.0	45.4	152				
Surr: Toluene-d8	26.6		25.00		107	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.7		25.00		98.7	64.2	128				

Sample ID **1510309-002BDUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/23/2015** RunNo: **25691**
Client ID: **BATCH** Batch ID: **R25691** Analysis Date: **10/23/2015** SeqNo: **484798**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
Surr: Dibromofluoromethane	24.5		25.00		98.1	45.4	152		0		
Surr: Toluene-d8	24.3		25.00		97.2	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.4		25.00		97.8	64.2	128		0		

Work Order: 1510263
CLIENT: PES Environmental, Inc.
Project: Former Pace National

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260

Sample ID **1510311-001BMS** SampType: **MS** Units: **µg/L** Prep Date: **10/23/2015** RunNo: **25691**
Client ID: **BATCH** Batch ID: **R25691** Analysis Date: **10/23/2015** SeqNo: **484801**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	16.5	0.200	20.00	0	82.7	58.1	158				
Surr: Dibromofluoromethane	24.8		25.00		99.0	45.4	152				
Surr: Toluene-d8	24.5		25.00		98.2	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	24.8		25.00		99.2	64.2	128				

Sample ID **1510300-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **10/23/2015** RunNo: **25691**
Client ID: **BATCH** Batch ID: **R25691** Analysis Date: **10/23/2015** SeqNo: **485132**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.280	0.200						0.2300	19.6	30	
Surr: Dibromofluoromethane	24.7		25.00		98.7	45.4	152		0		
Surr: Toluene-d8	24.9		25.00		99.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.2		25.00		92.8	64.2	128		0		

Sample Log-In Check List

Client Name:	**PES**	Work Order Number:	**1510263**
Logged by:	**Clare Griggs**	Date Received:	**10/20/2015 11:13:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all items received at a temperature of >0°C to 10.0°C *	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	0.0
Sample	3.5

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical

Chain of Custody Record

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Laboratory Project No (internal): 1510263

Date: 10-20-15 Page: 1 of: 1

Client: PES Environmental, Inc.
Address: 1215 4th Ave. Suite 1350
City, State, Zip: Seattle WA 98161
Telephone: (206)529-3980 Fax: (206)529-3985

Project Name: Former Pace National
Project No: 1006.005.03.005 Collected by: C. DeBoer
Location: Kirkland WA
Report To (PM): Kelly Rankich
PM Email: krankich@pesenv.com

*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total [T]	Dissolved [D]	Anions (IC)***	EDB (8011)	Vinyl Chloride EPA 8260	Comments
1 SES-MW26-20151020	10/20/15	920	GW														X	X	
2 SES-MW25-20151020		945	GW														X	X	
3 SES-MW27-20151020		1030	GW														X	X	
4 SES-MW27-20151020-D		1040	GW														X	X	
5 TRIP BLANK	—	—	—														X	X	
6																			
7																			
8																			
9																			
10																			

Chris DeBoer 10/20/15

**Metals Analysis (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around times for samples received after 4:00pm will begin on the following business day.

Special Remarks:

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab (A fee may be assessed if samples are retained after 30 days.)

Relinquished	Date/Time	Received	Date/Time
x Chris DeBoer	10/20/15 1113	x	10/20/15 1113
Relinquished	Date/Time	Received	Date/Time
x		x	

TAT → SameDay^ NextDay^ 2 Day 3 Day (STD)

^Please coordinate with the lab in advance

Distribution: White - Lab, Yellow - File, Pink - Originator

MEMORANDUM

TO: Project File **DATE:** October 28, 2015

FROM: Jessie Compeau

SUBJECT: Laboratory Data Validation Review

PROJECT: Former Pace Facility Kirkland, WA

PROJECT #: 1006.008.03.005

TASK: October 20, 2015 Water Samples

LAB: Fremont Analytical Service Request No. 1510263

Groundwater sampling was conducted at the former Pace facility in Kirkland, Washington on October 20, 2015. Three primary water samples were collected and one field duplicate sample (ID SES-MW27-20151020-D) was collected with primary sample SES-MW27-20151020. In addition, one trip blank was prepared by the laboratory and traveled with the sample.

The samples were analyzed for vinyl chloride by United States Environmental Protection Agency (USEPA) Method 8260C. Laboratory analytical services were provided by Fremont Analytical (FA) of Seattle, Washington. FA Project number: 1510263.

The quality assurance review of the groundwater samples data is summarized below.

DATA QUALIFICATIONS

Guidelines established by USEPA for review of analytical data were used to validate the data. The comments presented in this memorandum refer to the laboratory's performance in meeting the quality control criteria outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 1999).

DATA VALIDATION

Completeness

All samples were collected and analyzed as requested.

Sample Collection and Preservation

The samples were collected in appropriately preserved containers supplied by the analytical laboratory. The laboratory reported that the samples were received in good condition. The laboratory received the samples in one cooler at a cooler temperature of 0.0 degrees centigrade (°C). Samples in the cooler were measured at a temperature of 3.5°C. The cooler and sample temperatures were within the USEPA recommended temperature range of 4° ± 2°C. The

samples in both coolers were appropriately preserved with ice/gel packs and no shipping anomalies were identified by the laboratory. No data qualifications were warranted based upon the laboratory receipt temperatures.

Holding Times

USEPA Method 8260C
All samples were analyzed for VOCs within the EPA recommended holding time of fourteen days for preserved waters from the date of collection. All holding time criteria were met.

Initial and Continuing Calibration

Initial and continuing calibration data for this project are retained by the laboratory and available for review if necessary. These data were not provided nor requested for this project. The case narrative did not indicate any issues with calibration; therefore no qualifications were warranted.

Method Blank Results

USEPA Method 8260C
Laboratory method blanks were included with the analytical batches per method requirement. The target analyte was not detected in the method blanks at or above the method reporting limit (MRL). No qualifications of the data were made due to the results of the method blank analyses.

Trip Blank Results

USEPA Method 8260C
A trip blank was collected and analyzed. Vinyl chloride was not detected in the trip blank. No data qualifications were warranted based on the trip blank result.

Field Duplicate Analyses

USEPA Method 8260C
Field duplicate sample pair (SES-MW27-20151020 and SES-MW27-20151020-D) was collected and analyzed for vinyl chloride. Vinyl chloride was not detected in the primary or duplicate sample. No data qualifications were warranted.

Laboratory Duplicate Analyses

USEPA Method 8260C
A laboratory duplicate was performed on October 22, 2015 on an unrelated sample within the same analytical batch (Batch ID 25659). The primary/duplicate RPD was within the laboratory control limit of 30%. Duplicate data are acceptable.

Two laboratory duplicates were analyzed on October 23, 2015 on unrelated samples within the same analytical batch (Batch ID 25691) as the Trip Blank. The primary/duplicate RPDs were within the laboratory control limit of 30%. Duplicate data are acceptable.

Surrogate Recoveries

USEPA Method 8260C
The surrogate recovery results for the samples, duplicates, laboratory control samples (LCSs), matrix spikes and the method blanks were within the laboratory surrogate control limits for all of the analyses. No data qualifications were warranted.

Laboratory Control Samples

USEPA Method 8260C
Laboratory control samples (LCSs) for water were performed along with the VOC analytical batches per method requirement. The LCS %Rs for the control analyte (vinyl chloride) were within the laboratory control criteria for waters. No qualifications were warranted.

Matrix Spike/Matrix Spike Duplicates

USEPA Method 8260C
A matrix spike was performed on sample SES-MW27-20151020 on October 22, 2015 (Batch ID 25659). The MS percent recovery (%R) for vinyl chloride was within laboratory control criteria.

A matrix spike was performed on an unrelated sample within the same analytical batch as the Trip Blank on October 23, 2015 (Batch ID 25691). The MS percent recoveries (%R) for vinyl chloride were within laboratory control criteria.

Other Quality Control Issues

No other laboratory quality control issues were identified in the laboratory report.

Quantitation Limits

The MRLs were acceptable for the project; therefore, no data qualifiers were assigned based upon MRLs. No quantitation issues were identified.

Data Assessment

No data were qualified. All data are judged to be acceptable for their intended use.

ORGANIC DV WORKSHEET (LEVEL I) - PAGE 1 of 1																
Matrix/Method: Water/Vinyl Chloride - Volatile Organic Compounds (VOC) by EPA 8260C											Lab: Fremont Analytical, Seattle WA					
Validated by: Jessie Compeau PES/Environmental Inc.	Date: 10/28/15				Project: Former Pace National						Service Request No.: 1510263					
Reviewed by:	Date:				Proj. No.: 1006.008.03.005						Sample Collection Date: 10/20/2015					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Validation criteria (EPA NFG 1999, lab QA/QC criteria and analytical reference method).	SES-MW26-20151020/1510263-001	SES-MW25-20151020/1510263-002	SES-MW27-20151020/1510263-003	SES-MW27-20151020-D/1510263-004	Trip Blank/1510263-005											
Completeness of analyses:	A	A	A	A	A											
Preservation: Cooler Temp 0.0°C and sample temp 3.5°C < 4°C +/- 2°C	A	A	A	A	A											
Holding times: Samples DA 10/22/15 and Trip DA 10/23/15 < 14 days for preserved samples.	A	A	A	A	A											
Initial Calibration Criteria:	NA	NA	NA	NA	NA											
Continuing Calibration Criteria: See Note.	NA	NA	NA	NA	NA											
Method Blanks: MB-R25659 on 10/22/15 AND MB-R25691 on 10/23/15	A	A	A	A	A											
Laboratory Duplicate RPD: used Batch QC ID R25659: 1510275-001BDUP on 10/22/15 and Batch QC ID R25691 1510309-002BDUP & 1510300-001ADUP for 10/23/2015. See note	A	A	A	A	A											
LCS/LCSD %R/RPD: LCS-R25659, LCS-R25691	A	A	A	A	A											
Surrogate %R:	A	A	A	A	A											
MS/MSD %R/RPD: MS only SES-MW27-20151020-D (1510263-004AMS) on 10/22/15 and MS only Batch QC 1510311-001BMS on 10/23/15	A	A	A	A	A											
Reporting Limits:	A	A	A	A	A											
Completeness of *Analyte* List:	A	A	A	A	A											
Field Duplicate Pair:	NA	NA	A	A	NA											
Trip/Rinsate/Equipment/Field Blank:	NA	NA	NA	NA	A											

Note: X = QA/QC standards were not met. A = QA/QC standards were reviewed and met. NA = Not applicable.

Case Narrative - No comments, discrepancies, or anomalies.

Laboratory Duplicate RPD: used Batch QC ID R25659: 1510275-001BDUP on 10/22/15 and Batch QC ID R25691 1510309-002BDUP & 1510300-001ADUP for 10/23/2015. See note. VC results not reported with batch associated with samples (R25659 on 10/22/2015 - 1510275-001BDUP - shows surrogates not VC). Contact lab. Lab reissued report 10/28. VC RPD result for lab duplicate (1510275-001BDUP) run on 10/22/2015 is acceptable.

Informa

From: Chelsea Ward [cward@fremontanalytical.com]
Sent: Wednesday, October 28, 2015 9:58 AM
To: 'Informa'
Subject: RE: FA Report 1510263

Hi Jessie, of course, no problem! You should see the report shortly.

Chelsea

From: Informa [mailto:Informa_LLC@comcast.net]
Sent: Wednesday, October 28, 2015 9:37 AM
To: 'Chelsea Ward' <cward@fremontanalytical.com>
Subject: FW: FA Report 1510263

Hi Chelsea,

Just got word from Kelly at PES who says it's easier for them to have the whole report reissued.

Thanks

Jessie Compeau

From: Informa [mailto:Informa_LLC@comcast.net]
Sent: Wednesday, October 28, 2015 9:30 AM
To: 'Chelsea Ward'
Subject: FA Report 1510263

Hi Chelsea,

Just did a very quick review on 1510263. Looks good. Short and sweet.

Noted that page 7 of 11 - shows batch dup results (25659) on 1510275-001BDUP - something happened with this when it printed and just shows the surrogate recoveries. Can this page? be reissued to include the VC results on this?

Thanks

Jessie Compeau