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COMPREHENSIVE CLEANUP ACTION REPORT: EMPIRICAL DEMONSTRATION, GROUNDWATER MODELING, AND SITE-WIDE NO FURTHER ACTION DETERMINATION REQUEST

FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

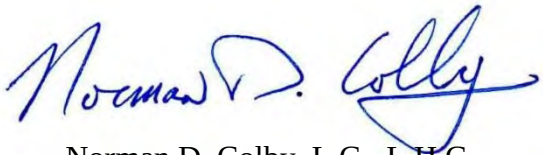
Farallon PN: 650-001

For:
Nelgroup Properties LLC
16508 Northeast 79th Street
Redmond, Washington 98052

January 3, 2019

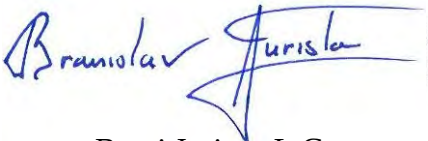
Prepared by:

Jennifer L. Moore
Senior Scientist



Norman D. Colby, L.G., L.H.G.
Principal Hydrogeologist

Reviewed by:



Brani Jurista, L.G.
Principal Geologist

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T E C H N I C A L M E M O R A N D U M

TO: Glynis Carrosino – Washington State Department of Ecology Northwest Regional Office (by email and mail)

cc: Thomas Markl – Nelgroup Properties LLC (by email)
Mike Warfel – Washington State Department of Ecology (by email)

FROM: Jennifer L. Moore, Senior Scientist; Norman D. Colby, L.G., L.H.G, Principal Hydrogeologist; and Brani Jurista, L.G., Principal Geologist

DATE: January 3, 2019

RE: **REQUEST FOR SITE-WIDE NO FURTHER ACTION DETERMINATION**
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON
FACILITY/SITE IDENTIFICATION NO. 26296554
VCP IDENTIFICATION NO. NW3166
FARALLON PN: 650-001

State of Washington 2821 Licensed Geologist BRANISLAV JURISTA

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum to provide supplemental information required by the Washington State Department of Ecology (Ecology) for issuance of a Site-wide No Further Action (NFA) determination associated with a historical release of tetrachloroethene (PCE) at the Former Cleaning Center of Redmond at 15796 Redmond Way in Redmond, Washington. The Former Cleaning Center of Redmond is part of a commercial property (Tax Parcel No. 719890-0080) northwest of the intersection of 160th Avenue Northeast and Redmond Way (herein referred to as the Property) (Figure 1). The site associated with the Former Cleaning Center of Redmond PCE release consists of the source area proximate to the former dry cleaning facility and the groundwater plume area extending off the Property to the northwest, where PCE concentrations previously exceeded the applicable Washington State Model Toxics Control Act Cleanup Regulation (MTCA) cleanup level for groundwater (herein referred to as the Site) (Figure 2). PCE is the only constituent of concern (COC) for the Site.

A cleanup action by soil vapor extraction (SVE) was previously completed under Ecology Voluntary Cleanup Program (VCP) Identification No. NW1324 (the original VCP number), resulting in a Property-specific NFA determination from Ecology on April 1, 2011. The objective

of this Technical Memorandum is to provide Ecology with supplemental information regarding potential future risk to human health and the environment throughout the Site posed by residual concentrations of PCE in groundwater.

Farallon previously prepared and submitted the following documents to Ecology on behalf of Nelgroup Properties LLC with a request for an NFA determination for the entire Site under VCP Identification No. NW3166 (the current VCP number):

- *Site Closure Report Addendum, Former Cleaning Center of Redmond, 15796 Redmond Way, Redmond*, Washington dated April 26, 2017, prepared by Farallon for Nelgroup Properties LLC (Site Closure Addendum) (provided in Attachment A); and
- Letter Regarding Response to Request for Additional Information, Former Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington dated May 23, 2018 from Ms. Jennifer L. Moore and Mr. Brani Jurista of Farallon to Ms. Sonia Fernandez of Ecology (Additional Information Letter) (provided in Attachment B).

Farallon and Mr. Thomas Markl of Nelgroup Properties L.L.C. met with representatives of Ecology on July 25, 2018, at which time the Ecology representatives provided feedback on the Site Closure Addendum and the Additional Information Letter, and identified needed supplemental information, which is provided in this Technical Memorandum. A follow-up meeting between Farallon and Ecology was held on October 15, 2018 to further discuss the content to be included in this Technical Memorandum. During the July and October 2018 meetings and in subsequent email communications, Ecology requested the following supplemental information:

- Redefined list of media of concern for the Site;
- Redefined list of cleanup levels established under MTCA for the Site; and
- Empirical demonstration that PCE concentrations remaining in soil and groundwater at the Site will not result in future exceedances of the groundwater cleanup levels established for the Site under MTCA.

The following sections provide the supplemental information requested by Ecology prior to issuance of a Site-wide NFA determination.

MEDIA OF CONCERN

The media of concern defined for the Site under the original VCP number that were documented in the April 1, 2011 Property-specific NFA determination[1] were soil, groundwater, and indoor air. Although the PCE plume in groundwater extended northwest toward the Sammamish River, the PCE concentrations detected in groundwater at monitoring well MW-8, located within

[1] Letter Regarding No Further Action at a Property Associated with a Site: Cleaning Center of Redmond – 15796 Redmond Way, Redmond, WA 98052 from Mr. Michael Kuntz of Ecology to Mr. Markl of Nelson Real Estate Management, L.L.C.

approximately 80 feet of the river, were low and remained relatively stable. Based on these data, Ecology indicated that surface water was not a potential medium of concern.

Operation of the SVE system between 2003 and 2006 resulted in a significant reduction of the PCE mass in soil, which was affecting groundwater and posing a risk to indoor air quality. PCE concentrations detected at the Property were less than the cleanup levels for soil, groundwater, and indoor air, which resulted in the issuance of the Property-specific NFA determination by Ecology in 2011. However, Ecology cited a need to eliminate future risk to human health and the environment posed by residual PCE in groundwater. Confirmation that PCE concentrations in groundwater will remain less than the established cleanup level, accomplished via groundwater modeling, is required to obtain a Site-wide NFA determination.

CLEANUP LEVELS

The following cleanup levels were established for the Site under the original VCP number and are documented in the April 1, 2011 Property-specific NFA determination letter.[1] Farallon and Ecology agreed to retain these cleanup levels under the current VCP number per Sections 702(12)(b) and 702(12)(c) of Chapter 173-340 of the Washington Administrative Code. PCE is the only COC for the Site, because it is the only constituent to have historically exceeded cleanup levels for the media of concern established for the Site. The cleanup levels established for PCE are presented below by medium of concern:

- **Soil:** The standard MTCA Method A cleanup level of 0.05 milligram per kilogram for protection of drinking water, indoor air, and unrestricted land use.
- **Groundwater:** The standard MTCA Method A cleanup level of 5 micrograms per liter (µg/l) for protection of drinking water.
- **Indoor air:** A modified Method B cleanup level of 4.27 micrograms per cubic meter for protection of commercial workers.

EMPIRICAL DEMONSTRATION AND GROUNDWATER MODELING

The source area for the PCE release at the Property was remediated from 2003 to 2006 through the use of an SVE system. Confirmation soil sampling conducted in the source area in June 2007 indicated that the cleanup level for PCE was achieved throughout the Property (Table 1). Four quarters of confirmation groundwater sampling was conducted at monitoring wells MW-1 through MW-3, MW-5 through MW-7, and MW-9 between 2006 and 2007 (Figure 2). Groundwater monitoring at monitoring well MW-8, located east of the Sammamish River, had been discontinued after the August 2004 sampling event due to COC concentrations consistently being below the cleanup level established for the Site (Table 2). The results from confirmation groundwater sampling indicated that PCE concentrations consistently were less than the MTCA Method A cleanup level. Low concentrations of PCE persisted, but were expected to attenuate. Ecology concurred that the residual PCE concentrations in soil and groundwater no longer posed a risk to human health or the environment, and issued the NFA determination for the Property.

During recent discussions between Farallon and Ecology regarding issuance of a Site-wide NFA determination, Ecology requested that groundwater modeling be conducted to demonstrate that residual PCE in soil and groundwater does not pose a potential future risk to human health or the environment throughout the Site. With approval from the Ecology Site Manager, Farallon performed groundwater modeling using the U.S. Environmental Protection Agency BIOCHLOR groundwater model, an analytical fate and transport model that simulates 1-dimensional advection, 3-dimensional dispersion, linear adsorption, and reductive dechlorination with or without decay[2].

Ecology further requested that the model be run based on specific data objectives to demonstrate that PCE concentrations in groundwater will not exceed the groundwater cleanup level throughout the Site in the future. The following sections present the specific data objectives requested by Ecology and the corresponding groundwater model results.

GROUNDWATER MODEL INPUTS

Model inputs were based on field measurements where available, or on literature values if Site-specific data were unavailable. Key model input parameters are listed in Table 3 and briefly discussed below.

Source Area Concentrations

Various source concentrations for PCE were used in different iterations of the model to address Ecology data objectives. Because PCE degradation products were present at very low or non-detect concentrations in groundwater at the Site, model source area concentrations for trichloroethene, cis-1,2-dichloroethene, and vinyl chloride were set to zero.

Source Type and Simulation Time

The source type can be set to a continuous or a decaying source. An initial calibration with a continuous source was conducted, as described below. Following calibration, a decaying source was assumed in the model because the PCE source area was remediated between 2003 and 2006. The model was run for a period of 20 years for calibration and subsequent evaluation of PCE attenuation to address the first data objective.

Hydraulic Conductivity and Gradient

The hydraulic conductivity value was based on information provided in the *Groundwater Flow Model Development Report, City of Redmond Groundwater Model, Redmond, Washington* dated March 30, 2018 prepared for the City of Redmond by GeoEngineers, Inc. An average hydraulic conductivity of 3,000 feet per day (1.1 centimeter per second) was used for the BIOCHLOR modeling. This hydraulic conductivity value was based on data for City Well No. 4, the City of Redmond water-supply well closest to the Site, approximately 1,500 feet to the north-northwest of the source area. City Well No. 4 is screened in the Redmond alluvial aquifer, which corresponds with the groundwater affected by the release of PCE throughout the Site. A hydraulic gradient of

[2] https://www.epa.gov/water-research/biochlor-natural-attenuation-decision-support-system.

0.0023 foot per foot was calculated using the May 2007 groundwater elevation data presented on Figure 2.

Biotransformation Rate (Half-Life)

Biotransformation was not incorporated into this modeling effort because PCE degradation was negligible based on the absence of degradation compounds in groundwater. Therefore, biotransformation is not a significant factor that would affect attenuation of PCE throughout the Site.

Dispersion

Longitudinal dispersion was calculated using the Xu and Eckstein method because it provides a more-conservative (lower) dispersion value than using a percentage of plume length. Longitudinal dispersion was estimated based on a plume length of 700 feet, represented by the approximate distance from the source area to the eastern edge of the Sammamish River as shown on Figure 2. The resulting longitudinal dispersion was calculated to be approximately 21.5 feet. Transverse dispersion was set to 2.15 feet, which is 10 percent of the longitudinal dispersion, the rule of thumb specified in the BIOCHLOR user's manual[3]. Vertical dispersion was set to $1x10^{-99}$ (negligible) based on the prior evaluation of the vertical distribution of PCE in groundwater, discussed in the Site Closure Addendum.

Model Area Width and Length

The model width was set to 200 feet, a reasonable width for the Site (Figure 2). The model length was set to 700 feet, the approximate distance from the source area to the Sammamish River, and a reasonable length for centerline plume estimates.

Source Area Width and Thickness

The source area width was conservatively specified as 50 feet based on historical soil data and the size of the dry cleaning suite. The source area thickness was specified as 15 feet based on historical soil and groundwater data. The source area thickness is equivalent to the screen length of monitoring well MW-4, and thus represents the upper aquifer thickness, where PCE was present in groundwater. The source area thickness does not affect the modeled results for this Technical Memorandum because the simulation used a centerline plume with negligible vertical dispersion.

Effective Porosity, Soil Bulk Density, and Fraction Organic Carbon

No Site-specific data were available for effective porosity, soil bulk density, or fraction organic carbon. Default literature values provided in BIOCHLOR therefore were used for the modeling effort (Table 3).

[3] *BIOCHLOR Natural Attenuation Decision Support System, User's Manual, Version 1.0* dated January 2000, prepared by the U.S. Environmental Protection Agency.

Retardation

Adsorption to the soil matrix can reduce the concentration of dissolved contaminants moving through groundwater. The retardation factor is the ratio of the groundwater seepage velocity to the rate of organic chemical migration in groundwater. No Site-specific data were available for soil bulk density, fraction organic carbon, or a partition coefficient (used to calculate retardation). Default literature values provided in BIOCHLOR therefore were used for the modeling effort. The default retardation value of 2.25 was used in the model.

The following sections provide Ecology's recommended data objectives in italicized text, and Farallon's responses based on the results from the groundwater modeling, in Roman text.

GROUNDWATER MODELING 2000 TO PRESENT

Use the 12/20/2000 PCE concentration at monitoring well MW-4 (28 [micrograms per liter] ug/L) as the source strength. Check model concentrations with time at downgradient MW-8 and compare with MW-8 data.

Using the BIOCHLOR model inputs described above, simulations were performed to provide a rough calibration to observed PCE concentrations since 2000, and to estimate PCE concentrations in groundwater down-gradient of monitoring well MW-4 over time. Centerline plume analysis was performed as a conservative approach to estimate the maximum PCE concentration at the modeled end point. For the initial calibration, a constant source concentration of 28 µg/l from the time period prior to source removal was simulated at monitoring well MW-4 (Figure 3A) and compared to maximum observed concentrations at down-gradient wells MW-7 and MW-8 for the year 2000 (Figure 3B). As shown on Figure 3B, a reasonable match was obtained at wells MW-7 and MW-8, indicating a good calibration to conditions prior to source removal.

A decaying source was then specified in the model (Figure 4A) to simulate PCE attenuation in groundwater after source removal. Model results (Figure 4B) indicated an acceptable match between simulated and measured PCE concentrations at these locations at an elapsed time of 4 years (representing 2004 conditions). These model results represent the time required, with gradual source removal, for PCE concentrations at the source area and down-gradient of the source area to attenuate to observed conditions.

At a simulation time of 18 years, roughly equivalent to the current 2018 time period assuming a start time of December 2000 (used as the source timing at monitoring well MW-4), the model predicted groundwater PCE concentrations of approximately 0.05 µg/l at the source area, and approximately 0.02 µg/l at a distance of 700 feet from the source area, the approximate distance from the source area to the Sammamish River (Figure 4C). These results suggest that PCE concentrations in groundwater have decreased substantially since the SVE cleanup activities concluded in 2007, and that PCE concentrations will continue to decrease over time.

A quick plot of MW-4/MW-9 and MW-8 data will show the MW-4 "peak" likely appeared at MW-8 in 5/10/2004. Provide graphs to show this. Compare the estimated travel time indicated by the time-series plot to travel time predicted by the model.

Farallon used the BIOCHLOR model to estimate the travel time of PCE from the source area at monitoring well MW-4 to the Sammamish River so the effects of dispersion and retardation would be incorporated into the estimate. Using a constant PCE source of 28 µg/l (Figure 5A), the modeled time period was adjusted until the breakthrough of PCE at 1 µg/l could be determined in the model output (Figure 5B). A travel time of 0.13 year (47.5 days) was calculated by the model, which represents the time required for PCE to migrate from the source area to the Sammamish River. This travel time is reasonable given the high hydraulic conductivity of the aquifer material in the region. Based on this travel time, any peak concentration that may have passed from monitoring well MW-4 to MW-8 would have occurred between sampling events, and would not have been observed in the quarterly groundwater monitoring data.

GROUNDWATER MODELING 2007 TO PRESENT

Use the 5/15/2007 data to evaluate model predictions through October 2018.

Farallon simulated the likely concentrations of PCE in groundwater in 2018 using the PCE concentrations from the February 28, 2007 groundwater monitoring event in the BIOCHLOR model instead of those from the May 15, 2007 event because the concentration of PCE in down-gradient monitoring well MW-7 was slightly higher than the concentration of PCE in source area monitoring well MW-9 (Table 2), causing technical issues with the simulation using the May 15, 2007 data.

A PCE concentration of 2.4 µg/l in monitoring well MW-9 was used as a decaying source concentration for the simulation (Figure 6A). A decaying source was used based on the remediation of the source area. According to the BIOCHLOR model, the expected concentration of PCE in groundwater in 2018 (Figure 6B) based on February 28, 2007 PCE concentrations would be:

- 0.05 µg/l at monitoring well MW-9;
- 0.03 µg/l at monitoring well MW-7; and
- 0.019 µg/l at the Sammamish River.

These concentrations are less than the cleanup level of 5.0 µg/l that was established for the Site under MTCA and, based on model results, will continue to decrease with time.

GROUNDWATER MODELING FOR MONITORING WELL MW-5

Discuss the presence, fluctuations, and potential source(s) of PCE in cross-gradient/up-gradient monitoring well MW-5 and potential impacts on the Site contaminant plume. Use the model to assess downgradient transport along the flow path of MW-5, MW-1, MW-2 and westward to the Sammamish River through October 2018.

No known confirmed up-gradient source of PCE associated with PCE concentrations at monitoring well MW-5 was identified during previous investigation work conducted by Farallon. However, Farallon recently reviewed a list of other known cleanup sites in the vicinity of the Site using the

What's In My Neighborhood online database provided by the Ecology Toxics Cleanup Program[4]. Farallon identified ARCO Facility No. 6067 (ARCO 6067) as a potential up-gradient source of PCE to the Site. ARCO 6067 was reported to Ecology on June 11, 1991, and has been issued Ecology Cleanup Site ID No. 8752. ARCO 6067 was enrolled in the Ecology VCP and was assigned VCP Identification No. NW2736. Constituents of concern for ARCO 6067 are: total petroleum hydrocarbons as gasoline-, diesel-, and oil-range organics; benzene; toluene; ethylbenzene; xylenes; PCE; carcinogenic polycyclic aromatic hydrocarbons; and polychlorinated biphenyls.

Atlantic Richfield Company requested an NFA determination for ARCO 6067, which was denied by Ecology in a letter dated March 30, 2015.[5] Ecology cited a lack of vertical and horizontal delineation of PCE impacts in soil, and inadequate assessment of PCE in groundwater as data gaps. ARCO 6067 left the VCP on February 13, 2017 and re-enrolled in the Petroleum Technical Assistance Program under the Petroleum Liability Insurance Agency and was issued Identification No. PNW098. The *Remedial Excavation Work Plan, BP Facility No. 6067, 8009 164th Avenue NE, Redmond, Washington* dated October 19, 2018 prepared by Arcadis U.S., Inc. for Remediation Management Services Company, BP West Coast Products, LLC indicated that ARCO 6067 is slated for demolition, and that existing underground storage tanks will be removed. The area around the former waste-oil underground storage tank where PCE and other contaminant impacts have been confirmed will be overexcavated. The Remedial Excavation Work Plan did not mention conducting additional groundwater monitoring for PCE. ARCO 6067 is a potential up-gradient source of PCE impacting the Site. No other recent facilities were identified in the What's In My Neighborhood database.

Farallon simulated PCE transport from cross- to up-gradient monitoring well MW-5 toward the Sammamish River. A continuous source of 4.8 µg/l (the maximum PCE concentration detected in this well; Table 2; Figure 2) was first applied at monitoring well MW-5 (Figure 7A) to simulate a worst-case scenario, assuming that PCE concentrations do not attenuate over time along the flow path from monitoring well MW-5 to the Sammamish River. A source length of 700 feet was used as a conservative approach, and to allow direct comparisons to the modeling conducted for monitoring well MW-4. As shown on Figure 7B, PCE concentrations of approximately 1.7 µg/l were simulated at the down-gradient limit of the model, which is less than the groundwater cleanup level established for the Site under MTCA.

A decaying PCE source concentration of 4.8 µg/l was then applied to monitoring well MW-5 (Figure 8A). Other model input parameters were unchanged. A calibration was performed to approximate observed PCE concentrations measured in February 2006 at down- to slightly cross-gradient monitoring wells MW-1 and MW-2 (Figure 8B). The model was run for a period of 18 years to estimate down-gradient PCE concentrations over time, and to estimate current (2018) conditions with a decaying source. As shown on Figure 8C, the simulated PCE concentrations were reduced to approximately 0.13 µg/l at monitoring well MW-5, and to

[4] https://fortress.wa.gov/ecy/neighborhood/
[5] Letter regarding Further Action at the following Site: ARCO Station 6067, 8009 164th Avenue NE, Redmond, Washington from Ms. Heather Vick of Ecology to Mr. Charles Carmel of Atlantic Richfield Company.

approximately 0.05 µg/l at the down-gradient limit of the model. The model results indicate that PCE concentrations at and along the groundwater flow path from monitoring well MW-5 are less than the groundwater cleanup level of 5.0 µg/l, and do not pose an existing or future risk to human health or the environment.

CONCLUSIONS

Farallon performed several iterations of groundwater modeling using the BIOCHLOR groundwater model to address the data objectives for the Site recommended by Ecology. The results from the groundwater modeling show that PCE concentrations in groundwater will remain less than the groundwater cleanup level established for the Site under MTCA, and will continue to attenuate over time.

Residual PCE concentrations in soil and groundwater throughout the Site are less than the cleanup levels and are not a future risk to human health or the environment. Therefore, Farallon requests that Ecology issue a Site-wide NFA determination for the Former Cleaning Center of Redmond.

Attachments:
Figure 1, *Site Vicinity Map*
Figure 2, *Groundwater Elevation Contours and PCE Concentrations in Groundwater*
Figure 3A, *BIOCHLOR Model Inputs – Continuous Source at MW-4*
Figure 3B, *Simulated PCE Concentration Downgradient of MW-4 With Continuous PCE Source of 28 µg/l, Estimated PCE Concentrations at 18 Years After Release (2018)*
Figure 4A, *BIOCHLOR Model Inputs – Decaying Source at MW-4*
Figure 4B, *Simulated PCE Concentration Downgradient of MW-4 with Decaying PCE Source of 28 µg/l, Calibrated to PCE Concentrations Detected in May 2004 in MW-7 and MW-8*
Figure 4C, *Simulated PCE Concentration Downgradient of MW-4 with Decaying PCE Source of 28 µg/l, Estimated PCE Concentrations 18 Years After Release (2018)*
Figure 5A, *BIOCHLOR Model Inputs for Travel Time Model – Continuous Source at MW-4*
Figure 5B, *Simulated Breakthrough of PCE at 1 µg/l Downgradient of MW-4 with Continuous PCE Source of 28 µg/l*
Figure 6A, *BIOCHLOR Model Inputs – Decaying Source at MW-9 Using 2007 Data*
Figure 6B, *Simulated PCE Concentration Downgradient of MW-9 with Decaying PCE Source of 2.4 µg/l, Estimated PCE Concentrations 11 Years After February 2007 Sample Event (2018)*
Figure 7A, *BIOCHLOR Model Inputs – Continuous Source at MW-5*
Figure 7B, *Simulated PCE Concentration Downgradient of MW-5 at 20 Years with Continuous Source*
Figure 8A, *BIOCHLOR Model Inputs – Decaying Source at MW-5*
Figure 8B, *Simulated PCE Concentration Downgradient of MW-5 at 4 Years with Decaying Source*

Figure 8C, *Simulated PCE Concentration Downgradient of MW-5 at 18 Years (2018) with Decaying Source*
Table 1, *Summary of Confirmation Soil Analytical Results – HVOCs*
Table 2, *Summary of Groundwater Analytical Results – HVOCs*
Table 3, *Fate and Transport Modeling Input Parameters for BIOCHLOR Groundwater Model*
Attachment A, Site Closure Addendum
Attachment B, Additional Information Letter

JLM/NDC/BJ:bjj

FIGURES

REQUEST FOR SITE-WIDE
NO FURTHER ACTION DETERMINATION
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

REFERENCE: 7.5 MINUTE USGS QUADRANGLE KIRKLAND, WASHINGTON, DATED 2013

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FIGURE 1

SITE VICINITY MAP
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: sgaynier | Checked By: JM | Date: 4/12/2018 | Disc Reference:

Document Path: Q:\Projects\650 Nelson Properties\001\Mapfiles\Figure 1 - Site Vicinity.mxd

DATE	PCE
11/12/2003	0.62
2/18/2004	0.3
5/10/2004	2.8
8/27/2004	0.43

DATE	PCE
8/23/2006	1.0
11/21/2006	1.1
2/28/2007	0.83
5/15/2007	1.30

DATE	PCE
8/23/2006	3.3
11/21/2006	4.5
2/28/2007	2.3
5/15/2007	3.3

DATE	PCE
5/10/2004	1.6
8/27/2004	1.4
2/15/2006	4.8
8/23/2006	1.0

DATE	DEPTH	PCE
8/21/2006	12.5'	2.4
8/21/2006	31.5'	0.95
8/21/2006	68.5'	<0.20

DATE	PCE
8/23/2006	2.3
11/21/2006	2.2
2/28/2007	2.1
5/15/2007	2.9

DATE	PCE
8/23/2006	2.5
11/21/2006	5.0
2/28/2007	1.8
5/15/2007	2.5

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

OPPORTUNITY BUILDING
PARKING LOT
158TH AVENUE NORTHEAST
83RD STREET NORTHEAST
160TH AVENUE NORTHEAST
DRAINAGE SWALE
PARKING LOT
BUILDING
PARKING LOT
FB–1(2006)
LOADING DOCKS
QFC
STAPLES
RETAIL STORES
TRADER JOE'S
B–1
BEN FRANKLIN CRAFTS
CLEANING CENTER OF REDMOND
PARKING LOT
SAMMAMISH RIVER
BUILDING
PARKING LOT
BUILDING
BUILDING
STARBUCKS
REDMOND WAY
MW-1 (24.12)
MW-2 (23.64)
MW-3 (23.66)
MW-4
MW-5 (24.46)
MW-6
MW-7 (23.48)
MW-8 (22.72)
MW-9 (24.18)
23.00
23.50
24.00
SITE 2
N
0
120
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FORMER EXTENT OF PCE PLUME IN GROUNDWATER
- PERFORMANCE AND CONFIRMATION MONITORING WELL NETWORK (DECOMMISSIONED FOLLOWING RECEIPT OF NO FURTHER ACTION DETERMINATION)
- MONITORING WELL (DECOMMISSIONED PRIOR TO CLEANUP DUE TO CONSTRUCTION OF NEW BUILDING)
- FB–1(2006) ● BORING LOCATION
- (23.66) GROUNDWATER ELEVATION RELATIVE TO MEAN SEA LEVEL (MAY 2007)
- 24.00 GROUNDWATER ELEVATION CONTOUR (MAY 2007)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

DEPTH IN FEET BELOW GROUND SURFACE

PCE = TETRACHLOROETHENE

BOLD = INDICATES CONCENTRATIONS EXCEEDED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION (MTCA) METHOD A CLEANUP LEVEL

< = INDICATES ANALYTE NOT DETECTED AT CONCENTRATIONS AT OR EXCEEDING THE LABORATORY PRACTICAL QUANTITATION LIMIT

DATE	PCE
8/23/2006	1.6

= DATE SAMPLED AND PCE CONCENTRATION IN GROUNDWATER IN MICROGRAMS PER LITER

ALL LOCATIONS ARE APPROXIMATE

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Issaquah | Bellingham | Seattle

Oregon
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FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND
PCE CONCENTRATIONS IN GROUNDWATER
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: MB Checked By: JM Date: 12/31/2018 Disk Reference: 650-001_00.dwg

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Figure 3A
BIOCHLOR Model Inputs - Continuous Source at MW-4
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: ◉ Ethenes ○ Ethanes

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.8E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)
Common R (used in model)* =			**2.25**	

4. BIOTRANSFORMATION

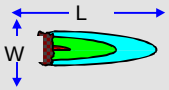
-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	20	(yr)
Modeled Area Width*	200	(ft)
Modeled Area Length*	700	(ft)
Zone 1 Length*	700	(ft)
Zone 2 Length*	0	(ft)



Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

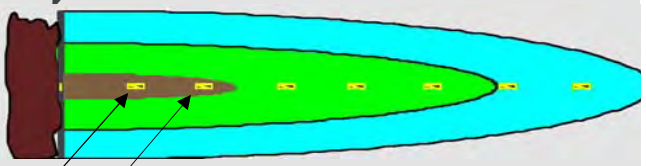
Source Options

Source Thickness in Sat. Zone* 15 (ft)

Width* (ft) Y1 = 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	28.0	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)				15.0						8.5	
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0			240						600	
Date Data Collected				MW-7						MW-8	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Figure 3B
Simulated PCE Concentration Downgradient of MW-4 With Continuous PCE Source of 28 ug/L
Estimated PCE Concentrations at 18 Years After Release (2018)
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

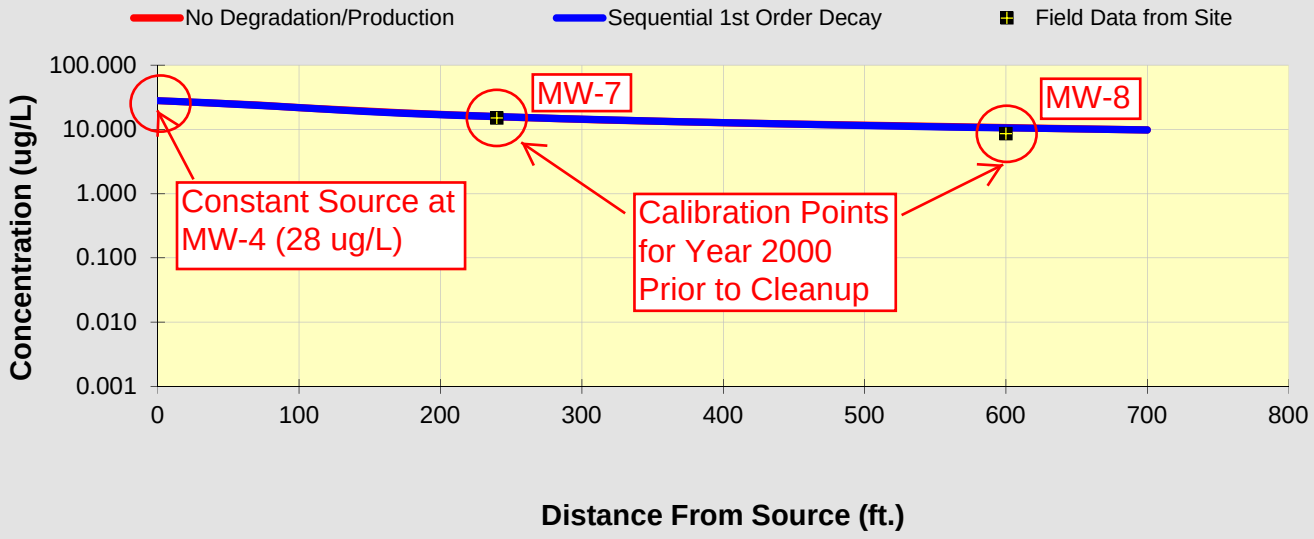
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

Distance from Source (ft)

PCE	0	70	140	210	280	350	420	490	560	630	700
No Degradation	28.000	23.811	19.369	16.648	14.806	13.460	12.422	11.592	10.908	10.332	9.839
Biotransformation	28.0000	23.811	19.369	16.648	14.806	13.460	12.422	11.592	10.908	10.332	9.839

Monitoring Well Locations (ft)

	0			240						600	
Field Data from Site				15.000						8.500	



See PCE | See TCE | See DCE | See VC | See ETH

Prepare Animation

Time: 20.0 Years

Log ⟺ Linear

Return to Input | To All | To Array

Figure 4A
BIOCHLOR Model Inputs - Decaying Source at MW-4
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 ← 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.8E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)
Common R (used in model)* =			**2.25**	

4. BIOTRANSFORMATION

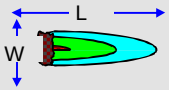
-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	20	(yr)
Modeled Area Width*	200	(ft)
Modeled Area Length*	700	(ft)
Zone 1 Length*	700	(ft)
Zone 2 Length*	0	(ft)



Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

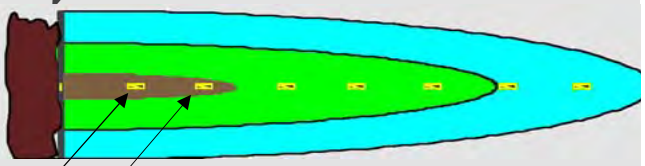
Source Options

Source Thickness in Sat. Zone* 15 (ft)

Width* (ft) Y1: 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	28.0	0.35
TCE		0.35
DCE		0.35
VC		0.35
ETH		0.35

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)				3.3						2.8	
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0			240						600	
Date Data Collected				MW-7						MW-8	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Figure 4B
Simulated PCE Concentration Downgradient of MW-4 With Decaying PCE Source of 28 ug/L
Calibrated to PCE Concentrations Detected in May 2004 in MW-7 and MW-8
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

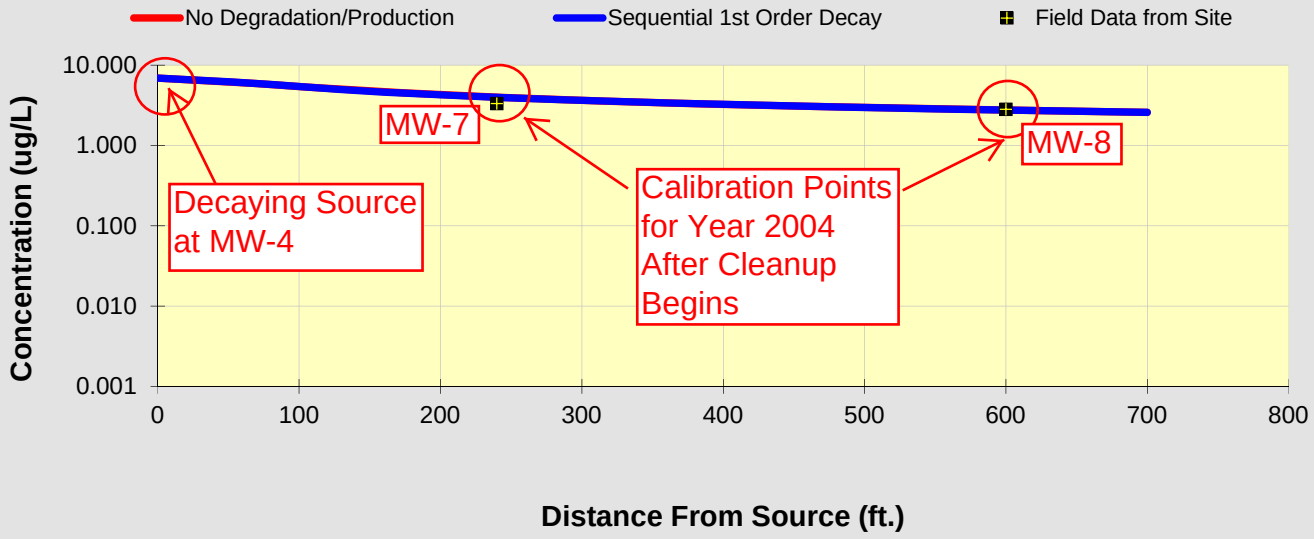
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

Distance from Source (ft)

PCE	0	70	140	210	280	350	420	490	560	630	700
No Degradation	6.905	5.909	4.837	4.184	3.745	3.426	3.182	2.988	2.829	2.697	2.585
Biotransformation	6.9047	5.909	4.837	4.184	3.745	3.426	3.182	2.988	2.829	2.697	2.585

Monitoring Well Locations (ft)

	0			240						600	
Field Data from Site				3.300						2.800	



See PCE | See TCE | See DCE | See VC | See ETH

Replay

Time: 4.0 Years

Log ⟺ Linear

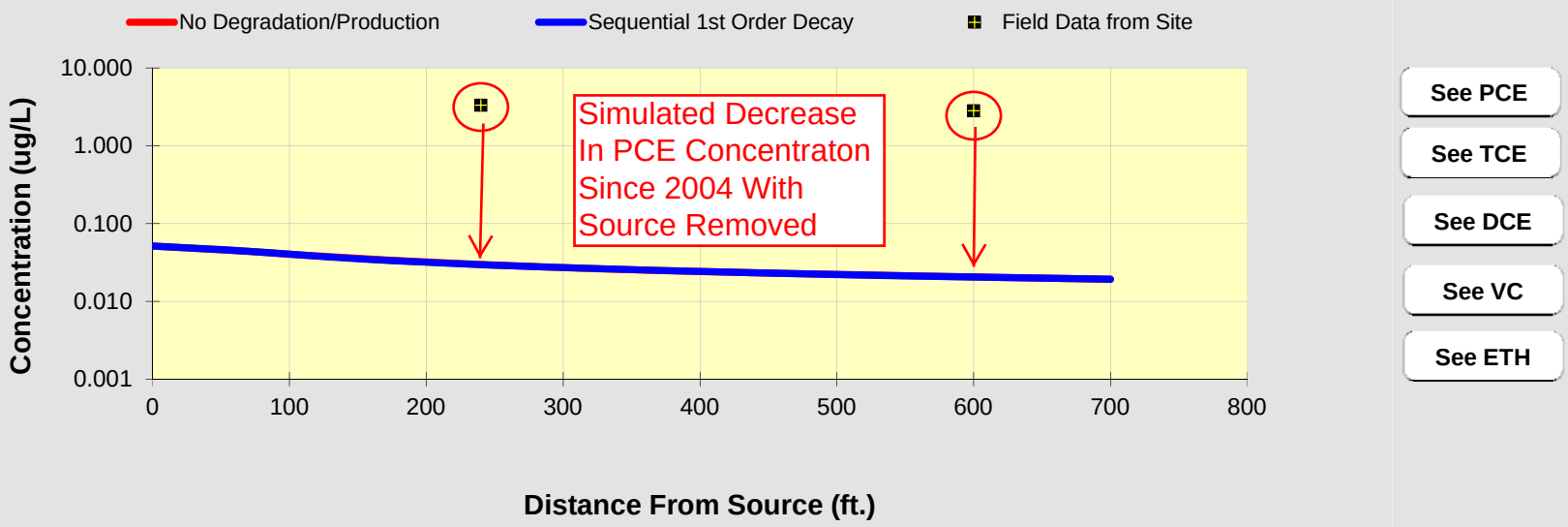
Return to Input | To All | To Array

Figure 4C
Simulated PCE Concentration Downgradient of MW-4 With Decaying PCE Source of 28 ug/L
Estimated PCE Concentrations 18 Years After Release (2018)
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Simulated PCE Concentration at Sammamish River - 2018

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

PCE	Distance from Source (ft)										
	0	70	140	210	280	350	420	490	560	630	700
No Degradation	0.051	0.044	0.036	0.031	0.028	0.026	0.024	0.022	0.021	0.020	0.019
Biotransformation	0.0514	0.044	0.036	0.031	0.028	0.026	0.024	0.022	0.021	0.020	0.019
	Monitoring Well Locations (ft)										
	0			240						600	
Field Data from Site				3.300						2.800	



See PCE | See TCE | See DCE | See VC | See ETH

Replay

Time: 18.0 Years

Log ⟺ Linear

Return to Input | To All | To Array

Figure 5A
BIOCHLOR Model Inputs for Travel Time Model - Continuous Source at MW-4
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ *or*
0.02 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: (●) Ethenes ( ) Ethanes

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.8E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)
Common R (used in model)* =			**2.25**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.000		0.79
TCE → DCE	0.000		0.74
DCE → VC	0.000		0.64
VC → ETH	0.000		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	0.13	(yr)
Modeled Area Width*	200	(ft)
Modeled Area Length*	700	(ft)
Zone 1 Length*	700	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

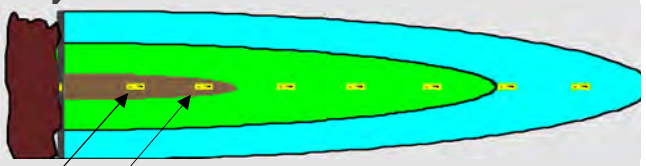
Source Options

Source Thickness in Sat. Zone* 15 (ft)

Width* (ft) Y1: 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	28.0	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)										1.0	
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0									700	
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | **Help** | Restore | RESET | *SEE OUTPUT* | Paste

Figure 5B
Simulated Breakthrough of PCE at 1 ug/L Downgradient of MW-4 with Continuous PCE Source of 28 ug/L
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

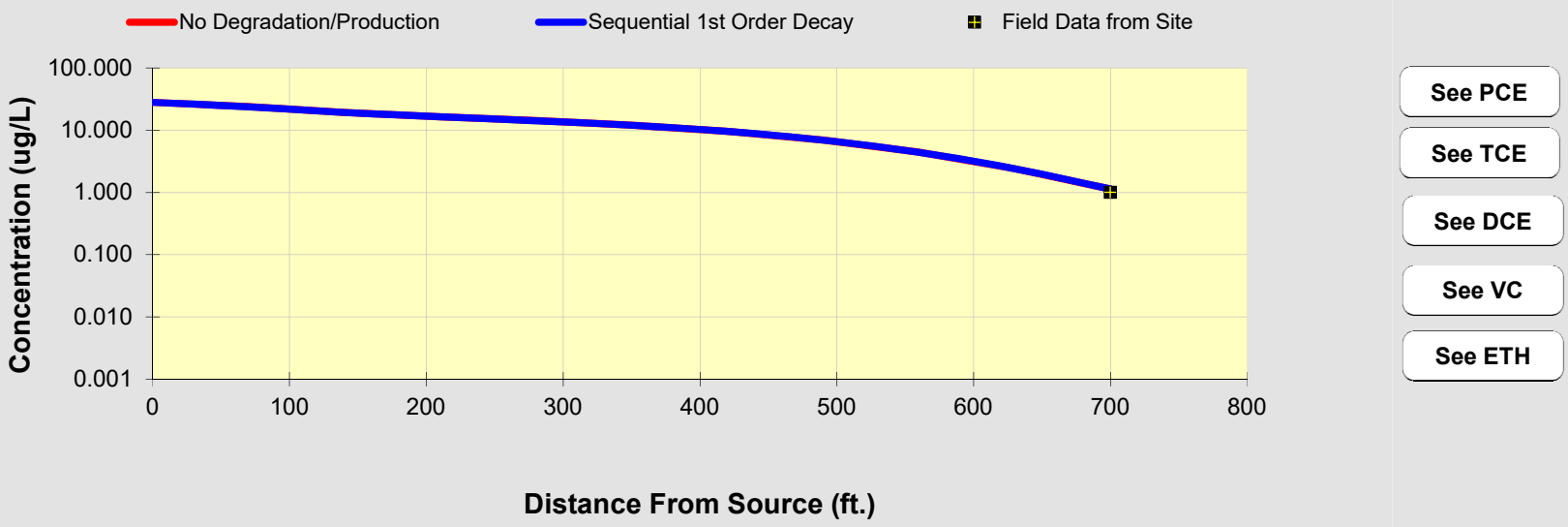
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

Distance from Source (ft)

PCE	0	70	140	210	280	350	420	490	560	630	700
No Degradation	28.000	23.803	19.319	16.447	14.199	12.000	9.562	6.921	4.406	2.404	1.134
Biotransformation	28.0000	23.803	19.319	16.447	14.199	12.000	9.562	6.921	4.406	2.404	1.134

Monitoring Well Locations (ft)

	0									700	
Field Data from Site										1.000	



See PCE | See TCE | See DCE | See VC | See ETH

Prepare Animation

Time: 0.13 Years

Log ⟺ Linear

Return to Input | To All | To Array

Figure 6A
BIOCHLOR Model Inputs - Decaying Source at MW-9 Using 2007 Data
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ *or*
0.02 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: (●) Ethenes ( ) Ethanes

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)	Calc. Alpha x
(Alpha y) / (Alpha x)*	0.1	(-)	
(Alpha z) / (Alpha x)*	1.E-99	(-)	

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.8E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)
Common R (used in model)* =			**2.25**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)		half-life (yrs)	Yield
PCE → TCE	0.000	←		0.79
TCE → DCE	0.000	←		0.74
DCE → VC	0.000	←		0.64
VC → ETH	0.000	←		0.45

Zone 2	λ (1/yr)		half-life (yrs)
PCE → TCE	0.000	←	
TCE → DCE	0.000	←	
DCE → VC	0.000	←	
VC → ETH	0.000	←	

λ HELP

5. GENERAL

Simulation Time*	11	(yr)	
Modeled Area Width*	200	(ft)	
Modeled Area Length*	700	(ft)	
Zone 1 Length*	700	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

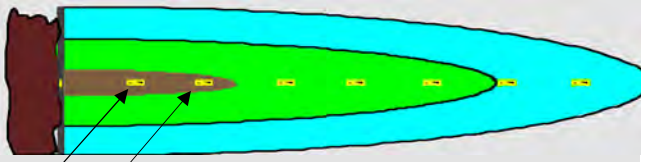
Source Options

Source Thickness in Sat. Zone* 15 (ft)

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations

Y1
Width* (ft) 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	2.4	0.35
TCE		0.35
DCE		0.35
VC		0.35
ETH		0.35



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)				2.1							
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0			240						600	
Date Data Collected				MW-7						MW-8	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Figure 6B
Simulated PCE Concentration Downgradient of MW-9 With Decaying PCE Source of 2.4 ug/L
Estimated PCE Concentrations 11 Years After February 2007 Sample Event (2018)
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

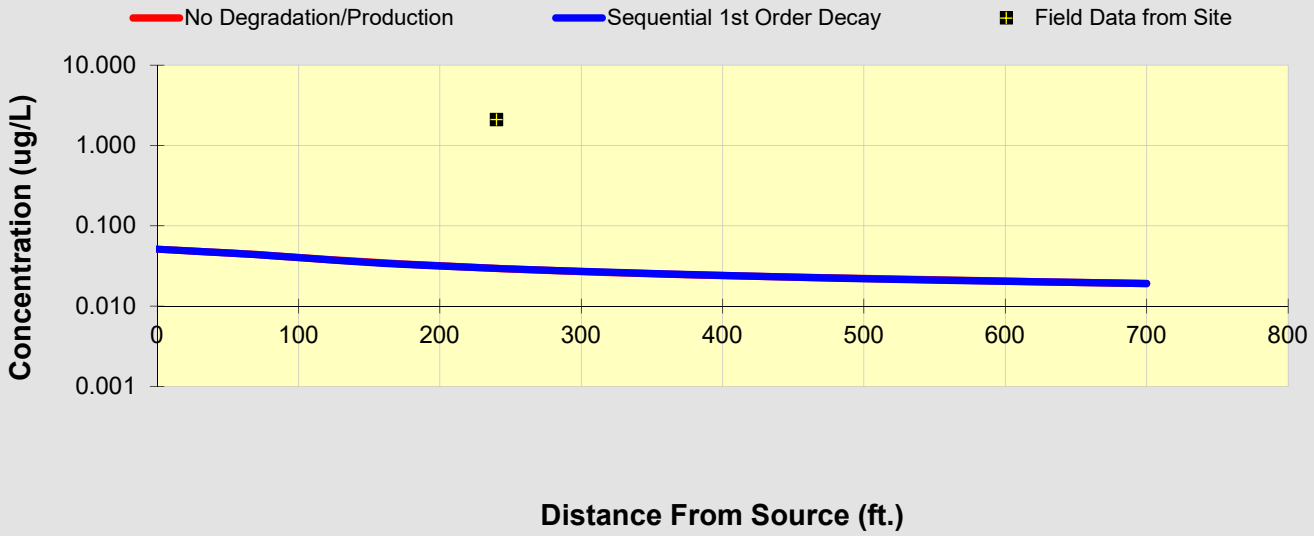
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

Distance from Source (ft)

PCE	0	70	140	210	280	350	420	490	560	630	700
No Degradation	0.051	0.044	0.036	0.031	0.028	0.025	0.024	0.022	0.021	0.020	0.019
Biotransformation	0.0511	0.044	0.036	0.031	0.028	0.025	0.024	0.022	0.021	0.020	0.019

Monitoring Well Locations (ft)

	0			240						600	
Field Data from Site				2.100							



See PCE
See TCE
See DCE
See VC
See ETH

Prepare Animation

Time:
11.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

Figure 7A
BIOCHLOR Model Inputs - Continuous Source at MW-5
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.8E-3	(-)	
Partition Coefficient	Koc			
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)

Common R (used in model)* = 2.25

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)		half-life (yrs)	Yield
PCE → TCE	0.000	←		0.79
TCE → DCE	0.000	←		0.74
DCE → VC	0.000	←		0.64
VC → ETH	0.000	←		0.45

Zone 2	λ (1/yr)		half-life (yrs)
PCE → TCE	0.000	←	
TCE → DCE	0.000	←	
DCE → VC	0.000	←	
VC → ETH	0.000	←	

λ HELP

5. GENERAL

Simulation Time*	20	(yr)	Zone 2= L - Zone 1
Modeled Area Width*	200	(ft)	
Modeled Area Length*	700	(ft)	
Zone 1 Length*	700	(ft)	
Zone 2 Length*	0	(ft)	

6. SOURCE DATA TYPE: Continuous Single Planar

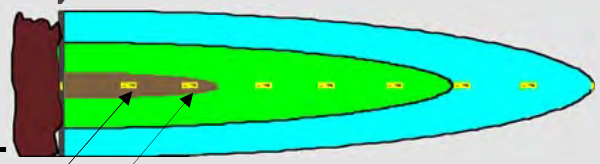
Source Options

Source Thickness in Sat. Zone* 15 (ft)

Width* (ft) Y1: 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	4.8	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)			2.4		1.1						
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0		120		280						
Date Data Collected			MW-1		MW-2						

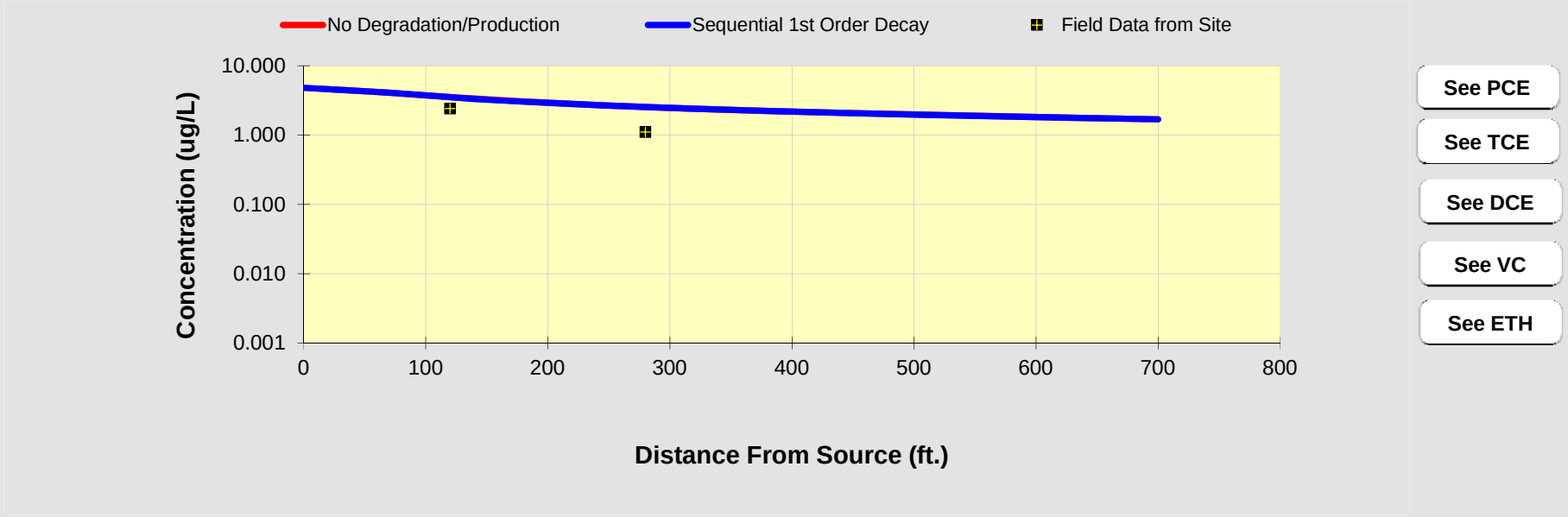
8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Figure 7B
Simulated PCE Concentration Downgradient of MW-5 at 20 Years with Continuous Source
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

PCE	Distance from Source (ft)										
	0	70	140	210	280	350	420	490	560	630	700
No Degradation	4.800	4.082	3.320	2.854	2.538	2.307	2.130	1.987	1.870	1.771	1.687
Biotransformation	4.8000	4.082	3.320	2.854	2.538	2.307	2.130	1.987	1.870	1.771	1.687
	Monitoring Well Locations (ft)										
	0		120		280						
Field Data from Site			2.400		1.100						



See PCE
See TCE
See DCE
See VC
See ETH

Prepare Animation

Time:
20.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

Figure 8A
BIOCHLOR Model Inputs - Decaying Source at MW-5
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Redmond Clean. Ctr.
Redmond, WA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	8725.5	(ft/yr)
or			
Hydraulic Conductivity	K	1.1E+00	(cm/sec)
Hydraulic Gradient	i	0.0023	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	21.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

	Koc		R	
Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.8E-3	(-)		
Partition Coefficient				
PCE	426	(L/kg)	5.09	(-)
TCE	130	(L/kg)	2.25	(-)
DCE	125	(L/kg)	2.20	(-)
VC	30	(L/kg)	1.28	(-)
ETH	302	(L/kg)	3.90	(-)
Common R (used in model)* =			**2.25**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)		half-life (yrs)	Yield
PCE → TCE	0.000	←		0.79
TCE → DCE	0.000	←		0.74
DCE → VC	0.000	←		0.64
VC → ETH	0.000	←		0.45

Zone 2	λ (1/yr)		half-life (yrs)
PCE → TCE	0.000	←	
TCE → DCE	0.000	←	
DCE → VC	0.000	←	
VC → ETH	0.000	←	

λ HELP

5. GENERAL

Simulation Time*	20	(yr)	
Modeled Area Width*	200	(ft)	W
Modeled Area Length*	700	(ft)	L
Zone 1 Length*	700	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying, Single Planar

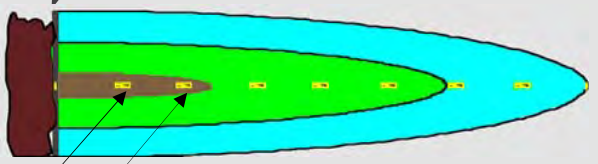
Source Options

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations

Source Thickness in Sat. Zone* 15 (ft)

Width* (ft) Y1: 50

Conc. (ug/L)*	C1	k_s* (1/yr)
PCE	4.8	0.2
TCE		0.2
DCE		0.2
VC		0.2
ETH		0.2



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (ug/L)			2.4		1.1						
TCE Conc. (ug/L)											
DCE Conc. (ug/L)											
VC Conc. (ug/L)											
ETH Conc. (ug/L)											
Distance from Source (ft)	0		120		280						
Date Data Collected			MW-1		MW-2						

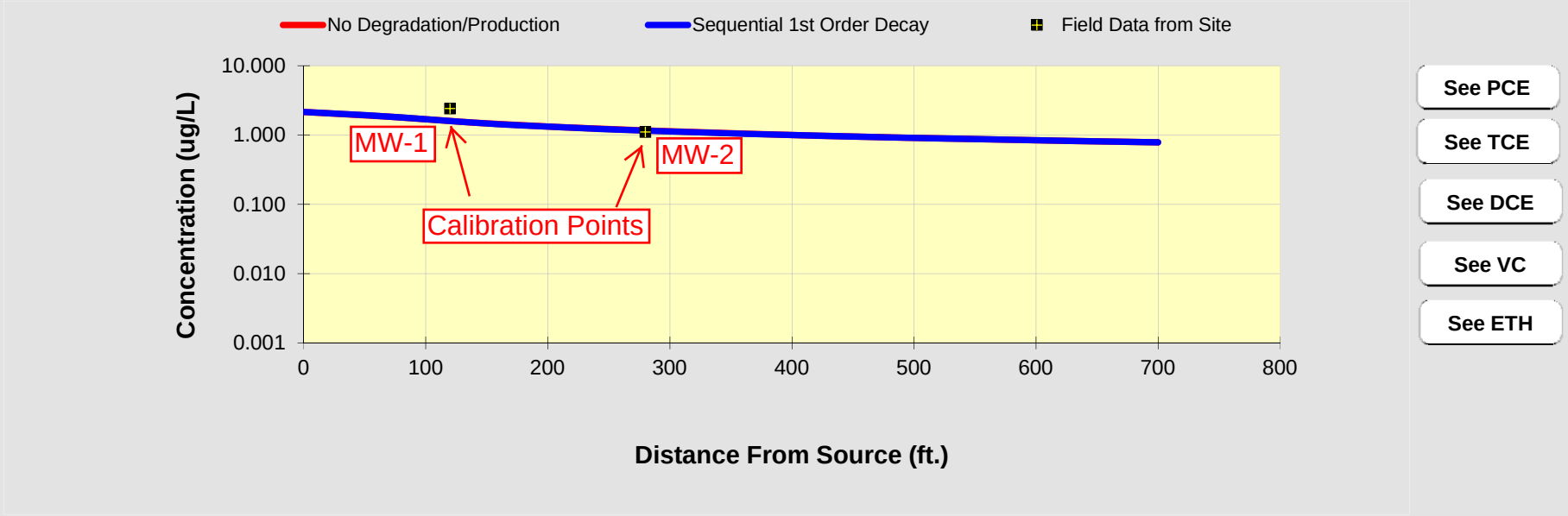
8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Figure 8B
Simulated PCE Concentration Downgradient of MW-5 at 4 Years with Decaying Source
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

PCE	Distance from Source (ft)										
	0	70	140	210	280	350	420	490	560	630	700
No Degradation	2.157	1.841	1.503	1.296	1.157	1.056	0.978	0.916	0.865	0.822	0.786
Biotransformation	2.1568	1.841	1.503	1.296	1.157	1.056	0.978	0.916	0.865	0.822	0.786
	Monitoring Well Locations (ft)										
	0		120		280						
Field Data from Site			2.400		1.100						



See PCE
See TCE
See DCE
See VC
See ETH

Replay

Time:
4.0 Years
Log ⟺ Linear

Return to Input
To All
To Array

Figure 8C
Simulated PCE Concentration Downgradient of MW-5 at 18 Years (2018) with Decaying Source
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

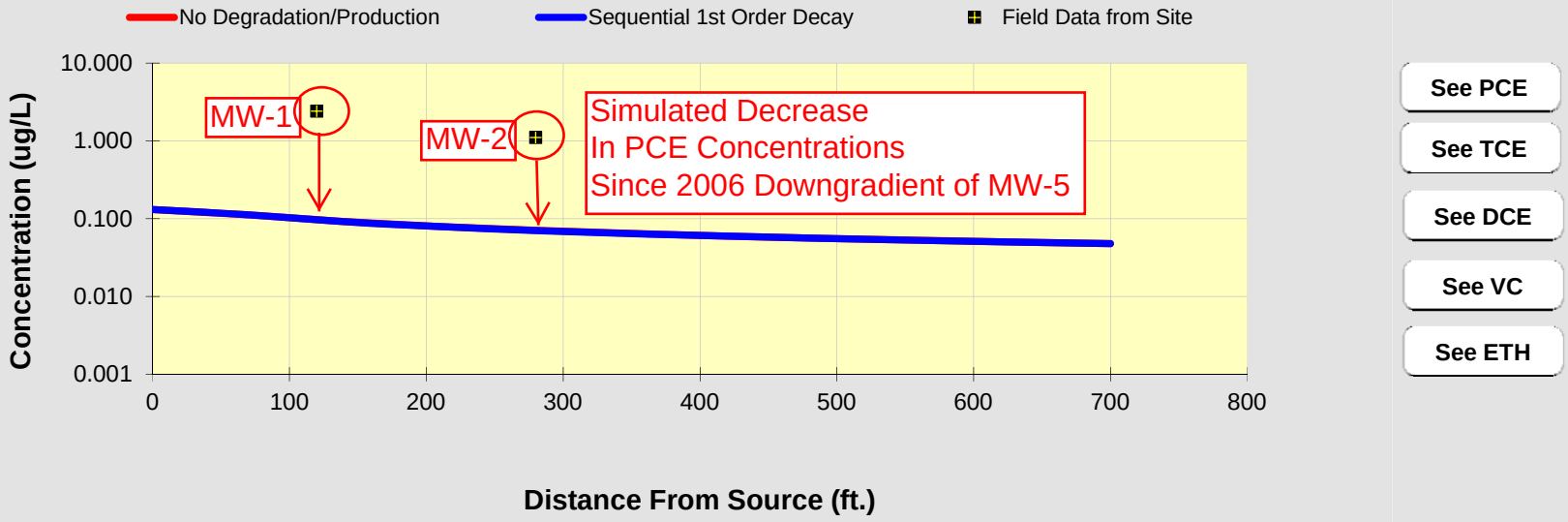
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (ug/L) at Z=0

Distance from Source (ft)

PCE	0	70	140	210	280	350	420	490	560	630	700
No Degradation	0.131	0.112	0.091	0.079	0.070	0.064	0.059	0.056	0.053	0.050	0.048
Biotransformation	0.1312	0.112	0.091	0.079	0.070	0.064	0.059	0.056	0.053	0.050	0.048

Monitoring Well Locations (ft)

	0		120		280						
Field Data from Site			2.400		1.100						



See PCE | See TCE | See DCE | See VC | See ETH

Replay

Time: 18.0 Years

Log ⟺ Linear

Return to Input | To All | To Array

TABLES

REQUEST FOR SITE-WIDE
NO FURTHER ACTION DETERMINATION
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

Table 1
Summary of Confirmation Soil Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Boring ID	Sample Number	Date Sampled	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)			
				PCE[2]	TCE[2]	cis-1,2-Dichloroethene[2]	trans-1,2-Dichloroethene[2]
FB1	FB1-1	6/1/2007	1	0.0043	<0.0012	<0.0012	<0.0012
	FB1-6	6/1/2007	6	0.0021	<0.0013	<0.0013	<0.0013
	FB1-10	6/1/2007	10	0.0021	<0.0013	<0.0013	<0.0013
FB2	FB2-1	6/1/2007	1	0.0059	<0.0011	<0.0011	<0.0011
FB3	FB3-1	6/12/2007	1	0.002	<0.00091	<0.00091	<0.00091
	FB3-6	6/12/2007	6	0.0054	<0.0014	0.043	0.0028
	FB3-9	6/12/2007	9	0.02	<0.0010	0.0017	<0.0010
FB4	FB4-0.5	6/12/2007	0.5	0.0041	<0.0010	<0.0010	<0.0010
	FB4-5	6/12/2007	5	0.0061	<0.00096	<0.00096	<0.00096
	FB4-9	6/12/2007	9	0.0026	<0.0013	<0.0013	<0.0013
FB5	FB5-0.5	6/12/2007	0.5	<0.00099	<0.00099	<0.00099	<0.00099
	FB5-3	6/12/2007	3	0.021	<0.00081	<0.00081	<0.00081
	FB5-5	6/12/2007	5	0.018	<0.00094	<0.00094	<0.00094
MW10	MW10-11	6/20/2007	11	<0.00093	<0.00093	<0.00093	<0.00093
MTCA Cleanup Levels for Soil				**0.05[3]**	**0.03[3]**	**800[3]**	**1,600[3]**

NOTES:

< denotes concentration is less than the laboratory practical quantitation limit indicated.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8260B.

[3]Cleanup levels established for site closure in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way*, Redmond, Washington dated September 21, 2007 prepared by Farallon Consulting, L.L.C. for Nelson Real Estate Management LLC.

HVOCs = halogenated volatile organic compounds

PCE = tetrachloroethene

TCE = trichloroethene

Table 2
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-1	3/6/2000	GeoEngineers	1.6	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**5.4**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.7	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.3	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.1	<0.20	<0.20	<0.20
	8/13/2003	Farallon	1.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.3	0.22	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	4	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**8.5**	0.84	1.2	**0.76**
	2/15/2006	Farallon	2.4	<0.20	<0.20	<0.20
	8/23/2006	Farallon	3.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	4.5	0.26	<0.20	<0.20
	2/28/2007	Farallon	2.3	<0.20	<0.20	<0.20
	5/15/2007	Farallon	3.3	<0.20	<0.20	<0.20
MW-2	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	2.9	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.9	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.9	<0.20	<0.20	<0.20
	6/28/2002	Farallon	0.81	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.99	<0.20	<0.20	<0.20
	11/12/2003	Farallon	0.66	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.88	<0.20	<0.20	<0.20
	5/10/2004	Farallon	0.54	<0.20	<0.20	<0.20
	8/27/2004	Farallon	0.56	<0.20	<0.20	<0.20
	2/15/2006	Farallon	1.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1	<0.20	<0.20	<0.20
	11/21/2006	Farallon	1.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	0.83	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.3	<0.20	<0.20	<0.20
MW-3	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	0.34	<0.20	<0.20	<0.20
	6/6/2001	Farallon	2	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**7.3**	<0.20	0.49	<0.20
	11/12/2003	Farallon	4.5	0.21	<0.20	<0.20
	2/18/2004	Farallon	2.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**6.7**	0.45	0.24	<0.20
	2/15/2006	Farallon	2.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.5	<0.20	<0.20	<0.20
	11/21/2006	Farallon	5	0.21	<0.20	<0.20
	2/28/2007	Farallon	1.8	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.5	<0.20	<0.20	<0.20
MW-4	3/6/2000	GeoEngineers	**50**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**9.2**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**28**	0.43	0.78	<0.20
	6/6/2001	Farallon	**16**	0.32	0.80	<0.20
	6/28/2002	Farallon	**14**	0.5	1.50	<0.20
	Well Removed 2003					
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

Table 2
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-5	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.7	<0.20	<0.20	<0.20
	6/28/2002	Farallon	1.6	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.24	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.6	<0.20	<0.20	<0.20
	2/18/2004	Farallon	4.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	1.6	<0.20	<0.20	<0.20
	8/27/2004	Farallon	1.4	<0.20	<0.20	<0.20
	2/15/2006	Farallon	4.8	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1	<0.20	<0.20	<0.20
MW-6	3/6/2000	GeoEngineers	**11**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**27**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**15**	0.24	<0.20	<0.20
	6/6/2001	Farallon	**8.6**	<0.20	<0.20	<0.20
	6/28/2002	Farallon	**6.3**	<0.20	0.29	<0.20
	Well Removed 2003					
MW-7	3/28/2000	GeoEngineers	**15**	3	<5.0	<5.0
	8/8/2000	GeoEngineers	**14**	<1.0	<5.0	<5.0
	12/21/2000	Farallon	**12**	<0.20	<0.20	<0.20
	6/6/2001	Farallon	**7.6**	<0.20	<0.20	<0.20
	6/28/2002	Farallon	3.9	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**5.3**	<0.20	<0.20	<0.20
	11/12/2003	Farallon	4.5	<0.20	<0.20	<0.20
	2/18/2004	Farallon	3.6	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.3	<0.20	<0.20	<0.20
	8/30/2004	Farallon	3.6	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.2	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.1	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.9	<0.20	<0.20	<0.20
MW-8	4/14/2000	GeoEngineers	**7.4**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**8.5**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**5.7**	0.33	0.48	<0.20
	6/6/2001	Farallon	3.9	0.23	0.36	<0.20
	6/28/2002	Farallon	4.1	0.29	0.46	<0.20
	8/13/2003	Farallon	3.4	0.26	0.46	<0.20
	11/12/2003	Farallon	0.62	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.3	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.8	0.25	0.37	<0.20
	8/27/2004	Farallon	0.43	<0.20	<0.20	<0.20
MW-9	8/13/2003	Farallon	**7.4**	0.27	0.42	<0.20
	11/12/2003	Farallon	3.7	<0.20	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	3	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.6	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.4	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.8	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

Table 2
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Reconnaissance Groundwater Samples						
FB-1-GW-12.5	8/21/2006	Farallon	2.4	<0.20	<0.20	<0.20
FB-1-GW-31.5	8/21/2006	Farallon	0.95	<0.20	<0.20	<0.20
FB-1-GW-68.5	8/21/2006	Farallon	<0.20	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

Shaded cells represent analytical results that are believed to be the result of a sampling error due to their lack of correspondence to other samples from the monitoring well.

[1] Analyzed by U.S. Environmental Protection Agency Method 8260B.

[2] Cleanup levels established for site closure in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way,* Redmond, Washington September 21, 2007 prepared by Farallon Consulting, L.L.C. for Nelson Real Estate Management LLC.

Farallon = Farallon Consulting, L.L.C.

GeoEngineers = GeoEngineers, Inc.

Table 3
Fate and Transport Modeling Input Parameters for BIOCHLOR Groundwater Model
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Model Input Parameter	Unit	Model Input Value	Data Source
Source Area Concentrations[1]			
PCE	µg/l	28	PCE concentration at well MW-4 on 12/20/2000 per Ecology instructions.
TCE	µg/l	0	Low to non-detected concentrations of daughter products at Site.
cis-1,2 DCE	µg/l	0	Low to non-detected concentrations of daughter products at Site.
Vinyl chloride	µg/l	0	Low to non-detected concentrations of daughter products at Site.
Source Type	NA	Decaying	Decaying source based on prior removal of soil source area, and substrate injection. Continuous source used for some simulations.
Source Decay Rate (K_s)	1/year	0.2 to 0.35	Based on prior source removal and calibration.
Simulation Time	years	20	Variable simulation time specified to assess long-term future conditions.
Hydraulic Gradient	foot/foot	0.0023	Calculated from groundwater elevations and contours presented on Figure 2 of the Site Closure Report Addendum dated April 26, 2017.[1]
Hydraulic Conductivity	cm/s	1.1	Average hydraulic conductivity based on data from vicinity of Well No. 4 from the Groundwater Flow Model Development Report dated March 30, 2018,[2] equivalent to 3,000 feet/day.
Biotransformation Rates (Half-Life)			
PCE	years	--	Did not include biodegradation; little degradation reported based on Site-specific concentrations.
TCE	years	--	Did not include biodegradation; little degradation reported based on Site-specific concentrations.
cis-1,2 DCE	years	--	Did not include biodegradation; little degradation reported based on Site-specific concentrations.
Vinyl chloride	years	--	Did not include biodegradation; little degradation reported based on Site-specific concentrations.
Dispersion			
Longitudinal (α_x)	feet	21.5	Xu and Eckstein method; based on plume length of 700 feet as measured from Figure 2 of the Site Closure Report Addendum.[1]
Transverse (α_y)	feet	2.15	(α_x) * 0.1
Vertical (α_z)		--	No vertical dispersion.
Plume length for estimation	feet	700	Plume length of 700 feet based on Figure 2 of the Site Closure Addendum.[1]
Source Area Dimensions			
Width	feet	50	Assumed to extend across width of former building at the source area.
Height	feet	15	Assumed to extend through upper portion of shallow aquifer; equal to screen length of monitoring well MW-4.
Effective Porosity	unitless	0.3	Assumed value for high-conductivity aquifer material.
Soil Bulk Density	kg/l	1.6	Default value in BIOCHLOR Users Manual.[3]
Fraction Organic Carbon	percent	0.0018	Default value in BIOCHLOR Users Manual.[3]
Retardation Value	unitless	2.25	Default value in BIOCHLOR Users Manual.[3]
K_{oc}			
PCE	l/kg	426	Default value in BIOCHLOR Users Manual.[3]
TCE	l/kg	130	Default value in BIOCHLOR Users Manual.[3]
cis-1,2 DCE	l/kg	125	Default value in BIOCHLOR Users Manual.[3]
Vinyl chloride	l/kg	30	Default value in BIOCHLOR Users Manual.[3]

NOTES:

Modeling performed using U.S. Environmental Protection Agency BIOCHLOR model.

[1] *Site Closure Report Addendum, Former Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated April 26, 2017, prepared by Farallon for Nelgroup Properties LLC.

[2] *Groundwater Flow Model Development Report, City of Redmond Groundwater Model, Redmond, Washington* dated March 30, 2018 prepared by GeoEngineers, Inc. for the City of Redmond.

[3] *BIOCHLOR Natural Attenuation Decision Support System, User's Manual, Version 1.0* dated January 2000, prepared by the U.S. Environmental Protection Agency.

cis-1,2 DCE = cis-1,2-dichloroethene
cm/s = centimeters per second
kg/l = kilograms per liter
K_{oc} = organic carbon-water partition coefficient
l/kg = liters per kilogram
µg/l = micrograms per liter
NA = not applicable
PCE = tetrachloroethene
TCE = trichloroethene

ATTACHMENT A
SITE CLOSURE ADDENDUM

REQUEST FOR SITE-WIDE
NO FURTHER ACTION DETERMINATION
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Bend | Baker City

California
Oakland | Sacramento | Irvine

SITE CLOSURE REPORT ADDENDUM

FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

Submitted by:
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975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 650-001

For:
Nelgroup Properties LLC
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April 26, 2017

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Principal Hydrogeologist

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
Closure Report	*Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated September 21, 2007, prepared by Farallon
CPOC	conditional point of compliance
Ecology	Washington State Department of Ecology
Ecology Memorandum	*Implementation Memorandum No. 16, Developing Conditional Points of Compliance at MTCA Sites Where Groundwater Discharges to Surface Water* dated December 2016, prepared by Ecology
Farallon	Farallon Consulting, L.L.C.
µg/l	micrograms per liter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NFA determination	No Further Action determination
PCE	tetrachloroethene
Property	Former Cleaning Center of Redmond facility at 15796 Redmond Way in Redmond, Washington
Site	source area proximate to the former dry cleaning machine and an area extending off of the Property to the northwest where PCE concentrations exceeded the applicable MTCA cleanup level for groundwater
SVE	soil vapor extraction
VCP	Voluntary Cleanup Program
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Site Closure Report Addendum to summarize supplemental information pertaining to the cleanup action and confirmational monitoring at the Former Cleaning Center of Redmond facility located at 15796 Redmond Way in Redmond, Washington (herein referred to as the Property) (Figure 1). The objectives of this Site Closure Report Addendum are to provide supporting information in the context of the recently published *Implementation Memorandum No. 16, Developing Conditional Points of Compliance at MTCA Sites Where Groundwater Discharges to Surface Water* dated December 2016, prepared by the Washington State Department of Ecology (Ecology) (2016b) (Ecology Memorandum) and provided in Appendix C; and to demonstrate to Ecology that a site-wide No Further Action (NFA) determination rather than the Property-specific NFA determination is warranted.

The cleanup action by soil vapor extraction (SVE) was previously completed in accordance with the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), resulting in a Property-specific NFA determination by Ecology on April 1, 2011 (Appendix A). Information pertaining to the cleanup action completion was provided to Ecology in detail in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated September 21, 2007, prepared by Farallon (2007) (Closure Report) (Appendix B), under Ecology Voluntary Cleanup Program (VCP) Identification No. NW1324.

1.1 PROPERTY AND SITE SUMMARY

A release of the dry cleaning solvent tetrachloroethene (PCE) was confirmed at the Property in 1999, and an SVE remediation system was installed in 2003 to address concentrations of PCE in soil and groundwater. PCE was identified as the constituent of concern for the site. A "site," as defined by MTCA, consists of all areas where the constituents of concern have come to be located at concentrations exceeding applicable cleanup levels established under MTCA. The site associated with the Former Cleaning Center of Redmond consists of the source area proximate to the former dry cleaning facility and an area extending off the Property to the northwest, where PCE concentrations exceeded the applicable MTCA cleanup level for groundwater (herein referred to as the Site) (Figure 2). Performance and confirmational groundwater monitoring data collected at the Site between 2003 and 2007 demonstrated that the SVE remediation system was effective in cleaning up PCE in soil and groundwater, and the prior release of PCE at the Site no longer represented a threat to human health or the environment.

Ecology (2011) reviewed the information provided in the Closure Report and issued a Property-specific NFA determination for an area that did not include the portion of the Site off the Property to the northwest (Appendix A). This area was affected by concentrations of PCE exceeding the MTCA Method A cleanup level in groundwater prior to being remediated by the SVE remediation system. Farallon understands that Ecology (2016a) limited the NFA determination to the Property,

rather than the entire Site, due to the lack of a delineation well northwest of former monitoring well MW-8, proximate to the Sammamish River (Figure 2).

The existing Property-specific NFA determination (Ecology 2011) (Appendix A) references the existence of a second MTCA site affecting the southeastern portion of the Property, referenced as Site 2 in the Property-specific NFA determination. The release at Site 2 was caused by a separate and distinct release at the up-gradient Redmond Shopping Square property owned by the City of Redmond (VCP Identification No. NW2415) (Figure 3) that formerly affected the southeastern portion of the Property. The groundwater plume associated with Site 2 was not comingled with the former groundwater plume from the Cleaning Center of Redmond site (VCP Identification No. NW1324), referenced as Site 1 in the Property-specific NFA determination. A cleanup action by excavation in conjunction with redevelopment at Site 2 resulted in Ecology issuing an opinion letter on June 20, 2012 confirming that the cleanup at the City of Redmond property met the requirements of MTCA and no further action was necessary throughout that site (Appendix A).

Based on this information and recommendation by Mr. Michael Kuntz, former Ecology Manager for the Cleaning Center of Redmond site, the owners of the Property enrolled the Property into the VCP in January 2013 to resolve the outstanding issue regarding the portion of the Site 2 plume that formerly affected the southern portion of the Property (Figure 3). A new VCP application was submitted under the site name Nelgroup Properties, LLC and assigned VCP Identification No. NW2693. Confirmational groundwater monitoring conducted between 2010 and 2014 at the Nelgroup Properties, LLC site confirmed that the groundwater plume emanating from the source at Site 2 had been cleaned up and no longer affected the Nelgroup Properties, LLC site. Ecology issued an opinion letter on August 14, 2014 for the Nelgroup Properties, LLC site VCP confirming that the cleanup met the requirements of MTCA and no further action was necessary throughout that site (Appendix A).

Site 2 and the Nelgroup Properties, LLC site will not be discussed further in this Site Closure Report Addendum, because these sites:

- No longer affect the Property;
- No longer represent a threat to human health or the environment; and
- Are entirely separate from the Site and do not comingle with the Site in any way.

1.2 REPORT ORGANIZATION

This Site Closure Report Addendum summarizes background information and provides context for a request for a Site-wide NFA determination. This report is organized into the following sections:

- **Section 1, Introduction**, presents an overview and the objective of the Site Closure Report Addendum.

- **Section 2, Background**, provides a description of the Site features; Site geology and hydrogeology; a summary of previous investigations and the cleanup action; and the regulatory status of the Site.
- **Section 3, Technical Components of Cleanup Action**, presents a summary of technical elements associated with the cleanup action completed.
- **Section 4, Conclusions and Request for NFA Determination**, presents Farallon's conclusions and a request for a Site-wide NFA determination.
- **Section 5, References**, lists the documents cited in this Site Closure Report Addendum.
- **Section 7, Limitations,** presents Farallon's standard limitations.

2.0 BACKGROUND

The following is a discussion of the background for the Site, including a description of the Property and the Site, the geology and hydrogeology of the Site, a summary of previous investigations and the completed cleanup action, and the regulatory status of the Site.

2.1 PROPERTY AND SITE DESCRIPTION

The Property is located at 15796 Redmond Way in Redmond, Washington and includes three single-story, commercial buildings of masonry construction (Figure 2). According to King County Tax Assessor records, the northern commercial building was constructed in various stages from 1966 through the early 2009 (King County Department of Assessments 2017). Several remodels and additions have occurred since the early 1980s, the most recent of which is a significant expansion near the eastern end of the northern commercial building in 2009. Asphalt-paved parking areas with landscaping strips are north and south of the northern commercial building. The southeastern commercial building is approximately 13,203 square feet in area and was constructed in 2009. The southeastern commercial building is occupied by a bank and restaurants. The south-central commercial building is 1,496 square feet in area and was constructed in 2005. The south-central commercial building is occupied by a coffee shop. The Property is bordered to the west by 158th Avenue South, to the east by 160th Avenue Northeast, and to the south by Redmond Way Northeast. The north-adjacent property is an asphalt-paved parking lot.

The Former Cleaning Center of Redmond in the northern commercial building operated as a dry cleaning facility that used PCE in the dry cleaning process from 1990 until October 29, 2002. The dry cleaning machine that used PCE was replaced with the cleaning machine that uses an environmentally friendly dry cleaning chemical around that time. The current dry cleaning facility operates as a "green" dry cleaning facility or as a dry cleaning drop-off facility.

According to the U.S. Geological Survey (2014) topographic map of Kirkland, Washington dated 2014, the Site is at an elevation of approximately 40 feet above mean sea level and is relatively flat. Regional topography in the vicinity slopes down to the west. The Sammamish River is approximately 600 feet west of the Property. The Site extends northwest toward the Sammamish River from the source area at the Former Cleaning Center of Redmond facility on the Property (Figure 2).

2.2 GEOLOGY AND HYDROGEOLOGY

The Puget Sound region is underlain by Quaternary sediments deposited during glacial episodes (Galster and Laprade 1991). Deposition occurred during a number of glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial

lakes during the glacial retreats. With the exception of the most recent recessional deposits, the outwash sediments have been over-consolidated by the overriding ice sheets.

Shallow soil encountered during Farallon's subsurface investigation activities in the vicinity of the Site consisted primarily of sand and gravel, with the exception of soil encountered northwest of the northern commercial building. The shallow soil at this location included a layer of silt and peat from approximately 2.5 to 8 feet below ground surface (bgs). Underlying the silt and peat was sand and gravel consistent with the other boring locations.

The shallow aquifer is unconfined and extends to a minimum depth of 70 feet bgs at the Site, based on Farallon's deep boring assessment conducted in August 2006. Groundwater levels measured at the Site on May 15, 2007 ranged from 9.62 to 11.99 feet below the top of the well casings. During the 13 monitoring events conducted by Farallon since 2000, the estimated groundwater flow direction consistently has been to the northwest toward the Sammamish River, similar to the estimated groundwater flow direction depicted on Figures 2 and 3. Groundwater elevations calculated from the monitoring well gauging data indicate that the potentiometric surface of the unconfined aquifer is at a similar elevation as the surface of the Sammamish River, suggesting that they are hydrologically connected (Figure 4).

2.3 PREVIOUS INVESTIGATIONS AND CLEANUP ACTION

Alisto Engineering Group (1999) performed fieldwork at the Site in 1999 to assess whether a release of PCE from operations at the Former Cleaning Center of Redmond facility may have occurred. The assessment involved drilling four borings in the vicinity of the Former Cleaning Center of Redmond dry cleaning machine to collect soil samples for laboratory analysis. A reconnaissance groundwater sample also was collected from one of the borings. The results of the assessment indicated that concentrations of PCE in soil and groundwater and concentrations of TCE in groundwater at the Site exceeded the MTCA Method A cleanup levels for soil and groundwater. The presence of PCE and TCE was attributed to releases from dry cleaning operations at the Former Cleaning Center of Redmond facility.

GeoEngineers, Inc. (2001) conducted a Phase II Environmental Site Assessment at the Site in 2000 to further delineate the vertical and lateral extent of PCE exceeding the MTCA Method A cleanup levels in soil and groundwater. The Phase II Environmental Site Assessment involved drilling 11 borings to collect soil and reconnaissance groundwater samples, and installing monitoring wells MW-1 through MW-8. PCE was detected at concentrations exceeding 0.5 milligrams per kilogram in soil samples collected from two borings south and east of the Former Cleaning Center of Redmond dry cleaning machine. The data provided in the Phase II Environmental Site Assessment (GeoEngineers, Inc. 2001) bounded the distribution of PCE in groundwater to the north-northeast, south, and west.

Farallon began monitoring groundwater conditions at the Site in December 2000 to document the trend of PCE concentrations over time, and to assess whether concentrations of PCE would decrease to less than MTCA Method A cleanup levels through natural attenuation within a

reasonable restoration time frame (Tables 1 and 2). In 2003, monitoring wells MW-4 and MW-6 were decommissioned due to expansion of the northern commercial building, and monitoring well MW-9 was installed proximate to the confirmed PCE source to replace monitoring well MW-4. Farallon conducted a total of 13 groundwater monitoring events between December 2000 and May 2007.

Farallon installed an SVE well through the concrete slab inside the Former Cleaning Center of Redmond in August 2003. The SVE well was installed to facilitate operation of an SVE system to remove concentrations of PCE in soil at the source area proximate to the former location of the dry cleaning machine. It was anticipated that operation of the SVE system would eliminate or sufficiently decrease the flux of PCE from the source in the vadose (unsaturated) zone to groundwater, making active remediation of groundwater contamination unnecessary. Concentrations of PCE in groundwater declined during the 3-year operation of the SVE system, which commenced in August 2003 and ended in August 2006.

Farallon (2006a) conducted an assessment of deep groundwater quality in August 2006 that was performed in response to a letter from Ecology (2006) that stated "the vertical extent of contamination, in particular tetrachloroethene, in groundwater above the cleanup level(s) has not been determined," among other opinions. The assessment of deep groundwater quality included collection of reconnaissance groundwater samples from hollow-stem auger boring FB-1, which was advanced to a depth of 70 feet bgs down-gradient of monitoring well MW-7 (Figures 2 and 4). Reconnaissance groundwater samples were collected from boring FB-1 at 12.5, 31.5, and 68.5 feet bgs during drilling. The analytical results for PCE in all three of the reconnaissance groundwater samples collected were less than the MTCA Method A cleanup level of 5 micrograms per liter (µg/l) for PCE, indicating that concentrations of PCE in groundwater attenuated with depth (Figure 4).

In accordance with the agreement with Ecology, Farallon (2006b) advanced additional borings proximate to the former dry cleaning machine, collected indoor air samples from the nearest tenant space down-gradient of the Former Cleaning Center of Redmond facility, and conducted confirmation groundwater monitoring. Confirmation soil sampling was conducted by Farallon in June 2007. According to laboratory analytical results, PCE was present at concentrations less than the MTCA cleanup level in soil at the Site.

Four quarters of confirmation groundwater monitoring were completed at monitoring wells MW-1 through MW-3, MW-7, and MW-9 in August and November 2006, and in February and May 2007. Confirmation groundwater monitoring at monitoring well MW-8, proximate to the Sammamish River, had previously been completed from June 2001 through August 2004. The estimated direction of groundwater flow was consistently to the northwest during confirmation groundwater monitoring events, consistent with prior monitoring events at the Site. PCE was not detected at concentrations exceeding the MTCA Method A cleanup level of 5 µg/l in confirmation groundwater samples collected from the Site. Upon receipt of the NFA determination, the monitoring wells were decommissioned between March 2012 and September 2014.

Vapor intrusion assessments were conducted in June 2007 and June 2010 as part of the remedial investigation and regulatory closure activities, respectively, at the Property and again in March 2014 as a condition of the Property-specific NFA determination. Results of these assessments demonstrated that residual concentrations of PCE in the subsurface are protective of commercial workers and meet MTCA cleanup standards for protection of human health and the environment.

2.4 REGULATORY STATUS

As discussed, Ecology issued a Property-specific NFA determination for a portion of the Site on April 1, 2011. The Property-specific NFA determination did not include a portion of the Site northwest of the Property (Appendix A). Farallon understands that Ecology limited the NFA determination to the Property because there was no down-gradient point of compliance delineating the groundwater plume northwest of former monitoring well MW-8, proximate to the Sammamish River. Monitoring well MW-8 was installed along the centerline of the groundwater plume at the most down-gradient location accessible to install a monitoring well. This location is immediately up-gradient of the Sammamish River, approximately 70 feet from the river's edge and approximately 50 feet from the top of the river bank (Figures 2 and 4). The asphalt-paved Sammamish River pedestrian trail, approximately 20 feet west of former monitoring well MW-8, lies between the top of the river bank and former monitoring well MW-8. King County owns the land, including the Sammamish River pedestrian trail and the location of former monitoring well MW-8, which was installed pursuant to an access agreement with King County. It was not practicable to install an additional monitoring well down-gradient of former monitoring well MW-8 for the following reasons:

- Drilling on the river bank is not possible due to a steep slope and the presence of rip-rap boulders, and because it is an environmentally sensitive area;
- Drilling on top of or proximate to the Sammamish River Trail would have necessitated closure of the trail to pedestrian traffic and was not allowed by the property owner, King County; and
- The only location closer to the Sammamish River than former monitoring well MW-8 that could be drilled along the flow path was only 10 to 15 feet further northwest of the former location of monitoring well MW-8. This location, proximate to former monitoring well MW-8, would not provide any meaningful data to define the northwesterly extent of the former PCE plume in groundwater.

Farallon (2006a) provided vertical delineation of the plume depth using reconnaissance groundwater samples from deep boring FB-1, advanced in August 2006. This vertical delineation established that concentrations of PCE exceeding the MTCA Method A cleanup level were limited to the uppermost portion of the shallow water-bearing zone. Based on groundwater level elevations and estimated flow direction, the shallow water-bearing zone discharges to the Sammamish River (Figures 2 and 4). Figures depicting the plume footprint prior to implementation of the cleanup action showed the plume extending slightly beyond former monitoring well MW-8 to the vicinity of the eastern bank of the Sammamish River. These figures

accurately represent the down-gradient extent of the plume as it is not technically possible for the plume to migrate past the discharge point (the eastern bank and base of the Sammamish River) (Figure 4). Installation of a monitoring well down-gradient of former monitoring well MW-8 prior to implementation of the cleanup action was not practicable or technically necessary.

3.0 TECHNICAL COMPONENTS OF CLEANUP ACTION

Farallon previously established the MTCA Method A cleanup levels for unrestricted land use as the cleanup levels for PCE at the Cleaning Center of Redmond Site. Due to the proximity of the northwestern portion of the Site to the Sammamish River, Farallon recommends the use of Washington State Surface Water Quality Criteria (Table 240 of WAC 173-201A-240, updated August 2016) as the basis for the groundwater cleanup level at the Site to protect the designated/beneficial uses of the surface water. No freshwater aquatic life water quality criteria have been established for PCE, so human health criteria for the consumption of water and aquatic organisms will be used. The water quality criterion for PCE in Table 240 of WAC 173-201A-240 is more stringent than the MTCA Method A cleanup level. The selected groundwater cleanup level for PCE is 4.9 µg/l (Table 240, WAC 173-201A-240).

The groundwater plume at the Site was delineated to the extent practicable per the discussion in Section 2.4, Regulatory Status. COC concentrations in groundwater across the former monitoring well network at the Site decreased to less than the proposed cleanup levels established in this Site Closure Report Addendum after initiation of the cleanup action, which took place from August 2003 through August 2006 (Table 2). Linear regression trends for PCE concentrations in groundwater versus time for former source area monitoring well MW-9 and former down-gradient monitoring wells MW-7 and MW-8 between the source area and the Sammamish River are provided in Appendix D. The linear regression trend lines for former monitoring wells MW-7 through MW-9 each indicate a decreasing trend in PCE concentrations in groundwater. In addition, PCE concentrations detected in groundwater samples collected from the former monitoring well network during the groundwater compliance monitoring period in 2006 and 2007 demonstrated that PCE concentrations remained stable and less than applicable cleanup levels after the SVE remediation system ceased operation.

To address Ecology's concerns regarding delineation between former monitoring well MW-8 and the Sammamish River, Farallon requests approval of a conditional point of compliance (CPOC) at the location of former monitoring well MW-8 in accordance with WAC 173-340-720(8)(d)(ii) and the Ecology Memorandum, to facilitate issuance of a Site-wide NFA determination. CPOC example 5b on page 14 of the Ecology Memorandum for a source property near, but not abutting, a surface water closely resembles Site conditions. The CPOC at former monitoring well MW-8 is appropriate based on the flow chart for setting points of compliance provided as Figure 6 in the Ecology Memorandum. A summary of Farallon's evaluation of this CPOC using the flow chart in the Ecology Memorandum is included below:

- *Practicable to meet cleanup levels throughout the site within reasonable restoration time frame?* Unknown; Site characterization was not considered complete by Ecology due to the lack of a delineation well northwest of former monitoring well MW-8, proximate to the Sammamish River. The Site area at and up-gradient of monitoring well MW-8 did meet cleanup levels within a reasonable restoration time frame. Concentrations of PCE in groundwater down-gradient of monitoring well MW-8 were not characterized for the reasons identified in Section 4.0, Conclusions and Request for NFA Determination.

- *Practicable to meet cleanup levels within property boundary within reasonable restoration time frame?* Unknown at the time when PCE contamination in groundwater extended off the Property to former monitoring well MW-8. The cleanup action at the Site ultimately reduced the concentrations of PCE in groundwater to concentrations less than applicable MTCA cleanup levels.
- *Is there area-wide groundwater contamination?* Not at concentrations exceeding MTCA Method A cleanup levels. There is an area-wide plume of PCE in groundwater at concentrations that are less than the MTCA Method A cleanup level and the surface water criterion. This area-wide plume emanates from sources up-gradient of the Site.
- *Is the contaminated groundwater discharging, or likely to discharge to surface water?* Undetermined at the time when the PCE plume in groundwater existed. It is possible that PCE-contaminated groundwater could have discharged to surface water prior to the cleanup action conducted at the Site. The cleanup action reduced PCE concentrations in groundwater to less than applicable cleanup levels established in this Site Closure Report Addendum.
- *Does the source property abut surface water?* No.
- *Is the source property near surface water?* Yes, the source Property is near, but does not abut, surface water.
- *Does the Site meet the conditions in WAC 173-340§720(8)(d)(ii)?* Yes, the Site meets the conditions in WAC 173-340§720(8)(d)(ii). The use of surface water quality criteria as groundwater cleanup levels, where available, protects the designated/beneficial use of the surface water.
- *Does groundwater meet cleanup levels before discharging to surface water?* It is unclear if PCE concentrations in groundwater discharging to the Sammamish River were less than applicable cleanup levels when the PCE plume in groundwater existed prior to initiation of the cleanup action. PCE concentrations could not be assessed between former monitoring well MW-8 and the Sammamish River due to access limitations. After the cleanup action was initiated, PCE concentrations in groundwater declined to less than the applicable MTCA cleanup levels prior to discharge into the surface water; therefore, PCE associated with the Site currently does not discharge to the Sammamish River.

Farallon requests approval of a CPOC at former monitoring well MW-8 based on the above review of the applicability of implementation of the CPOC. Concentrations of PCE in groundwater at former monitoring well MW-8 were less than the cleanup level established in this Site Closure Report Addendum for 3 years (June 2001 through August 2004) prior to discontinuation of sampling at that monitoring well. In addition, concentrations of PCE in groundwater remained less than applicable cleanup levels for 4 years (November 2003 through May 2007) at down-gradient monitoring well MW-7 closer to the former source, which includes a monitoring period that extends 3 years beyond the discontinuation of sampling at former monitoring well MW-8. In addition, concentrations of PCE in groundwater remained less than applicable cleanup levels at all

other monitoring wells associated with the Site for a minimum of four quarters. These data support Farallon's assertion that the cleanup action was successful in remediating the PCE plume in groundwater across the entire Site and that cleanup levels were achieved at the CPOC.

4.0 CONCLUSIONS AND REQUEST FOR NFA DETERMINATION

The cleanup action successfully remediated each medium of concern across the Site. Ecology issued a Property-specific NFA determination in April 2011 that did not include the portion of the Site outside the Property boundaries to the northwest. It is Farallon's understanding that a Site-wide NFA determination was not issued due to the lack of a down-gradient delineation well between former monitoring well MW-8 and the Sammamish River. It was not practicable or necessary to install an additional monitoring well between former monitoring well MW-8 and the Sammamish River for the following reasons:

- Drilling on the river bank is not possible due to a steep slope and the presence of rip-rap boulders, and because it is an environmentally sensitive area.
- Drilling on top of or proximate to the Sammamish River Trail would have necessitated closure of the trail to pedestrian traffic and was not allowed by the property owner, King County.
- The only location closer to the river than former monitoring well MW-8 that could be drilled along the flow path was only 10 to 15 feet further northwest of the location of former monitoring well MW-8. This location, proximate to former monitoring well MW-8, would not provide any meaningful data to define the northwesterly extent of the former plume.
- The shallow water-bearing zone, where the PCE plume was located, discharges to the Sammamish River and it is not technically possible for the plume to migrate past the discharge point (the eastern bank and base of the Sammamish River) (Figure 4).

Farallon proposes the use of a CPOC at the location of former monitoring well MW-8 to address Ecology's concern regarding the delineation of the PCE plume in groundwater between former monitoring well MW-8 and the Sammamish River. Implementation of a CPOC is appropriate based on review of the Ecology Memorandum that includes a flow chart for setting points of compliance.

Concentrations of PCE in groundwater at CPOC monitoring well MW-8 were less than the cleanup level established in this Site Closure Report Addendum (4.9 µg/l) for 3 years (June 2001 through August 2004) prior to discontinuation of sampling at that monitoring well. In addition, concentrations of PCE in groundwater remained less than applicable cleanup levels at all other monitoring wells associated with the Site for a minimum of four quarters. These data support Farallon's assertion that the cleanup action was successful in remediating the PCE plume in groundwater across the entire Site and that applicable groundwater cleanup levels were met at the selected CPOC. Based on the information provided in the Closure Report and this Site Closure Report Addendum, Farallon respectfully requests a Site-wide NFA determination and that the Site be removed from Ecology's Hazardous Waste Sites List.

5.0 REFERENCES

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6.0 LIMITATIONS

6.1 GENERAL LIMITATIONS

The conclusions contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location. The conclusions contained herein are subject to the following inherent limitations:

- **Accuracy of Information**. Farallon obtained, reviewed, and evaluated certain information used in this report/assessment from sources that were believed to be reliable. Farallon's conclusions, opinions, and recommendations are based in part on such information. Farallon's services did not include verification of its accuracy or authenticity. Should the information upon which Farallon relied prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance and/or Characterization**. Farallon performed a reconnaissance and/or characterization of the Site that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions. Contamination may exist in other areas of the Site that were not investigated or were inaccessible. Site activities beyond Farallon's control could change at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee that the Site is free of hazardous or potentially hazardous substances or conditions, or that latent or undiscovered conditions will not become evident in the future. Farallon's observations, findings, and opinions can be considered valid only as of the date of the report hereof.

This report/assessment has been prepared in accordance with the contract for services between Farallon and Nelgroup Properties LLC, and currently accepted industry standards. No other warranties, representations, or certifications are made.

6.2 LIMITATION ON RELIANCE BY THIRD PARTIES

Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of Nelgroup Properties LLC to address the unique needs of Nelgroup Properties LLC at the Site at a specific point in time. Services have been provided to Nelgroup Properties LLC in accordance with a contract for services between Farallon and Nelgroup Properties LLC, and generally accepted environmental practices for the subject matter at the time this report was prepared.

No other party may rely on this report unless Farallon agrees in advance to such reliance in writing. Any use, interpretation, or reliance upon this report/assessment by anyone other than Nelgroup Properties LLC is at the sole risk of that party, and Farallon will have no liability for such unauthorized use, interpretation, or reliance.

Do not rely on this report/assessment if:

- It was not prepared for you;
- It was not prepared for your project;
- It was not prepared for your specific Site; or
- It was not prepared under an approved scope of work for which you are under contract with Farallon.

FIGURES

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

REFERENCE: 7.5 MINUTE USGS QUADRANGLE KIRKLAND, WASHINGTON. DATED 2014

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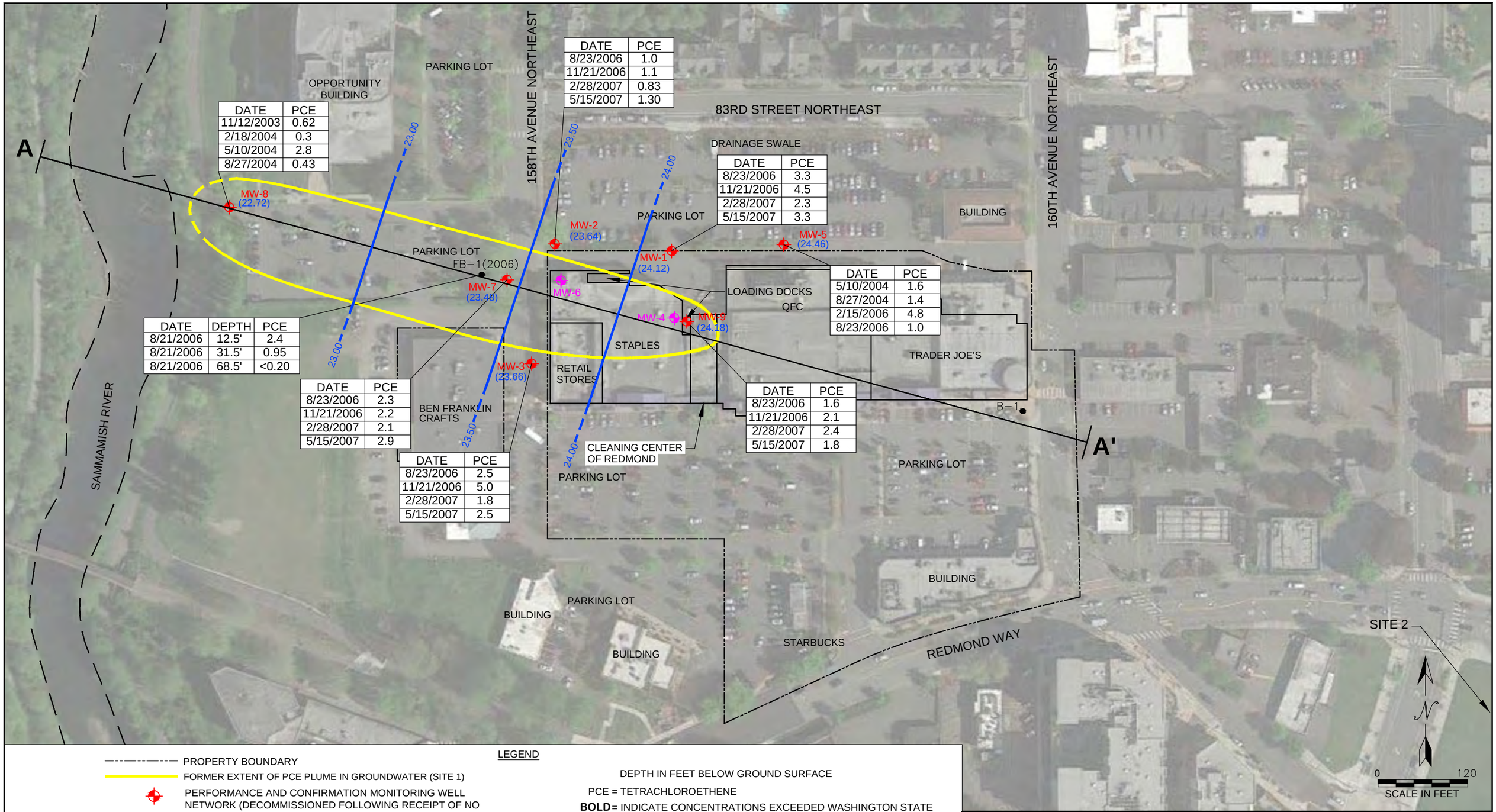
FIGURE 1

SITE VICINITY MAP
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: DEW | Checked By: JM | Date: 3/8/2017 | Disk Reference: 650-001_00



DATE	PCE
11/12/2003	0.62
2/18/2004	0.3
5/10/2004	2.8
8/27/2004	0.43

DATE	PCE
8/23/2006	1.0
11/21/2006	1.1
2/28/2007	0.83
5/15/2007	1.30

DATE	PCE
8/23/2006	3.3
11/21/2006	4.5
2/28/2007	2.3
5/15/2007	3.3

DATE	PCE
5/10/2004	1.6
8/27/2004	1.4
2/15/2006	4.8
8/23/2006	1.0

DATE	DEPTH	PCE
8/21/2006	12.5'	2.4
8/21/2006	31.5'	0.95
8/21/2006	68.5'	<0.20

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

DATE	PCE
8/23/2006	2.3
11/21/2006	2.2
2/28/2007	2.1
5/15/2007	2.9

DATE	PCE
8/23/2006	2.5
11/21/2006	5.0
2/28/2007	1.8
5/15/2007	2.5

LEGEND

- PROPERTY BOUNDARY
- FORMER EXTENT OF PCE PLUME IN GROUNDWATER (SITE 1)
- PERFORMANCE AND CONFIRMATION MONITORING WELL NETWORK (DECOMMISSIONED FOLLOWING RECEIPT OF NO FURTHER ACTION DETERMINATION)
- MONITORING WELL (DECOMMISSIONED PRIOR TO CLEANUP DUE TO CONSTRUCTION OF NEW BUILDING)
- FB–1(2006) ● BORING LOCATION
- (23.66) GROUNDWATER ELEVATION RELATIVE TO MEAN SEA LEVEL (MAY 2007)
- 24.00 GROUNDWATER ELEVATION CONTOUR (MAY 2007)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

DEPTH IN FEET BELOW GROUND SURFACE

PCE = TETRACHLOROETHENE

BOLD = INDICATE CONCENTRATIONS EXCEEDED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATIONS (MTCA) METHOD A CLEANUP LEVEL

< = INDICATES ANALYTE NOT DETECTED AT CONCENTRATIONS AT OR EXCEEDING THE LABORATORY PRACTICAL QUANTITATION LIMIT

DATE	PCE
8/23/2006	1.6

= DATE SAMPLED AND PCE CONCENTRATION IN GROUNDWATER IN MICROGRAMS PER LITER (ug/L)

ALL LOCATIONS ARE APPROXIMATE

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FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND PCE CONCENTRATIONS IN GROUNDWATER
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: JM | Checked By: MB | Date: 3/8/2017 | Disk Reference: 650-001_00.dwg

MW-8
MW-2
MW-5
MW-1
MW-7
MW-6
MW-4
MW-9
MW-3
CLEANING CENTER OF REDMOND (VCP NW 1324)
SOURCE #1
REDMOND SHOPPING SQUARE PROPERTY (CITY OF REDMOND) (VCP NW 2415)
NELGROUP PROPERTIES LLC (VCP NW 2693)
REDMOND WAY
CLEVELAND STREET
SOURCE #2

LEGEND

PERFORMANCE AND CONFIRMATION MONITORING WELL NETWORK (DECOMMISSIONED FOLLOWING RECEIPT OF NO FURTHER ACTION DETERMINATION)

MONITORING WELL (DECOMMISSIONED PRIOR TO CLEANUP DUE TO CONSTRUCTION OF NEW BUILDING)

FORMER EXTENT OF TETRACHLORETHENE PLUMES IN GROUNDWATER (DASHED WHERE INFERRED)

ALL LOCATIONS ARE APPROXIMATE

0 120
SCALE IN FEET

N

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FIGURE 3

FORMER EXTENT OF SITES
REDMOND, WASHINGTON

FARALLON PN: 650-007

Drawn By: DEW Checked By: CS Date: 4/6/2016 Disk Reference: 650-007.dwg

A (NORTHWEST) — A' (SOUTHEAST)

ELEVATION (FEET MEAN SEA LEVEL)

WESTERN PROPERTY BOUNDARY

EASTERN PROPERTY BOUNDARY

158TH AVE NE

160TH AVE NE

BUILDING

BREAK 260'

BREAK 260'

TRAIL

SAMMAMISH RIVER CHANNEL

MW-8

FB-1 (TP2'SW)

MW-7 (TP5'SW)

MW-2 (TP64'SW)

MW-6 (TP22'SW)

MW-4 (TP10'SW)

MW-9 (TP10'SW)

B-1 (TP10'SW)

APPROXIMATE GROUND SURFACE

PEAT W/ SILT

SILT

SILTY SAND

SAND AND GRAVEL

SILTY SAND

SAND AND GRAVEL

[2.4] (8/21/06)

[0.95] (8/21/06)

[<0.20] (8/21/06)

DATE	PCE
11/12/2003	0.62
2/18/2004	0.3
5/10/2004	2.8
8/27/2004	0.43

DATE	PCE
8/23/2006	2.3
11/21/2006	2.2
2/28/2007	2.1
5/15/2007	2.9

DATE	PCE
8/23/2006	1.0
11/21/2006	1.1
2/28/2007	0.83
5/15/2007	1.30

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

LEGEND

MONITORING WELL

FB-1 / TP2'SW — BORING LOCATION TRANSPOSED (TP) IN FEET, NORTH (N), SOUTH (S), EAST (E), OR WEST (W) TO CROSS-SECTION LINE.

BLANK CASING

STRATIGRAPHIC CONTACT, DASHED WHERE APPROXIMATE

STATIC GROUNDWATER ELEVATION

GROUNDWATER ELEVATION MEASURED DURING 5/15/07 GROUNDWATER MONITORING EVENT

WELL SCREEN INTERVAL

BORING W/ TEMPORARY SCREEN

[<0.20] (8/21/06) — PCE RESULT IN RECONNAISSANCE GROUNDWATER SAMPLE IN µg/L AND SAMPLE DATE

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

TETRACHLOROETHENE (PCE) RESULT IN MONITORING WELL SAMPLE IN MICROGRAMS PER LITER (µg/L) AND SAMPLE DATE

GROUNDWATER FLOW DIRECTION

NO PLUME DEPICTED ON CROSS-SECTION BECAUSE NO PLUME EXISTS

MW-4 AND MW-6 DECOMMISSIONED 8/13/2003

ALL LOCATIONS ARE APPROXIMATE

10' / 0' / 0' / 60'

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FIGURE 4

CROSS SECTION A-A'
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: MB | Checked By: JM | Date: 4/6/2017 | Disk Reference: X-SEC.dwg

TABLES

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

Table 1
Summary of Groundwater Elevations
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date	Top of Well Casing Elevation (feet)	Depth to Water (feet) [1]	Groundwater Elevation (feet)
MW-1	12/20/2000	34.95 [2]	11.1	23.85
	6/6/2001		10.47	24.48
	6/28/2002		11.51	23.44
	8/13/2003		12.33	22.62
	11/12/2003		10.58	24.37
	2/18/2004		8.71	26.24
	5/10/2004		11.43	23.52
	8/27/2004		11.26	23.69
	2/15/2006		8.37	26.58
	8/23/2006		12.73	22.22
	11/21/2006		6.71	28.24
	2/28/2007		9.81	25.14
	5/15/2007		10.83	24.12
MW-2	12/20/2000	35.63 [2]	12.07	23.56
	6/6/2001		11.43	24.2
	6/28/2002		12.58	23.05
	8/13/2003		13.27	22.36
	11/12/2003		11.65	23.98
	2/18/2004		9.95	25.68
	5/10/2004		12.47	23.16
	8/27/2004		12.11	23.52
	2/15/2006		9.60	26.03
	8/23/2006		12.72	22.91
	11/21/2006		7.49	28.14
	2/28/2007		10.91	24.72
	5/15/2007		11.99	23.64
MW-3	12/20/2000	33.28 [2]	9.7	23.58
	6/6/2001		9.08	24.2
	6/28/2002		10.22	23.06
	8/13/2003		10.88	22.4
	11/12/2003		9.31	23.97
	2/18/2004		7.59	25.69
	5/10/2004		10.1	23.18
	8/27/2004		9.73	23.55
	2/15/2006		7.25	26.03
	8/23/2006		10.37	22.91
	11/21/2006		5.11	28.17
	2/28/2007		8.51	24.77
	5/15/2007		9.62	23.66

Table 1
Summary of Groundwater Elevations
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date	Top of Well Casing Elevation (feet)	Depth to Water (feet) [1]	Groundwater Elevation (feet)
MW-4	12/20/2000	98.82 [3]	9.71	89.11
	6/6/2001		9.18	89.64
	6/28/2002		10.26	88.56
	8/13/2003		Well decommissioned.	
MW-5	12/20/2000	36.19 [2]	11.97	24.22
	6/6/2001		11.47	24.72
	6/28/2002		12.52	23.67
	8/13/2003		13.41	22.78
	11/12/2003		11.47	24.72
	2/18/2004		9.46	26.73
	5/10/2004		12.41	23.78
	8/27/2004		12.41	23.78
	2/15/2006		9.18	27.01
	8/23/2006		12.73	23.46
	11/21/2006		7.92	28.27
	2/28/2007		10.75	25.44
	5/15/2007		11.73	24.46
MW-6	12/20/2000	98.52 [3]	9.81	88.71
	6/6/2001		9.19	89.33
	6/28/2002		10.33	88.19
	8/13/2003		Well decommissioned.	
MW-7	12/20/2000	33.16 [2]	9.7	23.46
	6/6/2001		9.02	24.14
	6/28/2002		10.21	22.95
	8/13/2003		10.85	22.31
	11/12/2003		9.32	23.84
	2/18/2004		7.68	25.48
	5/10/2004		10.07	23.09
	8/30/2004		9.72	23.44
	2/15/2006		7.31	25.85
	8/23/2006		10.35	22.81
	11/21/2006		5.02	28.14
	2/28/2007		8.54	24.62
	5/15/2007		9.68	23.48

Table 1
Summary of Groundwater Elevations
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date	Top of Well Casing Elevation (feet)	Depth to Water (feet) [1]	Groundwater Elevation (feet)
MW-8	12/20/2000	33.98 [2]	11.12	22.86
	6/6/2001		10.34	23.64
	6/28/2002		11.61	22.37
	8/13/2003		12.1	21.88
	11/12/2003		10.82	23.16
	2/18/2004		9.42	24.56
	5/10/2004		11.51	22.47
	8/27/2004		10.79	23.19
	2/15/2006		9.02	24.96
	8/23/2006		11.69	22.29
	11/21/2006		5.98	28.00
	2/28/2007		10.06	23.92
	5/15/2007		11.26	22.72
MW-9 [4]	8/13/2003	34.00 [2]	11.38	22.62
	11/12/2003		9.6	24.4
	2/18/2004		7.72	26.28
	5/10/2004		10.46	23.54
	8/27/2004		10.28	23.72
	2/15/2006		7.36	26.64
	8/23/2006		10.72	23.28
	11/21/2006		5.72	28.28
	2/28/2007		8.79	25.21
	5/15/2007		9.82	24.18

NOTES:

— = not applicable

[1] In feet below top of casing.

[2] In feet above mean sea level.

[3] Relative to an on-site datum of 100 feet.

[4] Well installed on November 19, 2002.

Table 2
Summary of Groundwater Sample Analytical Results - PCE
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter) [1]
			Tetrachloroethene
MW-1	3/6/2000	GeoEngineers	1.6
	8/8/2000	GeoEngineers	**5.4**
	12/20/2000	Farallon	2.7
	6/6/2001	Farallon	1.3
	6/28/2002	Farallon	2.1
	8/13/2003	Farallon	1.2
	11/12/2003	Farallon	3.3
	2/18/2004	Farallon	2.9
	5/10/2004	Farallon	4.0
	8/27/2004	Farallon	**8.5**
	2/15/2006	Farallon	2.4
	8/23/2006	Farallon	3.3
	11/21/2006	Farallon	4.5
	2/28/2007	Farallon	2.3
	5/15/2007	Farallon	3.3
MW-2	3/6/2000	GeoEngineers	<1.0
	8/8/2000	GeoEngineers	2.9
	12/20/2000	Farallon	2.9
	6/6/2001	Farallon	1.9
	6/28/2002	Farallon	0.81
	8/13/2003	Farallon	0.99
	11/12/2003	Farallon	0.66
	2/18/2004	Farallon	0.88
	5/10/2004	Farallon	0.54
	8/27/2004	Farallon	0.56
	2/15/2006	Farallon	1.1
	8/23/2006	Farallon	1.0
	11/21/2006	Farallon	1.1
	2/28/2007	Farallon	0.83
	5/15/2007	Farallon	1.30
MW-3	3/6/2000	GeoEngineers	<1.0
	8/8/2000	GeoEngineers	<1.0
	12/20/2000	Farallon	0.34
	6/6/2001	Farallon	2.0
	6/28/2002	Farallon	2.0
	8/13/2003	Farallon	**7.3**
	11/12/2003	Farallon	4.5
	2/18/2004	Farallon	2.8
	5/10/2004	Farallon	3.5
	8/27/2004	Farallon	**6.7**
	2/15/2006	Farallon	2.1
	8/23/2006	Farallon	2.5
	11/21/2006	Farallon	5.0
	2/28/2007	Farallon	1.8
	5/15/2007	Farallon	2.5
MTCA Cleanup Level for Groundwater			**4.9** [2]

Table 2
Summary of Groundwater Sample Analytical Results - PCE
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter) [1]
			Tetrachloroethene
MW-4	3/6/2000	GeoEngineers	**50**
	8/8/2000	GeoEngineers	**9.2**
	12/20/2000	Farallon	**28**
	6/6/2001	Farallon	**16**
	6/28/2002	Farallon	**14**
	Well removed in 2003 due to construction of new building		
MW-5	3/6/2000	GeoEngineers	<1.0
	8/8/2000	GeoEngineers	<1.0
	12/20/2000	Farallon	2.0
	6/6/2001	Farallon	1.7
	6/28/2002	Farallon	1.6
	8/13/2003	Farallon	0.2
	11/12/2003	Farallon	3.6
	2/18/2004	Farallon	4.8
	5/10/2004	Farallon	1.6
	8/27/2004	Farallon	1.4
	2/15/2006	Farallon	4.8
	8/23/2006	Farallon	1.0
MW-6	3/6/2000	GeoEngineers	**11**
	8/8/2000	GeoEngineers	**27**
	12/20/2000	Farallon	**15**
	6/6/2001	Farallon	**8.6**
	6/28/2002	Farallon	**6.3**
	Well removed in 2003 due to construction of new building		
MW-7	3/28/2000	GeoEngineers	**15**
	8/8/2000	GeoEngineers	**14**
	12/21/2000	Farallon	**12**
	6/6/2001	Farallon	**7.6**
	6/28/2002	Farallon	3.9
	8/13/2003	Farallon	**5.3**
	11/12/2003	Farallon	4.5
	2/18/2004	Farallon	3.6
	5/10/2004	Farallon	3.3
	8/30/2004	Farallon	3.6
	2/15/2006	Farallon	2.5
	8/23/2006	Farallon	2.3
	11/21/2006	Farallon	2.2
	2/28/2007	Farallon	2.1
	5/15/2007	Farallon	2.9
MTCA Cleanup Level for Groundwater			**4.9** [2]

Table 2
Summary of Groundwater Sample Analytical Results - PCE
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter) [1]
			Tetrachloroethene
MW-8	4/14/2000	GeoEngineers	**7.4**
	8/8/2000	GeoEngineers	**8.5**
	12/20/2000	Farallon	**5.7**
	6/6/2001	Farallon	3.9
	6/28/2002	Farallon	4.1
	8/13/2003	Farallon	3.4
	11/12/2003	Farallon	0.62
	2/18/2004	Farallon	0.3
	5/10/2004	Farallon	2.8
	8/27/2004	Farallon	0.43
MW-9	8/13/2003	Farallon	**7.4**
	11/12/2003	Farallon	3.7
	2/18/2004	Farallon	2.9
	5/10/2004	Farallon	2.5
	8/27/2004	Farallon	3.0
	2/15/2006	Farallon	2.5
	8/23/2006	Farallon	1.6
	11/21/2006	Farallon	2.1
	2/28/2007	Farallon	2.4
	5/15/2007	Farallon	1.8
Reconnaissance Groundwater Samples			
FB-1-GW-12.5	8/21/2006	Farallon	2.4
FB-1-GW-31.5	8/21/2006	Farallon	0.95
FB-1-GW-68.5	8/21/2006	Farallon	<0.20
MTCA Cleanup Level for Groundwater			**4.9** [2]

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1] Analyzed by U.S. Environmental Protection Agency Method 8260B.

[2] Value from Table 240, Section 240 of the Water Quality Standards for Surface Waters of the State of Washington, as established in Chapter 173-201A of the Washington Administrative Code, as amended August 1, 2016.

Farallon = Farallon Consulting, L.L.C.

GeoEngineers = GeoEngineers, Inc.

MTCA = Washington State Model Toxics Control Act Cleanup Regulations

PCE = tetrachloroethene

TCE = trichloroethene

APPENDIX A
NFA DETERMINATION LETTERS

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

April 1, 2011

Mr. Thomas Markl
Nelson Real Estate Management, L.L.C
Post Office Box 461
Redmond, Washington 98073-0461

Re: No Further Action at a Property Associated with a Site:

- **Property Address:** Cleaning Center of Redmond -15796 Redmond Way, Redmond, WA 98052
- **Facility/Site No.:** 26296554
- **VCP Project No.:** NW1324

Dear Mr. Markl:

The Washington State Department of Ecology (Ecology or we) received your request for an opinion on your independent cleanup of a Property associated with the Cleaning Center of Redmond facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issues Presented and Opinion

1. Is further remedial action necessary at the property to clean up contamination associated with the Site?

   NO. Ecology has determined that no further remedial action is necessary at the property to clean up contamination associated with the Site.

   This opinion is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

2. Is further remedial action still necessary elsewhere at the Site?

   YES. Ecology has determined that further remedial action is still necessary elsewhere at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Property and the Site

This opinion applies only to the property and the Site described below. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.

1. Description of the Property.

The property includes tax parcel number **7198900080** in King County, which was affected by the Site and addressed by your cleanup. The property known as the Redmond Center Property (Nelgroup Properties LLC) is affected by two releases (sources); hence, two sites.

The first release is due to historical activities associated with the Cleaning Center of Redmond and is being addressed by this property no further action (NFA) and constitutes:

- Tetrachloroethylene (PCE) in soil.
- Tetrachloroethylene (PCE) in groundwater.
- Tetrachloroethylene (PCE) and Trichloroethene (TCE) in soil vapor and indoor air.

The second release southwest of the Redmond Centre property appears to be from off-property-related historical activities from an up-gradient source associated with the Former Redmond WASH N' DRY and identified as the Redmond Shopping Square Property (city of Redmond) and is not part of this NFA.

The second release constitutes:

- Tetrachloroethylene (PCE) in groundwater.
- Tetrachloroethylene (PCE) in soil.
- Potentially, Tetrachloroethylene (PCE) in the vapor phases for both indoor and outdoor air.

Enclosure A includes a legal description of the Property. Enclosure B includes a diagram of the Site that illustrates the location of the property within the site (first release).

2. Description of the Site.

The Site is defined by the nature and extent of contamination associated with the first release as described above.

- Tetrachloroethylene (PCE) in soil.
- Tetrachloroethylene (PCE) in Ground Water.
- Tetrachloroethylene (PCE) and Trichloroethene (TCE) in soil vapor and indoor air.

Enclosure B includes a detailed description and diagram of the Site, as currently known to Ecology.

3. Identification of Other Sites that may affect the Property.

A report contained in Ecology files show that the Redmond Shopping Square Property (city of Redmond) historically operated a dry cleaning service identified as the Wash N' Dry facility (See Enclosure C-1). Data shows that this facility is currently undergoing an independent cleanup of the PCE impacts to the soil and groundwater at that location. The Wash N' Dry cleaner facility located up-gradient, along a southwesterly groundwater flow is identified as the potential source impacting the Redmond Center Property (Nelgroup Properties LLC), identified in this letter as the second site (See Enclosure C-2). The Wash N' Dry facility is located at 16101 through 16149 Redmond Way. Please refer to Enclosure C-1 for locations of the two properties noted above and to Enclosure C-2 for the locations of the two sites (PCE plumes in the groundwater) located within the Redmond Center Property (Nelgroup Properties LLC).

Basis for the Opinion

This opinion is based on the information contained in the documents listed in Enclosure D. Those documents are kept in the Central Files Ecology's of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at 425-649-7239.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

1. Cleanup of the Property located within the Site.

Ecology has concluded that **no further remedial action** is necessary at the property to clean up contamination associated with the Site. That conclusion is based on the following analysis:

a. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards for the Site and select a cleanup for the property. The Site is described above and in Enclosure B.

b. Establishment of cleanup standards for the Site.

i. Substance-specific standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

The cleanup levels are as follows:

Soil: Tetrachloroethylene (PCE) in soil at 0.05 mg/kg for the protection of drinking water and indoor air and unrestricted land use.

Groundwater: Tetrachloroethylene (PCE) in Ground Water at 5 ug/l for the protection of drinking water.

Indoor air: Tetrachloroethylene (PCE) at 4.27 ug/m+ 3 and Trichloroethene (TCE) at 0.93 ug/m+ 3 for the protection of commercial workers

Standard compliance points are as follows:

Soil: For the Direct Contact: From the ground surface to 15 feet below surface throughout the property. Please refer to Enclosure B for property.

Groundwater: Performance standards for the groundwater were measured from the uppermost level of the saturated zone extending vertically to the lowest-most depth which could be potentially affected by the property. These monitoring points are shown in Monitoring wells MW-1 through MW-8 as shown in Enclosure B.

Indoor Air: A site-specific risk assessment used a time weighted average as shown in table 1 of the August 31, 2010, Indoor Air Assessment. Performance monitoring was conducted at the floor drains and at the breathing spaces (about 4 feet above the ground) at the restrooms and center of the Staples Store as part of the evaluation of the cleanup standards for the indoor air. Locations of the points of compliance for the indoor air are located in Enclosure E. Please refer to Enclosure E for Table 1. The compliance points measured as part of the NFA performance monitoring and to be measured during the confirmation monitoring (Post NFA) as part of the five-year review are located in the center of the Staples Store and in the restroom of the Staples Store please refer to Enclosure E for post NFA Confirmation monitoring points and compliance points.

c. Selection of cleanup for the Property.

Ecology has determined the cleanup you selected for the property for the first release as described in the above (under the description of the property) meets the substantive requirements of MTCA. The cleanup meets the minimum cleanup requirements and does not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

The cleanup consisted of over excavation of soil, vapor extraction, and natural attenuation of groundwater. These actions have removed contaminants below cleanup levels and meets the minimum requirements in WAC 173-340-360(2)and do not either exacerbate conditions at the Site or preclude reasonable alternatives.

d. Cleanup of the Property.

Ecology has determined the cleanup you performed for the first release as described in the above (under the description of the property) meets the applicable Site cleanup standards within the property. This determination is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

The cleanup consisted of over excavation of soil, vapor extraction and natural attenuation of groundwater. These actions have removed contaminants below cleanup levels and meets the minimum requirements in WAC 173-340-360(2) and do not either exacerbate conditions at the Site or preclude reasonable alternatives. This cleanup does not affect the cleanup necessary to address the second release of PCE from an up-gradient source that has migrated onto the property because the two plumes are not comingled. Please refer to Enclosures C-1 and C-2 respectively for the location of up-gradient source and subsequent migration onto the property.

2. Cleanup of the Site as a whole.

Ecology has concluded that further remedial action under MTCA is still necessary elsewhere at the Site. In other words, while your cleanup constitutes the final action for the property, it constitutes only an "interim action" for Site No. 1 as a whole. There is also a second plume of PCE coming from Redmond Shopping Square property. Please refer to Enclosures B, C-1 and C-2 respectively for the two sites and the plume coming from off property sources identified as the Redmond Shopping Square property

Post-Cleanup Controls and Monitoring

3. Performance of conformational monitoring.

Conformational indoor air monitoring (Post NFA) is necessary at the property to confirm the long-term effectiveness of the cleanup. Conformational monitoring is to occur in the third year after the issuance of this NFA letter with the results sent to Ecology. Confirmational monitoring points and parameters to be measured are identified in Enclosure E and Table 1. The confirmation monitoring (Post NFA) is the basis for Ecology's five-year review period. Ecology has approved the monitoring plan you submitted. A copy of the plan is included in Enclosure F.

Periodic Review of Post-Cleanup Conditions

As noted above, Ecology will conduct periodic reviews of post-cleanup conditions at the property to ensure that they remain protective of human health and the environment. At the minimum, Ecology shall conduct a periodic review on the fifth year following the date of this NFA - April 1, 2016. If Ecology determines based on a periodic review that further remedial action is necessary at the property, Ecology will then withdraw this opinion.

Listing of the Site

Based on this opinion, we will update the status of remedial action at the Site on our database of hazardous waste sites. However, because further remedial action is still necessary elsewhere at the Site, we will not remove the Site from our lists of hazardous waste sites. The property will remain listed as part of the Site because the cleanup of the property does not change the boundaries of the Site. Even if you address the site as it relates to the first release due to property-related operational activities, further action will still be needed at the property to address the second release coming from an off-property and up-gradient location before the property can be de-listed from our database of hazardous waste sites

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

   Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

   - Change the boundaries of the Site.
   - Resolve or alter a person's liability to the state.
   - Protect liable persons from contribution claims by third parties.

   To settle liability with the state and obtain protection from contribution claims, a person must enter into a Consent Decree with Ecology under RCW 70.105D.040(4).

2. **Opinion does not constitute a determination of substantial equivalence.**

   To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for cleaning up your property under the Voluntary Cleanup Program (VCP). We look forward to working with you to clean up the remainder of the Site.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 360-407-7239 or by e-mail at mknu461@ecy.wa.gov.

Sincerely,

Michael Kuntz, P.G.,P.HG.
HQ Toxics Cleanup Program

Enclosures:
A - Legal Description of the Property
B - Description and Diagrams of the Site (including the Property)
C - 1 Two Properties
C – 2 Two Sites
D - Basis for the Opinion: List of Documents
E - Indoor Air Compliance
F - Conformational Monitoring Plan

cc: Cliff Schmitt, Farallon Consulting
Dolores Mitchell (without enclosures)

Enclosure A

Legal Description of the Property

LEGAL DESCRIPTION OF LOT 1 OF REDMOND CENTER

LOT 1:

All of Lot 8 and the south 70 feet of Lot 10 of the Plat of Redmond Center as recorded in volume 95 of Plats, Pages 94 through 97, in King County, Washington, and that portion of Lot 9 of said Plat of Redmond Center described as follows:

Beginning at the southwest corner of said Lot 9; thence north 0°49'10" east 70.00 feet along the west line of said Lot 9; thence south 89°10'50" east 120.24 feet to the point of curvature of a 300 foot radius curve to the right; thence easterly along said curve an arc distance of 92.83 feet to the point of tangency; thence south 71°27'06" east 84.57 feet; thence south 89°10'50" east 20 feet to the east line of said Lot 9; thence south 0°33'56" west 30 feet along said east line to the southeast corner of said Lot 9; thence north 89°10'50" west 312.28 feet along the south line of said Lot 9 to the point of beginning.

Subject to and together with easements of record.

Filed for record this 3rd day of April, 1991 at 1:42 p.m. in Book 79 of Surveys at page 161 at the request of BUSH, ROED & HITCHINGS, INC. 9104039002

COUNTY AUDITOR OR DIVISION OF RECORDS AND ELECTIONS
Jane Hague-County Auditor or Carolyn Ableman-Superintendent of Records

*Source: Lot Line Revision LLR 90-01, Redmond Center. Prepared by Bush, Roed & Hitchings, Inc., Civil Engineers and Land Surveyors, 2009 Minor Avenue East, Seattle, Washington 98102.

Enclosure B

Description and Diagrams of the Property and Site

PROPERTY DESCRIPTION

The property is located at 15796 Redmond Way in Redmond, Washington in a single-story, commercial strip mall of masonry construction (Figure 2). According to King County Tax Assessor records, the strip mall building was constructed in various stages from 1966 through the early 1980s (King County, Washington 2005). Several remodels have occurred since the early 1980s, with the most recent being a significant expansion near the western end of the strip mall building in 2002. Asphalt-paved parking areas with landscaping strips are located north and south of the building. The strip mall is bordered on the west by 158th Avenue South and on the east by 160th Avenue Northeast. A new building was constructed on the southeastern portion of the property in 2009. The building houses commercial businesses. A sub slab depressurizing system has been installed and has operated continuously since July 24, 2009. Please refer to the enclosures for location of the property and buildings.

The Cleaning Center of Redmond has operated as a dry cleaning facility or dry cleaning drop-off facility from approximately 1990 to the present. In a January 2005 personal communication with Farallon, Ms. Carol Sama, a business consultant with a long-term relationship with Nelgroup Properties LC, stated that a steel pan for the containment of potential spills of PCE as placed beneath the dry cleaning machine at the Cleaning Center of Redmond in 1999 (Farallon 2005). Use of PCE was discontinued when the dry cleaning machine was removed in October 2002, at which time the facility became a drop-off only location for dry cleaning. Regular laundry services are still performed at the Cleaning Center of Redmond.

SITE DESCRIPTION

The site begins at the Former Cleaning Center of Redmond and continues west to the Sammamish River. According to the U.S. Geological Survey (1982) topographic map *Bellevue North, Washington* dated 1982, the Site is at an elevation of approximately 40 feet above mean sea level and is relatively flat. Regional topography in the vicinity slopes to the west. Please refer to enclosures for location of Site.

SECOND PLUME OF TETRACHLORETHYLENE PCE ON THE PROPERTY

A second plume of Tetrachloroethylene exists on the Cleaning Center of Redmond Property. The origin of the plume is very likley the former dry cleaning operation on the Redmond Square Property located to the east and up-gradient of the property. The extent of the plume on the Cleaning Center of Redmond Property is unknown. Please refer to enclosures for plume location and source.

Enclosure C-1

Two Properties

Enclosure C-2

Two Sites

Enclosure D

Basis for the Opinion -
List of Documents

1) VCP Application of September, 2004
2) Work Plan for Indoor Air Quality Assessment, March 25, 2011
3) Requested Information, Farallon Consulting March 1, 2011
4) Response to January 11, 2011, e-mail, Farallon Consulting, January 18, 2011
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12) Site Closure Report, Cleaning Center of Redmond, Farallon Consulting, September 21, 2007
13) *Borings B-6 and B-7, March 9*, 2007, Farallon Consulting
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23) Groundwater Monitoring Results - the Cleaning Center of Redmond July 17, 2001

24) Phase II Environmental Assessment - the Cleaning Centre of Redmond, March 22, 2001

25) Groundwater Monitoring Results - the Cleaning Center of Redmond, January 22, 2001

26) Summary Remedial Investigation Preliminary Feasibility Results - the Cleaning Center of Redmond, May 19, 2000

27) Letter Report on Environmental Soil and Groundwater Soil Sampling – the Cleaning Center of Redmond, March 18, 1999

Enclosure E

Indoor Air Compliance

Enclosure F

Confirmational Indoor Air Monitoring Plan
(To be performed three years after issuance of the NFA letter with results forwarded to Ecology)

Enclosure A

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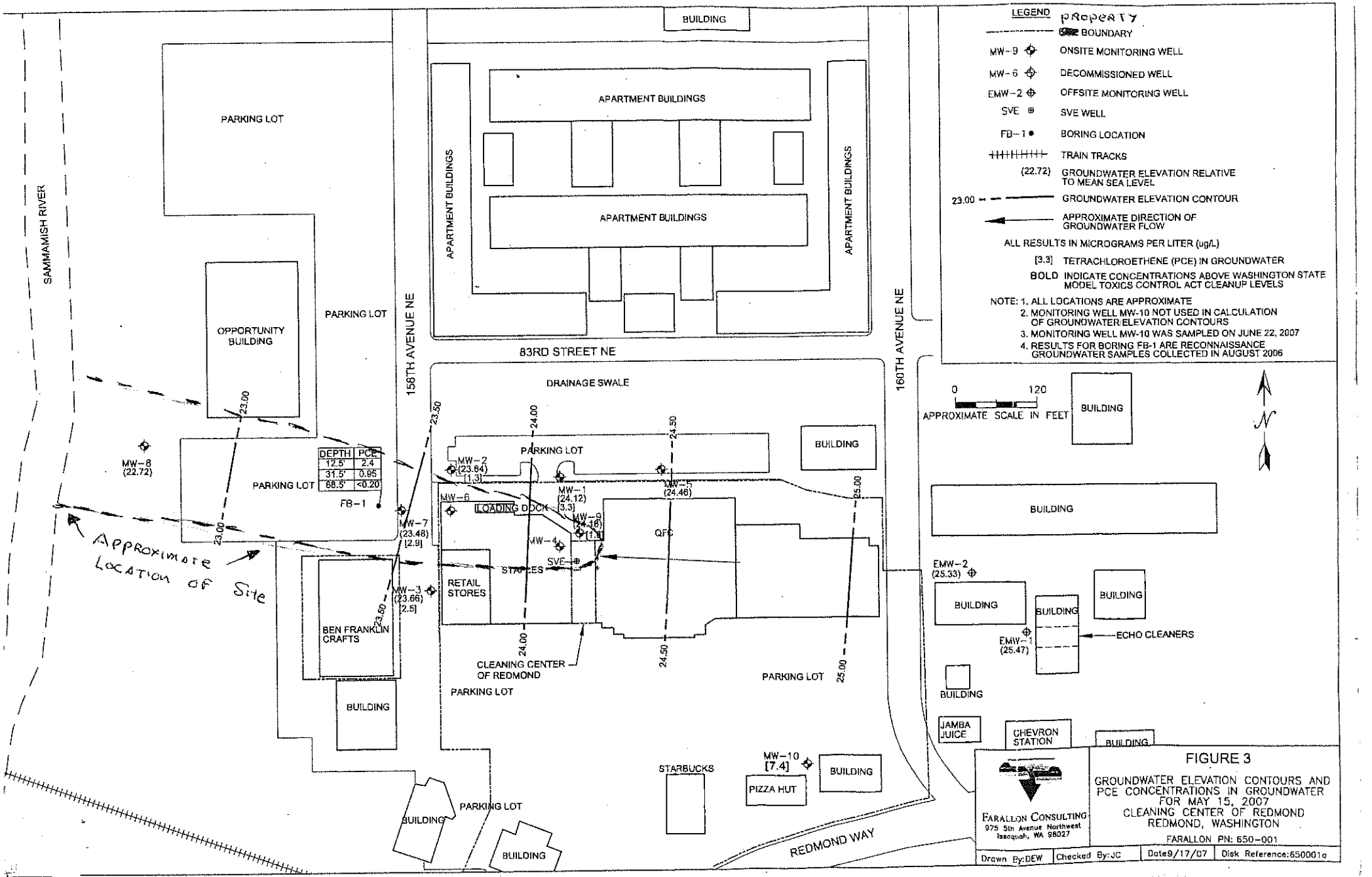

FIGURE 3

GROUNDWATER ELEVATION CONTOURS AND PCE CONCENTRATIONS IN GROUNDWATER FOR MAY 15, 2007
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Drawn By:DEW | Checked By:JC | Date9/17/07 | Disk Reference:650001a

PROPERTY AND Site : Enclosure B

Enclosure C-1

Two Properties

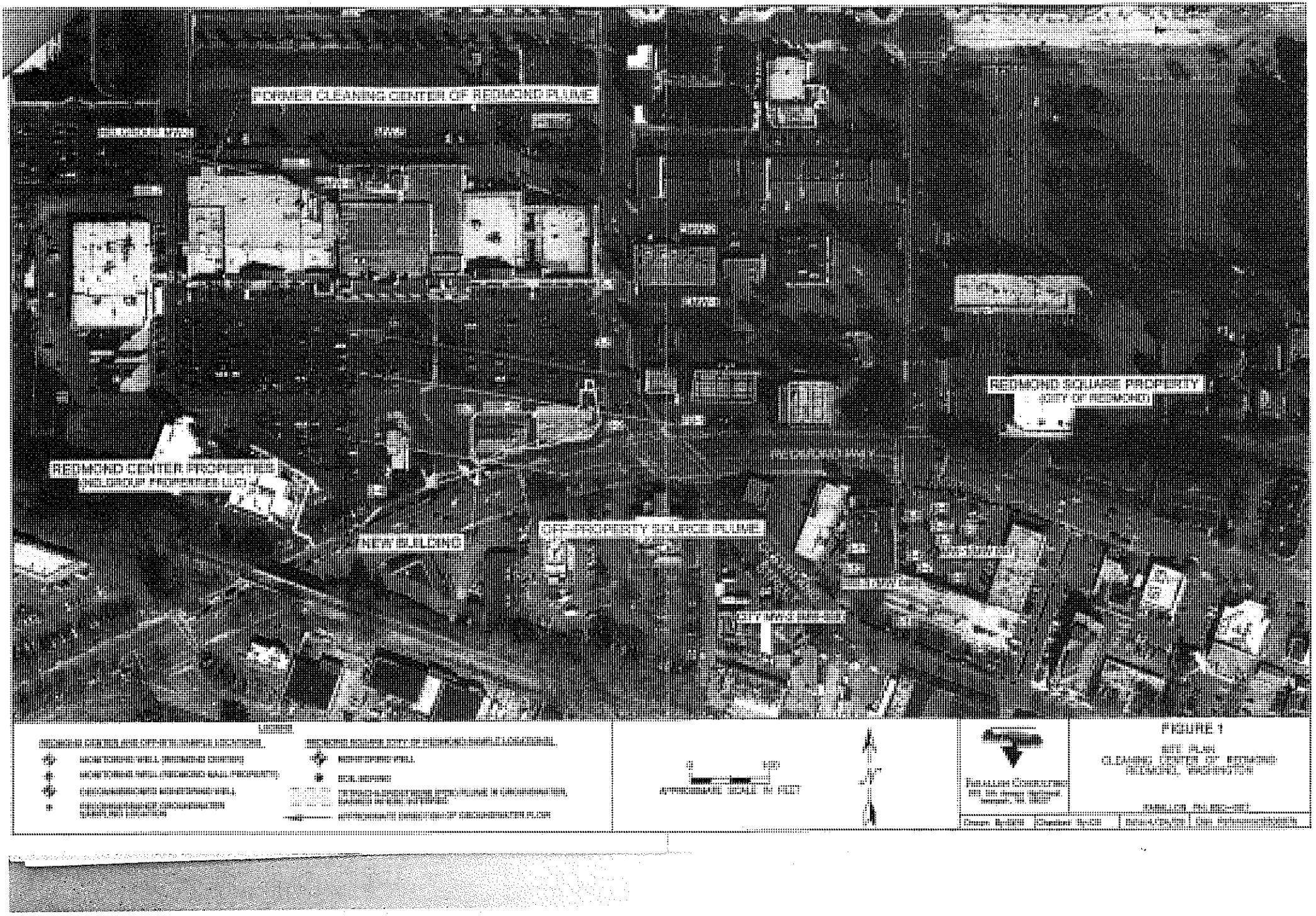

FIGURE 1

Enclosure C-1 Two Properties

Enclosure C-2

Two Sites

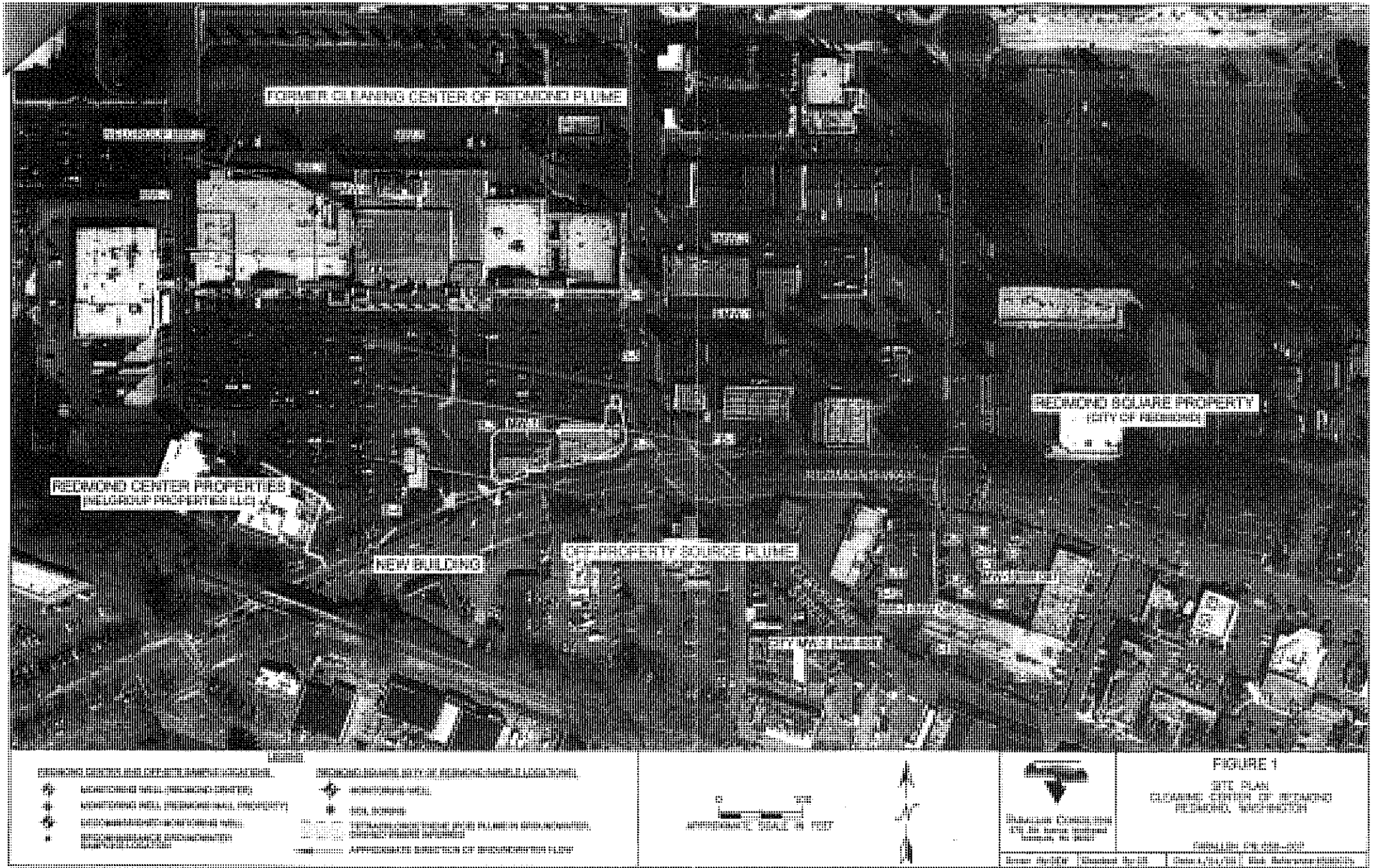

FIGURE 1

Enclosure C-2 Two Sites

Enclosure D

Basis for the Opinion
List of Documents

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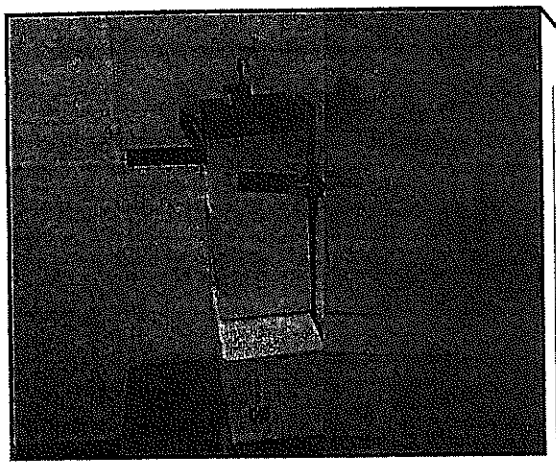
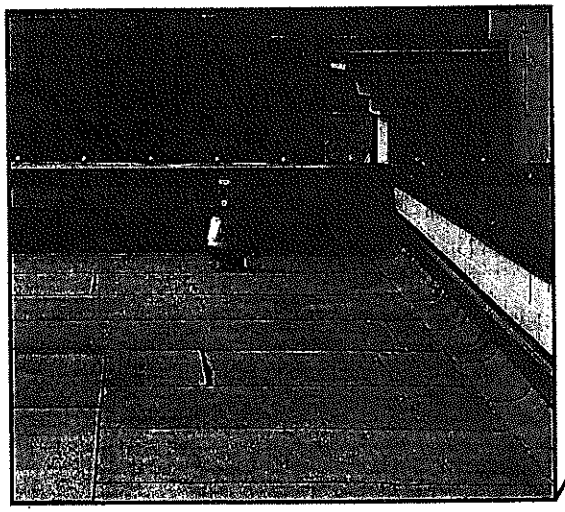
27) Letter Report on Environmental Soil and Groundwater Soil Sampling – the Cleaning Center of Redmond, March 18, 1999.

Enclosure E

Indoor Air Compliance





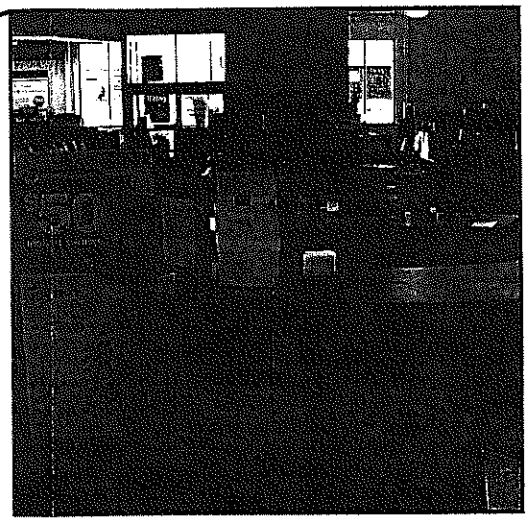


FIGURE 1

JUNE 2010 AIR SAMPLING LOCATIONS
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FARALLON PN: 650-001

Drawn By: DEW	Checked By: JC	Date: 8/4/10	Disk Reference: 650001a

Enclosure E INDOOR AIR Compliance

Table 1
Summary of Indoor Air Quality Assessment Results
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Sample Location and Identification	Date Collected	Analytical Results (micrograms per cubic meter)	
		Tetrachloroethene	Trichloroethene
June 2007 Sampling Event			
Staples Building Women's Restroom (adjacent to floor drain)/1A-1	6/12/2007	1.4	<0.19
Staples Building Women's Restroom (breathing zone)/1A-2	6/12/2007	1.4	<0.19
June 2010 Sampling Event			
Staples Tech Solutions Center Desk #1	6/29/2010	<0.22	<0.18
Staples Womens Restroom #2	6/29/2010	<0.21	<0.17
Staples Roof #3	6/29/2010	<0.21	<0.17
Modified MTCA Method B Formula Values for Indoor Air for Commercial Exposure Scenario[1]		**4.27**	**0.93**

NOTES:

< Indicates compound not detected at or above the stated laboratory reporting limit.

[1]Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation (MTCA) Method B Formula Values for Air, modified as follows in accordance with Equation 750-2 of Section 750(3)(b)(ii)(B) of Chapter 173-340 of the Washington Administrative Code:

Exposure Duration=250 days/year (5 days/week and 50 week/year work schedule) and a 25-year exposure period.

Indoor air value is a time-weighted average assuming that an employee spends 0.25 hours/day (3 percent) in restroom and 7.75 hours/day (97 percent) in store area.

ENCLOSURE E-1

Enclosure F

Conformational Indoor Air Monitoring Plan (To be performed three years after issuance of the NFA letter with results forwarded to Ecology)

FARALLON consulting

975 5th Avenue Northwest, Issaquah, Washington 98027
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March 25, 2011

Mr. Michael Kuntz
Washington State Department of Ecology
PO Box 47600
Olympia, Washington 98504

RE: WORK PLAN FOR INDOOR AIR QUALITY ASSESSMENT
CLEANING CENTER OF REDMOND SITE
REDMOND, WASHINGTON
FARALLON PN: 650-001

Dear Mr. Kuntz:

Farallon Consulting, L.L.C. (Farallon) has prepared this Work Plan for Indoor Air Quality Assessment on behalf of Nelson Real Estate Management LLC to describe procedures to assess indoor air quality for the presence of the dry cleaning solvent tetrachloroethene (PCE) and its degradation product trichloroethene (TCE) at the Staples tenant space located at the Redmond Center property, down-gradient from the Cleaning Center of Redmond at 15796 Redmond Way in Redmond, Washington. The Cleaning Center of Redmond Site is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) and has been assigned VCP Identification No. NW1324. Prior cleanup actions at the Cleaning Center of Redmond were conducted in accordance with the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340).

Ecology is preparing an Opinion Letter on the sufficiency of the cleanup action conducted to address the release of PCE at the Cleaning Center of Redmond. Farallon understands that the Opinion Letter will state that no further cleanup actions are required, contingent on conducting an indoor air monitoring event approximately 3 years after the Opinion Letter is issued to confirm that concentrations of PCE and TCE (if detected) in indoor air are protective of human health for commercial workers and the public. The purpose of this Work Plan for Indoor Air Quality Assessment is to describe the procedures for performing the required indoor air quality assessment.

Prior assessments of indoor air quality at the Staples tenant space were conducted by Farallon in June 2007 and June 2010 at the request of Ecology. These assessments were documented in the letter regarding Indoor Air Quality Assessment Results, Cleaning Center of Redmond Site, Redmond, Washington, Voluntary Cleanup Program Identification No. NW1324 dated August 31, 2010, prepared by Farallon. The Staples tenant space was selected for the assessments because it is the closest tenant space down-gradient from the Cleaning Center of Redmond with a perforation in the floor (floor drain) that potentially could allow concentrations of PCE and its degradation products to enter the building.

- The Summa canisters will be packed in their original shipping containers, sealed with a custody seal, and sent within 3 days to Air Toxics Laboratory in Folsom, California for analysis.

Laboratory Analysis and Evaluation of Results

Air samples will be analyzed for PCE and TCE using modified U.S. Environmental Protection Agency Method TO-15 SIM. The reporting limits for PCE and TCE by this analytical method are approximately 0.2 micrograms per cubic meter, which is less than the commercial worker exposure scenario cleanup levels calculated using Equation 750-2 of WAC 173-340-750 and in accordance with the provisions of WAC 173-340-750(3)(c). The bases for calculating the commercial worker exposure scenario cleanup levels are presented in the Indoor Air Quality Assessment Results report and were agreed to by Ecology. The monitoring results will be evaluated and presented in a letter report.

CLOSING

If the Draft Vapor Intrusion Guidance is modified prior to the confirmation monitoring event required by Ecology in the Opinion Letter, this Work Plan for Indoor Air Quality Assessment will be revised as necessary to conform to the procedures specified in the modified Vapor Intrusion Guidance. Please contact the undersigned at (425) 295-0800 if you have questions or comments regarding this Work Plan.

Sincerely,

Farallon Consulting, L.L.C.

Clifford T. Schmitt, L.G., L.H.G.
Principal

Attachments: Attachment A, Standard Operating Procedure for Indoor Air Sampling
Attachment B, Standard Operating Procedure for Ambient Air Sampling

cc: Thomas L. Markl, CEO, Nelson Real Estate Management LLC

CTS:bjj

ATTACHMENT A
STANDARD OPERATING PROCEDURE FOR INDOOR AIR SAMPLING
U.S. ENVIRONMENTAL PROTECTION AGENCY ANALYTICAL METHOD TO-15

This standard operating procedure (SOP) contains the following sections:

1.0 Purpose

The purpose of this SOP is to provide personnel with the specific information needed to collect and document consistent and representative indoor air data.

2.0 Application

This SOP is to be followed by all personnel who collect indoor air samples associated with the Cleaning Center of Redmond Site in Redmond, Washington.

3.0 References

- Air Toxics LTD. Guide to Air Sampling and Analysis, Canisters and Tedlar Bags. Fourth Edition. Folsom, California. <www. airtoxics.com>.
- Massachusetts Department of Environmental Protection. 2002. *Indoor Air Sampling and Evaluation Guide*. Boston, Massachusetts. April.

5.2 Sampling Methodology

Time-integrated indoor air samples are collected using 6-liter Summa canisters prepared under negative pressure and laboratory-certified clean for the constituents of concern for the Cleaning Center of Redmond Site. The Summa canisters should be equipped with dedicated flow regulators set at the appropriate flow rate to allow sampling over the time period desired.

- Verify that the canister number engraved on the canister matches the canister number listed on the certified-clean tag attached to the canister to ensure that proper decontamination of the canister was completed.
- Set up the canister in the desired sample location.
- Verify that the canister valve is closed tightly and then remove the threaded cap at the top of the canister.
- Attach the flow regulator/pressure gauge to the top of the canister using a wrench to gently tighten it.
- Open the valve and record the pressure on the gauge as the "initial pressure" in the field notes and on the sample tag attached to the canister.
- Completely fill out the sample tag attached to the canister and record the following sample information in the field book:
  - Site name;
  - Sample identification;
  - Sample start date;
  - Sample start time;
  - Location of sample (show on building floor plan or sketch map);
  - Initial pressure of canister; and
  - Canister number.
- After sampling begins and the canister is verified to be operating correctly, leave the canister to fill.
- Return to check the canisters to ensure that they are operating properly. Depending on the length of the sampling period selected, it will be necessary to return 30 minutes to 1 hour prior to the end of the sampling period. It is necessary to check the canister prior to the complete sampling period because the accuracy of the flow regulators can vary slightly, causing the canisters to fill faster than expected. To check the sample collection progress, complete the following:
  - Record the gauge pressure in the field book. The final pressure at the end of sampling should be approximately –5 to –6 inches of mercury. If the canister has already reached this point, sampling is complete and this pressure should be recorded as the "final pressure" on the sample tag and in the field book. If the pressure is not yet at this level, the canister should be left to continue filling.

ATTACHMENT B
STANDARD OPERATING PROCEDURE FOR
AMBIENT AIR SAMPLING

WORK PLAN FOR INDOOR AIR QUALITY ASSESSMENT
Cleaning Center of Redmond
Redmond, Washington

Farallon PN: 650-001

- U.S. Environmental Protection Agency. 1999. *Method TO-15*. EPA/625/R-96/010b. Cincinnati, Ohio. January.
- Washington State Department of Ecology (Ecology). 2009. *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action.* October.

4.0 Equipment and Supplies

The following equipment and supplies are necessary to properly conduct indoor air sampling:

- A sufficient number of 6-liter Summa canisters, appropriate filters, and flow controllers to collect samples required by the Work Plan;
- Equipment required to collect samples using 6-liter Summa canisters, including appropriate wrenches and pressure gauges; and
- Shipping package for the Summa canisters.

5.0 Procedures

5.1 Sampling Locations

Ambient air samples usually are collected near buildings where indoor sampling is occurring. Sample collection points should be selected so that intake occurs at least 6 feet above ground surface and upwind of the building undergoing indoor air sampling.

5.2 Sampling Methodology

Time-integrated ambient air samples are collected using 6-liter Summa canisters prepared under negative pressure and certified clean for the constituent of concern for the Cleaning Center of Redmond Site. The Summa canisters should be equipped with dedicated flow regulators set at the appropriate flow rate to allow sampling over the time period desired.

- Verify that the canister number engraved on the canister matches the canister number listed on the certified-clean tag attached to the canister to ensure that proper decontamination of the canister was completed.
- Set up the canister in the desired sample location.
- Verify that the canister valve is closed tightly and then remove the threaded cap at the top of the canister.
- Attach the flow regulator/pressure gauge to the top of the canister using a wrench to gently tighten it.
- Open the valve and record the pressure on the gauge as the "initial pressure" in the field notes and on the sample tag attached to the canister.
- Completely fill out the sample tag attached to the canister and record the following sample information in the field book:
  - Site name;

Ensure that documentation of this certification is included on a tag attached to the canister and in the paperwork that accompanies the canister shipment from the laboratory.

7.0 Documentation

Record all field activities, environmental and building conditions, and sample documentation in the field notebook.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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June 20, 2012

Ms. Elaine Dilley
City of Redmond
PO Box 97010
Redmond, WA 98073

Re: No Further Action at the Following Site:

- **Site Name:** Redmond Shopping Square
- **Site Address:** 16119 NE Redmond Way, Redmond, WA
- **Facility/Site No.:** 18067
- **VCP Project No.:** NW 2415
- **Cleanup Site ID No.:** 11597

Dear Ms. Dilley:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Former Redmond Shopping Square facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Heavy oil-range petroleum hydrocarbons in Soil.
- Tetrachloroethene (PCE) and related degradation products in Soil and Ground Water.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites.

PCE has been consistently detected at low concentrations in shallow groundwater beneath the Property. The PCE concentrations on the Property are similar to those detected throughout downtown Redmond in other studies. This indicates that possible off-property sources may contribute to PCE contamination beneath the Property. However, slightly higher PCE concentrations in the vicinity of the former dry cleaner located on the southwestern portion of the Property indicate an on-property source. At this time, Ecology has no information regarding any off-property PCE sources.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. GeoEngineers, 2012. *Request for No Further Action Determination, Former Redmond Shopping Square, 161st Avenue NE between Cleveland Street and Redmond Way, Redmond, Washington.* March 20.

2. GeoEngineers, 2011. *Final Soil Cleanup Report, City of Redmond 161st Avenue NE Extension, Former Redmond Shopping Square, 161st Avenue NE between Cleveland Street and Redmond Way, Redmond, Washington.* February 16.

3. GeoEngineers, 2009. *Supplemental Site Assessment, Redmond Shopping Square, Future 161st Avenue NE Extension between Cleveland Street and Redmond Way,16101-16149 NE Redmond Way, Redmond, Washington.* August 17.

4. GeoEngineers, 2007. *Phase I and II Environmental Site Assessment, Redmond Shopping Square, Future 16119 NE Redmond Way, Redmond, Washington.* October 26.

Those documents are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or sending an email to nwro_public_request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

Ground water in four monitoring wells on the Property (MW088, MW089, MW343 and MW344) was sampled in 2007, 2008 and 2009 and in four consecutive quarters in 2011. Monitoring wells MW088 and MW089 are downgradient of the former dry cleaner location. The 2011 quarterly samples yielded PCE at concentrations below Method A cleanup levels. Related PCE degradation products including trichloroethylene (TCE), (cis)1,2-dichloroethene and vinyl chloride were not ever detected in any of the monitoring wells with the exception of TCE at a concentration below the Method A cleanup level in MW343 in February 2011.

2. Establishment of cleanup standards.

a. Cleanup levels.

Soil:

The Site is located in a commercial area. Soil cleanup levels suitable for unrestricted land uses are therefore applicable to this Site.

Soil cleanup levels protective of terrestrial species are also potentially applicable. However, they were deemed not-applicable for this Site based on the exclusion relating to proximity of undeveloped land in accordance with WAC 173-34-7491(1)(c)(i).

Because the cleanup at this Site was relatively straightforward and involved few hazardous substances, the MTCA Method A cleanup levels for unrestricted land uses

were deemed applicable and appropriate. Note that the Method A cleanup levels for soil were established based on protection of groundwater and direct contact.

Groundwater:

Cleanup levels were set for groundwater based on its use as a potential drinking water source. The MTCA Method A cleanup levels have been applied to the identified contaminants listed above.

b. Points of compliance.

Soil:

The point of compliance for soil is throughout the Site in order to protect against direct contact and ground water.

Groundwater:

The standard point of compliance for groundwater is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site.

3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site **meets** the substantive requirements of MTCA for the following contamination at the Site:

- Heavy oil-range petroleum hydrocarbon in soil.
- PCE in soil.

Although the detected PCE and petroleum hydrocarbon concentrations in soil on the Property were less than their corresponding cleanup levels, the City decided to remove accessible PCE and petroleum contaminated soil to the extent practical to improve groundwater quality beneath the Property, and reduce exposure to contaminated soil through direct contact during any future earth work. The cleanup action selected was excavation and off-site disposal of contaminated soil and in-situ treatment using hydrogen release compound (HRC).

4. Cleanup.

Ecology has determined the cleanup you performed meets the following cleanup standards:

- Heavy oil-range petroleum hydrocarbon in Soil.
- PCE in Soil and Ground Water.

Remedial actions completed at the Site have included the excavation of soil with detectable PCE concentrations in the former dry cleaner area. The dimensions of the excavation were 55 feet by 55 feet and 13 to 15 feet deep. Approximately 2,660 tons of PCE-contaminated soils were excavated and transported to the Waste Management Greater Wenatchee Landfill for disposal. However, the excavation of PCE contaminated soil was limited due to proximity to roadway and utilities.

According to the data collected for PCE-contaminated soils that remain in place at the Property, the concentration is likely to be below the cleanup level. Following completion of the excavation, approximately 50 gallons of HRC were applied to the bottom of excavation prior to backfilling to support biological degradation.

In addition, excavation was also conducted in some localized areas as described below:

- Approximately 95 tons of petroleum-contaminated soil was excavated in the vicinity of the former used oil ASTs area. The excavation was 25 feet by 20 feet and reached to maximum depth of approximately five feet bgs. The excavated soil was transported and disposed of at CEMEX in Everett.

- Approximately 48 tons of soil was excavated in the northern portion of the Property as shown on the attached Site diagram, where fill soil indicated possible contamination, from odor, staining or debris. The excavation was 25 feet by 10 feet and reached a maximum depth of approximately 10 feet bgs. The excavated soil was transported and disposed of at CEMEX in Everett.

- Approximately eight tons of petroleum-contaminated soil was excavated in the vicinity of MW087. The excavation was five feet by five feet and reached a maximum depth of approximately eight feet bgs. The excavated soil was transported and disposed of at CEMEX in Everett.

- Since peat was found to be unsuitable for use as road subgrade, peat beneath the planned roadway project was excavated and transported off-site for disposal.

Results from confirmation soil sampling showed that contaminants of concern were either not detected or detected but below their cleanup levels. Ecology has determined the cleanup you performed meets the cleanup standards established for the Site.

Ground water in four monitoring wells on the Property (MW088, MW089, MW343 and MW344) was sampled in 2007, 2008 and 2009 and in four consecutive quarters in 2011.

Monitoring wells MW088 and MW089 are located downgradient of the former dry cleaner location. The 2011 quarterly samples yielded PCE at concentrations below Method A cleanup levels. Related PCE degradation products including trichloroethylene (TCE), (cis)1,2-dichloroethene and vinyl chloride were not ever detected in any of the monitoring wells with the exception of TCE at a concentration below the Method A cleanup level in MW343 in February 2011.

Listing of the Site

Based on this opinion, Ecology will initiate the process of removing the Site from our lists of hazardous waste sites, including:

- Confirmed and Suspected Contaminated Sites List

That process includes public notice and opportunity to comment. Based on the comments received, Ecology will either remove the Site from the applicable lists or withdraw this opinion.

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

   Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

   - Resolve or alter a person's liability to the state.
   - Protect liable persons from contribution claims by third parties.

   To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. **Opinion does not constitute a determination of substantial equivalence.**

   To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#NW 2415).

For more information about the VCP and the cleanup process, please visit our website: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (425) 649-7064 or e-mail at hvic461@ecy.wa.gov.

Sincerely,

Heather Vick, LHg
Toxics Cleanup Program

Enclosures (1): A – Description and Diagrams of the Site

cc: Tony Orme, GeoEngineers
Sonia Fernandez, VCP administrator, Department of Ecology
Dolores Mitchell, Financial Manager, Department of Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

Site: The Site comprises PCE releases to soil and groundwater, and petroleum hydrocarbon releases to soil at the former Redmond Shopping Square property located at 16119 NE Redmond Way in Redmond, Washington (the Property). The Property and the Site are shown on the attached Site Map.

Area Description: The Property is situated in the downtown area of the City of Redmond (City). The area is completely developed and dominated by commercial land use however some residential condominiums have also recently been constructed. Most surfaces are paved or covered by buildings.

Property History and Current Use: The Property is approximately 1.68 acres in size. It was originally developed in 1955 as a one-story retail strip mall building with a paved parking lot. The building was occupied by various businesses, including a dry cleaner, paint store, auto parts store and a restaurant.

The City purchased the Property in 2008, and the existing building was demolished in 2010. The City is currently redeveloping the Property for the 161st Avenue Northeast Extension project.

Sources of Contamination: Potential contamination sources consist of leaks and spills associated with the historical operations on the Property, including the former dry cleaner and auto parts store.

Physiographic Setting: The Site and surrounding area is located within the Sammamish River floodplain. The Site is at an elevation of approximately 40 feet above mean sea level.

Surface/Storm Water System: Surface water runoff in the area is collected in municipal storm drains and eventually discharges to the Sammamish River, which is located approximately 1,300 feet to the southwest.

Ecological Setting: There is little terrestrial habitat in the immediate vicinity of the Property. The area is heavily developed, with most surfaces paved or covered by buildings.

Geology: Soil encountered beneath the Property generally consists of sand with varying amounts of gravel which is Quaternary-aged alluvium to 25 feet below the ground surface (bgs), the maximum depth explored. Peat was present beneath the parking lot at depths of three to five feet below the ground surface and extending to approximately 11 feet bgs.

Groundwater: Ground water occurs as a shallow water table aquifer on the Site. The depth to groundwater is approximately nine to 17 feet bgs, and groundwater generally flows west-northwest. The Site is located in the City's Critical Aquifer Recharge Area in Wellhead Protection Zone 2. In Zone 2, ground water at the Site reaches the City's nearest drinking water well within a year or less.

Water Supply: The City provides drinking water for the area. The Property is located within the City's Wellhead Protection Zone.

Soil and Groundwater Contamination: Soil and groundwater were impacted at the Property as described below.

- Former dry cleaner area: This portion of the Site previously had elevated concentrations of PCE in soil in the southwest portion of the Property in the vicinity of the former dry cleaner. The PCE concentrations were all below the Method A soil cleanup level however the City opted to remove accessible PCE-impacted soil to the extent practical. A total of approximately 1,512 in-place cubic yards (2,660 tons) was removed and transported to Waste Management's Great Wenatchee Landfill in Wenatchee, Washington.

  Groundwater was also impacted by PCE with intermittent exceedences, slightly above the cleanup level. PCE has been consistently detected in shallow groundwater beneath the Property at low concentrations similar to the concentrations detected throughout downtown Redmond during other studies which indicates possible off-Property sources may also contribute to PCE contamination beneath the Property. However, the PCE concentrations were slightly higher in the vicinity of the former dry cleaner which was located in the southwestern portion of the Property. However, at this time, there is no information regarding any off-Property PCE sources.

  Ground water in four monitoring wells on the Property (MW088, MW089, MW343 and MW344) was sampled in 2007, 2008 and 2009 and in four consecutive quarters in 2011. Monitoring wells MW088 and MW089 are downgradient of the former dry cleaner location. The 2011 quarterly samples yielded PCE at concentrations below Method A cleanup levels. Related PCE degradation products including trichloroethylene (TCE), (cis)1,2-dichloroethene and vinyl chloride were not ever detected in any of the monitoring wells with the exception of TCE at a concentration below the Method A cleanup level in MW343 in February 2011.

- Former auto parts store: This portion of the Site previously had elevated concentrations of heavy oil-range petroleum hydrocarbons in shallow soil in the vicinity of the former waste oil ASTs. The concentrations were below the Method A cleanup level.

  In addition, metals and PAHs were detected in subsurface soil within the upper 2.5 feet in the boring drilled for MW087 located in the former parking lot. However, concentrations of these contaminants were all below their corresponding clean up levels. Fill soil with physical indications of contamination, such as odor, staining and debris was encountered during construction activities in the northern portion of the Property.

  Ground water samples collected from Property monitoring wells MW087 (later decommissioned), MW088 and MW089 yielded non-detectable levels of petroleum hydrocarbons in 2007. Petroleum hydrocarbons were not included in subsequent site characterization activities.

Site Diagrams

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps, Street Maps 2005

Transverse Mercator, Zone 10 N North, North American Datum 1983
North arrow oriented to grid north

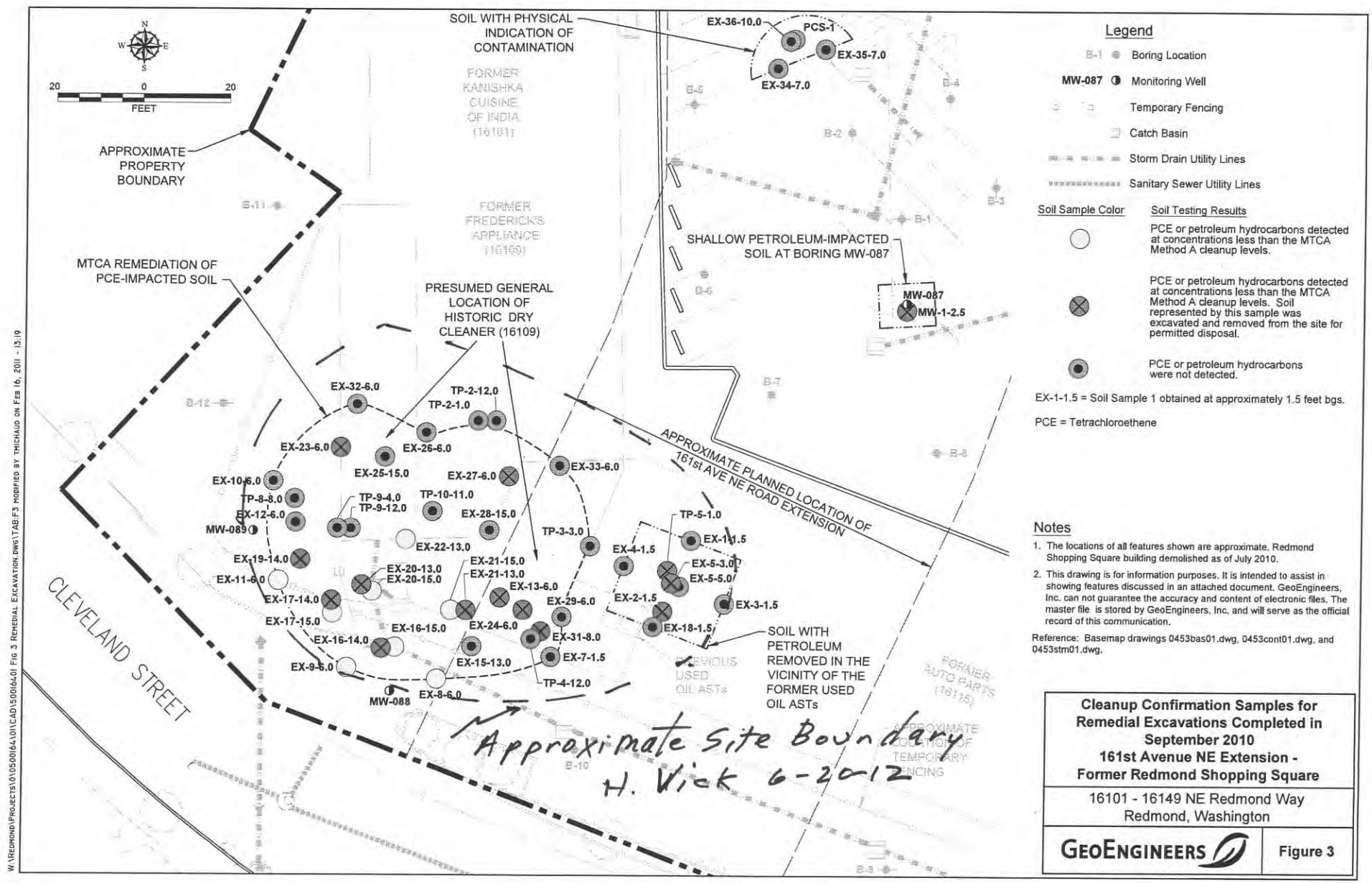
Vicinity Map

161st Ave NE Extension
Redmond, Washington

GeoEngineers

Figure 1A

Office: RED Path: P:\0\0500158\GIS\0050016401 F1 VicinityMap.mxd Map Revised: August 12, 2009 MM2, EL


N
W
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20
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20
FEET
APPROXIMATE PROPERTY BOUNDARY
SOIL WITH PHYSICAL INDICATION OF CONTAMINATION
EX-36-10.0
PCS-1
EX-35-7.0
EX-34-7.0
FORMER KANISHKA CUISINE OF INDIA (16161)
FORMER FREDERICK'S APPLIANCE (16109)
SHALLOW PETROLEUM-IMPACTED SOIL AT BORING MW-087
MW-087
MW-1-2.5
MTCA REMEDIATION OF PCE-IMPACTED SOIL
PRESUMED GENERAL LOCATION OF HISTORIC DRY CLEANER (16109)
APPROXIMATE PLANNED LOCATION OF 161st AVE NE ROAD EXTENSION
EX-32-6.0
TP-2-12.0
TP-2-1.0
EX-23-6.0
EX-26-6.0
EX-25-15.0
EX-27-6.0
EX-33-6.0
EX-10-6.0
TP-8-8.0
EX-12-6.0
MW-089
TP-9-4.0
TP-9-12.0
TP-10-11.0
EX-28-15.0
TP-3-3.0
EX-22-13.0
EX-19-14.0
EX-11-6.0
EX-20-13.0
EX-20-15.0
EX-21-15.0
EX-21-13.0
EX-13-6.0
EX-17-14.0
EX-17-15.0
EX-16-15.0
EX-16-14.0
EX-24-6.0
EX-29-6.0
EX-31-8.0
EX-7-1.5
EX-9-5.0
EX-15-13.0
TP-4-12.0
MW-088
EX-8-6.0
TP-5-1.0
EX-1-1.5
EX-4-1.5
EX-5-3.0
EX-5-5.0
EX-2-1.5
EX-3-1.5
EX-18-1.5
SOIL WITH PETROLEUM REMOVED IN THE VICINITY OF THE FORMER USED OIL ASTs
PREVIOUS USED OIL ASTs
FORMER AUTO PARTS (16115)
APPROXIMATE LOCATION OF TEMPORARY FENCING
CLEVELAND STREET
Approximate Site Boundary
H. Wick 6-20-12
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
Legend
B-1 Boring Location
MW-087 Monitoring Well
Temporary Fencing
Catch Basin
Storm Drain Utility Lines
Sanitary Sewer Utility Lines
Soil Sample Color
Soil Testing Results
PCE or petroleum hydrocarbons detected at concentrations less than the MTCA Method A cleanup levels.
PCE or petroleum hydrocarbons detected at concentrations less than the MTCA Method A cleanup levels. Soil represented by this sample was excavated and removed from the site for permitted disposal.
PCE or petroleum hydrocarbons were not detected.
EX-1-1.5 = Soil Sample 1 obtained at approximately 1.5 feet bgs.
PCE = Tetrachloroethene
Notes
1. The locations of all features shown are approximate. Redmond Shopping Square building demolished as of July 2010.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
Reference: Basemap drawings 0453bas01.dwg, 0453cont01.dwg, and 0453stm01.dwg.
Cleanup Confirmation Samples for Remedial Excavations Completed in September 2010
161st Avenue NE Extension - Former Redmond Shopping Square
16101 - 16149 NE Redmond Way
Redmond, Washington
GeoEngineers
Figure 3
W:\REDMOND\PROJECTS\01\0500164\011CAD\500164O1 FIG 3 REMEDIAL EXCAVATION.DWG\TAB:F3 MODIFIED BY THICHAUD ON FEB 16, 2011 - 13:19

Brand

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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August 14, 2014

Mr. Thomas Markl
Nelson Real Estate Management LLC
16508 NE 79th Street
Redmond, WA 98052

RE: No Further Action at the Following Site:

Site Name:	Nelgroup Properties, LLC
Site Address:	15946 & 15960 Northeast Redmond Way, Redmond, WA
Facility/Site No:	281
VCP Project No:	NW2693

Dear Mr. Markl:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Nelgroup Properties LLC facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion
Is further remedial action necessary to clean up contamination at that Site? **NO**

Ecology has determined that No Further Remedial Action (NFA) is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA") The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases.

The Site is defined by the nature and extent of contamination associated with the following releases:

- Tetrachlorethylene into the Soil.
- Tetrachlorethylene Groundwater.
- Tetrachlorethylene into indoor air.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note the Redmond Shopping Square Property facility (VCP # NW2415) also affects parcel(s) of real property associated with this Site. This opinion does not apply to any contamination associated with the Redmond Shopping Square Property. Ecology issued a No Further Action (NFA) decision for the site associated with (VCP# NW2415) on June 20, 2012. Please refer to **Enclosure A** for Redmond Shopping Square Property facility. Also, the Site is located on the Redmond Center Property for which a property specific NFA for the Cleaning Center of Redmond (VCP # NW1324) was issued on April 1, 2011. This opinion does not apply to any contamination associated with (VCP# NW1324). Please refer to **Enclosure A** for Cleaning Center of Redmond property.

Basis of the Opinion

This opinion is based on the information contained in the following documents:

1. Groundwater Monitoring Results for opinion Nelgroup Properties LLC Site, Farallon Consultants, May 16, 2014.

2. Summary of Cleanup Actions Nelgroup Properties, Farallon Consultants, April 26, 2013.

3. Voluntary Cleanup Program Request for Assistance, Redmond Center Property, Farallon Consultants, January 23, 2013.

4. Ecology Site file for VCP # NW 2415.

5. Ecology Site file for VCP# NW 1324.

Those documents are kept in the Central Files of Northwest Regional Office (NWRO) of Ecology for review by appointment only. You can make an appointment by calling the NWRO resource contact at 425-649-7239.

This opinion is void if any of the information contained in those documents in materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **no further action** is necessary to cleanup contamination at the Site. That conclusion is based on the following analysis:

1. **Characterization of the Site**.

Ecology has determined your characterization of the Site insufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

The Site has been characterized for Tetrachlorethylene in soil, groundwater, sub slab soil vapor and indoor air. The results of characterization are depicted in **Enclosure A** and described in **Enclosure A**.

2. Establishment of cleanup standards.

a. Cleanup levels.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

The cleanup levels are as follows:

Tetrachlorethylene Groundwater:	5 ug/l
Tetrachlorethylene into the Soil:	0.05 mg/kg
Tetrachlorethylene into indoor air:	9.6 ug/m^3

The Groundwater cleanup level is for the beneficial use of drinking water. The Soil level is for the protection of Groundwater for the beneficial use of Groundwater. The indoor air level is protective of human health from indoor air via the soil vapor pathway.

b. Compliance points

Standard compliance points are as followed:

Soil: From the ground surface to the uppermost Groundwater.

Groundwater: From the uppermost level of the saturated zone Extending vertically to the lowermost depth, which could potentially be affected by the Site.

Indoor Air: Though the breathing zone of the building(s) on Site.

3. Selection of cleanup action.

Ecology has determined the cleanup you selected for the Site meets the substantive requirements of MTCA. The cleanup meets the minimum cleanup requirements and does not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

Natural attenuation of soil and groundwater meet the minimum requirements of WAC 173-340-360 (2) by providing a permanent solution to the extent practicable. Please refer to document No. 1 above for natural attenuation report.

The sub slab depressurization system has protects the indoor air pathway by mitigating soil vapor derived from the contaminant releases to the subsurface. Please refer to document No. 1 for the depressurization report.

4. **Cleanup.**

Natural attenuation of soil and groundwater is established by four consecutive quarters of groundwater below the cleanup level. **Please refer to Enclosure A.**

A sub slab depressurization system was installed in December 2009 and remains in operation. Indoor air is demonstrated to be below the cleanup level. The depressurization system can be terminated upon receipt of this letter. Please refer to **Enclosure A.**

Listing of the Site

Based on this opinion, Ecology will initiate the process of removing the Site from our lists of hazardous waste sites, including:

Hazardous Sites List.
Confirmed and Suspected Contaminated Sites List.

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. **Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. **State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project # NW2693.

For more information about the VCP and the cleanup process, please visit our web site: www. ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me at 360-407-7239 or mkun461@ecy.wa.gov.

Sincerely,

Michael Kuntz PHG., PG.
HQ-Toxics Cleanup

Enclosures: A – Description and Diagrams of the Site

cc: Brani Jurista, Farallon Consultants
Dolores Mitchell, Ecology

Enclosure A

Description and Diagrams of the Site,
Relevant Properties, and Sources.

The Site is located in the southeastern portion of the Redmond Center Property. The site contains the 15946 Redmond Way building is a masonry slab-on-grade structure built in 2009 and located on the northwest corner of the intersection of Redmond Way and 160th Avenue Northeast. The irregular-shape building roughly 70 by 190 feet consists of approximately 13,500 square feet of single story retail space that is surrounded by concrete walkways and an asphalt-paved parking area north of the building. Currently the building is occupied by two restaurants and four retailers, including a bank, a candy shop, a dentist office, and a pet store.
Please refer to Exhibit No. 1 for the Site.

The Redmond Center Property (King County Tax Assessor Parcel No. 7198900080) is 6.93 acres in size, zoned commercial, and developed with two single-story commercial strip mall masonry buildings, a single-story commercial wood-frame building, and associated parking lot. Please refer to Exhibit No. 1 for the Redmond Center Property.

The Redmond Shopping Center Property is located approximately 250 feet upgradient from the Redmond Center Property. Please refer to Exhibit No. 1 for Redmond Shopping Center Property.

Exhibit No. 1: Map of site, relevant properties, and sources.

Exhibit No. 2:Construction drawing for Monitoring Well No. 11

Exhibit No. 3: Construction drawing for Monitoring Well No. 10

Exhibit No. 4: Groundwater Elevation Measurements for Monitoring Well No. 11

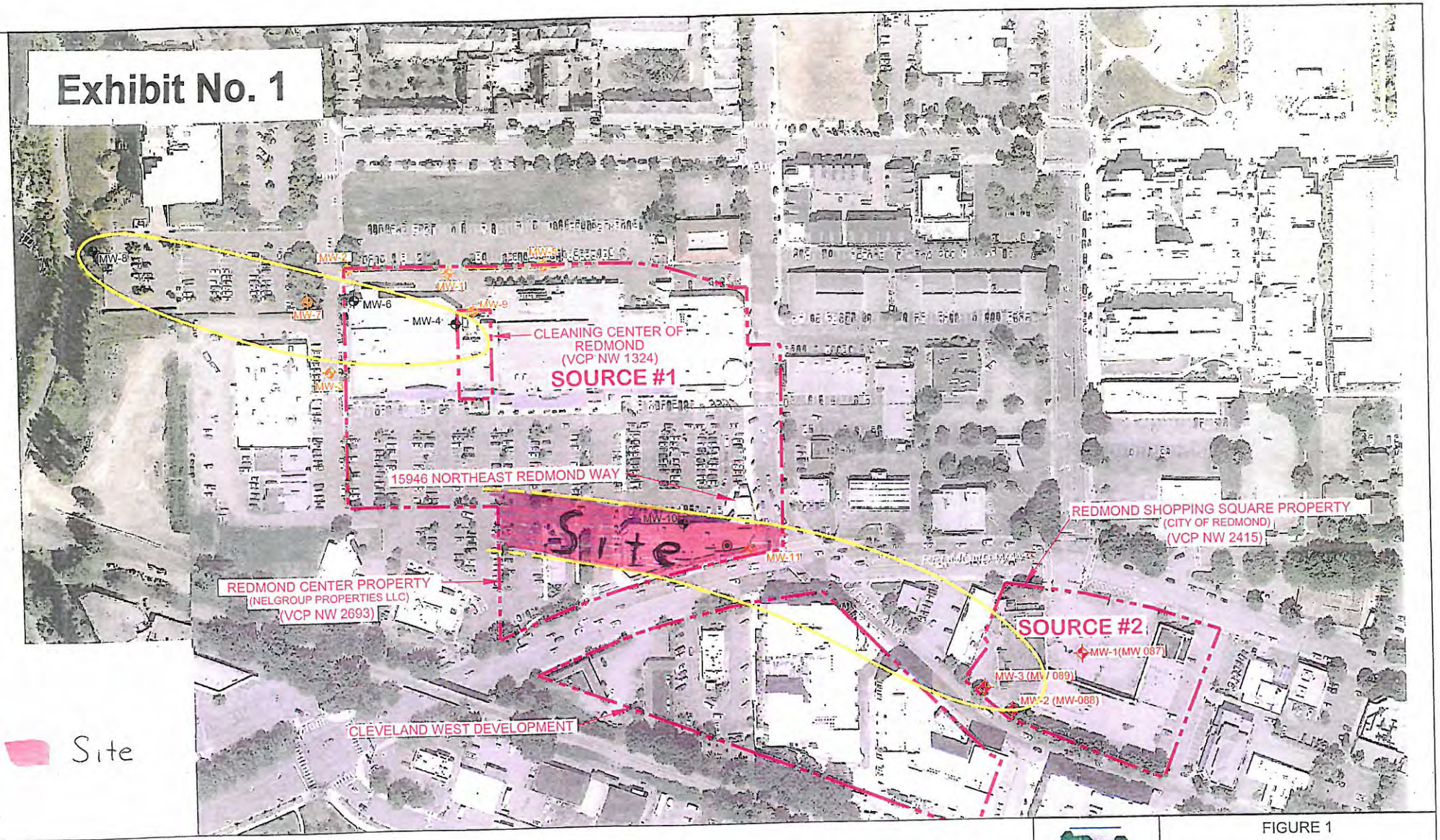
Exhibit No. 5: Groundwater Monitoring Data for Monitoring Well Nos. 10 and 11

Exhibit No. 6: Plan view of the sub-slab depressurization system

Exhibit No. 7: Diagrams of the sub-slab depressurization system

Exhibit No. 8: Sub Slab Analytical Results

Exhibit No. 1



LEGEND

REDMOND CENTER AND REDMOND MALL SAMPLE LOCATIONS

- MONITORING WELL (REDMOND CENTER)
- SUB-SLAB GAS SAMPLING PROBE LOCATION
- DECOMMISSIONED MONITORING WELL

REDMOND SHOPPING SQUARE (CITY OF REDMOND) SAMPLE LOCATIONS

- MONITORING WELL
- FORMER EXTENT OF TETRACHLORETHENE PLUMES IN GROUNDWATER, DASHED WHERE INFERRED
- VCP VOLUNTARY CLEANUP PROGRAM

0 120

APPROXIMATE SCALE IN FEET

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 1

SITE PLAN
REDMOND CENTER PROPERTY AND
REDMOND SHOPPING SQUARE PROPERTY
REDMOND, WASHINGTON

FARALLON PN: 650-007

Drawn By: DEW	Checked By: CS	Date: 7/25/14	Disk Reference: aerial-10

Exhibit No. 2

Log of Boring: MW-11

975 5th Avenue Northwest
Issaquah, Washington 98027

Client: NREM, LLC
Project: Redmond Center
Location: Redmond, WA

Farallon PN: 650-007

Logged By: D. Clement

Date/Time Started:	12/30/09 1015	**Sampler Type:**	18" Split Spoon
Date/Time Completed:	12/30/09 1035	**Drive Hammer (lbs.):**	340
Equipment:	LA HSA	**Depth of Water ATD (ft bgs):**	12
Drilling Company:	CDI	**Total Boring Depth (ft bgs):**	20
Drilling Foreman:	Curtis Askew	**Total Well Depth (ft bgs):**	20
Drilling Method:	HSA		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		Concrete from 0 to 0.5, 0.5 to 5 vac trucked out for utility clearance.								Concrete
5		Well-graded SAND with gravel (60% sand, 35% gravel, 5% silt), fine to coarse sand, fine gravel, brown, moist, no odor.	SW		60	16 / 50 for 4	0.0			Bentonite / Casing
10		Well-graded SAND with gravel (75% sand, 20% gravel, 5% silt), fine to coarse sand, fine gravel, brown, moist, no odor.	SW		100	22 / 50 for 6	0.0			Sand Pack
15		Well-graded SAND (90% sand, 5% gravel, 5% silt), fine to coarse sand, fine gravel, brown, wet, no odor.	SW		100	20 / 50 for 4	0.0			Screen
20		Well-graded SAND (95% sand, 5% silt), fine to coarse sand, brown, wet, no odor.	SW		100	30 / 50 for 6	0.0			

Well Construction Information

Monument Type: Flush mount
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10-20

Filter Pack: 2/12 Sand Pack
Surface Seal: Concrete
Annular Seal: Bentonite

Ground Surface Elevation (ft): 39.28
Top of Casing Elevation (ft): 38.88
Boring Abandonment: NA
Surveyed Location: **X:** 1321572.7 **Y:** 248883.1

Exhibit No. 3

Log of Boring: MW-10

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA

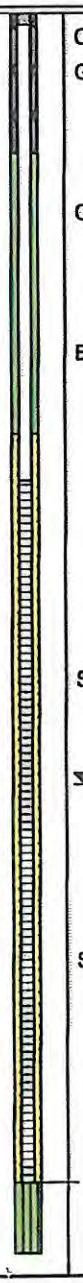
Farallon PN: 650-001

Logged By: D. Clement

Date/Time Started:	06/20/07 0745	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	06/20/07 0930	**Drive Hammer (lbs.):**	300
Equipment:	CME 75	**Depth of Water ATD (ft bgs):**	16.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	26.5
Drilling Foreman:	James Goebel	**Total Well Depth (ft bgs):**	25
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed
0									
5		5'-6.5' SAND, fine to coarse, with fine to coarse gravel, light brown, medium dense, moist, no odor	SW		100	12/15/16	673	MW10-6	
10		10'-11.5' SAND, fine to coarse, minor fine gravel and silt, dark reddish-brown, medium dense, moist, no odor	SW		100	15/15/14	754	MW10-11	
15		Sampler broke in boring, drill to 25 feet below ground surface.							
20									
25		25'-26.5' SAND, fine to coarse, mostly coarse, minor silt, dark brown, medium dense, wet, no odor	SP		50	14/16/16	81.0	MW10-26	

Boring/Well Construction Details



Well Construction Information

Monument Type: Flush mount
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10-25

Filter Pack: Sand
Surface Seal: Cement
Annular Seal: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: NA
Surveyed Location: X: NA Y: NA

Exhibit No. 4

Table 1
Summary of Groundwater Elevation Measurements
Redmond Center Property
Redmond, Washington
Farallon PN:650-009

Well Identification	Date	Top of Well Casing Elevation (feet) [1]	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
MW-11	1/22/2010	39.28	10.77	28.51
	10/26/2011		13.82	25.46
	6/17/2013		13.89	25.39
	9/13/2013		14.52	24.76
	12/11/2013		13.01	26.27
	3/18/2014		11.15	28.13

NOTES:
[1] In feet above mean sea level.
[2] In feet below top of casing.

Exhibit No. 5

Table 2
Groundwater Analytical Results for Monitoring Wells MW-10 and MW-11
Redmond Center Property
Redmond, Washington
Farallon PN: 650-007

Well Identification	Sample Identification	Sample Date	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-10[2] (Well Decommissioned)	MW10-GW062207	6/22/2007	**7.4**	0.48	<0.20	<0.20
	MW10-051608	5/16/2008	**6.4**	0.37	<0.20	<0.20
	MW11-111208	11/12/2008	**11**	0.91	0.33	<0.20
	MW-10-021309	2/13/2009	**15**	2.0	0.57	<0.20
MW-11	MW11-012210	1/22/2010	2.0	<0.20	<0.20	<0.20
	MW11-102611	10/26/2011	1.6	<0.20	<0.20	<0.20
	MW-11-061713	6/17/2013	1.6	<0.20	<0.20	<0.20
	MW-11-091313	9/13/2013	1.6	<0.20	<0.20	<0.20
	MW-11-121113	12/11/2013	1.7	<0.20	<0.20	<0.20
	MW-11-031814	3/18/2014	1.0	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater[3]			**5**	**5**	**16[4]**	**0.2**

NOTES:

< indicates analyte not detected at or above the laboratory practical quantitation limit shown.

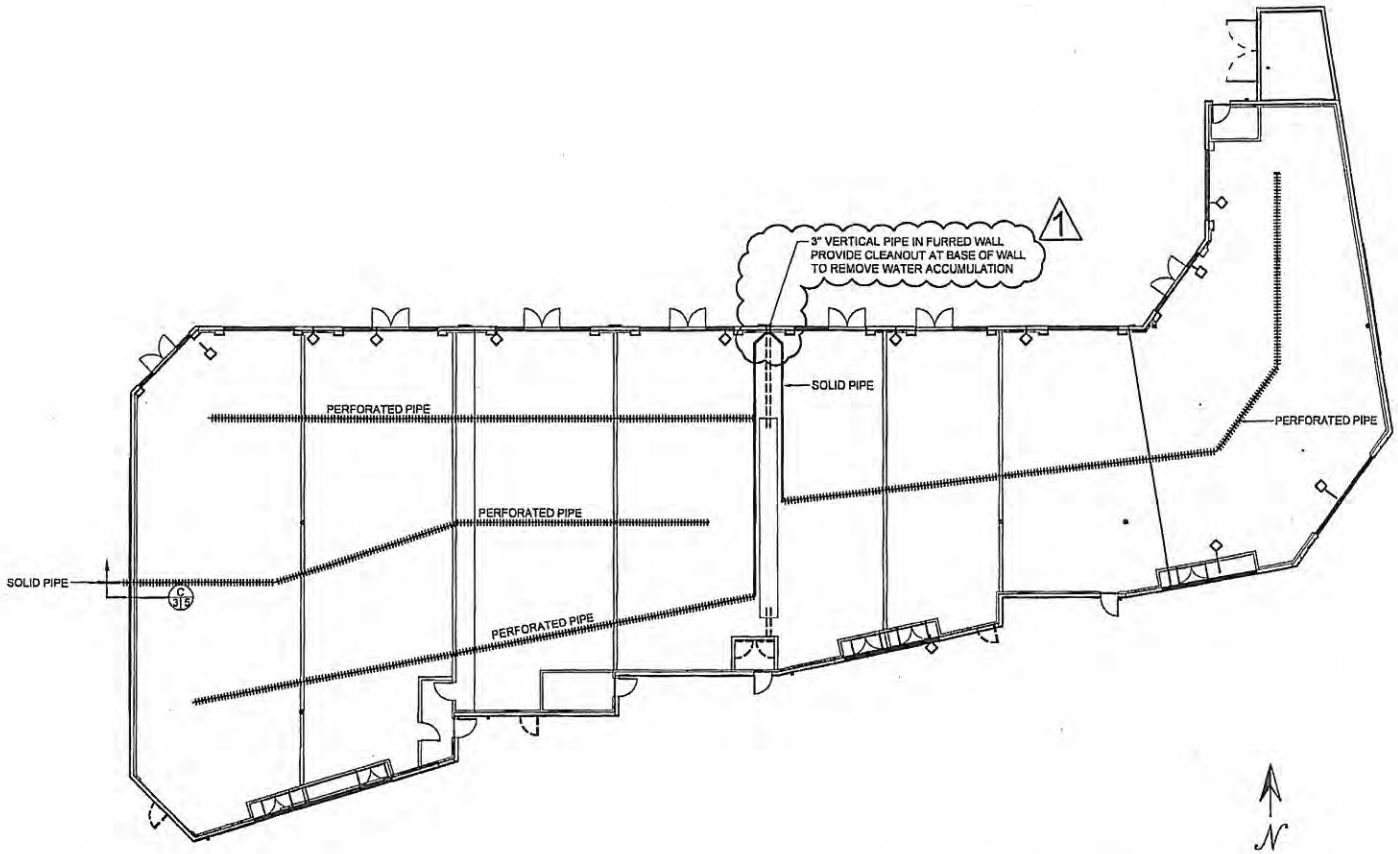
[1] Analyzed by U.S. Environmental Protection Agency Method 8260B or 8260C.

[2] Monitoring well MW-10 decommissioned on February 16, 2009 as part of the Redmond Center redevelopment project.

[3]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised November 2007.

[4]Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx.

Exhibit No. 6



CLYDE N. MOORE
STATE OF WASHINGTON
21087
REGISTERED
PROFESSIONAL ENGINEER

2/23/09

REV	DATE	DESCRIPTION	BY	CKD.	APP.
1	2/23/2009	ISSUED FOR CONSTRUCTION	DEW/SB	RM	CM
	2/17/2009	ISSUED FOR BIDDING	DEW/SB	RM	CM

PREPARED BY
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

PREPARED FOR
NEL GROUP PROPERTIES L.L.C.
PO BOX 461
REDMOND, WASHINGTON 98073

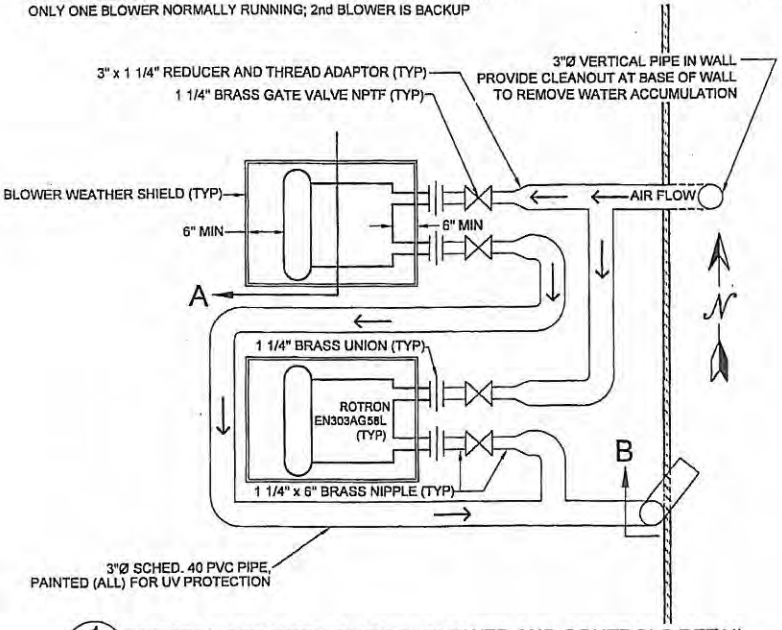
REDMOND CENTER
SUB-SLAB DEPRESSURIZATION SYSTEM
REDMOND, WASHINGTON

SUB-SLAB
DEPRESSURIZATION
SYSTEM LAYOUT

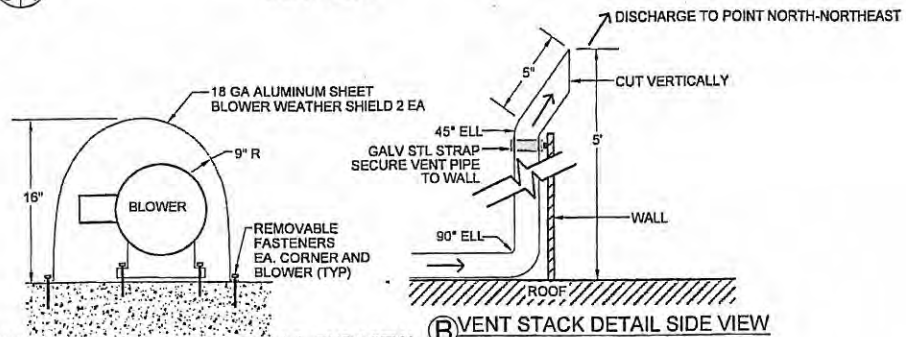
SCALE: AS SHOWN
PROJECT (X): 059-007
FILE NAME: SYSTEM.dwg
SHEET NO: 3 OF 5

Exhibit No. 7

ELECTRICAL NOTE:
EACH BLOWER TO BE CONTROLLED BY SEPARATE ON-OFF AUTO SWITCH
ONLY ONE BLOWER NORMALLY RUNNING; 2nd BLOWER IS BACKUP

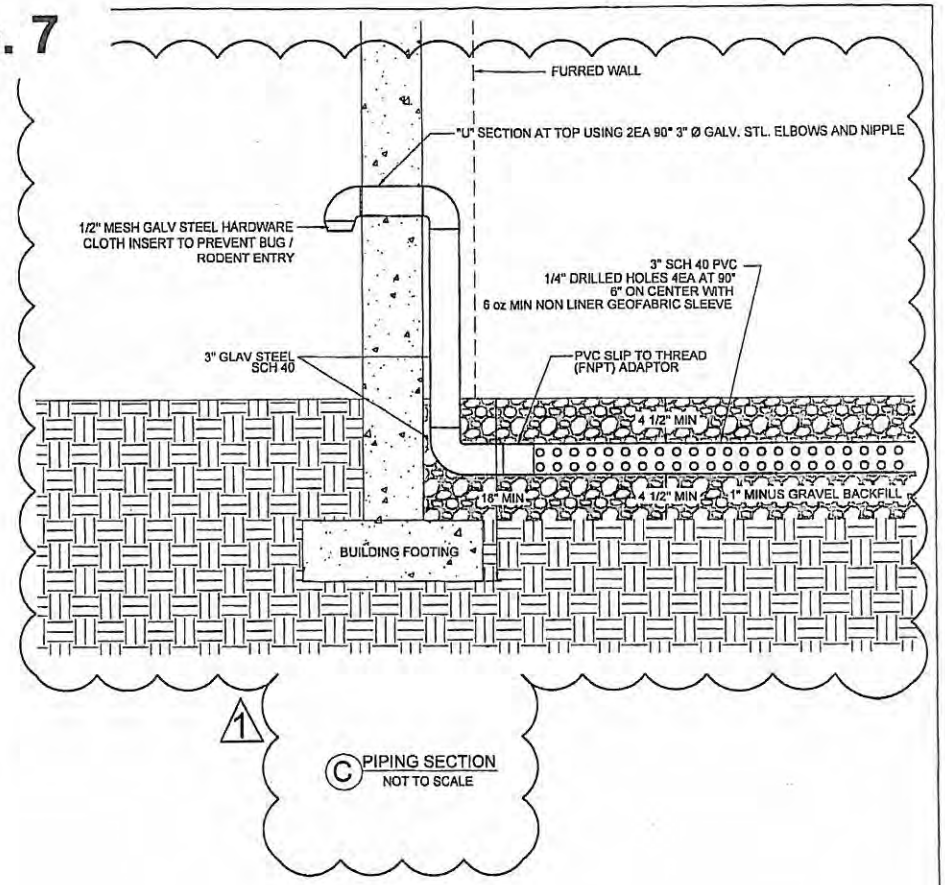


1/5|4 DEPRESSURIZATION SYSTEM BLOWER AND CONTROLS DETAIL
NOT TO SCALE



Ⓐ BLOWER WEATHER SHIELD DETAIL END VIEW
NOT TO SCALE

Ⓑ VENT STACK DETAIL SIDE VIEW
NOT TO SCALE



1

Ⓒ PIPING SECTION
NOT TO SCALE

REV	DATE	DESCRIPTION	BY	CKD.	APP.
⚠	2/23/2009	ISSUED FOR CONSTRUCTION	DEW/SB	RM	CM
	2/11/2009	ISSUED FOR BIDDING	DEW/SB	RM	CM

CLYDE N. MOORE
STATE OF WASHINGTON
14007
REGISTERED
PROFESSIONAL ENGINEER

2-23-09

PREPARED BY
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

PREPARED FOR
NEL GROUP PROPERTIES L.L.C.
PO BOX 461
REDMOND, WASHINGTON 98073

REDMOND CENTER
SUB-SLAB DEPRESSURIZATION SYSTEM
REDMOND, WASHINGTON

DETAILS

SCALE: AS SHOWN
PROJECT NO.: 050-007
FILE NAME: SYSTEM.dwg
SHEET NO: 5 OF 5

Exhibit No. 8

Table 1
Sub-Slab Soil Gas Analytical Results for PCE, TCE, and Vinyl Chloride
Redmond Center Property
Redmond, Washington
Farallon PN: 650-007

Sample Location	Sample Identification	Sample Date	Analytical Results (micrograms per cubic meter)[1]		
			PCE	TCE	Vinyl Chloride
Bank Vault	FAR-1-917	1/26/2012	45	0.52	1.0
Bank Vault	FAR-34086-051712	5/17/2012	100	<0.20	1.3
Modified MTCA Method B Screening Levels for Soil Gas (Commercial)			**501.7**[2,3]	**19.4**[2,3]	**14.7**[2]

NOTES:

< denotes analyte not detected at or above the reporting limit listed.

PCE = tetrachloroethene
TCE = trichloroethene

[1] Analyzed by U.S. Environmental Protection Agency (EPA) Method TO-15.

[2] Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method B Soil Gas Screening Levels for Indoor Air modified for commercial setting. Calculations are shown in Table 2 of this letter report.

[3] Modified MTCA Method B Soil Gas Screening Levels based on forthcoming changes to be presented in an update to the Cleanup Levels and Risk Calculations (CLARC) database. These changes are based on February 2012 updates to the EPA Integrated Risk Information System (IRIS) database regarding toxicological data for these compounds.

APPENDIX B
SITE CLOSURE REPORT

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

FARALLON consulting

975 5th Avenue Northwest, Issaquah, Washington 98027
Tel: (425) 295-0800 Fax: (425) 295-0850
www.farallonconsulting.com

SITE CLOSURE REPORT

CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON
VOLUNTARY CLEANUP PROGRAM NO. NW1324

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 650-001

For:
Nelson Real Estate Management LLC
P.O. Box 461
Redmond, Washington 98073-0461

September 21, 2007

Prepared by:

Jennifer Cyr
Project Scientist

Reviewed by:

Clifford T. Schmitt, L.G., L.H.G.
Principal

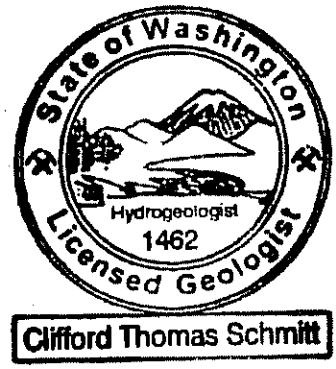


TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
DOH	Washington State Department of Health
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
HVOCs	halogenated volatile organic compounds
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PCE	tetrachloroethene
PEL	permissible exposure limit
Phase II ESA	Phase II Environmental Site Assessment
PID	photoionization detector
PQLs	practical quantitation limits
QA/QC	Quality Assurance/Quality Control
REL	recommended exposure limit
Site	Cleaning Center of Redmond facility, 15796 Redmond Way, Redmond, Washington
SVE	soil vapor extraction
TCE	trichloroethene
WAC	Washington Administrative Code
Work Plan	*Site Closure Work Plan, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated November 22, 2006, prepared by Farallon

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Site Closure Report to document the results of various investigations conducted in 2007 at the Redmond Center property, which includes the Cleaning Center of Redmond facility located at 15796 Redmond Way in Redmond, Washington (herein referred to as the Site) (Figure 1). The investigations were conducted in accordance with the *Site Closure Work Plan, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated November 22, 2006, prepared by Farallon (2006c) (Work Plan), and the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), as amended February 12, 2001. Work at the Site is being conducted as an independent cleanup action under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program. The Site was assigned Identification Number NW1324 by Ecology.

1.1 OBJECTIVE

The objective of the Site closure activities was to address specific data gaps and to conduct confirmation sampling necessary to achieve regulatory closure for the Site. A release of the dry cleaning solvent tetrachloroethene (PCE) was confirmed at the Site in 1999, and a remediation system was installed at the Site in 2003 to address concentrations of halogenated volatile organic compounds (HVOCs) in soil and groundwater. Performance monitoring data collected at the Site in 2006 indicated that the remediation system was effective, and the prior release of PCE at the Cleaning Center of Redmond no longer represented a threat to human health or the environment.

Representatives of Ecology, Farallon, and Nelson Real Estate Management LLC, agent for Nelgroup Properties LLC, the owner of the Redmond Center property, attended a meeting on September 18, 2006 to discuss issues regarding the characterization of conditions at the Site that were raised by Ecology (2006) in a letter dated June 2, 2006. A letter dated September 27, 2006 prepared by Farallon (2006b) summarized the September 18 meeting, and listed several issues that Ecology requested be further investigated prior to consideration of the Site for regulatory closure, including:

- Soil conditions at the location of the former Redmond One Hour Cleaners, which was located in the eastern portion of the current QFC grocery store;
- Soil conditions in the vicinity of the former dry cleaning machine at the Cleaning Center of Redmond facility to confirm that soil met the cleanup levels;
- Evaluation of HVOCs in groundwater at the southeastern corner of the Redmond Center property;
- Groundwater quality at the point of compliance wells for the Site to confirm that groundwater met the cleanup levels; and
- Indoor air down-gradient of the Cleaning Center of Redmond facility to assess the potential for the soil vapor pathway to impact indoor air quality.

The investigations conducted by Farallon in 2007 addressed each of these issues. The scope and results of the investigations are presented in this Site Closure Report.

1.2 REPORT ORGANIZATION

This report summarizes background information for the Site and presents the results of the investigations conducted in 2007. This report is organized into seven sections:

Section 1 – Introduction. This section presents an overview and the objective of the Site closure activities.

Section 2 – Background. This section presents a description of the Site features, history, geology, and hydrogeology; and a summary of previous investigations conducted at the Site.

Section 3 – Site Closure Activities. This section presents the scope of work and field activities for the various investigations conducted in 2007.

Section 4 – Results. This section presents the results of the Site Closure activities.

Section 5 – Conclusions. This section presents Farallon's conclusions pertaining to the Site Closure activities.

Section 6 – References. This section lists the documents cited in this Site Closure Report.

Section 7 – Limitation. This section presents Farallon's standard limitation.

2.0 BACKGROUND

The following subsections provide a description of the Site, a summary of the previous investigations conducted at the Site by Farallon and others, and the Site geology and hydrogeology. The information summarized in this section was obtained from reports prepared by various consultants referenced in Section 6, and from observations made by Farallon during the various investigation activities documented in this report.

2.1 SITE DESCRIPTION

The Site is located at 15796 Redmond Way in Redmond, Washington in a single-story, commercial strip mall of masonry construction (Figure 2). According to King County Tax Assessor records, the strip mall building was constructed in various stages from 1966 through the early 1980s (King County, Washington 2005). Several remodels have occurred since the early 1980s, with the most recent being a significant expansion near the western end of the strip mall building in 2002. Asphalt-paved parking areas with landscaping strips are located north and south of the Site building. The strip mall is bordered on the west by 158th Avenue South and on the east by 160th Avenue Northeast.

The Cleaning Center of Redmond has operated as a dry cleaning facility or dry cleaning drop-off facility from approximately 1990 to the present. In a January 2005 personal communication with Farallon, Ms. Carol Sarna, a business consultant with a long-term relationship with Nelgroup Properties LLC, stated that a steel pan for the containment of potential spills of PCE was placed beneath the dry cleaning machine at the Cleaning Center of Redmond in 1999 (Farallon 2005). Use of PCE was discontinued when the dry cleaning machine was removed in October 2002, at which time the facility became a drop-off-only location for dry cleaning. Regular laundry services are still performed at the Cleaning Center of Redmond.

According to the U.S. Geological Survey (1982) topographic map *Bellevue North, Washington* dated 1982, the Site is at an elevation of approximately 40 feet above mean sea level and is relatively flat. Regional topography in the vicinity slopes to the west. The Sammamish River is located approximately 600 feet west of the Site.

2.2 PREVIOUS INVESTIGATIONS

The environmental reports documenting the investigations at the Site that were reviewed by Farallon are listed in Section 6, References. A summary of the reports reviewed is provided below.

Alisto Engineering Group (1999) performed fieldwork at the Site in 1999 to assess whether a release of PCE from Site operations may have occurred. The assessment involved drilling four borings in the vicinity of the former Cleaning Center of Redmond dry cleaning machine to collect soil samples for laboratory analysis. A reconnaissance groundwater sample also was collected from one of the borings. The results of the assessment indicated that concentrations of PCE in soil and groundwater, and concentrations of trichloroethene (TCE) in groundwater at the

Site exceeded the MTCA Method A cleanup levels for soil and groundwater. The presence of PCE and TCE was attributed to releases from dry cleaning operations at the Site. Alisto Engineering Group did not perform an assessment of groundwater quality up-gradient of the Site to confirm that no other sources were affecting groundwater quality at the Site.

GeoEngineers, Inc. (2001) conducted a Phase II Environmental Site Assessment (Phase II ESA) at the Site in 2000 to further delineate the vertical and lateral extent of HVOCs exceeding the MTCA Method A cleanup levels in soil and groundwater. The Phase II ESA involved drilling 11 borings to collect soil and reconnaissance groundwater samples, and installing monitoring wells MW-1 through MW-8. Soil samples collected from two borings located south and east of the former Cleaning Center of Redmond dry cleaning machine contained concentrations of PCE exceeding 0.5 milligrams per kilogram (mg/kg). The distribution of HVOCs in groundwater was bounded to the north-northeast, south, and west of the Site. None of the monitoring wells or reconnaissance groundwater sampling points was located directly up-gradient of the Cleaning Center of Redmond to assess whether an off-Site source was contributing to groundwater contamination.

Farallon began monitoring groundwater conditions at the Site in December 2000 to document the trend of PCE concentrations over time, and to assess whether concentrations of PCE would decrease to below MTCA Method A cleanup levels through natural attenuation within a reasonable time frame. In 2003, monitoring wells MW-4 and MW-6 were decommissioned due to expansion of the strip mall building, and monitoring well MW-9 was installed in close proximity to the confirmed PCE source to replace monitoring well MW-4. Farallon conducted a total of 13 groundwater monitoring events between December 2000 and May 2007.

Farallon installed a soil vapor extraction (SVE) well through the concrete slab inside the Cleaning Center of Redmond in August 2003. The SVE well was installed to facilitate operation of an SVE system to remove concentrations of PCE in soil at the source area adjacent to the former location of the dry cleaning machine at the Cleaning Center of Redmond. It was anticipated that operation of the SVE system would eliminate or sufficiently decrease the flux of PCE from the source in the vadose (unsaturated) zone to groundwater, making active remediation of groundwater contamination unnecessary.

Since operation of the SVE system began at the facility in August 2003, concentrations of PCE in groundwater have declined. Concentrations of PCE in groundwater at the existing monitoring wells were below the MTCA Method A cleanup level for both the February and August 2006 monitoring events, prior to commencing the work described in the Work Plan.

Farallon (2005) conducted a limited subsurface investigation in December 2004 that consisted of advancing five direct-push borings at up-gradient and cross-gradient positions on the Site relative to the Cleaning Center of Redmond facility, and collecting reconnaissance groundwater samples from the boring locations. The locations of the borings are shown on Figure 4 of the Limited Subsurface Investigation Report (Farallon 2005). The limited subsurface investigation was conducted to assess whether an up-gradient, off-Site source was contributing to groundwater contamination at the Site. Reconnaissance groundwater samples were collected from depths ranging from 10 to 22 feet below ground surface (bgs) in the borings, and were analyzed for

HVOCs by U.S. Environmental Protection Agency (EPA) Method 8260B. The reconnaissance groundwater samples collected from two borings located at the southeastern corner of the Redmond Center property contained concentrations of PCE exceeding the MTCA Method A cleanup level. The reconnaissance groundwater analytical results suggest that a plume of PCE in groundwater emanating from an up-gradient off-Site source is present in the southern portion of the Redmond Center property.

Farallon (2006a) conducted an assessment of deep groundwater quality in August 2006 that was performed in response to the letter from Ecology dated June 2, 2006 that stated "the vertical extent of contamination, in particular tetrachloroethene, in groundwater above the cleanup level(s) has not been determined," among other opinions. The assessment of deep groundwater quality included collection of reconnaissance groundwater samples from hollow-stem auger boring FB-1, advanced down-gradient to monitoring well MW-7 to a depth of 70 feet bgs. Reconnaissance groundwater samples were collected from boring FB-1 at 12.5, 31.5, and 68.5 feet bgs during drilling. The reconnaissance groundwater samples were collected by advancing a temporary well point with a 3-foot screen in front of the auger at the desired sampling depth. Approximately three casing volumes of water was purged from each temporary monitoring well to remove sediment and debris and create a hydraulic connection between the well screen and the surrounding water-bearing zone. The analytical results for PCE in all three of the reconnaissance groundwater samples collected were reported to be below the MTCA Method A cleanup level of 5 micrograms per liter (µg/l) for PCE, indicating that concentrations of PCE in groundwater attenuate with depth (Figure 3).

2.3 GEOLOGY AND HYDROGEOLOGY

The Puget Sound region is underlaid by Quaternary sediments deposited during glacial episodes (Galster and Laprade 1991). Deposition occurred during a number of glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial lakes during the glacial retreats. With the exception of the most recent recessional deposits, the outwash sediments have been over-consolidated by the overriding ice sheets.

Shallow soil encountered during Farallon's subsurface investigation activities in the vicinity of the Site consisted primarily of sand and gravel, with the exception of soil encountered northwest of the strip mall building. The shallow soil at this location included a layer of silt and peat from approximately 2.5 to 8 feet bgs. Underlying the silt and peat was sand and gravel consistent with the other boring locations.

The shallow aquifer appears to be unconfined and extends to a minimum depth of 70 feet bgs on the Site, based on Farallon's deep boring assessment conducted in August 2006. Groundwater levels measured at the Site on May 15, 2007 ranged from 9.62 to 11.99 feet below the top of the well casings. During the 13 monitoring events conducted by Farallon since 2000, the estimated

groundwater flow direction consistently has been to the west-northwest toward the Sammamish River, similar to the estimated groundwater flow direction depicted on Figure 3.

3.0 SITE CLOSURE ACTIVITIES

The Site closure activities were conducted in May and June 2007 in accordance with the Work Plan, and involved collecting soil, groundwater, and indoor air samples, as directed by Ecology, to address data gaps and provide confirmation data for Site closure.

3.1 SCOPE OF WORK FOR SITE CLOSURE ACTIVITIES

The scope of work for the Site closure activities included the following work elements:

- Preparing a Health and Safety Plan in accordance with MTCA and Part 1910.120 of Title 29 of the Code of Federal Regulations prior to initiating field activities;
- Performing conductible and non-conductible utility locates at the proposed boring locations using a private utility location service and contacting the One-Call Center for utility location;
- Advancing interior direct-push borings FB-1 and FB-2 at the location of the former Redmond One Hour Cleaners;
- Advancing exterior (FB-3) and interior (FB-4 and FB-5) direct-push borings at the Cleaning Center of Redmond facility;
- Installing monitoring well MW-10 at the southeastern corner of the Redmond Center property;
- Submitting a minimum of one soil sample from each boring for laboratory analysis;
- Collecting indoor air samples IA-1 and IA-2 at a tenant space down-gradient of the Cleaning Center of Redmond facility;
- Sampling monitoring well MW-10 and submitting the groundwater sample for laboratory analysis;
- Surveying the elevation of the top of the monitoring well MW-10 casing to a common datum; and
- Preparing this Site Closure Report.

A detailed description of the Site closure field activities is provided in the following subsections.

3.2 SOIL ASSESSMENT AND MONITORING WELL INSTALLATION

Field activities to assess soil conditions and install a monitoring well were conducted under the supervision of a Farallon Scientist and in accordance with the Work Plan, except as noted below. Prior to the commencement of drilling, a private utility location survey was conducted by Applied Professional Service, Incorporated of North Bend, Washington to locate on-Site conductible and non-conductible utilities. Cascade Drilling of Woodinville, Washington performed the drilling activities using limited-access direct-push and hollow-stem-auger drilling rigs. An exclusion zone was set up around the drill rig and sampling locations at indoor drilling

locations to prevent access by the public or tenants. Each drilling area was restored to pre-existing conditions. Work at the former Redmond One Hour Cleaners location (currently a QFC grocery store) was conducted during the late evening/early morning to minimize disruption of business operations.

Four of the five borings drilled to assess soil conditions (borings FB-1, FB-2, FB-4, and FB-5) were sampled continuously from the ground surface to depths ranging from 4 to 12 feet bgs. Boring FB-3 was located north of the Cleaning Center of Redmond facility in an area containing several underground utilities. To avoid damaging the utilities, a vactor truck was used to remove soil from boring FB-3 to a depth of 8.5 feet bgs, and a hand-auger was used to collect soil samples at varying intervals from the ground surface to 8.5 feet bgs, after which the drill rig was used to the maximum depth explored. The direct-push sampler was lined with a disposable acetate sleeve that was removed and opened to reveal the sample after driving each 4-foot sample interval.

Soil samples were collected from boring MW-10 at approximately 5-foot intervals during advancement, to a total depth of 25 feet bgs. The monitoring well was constructed of 2-inch-diameter blank polyvinyl chloride casing flush-threaded to 15 feet of 0.010-inch slotted well screen. The bottom and top of the well were fitted with a threaded polyvinyl chloride bottom cap and a locking compression-fit well cap, respectively. The annulus of the borehole was filled with #12/10 silica sand to 1 foot above the top of the screened interval. A 6-foot bentonite seal was installed above the sand pack. The monitoring well was completed at the surface with a flush-mounted, traffic-rated well box set in concrete. Each boring was backfilled with bentonite chips and capped with either asphalt or concrete to match the surface grade, with the exception of flooring materials, where applicable.

The soil samples were described in accordance with the Unified Soil Classification System and screened in the field for potential evidence of contamination using visual observation, notation of odor, and a photoionization detector (PID) to detect the presence of volatile organic vapors. The soil descriptions and PID readings were recorded on the boring logs, which are provided in Appendix A.

Soil samples collected from the borings were transferred directly into laboratory-prepared sample containers. Each soil sample consisted of a 4-ounce laboratory-prepared glass soil sample container that was completely filled to eliminate headspace. In addition, a sample from each sampling interval was collected according to EPA Method 5035A. Care was taken not to handle the seal or inside cap of the container when placing the sample into the containers. The sample containers were clearly labeled, using the unique sample number designation and labeling protocol described in the Work Plan.

The soil samples were submitted to OnSite Environmental Inc. of Redmond, Washington for laboratory analysis of HVOCs using EPA Method 8260B. At the request of Ecology, three soil samples per boring were analyzed when possible, with the exception of the monitoring well boring, for which one sample was analyzed for waste disposal purposes.

All non-dedicated field sampling equipment was cleaned and decontaminated between each use and prior to leaving the Site. Soil cuttings, purge water, and decontamination wash water were contained on Site in labeled 55-gallon drums pending waste profiling and proper disposal.

3.2.1 Former Redmond One Hour Cleaners

Borings FB-1 and FB-2 were advanced at the location of the former Redmond One Hour Cleaners, in the eastern portion of the current QFC grocery store in Redmond Center (Figure 2). The purpose of the borings was to assess whether a release of PCE had occurred at the location of the former Redmond One Hour Cleaners. The two borings were placed in the estimated vicinity of the former dry cleaning machine. Borings FB-1 and FB-2 were advanced to 10 and 4 feet bgs, respectively, prior to drill refusal due to dense soils. The three soil samples collected from boring FB-1 and the single soil sample collected from boring FB-2 were submitted for laboratory analysis.

The Work Plan stated that up to four borings would be advanced at the former Redmond One Hour Cleaners facility. Only two borings were advanced due to the presence of dense soils that did not permit advancement of the borings to the planned depth. It is Farallon's opinion that the samples collected from the two boring locations are representative of subsurface conditions in the targeted area.

3.2.2 Cleaning Center of Redmond

Farallon installed an SVE system to remove residual concentrations of PCE in the unsaturated soil above the groundwater table, and conducted periodic groundwater monitoring events to document concentrations of PCE in groundwater over time. The SVE system operated from August 2003 to August 2006. The purpose of the confirmation soil sampling conducted at the Cleaning Center of Redmond facility was to assess whether concentrations of HVOCs in subsurface soil still exceed MTCA Method A or B cleanup levels after 3 years of SVE system operation.

Boring FB-3 was located north of the Cleaning Center of Redmond, at the closest accessible location to former monitoring well MW-4 (Figure 2). The analytical result for a soil sample collected during installation of MW-4 indicated that a concentration of PCE exceeded the MTCA Method A cleanup level. Borings FB-4 and FB-5 were located adjacent to the former dry cleaning machine, where prior investigations by others indicated that concentrations of HVOCs in subsurface soil exceeded MTCA Method A and B cleanup levels (Figure 2).

Borings FB-3, FB-4, and FB-5 were advanced to 11, 12, and 8 feet bgs, respectively. Boring FB-5 was abandoned at 8 feet bgs due to pea gravel sloughing into the boring. Three soil samples per boring were selected for laboratory analysis. The samples collected from depths similar to those for the investigation conducted by GeoEngineers, Inc. (2001) were selected for laboratory analysis to enable comparison between past and current results.

3.2.3 Redmond Center

Monitoring well MW-10 was located at the southeastern corner of Redmond Center to evaluate the concentrations of HVOCs in groundwater migrating onto the Redmond Center property from

an up-gradient off-Site source (Figure 2). A single soil sample was collected from the vadose zone of monitoring well MW-10 for waste disposal characterization.

Monitoring well MW-10 was developed with the use of a submersible pump. Monitoring well development consisted of surging and purging the wells until a minimum of 10 submerged well volumes were removed and groundwater no longer appeared turbid.

3.3 GROUNDWATER SAMPLING

Groundwater sampling field activities were conducted in accordance with the Work Plan and consisted of a quarterly confirmation groundwater monitoring event, and sampling groundwater at newly installed monitoring well MW-10. The confirmation groundwater monitoring event and sampling at monitoring well MW-10 included the following tasks:

- Measuring the depth to groundwater in each monitoring well;
- Purging groundwater using EPA low-flow sampling protocols prior to collecting groundwater samples; and
- Submitting the groundwater samples for laboratory analysis of HVOCs using EPA Method 8260B.

Upon Farallon's arrival at the Site, each monitoring well was opened and the water level in the well was permitted to equilibrate with atmospheric pressure for a minimum of 15 minutes prior to measuring the depth to groundwater. Groundwater levels were measured to an accuracy of 0.01 foot using an electric water-level meter.

Purging and sampling of each monitoring well was performed using a peristaltic pump and dedicated polyethylene tubing at flow rates ranging from 100 to 300 milliliters per minute. The tubing intake was placed at approximately mid-screen in each monitoring well. During purging, water quality was monitored using a YSI 600XL water quality system equipped with a flow-through cell. Water quality was monitored and results were recorded for temperature, pH, specific conductance, dissolved oxygen, turbidity, and oxidation-reduction potential. Each monitoring well was purged until the water quality parameters for temperature, pH, and specific conductance stabilized.

Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into laboratory-prepared sample containers. The containers were placed on ice in a cooler and transported to OnSite Environmental Inc. under standard chain-of-custody protocols for laboratory analysis. The groundwater samples were submitted for analysis of HVOCs using EPA Method 8260B. All purge water generated during the monitoring event was placed in a labeled 55-gallon steel drum and stored temporarily on Site pending disposal.

3.3.1 Confirmation Groundwater Monitoring Event

A groundwater monitoring event was performed on May 15, 2007 to collect the fourth consecutive quarter of confirmation monitoring data at the Redmond Center property. The

purpose of the confirmation groundwater monitoring was to fulfill Ecology's requirement of four consecutive quarters of groundwater quality results below applicable MTCA Method A or B cleanup levels to demonstrate that groundwater quality no longer represents a threat to human health or the environment. Depth to groundwater measurements were collected at Redmond Center property monitoring wells MW-1 through MW-3, MW-5, and MW-7 through MW-9; and at monitoring wells EMW-1 and EMW-2 located on the east-adjacent Echo Cleaners property (Figure 3). Groundwater samples were collected from monitoring wells MW-1 through MW-3, MW-7, and MW-9 for laboratory analysis.

3.3.2 Groundwater Assessment

Monitoring well MW-10 was sampled on June 20, 2007 to assess whether concentrations of HVOCs in groundwater were migrating onto the Redmond Center property from an up-gradient, off-Site source (Figure 3).

The monitoring well elevation was surveyed by Professional Land Surveyors, Inc. of Issaquah, Washington to determine the top of casing elevation to an accuracy of 0.01 foot relative to the City of Redmond Benchmark "RED20," with an elevation of 43.519 feet, as published on the Washington Council of County Surveyors web site during February 2006 (point ID #6035).

3.4 INDOOR AIR SAMPLE COLLECTION

Indoor air samples were collected from a tenant space (Staples store) down-gradient from the Cleaning Center of Redmond on June 12, 2007 to assess whether concentrations of HVOCs may be migrating from groundwater into indoor air, causing a potential threat to human health. As requested by Ecology, the selected indoor air sample locations are the closest tenant space down-gradient from the Cleaning Center of Redmond with a perforation in the floor (floor drain), which potentially could allow concentrations of HVOCs to enter the building space.

Air Toxics, Ltd. of Folsom, California provided two Summa canisters to meet the quality assurance/quality control (QA/QC) standards for collection of the air samples. The Summa canisters were outfitted with flow regulators to collect air over an approximately 10-hour time-weighted period. Both indoor air samples were collected in the women's restroom located in the northwestern corner of the Staples store. One Summa canister was placed adjacent to the floor drain (IA-1) and the intake of the second Summa canister was placed in the breathing zone (IA-2) (Figure 4). The Summa canisters were collected at the end of the 10-hour sampling interval and shipped to Air Toxics, Ltd. for laboratory analysis for PCE and TCE using EPA Method TO15 SIM for low-level HVOCs. The potentially applicable screening levels for HVOCs in indoor air are described below.

The National Institute for Occupational Safety and Health (NIOSH) has established recommended exposure limits (REL) for compounds in the workplace, using a 10-hour workday during a 40-hour work week. With the exception of TCE, NIOSH does not provide RELs for known carcinogens, but bases exposure limits on risk evaluations and potential exposures, and recommends minimization of workplace exposure.

MTCA has not established a Method B standard formula value for PCE in air. The Occupational Safety and Health Administration (OSHA) has established permissible exposure limits (PELs), which are time-weighted averages that must not be exceeded during any 8-hour work shift of a 40-hour work week. The Washington State Department of Health (DOH) has established background concentrations of PCE and TCE for indoor air based on compilation of data from published sources, which also are considered in the evaluation of indoor air quality (DOH 2003). Farallon used the DOH background concentration of PCE for comparison with indoor air concentrations at the Site.

4.0 RESULTS

The results of the Site closure field activities and laboratory analyses are presented below. Soil sample analytical results are presented in Table 1 and illustrated on Figure 2. Groundwater elevations and analytical results are presented in Tables 2 and 3 and illustrated on Figure 3. Indoor air analytical results are presented in Table 4 and illustrated on Figure 4. Direct-push boring and monitoring well logs are provided in Appendix A. Soil and groundwater laboratory analytical results are provided in Appendix B.

4.1 SOIL

Soil encountered in the borings advanced during the investigations consisted of sand with varying quantities of gravel to the maximum depth explored of 25 feet bgs. No field indications of contamination were observed during drilling for the soil borings or the monitoring well boring, with the exception of high PID readings during installation of monitoring well MW-10. Based on field observation, the high PID readings observed during installation of monitoring well MW-10 are attributed to equipment error rather than the presence of volatile organic compounds.

QA/QC testing performed by OnSite Environmental Inc. included evaluation of surrogate recoveries, method blanks, and duplicates. Soil samples FB3-1, FB3-6, FB4-0.5, FB4-5, FB4-9, FB5-0.5, FB5-3, and FB5-5 detected methylene chloride ranging from 0.010 to 0.039 mg/kg with an "H" flag denoted on the laboratory analytical report. The "H" flag indicates that methylene chloride is a common laboratory solvent that may have been introduced during sample preparation, and may be impacting the sample result. The remaining QA/QC data associated with the confirmation soil samples were within acceptable QA/QC limits, and the data are acceptable for use in this report. The laboratory analytical reports are provided in Appendix B.

4.1.1 Former Redmond One Hour Cleaners

Concentrations of HVOCs in the soil samples analyzed from boring FB-1 at 1, 6, and 10 feet bgs, and from boring FB-2 at 1 foot bgs either were not detected above the laboratory practical quantitation limits (PQL) or were below MTCA Method A or B cleanup levels (Table 1; Figure 2).

4.1.2 Cleaning Center of Redmond

Concentrations of HVOCs in the soil samples analyzed from boring FB-3 at 1, 6, and 9 feet bgs, boring FB-4 and 0.5, 5, and 9 feet bgs, and boring FB-5 at 0.5, 3, and 5 feet bgs were either not detected above the laboratory PQL or were below MTCA Method A or B cleanup levels (Table 1; Figure 2).

4.1.3 Redmond Center

Concentrations of HVOCs in the soil sample analyzed from monitoring well boring MW-10 at 11 feet bgs were below the laboratory PQL (Table 1; Figure 2).

4.2 GROUNDWATER

The confirmation groundwater monitoring event was performed on May 15, 2007, and monitoring well MW-10 was sampled on June 20, 2007.

4.2.1 Confirmation Groundwater Monitoring Event

The groundwater elevations for the monitoring event ranged from 22.72 feet (MW-8) to 25.47 feet (EMW-1), relative to mean sea level (Table 2). Contouring of the groundwater levels indicated a groundwater flow direction predominantly toward the west-northwest, with an average gradient of 0.002 foot per foot. Previous monitoring events performed at the Site also have indicated a groundwater flow direction to the west-northwest.

The analytical results indicated that concentrations of PCE in groundwater samples collected from monitoring wells MW-1 through MW-3, MW-7, and MW-9 during the May 2007 monitoring event were below the MTCA Method A cleanup level of 5 µg/l for PCE in groundwater. Chloroform was detected at low concentrations (less than 0.51 µg/l) in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-7, and MW-9. All other HVOCs were reported non-detect at the laboratory PQL, or were below applicable MTCA Method A or B cleanup levels. Figure 3 shows the PCE concentrations for groundwater samples collected from the monitoring wells on May 15, 2007. Table 3 summarizes the groundwater analytical results for selected HVOCs.

The QA/QC testing performed included an evaluation of surrogate recoveries, method blanks, and blank spike/blank spike duplicates. All laboratory QA/QC data were within acceptable ranges of tolerance, as indicated in the laboratory test certificates presented in Appendix B of this report. Farallon also submitted one field duplicate sample (MW3-FD-051507), which was collected concurrently with the primary sample from monitoring well MW-3. The calculated relative percent difference for PCE in the field duplicate sample was 8.3 percent, which is within the acceptable limit for relative percent difference. The QA/QC results indicate that the data are acceptable for use in this report. The laboratory analytical reports for the monitoring event are provided in Appendix B.

4.2.2 Groundwater Assessment

Analytical results for the groundwater sample collected from monitoring well MW-10 indicated a concentration of PCE of 7.4 µg/l, which slightly exceeds the MTCA Method A cleanup level of 5 µg/l (Figure 3; Table 3). A concentration of TCE below the MTCA Method A cleanup level was detected in the groundwater sample collected from monitoring well MW-10 (Table 3). All other HVOCs were reported non-detect at the laboratory PQL, or were below applicable MTCA Method A or B cleanup levels (Table 3).

The QA/QC testing included evaluation of surrogate recoveries, method blanks, and duplicates. The QA/QC data associated with the groundwater sample were within acceptable QA/QC limits, and the data are acceptable for use in this report. The laboratory analytical report is provided in Appendix B.

4.3 INDOOR AIR

The laboratory analytical results for the indoor air samples collected from the women's restroom in the Staples store indicated a PCE concentration of 1.4 micrograms per cubic meter ($\mu g/m^3$) in both samples (Table 4; Figure 4). Concentrations of TCE were reported as non-detect at the laboratory PQL in both indoor air samples (Table 4; Figure 4).

The analytical result for PCE in indoor air is expected to be the worst-case scenario inside the Staples store, because the sample was collected inside a closed room with the ventilation system turned off. According to the Staples store manager, the ventilation system is turned off approximately 30 minutes before the store closes (8:30 p.m.) and is turned back on approximately 30 minutes before the store opens (6:30 a.m.). The indoor air sample collection time was from approximately 9:15 p.m. to 7:15 a.m. The detected concentrations of PCE in indoor air are below the OSHA PEL for PCE of 678,000 $\mu g/m^3$, and below the DOH background concentration for indoor air of 5 $\mu g/m^3$ (Table 4). There are no established NIOSH or MTCA screening levels for PCE in indoor air.

The QA/QC testing included evaluation of surrogate recoveries, method blanks, and laboratory duplicates. The QA/QC data associated with the indoor air sample were within acceptable QA/QC limits, and the data are acceptable for use in this report. The laboratory analytical report is provided in Appendix B.

5.0 CONCLUSIONS

Farallon conducted various investigations during 2007 in accordance with the Work Plan, except as noted in Section 3 of this report. The investigations were conducted as an independent remedial action under the Voluntary Cleanup Program and in accordance with MTCA. Farallon's conclusions regarding the investigations conducted at the location of the former Redmond One Hour Cleaners and at the southeastern portion of the Redmond Center property, and the confirmation soil and groundwater sampling associated with the prior release of PCE at the Cleaning Center of Redmond facility are presented below.

5.1 FORMER REDMOND ONE HOUR CLEANERS

The results of the prior investigation by GeoEngineers, Inc. (2001) of soil conditions outside the existing building to the north of the location of the former Redmond One Hour Cleaners indicated that concentrations of PCE did not exceed the MTCA Method A cleanup level in effect at that time. The analytical results for HVOCs in groundwater samples collected at the monitoring wells nearest to (MW-5) and down-gradient of (MW-1 and MW-2) the location of the former Redmond One Hour Cleaners have been below the MTCA Method A cleanup levels for more than four consecutive quarters. In addition, concentrations of PCE in soil samples collected from borings FB-1 and FB-2 drilled at the direction of Farallon inside the QFC grocery store to assess soil conditions at the suspected location of the former Redmond One Hour Cleaners dry cleaning machine do not exceed the MTCA Method A cleanup level. These data collected by GeoEngineers, Inc. and Farallon confirm that soil and groundwater conditions do not represent a potential threat to human health or the environment at or down-gradient of the former Redmond One Hour Cleaners.

5.2 CLEANING CENTER OF REDMOND

A release of PCE in the vicinity of the dry cleaning machine at the Cleaning Center of Redmond impacted soil and groundwater. In response to the confirmed release, the use of PCE was discontinued at the Cleaning Center of Redmond in October 2002, and a cleanup action using SVE was performed for 3 years commencing in August 2003. Confirmation soil sampling was conducted by Farallon in June 2007, and four quarters of confirmation groundwater monitoring were completed in May 2007.

The confirmation soil sampling program included drilling three borings at the Cleaning Center of Redmond facility. Concentrations of PCE in soil samples collected at exterior boring FB-3 from depths of 1 to 9 feet bgs were below the MTCA Method A cleanup level. Boring FB-3 was located as close as possible to former monitoring well MW-4. GeoEngineers, Inc. had analyzed a soil sample collected from 22.5 feet bgs in monitoring well MW-4 that exceeded the previous MTCA Method A cleanup level of 0.5 mg/kg. Farallon did not collect a soil sample from 22.5 feet bgs in boring FB-3, because it would have been below the groundwater table and therefore not representative of concentrations in soil. Concentrations of PCE in soil samples collected from interior borings FB-4 and FB-5 from depths of 0.5 to 9 feet bgs, similar to the GeoEngineers, Inc. sample depths from borings B-10 and B-11, were below the MTCA

Method A cleanup level, indicating that the operation of the SVE system at the source area was successful in remediating previously contaminated soil in the vadose zone, and that no additional confirmation sampling is warranted.

Confirmation groundwater monitoring events were conducted at monitoring wells MW-1 through MW-3, MW-7, and MW-9 in August and November 2006, and in February and May 2007. The estimated direction of groundwater flow during this period was west-northwest, consistent with prior monitoring events at the Site. The analytical results for all of the confirmation groundwater samples were below the MTCA Method A cleanup levels for PCE and TCE.

Indoor air samples collected adjacent to the floor drain in the tenant space west-adjacent to the Cleaning Center of Redmond contained concentrations of PCE that were below the DOH background concentration for indoor air, and did not exceed the OSHA PEL. There is no established MTCA Method B cleanup level or NIOSH REL for PCE in air.

The results of the confirmation soil and groundwater sampling program at the Cleaning Center of Redmond facility and the assessment of indoor air at the adjacent tenant space indicate that the cleanup action remediated the release of PCE to soil and groundwater, and that conditions no longer represent a potential threat to human health or the environment.

5.3 SOUTHEASTERN PORTION OF REDMOND CENTER

The groundwater sample collected from monitoring well MW-10, located at the southeastern corner of the Redmond Center property, contained a concentration of PCE exceeding the MTCA Method A cleanup level, and was similar to the concentrations detected in the reconnaissance groundwater samples collected by Farallon from borings B-2 and B-3, which were located at the southeastern corner of the Redmond Center property. The analytical results indicate that a plume of PCE in groundwater emanating from an up-gradient, off-Site source(s) is present in the southern portion of the Redmond Center property. The location of the off-Site source(s) has not been identified.

Farallon conducted limited historical research to identify properties located up-gradient (east-southeast) of monitoring well MW-10 that may have used or stored PCE and may be the source responsible for the concentrations of PCE present in groundwater beneath this area of the Redmond Center property. The limited historical research included review of Sanborn Fire Insurance maps (up to 1926), Polk City Directories (R.L. Polk & Co.), and prior research conducted by Farallon for due diligence projects for properties located in downtown Redmond.

Properties identified from the limited historical research that may have used, stored, and possibly released PCE to groundwater include the following:

- Overlake Cleaners, located at 16940 Northeast 79th Street. A release of PCE exceeding MTCA Method A cleanup levels was confirmed at this property. Review of documents in Ecology files by Farallon indicated that a release of PCE at the Overlake Cleaners has contributed contamination detected in City of Redmond Wells #1 and #2;

- Redmond Cleaners, located at 7981 Leary Way Northeast. According to Ecology's database, this facility currently is listed as a small quantity generator of hazardous materials (PCE) related to dry cleaning operations;
- Spic-n-Span Cleaners, historically (1985) located at 16504 Redmond Way, Suite D; and Daniels Cleaners, currently located at 16450 Redmond Way. Farallon has no additional information on these properties;
- Foto Fast, historically (1980) located at 15958 Redmond Way. This was a film sales and processing facility that appears to have been directly across 160th Avenue Northeast from the Site, possibly at the location of the current Jamba Juice; and
- Former King County Maintenance Facility, located at 7733 Leary Way Northeast. Concentrations of PCE in groundwater exceeding the MTCA Method A cleanup level were confirmed at this facility that currently is owned by the City of Redmond. This facility may be cross-gradient to monitoring well MW-10 based on the estimated property-specific groundwater flow direction.

In addition to the above properties, numerous automotive repair facilities historically were or currently are located up-gradient of monitoring well MW-10. It is possible that one or more of these facilities used PCE as a degreasing solvent, although use of PCE was not historically widespread at automotive repair facilities based on Farallon's experience in conducting site assessments and cleanup actions at these types of facilities.

5.4 SUMMARY

Farallon has completed the Site closure activities described in the Work Plan. Soil and groundwater data collected at and down-gradient of the former Redmond One Hour Cleaners facility did not identify a release of PCE exceeding MTCA Method A cleanup levels. No further action is warranted to assess this former facility. In addition, the cleanup action completed at the Cleaning Center of Redmond was successful in remediating the release of PCE to soil and groundwater, and conditions no longer represent a threat to human health or the environment. No further actions are warranted or planned at the Site.

The analytical results for a groundwater sample collected at monitoring well MW-10 indicates that groundwater at the southeastern corner of the Redmond Center property has concentrations of PCE that slightly exceed the MTCA Method A cleanup level. This monitoring well is not located in an area that could have been impacted by the release of PCE at the Cleaning Center of Redmond. The presence of PCE in groundwater at this location is attributed to a release from an off-Site source(s). The specific location of the off-Site source(s) has not been confirmed, although the limited historical research conducted by Farallon identified several facilities located proximate to or up-gradient of monitoring well MW-10 that potentially may be the source of groundwater contamination impacting the Redmond Center property. Farallon recommends that Ecology and/or the City of Redmond obtain sufficient information regarding subsurface conditions at these facilities to assess whether a release of PCE to groundwater may have occurred.

6.0 REFERENCES

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7.0 LIMITATION

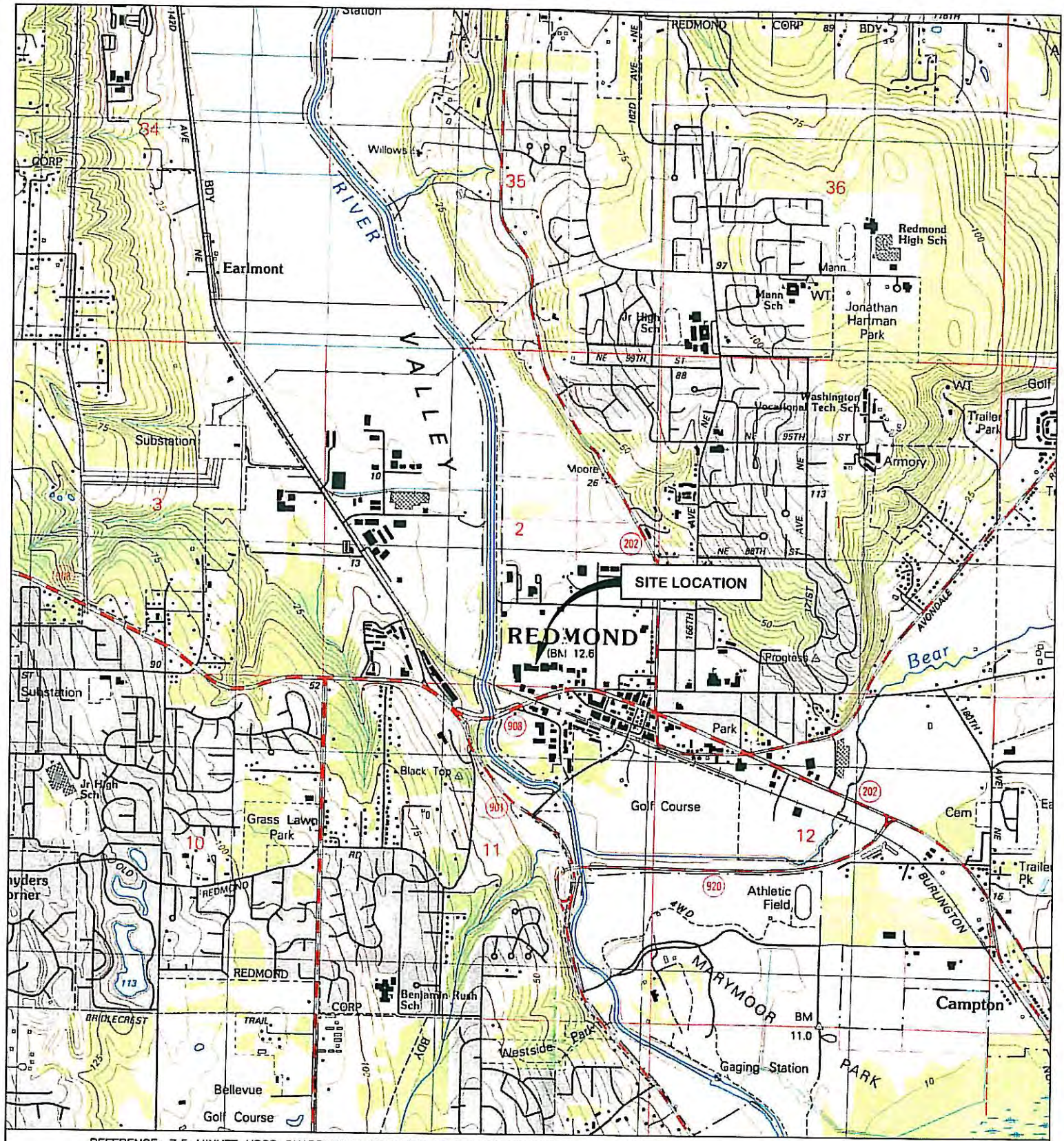
The conclusions and recommendations contained in this report are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location, and are subject to the following limitation.

Certain information used by Farallon in this report has been obtained, reviewed, and/or evaluated from various sources believed to be reliable. Although Farallon's conclusions, opinions, and recommendations are based in part on such information, Farallon's services did not include verification of its accuracy or authenticity. Should such information prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

FIGURES

SITE CLOSURE REPORT
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001



REFERENCE: 7.5 MINUTE USGS QUADRANGLE BELLEVUE NORTH, WASHINGTON. DATED 1982

WASHINGTON

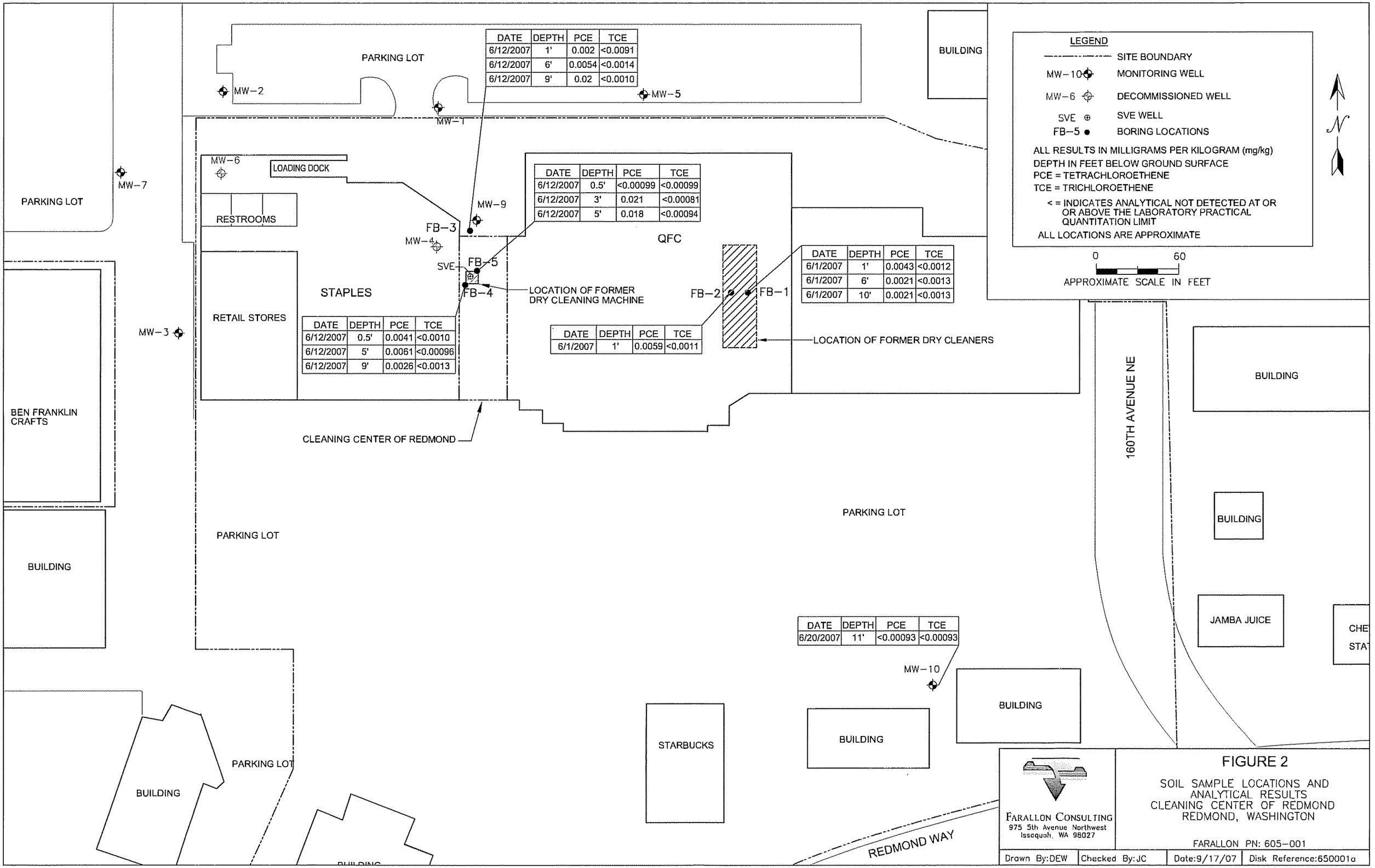
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 1

SITE LOCATION MAP
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: DEW	Checked By: TH	Date:9/17/07	Disk Reference: 650001a



DATE	DEPTH	PCE	TCE
6/12/2007	1'	0.002	<0.0091
6/12/2007	6'	0.0054	<0.0014
6/12/2007	9'	0.02	<0.0010

DATE	DEPTH	PCE	TCE
6/12/2007	0.5'	<0.00099	<0.00099
6/12/2007	3'	0.021	<0.00081
6/12/2007	5'	0.018	<0.00094

DATE	DEPTH	PCE	TCE
6/12/2007	0.5'	0.0041	<0.0010
6/12/2007	5'	0.0061	<0.00096
6/12/2007	9'	0.0026	<0.0013

DATE	DEPTH	PCE	TCE
6/1/2007	1'	0.0043	<0.0012
6/1/2007	6'	0.0021	<0.0013
6/1/2007	10'	0.0021	<0.0013

DATE	DEPTH	PCE	TCE
6/1/2007	1'	0.0059	<0.0011

DATE	DEPTH	PCE	TCE
6/20/2007	11'	<0.00093	<0.00093

FIGURE 2

SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FARALLON PN: 605-001

Drawn By:DEW | Checked By:JC | Date:9/17/07 | Disk Reference:650001a

SAMMAMISH RIVER

PARKING LOT

OPPORTUNITY BUILDING

PARKING LOT

158TH AVENUE NE

BUILDING

APARTMENT BUILDINGS

APARTMENT BUILDINGS

APARTMENT BUILDINGS

APARTMENT BUILDINGS

83RD STREET NE

DRAINAGE SWALE

160TH AVENUE NE

LEGEND

- SITE BOUNDARY
- MW-9 ONSITE MONITORING WELL
- MW-6 DECOMMISSIONED WELL
- EMW-2 OFFSITE MONITORING WELL
- SVE SVE WELL
- FB-1 BORING LOCATION
- TRAIN TRACKS
- (22.72) GROUNDWATER ELEVATION RELATIVE TO MEAN SEA LEVEL
- 23.00 GROUNDWATER ELEVATION CONTOUR
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

ALL RESULTS IN MICROGRAMS PER LITER (ug/L)

[3.3] TETRACHLOROETHENE (PCE) IN GROUNDWATER

BOLD INDICATE CONCENTRATIONS ABOVE WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP LEVELS

NOTE: 1. ALL LOCATIONS ARE APPROXIMATE
2. MONITORING WELL MW-10 NOT USED IN CALCULATION OF GROUNDWATER ELEVATION CONTOURS
3. MONITORING WELL MW-10 WAS SAMPLED ON JUNE 22, 2007
4. RESULTS FOR BORING FB-1 ARE RECONNAISSANCE GROUNDWATER SAMPLES COLLECTED IN AUGUST 2006

0 120
APPROXIMATE SCALE IN FEET

MW-8 (22.72)

DEPTH	PCE
12.5'	2.4
31.5'	0.95
68.5'	<0.20

FB-1

MW-7 (23.48) [2.9]

MW-3 (23.66) [2.5]

MW-2 (23.64) [1.3]

MW-1 (24.12) [3.3]

MW-5 (24.46)

MW-6

LOADING DOCK

MW-9 (24.18) [1.8]

MW-4

SVE

STAPLES

RETAIL STORES

QFC

BEN FRANKLIN CRAFTS

BUILDING

CLEANING CENTER OF REDMOND

PARKING LOT

PARKING LOT

PARKING LOT

BUILDING

BUILDING

BUILDING

BUILDING

BUILDING

EMW-2 (25.33)

BUILDING

BUILDING

BUILDING

EMW-1 (25.47)

ECHO CLEANERS

BUILDING

JAMBA JUICE

CHEVRON STATION

BUILDING

STARBUCKS

MW-10 [7.4]

PIZZA HUT

BUILDING

REDMOND WAY

23.00 24.00 24.50 25.00 23.50

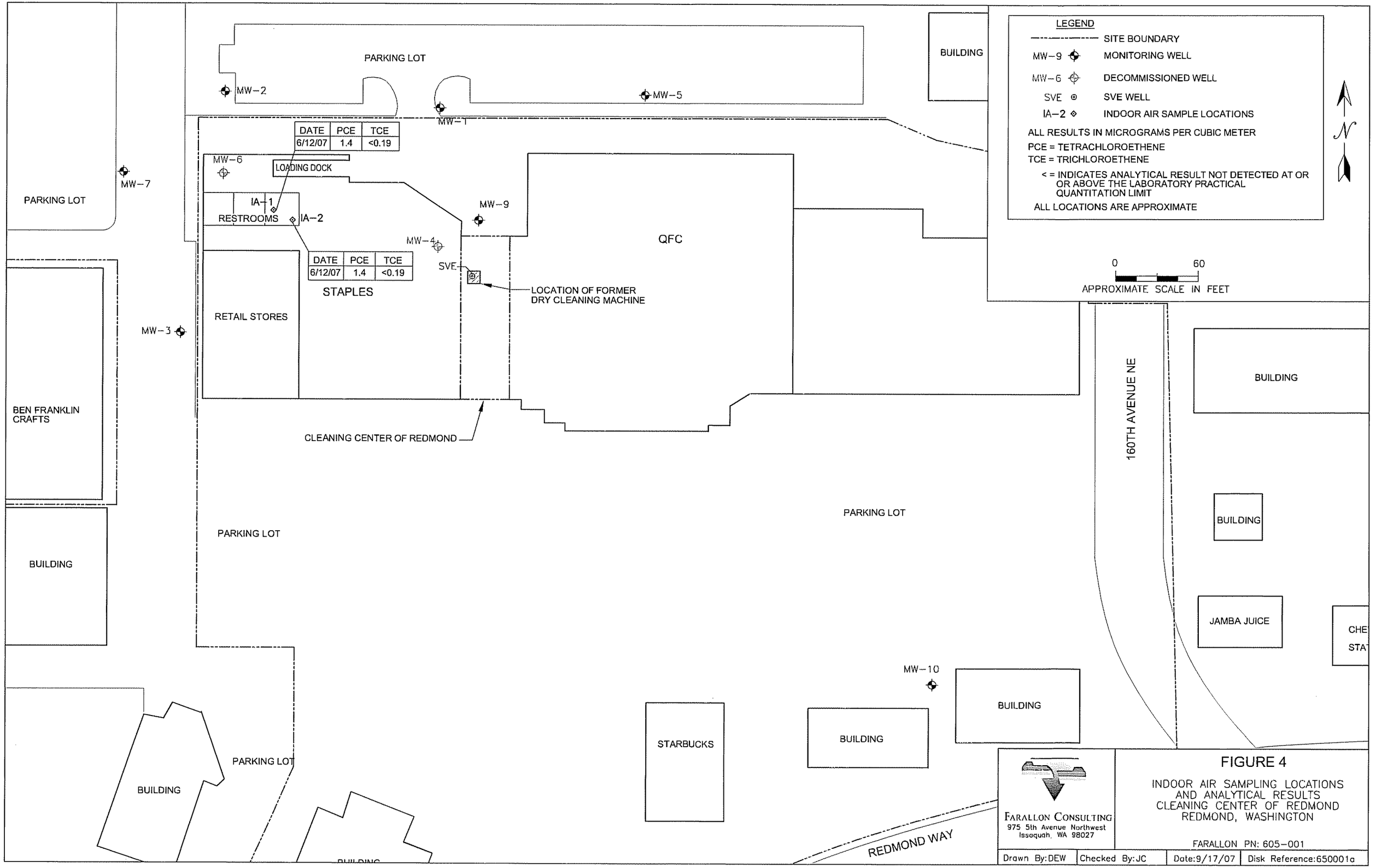
FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 3

GROUNDWATER ELEVATION CONTOURS AND PCE CONCENTRATIONS IN GROUNDWATER FOR MAY 15, 2007
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: DEW	Checked By: JC	Date 9/17/07	Disk Reference: 650001a



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975 5th Avenue Northwest
Issaquah, WA 98027

FIGURE 4

INDOOR AIR SAMPLING LOCATIONS
AND ANALYTICAL RESULTS
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

FARALLON PN: 605-001

Drawn By: DEW	Checked By: JC	Date: 9/17/07	Disk Reference: 650001a

TABLES

SITE CLOSURE REPORT
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

Table 1
Summary of Soil Sample Analytical Results - HVOCs
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Boring ID	Sample Number	Date Sampled	Sample Depth (feet)[1]	Analytical Results (milligrams per kilogram)			
				PCE[2]	TCE[2]	cis-1,2-Dichloroethene[2]	trans-1,2-Dichloroethene[2]
FB1	FB1-1	6/1/2007	1	0 0043	<0.0012	<0.0012	<0 0012
	FB1-6	6/1/2007	6	0.0021	<0.0013	<0 0013	<0 0013
	FB1-10	6/1/2007	10	0.0021	<0.0013	<0.0013	<0.0013
FB2	FB2-1	6/1/2007	1	0.0059	<0.0011	<0.0011	<0.0011
FB3	FB3-1	6/12/2007	1	0.002	<0.00091	<0 00091	<0.00091
	FB3-6	6/12/2007	6	0.0054	<0 0014	0.043	0.0028
	FB3-9	6/12/2007	9	0.02	<0.0010	0.0017	<0.0010
FB4	FB4-0.5	6/12/2007	0 5	0.0041	<0.0010	<0 0010	<0.0010
	FB4-5	6/12/2007	5	0.0061	<0.00096	<0.00096	<0.00096
	FB4-9	6/12/2007	9	0.0026	<0.0013	<0.0013	<0.0013
FB5	FB5-0.5	6/12/2007	0 5	<0.00099	<0.00099	<0 00099	<0.00099
	FB5-3	6/12/2007	3	0.021	<0 00081	<0.00081	<0.00081
	FB5-5	6/12/2007	5	0.018	<0.00094	<0.00094	<0.00094
MW10	MW10-11	6/20/2007	11	<0.00093	<0.00093	<0.00093	<0.00093
MTCA Cleanup Levels for Soil				**0.05[3]**	**0.03[3]**	**800[4]**	**1,600[4]**

NOTES:

< denotes concentration is less than the laboratory practical quantitation limit indicated.

[1]Depth in feet below ground surface.

[2]Analyzed by U S. Environmental Protection Agency Method 8260B

[3]Washington State Department of Ecology Model Toxics Control Act (MTCA) Cleanup Regulation Method A Soil Cleanup Level. Chapter 173-340 of the Washington Administrative Code. as amended February 2001

[4]MTCA Cleanup Levels and Risk Calculations (CLARC) Standard Method B Formula Values, Version 3 1. updated November 2001

PCE = tetrachloroethene

TCE = trichloroethene

HVOCs = halogenated volatile organic compounds

Table 2
Summary of Groundwater Elevations
Cleaning Center of Redmond
Redmond, Washington
Farallon PN:650-001

Well Identification	Date	Top of Well Casing Elevation (feet)	Depth to Water (feet)[2]	Groundwater Elevation (feet)[1]
MW-1	12/20/2000	100.08 [1]	11.1	88.98
	6/6/2001		10.47	89.61
	6/28/2002		11.51	88.57
	8/13/2003		12.33	87.75
	11/12/2003		10.58	89.5
	2/18/2004		8.71	91.37
	5/10/2004		11.43	88.65
	8/27/2004		11.26	88.82
	2/15/2006	34.95 [3]	8.37	26.58
	8/23/2006		12.73	22.22
	11/21/2006		6.71	28.24
	2/28/2007		9.81	25.14
	5/15/2007		10.83	24.12
MW-2	12/20/2000	100.76 [1]	12.07	88.69
	6/6/2001		11.43	89.33
	6/28/2002		12.58	88.18
	8/13/2003		13.27	87.49
	11/12/2003		11.65	89.11
	2/18/2004		9.95	90.81
	5/10/2004		12.47	88.29
	8/27/2004		12.11	88.65
	2/15/2006	35.63 [3]	9.60	26.03
	8/23/2006		12.72	22.91
	11/21/2006		7.49	28.14
	2/28/2007		10.91	24.72
	5/15/2007		11.99	23.64
MW-3	12/20/2000	98.41 [1]	9.7	88.71
	6/6/2001		9.08	89.33
	6/28/2002		10.22	88.19
	8/13/2003		10.88	87.53
	11/12/2003		9.31	89.1
	2/18/2004		7.59	90.82
	5/10/2004		10.1	88.31
	8/27/2004		9.73	88.68
	2/15/2006	33.28 [3]	7.25	26.03
	8/23/2006		10.37	22.91
	11/21/2006		5.11	28.17
	2/28/2007		8.51	24.77
	5/15/2007		9.62	23.66
MW-4	12/20/2000	98.82 [1]	9.71	89.11
	6/6/2001		9.18	89.64
	6/28/2002		10.26	88.56
	8/13/2003		Well Removed	—
MW-5	12/20/2000	101.32 [1]	11.97	89.53
	6/6/2001		11.47	89.85
	6/28/2002		12.52	88.8
	8/13/2003		13.41	87.91
	11/12/2003		11.47	89.85
	2/18/2004		9.46	91.86
	5/10/2004		12.41	88.91
	8/27/2004		12.41	98.91
	2/15/2006	36.19 [3]	9.18	27.01
	8/23/2006		12.73	23.46
	11/21/2006		7.92	28.27
	2/28/2007		10.75	25.44
	5/15/2007		11.73	24.46

Table 2
Summary of Groundwater Elevations
Cleaning Center of Redmond
Redmond, Washington
Farallon PN:650-001

MW-6	12/20/2000	98.52 [1]	9.81	88.71
	6/6/2001		9.19	89.33
	6/28/2002		10.33	88.19
	8/13/2003		Well Removed	—
MW-7	12/20/2000	98.29 [1]	9.7	88.59
	6/6/2001		9.02	89.27
	6/28/2002		10.21	88.08
	8/13/2003		10.85	87.44
	11/12/2003		9.32	88.97
	2/18/2004		7.68	90.61
	5/10/2004		10.07	88.22
	8/30/2004		9.72	88.57
	2/15/2006	33.16 [3]	7.31	25.85
	8/23/2006		10.35	22.81
	11/21/2006		5.02	28.14
	2/28/2007		8.54	24.62
	5/15/2007		9.68	23.48
MW-8	12/20/2000	99.11 [1]	11.12	87.99
	6/6/2001		10.34	88.77
	6/28/2002		11.61	87.5
	8/13/2003		12.1	87.01
	11/12/2003		10.82	88.29
	2/18/2004		9.42	89.69
	5/10/2004		11.51	87.60
	8/27/2004		10.79	88.32
	2/15/2006	33.98 [3]	9.02	24.96
	8/23/2006		11.69	22.29
	11/21/2006		5.98	28.00
	2/28/2007		10.06	23.92
	5/15/2007		11.26	22.72
MW-9[4]	8/13/2003	99.13 [1]	11.38	87.75
	11/12/2003		9.6	89.53
	2/18/2004		7.72	91.41
	5/10/2004		10.46	88.67
	8/27/2004		10.28	88.85
	2/15/2006	34.00 [3]	7.36	26.64
	8/23/2006		10.72	23.28
	11/21/2006		5.72	28.28
	2/28/2007		8.79	25.21
	5/15/2007		9.82	24.18
MW-10	6/22/2007	38.29	13.84	24.45
EMW-1	2/15/2006	38.59 [3]	10.51	28.08
	8/23/2006		14.42	24.17
	11/21/2006		10.00	28.59
	2/28/2007		12.20	26.39
	5/15/2007		13.12	25.47
EMW-2	2/15/2006	38.63 [3]	10.68	27.95
	8/23/2006		14.56	24.07
	11/21/2006		10.11	28.52
	2/28/2007		12.38	26.25
	5/15/2007		13.3	25.33

NOTES:

— = not applicable

[1]Relative to an on-site datum of 100 feet

[2]In feet below top of casing.

[3]In feet above mean sea level

[4]Well installed on November 19, 2002

Table 3
Summary of Groundwater Sample Analytical Results - HVOCs
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-1	3/6/2000	GeoEngineers	1.6	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**5.4**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.7	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.3	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.1	<0.20	<0.20	<0.20
	8/13/2003	Farallon	1.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.3	0.22	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	4.0	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**8.5**	0.84	1.2	**0.76**
	2/15/2006	Farallon	2.4	<0.20	<0.20	<0.20
	8/23/2006	Farallon	3.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	4.5	0.26	<0.20	<0.20
	2/28/2007	Farallon	2.3	<0.20	<0.20	<0.20
	5/15/2007	Farallon	3.3	<0.20	<0.20	<0.20
MW-2	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	2.9	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.9	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.9	<0.20	<0.20	<0.20
	6/28/2002	Farallon	0.81	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.99	<0.20	<0.20	<0.20
	11/12/2003	Farallon	0.66	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.88	<0.20	<0.20	<0.20
	5/10/2004	Farallon	0.54	<0.20	<0.20	<0.20
	8/27/2004	Farallon	0.56	<0.20	<0.20	<0.20
	2/15/2006	Farallon	1.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.0	<0.20	<0.20	<0.20
	11/21/2006	Farallon	1.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	0.83	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.30	<0.20	<0.20	<0.20
MW-3	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	0.34	<0.20	<0.20	<0.20
	6/6/2001	Farallon	2.0	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.0	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**7.3**	<0.20	0.49	<0.20
	11/12/2003	Farallon	4.5	0.21	<0.20	<0.20
	2/18/2004	Farallon	2.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**6.7**	0.45	0.24	<0.20
	2/15/2006	Farallon	2.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.5	<0.20	<0.20	<0.20
	11/21/2006	Farallon	5.0	0.21	<0.20	<0.20
	2/28/2007	Farallon	1.8	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.5	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0[2]**	**5.0[2]**	**80[3]**	**0.2[2]**

Table 3
Summary of Groundwater Sample Analytical Results - HVOCs
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-1	3/6/2000	GeoEngineers	1.6	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**5.4**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.7	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.3	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.1	<0.20	<0.20	<0.20
	8/13/2003	Farallon	1.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.3	0.22	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	4.0	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**8.5**	0.84	1.2	**0.76**
	2/15/2006	Farallon	2.4	<0.20	<0.20	<0.20
	8/23/2006	Farallon	3.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	4.5	0.26	<0.20	<0.20
	2/28/2007	Farallon	2.3	<0.20	<0.20	<0.20
	5/15/2007	Farallon	3.3	<0.20	<0.20	<0.20
MW-2	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	2.9	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.9	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.9	<0.20	<0.20	<0.20
	6/28/2002	Farallon	0.81	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.99	<0.20	<0.20	<0.20
	11/12/2003	Farallon	0.66	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.88	<0.20	<0.20	<0.20
	5/10/2004	Farallon	0.54	<0.20	<0.20	<0.20
	8/27/2004	Farallon	0.56	<0.20	<0.20	<0.20
	2/15/2006	Farallon	1.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.0	<0.20	<0.20	<0.20
	11/21/2006	Farallon	1.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	0.83	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.30	<0.20	<0.20	<0.20
MW-3	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	0.34	<0.20	<0.20	<0.20
	6/6/2001	Farallon	2.0	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.0	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**7.3**	<0.20	0.49	<0.20
	11/12/2003	Farallon	4.5	0.21	<0.20	<0.20
	2/18/2004	Farallon	2.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**6.7**	0.45	0.24	<0.20
	2/15/2006	Farallon	2.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.5	<0.20	<0.20	<0.20
	11/21/2006	Farallon	5.0	0.21	<0.20	<0.20
	2/28/2007	Farallon	1.8	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.5	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0[2]**	**5.0[2]**	**80[3]**	**0.2[2]**

Table 3
Summary of Groundwater Sample Analytical Results - HVOCs
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-4	3/6/2000	GeoEngineers	50	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	9.2	<1.0	<5.0	<5.0
	12/20/2000	Farallon	28	0.43	0.78	<0.20
	6/6/2001	Farallon	16	0.32	0.80	<0.20
	6/28/2002	Farallon	14	0.5	1.50	<0.20
	Well Removed 2003					
MW-5	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.0	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.7	<0.20	<0.20	<0.20
	6/28/2002	Farallon	1.6	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.6	<0.20	<0.20	<0.20
	2/18/2004	Farallon	4.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	1.6	<0.20	<0.20	<0.20
	8/27/2004	Farallon	1.4	<0.20	<0.20	<0.20
	2/15/2006	Farallon	4.8	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.0	<0.20	<0.20	<0.20
MW-6	3/6/2000	GeoEngineers	11	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	27	<1.0	<5.0	<5.0
	12/20/2000	Farallon	15	0.24	<0.20	<0.20
	6/6/2001	Farallon	8.6	<0.20	<0.20	<0.20
	6/28/2002	Farallon	6.3	<0.20	0.29	<0.20
	Well Removed 2003					
MW-7	3/28/2000	GeoEngineers	15	3	<5.0	<5.0
	8/8/2000	GeoEngineers	14	<1.0	<5.0	<5.0
	12/21/2000	Farallon	12	<0.20	<0.20	<0.20
	6/6/2001	Farallon	7.6	<0.20	<0.20	<0.20
	6/28/2002	Farallon	3.9	<0.20	<0.20	<0.20
	8/13/2003	Farallon	5.3	<0.20	<0.20	<0.20
	11/12/2003	Farallon	4.5	<0.20	<0.20	<0.20
	2/18/2004	Farallon	3.6	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.3	<0.20	<0.20	<0.20
	8/30/2004	Farallon	3.6	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.2	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.1	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.9	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0[2]**	**5.0[2]**	**80[3]**	**0.2[4]**

Table 3
Summary of Groundwater Sample Analytical Results - HVOCs
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-8	4/14/2000	GeoEngineers	7.4	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	8.5	<1.0	<5.0	<5.0
	12/20/2000	Farallon	5.7	0.33	0.48	<0.20
	6/6/2001	Farallon	3.9	0.23	0.36	<0.20
	6/28/2002	Farallon	4.1	0.29	0.46	<0.20
	8/13/2003	Farallon	3.4	0.26	0.46	<0.20
	11/12/2003	Farallon	0.62	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.3	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.8	0.25	0.37	<0.20
	8/27/2004	Farallon	0.43	<0.20	<0.20	<0.20
MW-9	8/13/2003	Farallon	7.4	0.27	0.42	<0.20
	11/12/2003	Farallon	3.7	<0.20	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	3.0	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.6	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.4	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.8	<0.20	<0.20	<0.20
MW-10	6/22/2007	Farallon	7.4	0.48	<0.20	<0.20
Field Duplicate Samples						
MW1-FD-112106	11/21/2006	Farallon	4.6	0.24	<0.20	<0.20
MW2-FD-022807	2/28/2006	Farallon	0.86	<0.20	<0.20	<0.20
MW3-FD-051507	5/15/2007	Farallon	2.30	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0**[2]	**5.0**[2]	**80**[3]	**0.2**[2]

NOTES:

Results in BOLD indicate concentrations above Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup levels.

< indicates analyte not detected at or above the laboratory practical quantitation limit shown.

[1] Analyzed by U.S. Environmental Protection Agency Method 8260D.

[2] MTCA Chapter 173-340 of the Washington Administrative Code Method A cleanup levels for groundwater.

[3] Cleanup Levels and Risk Calculations under MTCA, Version 3.1, Washington State Department of Ecology Publication No. 94-145, updated November 2001.

GeoEngineers = GeoEngineers, Inc.

Farallon = Farallon Consulting, L.L.C.

Table 4
Summary of Indoor Air Sample Results
Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Sample ID	Sample Location	Date Collected	Analytical Results (micrograms per cubic meter)	
			Tetrachloroethene	Trichloroethene
IA-1	Staple's Building, women's restroom - adjacent to the floor drain	6/12/2007	1.4	<0.19
IA-2	Staple's Building, women's restroom - breathing zone	6/12/2007	1.4	<0.19
NIOSH Recommended Exposure Limit[1]			**NA[2]**	**134,250[3]**
OSHA TWA Permissible Exposure Limits[4]			**678,000**	**537,000**
MTCA Standard Method B Formula Values for Air[5]			**NE**	**0.515**
Washington DOH Background Concentration[6]			**5**	**0.7**

NOTES:

< Indicates compound not detected above the stated laboratory practical quantitation limit.

[1]National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit (REL) are a time-weighted average for a 10-hour workday during a 40-hour workweek.

[2]No numerical value established. The compound is a known carcinogen. NIOSH has a carcinogen policy which bases exposure limits for carcinogens on risk evaluations and potential exposures. NIOSH recommends minimization of workplace exposure concentration.

[3]NIOSH considers TCE to be a potential occupational carcinogen and recommends an REL of 25 ppm (as a 10-hour TWA)

[4]OSHA permissible exposure limits (PEL) are time-weighted averages which must not be exceeded during any 8-hour workshift of a 40-hour workweek.

[5]Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation (MTCA) Standard Method B Formula Values for ambient air, including both ambient outdoor air and air within structures.

[6]Washington State Department of Health (DOH) expressed indoor median background concentration.

DOH = Washington State Department of Health

NA = Not Applicable

NE = Not Established

APPENDIX A
BORING LOGS

SITE CLOSURE REPORT
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

USCS Classification and Graphic Legend

Major Divisions			USCS Graphic Symbol	USCS Letter Symbol	Lithologic Description
Coarse-Grained Soil (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well graded GRAVEL, well graded GRAVEL with sand
				GP	Poorly graded GRAVEL, GRAVEL with sand
		GRAVEL WITH FINES (Appreciable amount of fines)		GP-GM	Poorly graded GRAVEL - GRAVEL with sand and silt
				GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well graded SAND
				SP	Poorly graded SAND
		SAND WITH FINES (Appreciable amount of fines)		SP-SM	Poorly graded SAND - silty SAND
				SM	Silty SAND
				SC	Clayey SAND
				SM-ML	SILT - Silty SAND
Fine-Grained Soil (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	SILT
				CL	CLAY
				OL	Organic SILT
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic SILT
				CH	Inorganic CLAY
				OH	Organic CLAY
		Highly Organic Soil		PT	Peat
OTHER MATERIALS	PAVEMENT			AC	Asphalt concrete
				CO	Concrete
	OTHER			RK	Bedrock
				WD	Wood Debris
				DB	Debris (Miscellaneous)
				PC	Portland cement

Legend

- Sample Interval
- G — Grab Sample Interval
- Water level at time of drilling
- Water level at time of sampling
- Blank Casing
- Screened Casing
- Cement Grout
- Bentonite
- Sand Pack
- Well Cap
- ——— Solid line indicates sharp contact between units well defined.
- - - - - - - Dashed line indicates gradational contact between units.

feet bgs = feet below ground surface
NE = Not Encountered
NA = Not Applicable
PID = Photoionization Detector
PN = Project Number
units = PID units calibrated to 100 ppm isobutylene
USCS = Unified Soil Classification System

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: FB-1

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA
Farallon PN: 650-001
Logged By: J. Cyr

Date/Time Started:	6/1/07 1225	**Sampler Type:**	4' Macrocore
Date/Time Completed:	6/1/07 0200	**Drive Hammer (lbs.):**	140
Equipment:	Limited Access GP	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	10
Drilling Foreman:	Jayman Lauer	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Geoprobe		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-4" Concrete	CONCRETE PLUG							Concrete
		4"-4' SAND, medium to coarse, with fine to coarse gravel, brown, moist, no odor.	SP		50	-	3.1	FB1-1	X	
		4'-10' SAND, medium, with fine to coarse gravel, grey, moist, no odor.	SP		80	-	5.6	FB106	X	
5										Bentonite
					100	-	8.1	FB1-10	X	
10										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: Bentonite Chips
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: Bentonite Chips
Surveyed Location: X: NA Y: NA

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: FB-2

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA
Farallon PN: 650-001
Logged By: J. Cyr

Date/Time Started:	6/1/07 0205	**Sampler Type:**	4' Macrocore
Date/Time Completed:	6/1/07 0220	**Drive Hammer (lbs.):**	140
Equipment:	Limited Access GP	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	4
Drilling Foreman:	Jayman Lauer	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Geoprobe		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-4" Concrete	CONCRETE PLUG							Concrete
		4"-4' SAND, fine to coarse, with fine to coarse gravel, trace silt, brown, moist, no odor.	SP		50	-	8.5	FB2-1	X	Bentonite
5										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: Bentonite Chips
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: Bentonite Chips
Surveyed Location: **X:** NA **Y:** NA

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: FB-3

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA
Farallon PN: 650-001
Logged By: J. Cyr

Date/Time Started:	6/12/07 0830	**Sampler Type:**	4' Macrocore
Date/Time Completed:	6/12/07 0930	**Drive Hammer (lbs.):**	140
Equipment:	Limited Access GP	**Depth of Water ATD (ft bgs):**	10
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	11
Drilling Foreman:	Jayman Lauer	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Hand Auger/Geoprobe		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-3" Asphalt.	ASPHALT							Concrete
		1'-1.5' SAND, medium, with fine gravel, brown, wet, sulfuric odor (collected by hand auger).	SP		100	-	0.0	FB3-1	X	
		4'-4.5' SILT with fine sand, brown, moist, organic matter, no odor (collected by hand auger).	ML		100	-	0.4	FB3-4		
5										Bentonite
		6'-6.5' SAND, fine, minor silt, blackish-brown, moist, no odor (collected by hand auger).	SP		100	-	0.1	FB3-6	X	
		8'-8.5' SAND, fine to medium, light greyish-brown, moist, no odor, few pieces of wood (collected with hand auger). 8.5'-10' Same as above, wet at 10 feet below ground surface, no wood.	SP		100	-	0.0	FB3-8		
					80	-	0.0	FB3-9	X	
10		10'-11' SAND, medium to coarse, with fine gravel, wet, brownish-grey, no odor.								≤

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: Bentonite Chips
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: Bentonite Chips
Surveyed Location: **X:** NA **Y:** NA

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: FB-4

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA
Farallon PN: 650-001
Logged By: J. Cyr

Date/Time Started:	6/12/07 1000	**Sampler Type:**	4' Macrocore
Date/Time Completed:	6/12/07 1100	**Drive Hammer (lbs.):**	140
Equipment:	Limited Access GP	**Depth of Water ATD (ft bgs):**	10
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	12
Drilling Foreman:	Jayman Lauer	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Geoprobe		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-6" Concrete	CONCRETE PLUG							Concrete
		6"-1' SAND, fine to coarse, minor fine gravel, brownish-orange, moist, no odor (collected by hand auger).	SP		100	-	0.0	FB4-0.5	X	
5		5'-5.9.5' SAND, fine to medium, trace fine gravel, light greyish-brown, moist, no odor (collected by hand auger from 5' to 5.5'). 9.5'-10' SAND, fine, light brown, moist, wet at 10', no odor. 10'-11.75' Same as above, fine to medium sand.	SP		100	-	0.0	FB4-5	X	Bentonite
					100	-	0.0			
								FB4-7		
					100	-	0.0			
								FB4-9	X	
10					100	-	0.0			#2
		11.75'-12' Gravelly SAND, medium to coarse sand, fine gravel, brown, wet, no odor.								

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: Bentonite Chips
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: Bentonite Chips
Surveyed Location: X: NA Y: NA

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: FB-5

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA

Farallon PN: 650-001

Logged By: J. Cyr

Date/Time Started:	6/12/07 1105	**Sampler Type:**	4' Macrocore
Date/Time Completed:	6/12/07 1140	**Drive Hammer (lbs.):**	140
Equipment:	Limited Access GP	**Depth of Water ATD (ft bgs):**	NA
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	8
Drilling Foreman:	Jayman Lauer	**Total Well Depth (ft bgs):**	NA
Drilling Method:	Geoprobe		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0-4" Concrete	CONCRETE PLUG							Concrete
		6"-3' Pea gravel.	GP		80	-	0.1	FB5-0.5	X	
		3'-3.5' SAND, fine to medium, with fine to coarse gravel, trace silt, dark brown, moist, no odor. 3.5'-4' Same as above, no gravel or silt, grey. 4'-8' Same as above, trace to minor silt.	SP					FB5-3	X	
					90	-	0.3			Bentonite
5								FB5-5	X	
10										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: Bentonite Chips

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: Bentonite Chips
Surveyed Location: X: NA Y: NA

FARALLON CONSULTING
975 5th Avenue Northwest
Issaquah, WA 98027

Log of Boring: MW-10

Client: Nelson Real Estate Mngmnt
Project: Cleaning Center of Redmond
Location: Redmond, WA

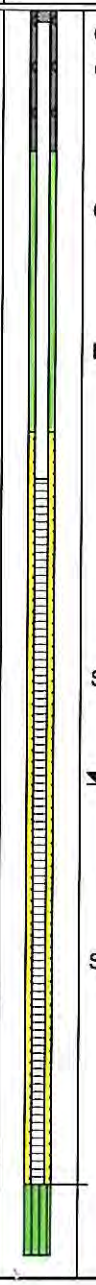
Farallon PN: 650-001

Logged By: D. Clement

Date/Time Started:	06/20/07 0745	**Sampler Type:**	D&M SS 18"x2"
Date/Time Completed:	06/20/07 0930	**Drive Hammer (lbs.):**	300
Equipment:	CME 75	**Depth of Water ATD (ft bgs):**	16.5
Drilling Company:	Cascade Drilling	**Total Boring Depth (ft bgs):**	26.5
Drilling Foreman:	James Goebel	**Total Well Depth (ft bgs):**	25
Drilling Method:	Hollow Stem Auger		

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USGS Graphic	% Recovery	Blow Counts 8/8/8	PID (units)	Sample ID	Sample Analyzed
0									
5		5'-6.5' SAND, fine to coarse, with fine to coarse gravel, light brown, medium dense, moist, no odor	SW		100	12/15/16	673	MW10-6	
10		10'-11.5' SAND, fine to coarse, minor fine gravel and silt, dark reddish-brown, medium dense, moist, no odor	SW		100	15/15/14	754	MW10-11	
15		Sampler broke in boring, drill to 25 feet below ground surface.							
20									
25		25'-26.5' SAND, fine to coarse, mostly coarse, minor silt, dark brown, medium dense, wet, no odor	SP		50	14/16/16	81.0	MW10-26	

Boring/Well Construction Details



Well Construction Information

Monument Type: Flush mount
Casing Diameter (inches): 2
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10-25

Filter Pack: Sand
Surface Seal: Cement
Annular Seal: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Boring Abandonment: NA
Surveyed Location: X: NA Y: NA

APPENDIX B
LABORATORY ANALYTICAL REPORTS

SITE CLOSURE REPORT
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

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

May 21, 2007

Jennifer Cyr
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 650-001
Laboratory Reference No. 0705-139

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on May 15, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

Case Narrative

Samples were collected on May 15, 2007 and received by the laboratory on May 15, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-01
Client ID:	**MW3-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 05-139-01
Client ID: MW3-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.5		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene, d8	91	76-116
4-Bromofluorobenzene	89	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-02
Client ID:	**MW7-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	0.48		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 05-139-02
Client ID: MW7-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.9		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene, d8	90	76-116
4-Bromofluorobenzene	89	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-03
Client ID:	**MW2-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	0.49		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 05-139-03
Client ID: MW2-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	1.3		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene, d8	89	76-116
4-Bromofluorobenzene	89	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-04
Client ID:	**MW1-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	0.26		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 05-139-04
Client ID: MW1-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	3.3		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene, d8	91	76-116
4-Bromofluorobenzene	88	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-05
Client ID:	**MW9-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	0.51		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 05-139-05
Client ID: MW9-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	1.8		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene, d8	90	76-116
4-Bromofluorobenzene	90	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	05-139-06
Client ID:	**MW3-FD-051507**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 05-139-06
Client ID: MW3-FD-051507

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.3		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene, d8	90	76-116
4-Bromofluorobenzene	88	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	5-16-07
Date Analyzed:	5-16-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0516W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0516W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		1.0
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene, d8	89	76-116
4-Bromofluorobenzene	89	70-123

Date of Report: May 21, 2007
Samples Submitted: May 15, 2007
Laboratory Reference: 0705-139
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 5-16-07
Date Analyzed: 5-16-07

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0516W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	8.48	85	8.58	86	70-130	
Benzene	10.0	8.51	85	8.80	88	70-130	
Trichloroethene	10.0	9.62	96	9.58	96	70-116	
Toluene	10.0	9.25	93	9.40	94	76-119	
Chlorobenzene	10.0	8.93	89	8.90	89	77-112	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	1	20	
Benzene	3	16	
Trichloroethene	0	16	
Toluene	2	15	
Chlorobenzene	0	15	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The diesel range PQL is elevated due to the presence of lube oil range hydrocarbons.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Farallon Consulting
Project Number: 650-001
Project Name: Cleaning Center of Redmond
Project Manager: J. Cyr
Sampled by: F. Reider

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 05-139

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH				% Moisture
1	MW3-051507	5/15/07	0940	W	3					X														
2	MW7-051507	"	1015	"	"					X														
3	MW2-051507	"	1045	"	"					X														
4	MW1-051507	"	1115	"	"					X														
5	MW9-051507	"	1215	"	"					X														
6	MW3-FD-051507	"	0945	"	"					X														

	Signature	Company	Date	Time
Relinquished by		Farallon	5/15/07	1237
Received by		OnSite Inc.	5/15/07	1237
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

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

June 7, 2007

Jennifer Cyr
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 650-001
Laboratory Reference No. 0706-002

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on June 1, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

Case Narrative

Samples were collected on June 1, 2007 and received by the laboratory on June 1, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-1-07
Date Analyzed:	6-1-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-002-01
Client ID:	**FB1-1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0059
Chloroethane	ND		0.0012
Trichlorofluoromethane	ND		0.0012
1,1-Dichloroethene	ND		0.0012
Iodomethane	ND		0.0059
Methylene Chloride	ND		0.0059
(trans) 1,2-Dichloroethene	ND		0.0012
1,1-Dichloroethane	ND		0.0012
2,2-Dichloropropane	ND		0.0012
(cis) 1,2-Dichloroethene	ND		0.0012
Bromochloromethane	ND		0.0012
Chloroform	ND		0.0012
1,1,1-Trichloroethane	ND		0.0012
Carbon Tetrachloride	ND		0.0012
1,1-Dichloropropene	ND		0.0012
1,2-Dichloroethane	ND		0.0012
Trichloroethene	ND		0.0012
1,2-Dichloropropane	ND		0.0012
Dibromomethane	ND		0.0012
Bromodichloromethane	ND		0.0012
2-Chloroethyl Vinyl Ether	ND		0.0059
(cis) 1,3-Dichloropropene	ND		0.0012
(trans) 1,3-Dichloropropene	ND		0.0012

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 06-002-01
Client ID: FB1-1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	0.0043		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0012
Chlorobenzene	ND		0.0012
1,1,1,2-Tetrachloroethane	ND		0.0012
Bromoform	ND		0.0012
Bromobenzene	ND		0.0012
1,1,2,2-Tetrachloroethane	ND		0.0012
1,2,3-Trichloropropane	ND		0.0012
2-Chlorotoluene	ND		0.0012
4-Chlorotoluene	ND		0.0012
1,3-Dichlorobenzene	ND		0.0012
1,4-Dichlorobenzene	ND		0.0012
1,2-Dichlorobenzene	ND		0.0012
1,2-Dibromo-3-chloropropane	ND		0.0059
1,2,4-Trichlorobenzene	ND		0.0012
Hexachlorobutadiene	ND		0.0059
1,2,3-Trichlorobenzene	ND		0.0012

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	70-118
Toluene, d8	83	70-121
4-Bromofluorobenzene	99	70-130

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-1-07
Date Analyzed:	6-1-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-002-02
Client ID:	**FB1-6**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0013
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0067
Chloroethane	ND		0.0013
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Iodomethane	ND		0.0067
Methylene Chloride	ND		0.0067
(trans) 1,2-Dichloroethene	ND		0.0013
1,1-Dichloroethane	ND		0.0013
2,2-Dichloropropane	ND		0.0013
(cis) 1,2-Dichloroethene	ND		0.0013
Bromochloromethane	ND		0.0013
Chloroform	ND		0.0013
1,1,1-Trichloroethane	ND		0.0013
Carbon Tetrachloride	ND		0.0013
1,1-Dichloropropene	ND		0.0013
1,2-Dichloroethane	ND		0.0013
Trichloroethene	ND		0.0013
1,2-Dichloropropane	ND		0.0013
Dibromomethane	ND		0.0013
Bromodichloromethane	ND		0.0013
2-Chloroethyl Vinyl Ether	ND		0.0067
(cis) 1,3-Dichloropropene	ND		0.0013
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 06-002-02
Client ID: FB1-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	0.0021		0.0013
1,3-Dichloropropane	ND		0.0013
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0013
Chlorobenzene	ND		0.0013
1,1,1,2-Tetrachloroethane	ND		0.0013
Bromoform	ND		0.0013
Bromobenzene	ND		0.0013
1,1,2,2-Tetrachloroethane	ND		0.0013
1,2,3-Trichloropropane	ND		0.0013
2-Chlorotoluene	ND		0.0013
4-Chlorotoluene	ND		0.0013
1,3-Dichlorobenzene	ND		0.0013
1,4-Dichlorobenzene	ND		0.0013
1,2-Dichlorobenzene	ND		0.0013
1,2-Dibromo-3-chloropropane	ND		0.0067
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0067
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	70-118
Toluene, d8	80	70-121
4-Bromofluorobenzene	99	70-130

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-1-07
Date Analyzed:	6-1-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-002-03
Client ID:	**FB1-10**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0013
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0064
Chloroethane	ND		0.0013
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Iodomethane	ND		0.0064
Methylene Chloride	ND		0.0064
(trans) 1,2-Dichloroethene	ND		0.0013
1,1-Dichloroethane	ND		0.0013
2,2-Dichloropropane	ND		0.0013
(cis) 1,2-Dichloroethene	ND		0.0013
Bromochloromethane	ND		0.0013
Chloroform	ND		0.0013
1,1,1-Trichloroethane	ND		0.0013
Carbon Tetrachloride	ND		0.0013
1,1-Dichloropropene	ND		0.0013
1,2-Dichloroethane	ND		0.0013
Trichloroethene	ND		0.0013
1,2-Dichloropropane	ND		0.0013
Dibromomethane	ND		0.0013
Bromodichloromethane	ND		0.0013
2-Chloroethyl Vinyl Ether	ND		0.0064
(cis) 1,3-Dichloropropene	ND		0.0013
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 06-002-03
Client ID: FB1-10

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	0.0021		0.0013
1,3-Dichloropropane	ND		0.0013
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0013
Chlorobenzene	ND		0.0013
1,1,1,2-Tetrachloroethane	ND		0.0013
Bromoform	ND		0.0013
Bromobenzene	ND		0.0013
1,1,2,2-Tetrachloroethane	ND		0.0013
1,2,3-Trichloropropane	ND		0.0013
2-Chlorotoluene	ND		0.0013
4-Chlorotoluene	ND		0.0013
1,3-Dichlorobenzene	ND		0.0013
1,4-Dichlorobenzene	ND		0.0013
1,2-Dichlorobenzene	ND		0.0013
1,2-Dibromo-3-chloropropane	ND		0.0064
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0064
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	70-118
Toluene, d8	85	70-121
4-Bromofluorobenzene	93	70-130

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-1-07
Date Analyzed:	6-1-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-002-04
Client ID:	**FB2-1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0054
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Iodomethane	ND		0.0054
Methylene Chloride	ND		0.0054
(trans) 1,2-Dichloroethene	ND		0.0011
1,1-Dichloroethane	ND		0.0011
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0054
(cis) 1,3-Dichloropropene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-002-04
Client ID: FB2-1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	0.0059		0.0011
1,3-Dichloropropane	ND		0.0011
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Bromoform	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0054
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0054
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	70-118
Toluene, d8	81	70-121
4-Bromofluorobenzene	95	70-130

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted: 6-1-07
Date Analyzed: 6-1-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0601S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0050
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0601S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	70-118
Toluene, d8	84	70-121
4-Bromofluorobenzene	98	70-130

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-1-07
Date Analyzed: 6-1-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0601S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0521	104	0.0543	109	70-130	
Benzene	0.0500	0.0547	109	0.0519	104	70-127	
Trichloroethene	0.0500	0.0553	111	0.0513	103	73-117	
Toluene	0.0500	0.0520	104	0.0560	112	78-115	
Chlorobenzene	0.0500	0.0509	102	0.0506	101	80-117	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	4	10	
Benzene	5	11	
Trichloroethene	7	13	
Toluene	7	12	
Chlorobenzene	1	10	

Date of Report: June 7, 2007
Samples Submitted: June 1, 2007
Laboratory Reference: 0706-002
Project: 650-001

% MOISTURE

Date Analyzed: 6-1-07

Client ID	Lab ID	% Moisture
FB1-1	06-002-01	6
FB1-6	06-002-02	5
FB1-10	06-002-03	4
FB2-1	06-002-04	4

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The semple was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Farallon Consulting
Project Number: 650-001
Project Name: Cleaning Ctr. of Redmond
Project Manager: Jennifer Cyr
Sampled by: J. Cyr

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 06-002

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH				% Moisture
1	FB1-1	6.1.07	1235	S	4					X														X
2	FB1-6	"	0115	"	"					X														X
3	FB1-10	"	0155	"	"					X														X
4	FB2-1	"	0210	"	"					X														X

JB 6.1.07

	Signature	Company	Date	Time
Relinquished by		Farallon Consulting	6.1.07	0807
Received by		OSE	6/1/07	0807
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

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

June 20, 2007

Jennifer Cyr
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 650-001
Laboratory Reference No. 0706-103

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on June 12, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

Case Narrative

Samples were collected on June 12, 2007 and received by the laboratory on June 12, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below

Halogenated Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-01
Client ID:	**FB3-1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00091
Chloromethane	ND		0.00091
Vinyl Chloride	ND		0.00091
Bromomethane	ND		0.0045
Chloroethane	ND		0.00091
Trichlorofluoromethane	ND		0.00091
1,1-Dichloroethene	ND		0.00091
Iodomethane	ND		0.0045
Methylene Chloride	0.010	H	0.0091
(trans) 1,2-Dichloroethene	ND		0.00091
1,1-Dichloroethane	ND		0.00091
2,2-Dichloropropane	ND		0.00091
(cis) 1,2-Dichloroethene	ND		0.00091
Bromochloromethane	ND		0.00091
Chloroform	ND		0.00091
1,1,1-Trichloroethane	ND		0.00091
Carbon Tetrachloride	ND		0.00091
1,1-Dichloropropene	ND		0.00091
1,2-Dichloroethane	ND		0.00091
Trichloroethene	ND		0.00091
1,2-Dichloropropane	ND		0.00091
Dibromomethane	ND		0.00091
Bromodichloromethane	ND		0.00091
2-Chloroethyl Vinyl Ether	ND		0.0045
(cis) 1,3-Dichloropropene	ND		0.00091
(trans) 1,3-Dichloropropene	ND		0.00091

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-01
Client ID: FB3-1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00091
Tetrachloroethene	0.0020		0.00091
1,3-Dichloropropane	ND		0.00091
Dibromochloromethane	ND		0.00091
1,2-Dibromoethane	ND		0.00091
Chlorobenzene	ND		0.00091
1,1,1,2-Tetrachloroethane	ND		0.00091
Bromoform	ND		0.00091
Bromobenzene	ND		0.00091
1,1,2,2-Tetrachloroethane	ND		0.00091
1,2,3-Trichloropropane	ND		0.00091
2-Chlorotoluene	ND		0.00091
4-Chlorotoluene	ND		0.00091
1,3-Dichlorobenzene	ND		0.00091
1,4-Dichlorobenzene	ND		0.00091
1,2-Dichlorobenzene	ND		0.00091
1,2-Dibromo-3-chloropropane	ND		0.0045
1,2,4-Trichlorobenzene	ND		0.00091
Hexachlorobutadiene	ND		0.0045
1,2,3-Trichlorobenzene	ND		0.00091

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	70-118
Toluene, d8	86	70-121
4-Bromofluorobenzene	94	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-14-07
Date Analyzed:	6-14-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-02
Client ID:	**FB3-6**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0014
Chloromethane	ND		0.0014
Vinyl Chloride	ND		0.0014
Bromomethane	ND		0.0069
Chloroethane	ND		0.0014
Trichlorofluoromethane	ND		0.0014
1,1-Dichloroethene	ND		0.0014
Iodomethane	ND		0.0069
Methylene Chloride	0.015	H	0.014
(trans) 1,2-Dichloroethene	0.0028		0.0014
1,1-Dichloroethane	ND		0.0014
2,2-Dichloropropane	ND		0.0014
(cis) 1,2-Dichloroethene	0.043		0.0014
Bromochloromethane	ND		0.0014
Chloroform	ND		0.0014
1,1,1-Trichloroethane	ND		0.0014
Carbon Tetrachloride	ND		0.0014
1,1-Dichloropropene	ND		0.0014
1,2-Dichloroethane	ND		0.0014
Trichloroethene	ND		0.0014
1,2-Dichloropropane	ND		0.0014
Dibromomethane	ND		0.0014
Bromodichloromethane	ND		0.0014
2-Chloroethyl Vinyl Ether	ND		0.0069
(cis) 1,3-Dichloropropene	ND		0.0014
(trans) 1,3-Dichloropropene	ND		0.0014

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-02
Client ID: FB3-6

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0014
Tetrachloroethene	0.0054		0.0014
1,3-Dichloropropane	ND		0.0014
Dibromochloromethane	ND		0.0014
1,2-Dibromoethane	ND		0.0014
Chlorobenzene	ND		0.0014
1,1,1,2-Tetrachloroethane	ND		0.0014
Bromoform	ND		0.0014
Bromobenzene	ND		0.0014
1,1,2,2-Tetrachloroethane	ND		0.0014
1,2,3-Trichloropropane	ND		0.0014
2-Chlorotoluene	ND		0.0014
4-Chlorotoluene	ND		0.0014
1,3-Dichlorobenzene	ND		0.0014
1,4-Dichlorobenzene	ND		0.0014
1,2-Dichlorobenzene	ND		0.0014
1,2-Dibromo-3-chloropropane	ND		0.0069
1,2,4-Trichlorobenzene	ND		0.0014
Hexachlorobutadiene	ND		0.0069
1,2,3-Trichlorobenzene	ND		0.0014

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	70-118
Toluene, d8	77	70-121
4-Bromofluorobenzene	82	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-14-07
Date Analyzed:	6-14-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-03
Client ID:	**FB3-9**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0052
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0052
Methylene Chloride	ND		0.010
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	0.0017		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0052
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-03
Client ID: FB3-9

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	0.020		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0052
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0052
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	70-118
Toluene, d8	80	70-121
4-Bromofluorobenzene	87	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-04
Client ID:	**FB4-0.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0051
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0051
Methylene Chloride	0.038	H	0.010
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0051
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 06-103-04
Client ID: FB4-0.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	0.0041		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0051
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0051
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	70-118
Toluene, d8	84	70-121
4-Bromofluorobenzene	101	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-05
Client ID:	**FB4-5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00096
Chloromethane	ND		0.00096
Vinyl Chloride	ND		0.00096
Bromomethane	ND		0.0048
Chloroethane	ND		0.00096
Trichlorofluoromethane	ND		0.00096
1,1-Dichloroethene	ND		0.00096
Iodomethane	ND		0.0048
Methylene Chloride	0.011	H	0.0096
(trans) 1,2-Dichloroethene	ND		0.00096
1,1-Dichloroethane	ND		0.00096
2,2-Dichloropropane	ND		0.00096
(cis) 1,2-Dichloroethene	ND		0.00096
Bromochloromethane	ND		0.00096
Chloroform	ND		0.00096
1,1,1-Trichloroethane	ND		0.00096
Carbon Tetrachloride	ND		0.00096
1,1-Dichloropropene	ND		0.00096
1,2-Dichloroethane	ND		0.00096
Trichloroethene	ND		0.00096
1,2-Dichloropropane	ND		0.00096
Dibromomethane	ND		0.00096
Bromodichloromethane	ND		0.00096
2-Chloroethyl Vinyl Ether	ND		0.0048
(cis) 1,3-Dichloropropene	ND		0.00096
(trans) 1,3-Dichloropropene	ND		0.00096

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-05
Client ID: FB4-5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00096
Tetrachloroethene	0.0061		0.00096
1,3-Dichloropropane	ND		0.00096
Dibromochloromethane	ND		0.00096
1,2-Dibromoethane	ND		0.00096
Chlorobenzene	ND		0.00096
1,1,1,2-Tetrachloroethane	ND		0.00096
Bromoform	ND		0.00096
Bromobenzene	ND		0.00096
1,1,2,2-Tetrachloroethane	ND		0.00096
1,2,3-Trichloropropane	ND		0.00096
2-Chlorotoluene	ND		0.00096
4-Chlorotoluene	ND		0.00096
1,3-Dichlorobenzene	ND		0.00096
1,4-Dichlorobenzene	ND		0.00096
1,2-Dichlorobenzene	ND		0.00096
1,2-Dibromo-3-chloropropane	ND		0.0048
1,2,4-Trichlorobenzene	ND		0.00096
Hexachlorobutadiene	ND		0.0048
1,2,3-Trichlorobenzene	ND		0.00096

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	70-118
Toluene, d8	88	70-121
4-Bromofluorobenzene	91	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-14-07
Date Analyzed:	6-14-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-06
Client ID:	**FB4-9**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0013
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0067
Chloroethane	ND		0.0013
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Iodomethane	ND		0.0067
Methylene Chloride	0.039	H	0.013
(trans) 1,2-Dichloroethene	ND		0.0013
1,1-Dichloroethane	ND		0.0013
2,2-Dichloropropane	ND		0.0013
(cis) 1,2-Dichloroethene	ND		0.0013
Bromochloromethane	ND		0.0013
Chloroform	ND		0.0013
1,1,1-Trichloroethane	ND		0.0013
Carbon Tetrachloride	ND		0.0013
1,1-Dichloropropene	ND		0.0013
1,2-Dichloroethane	ND		0.0013
Trichloroethene	ND		0.0013
1,2-Dichloropropane	ND		0.0013
Dibromomethane	ND		0.0013
Bromodichloromethane	ND		0.0013
2-Chloroethyl Vinyl Ether	ND		0.0067
(cis) 1,3-Dichloropropene	ND		0.0013
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-06
Client ID: FB4-9

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	0.0026		0.0013
1,3-Dichloropropane	ND		0.0013
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0013
Chlorobenzene	ND		0.0013
1,1,1,2-Tetrachloroethane	ND		0.0013
Bromoform	ND		0.0013
Bromobenzene	ND		0.0013
1,1,2,2-Tetrachloroethane	ND		0.0013
1,2,3-Trichloropropane	ND		0.0013
2-Chlorotoluene	ND		0.0013
4-Chlorotoluene	ND		0.0013
1,3-Dichlorobenzene	ND		0.0013
1,4-Dichlorobenzene	ND		0.0013
1,2-Dichlorobenzene	ND		0.0013
1,2-Dibromo-3-chloropropane	ND		0.0067
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0067
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	70-118
Toluene, d8	87	70-121
4-Bromofluorobenzene	96	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-07
Client ID:	**FB5-0.5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00099
Chloromethane	ND		0.00099
Vinyl Chloride	ND		0.00099
Bromomethane	ND		0.0050
Chloroethane	ND		0.00099
Trichlorofluoromethane	ND		0.00099
1,1-Dichloroethene	ND		0.00099
Iodomethane	ND		0.0050
Methylene Chloride	0.014	H	0.0099
(trans) 1,2-Dichloroethene	ND		0.00099
1,1-Dichloroethane	ND		0.00099
2,2-Dichloropropane	ND		0.00099
(cis) 1,2-Dichloroethene	ND		0.00099
Bromochloromethane	ND		0.00099
Chloroform	ND		0.00099
1,1,1-Trichloroethane	ND		0.00099
Carbon Tetrachloride	ND		0.00099
1,1-Dichloropropene	ND		0.00099
1,2-Dichloroethane	ND		0.00099
Trichloroethene	ND		0.00099
1,2-Dichloropropane	ND		0.00099
Dibromomethane	ND		0.00099
Bromodichloromethane	ND		0.00099
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.00099
(trans) 1,3-Dichloropropene	ND		0.00099

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-07
Client ID: FB5-0.5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00099
Tetrachloroethene	ND		0.00099
1,3-Dichloropropane	ND		0.00099
Dibromochloromethane	ND		0.00099
1,2-Dibromoethane	ND		0.00099
Chlorobenzene	ND		0.00099
1,1,1,2-Tetrachloroethane	ND		0.00099
Bromoform	ND		0.00099
Bromobenzene	ND		0.00099
1,1,2,2-Tetrachloroethane	ND		0.00099
1,2,3-Trichloropropane	ND		0.00099
2-Chlorotoluene	ND		0.00099
4-Chlorotoluene	ND		0.00099
1,3-Dichlorobenzene	ND		0.00099
1,4-Dichlorobenzene	ND		0.00099
1,2-Dichlorobenzene	ND		0.00099
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.00099
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.00099

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	70-118
Toluene, d8	80	70-121
4-Bromofluorobenzene	86	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-08
Client ID:	**FB5-3**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00081
Chloromethane	ND		0.00081
Vinyl Chloride	ND		0.00081
Bromomethane	ND		0.0040
Chloroethane	ND		0.00081
Trichlorofluoromethane	ND		0.00081
1,1-Dichloroethene	ND		0.00081
Iodomethane	ND		0.0040
Methylene Chloride	0.010	H	0.0081
(trans) 1,2-Dichloroethene	ND		0.00081
1,1-Dichloroethane	ND		0.00081
2,2-Dichloropropane	ND		0.00081
(cis) 1,2-Dichloroethene	ND		0.00081
Bromochloromethane	ND		0.00081
Chloroform	ND		0.00081
1,1,1-Trichloroethane	ND		0.00081
Carbon Tetrachloride	ND		0.00081
1,1-Dichloropropene	ND		0.00081
1,2-Dichloroethane	ND		0.00081
Trichloroethene	ND		0.00081
1,2-Dichloropropane	ND		0.00081
Dibromomethane	ND		0.00081
Bromodichloromethane	ND		0.00081
2-Chloroethyl Vinyl Ether	ND		0.0040
(cis) 1,3-Dichloropropene	ND		0.00081
(trans) 1,3-Dichloropropene	ND		0.00081

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-08
Client ID: FB5-3

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00081
Tetrachloroethene	0.021		0.00081
1,3-Dichloropropane	ND		0.00081
Dibromochloromethane	ND		0.00081
1,2-Dibromoethane	ND		0.00081
Chlorobenzene	ND		0.00081
1,1,1,2-Tetrachloroethane	ND		0.00081
Bromoform	ND		0.00081
Bromobenzene	ND		0.00081
1,1,2,2-Tetrachloroethane	ND		0.00081
1,2,3-Trichloropropane	ND		0.00081
2-Chlorotoluene	ND		0.00081
4-Chlorotoluene	ND		0.00081
1,3-Dichlorobenzene	ND		0.00081
1,4-Dichlorobenzene	ND		0.00081
1,2-Dichlorobenzene	ND		0.00081
1,2-Dibromo-3-chloropropane	ND		0.0040
1,2,4-Trichlorobenzene	ND		0.00081
Hexachlorobutadiene	ND		0.0040
1,2,3-Trichlorobenzene	ND		0.00081

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	70-118
Toluene, d8	74	70-121
4-Bromofluorobenzene	79	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-14-07
Date Analyzed:	6-14-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-103-09
Client ID:	**FB5-5**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00094
Chloromethane	ND		0.00094
Vinyl Chloride	ND		0.00094
Bromomethane	ND		0.0047
Chloroethane	ND		0.00094
Trichlorofluoromethane	ND		0.00094
1,1-Dichloroethene	ND		0.00094
Iodomethane	ND		0.0047
Methylene Chloride	0.012	H	0.0094
(trans) 1,2-Dichloroethene	ND		0.00094
1,1-Dichloroethane	ND		0.00094
2,2-Dichloropropane	ND		0.00094
(cis) 1,2-Dichloroethene	ND		0.00094
Bromochloromethane	ND		0.00094
Chloroform	ND		0.00094
1,1,1-Trichloroethane	ND		0.00094
Carbon Tetrachloride	ND		0.00094
1,1-Dichloropropene	ND		0.00094
1,2-Dichloroethane	ND		0.00094
Trichloroethene	ND		0.00094
1,2-Dichloropropane	ND		0.00094
Dibromomethane	ND		0.00094
Bromodichloromethane	ND		0.00094
2-Chloroethyl Vinyl Ether	ND		0.0047
(cis) 1,3-Dichloropropene	ND		0.00094
(trans) 1,3-Dichloropropene	ND		0.00094

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-103-09
Client ID: FB5-5

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00094
Tetrachloroethene	0.018		0.00094
1,3-Dichloropropane	ND		0.00094
Dibromochloromethane	ND		0.00094
1,2-Dibromoethane	ND		0.00094
Chlorobenzene	ND		0.00094
1,1,1,2-Tetrachloroethane	ND		0.00094
Bromoform	ND		0.00094
Bromobenzene	ND		0.00094
1,1,2,2-Tetrachloroethane	ND		0.00094
1,2,3-Trichloropropane	ND		0.00094
2-Chlorotoluene	ND		0.00094
4-Chlorotoluene	ND		0.00094
1,3-Dichlorobenzene	ND		0.00094
1,4-Dichlorobenzene	ND		0.00094
1,2-Dichlorobenzene	ND		0.00094
1,2-Dibromo-3-chloropropane	ND		0.0047
1,2,4-Trichlorobenzene	ND		0.00094
Hexachlorobutadiene	ND		0.0047
1,2,3-Trichlorobenzene	ND		0.00094

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	70-118
Toluene, d8	80	70-121
4-Bromofluorobenzene	90	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	6-13-07
Date Analyzed:	6-13-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0613S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0050
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.010
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0613S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	70-118
Toluene, d8	92	70-121
4-Bromofluorobenzene	96	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	6-14-07
Date Analyzed:	6-14-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0614S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0050
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.010
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0614S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	70-118
Toluene, d8	78	70-121
4-Bromofluorobenzene	91	70-130

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-13-07
Date Analyzed: 6-13-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0613S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0506	101	0.0513	103	70-130	
Benzene	0.0500	0.0490	98	0.0480	96	70-127	
Trichloroethene	0.0500	0.0486	97	0.0487	97	73-117	
Toluene	0.0500	0.0455	91	0.0464	93	78-115	
Chlorobenzene	0.0500	0.0511	102	0.0505	101	80-117	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	2	10	
Benzene	2	11	
Trichloroethene	0	13	
Toluene	2	12	
Chlorobenzene	1	10	

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-14-07
Date Analyzed: 6-14-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0614S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0528	106	0.0538	108	70-130	
Benzene	0.0500	0.0484	97	0.0470	94	70-127	
Trichloroethene	0.0500	0.0488	98	0.0493	99	73-117	
Toluene	0.0500	0.0462	92	0.0457	91	78-115	
Chlorobenzene	0.0500	0.0489	98	0.0466	93	80-117	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	2	10	
Benzene	3	11	
Trichloroethene	1	13	
Toluene	1	12	
Chlorobenzene	5	10	

Date of Report: June 20, 2007
Samples Submitted: June 12, 2007
Laboratory Reference: 0706-103
Project: 650-001

% MOISTURE

Date Analyzed: 6-13-07

Client ID	Lab ID	% Moisture
FB3-1	06-103-01	17
FB3-6	06-103-02	32
FB3-9	06-103-03	15
FB4-0.5	06-103-04	7
FB4-5	06-103-05	4
FB4-9	06-103-06	6
FB5-0.5	06-103-07	3
FB5-3	06-103-08	9
FB5-5	06-103-09	3

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits

J - The value reported was below the practical quantitation limit. The value is an estimate

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Farallon Consulting
Project Number: 650-001
Project Name: Cleaning Ctr of Redmond
Project Manager: Jennifer Cyr
Sampled by: J. Cyr / D. Clement

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
- ☐ _____ (other)

Laboratory Number: 06-103

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	% Moisture
1	FB3-1	6.12.07	0835	S	4					X											X
2	FB3-6		0850							X											
3	FB3-9		0920							X											
4	FB4-0.5		1015							X											
5	FB4-5		1025							X											
6	FB4-9		1050							X											
7	FB5-0.5		1110							X											
8	FB5-3		1115							X											
9	FB5-5		1120							X											
	J. Cyr 6.12.07																				

	Signature	Company	Date	Time
Relinquished by		Farallon Consulting	6.12.07	1255
Received by		OSE Ice Ed.	6/12/07	1255
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Data		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

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

June 22, 2007

Jennifer Cyr
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 650-001
Laboratory Reference No. 0706-190

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on June 20, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

Case Narrative

Samples were collected on June 20, 2007 and received by the laboratory on June 20, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Halogenated Volatiles EPA 8260B Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	6-20-07
Date Analyzed:	6-20-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	06-190-01
Client ID:	**MW10-11**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.00093
Chloromethane	ND		0.00093
Vinyl Chloride	ND		0.00093
Bromomethane	ND		0.0047
Chloroethane	ND		0.00093
Trichlorofluoromethane	ND		0.00093
1,1-Dichloroethene	ND		0.00093
Iodomethane	ND		0.0047
Methylene Chloride	ND		0.0047
(trans) 1,2-Dichloroethene	ND		0.00093
1,1-Dichloroethane	ND		0.00093
2,2-Dichloropropane	ND		0.00093
(cis) 1,2-Dichloroethene	ND		0.00093
Bromochloromethane	ND		0.00093
Chloroform	ND		0.00093
1,1,1-Trichloroethane	ND		0.00093
Carbon Tetrachloride	ND		0.00093
1,1-Dichloropropene	ND		0.00093
1,2-Dichloroethane	ND		0.00093
Trichloroethene	ND		0.00093
1,2-Dichloropropane	ND		0.00093
Dibromomethane	ND		0.00093
Bromodichloromethane	ND		0.00093
2-Chloroethyl Vinyl Ether	ND		0.0047
(cis) 1,3-Dichloropropene	ND		0.00093
(trans) 1,3-Dichloropropene	ND		0.00093

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 06-190-01
Client ID: MW10-11

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.00093
Tetrachloroethene	ND		0.00093
1,3-Dichloropropane	ND		0.00093
Dibromochloromethane	ND		0.00093
1,2-Dibromoethane	ND		0.00093
Chlorobenzene	ND		0.00093
1,1,1,2-Tetrachloroethane	ND		0.00093
Bromoform	ND		0.00093
Bromobenzene	ND		0.00093
1,1,2,2-Tetrachloroethane	ND		0.00093
1,2,3-Trichloropropane	ND		0.00093
2-Chlorotoluene	ND		0.00093
4-Chlorotoluene	ND		0.00093
1,3-Dichlorobenzene	ND		0.00093
1,4-Dichlorobenzene	ND		0.00093
1,2-Dichlorobenzene	ND		0.00093
1,2-Dibromo-3-chloropropane	ND		0.0047
1,2,4-Trichlorobenzene	ND		0.00093
Hexachlorobutadiene	ND		0.0047
1,2,3-Trichlorobenzene	ND		0.00093

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	70-118
Toluene, d8	80	70-121
4-Bromofluorobenzene	94	70-130

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	6-20-07
Date Analyzed:	6-20-07
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0620S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0050
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0050
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
1,1-Dichloroethane	ND		0.0010
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0620S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Bromoform	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	81	70-118
Toluene, d8	77	70-121
4-Bromofluorobenzene	102	70-130

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-20-07
Date Analyzed: 6-20-07

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB0620S1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0495	99	0.0496	99	70-130	
Benzene	0.0500	0.0491	98	0.0489	98	70-127	
Trichloroethene	0.0500	0.0517	103	0.0506	101	73-117	
Toluene	0.0500	0.0494	99	0.0484	97	78-115	
Chlorobenzene	0.0500	0.0514	103	0.0485	97	80-117	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	0	10	
Benzene	0	11	
Trichloroethene	2	13	
Toluene	2	12	
Chlorobenzene	6	10	

Date of Report: June 22, 2007
Samples Submitted: June 20, 2007
Laboratory Reference: 0706-190
Project: 650-001

% MOISTURE

Date Analyzed: 6-20-07

Client ID	Lab ID	% Moisture
MW10-11	06-190-01	5

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Farallon
Project Number: 650-001
Project Name: Cleaning Center of Redmond
Project Manager: J. Cyr
Sampled by: D. Clement

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☒ Standard (7 working days)
☐ _____ (other)

Laboratory Number: 06-190

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B HVOCs only	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	% Moisture
1	MW10-11	6/20/07	0825	S	4				X												
2	MW10-6	"	0820	"	"																
3	MW10-26	"	0840	"	"																

	Signature	Company	Date	Time
Relinquished by		Farallon	6/20/07	
Received by			6:20.07	11:00A
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Air Toxics LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0706269

Work Order Summary

CLIENT:	Ms. Jennifer Cyr Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027-3333	**BILL TO:**	Ms. Jennifer Cyr Farallon Consulting, LLC 975 5th Avenue NW Issaquah, WA 98027-3333
PHONE:	425-427-0061	**P.O. #**	650-001
FAX:	425-427-0067	**PROJECT #**	650-001 Cleaning Center of Redmond
DATE RECEIVED:	06/14/2007	**CONTACT:**	Sarah Nguyen
DATE COMPLETED:	06/26/2007		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	IA-1	Modified TO-15 SIM	7.0 "Hg
02A	IA-2	Modified TO-15 SIM	7.0 "Hg
02AA	IA-2 Lab Duplicate	Modified TO-15 SIM	7.0 "Hg
03A	Lab Blank	Modified TO-15 SIM	NA
04A	CCV	Modified TO-15 SIM	NA
05A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda D. Fruman DATE: 06/26/07

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/06, Expiration date: 06/30/07
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

LABORATORY NARRATIVE
Modified TO-15 SIM
Farallon Consulting, LLC
Workorder# 0706269

Two 6 Liter Summa Canister (SIM Certified) samples were received on June 14, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt 136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: IA-1

Lab ID#: 0706269-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.035	0.20	0.24	1.4

Client Sample ID: IA-2

Lab ID#: 0706269-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.035	0.20	0.24	1.4

Client Sample ID: IA-2 Lab Duplicate

Lab ID#: 0706269-02AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.035	0.20	0.24	1.4

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-1

Lab ID#: 0706269-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061406sim**	**Date of Collection:**	**6/12/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/14/07 03:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	0.20	0.24	1.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-2

Lab ID#: 0706269-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061407sim**	**Date of Collection:**	**6/12/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/14/07 04:46 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	0.20	0.24	1.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA-2 Lab Duplicate

Lab ID#: 0706269-02AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061409sim**	**Date of Collection:**	**6/12/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**6/14/07 06:29 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.035	Not Detected	0.19	Not Detected
Tetrachloroethene	0.035	0.20	0.24	1.4

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0706269-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061404sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/07 11:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0706269-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061402sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/07 10:23 AM**	

Compound	%Recovery
Trichloroethene	95
Tetrachloroethene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0706269-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**y061403sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/07 11:03 AM**	

Compound	%Recovery
Trichloroethene	97
Tetrachloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130

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

June 29, 2007

Jennifer Cyr
Farallon Consulting, LLC
975 5th Avenue NW
Issaquah, WA 98027

Re: Analytical Data for Project 650-001
Laboratory Reference No. 0706-222

Dear Jennifer:

Enclosed are the analytical results and associated quality control data for samples submitted on June 22, 2007.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

Case Narrative

Samples were collected on June 22, 2007 and received by the laboratory on June 22, 2007. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-22-07
Date Analyzed:	6-22-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-222-01
Client ID:	**MW10-GW062207**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	0.48		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 06-222-01
Client ID: MW10-GW062207

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	7.4		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	97	71-126
Toluene, d8	91	76-116
4-Bromofluorobenzene	92	70-123

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted:	6-22-07
Date Analyzed:	6-22-07
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0622W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Iodomethane	ND		1.0
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB0622W1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	71-126
Toluene, d8	93	76-116
4-Bromofluorobenzene	92	70-123

Date of Report: June 29, 2007
Samples Submitted: June 22, 2007
Laboratory Reference: 0706-222
Project: 650-001

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-22-07
Date Analyzed: 6-22-07

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0622W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10.0	9.15	92	9.19	92	70-130	
Benzene	10.0	9.46	95	9.51	95	70-130	
Trichloroethene	10.0	8.87	89	9.02	90	70-116	
Toluene	10.0	9.75	98	9.76	98	76-119	
Chlorobenzene	10.0	9.15	92	9.22	92	77-112	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	0	20	
Benzene	1	16	
Trichloroethene	2	16	
Toluene	0	15	
Chlorobenzene	1	15	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Company: Farallon

Project Number: 650-005-001

Project Name: Cleaning Center of Redmond

Project Manager: J. Lyon

Sampled by: D. Clement

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days) (TPH analysis 5 working days)
- ☐ _____ (other)

Laboratory Number: 06-222

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH				% Moisture
	MW10-GW062207	6/22/07	0905	W	3					X														

	Signature	Company	Date	Time
Relinquished by	D. Clement	Farallon	6/22/07	
Received by	M. Yoon	OSE	6/22/07	933
Relinquished by				
Received by				
Relinquished by				
Received by				

Comments/Special Instructions:

Reviewed by/Date

Reviewed by/Date

Chromatograms with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

APPENDIX C
WASHINGTON STATE DEPARTMENT OF ECOLOGY MEMORANDUM

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

DEPARTMENT OF ECOLOGY
State of Washington

Developing Conditional Points of Compliance at MTCA Sites Where Groundwater Discharges to Surface Water

Implementation Memorandum No. 16

Date: December 2016

To: Interested Persons

From: Jeff Johnston, Manager
Information & Policy Section
Toxics Cleanup Program

Contacts: Jerome Cruz, Hydrogeologist, jerome.cruz@ecy.wa.gov, 425.649.7094
Northwest Regional Office, Toxics Cleanup Program

Mark Adams, Hydrogeologist, mark.adams@ecy.wa.gov, 425.649.7107
Northwest Regional Office, Toxics Cleanup Program

Attachments: None

Accommodation Requests: To request ADA accommodation including materials in a format for the visually impaired, call Ecology's Toxics Cleanup Program at 360-407-7170. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Table of Contents

List of Figures and Tables

Acronyms and Abbreviations

AKART	all known available and reasonable methods of treatment
CPOC	conditional point of compliance
CULs	cleanup levels
Ecology	Washington State Department of Ecology
GW	groundwater
MNA	monitored natural attenuation
MTCA	Model Toxics Control Act
NPDES	National Pollution Discharge Elimination Systems
PLP	potentially liable person
POC	point of compliance
RCW	Revised Code of Washington
SW	surface water
TCP	Toxics Cleanup Program
WAC	Washington Administrative Code

1.0. Purpose and Applicability

This memorandum provides guidance from the Washington State Department of Ecology (Ecology) for setting conditional points of compliance for groundwater at contaminated sites where a contaminant plume is discharging, or could discharge, to surface water. The memorandum describes **when** and **where** groundwater conditional points of compliance may be set, and briefly touches on **how** compliance can be measured. A point of compliance (POC) is the location where cleanup levels must be attained at a contaminated site.

The requirements for setting groundwater points of compliance are specified in WAC 173-340-720(8). Points of compliance must be identified and evaluated during the feasibility study and established in the cleanup action plan (WAC 173-340-350(8)(c)(i)(F) and 173-340-380(1)(a)(iv)).

This memorandum applies to contaminated sites cleaned up under RCW 70.105D, Model Toxics Control Act (MTCA), and its implementing regulations, WAC 173-340 (MTCA rule). It is intended for use by Ecology cleanup project managers, local governments, environmental consultants, and others who are involved in the cleanup process under MTCA.

1.1 Terminology

Typically, before groundwater discharges into surface water, it enters into a transitional zone in the aquifer where some mixing of groundwater and surface water occurs. This zone of mixed waters (located within the aquifer and sediments before groundwater enters surface water) will be referred to in this document as the **transitional zone** (see Figure 1). Note that the transitional zone also includes (or is equivalent to) the **hyporheic zone** in fluvial settings, and usually includes **sediment porewater** in saturated sediment.

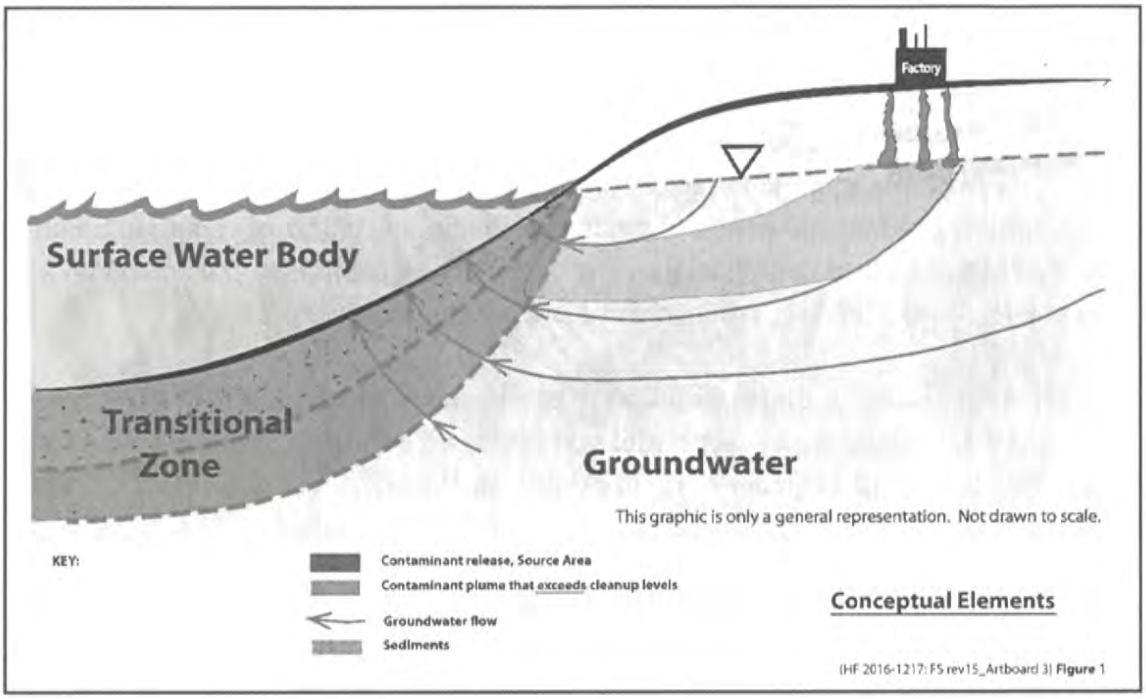


Figure 1: Conceptual elements of the groundwater to surface water pathway at a site.

PHYSICAL SETTING DEFINITIONS

Transitional zone: In an aquifer, this is the area where groundwater has mixed with surface water. Beneath a stream, this area is often called the **hyporheic zone.**

Mixing zone: Outside an aquifer and within a body of surface water, this is where a plume has discharged into, and is mixing with, the water column. This term has a specific regulatory meaning described in the paragraph below this box.

Surface water/Surface water body: Any significant accumulation of water on the surface of the earth such as a stream, river, lake, reservoir, or wetland; coastal waters; or an ocean. This does not include the water in saturated sediment or native material underlying and surrounding a body of surface water.

Sediment porewater: Interstitial water in sediment. "Sediment" here refers to the definition in the Sediment Management Standards: ***"Surface sediments"*** *or* ***"sediment(s)"*** *means, except for purposes of Part V of this chapter, settled particulate matter located in the predominant biologically active aquatic zone, or exposed to the water column. Sediment(s) also includes settled particulate matter exposed by human activity (e.g., dredging) to the biologically active aquatic zone or to the water column.* (WAC 173-204-200(24))

Mixing in the transitional zone is not to be confused with mixing that occurs in the water column in a body of surface water. The latter is related to a concept established under the Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A), which is associated with permitting surface water discharge through the National Pollution Discharge Elimination System (NPDES). Under WAC 173-201A, the mixing zone refers to that portion of a surface water body adjacent to an effluent outfall where mixing results in dilution of the effluent within the receiving water. The mixing zone associated with NPDES regulations is not the topic of this memorandum.

1.2 Standard and Conditional Points of Compliance Defined

The **standard point of compliance (POC)** for groundwater under MTCA is defined as "...throughout the site from the uppermost level of the saturated zone to the lowest depth potentially affected by the site." (WAC 173-340-720(8)(b)) (see Figure 2). The definition implies that contaminated groundwater at a site will attain cleanup levels throughout the site within a reasonable restoration time frame.

For some cleanups, however, it can be demonstrated that it is not practicable to meet groundwater cleanup levels at the standard POC within a reasonable restoration time frame. In this case, Ecology may approve a **conditional POC (CPOC).** The CPOC must not exceed the property boundary, except under the following three off-property situations:

- Source property abutting surface water;
- Source property near, but not abutting,[1] surface water; or
- Source property located in an area with "area-wide" contamination.

In this memorandum:

- **Abutting** is defined as a source property that borders a surface water body, with the property boundary being either at the shoreline or in the water body.

- **Near, but not abutting** is defined herein as a source property that is separated from a water body by one or more other properties.

- **Area-wide** is defined as the source property being located within a broader area affected by co-mingled plumes from multiple sources.

[1] There is no set distance by which a site may be defined as "near, but not abutting" surface water. This provision is interpreted to mean that, based on technical data specific to the site, the contaminated groundwater at the site reaches, or is likely to reach, surface water at detectable concentrations.

The following sections detail when and where conditional points of compliance can be set where groundwater and surface water interactions occur. Note that this memorandum does not address situations with area-wide contamination.

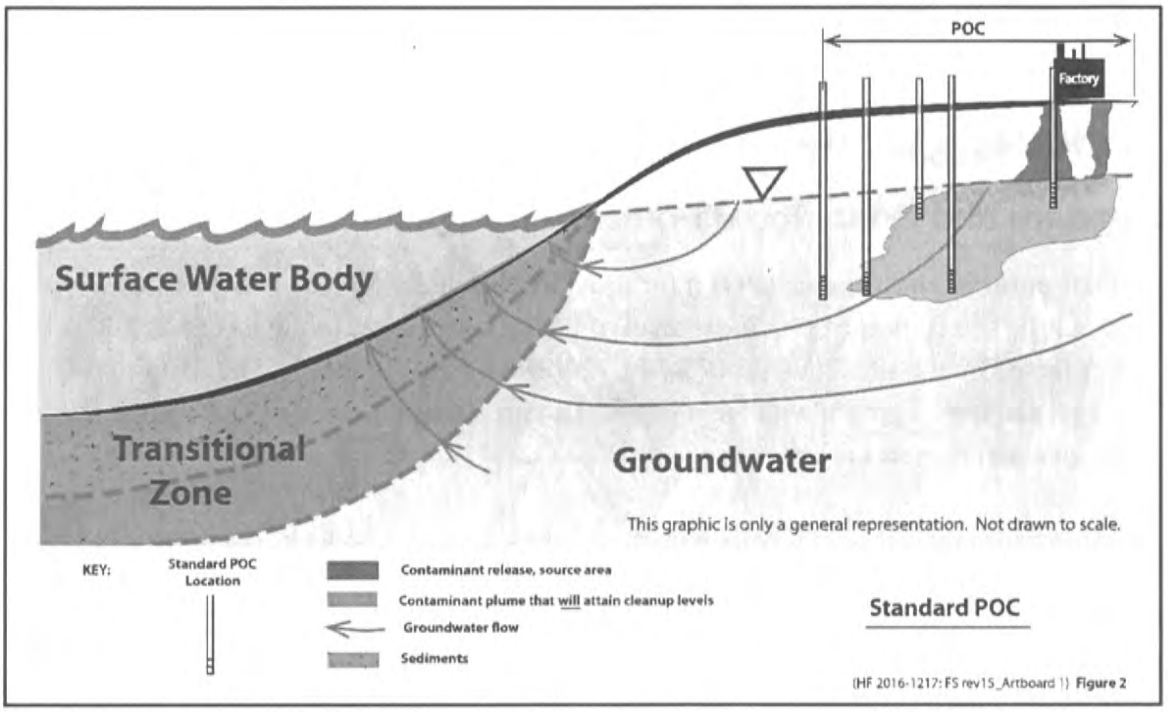


Figure 2: Schematic of a standard point of compliance.

2.0. When may a conditional point of compliance be set?

2.1. On-Property Conditional Points of Compliance

As noted in Section 1.2, when it can be demonstrated that it is not practicable to meet groundwater cleanup levels at the standard point of compliance within a reasonable restoration time frame, Ecology may approve a conditional point of compliance within or at a property boundary. The demonstration must be made in accordance with the remedy selection requirements in WAC 173-340-350 through 173-340-390 (WAC 173-340-720(8)(c)). In other words, a CPOC may be set only when the selected remedy will result in some areas of contaminated groundwater remaining at the site for a period of time considered to be longer than reasonable.

When a CPOC is proposed, the person responsible for undertaking the cleanup action must demonstrate that all practicable methods of treatment are to be used in the cleanup (WAC 173-3400720(8)(c)).

2.2. Off-Property Conditional Points of Compliance

A conditional point of compliance may be set beyond the property boundary in the following three specific situations as noted previously, subject to several conditions specified in WAC 173-340-720(8)(d).

2.2.1 Source property abuts surface water

When the groundwater cleanup level is based on protection of surface water beneficial uses, and the property containing the source of contamination abuts surface water, then Ecology may approve an off-property CPOC, subject to the following conditions (WAC 173-340-720(8)(d)(i)).

1. The conditions for an on-property CPOC in WAC 173-340-720(8)(c), described in Section 2.1 above.

2. The following additional conditions, specified in WAC 173-340-720(8)(d)(i):

    A. It has been demonstrated that contaminated groundwater is entering, and will continue to enter, the surface water body even after the selected remedial alternative is implemented. Note that this provision does not define "contaminated ground water" as meaning an exceedance of cleanup levels;

B. It has been demonstrated under the remedy selection requirements in WAC 173-340-350 through 173-340-390 that it is not practicable to meet cleanup levels in groundwater before entering surface water within a reasonable restoration time frame. This means that the selected remedy will result in contaminated groundwater continuing to discharge into surface water;

C. Use of a mixing zone under WAC 173-201A-100 to demonstrate compliance with surface water cleanup levels shall not be allowed. Although Washington State's Water Quality Standards for Surface Waters allows it for NPDES permitting (for example), MTCA does not allow using a mixing zone within the surface water body (i.e., water column) to demonstrate compliance;

D. Groundwater discharges must be provided with "all known available and reasonable methods of treatment" (AKART) prior to release. Guidance for conducting an AKART analysis is presented in Ecology's *Water Quality Program Permit Writer's Manual* (Ecology 2015). Establishing AKART is generally **more stringent** than determining an alternative that is "permanent to the maximum extent practicable" under MTCA;

E. Groundwater discharges must[2] not result in violations of sediment quality values;

F. Groundwater and surface water monitoring must be performed to assess long-term performance of the selected cleanup action. This includes the potential for bioaccumulation problems resulting from surface water concentrations below method detection limits. As noted on page 201 of Responsiveness Summary for the Amendments to MTCA (Ecology 1991), if monitoring indicates a potential problem, the point of compliance may need to be moved back up into the groundwater system; and

G. Before approving the CPOC, a notice of the proposal shall be mailed to the natural resource trustees, the Washington Department of Natural Resources, and the United States Corps of Engineers. The notice shall invite comments, and is in addition to notices required under WAC 173-340-600 (public involvement).

[2] In this section of the WAC, MTCA uses the term "shall" which is formal and is interpreted to mean the person or entity has a duty or obligation to perform a certain act. The word "must" is used here interchangeably.

These requirements, taken as a whole, set a very high bar for approving off-property CPOCs in a shoreline setting.

POLICY HIGHLIGHT

When read by themselves, the conditions for allowing a CPOC for properties abutting surface water (WAC 173-340-720(8)(d)((i)(A–G)) would appear to apply only if Ecology decides to approve a CPOC located within the surface water. However, in the section regarding *properties near, but not abutting, surface water* (WAC 173-340-720(8)(d)(ii)), the regulation requires that the conditions specified in WAC 173-340-720(8)(d)(i) must also be met.

Implicit in these two sets of nearly identical requirements is the idea that they would also apply to a third possibility for the abutting situation—a CPOC located not in surface water, but further upgradient in groundwater.

Therefore, the conditions in WAC 173-340-720(8)(d)((i)(A–G) are interpreted to be a requirement for both *abutting* and *near, but not abutting* properties, irrespective of where the CPOC is set.

2.2.2 Source property near, but not abutting surface water

When the groundwater cleanup level is based on protection of surface water beneficial uses and the property containing the source of contamination is located near, but not abutting surface water, then Ecology may approve an off-property CPOC, subject to all three of the following conditions (WAC 173-340-720(8)(d)(ii)).

1. The conditions for an on-property CPOC in WAC 173-340-720(8)(c), described in Section 2.1 above.

2. The conditions for an off-property CPOC in WAC 173-340-720(8)(d)(i), described in Section 2.2.1 above.

3. The following additional condition:

    A. The affected property owners between the source of contamination and the surface water body must agree in writing to using the CPOC. Affected properties means non-PLP (potentially liable person) properties that are located between the source property and the proposed CPOC. Agreement from properties downgradient of the CPOC would not be needed, because they would not be affected.

2.2.3 Source property located in area-wide groundwater contamination

Ecology may establish an area-wide CPOC in accordance with WAC 173-340-720(8)(d)(iii). As noted previously, this memorandum does not address off-property CPOCs for area-wide situations due to the difficulty of addressing it within a groundwater to surface water discharge setting.

3.0. Where should a conditional point of compliance be set?

3.1 Location of On-Property Conditional Point of Compliance

An on-property CPOC must be set as close as practicable to the contamination source, not to exceed the property boundary (WAC 173-340-720(8)(c)). Figure 3 below illustrates two potential locations for an on-property CPOC.

POC 1 is set in "clean" water at the downgradient edge of the contaminant plume. POC 1 would be used if none of the plume is expected to attain cleanup levels in a reasonable restoration time. Having POC 1 just outside the plume provides a location where cleanup levels can be attained.

POC 2 is set within the plume. POC 2 would be used if the distal portion of the plume is expected to attain cleanup levels within a reasonable restoration time frame.

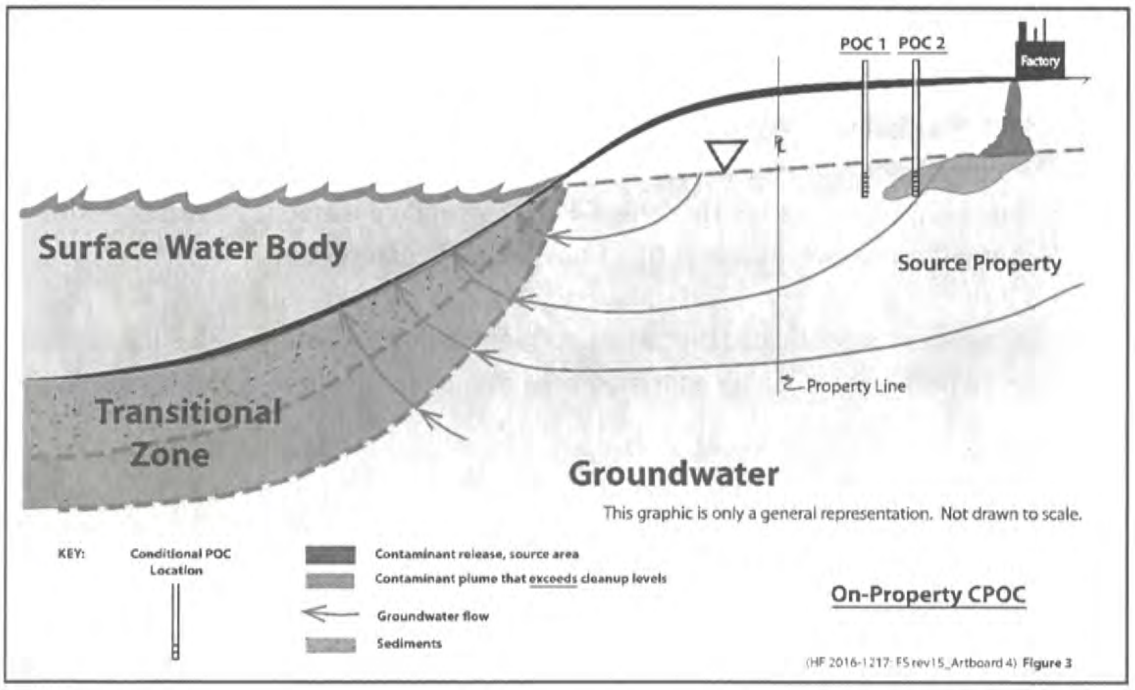


Figure 3: Schematic of an on-property conditional point of compliance (CPOC).

3.2. Location of Off-Property Conditional Point of Compliance

As discussed in Section 2.2, a CPOC may be set beyond the property boundary in three specific situations. This section discusses where to set the POC in two of those situations.

3.2.1 Source property abuts surface water

For sites where the property containing the source of contamination abuts surface water, a CPOC may be set within the surface water as close as technically possible to the point or points where groundwater flows into the surface water (WAC 173-340-720(8)(d)(i)). This means that the CPOC may be set as far into surface water as the base of the water column and directly on top of sediments, if technically possible.

However, the POC must be set further upgradient, within the sediment porewater or aquifer (including within the transitional zone), if conditions allow to meet the fundamental MTCA requirement that a CPOC be set as close as practicable to the source of contamination.

Figures 4a and 4b present two primary discharge scenarios. Figure 4a shows potential point of compliance locations when a contaminant plume exceeding cleanup levels is discharging into surface water. As illustrated, two potential CPOC location scenarios are presented: one in surface water (CPOC 1) and a second further upgradient (CPOC 2).

CPOC 1 is predicated on the assumption that, despite application of the selected remedy and AKART, groundwater within the existing leading edge of the plume discharging to the surface water body is not realistically expected to achieve compliance with cleanup levels in a reasonable restoration time frame. **Locating this CPOC in surface water is conditioned on whether it is technically possible, and is subject to Ecology's discretion**.

The second CPOC location is predicated on the assumption that groundwater at this location will meet cleanup levels within a reasonable restoration time frame. It may or may not be within the transitional zone.

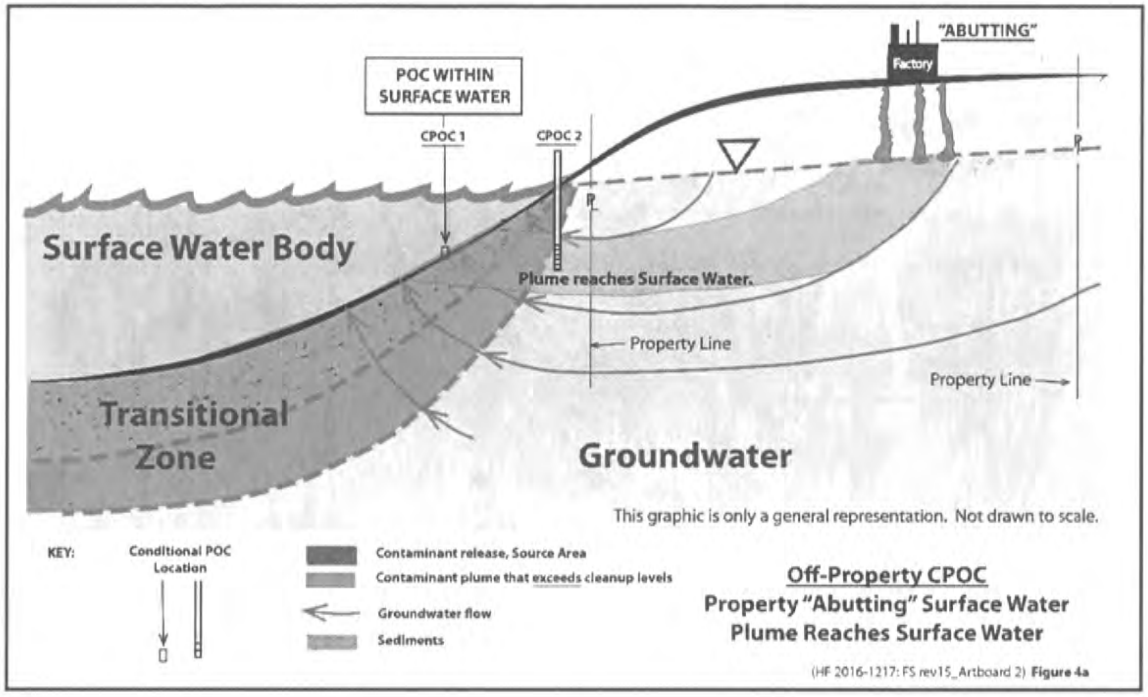


Figure 4a: Off-property conditional point of compliance (CPOC) on property abutting surface water and where the plume has reached the surface water body.

Figure 4b on the next page shows a different situation where groundwater above cleanup levels is not reaching surface water. In this case, there is still the possibility of alternative CPOC locations. Two are shown in the figure. One (CPOC 1) is located within the transitional zone (not surface water) downgradient of the area that exceeds cleanup levels. The second alternative (CPOC 2) is located further upgradient, again predicated on the assumption that groundwater at this location will meet cleanup levels within a reasonable restoration time frame. It may or may not be within the transitional zone.

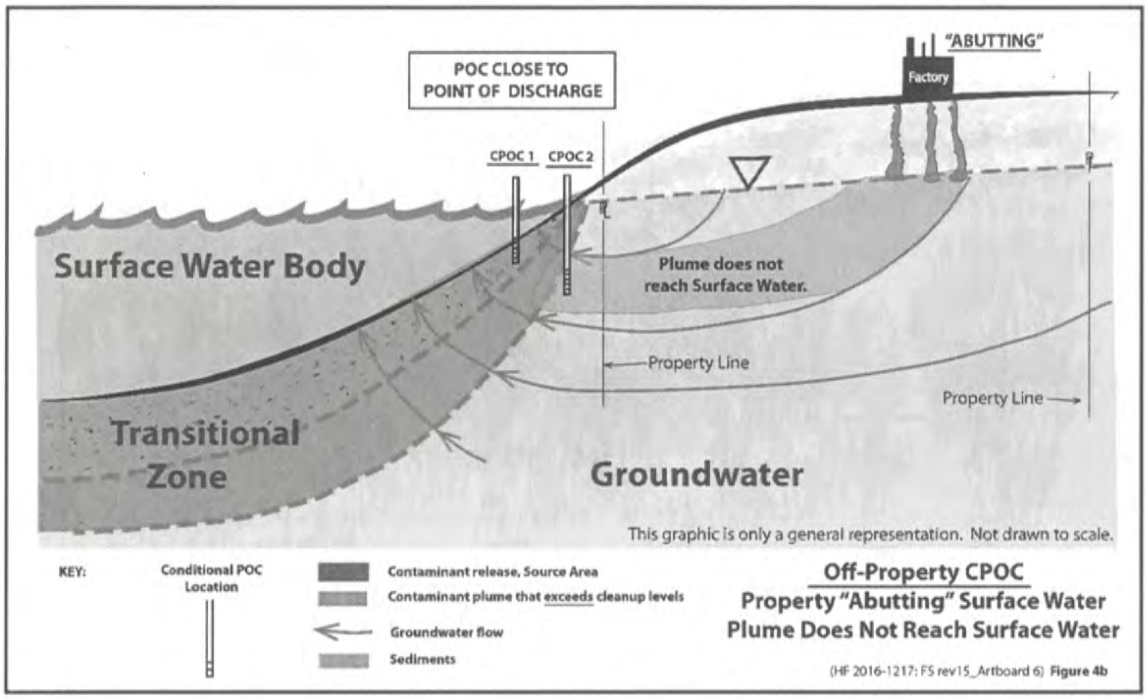


Figure 4b: Off-property conditional point of compliance on property abutting surface water and where plume does not reach the surface water body.

POLICY HIGHLIGHT

Cleanup project managers need to consider the following provision when deciding whether to establish a CPOC within surface water (Figure 4a). WAC 173-340-370(6) requires that:

> …for facilities adjacent to a surface water body, active measures will be taken to prevent/minimize releases to surface water and ground water discharges in excess of cleanup levels. The department expects that dilution will not be the sole method for demonstrating compliance with cleanup standards in these instances. (WAC 173-340-370(6))

The goal of this provision is to encourage cutting off the source of pollution from the surface water, not to make it easier to demonstrate compliance and avoid cleanup.

3.2.2 Source property near, but not abutting surface water

There are three location requirements for this setting. The first two requirements are that 1) the CPOC must be set as close as practicable to the source, and 2) it cannot exceed the point or points where the groundwater flows into the surface water (WAC 173-340-720(8)(d)(ii)). This means that the CPOC may not be set within the surface water body. The farthest downgradient that the CPOC may be set is within the sediment porewater/groundwater within the transitional zone.

The third requirement is that if the groundwater cleanup level is not exceeded in the groundwater prior to its entry into the surface water, the CPOC cannot extend beyond the extent of groundwater contamination above cleanup levels at the time Ecology approves the CPOC (WAC 173-340-720(8)(d)(ii)). This means that the CPOC may not be set further downgradient than the tip of the plume exceeding the cleanup level at that time.

Note that unlike the abutting case, locating this CPOC is not conditioned on whether it is technically possible. Approval of the CPOC location is subject to Ecology's discretion.

Figure 5a on the following page shows a site where the contaminants exceeding cleanup levels reach surface water. The first CPOC (CPOC 1) represents the furthest point downgradient where the POC may be set. The second CPOC (CPOC 2) represents a potential location closer to the source where it is practicable to attain cleanup levels within a reasonable restoration time period.

Figure 5b illustrates a situation where the groundwater cleanup level is not exceeded in the groundwater prior to its entry into the surface water. In this case, as noted previously, the CPOC may not extend beyond the tip of the plume.

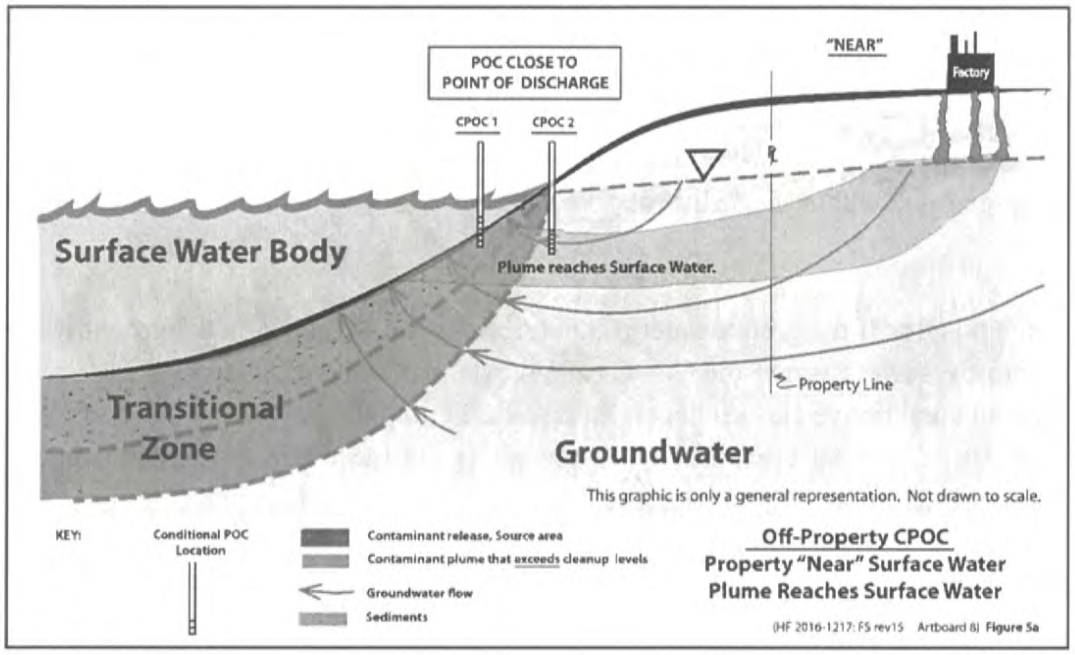


Figure 5a (above): Off-property conditional point of compliance (CPOC) on property near (but not abutting) surface water and where plume has reached the surface water body.

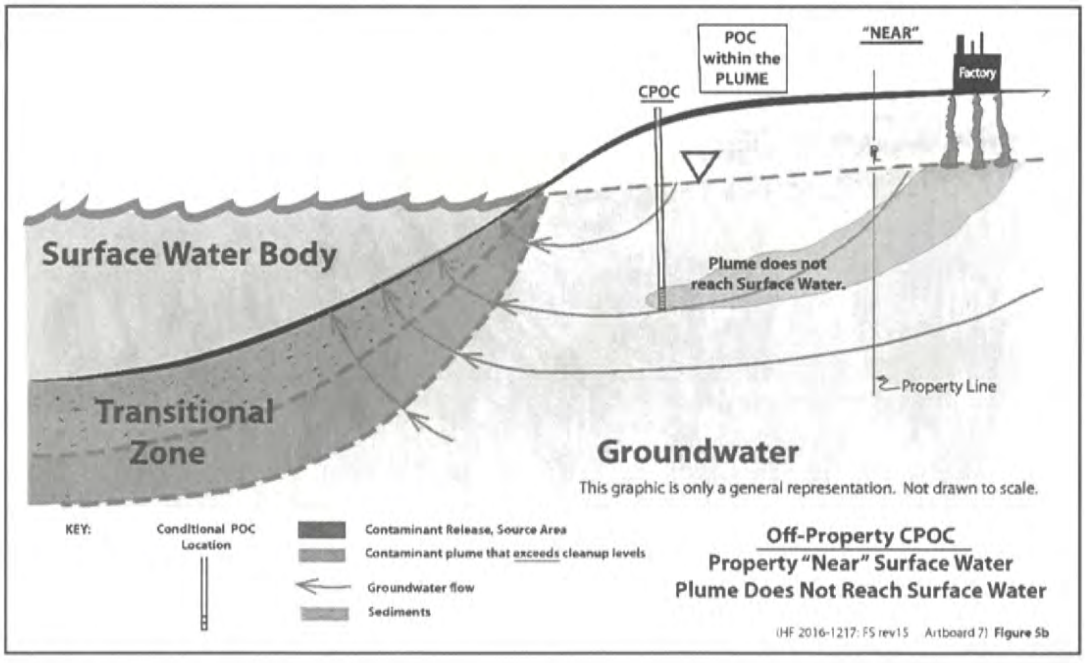


Figure 5b: Off-property conditional point of compliance (CPOC) on property near (but not abutting) surface water and where plume has not reached the surface water body.

POLICY HIGHLIGHT

The MTCA regulations addressing off-property CPOCs appear to focus on extreme downgradient locations. The requirements for *abutting* properties focus on a CPOC in surface water; the requirements for *near, but not abutting*, properties focus on a CPOC at the edge of groundwater just before it enters surface water. **This focus on extremes can be misleading to cleanup project managers when they are deciding whether to allow and where to locate an off-property CPOC.**

Locating any POC begins in the Feasibility Study, wherein an estimate is made of where groundwater will meet cleanup levels within a reasonable restoration time frame for each cleanup alternative being evaluated (WAC 173-340-350(8)(c)(i)(F)).

Actual selection of a CPOC location then typically occurs in the Cleanup Action Plan. Here, the process begins by confirming the area where groundwater is expected to meet cleanup levels in a reasonable restoration time frame for the selected remedy. The CPOC must then be located as far upgradient as possible to meet the MTCA requirement that a CPOC be set as close as possible to the source of the hazardous substances. In many cases this will be within a property.

If, however, the CPOC must be located off-property in a groundwater discharge setting, the requirement that it be set as close as possible to the source of hazardous substances still applies.

This means that an off-property CPOC will likely not be set at the extreme locations allowed in the MTCA regulations, but further upgradient where the groundwater will attain cleanup levels in a reasonable restoration time frame.

3.3. Further Considerations on Setting Conditional Points of Compliance in a Groundwater Discharge Setting

As previously discussed, MTCA allows off-property conditional points of compliance to be set in discharge settings under certain conditions. These settings are often high-energy environments and geochemically complex. In such situations, establishing a monitoring network that can be sampled routinely over multiple years can be challenging. Additionally, the margin for error can be very slim and the corresponding potential risk high, with compliance being potentially measured within a few inches of the receiving water body.

For these reasons, when deciding whether to approve a groundwater CPOC in a discharge setting as part of a cleanup action, the cleanup project manager should consider whether it is practical, reliable, and protective. Some of the factors that should be considered are highlighted in Table 1.

Table 1: Factors that should be considered when evaluating practicality, reliability, and protectiveness.

Factors to Consider When Evaluating Practicality, Reliability, and Protectiveness	
Challenge	**Description**
Uncertainty about being able to physically obtain reliable data	In some situations, powerful wave or tidal activity; strong currents; or physical barriers such as riprap or bulkheads, can make it very difficult to obtain reliable data from near a shoreline.
Uncertainty about proximity to receptors	In some situations, there may be uncertainty about the type and sensitivity of benthic organisms that are present in sediment, or the depth to which they burrow. This results in uncertainty about whether benthic species are being protected adequately and whether risk is adequately minimized.
Uncertainty about plume discharge concentrations	Contaminant levels in a groundwater plume can vary significantly over time (contaminant mass flux). Hydrologic conditions at the point of discharge are also variable. If one or both of these situations occur, it may not be possible to establish a monitoring schedule at surface water or sediment porewater CPOCs that can be relied upon to show that discharge concentrations are being continuously protective. Areas where this might be a concern include shoreline interfaces influenced by tidal action, power dams with variable releases, or variable irrigation flows.
Uncertainty about chemical transformations in the transition zone	Dissolved contaminants passing through the transition zone are likely to be transformed to some degree through either geochemical or biologically mediated processes, especially in tidally influenced aquifers. These processes can result in new precipitates and new daughter products. The end result may be protective or detrimental to receptors of concern.
Complexity of monitored natural attenuation (MNA)	If MNA is the selected remedy, and if a CPOC is established in the transitional zone, it may be difficult to demonstrate that contaminant reduction is due primarily to biodegradation, given that other processes are also acting to reduce contaminant concentrations (dilution, adsorption volatilization, etc.).

Cleanup project managers must be certain that a CPOC at the point of discharge is not only acceptable from a regulatory standpoint, but also functional and reliable given the specific circumstances at a particular site. Because there is always some uncertainty in knowing if future compliance can be demonstrated or achieved through a shoreline monitoring system, it is recommended that CPOCs be moved upgradient of the point of discharge/transitional zone as far as possible. If the situation is particularly problematic, the cleanup project manager should consider other ways to monitor compliance (e.g., attenuation studies, or transport and fate modeling), or to augment the remedy.

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4.0. Monitoring Conditional Points of Compliance Using Upland Wells

Compliance is typically measured by obtaining samples at the CPOC and comparing sample results to cleanup levels.

However, the MTCA rule also allows using groundwater monitoring wells upgradient of a CPOC to measure compliance in a groundwater to surface water discharge setting. Specifically, the MTCA rule states that:

> …[t]he department may require or approve the use of upland monitoring wells located between the surface water and the source of contamination to establish compliance where a conditional point of compliance has been established under subsection (8)(d)(i) or (ii) of this section. (WAC 173-340-720(8)(e)).

In this situation, an estimate of natural attenuation between the upland well and the CPOC is necessary in order to demonstrate that groundwater at the POC meets cleanup levels. MTCA states this requirement as follows:

> Where such monitoring wells are used, the department should consider an estimate of natural attenuation between the monitoring well and the point or points where ground water flows into the surface water in evaluating whether compliance has been achieved. (WAC 1730340-720(8)(e)(ii)).

In evaluating how much natural attenuation will occur, other factors need to be considered, including:

- Whether groundwater could reach surface water in ways that would not provide the expected natural attenuation (e.g. short-circuiting through utility trenches and seeps); and
- Whether changes in groundwater chemistry due to natural attenuation would cause an exceedance of surface water or sediment quality standards.

Because using upland wells for compliance monitoring purposes requires extrapolation, it is recommended that actual data be obtained from the point of compliance to confirm the accuracy of the natural attenuation estimate.

5.0. Summary

The following flowchart (Figure 6) summarizes and assists with setting a CPOC along the groundwater to surface water pathway.

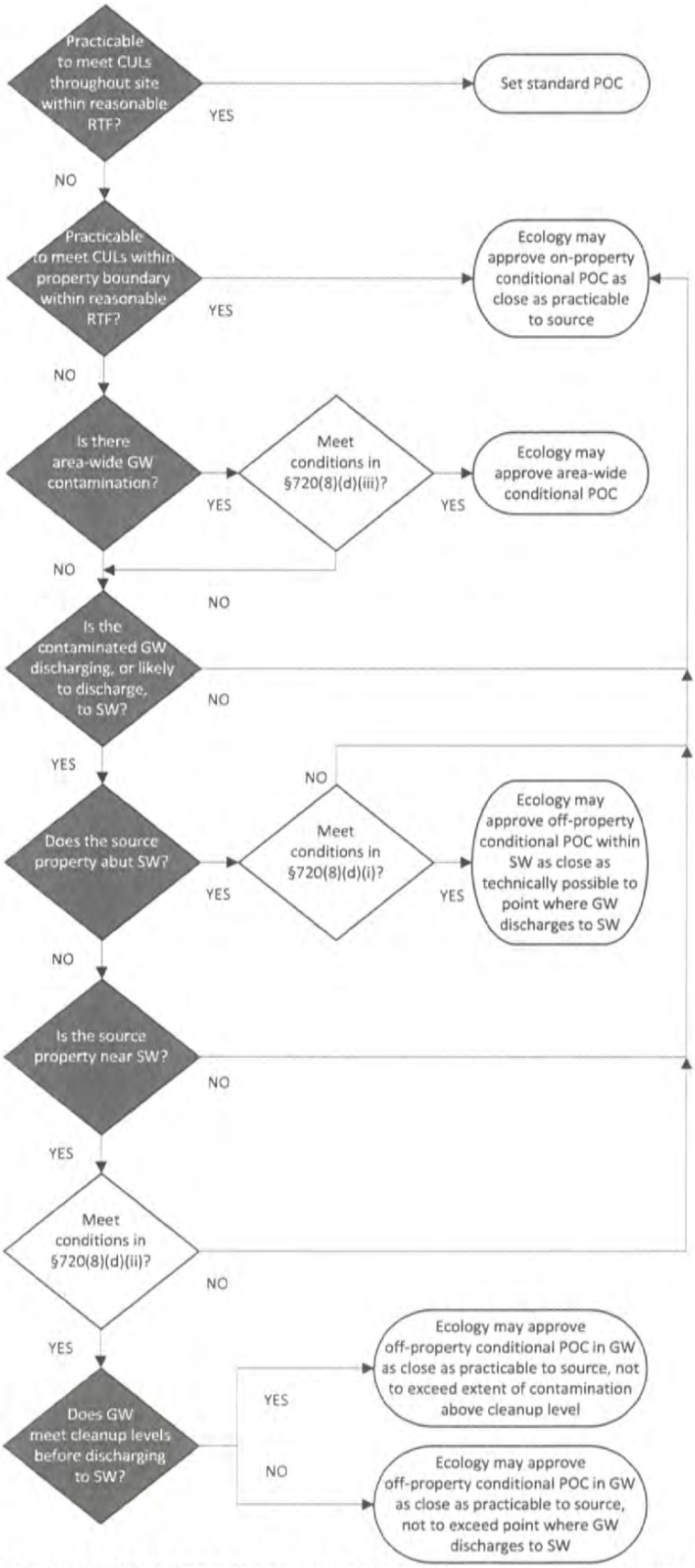

Figure 6: Flow chart for setting points of compliance for groundwater

6.0. References

Ecology. (2015). *Water Quality Program permit writer's manual.* (Ecology Publication No. 92-109.) Olympia, WA: Washington State Department of Ecology, Water Quality Program. Retrieved from:
https://fortress.wa.gov/ecy/publications/summarypages/92109.html

Ecology. (1991). *Responsiveness summary for the amendments to the Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC.* Olympia, WA: Washington State Department of Ecology, Toxics Cleanup Program. Retrieved from:
http://www.ecy.wa.gov/programs/tcp/regs/1991%20Responsiveness%20Summary.pdf (PDF)
http://www.ecy.wa.gov/programs/tcp/regs/historical_mtca.htm (TCP Closed Rulemaking website)

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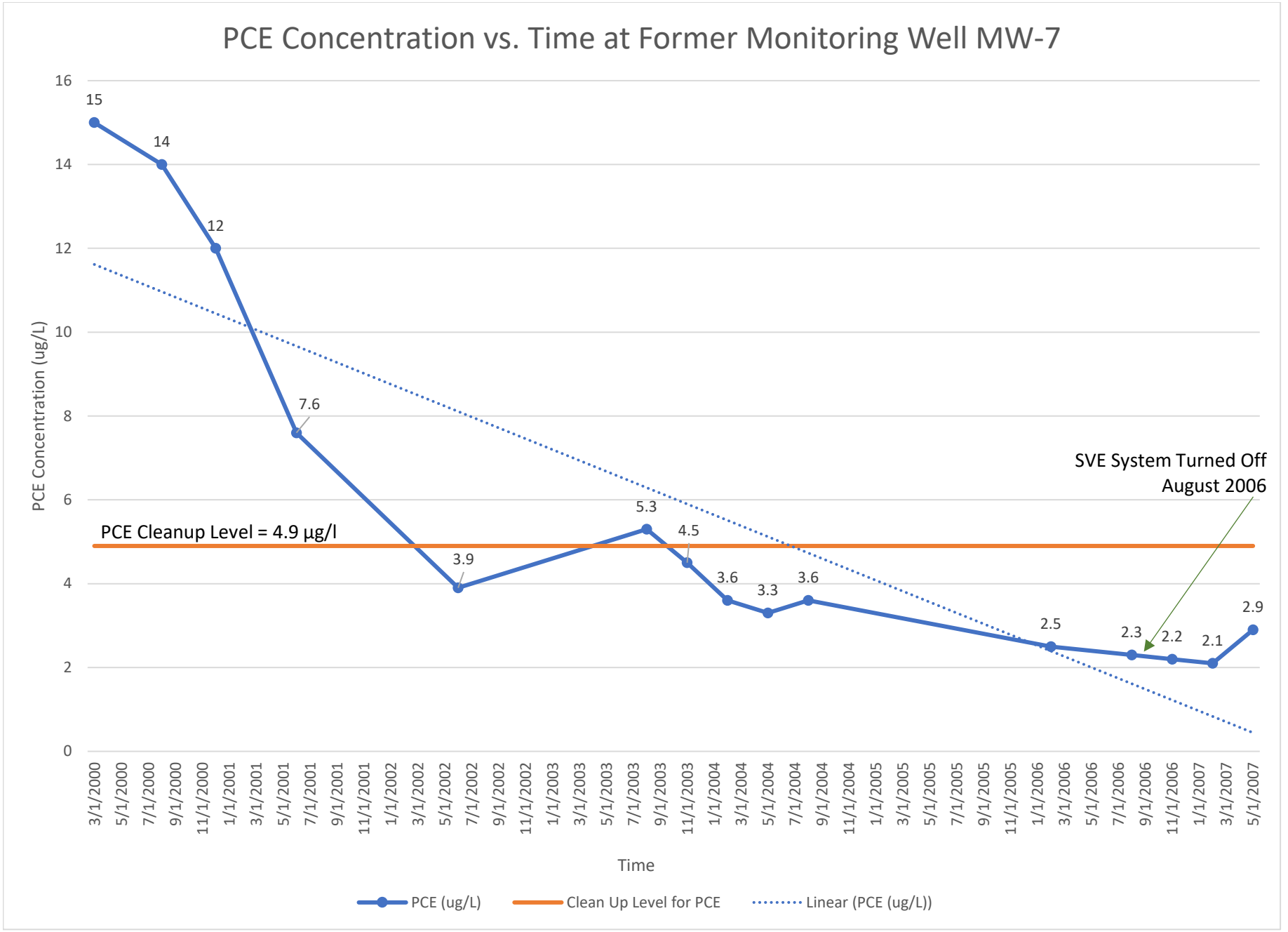
http://apps.leg.wa.gov/WAC/default.aspx?cite=173-204 and
https://fortress.wa.gov/ecy/publications/SummaryPages/1309055.html

Water Quality Standards for Surface Waters of the State of Washington. WASH. ADMIN CODE § Chapter 173-201A WAC. (2011). Retrieved from:
http://apps.leg.wa.gov/wac/default.aspx?cite=173-201A

APPENDIX D
CONCENTRATION VS. TIME CHARTS FOR PCE IN GROUNDWATER

SITE CLOSURE REPORT ADDENDUM
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001


PCE Concentration vs. Time at Former Monitoring Well MW-7
PCE Concentration (ug/L)
16
14
12
10
8
6
4
2
0
15
14
12
7.6
3.9
5.3
4.5
3.6
3.3
3.6
2.5
2.3
2.2
2.1
2.9
PCE Cleanup Level = 4.9 µg/l
SVE System Turned Off
August 2006
3/1/2000
5/1/2000
7/1/2000
9/1/2000
11/1/2000
1/1/2001
3/1/2001
5/1/2001
7/1/2001
9/1/2001
11/1/2001
1/1/2002
3/1/2002
5/1/2002
7/1/2002
9/1/2002
11/1/2002
1/1/2003
3/1/2003
5/1/2003
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7/1/2004
9/1/2004
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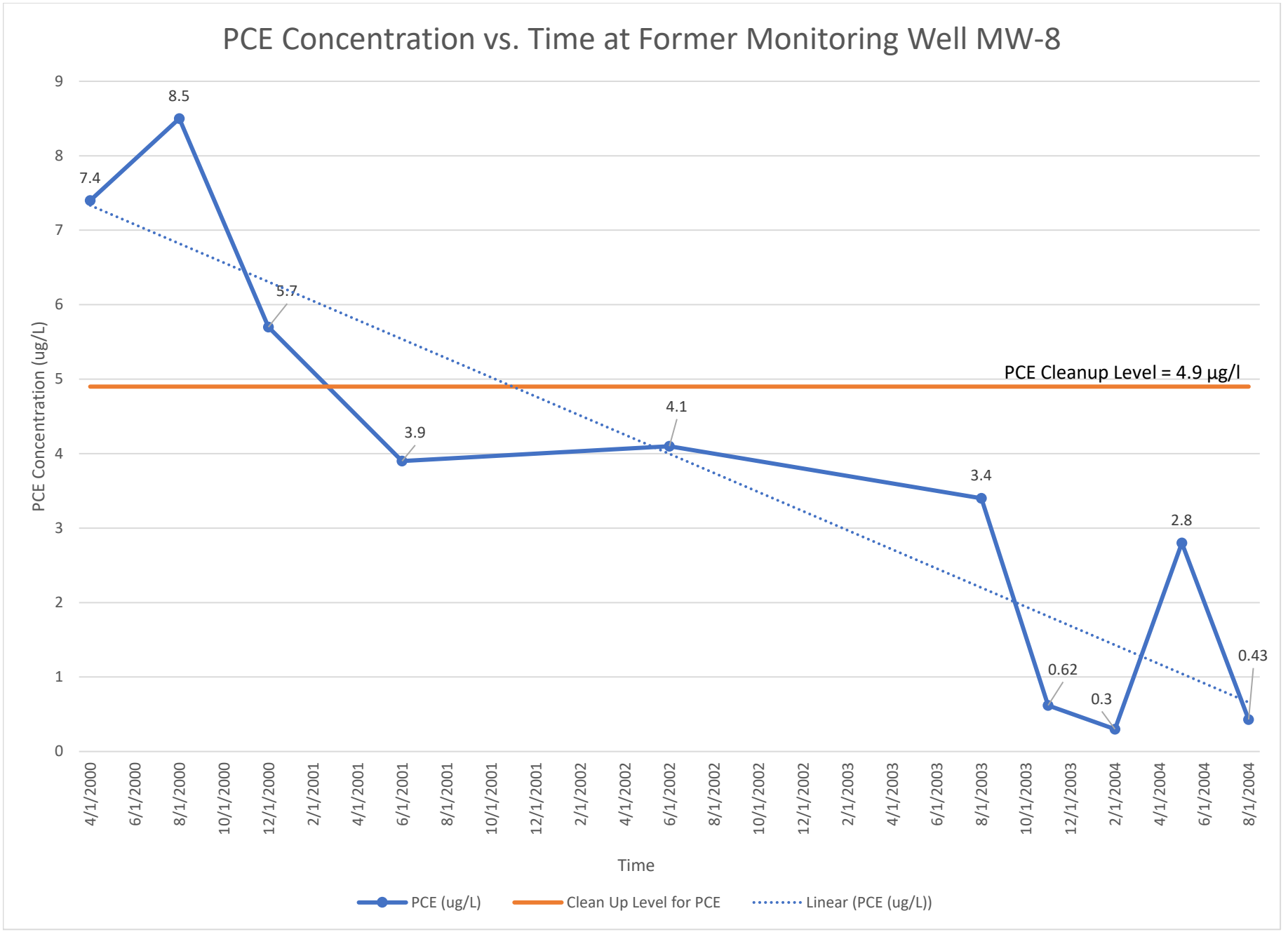
1/1/2005
3/1/2005
5/1/2005
7/1/2005
9/1/2005
11/1/2005
1/1/2006
3/1/2006
5/1/2006
7/1/2006
9/1/2006
11/1/2006
1/1/2007
3/1/2007
5/1/2007
Time
PCE (ug/L)
Clean Up Level for PCE
Linear (PCE (ug/L))


PCE Concentration vs. Time at Former Monitoring Well MW-8
PCE Concentration (ug/L)
9
8
7
6
5
4
3
2
1
0
8.5
7.4
5.7
3.9
4.1
3.4
2.8
0.62
0.3
0.43
PCE Cleanup Level = 4.9 µg/l
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001
10/1/2001
12/1/2001
2/1/2002
4/1/2002
6/1/2002
8/1/2002
10/1/2002
12/1/2002
2/1/2003
4/1/2003
6/1/2003
8/1/2003
10/1/2003
12/1/2003
2/1/2004
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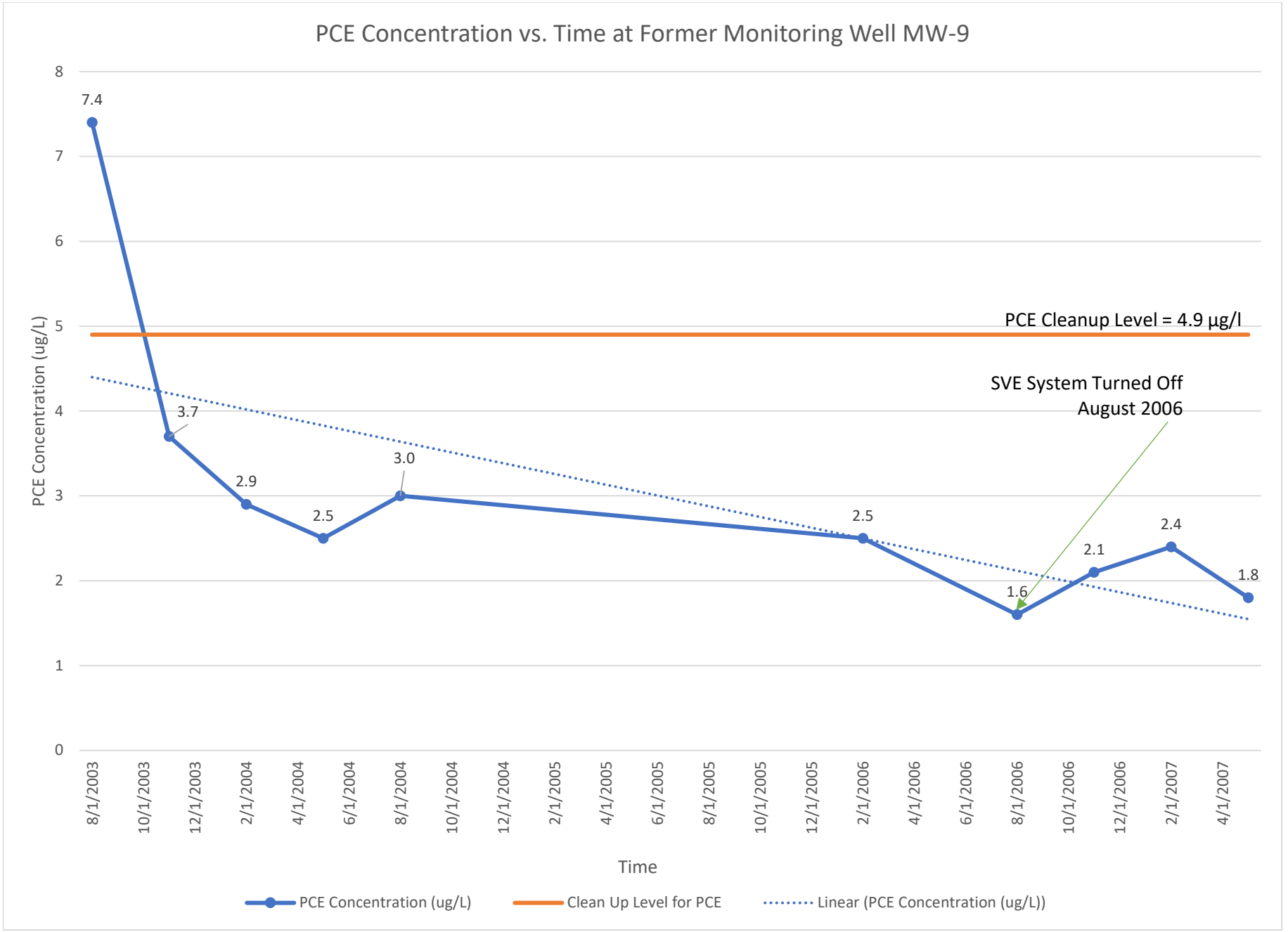
6/1/2004
8/1/2004
Time
PCE (ug/L)
Clean Up Level for PCE
Linear (PCE (ug/L))


PCE Concentration vs. Time at Former Monitoring Well MW-9
PCE Concentration (ug/L)
Time
PCE Cleanup Level = 4.9 µg/l
SVE System Turned Off
August 2006
7.4
3.7
2.9
2.5
3.0
2.5
1.6
2.1
2.4
1.8
8/1/2003
10/1/2003
12/1/2003
2/1/2004
4/1/2004
6/1/2004
8/1/2004
10/1/2004
12/1/2004
2/1/2005
4/1/2005
6/1/2005
8/1/2005
10/1/2005
12/1/2005
2/1/2006
4/1/2006
6/1/2006
8/1/2006
10/1/2006
12/1/2006
2/1/2007
4/1/2007
PCE Concentration (ug/L)
Clean Up Level for PCE
Linear (PCE Concentration (ug/L))

ATTACHMENT B
ADDITIONAL INFORMATION LETTER

REQUEST FOR SITE-WIDE
NO FURTHER ACTION DETERMINATION
Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Bend | Baker City
California
Oakland | Folsom | Irvine

May 23, 2018

Ms. Sonia Fernández
VCP Coordinator
Toxics Cleanup Program
Washington State Department of Ecology – Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008-5452

BY MAIL AND EMAIL

RE: RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON
FACILITY/SITE IDENTIFICATION NO. 26296554
VCP IDENTIFICATION NO. NW3166
FARALLON PN: 650-001

Dear Ms. Fernández:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter to provide additional information required by the Washington State Department of Ecology (Ecology) for the Former Cleaning Center of Redmond facility located at 15796 Redmond Way in Redmond, Washington (herein referred to as the Property) (Figure 1). The Property is owned by Nelgroup Properties, L.L.C. A "site," as defined by the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), consists of all areas where the constituents of concern (COCs) have come to be located at concentrations exceeding applicable cleanup levels established under MTCA. The site associated with the Former Cleaning Center of Redmond consisted of the source area proximate to the former dry cleaning facility and an area extending off the Property to the northwest, where tetrachloroethene (PCE) concentrations previously exceeded the applicable MTCA cleanup level for groundwater (herein referred to as the Site) (Figure 2).

The additional information was requested by Ecology in its letter regarding Request for Additional Information to Provide Opinion on the Investigation and Cleanup under the VCP for the following Contaminated Site: Cleaning Center of Redmond, 15796 Redmond Way, Redmond WA 98052 dated March 2, 2018, from Ms. Sonia Fernández of Ecology to Mr. Thomas L. Markl of Nelson Group Properties, L.L.C. [*sic*][1] (Ecology Letter) as part of an initial checklist-review of the *Site Closure Report Addendum, Former Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated April 26, 2017, prepared by Farallon (Site Closure Report

[1] The letter references an incorrect company name. Mr. Markl is with Nelson Legacy Group, L.L.C., the Managing Member for the Property owner Nelgroup Properties, L.L.C., not Nelson Group Properties, L.L.C.

Addendum). The additional items requested by Ecology are paraphrased in bold font below, immediately followed by Farallon responses. Documents referenced during the preparation of this letter report are detailed in Attachment A.

ADDITIONAL INFORMATION

1. **Provide soil and groundwater data from previous assessments documented in reports from 1999 and 2001.**

   These data were collected during previous investigations conducted by Alisto Engineering Group in January 1999 and GeoEngineers, Inc. between February and August 2000. Analytical summary tables for soil and groundwater samples, figures, and available analytical laboratory reports from Alisto Engineering Group (1999) and GeoEngineers, Inc. (2001) documents have been included in this letter as Attachments B and C, respectively.

2. **No groundwater has been collected since 2007. Current groundwater data may be needed.**

   Sufficient groundwater monitoring data exists through 2007 for Ecology to approve the conditional point of compliance and issue a Site-wide No Further Action determination for the Site. Monitoring wells associated with the Site were decommissioned on March 30, 2012 and October 2, 2014.

3. **Provide a conceptual site model and a terrestrial ecological evaluation (TEE).**

   The following description provides details regarding the conceptual site model for the Site, including a description of the regional and local geology and hydrogeology, a summary of the source of the COC in soil and groundwater, fate and transport of the COC, and potential exposure pathways, including the information previously submitted to Ecology that provided justification for protection of terrestrial plants and animals in the Site-specific TEE performed for the Site (Attachment D).

   ### Geology and Hydrogeology

   The Puget Sound region is underlain by Quaternary sediments deposited during glacial episodes (Galster and Laprade 1991). Deposition occurred during a number of glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial lakes during the glacial retreats. With the exception of the most recent recessional deposits, the outwash sediments have been over-consolidated by the overriding ice sheets.

   Shallow soil encountered during Farallon's subsurface investigation activities in the vicinity of the Site consisted primarily of sand and gravel, with the exception of soil encountered

northwest of the northern commercial building on the Property. The shallow soil at this location included a layer of silt and peat from a depth of approximately 2.5 to 8 feet below ground surface (bgs). Underlying the silt and peat was sand and gravel consistent with the other boring locations.

The shallow aquifer is unconfined and extends to a depth of at least 70 feet bgs at the Site, based on Farallon's deep boring assessment conducted in August 2006. Depth-to-groundwater measured at the Site during the last groundwater monitoring event conducted on May 15, 2007 ranged from 9.62 to 11.99 feet below the top of the well casings. During the 13 monitoring events conducted by Farallon and others from 2000 to 2007, the estimated groundwater flow direction consistently has been to the northwest toward the Sammamish River, similar to the estimated groundwater flow direction depicted on Figure 2 of the Site Closure Report Addendum and Figures 3 and 4 in Attachment C. Groundwater elevations calculated from the monitoring well gauging data indicate that the potentiometric surface of the unconfined aquifer is at a similar elevation as the surface of the Sammamish River, suggesting that they are hydrologically connected, as shown on Figure 3.

Source Area

The source area for the Site is the historical dry cleaning machine at the Former Cleaning Center of Redmond dry cleaner in the northern commercial building on the Property, as shown on attached Figure 2 from the Site Closure Report Addendum. The Former Cleaning Center of Redmond operated as a dry cleaning facility that used PCE in the dry cleaning process from 1990 to October 29, 2002. The dry cleaning machine that used PCE was replaced in 2002 with a cleaning machine that used an environmentally friendly dry cleaning chemical. The current dry cleaning facility operates as a "green" dry cleaning facility or as a dry cleaning drop-off facility.

Constituent of Concern

PCE previously was detected at concentrations exceeding the MTCA Method A cleanup levels in soil and groundwater at the Site and is the only COC for the Site, as referenced by Ecology (2011) in the No Further Action determination for the Property.

Media of Concern

Soil and groundwater were the media of concern for the Site, because the COC previously was detected in these media at concentrations exceeding MTCA Method A cleanup levels established for the Site. Concentrations of PCE were reduced to less than the MTCA Method A cleanup levels in soil and groundwater through operation of a soil vapor extraction (SVE) remediation system from 2003 to 2006; therefore, soil and groundwater are no longer considered media of concern for the Site. Indoor air is not a medium of concern based on the results of the vapor intrusion assessment conducted in 2007, 2010, and 2014 and approved by Ecology (2011, 2014). Surface water is not considered a medium of concern because the COC concentrations in groundwater have been reduced to concentrations less than applicable cleanup levels established in the Site Closure Report Addendum and updated cleanup levels discussed in this letter.

Contaminant Fate and Transport

PCE was released from the historical dry cleaning machine at the Former Cleaning Center of Redmond facility. The PCE migrated through the building foundation into shallow soil and groundwater. Dissolved-phase PCE migrated with the flow of groundwater off the Property to the northwest. An SVE remediation system was installed in 2003 to address concentrations of PCE in soil and groundwater. Performance and confirmational soil and groundwater monitoring data collected at the Site between 2003 and 2007 demonstrated that the SVE remediation system was effective in cleaning up PCE in soil and groundwater to concentrations less than MTCA Method A cleanup levels, and the prior release of PCE at the Site no longer represented a threat to human health or the environment.

Nature and Extent of Contamination

Field work conducted by Alisto Engineering Group (1999) confirmed a release of PCE to soil and groundwater from the dry cleaning machine at the Former Cleaning Center of Redmond facility. Additional soil and groundwater sampling conducted by GeoEngineers, Inc. (2001) bounded the extent of PCE in soil and groundwater. PCE in soil was bounded to an area beneath the slab of the northern commercial building and proximate to the historical dry cleaning machine by soil sample results from borings B-1, B-6, and B-7. PCE in groundwater was bounded to the north-northeast of the source area by groundwater sample results from boring B-4 and monitoring well MW-1, to the south of the source area by groundwater sample results from boring B-1, and to the west of the source area by groundwater sample results from monitoring well MW-3.

Farallon installed an SVE well through the concrete slab in the former location of the dry cleaning machine inside the Former Cleaning Center of Redmond facility in August 2003. The SVE well was installed to facilitate operation of an SVE remediation system to remove concentrations of PCE in soil at the source area. Operation of the SVE remediation system mitigated or sufficiently decreased the flux of PCE from the source in the vadose (unsaturated) zone to groundwater, resulting in termination of active remediation of groundwater. Concentrations of PCE in groundwater declined during the 3-year operation of the SVE remediation system, which started in August 2003 and ended in August 2006.

Farallon (2006a) conducted an assessment of deep groundwater quality in August 2006 that was performed in response to a letter from Ecology (2006) that stated, “the vertical extent of contamination, in particular tetrachloroethene, in groundwater above the cleanup level(s) has not been determined,” among other opinions. The assessment of deep groundwater quality included collection of reconnaissance groundwater samples from boring FB-1, which was advanced by a hollow-stem auger drill rig to a depth of 70 feet bgs down-gradient of monitoring well MW-7 (Figure 2). Reconnaissance groundwater samples were collected from boring FB-1 at depths of 12.5, 31.5, and 68.5 feet bgs during drilling. The analytical results for PCE in all three of the reconnaissance groundwater samples collected were less than the MTCA Method A cleanup level of 5 micrograms per liter (µg/l) for PCE, confirming that concentrations of

PCE in groundwater attenuated with depth as shown on Figure 4 of the Site Closure Report Addendum.

In accordance with an agreement with Ecology from a September 18, 2006 meeting (Farallon 2006b), in 2006 and 2007 Farallon conducted confirmation soil sampling proximate to the former dry cleaning machine, collected indoor air samples from the nearest tenant space down-gradient of the Former Cleaning Center of Redmond facility, and conducted confirmation groundwater monitoring. According to laboratory analytical results, PCE was present at concentrations less than the MTCA Method A cleanup level of 0.05 milligrams per kilogram in confirmation soil samples collected from the Site, confirming that the SVE remediation system was effective in reducing PCE concentrations. Four quarters of confirmation groundwater monitoring were completed at monitoring wells MW-1 through MW-3, MW-7, and MW-9 in August and November 2006, and in February and May 2007. Confirmation groundwater monitoring at monitoring well MW-8, proximate to the Sammamish River, had previously been completed from June 2001 through August 2004. The estimated direction of groundwater flow was to the northwest during confirmation groundwater monitoring events, consistent with prior monitoring events at the Site. PCE was not detected at concentrations exceeding the MTCA Method A cleanup level of 5 µg/l in confirmation groundwater samples collected from the Site.

Vapor intrusion assessments were conducted in June 2007 and June 2010 as part of the remedial investigation and regulatory closure activities at the Property, respectively. Based on the results of the confirmation soil and groundwater sampling, and the vapor intrusion assessments, on April 1, 2011 Ecology (2011) issued a No Further Action determination for the Property. Additional vapor intrusion assessment was conducted in March 2014 as a condition of the Property-specific No Further Action determination. Results of the additional vapor intrusion assessment demonstrated that residual concentrations of PCE in the subsurface are protective of commercial workers and meet MTCA cleanup standards for protection of human health and the environment.

Potential Exposure Pathways

Two types of exposure risk were identified due to the presence of PCE in groundwater resulting from a historical release of the dry cleaning solvent PCE from the dry cleaning machine at the Former Cleaning Center of Redmond facility. These exposure risks are associated with human and terrestrial ecological receptors. Potential exposure pathways to humans included exposure to contaminated soil, groundwater, and indoor air. The exposure pathways are further discussed below and diagramed on the attached Figure 4.

Soil Exposure Pathway

Human exposure pathways for shallow soil include direct contact, inhalation of fugitive dust, and soil leaching to groundwater and subsequent exposure to such groundwater. The direct contact pathway considers both dermal contact with and ingestion of soil.

The direct contact, inhalation, and soil leaching to groundwater pathways are no longer complete, because PCE concentrations in soil and groundwater have been reduced to concentrations less than applicable cleanup levels established for the Site through the cleanup action implemented by operation of the SVE remediation system from August 2003 to August 2006. Confirmation monitoring of soil, groundwater, and indoor air confirm that these soil exposure pathways are incomplete (Farallon 2007).

Groundwater Exposure Pathway

Human exposure pathways for groundwater include the direct contact pathway, which comprises both the dermal contact and ingestion pathways, and groundwater discharged to a surface water.

The direct contact and discharge to surface water pathways are not complete because PCE concentrations in groundwater have been reduced to concentrations less than applicable cleanup levels established for the Site through implementation of the cleanup action. Results from confirmational groundwater monitoring and SVE remediation system performance monitoring demonstrated that the source of PCE in soil has been remediated, resulting in reduction of PCE concentrations in groundwater to less than the MTCA Method A cleanup level (Farallon 2007, 2017). Confirmation groundwater monitoring confirms that these groundwater exposure pathways are incomplete (Farallon 2007).

Indoor Air Exposure Pathway

Human exposure via inhalation includes exposure to indoor air. The results of the indoor air monitoring conducted in 2007, 2010, and 2014 confirmed that low to non-detect concentrations of PCE in indoor air were protective of the vapor intrusion pathway for the commercial exposure scenario for the northern commercial building on the Property (Farallon 2007, 2010, 2014). Based on current Property uses, the commercial exposure scenario is the applicable screening level for comparison purposes, and no further action is necessary regarding the vapor intrusion pathway (Ecology 2011, 2014). PCE concentrations detected in confirmation groundwater samples down-gradient of the Property do not exceed current MTCA Method B screening levels and therefore the vapor intrusion pathway is incomplete for that portion of the Site (Ecology 2009). Ecology (2014) considers the confirmational indoor air monitoring completed.

Ecological Exposure Pathway

Farallon evaluated ecological exposure pathways pertaining to aquatic and terrestrial organisms. Soil exposure pathways include ingestion and dermal contact by terrestrial organisms. Groundwater exposure pathways include ingestion and dermal contact by aquatic and terrestrial organisms through discharge of COCs to surface water and ingestion of aquatic organisms after discharge to surface water.

COC concentrations in soil formerly were present in the source area beneath the northern commercial building on the Property and have been reduced to concentrations less than the

MTCA Method A cleanup level through operation of the SVE remediation system (Farallon 2007). A TEE previously submitted to Ecology for the Site on March 1, 2011 documented that the cleanup conducted to protect human health receptors was protective of ecological receptors. A copy of the TEE submittal is included as Attachment D. Based on these findings, the ingestion and dermal contact exposure routes for ecological exposure pathways in soil are incomplete.

COC concentrations in groundwater have been reduced to concentrations less than applicable cleanup levels established in the Site Closure Report Addendum and updated cleanup levels detailed under item 4 below. These cleanup levels are protective of the designated/beneficial use of the surface water; therefore, these ecological exposure pathways for groundwater and surface water are incomplete.

4. Discuss the selection of cleanup levels for the Site.

The following is a discussion of the cleanup levels established for the Site.

Soil

Farallon (2007) previously established the MTCA Method A cleanup level for unrestricted land use of 0.05 milligram per kilogram as the cleanup level for PCE in soil at the Cleaning Center of Redmond Site under Ecology Voluntary Cleanup Program Identification No. NW1324.

Groundwater

Farallon (2007) previously established the MTCA Method A cleanup level for unrestricted land use of 5 µg/l as the cleanup level for PCE at the Cleaning Center of Redmond Site under Ecology Voluntary Cleanup Program Identification No. NW1324. Ecology (2011) concurred with this cleanup level for the Site in the No Further Action determination for the Property. This cleanup level applies to the portion of the Site up-gradient of the proposed conditional point of compliance, former monitoring well MW-8, encompassing former monitoring wells MW-1 through MW-7 and MW-9 (Table 1). Screening levels for the degradation products trichloroethene (TCE), cis-1,2-dichloroethene, and vinyl chloride that were applicable at the time the cleanup was conducted have been included in Table 1 for reference.

Due to the proximity of the northwestern portion of the Site to the Sammamish River, Farallon recommends the use of Washington State Surface Water Quality Criteria (Table 240 of WAC 173-201A-240, updated August 2016) as the basis for the groundwater cleanup level for PCE at the proposed conditional point of compliance on the northwestern portion of the Site to protect the designated/beneficial uses of the surface water. No freshwater aquatic life water quality criteria have been established for PCE, so human health criteria for the consumption of water and aquatic organisms will be used. The water quality criterion for PCE in Table 240 of WAC 173-201A-240 is more stringent than the MTCA Method A cleanup level. The selected groundwater cleanup level for PCE at the conditional point of compliance is 4.9 µg/l (Table 240, WAC 173-201A-240) (Table 2).

Farallon developed screening levels for TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride for comparison criteria at the proposed conditional point of compliance (Table 2). These screening levels include:

- Surface water quality criterion of 0.38 µg/l for TCE from Table 240 of WAC 173-201A-240;
- Standard MTCA Method B value of 16 µg/l for cis-1,2-DCE from MTCA Cleanup Levels and Risk Calculations for Groundwater; and
- MTCA Method A cleanup level of 0.2 µg/l for vinyl chloride from Table 720-1 of WAC 173-340-900, as revised in 2013.

Indoor Air

Farallon (2014) previously established a MTCA Method B calculated cleanup level for PCE that was protective of commercial workers at 50.2 micrograms per cubic meter. Ecology (2011) also references a cleanup level of 0.93 micrograms per cubic meter for TCE in the No Further Action determination for the Property.

5. Provide figures that show soil data collected in 1999 and 2001.

Historical analytical data and figures from the reports prepared by Alisto Engineering Group (1999) and GeoEngineers, Inc. (2001) are included in this letter report as Attachments B and C, respectively.

6. Provide an updated version of Figure 1, *Site Vicinity Map* from the Site Closure Report Addendum that shows more of the area surrounding the Property, particularly to the east.

An updated version of Figure 1 is provided with this letter report.

7. Only PCE groundwater results were shown in the analytical summary tables for the Site Closure Addendum even though other constituents of concern were sampled.

Concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride have been included in Tables 1 and 2 of this letter report. Table 1 compares existing data to the cleanup levels established for the Site in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated September 21, 2007, prepared by Farallon. These cleanup levels are applicable for the up-gradient portion of the Site encompassing former monitoring wells MW-1 through MW-7 and MW-9. Table 2 includes the cleanup level protective of surface water that was established for PCE at the conditional point of compliance, former monitoring well MW-8, in the Site Closure Report Addendum. Screening levels protective of the groundwater to surface water pathway are provided in Table 2 for TCE, cis-1,2-dichloroethene, and vinyl chloride. These screening levels are discussed in the response to Item 4 above.

8. Ensure that data has been submitted to the Environmental Information Management (EIM) database.

Analytical data collected by Farallon was uploaded to the EIM database in 2011 and 2014. Email acknowledgements from Ecology documenting these submittals are included as Attachment E.

CLOSING

Farallon appreciates the opportunity to provide environmental consulting services for this project. Please contact Brani Jurista at (425) 295-0800 if you have questions or need additional information.

Sincerely,

Farallon Consulting, L.L.C.

Jennifer L. Moore
Senior Scientist

Brani Jurista, L.G., P.G.
Senior Geologist

State of Washington
2821
Licensed Geologist
BRANISLAV JURISTA

Attachments: Figure 1, *Site Vicinity Map*
Figure 2, *Groundwater Elevation Contours and PCE Concentrations in Groundwater*
Figure 3, *Cross Section A-A'*
Figure 4, *Human and Ecological Exposure Pathway Analysis*
Table 1, *Summary of Groundwater Analytical Results – HVOCs*
Table 2, *Summary of Groundwater Analytical Results at Conditional Point of Compliance – HVOCs*
Attachment A, References
Attachment B, Excerpts from 1999 Alisto Engineering Group Report
Attachment C, Excerpts from 2001 GeoEngineers, Inc. Report
Attachment D, Site-Specific Terrestrial Ecological Evaluation
Attachment E, EIM Submittal Acknowledgments

cc: Mr. Tom Markl, CEO; Nelson Legacy Group, L.L.C. (by email)
Mr. William Joyce; Joyce Ziker Parkinson PLLC (by email)

JLM/BJ:cm

FIGURES

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

REFERENCE: 7.5 MINUTE USGS QUADRANGLE KIRKLAND, WASHINGTON, DATED 2013

N

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FIGURE 1

SITE VICINITY MAP
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: sgaynier | Checked By: JM | Date: 4/12/2018 | Disc Reference:

Document Path: Q:\Projects\650 Nelson Properties\001\Mapfiles\Figure 1 - Site Vicinity.mxd

DATE	PCE
11/12/2003	0.62
2/18/2004	0.3
5/10/2004	2.8
8/27/2004	0.43

DATE	PCE
8/23/2006	1.0
11/21/2006	1.1
2/28/2007	0.83
5/15/2007	1.30

DATE	PCE
8/23/2006	3.3
11/21/2006	4.5
2/28/2007	2.3
5/15/2007	3.3

DATE	PCE
5/10/2004	1.6
8/27/2004	1.4
2/15/2006	4.8
8/23/2006	1.0

DATE	DEPTH	PCE
8/21/2006	12.5'	2.4
8/21/2006	31.5'	0.95
8/21/2006	68.5'	<0.20

DATE	PCE
8/23/2006	2.3
11/21/2006	2.2
2/28/2007	2.1
5/15/2007	2.9

DATE	PCE
8/23/2006	2.5
11/21/2006	5.0
2/28/2007	1.8
5/15/2007	2.5

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

A

A'

B–1

MW-8 (22.72)

MW-2 (23.64)

MW-1 (24.12)

MW-5 (24.46)

MW-7 (23.48)

MW-6

MW-4

MW-9 (24.18)

MW-3 (23.66)

FB–1(2006)

23.00

23.50

24.00

158TH AVENUE NORTHEAST

160TH AVENUE NORTHEAST

83RD STREET NORTHEAST

REDMOND WAY

OPPORTUNITY BUILDING

PARKING LOT

DRAINAGE SWALE

BUILDING

LOADING DOCKS

QFC

STAPLES

RETAIL STORES

TRADER JOE'S

BEN FRANKLIN CRAFTS

CLEANING CENTER OF REDMOND

SAMMAMISH RIVER

STARBUCKS

SITE 2

0 120

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- FORMER EXTENT OF PCE PLUME IN GROUNDWATER (SITE 1)
- PERFORMANCE AND CONFIRMATION MONITORING WELL NETWORK (DECOMMISSIONED FOLLOWING RECEIPT OF NO FURTHER ACTION DETERMINATION)
- MONITORING WELL (DECOMMISSIONED PRIOR TO CLEANUP DUE TO CONSTRUCTION OF NEW BUILDING)
- FB–1(2006) ● BORING LOCATION
- (23.66) GROUNDWATER ELEVATION RELATIVE TO MEAN SEA LEVEL (MAY 2007)
- 24.00 GROUNDWATER ELEVATION CONTOUR (MAY 2007)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

DEPTH IN FEET BELOW GROUND SURFACE

PCE = TETRACHLOROETHENE

BOLD = INDICATE CONCENTRATIONS EXCEEDED WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATIONS (MTCA) METHOD A CLEANUP LEVEL

< = INDICATES ANALYTE NOT DETECTED AT CONCENTRATIONS AT OR EXCEEDING THE LABORATORY PRACTICAL QUANTITATION LIMIT

DATE	PCE
8/23/2006	1.6

= DATE SAMPLED AND PCE CONCENTRATION IN GROUNDWATER IN MICROGRAMS PER LITER (ug/L)

ALL LOCATIONS ARE APPROXIMATE

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FIGURE 2

GROUNDWATER ELEVATION CONTOURS AND
PCE CONCENTRATIONS IN GROUNDWATER
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: JJ Checked By: JM Date: 5/10/2018 Disk Reference: 650-001_00.dwg

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A (NORTHWEST) — A' (SOUTHEAST)

ELEVATION (FEET MEAN SEA LEVEL)

WESTERN PROPERTY BOUNDARY

EASTERN PROPERTY BOUNDARY

BREAK 260'

BREAK 260'

158TH AVE NE

160TH AVE NE

BUILDING

TRAIL

SAMMAMISH RIVER CHANNEL

MW-8

FB-1 (TP2'SW)

MW-7 (TP5'SW)

MW-2 (TP64'SW)

MW-6 (TP22'SW)

MW-4 (TP10'SW)

MW-9 (TP10'SW)

B-1 (TP10'SW)

APPROXIMATE GROUND SURFACE

PEAT W/ SILT

SILT

SILTY SAND

SAND AND GRAVEL

SILTY SAND

SAND AND GRAVEL

[2.4] (8/21/06)

[0.95] (8/21/06)

[<0.20] (8/21/06)

DATE	PCE
11/12/2003	0.62
2/18/2004	0.3
5/10/2004	2.8
8/27/2004	0.43

DATE	PCE
8/23/2006	2.3
11/21/2006	2.2
2/28/2007	2.1
5/15/2007	2.9

DATE	PCE
8/23/2006	1.0
11/21/2006	1.1
2/28/2007	0.83
5/15/2007	1.30

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

10' / 0' / 0' / 60'

LEGEND

MONITORING WELL

FB-1 TP2'SW — BORING LOCATION TRANSPOSED (TP) IN FEET, NORTH (N), SOUTH (S), EAST (E), OR WEST (W) TO CROSS-SECTION LINE.

BLANK CASING

STRATIGRAPHIC CONTACT, DASHED WHERE APPROXIMATE

STATIC GROUNDWATER ELEVATION

GROUNDWATER ELEVATION MEASURED DURING 5/15/07 GROUNDWATER MONITORING EVENT

BORING W/ TEMPORARY SCREEN

WELL SCREEN INTERVAL

[<0.20] (8/21/06) — PCE RESULT IN RECONNAISSANCE GROUNDWATER SAMPLE IN µg/L AND SAMPLE DATE

DATE	PCE
8/23/2006	1.6
11/21/2006	2.1
2/28/2007	2.4
5/15/2007	1.8

TETRACHLOROETHENE (PCE) RESULT IN MONITORING WELL SAMPLE IN MICROGRAMS PER LITER (µg/L) AND SAMPLE DATE

GROUNDWATER FLOW DIRECTION

NO PLUME DEPICTED ON CROSS-SECTION BECAUSE NO PLUME EXISTS

MW-4 AND MW-6 DECOMMISSIONED 8/13/2003

ALL LOCATIONS ARE APPROXIMATE

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Washington
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Oregon
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California
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FIGURE 3

CROSS SECTION A-A'
FORMER CLEANING CENTER OF REDMOND
15796 REDMOND WAY
REDMOND, WASHINGTON

FARALLON PN: 650-001

Drawn By: JJ | Checked By: JM | Date: 5/10/2018 | Disk Reference: X-SEC.dwg

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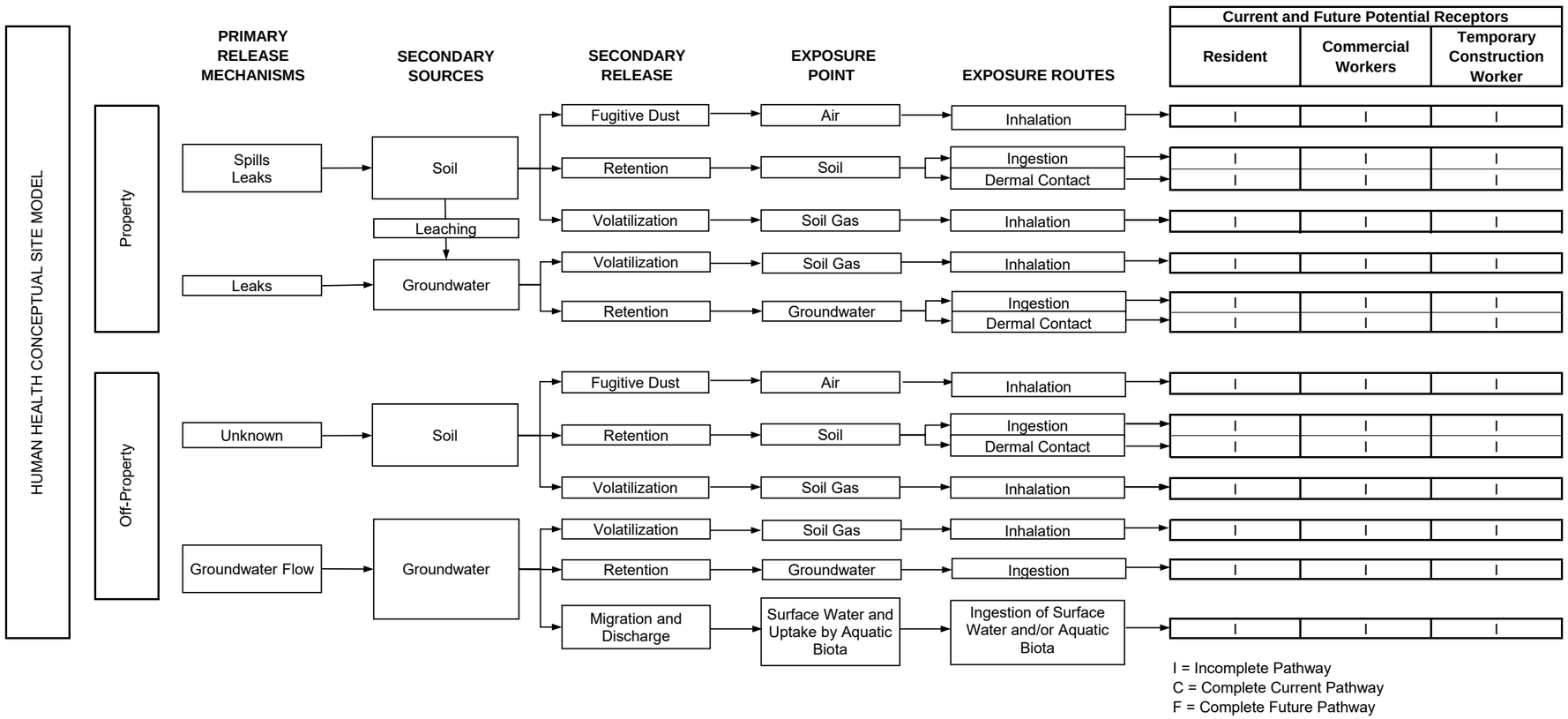
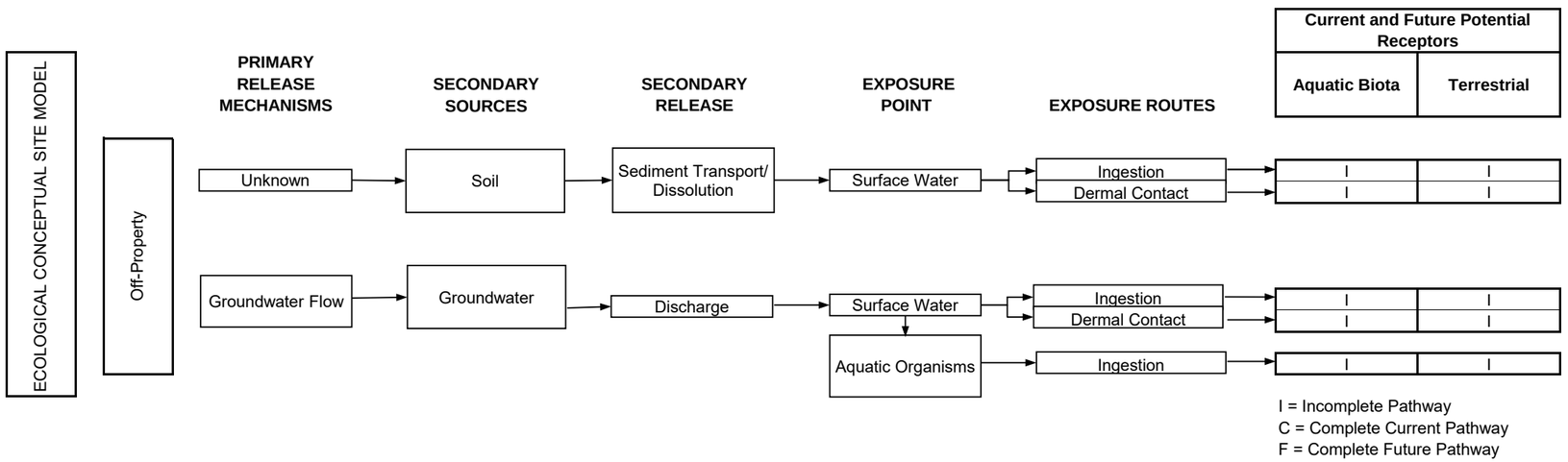
Figure 4
Human and Ecological Exposure Pathway Analysis
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington
Farallon PN: 650-001





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TABLES

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

Table 1
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-1	3/6/2000	GeoEngineers	1.6	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**5.4**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.7	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.3	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.1	<0.20	<0.20	<0.20
	8/13/2003	Farallon	1.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.3	0.22	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	4.0	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**8.5**	0.84	1.2	**0.76**
	2/15/2006	Farallon	2.4	<0.20	<0.20	<0.20
	8/23/2006	Farallon	3.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	4.5	0.26	<0.20	<0.20
	2/28/2007	Farallon	2.3	<0.20	<0.20	<0.20
	5/15/2007	Farallon	3.3	<0.20	<0.20	<0.20
MW-2	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	2.9	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.9	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.9	<0.20	<0.20	<0.20
	6/28/2002	Farallon	0.81	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.99	<0.20	<0.20	<0.20
	11/12/2003	Farallon	0.66	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.88	<0.20	<0.20	<0.20
	5/10/2004	Farallon	0.54	<0.20	<0.20	<0.20
	8/27/2004	Farallon	0.56	<0.20	<0.20	<0.20
	2/15/2006	Farallon	1.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.0	<0.20	<0.20	<0.20
	11/21/2006	Farallon	1.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	0.83	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.30	<0.20	<0.20	<0.20
MW-3	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	0.34	<0.20	<0.20	<0.20
	6/6/2001	Farallon	2.0	<0.20	<0.20	<0.20
	6/28/2002	Farallon	2.0	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**7.3**	<0.20	0.49	<0.20
	11/12/2003	Farallon	4.5	0.21	<0.20	<0.20
	2/18/2004	Farallon	2.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	**6.7**	0.45	0.24	<0.20
	2/15/2006	Farallon	2.1	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.5	<0.20	<0.20	<0.20
	11/21/2006	Farallon	5.0	0.21	<0.20	<0.20
	2/28/2007	Farallon	1.8	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.5	<0.20	<0.20	<0.20
MW-4	3/6/2000	GeoEngineers	**50**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**9.2**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**28**	0.43	0.78	<0.20
	6/6/2001	Farallon	**16**	0.32	0.80	<0.20
	6/28/2002	Farallon	**14**	0.5	1.50	<0.20
	Well Removed 2003					
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

Table 1
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-5	3/6/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	<1.0	<1.0	<5.0	<5.0
	12/20/2000	Farallon	2.0	<0.20	<0.20	<0.20
	6/6/2001	Farallon	1.7	<0.20	<0.20	<0.20
	6/28/2002	Farallon	1.6	<0.20	<0.20	<0.20
	8/13/2003	Farallon	0.2	<0.20	<0.20	<0.20
	11/12/2003	Farallon	3.6	<0.20	<0.20	<0.20
	2/18/2004	Farallon	4.8	<0.20	<0.20	<0.20
	5/10/2004	Farallon	1.6	<0.20	<0.20	<0.20
	8/27/2004	Farallon	1.4	<0.20	<0.20	<0.20
	2/15/2006	Farallon	4.8	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.0	<0.20	<0.20	<0.20
MW-6	3/6/2000	GeoEngineers	**11**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**27**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**15**	0.24	<0.20	<0.20
	6/6/2001	Farallon	**8.6**	<0.20	<0.20	<0.20
	6/28/2002	Farallon	**6.3**	<0.20	0.29	<0.20
	Well Removed 2003					
MW-7	3/28/2000	GeoEngineers	**15**	3	<5.0	<5.0
	8/8/2000	GeoEngineers	**14**	<1.0	<5.0	<5.0
	12/21/2000	Farallon	**12**	<0.20	<0.20	<0.20
	6/6/2001	Farallon	**7.6**	<0.20	<0.20	<0.20
	6/28/2002	Farallon	3.9	<0.20	<0.20	<0.20
	8/13/2003	Farallon	**5.3**	<0.20	<0.20	<0.20
	11/12/2003	Farallon	4.5	<0.20	<0.20	<0.20
	2/18/2004	Farallon	3.6	<0.20	<0.20	<0.20
	5/10/2004	Farallon	3.3	<0.20	<0.20	<0.20
	8/30/2004	Farallon	3.6	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	2.3	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.2	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.1	<0.20	<0.20	<0.20
	5/15/2007	Farallon	2.9	<0.20	<0.20	<0.20
MW-8	4/14/2000	GeoEngineers	**7.4**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**8.5**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**5.7**	0.33	0.48	<0.20
	6/6/2001	Farallon	3.9	0.23	0.36	<0.20
	6/28/2002	Farallon	4.1	0.29	0.46	<0.20
	8/13/2003	Farallon	3.4	0.26	0.46	<0.20
	11/12/2003	Farallon	0.62	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.3	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.8	0.25	0.37	<0.20
	8/27/2004	Farallon	0.43	<0.20	<0.20	<0.20
MW-9	8/13/2003	Farallon	**7.4**	0.27	0.42	<0.20
	11/12/2003	Farallon	3.7	<0.20	<0.20	<0.20
	2/18/2004	Farallon	2.9	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.5	<0.20	<0.20	<0.20
	8/27/2004	Farallon	3.0	<0.20	<0.20	<0.20
	2/15/2006	Farallon	2.5	<0.20	<0.20	<0.20
	8/23/2006	Farallon	1.6	<0.20	<0.20	<0.20
	11/21/2006	Farallon	2.1	<0.20	<0.20	<0.20
	2/28/2007	Farallon	2.4	<0.20	<0.20	<0.20
	5/15/2007	Farallon	1.8	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

Table 1
Summary of Groundwater Analytical Results - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
Reconnaissance Groundwater Samples						
FB-1-GW-12.5	8/21/2006	Farallon	2.4	<0.20	<0.20	<0.20
FB-1-GW-31.5	8/21/2006	Farallon	0.95	<0.20	<0.20	<0.20
FB-1-GW-68.5	8/21/2006	Farallon	<0.20	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**5.0** [2]	**5.0** [2]	**80** [2]	**0.2** [2]

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
[1] Analyzed by U.S. Environmental Protection Agency Method 8260B.

[2] Cleanup levels established for site closure in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* prepared by Farallon, dated September 21, 2007.

Farallon = Farallon Consulting, L.L.C.
GeoEngineers = GeoEngineers, Inc.
PCE = tetrachloroethene
TCE = trichloroethene

Table 2
Summary of Groundwater Analytical Results at Conditional Point of Compliance - HVOCs
Former Cleaning Center of Redmond
Redmond, Washington
Farallon PN: 650-001

Well/Sample Identification	Date Sampled	Sample Collected By	Analytical Results (micrograms per liter)[1]			
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride
MW-8	4/14/2000	GeoEngineers	**7.4**	<1.0	<5.0	<5.0
	8/8/2000	GeoEngineers	**8.5**	<1.0	<5.0	<5.0
	12/20/2000	Farallon	**5.7**	0.33	0.48	<0.20
	6/6/2001	Farallon	3.9	0.23	0.36	<0.20
	6/28/2002	Farallon	4.1	0.29	0.46	<0.20
	8/13/2003	Farallon	3.4	0.26	0.46	<0.20
	11/12/2003	Farallon	0.62	<0.20	<0.20	<0.20
	2/18/2004	Farallon	0.3	<0.20	<0.20	<0.20
	5/10/2004	Farallon	2.8	0.25	0.37	<0.20
	8/27/2004	Farallon	0.43	<0.20	<0.20	<0.20
MTCA Cleanup Levels for Groundwater			**4.9** [2]	**0.38** [2]	**16** [3]	**0.2** [4]

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1] Analyzed by U.S. Environmental Protection Agency Method 8260B.

[2] Value from Table 240, Section 240 of the Water Quality Standards for Surface Waters of the State of Washington, as established in Chapter 173-201A of the Washington Administrative Code, as amended August 1, 2016.

[3] Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Cleanup Levels and Risk Calculations, Standard Method B Values for Groundwater, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx.

[4] MTCA Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

Farallon = Farallon Consulting, L.L.C.

GeoEngineers = GeoEngineers, Inc.

PCE = tetrachloroethene

TCE = trichloroethene

ATTACHMENT A
REFERENCES

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

REFERENCES

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ATTACHMENT B
EXCERPTS FROM 1999 ALISTO ENGINEERING GROUP REPORT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

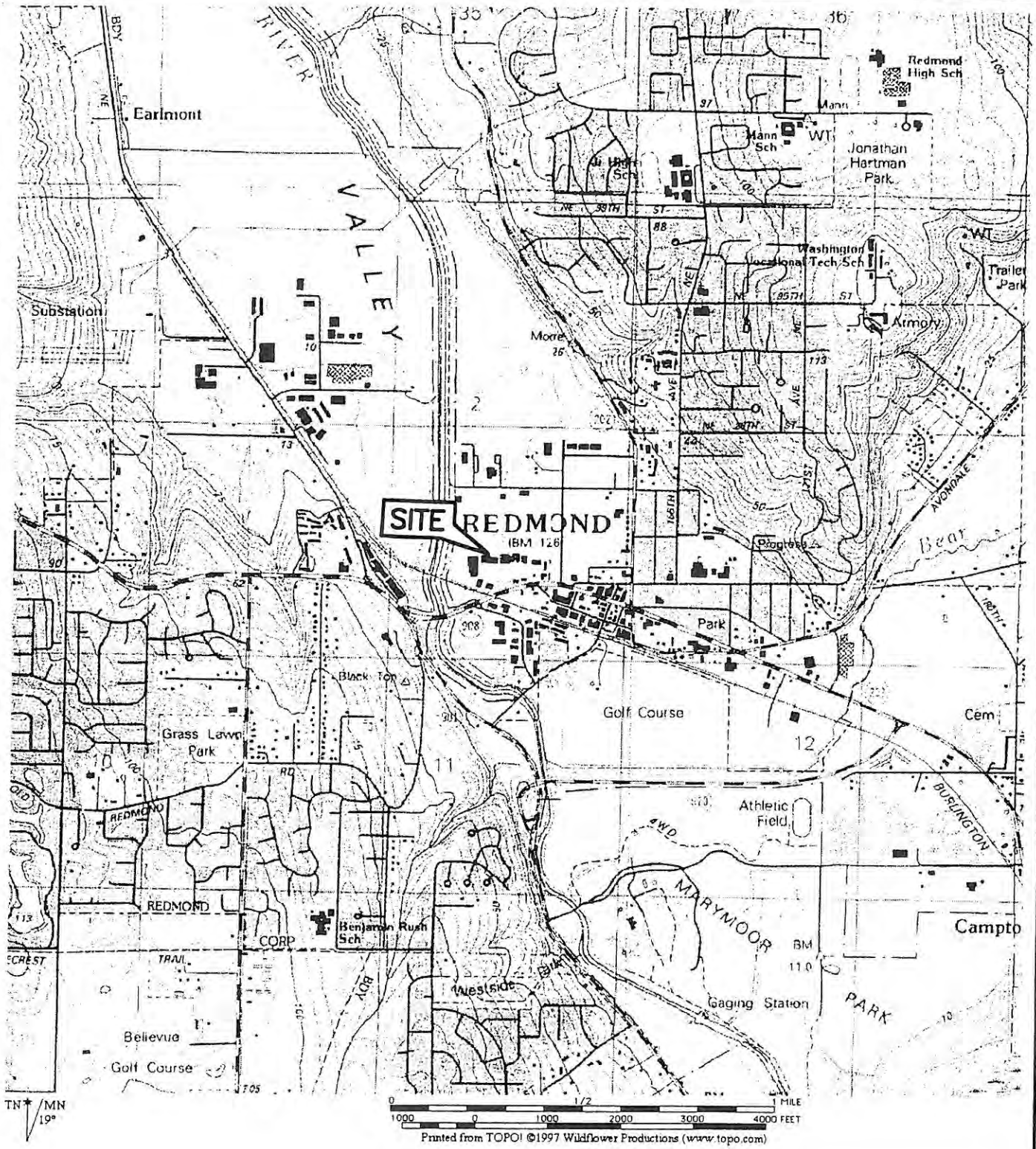
TABLE 1 - SUMMARY OF RESULTS OF SOIL AND GROUNDWATER SAMPLING
CLEANING CENTER OF REDMOND
REDMOND WAY
REDMOND, WASHINGTON

PROJECT NO. 20-74

Sample I.D.	Sample Depth (fbg)	Date Of Sampling	PID Reading	1,2-Dichlorobenzene	cis-1,2-Dichloroethene	Methylene Chloride	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethane	Vinyl Chloride	Lab
Soil Units			(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
HB-E1	0.5-2.0	01/28/99	5	ND<0.05	ND<0.05	ND<0.5	2.71	ND<0.05	ND<0.05	ND<0.05	NCA
HB-N1	0.5-2.0	01/28/99	270	ND<0.05	ND<0.05	ND<0.5	25.3	ND<0.05	ND<0.05	ND<0.05	NCA
HB-S1	0.5-2.0	01/28/99	>1000	2.86	ND<0.05	ND<0.5	664	ND<0.05	ND<0.05	ND<0.05	NCA
HB-S2	2.0-3.0	01/28/99	350	1.40	ND<0.05	ND<0.5	131	ND<0.05	ND<0.05	ND<0.05	NCA
HB-W1	0.5-2.0	01/28/99	322	1.55	ND<0.05	ND<0.5	106	ND<0.05	ND<0.05	ND<0.05	NCA
WADOE Method A soil cleanup levels						0.5	0.5	20	0.5		
Ground Water Units				(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
WP-W1		03/04/99		1.72	1.49	ND<0.5	6530	ND<1.00	6.46	ND<1.00	NCA
WADOE Method A Ground water cleanup levels						5.0	5.0	200.0	5.0	0.2	

ABBREVIATIONS:

fbg	Feet below ground surface
mg/kg	Milligrams per kilogram
(µg/l)	Micograms per liter
ND	Not detected above the indicated detection limit
NCA	North Creek Analytical
PID	Photoionization detector



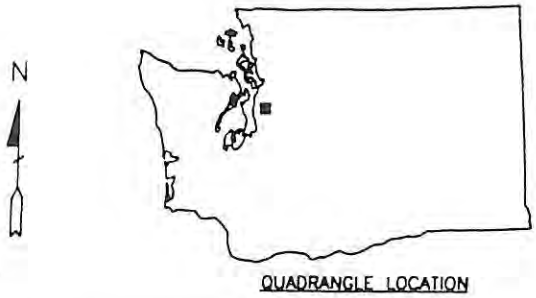
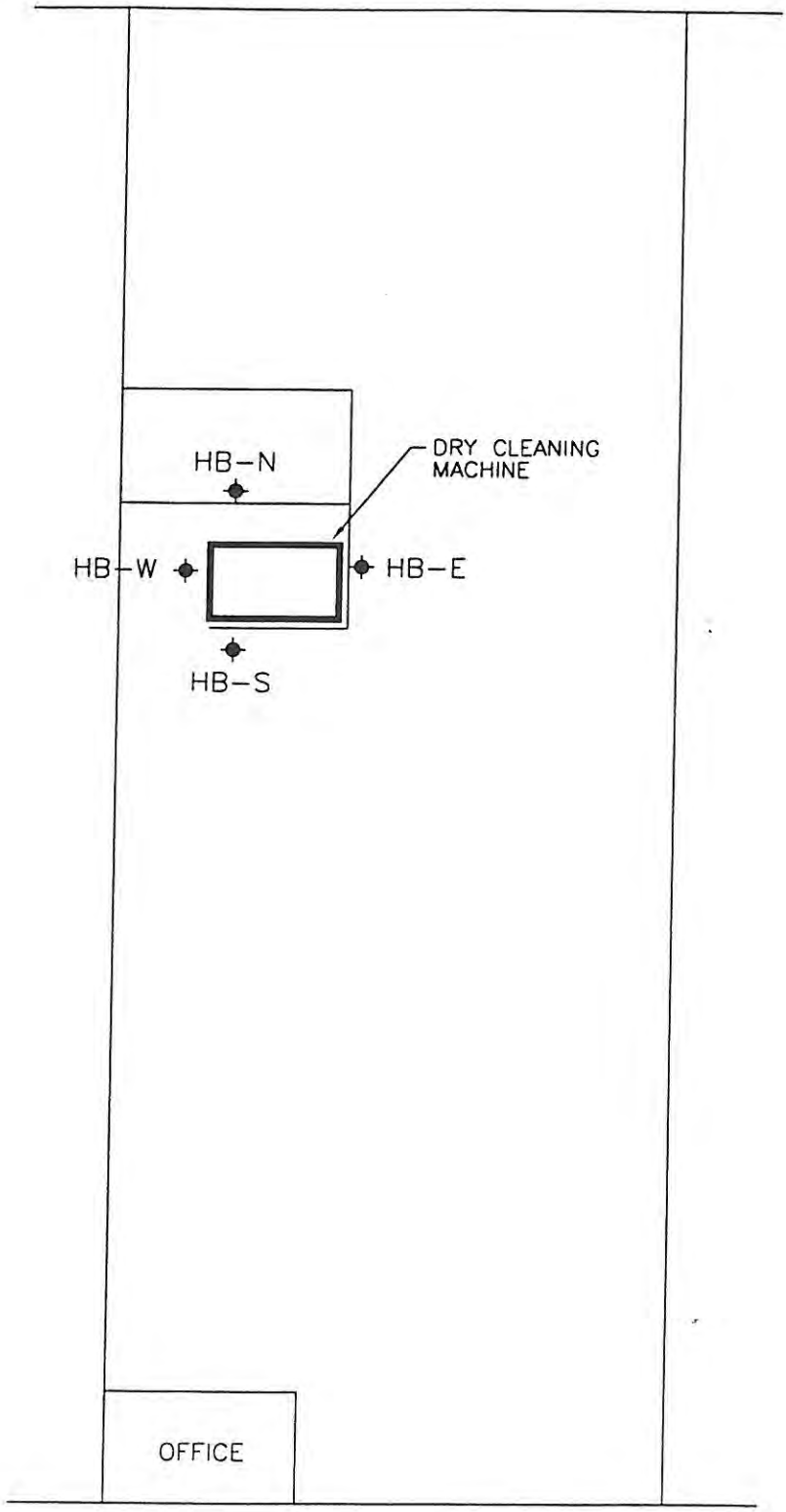


FIGURE 1

VICINITY MAP
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON
PROJECT NO. 20-74

ALISTO ENGINEERING GROUP
SEATTLE, WASHINGTON

20-74-08 DWG 3-15-88 BKD 1-10

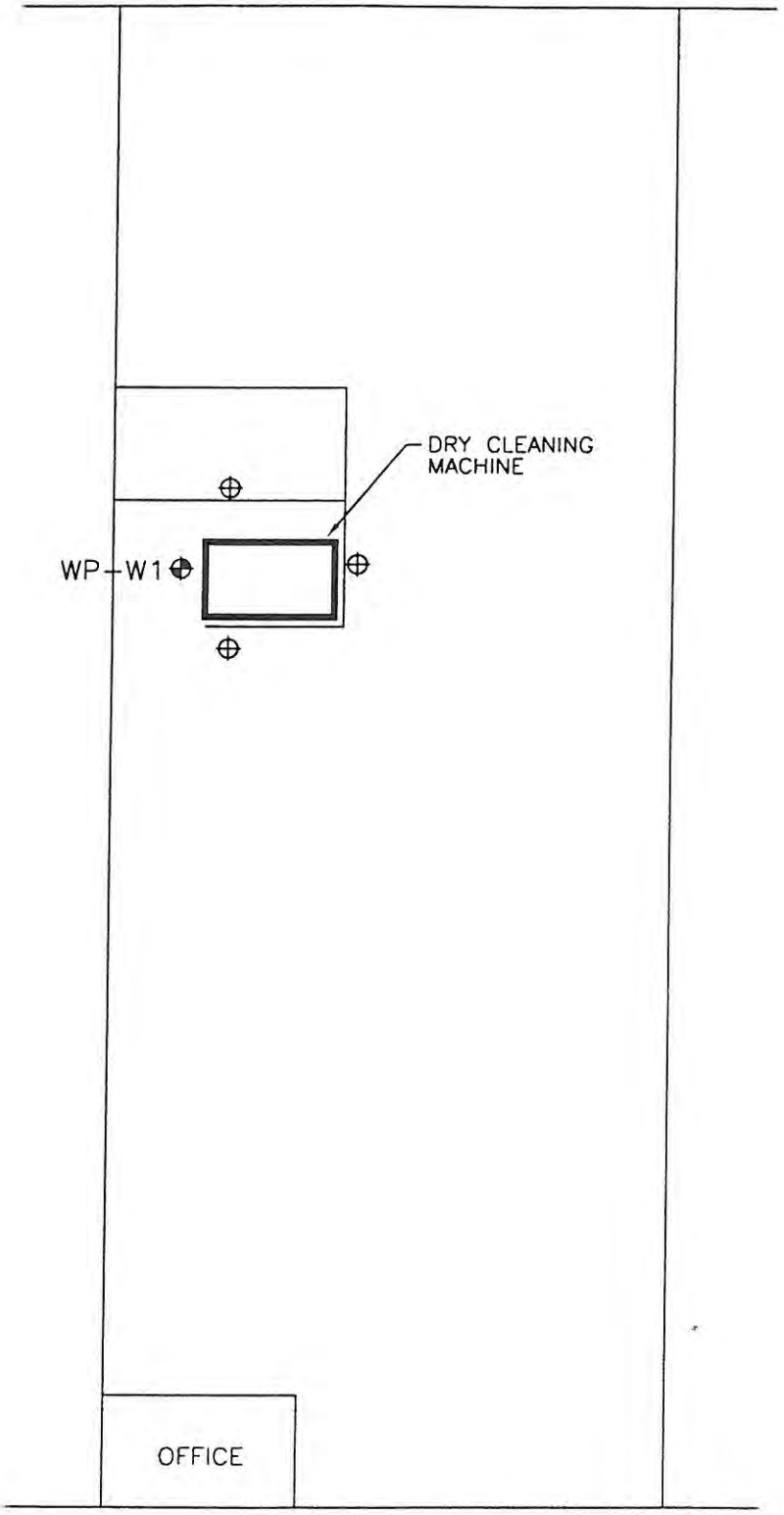


0 5 10
SCALE IN FEET

FIGURE 2
SOIL SAMPLING
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON
PROJECT NO. 20–74

ALISTO ENGINEERING GROUP
SEATTLE, WASHINGTON

20-74-S5.DWG 3-13-98 BKD 1=10



0 5 10
SCALE IN FEET

FIGURE 3
GROUND WATER SAMPLING
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON
PROJECT NO. 20-74

ALISTO ENGINEERING GROUP
SEATTLE, WASHINGTON

20-74-GW.DWG 3-15-99 BKD 1=10

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
HB-E1	B901497-01	Soil	1/28/99
HB-N1	B901497-02	Soil	1/28/99
HB-S1	B901497-03	Soil	1/28/99
HB-W1	B901497-04	Soil	1/28/99

North Creek Analytical - Bothell

Kirk Gendron, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-E1			**B901497-01**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	**2.71**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*86.9*	*%*	
HB-N1			**B901497-02**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-N1 (continued)			**B901497-02**				**Soil**	
Chloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	2/2/99		0.500	**25.3**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*78.9*	*%*	
HB-S1			**B901497-03**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	**2.86**	"	
1,3-Dichlorobenzene	"	"	"		0.0500	**0.0841**	"	
1,4-Dichlorobenzene	"	"	"		0.0500	**0.186**	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-S1 (continued)			**B901497-03**				**Soil**	
1,1-Dichloroethene	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	2/2/99		25.0	**664**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*91.9*	*%*	
HB-W1			**B901497-04**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	**1.55**	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	

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**Refer to end of report for text of notes and definitions.*

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-W1 (continued)			**B901497-04**				**Soil**	
1,1,2,2-Tetrachloroethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Tetrachloroethene	"	"	2/2/99		2.50	**106**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*79.5*	*%*	

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Alisto Engineering	Project:	Dry Cleaning	Sampled:	1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received:	1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported:	2/4/99 11:18

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
HB-E1	B901497-01	Soil	93.9	%
HB-N1	B901497-02	Soil	91.7	%
HB-S1	B901497-03	Soil	89.6	%
HB-W1	B901497-04	Soil	91.4	%

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0290017	**Date Prepared: 2/1/99**					**Extraction Method: EPA 5030B [MeOH]**				
Blank	**0290017-BLK1**									
Bromodichloromethane	2/1/99			ND	mg/kg dry	0.0500				
Bromoform	"			ND	"	0.0500				
Bromomethane	"			ND	"	0.0500				
Carbon tetrachloride	"			ND	"	0.0500				
Chlorobenzene	"			ND	"	0.0500				
Chloroethane	"			ND	"	0.0500				
Chloroform	"			ND	"	0.0500				
Chloromethane	"			ND	"	0.0500				
Dibromochloromethane	"			ND	"	0.0500				
1,2-Dichlorobenzene	"			ND	"	0.0500				
1,3-Dichlorobenzene	"			ND	"	0.0500				
1,4-Dichlorobenzene	"			ND	"	0.0500				
1,1-Dichloroethane	"			ND	"	0.0500				
1,2-Dichloroethane	"			ND	"	0.0500				
1,1-Dichloroethene	"			ND	"	0.0500				
cis-1,2-Dichloroethene	"			ND	"	0.0500				
trans-1,2-Dichloroethene	"			ND	"	0.0500				
1,2-Dichloropropane	"			ND	"	0.0500				
cis-1,3-Dichloropropene	"			ND	"	0.0500				
trans-1,3-Dichloropropene	"			ND	"	0.0500				
Methylene chloride	"			ND	"	0.500				
1,1,2,2-Tetrachloroethane	"			ND	"	0.0500				
Tetrachloroethene	"			ND	"	0.0500				
1,1,1-Trichloroethane	"			ND	"	0.0500				
1,1,2-Trichloroethane	"			ND	"	0.0500				
Trichloroethene	"			ND	"	0.0500				
Trichlorofluoromethane	"			ND	"	0.0500				
Vinyl chloride	"			ND	"	0.0500				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.89*	"	*50.0-150*	*94.5*			
LCS	**0290017-BS1**									
Chlorobenzene	2/1/99	1.00		0.826	mg/kg dry	60.0-140	82.6			
1,1-Dichloroethene	"	1.00		0.811	"	60.0-140	81.1			
Trichloroethene	"	1.00		0.853	"	60.0-140	85.3			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.76*	"	*50.0-150*	*88.0*			

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	**0290017-MS1**		**B901497-01**							
Chlorobenzene	2/1/99	1.07	ND	0.951	mg/kg dry	60.0-140	**88.9**			
1,1-Dichloroethene	"	1.07	ND	0.906	"	60.0-140	**84.7**			
Trichloroethene	"	1.07	ND	0.962	"	60.0-140	**89.9**			
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.88*	"	*50.0-150*	*88.3*			
Matrix Spike Dup	**0290017-MSD1**		**B901497-01**							
Chlorobenzene	2/1/99	1.07	ND	0.955	mg/kg dry	60.0-140	**89.3**	30.0	**0.449**	
1,1-Dichloroethene	"	1.07	ND	0.864	"	60.0-140	**80.7**	30.0	**4.84**	
Trichloroethene	"	1.07	ND	0.852	"	60.0-140	**79.6**	30.0	**12.2**	
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.76*	"	*50.0-150*	*82.6*			

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**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/4/99 11:18

Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

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Alisto Engineering	Project:	Dry Cleaning	Sampled:	1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received:	1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported:	2/16/99 09:58

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
HB-E1	B901497-01	Soil	1/28/99
HB-N1	B901497-02	Soil	1/28/99
HB-S1	B901497-03	Soil	1/28/99
HB-W1	B901497-04	Soil	1/28/99
HB-S2	B901497-06	Soil	1/28/99

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Kirk Gendron, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-E1			**B901497-01**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		0.0500	**2.71**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*86.9*	*%*	
HB-N1			**B901497-02**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-N1 (continued)			**B901497-02**				**Soil**	
Chloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	2/2/99		0.500	**25.3**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*78.9*	*%*	
HB-S1			**B901497-03**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	**2.86**	"	
1,3-Dichlorobenzene	"	"	"		0.0500	**0.0841**	"	
1,4-Dichlorobenzene	"	"	"		0.0500	**0.186**	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-S1 (continued)			**B901497-03**				**Soil**	
1,1-Dichloroethene	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	2/2/99		25.0	**664**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*91.9*	*%*	
HB-W1			**B901497-04**				**Soil**	
Bromodichloromethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	**1.55**	"	
1,3-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,4-Dichlorobenzene	"	"	"		0.0500	ND	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-W1 (continued)			**B901497-04**				**Soil**	
1,1,2,2-Tetrachloroethane	0290017	2/1/99	2/1/99		0.0500	ND	mg/kg dry	
Tetrachloroethene	"	"	2/2/99		2.50	**106**	"	
1,1,1-Trichloroethane	"	"	2/1/99		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*79.5*	*%*	
HB-S2			**B901497-06**				**Soil**	
Bromodichloromethane	0290351	2/11/99	2/11/99		0.0500	ND	mg/kg dry	
Bromoform	"	"	"		0.0500	ND	"	
Bromomethane	"	"	"		0.0500	ND	"	
Carbon tetrachloride	"	"	"		0.0500	ND	"	
Chlorobenzene	"	"	"		0.0500	ND	"	
Chloroethane	"	"	"		0.0500	ND	"	
Chloroform	"	"	"		0.0500	ND	"	
Chloromethane	"	"	"		0.0500	ND	"	
Dibromochloromethane	"	"	"		0.0500	ND	"	
1,2-Dichlorobenzene	"	"	"		0.0500	**1.40**	"	
1,3-Dichlorobenzene	"	"	"		0.0500	**0.0543**	"	
1,4-Dichlorobenzene	"	"	"		0.0500	**0.115**	"	
1,1-Dichloroethane	"	"	"		0.0500	ND	"	
1,2-Dichloroethane	"	"	"		0.0500	ND	"	
1,1-Dichloroethene	"	"	"		0.0500	ND	"	
cis-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
trans-1,2-Dichloroethene	"	"	"		0.0500	ND	"	
1,2-Dichloropropane	"	"	"		0.0500	ND	"	
cis-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
trans-1,3-Dichloropropene	"	"	"		0.0500	ND	"	
Methylene chloride	"	"	"		0.500	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		0.0500	ND	"	
Tetrachloroethene	"	"	"		2.50	**131**	"	
1,1,1-Trichloroethane	"	"	"		0.0500	ND	"	
1,1,2-Trichloroethane	"	"	"		0.0500	ND	"	
Trichloroethene	"	"	"		0.0500	ND	"	
Trichlorofluoromethane	"	"	"		0.0500	ND	"	
Vinyl chloride	"	"	"		0.0500	ND	"	

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
HB-S2 (continued)			**B901497-06**				**Soil**	
Surrogate: 4-BFB (ELCD)	*0290351*	*2/11/99*	*2/11/99*	*50.0-150*		*84.4*	*%*	

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Alisto Engineering	Project:	Dry Cleaning	Sampled:	1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received:	1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported:	2/16/99 09:58

Dry Weight Determination
North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
HB-E1	B901497-01	Soil	93.9	%
HB-N1	B901497-02	Soil	91.7	%
HB-S1	B901497-03	Soil	89.6	%
HB-W1	B901497-04	Soil	91.4	%
HB-S2	B901497-06	Soil	88.7	%

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0290017	**Date Prepared: 2/1/99**					**Extraction Method: EPA 5030B [MeOH]**				
Blank	**0290017-BLK1**									
Bromodichloromethane	2/1/99			**ND**	mg/kg dry	**0.0500**				
Bromoform	"			**ND**	"	**0.0500**				
Bromomethane	"			**ND**	"	**0.0500**				
Carbon tetrachloride	"			**ND**	"	**0.0500**				
Chlorobenzene	"			**ND**	"	**0.0500**				
Chloroethane	"			**ND**	"	**0.0500**				
Chloroform	"			**ND**	"	**0.0500**				
Chloromethane	"			**ND**	"	**0.0500**				
Dibromochloromethane	"			**ND**	"	**0.0500**				
1,2-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,3-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,4-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,1-Dichloroethane	"			**ND**	"	**0.0500**				
1,2-Dichloroethane	"			**ND**	"	**0.0500**				
1,1-Dichloroethene	"			**ND**	"	**0.0500**				
cis-1,2-Dichloroethene	"			**ND**	"	**0.0500**				
trans-1,2-Dichloroethene	"			**ND**	"	**0.0500**				
1,2-Dichloropropane	"			**ND**	"	**0.0500**				
cis-1,3-Dichloropropene	"			**ND**	"	**0.0500**				
trans-1,3-Dichloropropene	"			**ND**	"	**0.0500**				
Methylene chloride	"			**ND**	"	**0.500**				
1,1,2,2-Tetrachloroethane	"			**ND**	"	**0.0500**				
Tetrachloroethene	"			**ND**	"	**0.0500**				
1,1,1-Trichloroethane	"			**ND**	"	**0.0500**				
1,1,2-Trichloroethane	"			**ND**	"	**0.0500**				
Trichloroethene	"			**ND**	"	**0.0500**				
Trichlorofluoromethane	"			**ND**	"	**0.0500**				
Vinyl chloride	"			**ND**	"	**0.0500**				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.89*	"	*50.0-150*	*94.5*			
LCS	**0290017-BS1**									
Chlorobenzene	2/1/99	1.00		0.826	mg/kg dry	60.0-140	82.6			
1,1-Dichloroethene	"	1.00		0.811	"	60.0-140	81.1			
Trichloroethene	"	1.00		0.853	"	60.0-140	85.3			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.76*	"	*50.0-150*	*88.0*			

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**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	**0290017-MS1**		**B901497-01**							
Chlorobenzene	2/1/99	1.07	ND	0.951	mg/kg dry	60.0-140	**88.9**			
1,1-Dichloroethene	"	1.07	ND	0.906	"	60.0-140	**84.7**			
Trichloroethene	"	1.07	ND	0.962	"	60.0-140	**89.9**			
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.88*	"	*50.0-150*	*88.3*			
Matrix Spike Dup	**0290017-MSD1**		**B901497-01**							
Chlorobenzene	2/1/99	1.07	ND	0.955	mg/kg dry	60.0-140	**89.3**	30.0	**0.449**	
1,1-Dichloroethene	"	1.07	ND	0.864	"	60.0-140	**80.7**	30.0	**4.84**	
Trichloroethene	"	1.07	ND	0.852	"	60.0-140	**79.6**	30.0	**12.2**	
Surrogate: 4-BFB (ELCD)	"	*2.13*		*1.76*	"	*50.0-150*	*82.6*			
Batch: 0290351	**Date Prepared: 2/11/99**					**Extraction Method: EPA 5030B [MeOH]**				
Blank	**0290351-BLK1**									
Bromodichloromethane	2/11/99			**ND**	mg/kg dry	**0.0500**				
Bromoform	"			**ND**	"	**0.0500**				
Bromomethane	"			**ND**	"	**0.0500**				
Carbon tetrachloride	"			**ND**	"	**0.0500**				
Chlorobenzene	"			**ND**	"	**0.0500**				
Chloroethane	"			**ND**	"	**0.0500**				
Chloroform	"			**ND**	"	**0.0500**				
Chloromethane	"			**ND**	"	**0.0500**				
Dibromochloromethane	"			**ND**	"	**0.0500**				
1,2-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,3-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,4-Dichlorobenzene	"			**ND**	"	**0.0500**				
1,1-Dichloroethane	"			**ND**	"	**0.0500**				
1,2-Dichloroethane	"			**ND**	"	**0.0500**				
1,1-Dichloroethene	"			**ND**	"	**0.0500**				
cis-1,2-Dichloroethene	"			**ND**	"	**0.0500**				
trans-1,2-Dichloroethene	"			**ND**	"	**0.0500**				
1,2-Dichloropropane	"			**ND**	"	**0.0500**				
cis-1,3-Dichloropropene	"			**ND**	"	**0.0500**				
trans-1,3-Dichloropropene	"			**ND**	"	**0.0500**				
Methylene chloride	"			**ND**	"	**0.500**				
1,1,2,2-Tetrachloroethane	"			**ND**	"	**0.0500**				
Tetrachloroethene	"			**ND**	"	**0.0500**				
1,1,1-Trichloroethane	"			**ND**	"	**0.0500**				
1,1,2-Trichloroethane	"			**ND**	"	**0.0500**				

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Blank (continued)	**0290351-BLK1**									
Trichloroethene	2/11/99			**ND**	mg/kg dry	**0.0500**				
Trichlorofluoromethane	"			**ND**	"	**0.0500**				
Vinyl chloride	"			**ND**	"	**0.0500**				
Surrogate: 4-BFB (ELCD)	"	*2.00*		*2.00*	"	*50.0-150*	*100*			
LCS	**0290351-BS1**									
Chlorobenzene	2/11/99	1.00		0.824	mg/kg dry	60.0-140	82.4			
1,1-Dichloroethene	"	1.00		0.815	"	60.0-140	81.5			
Trichloroethene	"	1.00		0.848	"	60.0-140	84.8			
Surrogate: 4-BFB (ELCD)	"	*2.00*		*1.83*	"	*50.0-150*	*91.5*			
Matrix Spike	**0290351-MS1**		**B902165-03**							
Chlorobenzene	2/11/99	1.15	ND	0.992	mg/kg dry	60.0-140	**86.3**			
1,1-Dichloroethene	"	1.15	ND	0.881	"	60.0-140	**76.6**			
Trichloroethene	"	1.15	ND	0.973	"	60.0-140	**84.6**			
Surrogate: 4-BFB (ELCD)	"	*2.30*		*2.02*	"	*50.0-150*	*87.8*			
Matrix Spike Dup	**0290351-MSD1**		**B902165-03**							
Chlorobenzene	2/11/99	1.15	ND	0.985	mg/kg dry	60.0-140	**85.7**	30.0	**0.698**	
1,1-Dichloroethene	"	1.15	ND	0.984	"	60.0-140	**85.6**	30.0	**11.1**	
Trichloroethene	"	1.15	ND	1.01	"	60.0-140	**87.8**	30.0	**3.71**	
Surrogate: 4-BFB (ELCD)	"	*2.30*		*2.04*	"	*50.0-150*	*88.7*			

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Alisto Engineering	Project:	Dry Cleaning	Sampled: 1/28/99
1145 12th Avenue, Suite C4A	Project Number:	20-73	Received: 1/28/99
Issaquah, WA 98027	Project Manager:	Dave Cooper	Reported: 2/16/99 09:58

Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical - Bothell

Kirk Gendron, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

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CHAIN OF CUSTODY REPORT

Work Order # B901497

REPORT TO:	INVOICE TO:
ATTENTION: Alisto - Dave Cooper	ATTENTION: Same
ADDRESS: 1645 - 12th Ave NW, C4A Issaquah, WA 98027	ADDRESS:
PHONE: 425 837-3944 FAX: 837-8543	P.O. NUMBER: 20-73 NCA QUOTE #:
PROJECT NAME: Dry Cleaning	
PROJECT NUMBER: 20-73	
SAMPLED BY: Bill Dougherty	

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10] Standard | [7] | [5] | [4] | [3] | [2] | [1] | [Same Day]

Fuels & Hydrocarbon Analyses: [5] Standard | [3-4] | [2] | [1] | [Same Day]

[OTHER] Specify:

** Turnaround Requests less than standard may incur Rush Charges.*

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: 8021 VOC HVOC	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1	HB-E1	1/28/10:30	B901497-01	X	S	1	
2	HB-N1	1/28/11:30	02	X	S	1	
3	HB-S1	1/28/12:00	03	X	S	1	
4	HB-W1	1/28/12:20	04	X	S	1	
5	HB-W2	1/28/13:00	05	X	S	1	Hold
6	HB-S2	1/28/13:50	06	X	S	1	Hold
7	HB-E2	1/28/14:50	07	X	S	1	Hold
8	HB-N2	1/28/15:20	08	X	S	1	Hold
9							
10							

RELINQUISHED BY (Signature): Bill Dougherty	RECEIVED BY (Signature): Cathy Nichols
PRINT NAME: FIRM:	PRINT NAME: FIRM: NCA
DATE: 1/28/97 TIME: 16:30	DATE: 1/28/97 TIME: 16:30
RELINQUISHED BY (Signature):	RECEIVED BY (Signature):
PRINT NAME: FIRM:	PRINT NAME: FIRM:
DATE: TIME:	DATE: TIME:

ADDITIONAL REMARKS:

W/O 11.9

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NORTH CREEK ANALYTICAL
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CHAIN OF CUSTODY REPORT

Work Order # B901497

REPORT TO:
ATTENTION: Alisto - Dave Cooper
ADDRESS: 1645 - 12th Ave NW, C4A
Issaquah, WA 98027
PHONE: 425 837-3944 FAX: 837-8543
PROJECT NAME: Dry cleaning
PROJECT NUMBER: 20-73
SAMPLED BY: Bill Dougherty

INVOICE TO:
ATTENTION: same
ADDRESS:
P.O. NUMBER: 20-73 NCA QUOTE #:

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: 10 Standard | 7 | 5 | 4 | 3 | 2 | 1 | Same Day
Fuels & Hydrocarbon Analyses: 5 Standard | 3-4 | 2 | 1 | Same Day
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges.

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: 8021 VOC HOC	8021 HVOCs	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	HB-E1	1/28/10:30	B901497-01	X		S	1	
2.	HB-N1	1/28/11:30	02	X		S	1	
3.	HB-S1	1/28/12:00	03	X		S	1	
4.	HB-W1	1/28/12:20	04	X		S	1	
5.	HB-W2	1/28/13:00	05	X		S	1	Hold
6.	HB-S2	1/28/13:50	06	X		S	1	Hold
7.	HB-E2	1/28/14:50	07	X		S	1	Hold
8.	HB-N2	1/28/15:20	08	X		S	1	Hold
9.								
10.								

PELOG STD TAT

PF 2/4/99

RELINQUISHED BY: Bill Dougherty DATE: 1/28/99 TIME: 16:30
PRINT NAME: FIRM:

RECEIVED BY: Cathy Nichols DATE: 1/29/99
PRINT NAME: FIRM: NCA TIME: 16:3

RELINQUISHED BY: DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY: DATE:
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:

W/O 11.9

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Alisto Engineering	Project:	Cleaning Center of Remond	Sampled: 3/4/99
1145 12th Avenue, Suite C4A	Project Number:	20-74	Received: 3/4/99
Issaquah, WA 98027	Project Manager:	Bill Dougherty	Reported: 3/10/99 12:34

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
WP-W1	B903115-01	Water	3/4/99

North Creek Analytical - Bothell

Kirk Gendron, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Environmental Laboratory Network

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Alisto Engineering	Project:	Cleaning Center of Remond	Sampled: 3/4/99
1145 12th Avenue, Suite C4A	Project Number:	20-74	Received: 3/4/99
Issaquah, WA 98027	Project Manager:	Bill Dougherty	Reported: 3/10/99 12:34

Halogenated Volatile Organics by EPA Method 8021B (modified)
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
WP-W1			**B903115-01**				**Water**	
Bromodichloromethane	0390216	3/8/99	3/8/99		1.00	ND	ug/l	
Bromoform	"	"	"		1.00	ND	"	
Bromomethane	"	"	"		1.00	ND	"	
Carbon tetrachloride	"	"	"		1.00	ND	"	
Chlorobenzene	"	"	"		1.00	ND	"	
Chloroethane	"	"	"		1.00	ND	"	
Chloroform	"	"	"		1.00	ND	"	
Chloromethane	"	"	"		1.00	ND	"	
Dibromochloromethane	"	"	"		1.00	ND	"	
1,2-Dichlorobenzene	"	"	"		1.00	**1.72**	"	
1,3-Dichlorobenzene	"	"	"		1.00	ND	"	
1,4-Dichlorobenzene	"	"	"		1.00	ND	"	
1,1-Dichloroethane	"	"	"		1.00	ND	"	
1,2-Dichloroethane	"	"	"		1.00	ND	"	
1,1-Dichloroethene	"	"	"		1.00	ND	"	
cis-1,2-Dichloroethene	"	"	"		1.00	**1.49**	"	
trans-1,2-Dichloroethene	"	"	"		1.00	ND	"	
1,2-Dichloropropane	"	"	"		1.00	ND	"	
cis-1,3-Dichloropropene	"	"	"		1.00	ND	"	
trans-1,3-Dichloropropene	"	"	"		1.00	ND	"	
Methylene chloride	"	"	"		5.00	ND	"	
1,1,2,2-Tetrachloroethane	"	"	"		1.00	ND	"	
Tetrachloroethene	"	"	3/9/99		200	**6530**	"	
1,1,1-Trichloroethane	"	"	3/8/99		1.00	ND	"	
1,1,2-Trichloroethane	"	"	"		1.00	ND	"	
Trichloroethene	"	"	"		1.00	**6.46**	"	
Trichlorofluoromethane	"	"	"		1.00	ND	"	
Vinyl chloride	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (ELCD)	"	"	"	*50.0-150*		*86.5*	*%*	

North Creek Analytical - Bothell

Kirk Gendron, Project Manager

**Refer to end of report for text of notes and definitions.*

www.ncalabs.com

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Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
503.906.9200 fax 503.906.9210
Bend 20354 Empire Avenue, Suite E-9, Bend, OR 97708-1883
541.383.9310 fax 541.382.7588

Alisto Engineering	Project:	Cleaning Center of Remond	Sampled: 3/4/99
1145 12th Avenue, Suite C4A	Project Number:	20-74	Received: 3/4/99
Issaquah, WA 98027	Project Manager:	Bill Dougherty	Reported: 3/10/99 12:34

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit / Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0390216	**Date Prepared: 3/8/99**					**Extraction Method: EPA 5030B [P/T]**				
Blank	**0390216-BLK1**									
Bromodichloromethane	3/8/99			**ND**	ug/l	**1.00**				
Bromoform	"			**ND**	"	**1.00**				
Bromomethane	"			**ND**	"	**1.00**				
Carbon tetrachloride	"			**ND**	"	**1.00**				
Chlorobenzene	"			**ND**	"	**1.00**				
Chloroethane	"			**ND**	"	**1.00**				
Chloroform	"			**ND**	"	**1.00**				
Chloromethane	"			**ND**	"	**1.00**				
Dibromochloromethane	"			**ND**	"	**1.00**				
1,2-Dichlorobenzene	"			**ND**	"	**1.00**				
1,3-Dichlorobenzene	"			**ND**	"	**1.00**				
1,4-Dichlorobenzene	"			**ND**	"	**1.00**				
1,1-Dichloroethane	"			**ND**	"	**1.00**				
1,2-Dichloroethane	"			**ND**	"	**1.00**				
1,1-Dichloroethene	"			**ND**	"	**1.00**				
cis-1,2-Dichloroethene	"			**ND**	"	**1.00**				
trans-1,2-Dichloroethene	"			**ND**	"	**1.00**				
1,2-Dichloropropane	"			**ND**	"	**1.00**				
cis-1,3-Dichloropropene	"			**ND**	"	**1.00**				
trans-1,3-Dichloropropene	"			**ND**	"	**1.00**				
Methylene chloride	"			**ND**	"	**5.00**				
1,1,2,2-Tetrachloroethane	"			**ND**	"	**1.00**				
Tetrachloroethene	"			**ND**	"	**1.00**				
1,1,1-Trichloroethane	"			**ND**	"	**1.00**				
1,1,2-Trichloroethane	"			**ND**	"	**1.00**				
Trichloroethene	"			**ND**	"	**1.00**				
Trichlorofluoromethane	"			**ND**	"	**1.00**				
Vinyl chloride	"			**ND**	"	**1.00**				
Surrogate: 4-BFB (ELCD)	"	*10.0*		*10.4*	"	*50.0-150*	*104*			
LCS	**0390216-BS1**									
Chlorobenzene	3/8/99	10.0		9.77	ug/l	70.0-130	97.7			
1,1-Dichloroethene	"	10.0		10.4	"	70.0-130	104			
Trichloroethene	"	10.0		9.91	"	70.0-130	99.1			
Surrogate: 4-BFB (ELCD)	"	*10.0*		*9.63*	"	*50.0-150*	*96.3*			

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

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Alisto Engineering	Project:	Cleaning Center of Remond	Sampled: 3/4/99
1145 12th Avenue, Suite C4A	Project Number:	20-74	Received: 3/4/99
Issaquah, WA 98027	Project Manager:	Bill Dougherty	Reported: 3/10/99 12:34

Halogenated Volatile Organics by EPA Method 8021B (modified)/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike	**0390216-MS1**		**B903002-19**							
Chlorobenzene	3/8/99	10.0	ND	8.30	ug/l	70.0-130	**83.0**			
1,1-Dichloroethene	"	10.0	ND	8.21	"	70.0-130	**82.1**			
Trichloroethene	"	10.0	ND	8.70	"	70.0-130	**87.0**			
Surrogate: 4-BFB (ELCD)	"	*10.0*		*8.76*	"	*50.0-150*	*87.6*			
Matrix Spike Dup	**0390216-MSD1**		**B903002-19**							
Chlorobenzene	3/8/99	10.0	ND	8.54	ug/l	70.0-130	**85.4**	20.0	**2.85**	
1,1-Dichloroethene	"	10.0	ND	7.96	"	70.0-130	**79.6**	20.0	**3.09**	
Trichloroethene	"	10.0	ND	8.08	"	70.0-130	**80.8**	20.0	**7.39**	
Surrogate: 4-BFB (ELCD)	"	*10.0*		*9.20*	"	*50.0-150*	*92.0*			

North Creek Analytical - Bothell

**Refer to end of report for text of notes and definitions.*

Kirk Gendron, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

www.ncalabs.com

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Alisto Engineering	Project:	Cleaning Center of Remond	Sampled: 3/4/99
1145 12th Avenue, Suite C4A	Project Number:	20-74	Received: 3/4/99
Issaquah, WA 98027	Project Manager:	Bill Dougherty	Reported: 3/10/99 12:34

Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical - Bothell

Kirk Gendron, Project Manager

NORTH CREEK ANALYTICAL
Environmental Laboratory Services

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992
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9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

CHAIN OF CUSTODY REPORT

Work Order # B903115

REPORT TO:
ATTENTION: Alisto Engineering Group
ADDRESS: 1145-12th Ave NW, C4A
Issaquah, WA 98027
PHONE: 425 837-3944 FAX: 837-8543

INVOICE TO:
ATTENTION: Same
ADDRESS:

P.O. NUMBER: NCA QUOTE #:

PROJECT NAME: Cleaning Center of Redmond
PROJECT NUMBER: 20-74
SAMPLED BY: Bill Dougherty

TURNAROUND REQUEST in Business Days *
Organic & Inorganic Analyses: [X] 10 Standard | 7 | 5 | 4 | 3 | 2 | 1 | Same Day
Fuels & Hydrocarbon Analyses: [5] Standard | 3-4 | 2 | 1 | Same Day
OTHER Specify:
* Turnaround Requests less than standard may incur Rush Charges

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	NCA SAMPLE ID (Laboratory Use Only)	Analysis Request: HVOC-8021B	MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
1.	WP-W1	3/4/99 12:45	B903115-01	X	W	3	
2.							
3.							
4.							
5.							
6.							
8.							
9.							
10.							

RELINQUISHED BY (Signature): Bill Dougherty DATE: 3/4/99
PRINT NAME: FIRM: Alisto TIME: 14:20

RECEIVED BY (Signature): Adar Reed DATE: 3/4/99
PRINT NAME: Adar Reed FIRM: NCA-B TIME: 1420

RELINQUISHED BY (Signature): DATE:
PRINT NAME: FIRM: TIME:

RECEIVED BY (Signature): DATE
PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS:
WO/ 11.5°C

PAGE OF

COC Rev 8, 1/98

ATTACHMENT C
EXCERPTS FROM 2001 GEOENGINEERS, INC. REPORT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

800 Sleater-Kinney SE, PMB #262
Lacey, Washington 98503-1127

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

GeoEngineers
MAR 17 2000
Routing
File

March 15, 2000

Jim Roth
GeoEngineers, Inc.
8410 154th Ave. NE
Redmond, WA 98052

Dear Mr. Roth:

Please find enclosed the analytical data report for the Cleaning Center of Redmond Project in Redmond, Washington. StrataProbe and Mobile Laboratory services were conducted on February 29, 2000. Soil and water samples were analyzed on and off site for Specific Halogenated Hydrocarbons and BTEX by Method 8021B.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to GeoEngineers, Inc. for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4^{o} C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8021B)

A calibration standard is run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

Specific Halogenated and Aromatic Hydrocarbons (EPA 8021B) in Water

SAMPLE DESCRIPTION		Method Blank	Method Blank	B-1	B-2	B-3	B-4	B-5	B-6
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
DATE SAMPLED	MDL	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
DATE ANALYZED		2/29/00	3/1/00	3/1/00	3/1/00	3/1/00	3/1/00	3/1/00	3/1/00
Vinyl Chloride	5.0	nd	nd	nd	nd	nd	nd	nd	nd
Benzene	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	1.0	nd	nd	2.9	2.3	2.5	2.5	2.5	9.6
Ethylbenzene	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Total Xylenes	1.0	nd	nd	3.4	nd	nd	nd	1.4	5.2
1,1-Dichloroethene	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Methylene Chloride	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Trans-1,2-dichlorethene	1.0	nd	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Cis-1,2-dichloroethene	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Chloroform	1.0	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane (TCA)	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Carbontetrachloride	1.0	nd	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	nd	nd	nd	1.0	nd	1.6	5.7
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd	nd	7.2	5.6	4.4	47	25
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATE RECOVERY (%)		132	98	103	102	93	95	103	103

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene): 65%- 135%

ANALYSES PERFORMED BY: Michael Dee
DATA REVIEWED BY: Sherry Chilcutt

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

QA/QC DATA - EPA 8021B ANALYSES

	Matrix Spike			Matrix Spike Duplicate			
	Spiked Conc. (ug/l)	Measured Conc. (ug/l)	Spike Recovery (%)	Spiked Conc. (ug/l)	Measured Conc. (ug/l)	Spike Recovery (%)	RPD (%)
BENZENE	40	45	113%	40	49	122%	7.5%
TOLUENE	40	46	115%	40	50	125%	8.1%
TRICHLOROETHENE (TCE)	40	45	111%	40	49	123%	10.0%
SURROGATE RECOVERY (%)			82%			102%	22%

QA/QC DATA - EPA 8021B ANALYSES

	Laboratory Control Sample		
	Spiked Conc. (ug/l)	Measured Conc. (ug/l)	Spike Recovery (%)
BENZENE	100	105	105%
TOLUENE	100	102	102%
TRICHLOROETHENE (TCE)	100	84	84%
SURROGATE RECOVERY (%)			119%

QA/QC DATA - EPA 8021B ANALYSES

	Laboratory Control Sample		
	Spiked Conc. (ug/l)	Measured Conc. (ug/l)	Spike Recovery (%)
BENZENE	100	112	112%
TOLUENE	100	107	107%
TRICHLOROETHENE (TCE)	100	90	90%
SURROGATE RECOVERY (%)			75%

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

Specific Halogenated and Aromatic Hydrocarbons (EPA 8021B) in Water

SAMPLE DESCRIPTION		B-7	B-8	B-9	B-10	B-11
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
DATE SAMPLED	MDL	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
DATE ANALYZED		2/29/00	2/29/00	2/29/00	3/1/00	3/1/00
Vinyl Chloride	5.0	nd	nd	nd	<250	nd
Benzene	1.0	nd	nd	nd	<50	nd
Toluene	1.0	3.6	3.9	4.6	<50	4.6
Ethylbenzene	1.0	nd	nd	nd	<50	nd
Total Xylenes	1.0	2.5	2.9	3.6	<50	1.9
1,1-Dichloroethene	1.0	nd	nd	nd	<50	nd
Methylene Chloride	1.0	nd	nd	nd	<50	nd
Trans-1,2-dichlorethene	1.0	nd	nd	nd	<50	nd
1,1-Dichloroethane	1.0	nd	nd	nd	<50	nd
Cis-1,2-dichloroethene	1.0	8.0	nd	nd	<50	6.4
Chloroform	1.0	nd	nd	nd	<50	nd
1,1,1-Trichloroethane (TCA)	1.0	nd	nd	nd	<50	nd
Carbontetrachloride	1.0	nd	nd	nd	<50	nd
1,2-Dichloroethane	1.0	nd	nd	nd	<50	nd
Trichloroethene (TCE)	1.0	1.9	nd	nd	<50	8.7
1,1,2-Trichloroethane	1.0	nd	nd	nd	<50	nd
Tetrachloroethene (PCE)	1.0	58	3.0	1.3	2000	530
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	<50	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	<50	nd
SURROGATE RECOVERY (%)		92	126	84	102	103

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene): 65%- 135%

ANALYSES PERFORMED BY: Michael Dee
DATA REVIEWED BY: Sherry Chilcutt

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

Specific Halogenated and Aromatic Hydrocarbons (EPA 8021B) in Soil

SAMPLE DESCRIPTION		Method Blank	Method Blank	B-1-10	B-2-12.5	B-3-15	B-4-8.5	B-5-8.5	B-6-20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DATE SAMPLED	MDL	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
DATE ANALYZED		2/29/00	3/1/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
Vinyl chloride	0.25	nd	nd	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Total Xylenes	0.05	nd	nd	nd	nd	0.06	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Trans-1,2-dichlorethene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Cis-1,2-dichloroethene	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane (TCA)	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Carbontetrachloride	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd	nd	nd
SURROGATE RECOVERY (%)		92	95	107	97	86	90	103	123

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene): 65%- 135%

ANALYSES PERFORMED BY: Michael Dee
DATA REVIEWED BY: Sherry Chilcutt

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

QA/QC DATA - EPA 8021B ANALYSES

	Matrix Spike			Matrix Spike Duplicate			
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	RPD (%)
BENZENE	2.00	2.30	115%	2.00	2.35	118%	2.2%
TOLUENE	2.00	2.25	113%	2.00	2.30	115%	2.2%
TRICHLOROETHENE (TCE)	2.00	2.25	113%	2.00	2.30	115%	2.2%
SURROGATE RECOVERY (%)			99.0%			90.0%	9.5%

QA/QC DATA - EPA 8021B ANALYSES

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
BENZENE	5.00	5.25	105%
TOLUENE	5.00	5.10	102%
TRICHLOROETHENE (TCE)	5.00	4.20	84%
SURROGATE RECOVERY (%)			119%

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

Specific Halogenated and Aromatic Hydrocarbons (EPA 8021B) in Soil

SAMPLE DESCRIPTION		B-8-8	B-9-14	B-7-16	B-11-9	B-10-0.5	B-10-5.0	Dupl B-6-20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DATE SAMPLED	MDL	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
DATE ANALYZED		2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00	2/29/00
Vinyl chloride	0.25	nd	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd	nd
Total Xylenes	0.05	nd	0.10	0.30	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd	nd	nd	nd
Trans-1,2-dichlorethene	0.05	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd
Cis-1,2-dichloroethene	0.05	nd	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane (TCA)	0.05	nd	nd	nd	nd	nd	nd	nd
Carbontetrachloride	0.05	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	0.05	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.31	0.11	nd	2.7	22	114	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd	nd
SURROGATE RECOVERY (%)		113	127	79	98	99	103	103

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene): 65%- 135%
"J" Indicates Approximate Value.

ANALYSES PERFORMED BY: Michael Dee
DATA REVIEWED BY: Sherry Chilcutt

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

CLEANING CENTER OF REDMOND PROJECT
Redmond, Washington
GeoEngineers, Inc.
Project No. 3352-003-00

Specific Halogenated and Aromatic Hydrocarbons (EPA 8021B) in Soil

SAMPLE DESCRIPTION		Method Blank	B-10-9
	mg/kg	mg/kg	mg/kg
DATE SAMPLED	MDL	2/29/00	2/29/00
DATE ANALYZED		3/2/00	3/2/00
Vinyl chloride	0.25	nd	nd
Benzene	0.05	nd	nd
Toluene	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Total Xylenes	0.05	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Trans-1,2-dichlorethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
Cis-1,2-dichloroethene	0.05	nd	nd
Chloroform	0.05	nd	nd
1,1,1-Trichloroethane (TCA)	0.05	nd	nd
Carbontetrachloride	0.05	nd	nd
1,2-Dichloroethane	0.05	nd	nd
Trichloroethene (TCE)	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	4.6
1,1,1,2-Tetrachloroethane	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
SURROGATE RECOVERY (%)		92	100

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Chlorobenzene): 65%- 135%

ANALYSES PERFORMED BY: Michael Dee
DATA REVIEWED BY: Sherry Chilcutt

500229-3

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

CHAIN-OF-CUSTODY RECORD

CLIENT: GEI

ADDRESS:

PHONE: 425-861-6000 FAX:

CLIENT PROJECT #: 3352-003-00 PROJECT MANAGER: JGR

DATE: 2-29-00 PAGE 2 OF

PROJECT NAME: CLEANING CENTER OF REDS

LOCATION: REDMOND

COLLECTOR: PAUL CRAIG DATE OF COLLECTION 2-29-0

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8010/8021B	VOA 8021B BTEX	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PCBs 8082	Pesticides 8081	TOTAL LEAD	pH	NOTES	Total Number of Containers	Laboratory Note Number
1. B-1	—	1105	W	(2) 40ML	X													Mobil Lab — Ran in fixed Lab (Bellevue		
2. B-2	—	1150			X															
3. B-3	—	1300			X															
4. B-4	—	1405			X															
5. B-6	—	1620			X															
6. B-7	—	1920			X															
7. B-8	—	1725			X															
8. B-9	—	1810			X															
9. B-10	—	2210			X															
10. B-11	—	2100			X															
11. B-5	—	1530			X															
12.																				
13.																				
14.																				
15.																				
16.																				
17.																				
18.																				

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	2-29-00/1445	[signature]	2:29:00
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time:

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

500229-3

CHAIN-OF-CUSTODY RECORD

CLIENT: GEI

ADDRESS: 8410 - 154th AVE NE, REDMOND, WA

PHONE 425-861-6000 FAX: 861-6050

CLIENT PROJECT #: 3352-003-00 PROJECT MANAGER: JGR

DATE: 2-29-00 PAGE 1 OF

PROJECT NAME: CLEANING CENTER OF RED

LOCATION: REDMOND

COLLECTOR: PAUL CRAIG DATE OF COLLECTION 2-29-00

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH (8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	HVOCs (8021B)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
B-1-10	10	1055	S	4oz															X		Mobil Lab		
B-2-12.5	12.5	1145																	X				
B-3-15	15	1250																	X				
B-4-8.5	8.5	1330																	X				
B-5-8.5	8.5	1505																	X				
B-6-20	20.0	1630																	X				
B-8-8	8.0	1700																	X				
B-9-14	14.0	1840																	X				
B-7-16	16.0	1910																	X				
B-11-9	9.0	2035																	X				
B-10-0.5	0.5	2110																	X		Ran in fixed lab (Bellevue)		
B-10-5.0	5.0	2120																	X				

RELINQUISHED BY (Signature) DATE/TIME RECEIVED BY (Signature) DATE/TIME

2-29-00/1445 2.29.00

RELINQUISHED BY (Signature) DATE/TIME RECEIVED BY (Signature) DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

800 Sleater-Kinney SE, PMB #262
Lacey, Washington 98503-1127

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: **360-459-4670**
Fax: **360-459-3432**

March 20, 2000

Jim Roth
GeoEngineers, Inc.
8410 154th Ave. NE
Redmond, WA 98052

Dear Mr. Roth:

Please find enclosed the analytical data report for the Nelson Properties Project in Redmond, Washington. Soil and water samples were analyzed for Oil and Grease by 413.2 and Specific Halogenated Hydrocarbons and BTEX by Method 8021B on March 6 & 7, 2000.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to GeoEngineers, Inc. for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4^{o} C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Aromatics
(BTEX, EPA 8021B)

A check standard is run at the beginning of the day. The check standard is run at the end of the day. Both open and close standards must be within 15% of the continuing calibration curve value. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135% unless high sample concentrations interfere with the determination of the recovery percentage. At least 1 method blank is run per day.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8021B)

A calibration standard is run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TPH-Heavy Fuel Hydrocarbons
(EPA 418.1)

Calibration standards are run at the beginning of the day. The standards must be within 15% of the continuing calibration curve value. Check standards are run at the close of the day. A duplicate sample is run at a rate of 1 per 10 samples. At least 1 method blank is run per 20 samples analyzed.

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00306-5
Client:	GEI
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results

BTEX		MTH BLK	LCS	030600 PURGE
Matrix	Water	Water	Water	Water
Date extracted	Reporting	03/06/00	03/06/00	03/06/00
Date analyzed	Limits	03/06/00	03/06/00	03/06/00
BTEX , µg/L				
Benzene	1.0	nd	112%	nd
Toluene	1.0	nd	107%	nd
Ethylbenzene	1.0	nd		nd
Xylenes	1.0	nd		nd
Surrogate recoveries:				
Trifluorotoluene		90%	91%	99%
Bromofluorobenzene		93%	102%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00306-5
Client:	GEI
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results					MS	MSD	RPD
8021B, µg/kg		**MTH BLK**	**LCS**	**COMPOSITE**	**COMPOSITE**	**COMPOSITE**	**COMPOSITE**
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Date analyzed	Limits	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Moisture, %				19%	19%	19%	
Chloromethane	250	nd		nd			
Bromomethane	250	nd		nd			
Vinyl chloride	250	nd		nd			
Chloroethane	250	nd		nd			
cis-1,2-Dichloroethene	250	nd		nd			
1,1-Dichloroethene	250	nd	100%	nd	89%	80%	11%
Methylene Chloride	250	nd		nd			
trans-1,2-Dichloroethene	250	nd		nd			
1,1-Dichloroethane	250	nd		nd			
Chloroform	50	nd		nd			
1,1,1-Trichloroethane	50	nd		nd			
Carbontetrachloride	50	nd		nd			
1,2-Dichloroethane	250	nd		nd			
Trichloroethene	50	nd	90%	nd	86%	80%	7%
1,2-Dichloropropane	250	nd		nd			
Bromodichloromethane	250	nd		nd			
cis-1,3-Dichloropropene	250	nd		nd			
trans-1,3-Dichloropropene	250	nd		nd			
Chlorobenzene	250	nd	96%	nd	88%	82%	7%
1,1,2-Trichloroethane	50	nd		nd			
Tetrachloroethene	50	nd		nd			
Dibromochloromethane	250	nd		nd			
Bromoform	250	nd		nd			
1,1,2,2-Tetrachloroethane	250	nd		nd			
1,1,1,2-Tetrachloroethane	250	nd		nd			
Bromobenzene	250	nd		nd			
1,2,3-Trichloropropane	250	nd		nd			
Dibromomethane	250	nd		nd			
m-Dichlorobenzene	50	nd		nd			
p-Dichlorobenzene	50	nd		nd			
o-Dichlorobenzene	50	nd		nd			
Benzene	50	nd	112%	nd	106%	97%	9%
Toluene	50	nd	107%	nd	110%	93%	17%
Ethylbenzene	50	nd		nd			
Xylenes	50	nd		nd			
Surrogate recoveries:							
Bromochloromethane		69%	75%	79%	116%	119%	
1,4-Dichlorobutane		77%	70%	76%	103%	106%	
Bromochloropropane		70%	86%	91%	108%	111%	
Trifluorotoluene		90%	91%	98%	99%	103%	
Bromofluorobenzene		93%	102%	109%	110%	111%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00306-5
Client:	GEI
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results

8021B, µg/kg		MW4-22.5
Matrix	Soil	Soil
Date extracted	Reporting	03/07/00
Date analyzed	Limits	03/07/00
Moisture, %		17%
Chloromethane	250	nd
Bromomethane	250	nd
Vinyl chloride	250	nd
Chloroethane	250	nd
cis-1,2-Dichloroethene	250	nd
1,1-Dichloroethene	250	nd
Methylene Chloride	250	nd
trans-1,2-Dichloroethene	250	nd
1,1-Dichloroethane	250	nd
Chloroform	50	nd
1,1,1-Trichloroethane	50	nd
Carbontetrachloride	50	nd
1,2-Dichloroethane	250	nd
Trichloroethene	50	nd
1,2-Dichloropropane	250	nd
Bromodichloromethane	250	nd
cis-1,3-Dichloropropene	250	nd
trans-1,3-Dichloropropene	250	nd
Chlorobenzene	250	nd
1,1,2-Trichloroethane	50	nd
Tetrachloroethene	50	140
Dibromochloromethane	250	nd
Bromoform	250	nd
1,1,2,2-Tetrachloroethane	250	nd
1,1,1,2-Tetrachloroethane	250	nd
Bromobenzene	250	nd
1,2,3-Trichloropropane	250	nd
Dibromomethane	250	nd
m-Dichlorobenzene	50	nd
p-Dichlorobenzene	50	nd
o-Dichlorobenzene	50	nd
Benzene	50	nd
Toluene	50	nd
Ethylbenzene	50	nd
Xylenes	50	nd

Surrogate recoveries:	
Bromochloromethane	84%
1,4-Dichlorobutane	75%
Bromochloropropane	95%
Trifluorotoluene	99%
Bromofluorobenzene	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
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C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number: S00306-5
Client: GEI
Client Job Name: NELSON PROPERTIES
Client Job Number: 3352-003-00

Analytical Results

8021B, µg/l		MTH BLK	LCS	MW-1	MW-2	MW-3	MW-4	MW-5
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Date analyzed	Limits	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Chloromethane	5.0	nd		nd	nd	nd	nd	nd
Bromomethane	5.0	nd		nd	nd	nd	nd	nd
Vinyl chloride	5.0	nd		nd	nd	nd	nd	nd
Chloroethane	5.0	nd		nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	5.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethene	5.0	nd	100%	nd	nd	nd	nd	nd
Methylene Chloride	5.0	nd		nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	5.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethane	5.0	nd		nd	nd	nd	nd	nd
Chloroform	1.0	nd		nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
Carbontetrachloride	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichloroethane	5.0	nd		nd	nd	nd	nd	nd
Trichloroethene	1.0	nd	90%	nd	nd	nd	nd	nd
1,2-Dichloropropane	5.0	nd		nd	nd	nd	nd	nd
Bromodichloromethane	5.0	nd		nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	5.0	nd		nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	5.0	nd		nd	nd	nd	nd	nd
Chlorobenzene	5.0	nd	96%	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
Tetrachloroethene	1.0	nd		1.6	nd	nd	50	nd
Dibromochloromethane	5.0	nd		nd	nd	nd	nd	nd
Bromoform	5.0	nd		nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5.0	nd		nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	5.0	nd		nd	nd	nd	nd	nd
Bromobenzene	5.0	nd		nd	nd	nd	nd	nd
1,2,3-Trichloropropane	5.0	nd		nd	nd	nd	nd	nd
Dibromomethane	5.0	nd		nd	nd	nd	nd	nd
m-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
p-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
o-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Benzene	1.0	nd	112%	nd	nd	nd	nd	nd
Toluene	1.0	nd	107%	nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd		nd	nd	nd	nd	nd
Xylenes	1.0	nd		nd	nd	nd	nd	nd
Surrogate recoveries:								
Bromochloromethane		69%	75%	82%	79%	75%	84%	83%
1,4-Dichlorobutane		77%	70%	74%	72%	75%	79%	76%
Bromochloropropane		70%	86%	90%	96%	97%	98%	98%
Trifluorotoluene		90%	91%	100%	99%	101%	101%	100%
Bromofluorobenzene		93%	102%	112%	112%	112%	111%	112%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number: S00306-5
Client: GEI
Client Job Name: NELSON PROPERTIES
Client Job Number: 3352-003-00

Analytical Results		MS	MSD	RPD		DUPL	RPD
8021B, µg/l		**MW-5**	**MW-5**	**MW-5**	**MW-6**	**MW-6**	**MW-6**
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Date analyzed	Limits	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00
Chloromethane	5.0				nd	nd	
Bromomethane	5.0				nd	nd	
Vinyl chloride	5.0				nd	nd	
Chloroethane	5.0				nd	nd	
cis-1,2-Dichloroethene	5.0				nd	nd	
1,1-Dichloroethene	5.0	88%	97%	10%	nd	nd	
Methylene Chloride	5.0				nd	nd	
trans-1,2-Dichloroethene	5.0				nd	nd	
1,1-Dichloroethane	5.0				nd	nd	
Chloroform	1.0				nd	nd	
1,1,1-Trichloroethane	1.0				nd	nd	
Carbontetrachloride	1.0				nd	nd	
1,2-Dichloroethane	5.0				nd	nd	
Trichloroethene	1.0	83%	85%	2%	nd	nd	
1,2-Dichloropropane	5.0				nd	nd	
Bromodichloromethane	5.0				nd	nd	
cis-1,3-Dichloropropene	5.0				nd	nd	
trans-1,3-Dichloropropene	5.0				nd	nd	
Chlorobenzene	5.0	86%	88%	2%	nd	nd	
1,1,2-Trichloroethane	1.0				nd	nd	
Tetrachloroethene	1.0				11	12	8%
Dibromochloromethane	5.0				nd	nd	
Bromoform	5.0				nd	nd	
1,1,2,2-Tetrachloroethane	5.0				nd	nd	
1,1,1,2-Tetrachloroethane	5.0				nd	nd	
Bromobenzene	5.0				nd	nd	
1,2,3-Trichloropropane	5.0				nd	nd	
Dibromomethane	5.0				nd	nd	
m-Dichlorobenzene	1.0				nd	nd	
p-Dichlorobenzene	1.0				nd	nd	
o-Dichlorobenzene	1.0				nd	nd	
Benzene	1.0	102%	105%	3%	nd	nd	
Toluene	1.0	99%	102%	3%	nd	nd	
Ethylbenzene	1.0				nd	nd	
Xylenes	1.0				nd	nd	
Surrogate recoveries:							
Bromochloromethane		122%	125%		86%	116%	
1,4-Dichlorobutane		105%	107%		76%	102%	
Bromochloropropane		114%	118%		97%	112%	
Trifluorotoluene		103%	106%		98%	99%	
Bromofluorobenzene		113%	115%		111%	114%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

800 Sleater-Kinney SE, PMB #262
Lacey, Washington 98503-1127

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

April 3, 2000

GeoEngineers

APR 05 2000

Routing JCR

File

Jim Roth
GeoEngineers, Inc.
8410 154th Ave. NE
Redmond, WA 98052

Dear Mr. Roth:

Please find enclosed the analytical data report for the Nelson Properties Project in Redmond, Washington. One water sample was analyzed for Specific Halogenated Hydrocarbons and BTEX by Method 8021B on March 27, 2000.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to GeoEngineers, Inc. for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4^{o} C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8021B)

A calibration standard is run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00327-2
Client:	GEOENGINEERS
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results					MS	MSD	RPD
8021B, µg/l		**MTH BLK**	**LCS**	**MW-7**	**MW-7**	**MW-7**	**MW-7**
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00
Date analyzed	Limits	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00
Chloromethane	5.0	nd		nd			
Bromomethane	5.0	nd		nd			
Vinyl chloride	5.0	nd		nd			
Chloroethane	5.0	nd		nd			
cis-1,2-Dichloroethene	5.0	nd		nd			
1,1-Dichloroethene	5.0	nd	105%	nd	91%	91%	0%
Methylene Chloride	5.0	nd		nd			
trans-1,2-Dichloroethene	5.0	nd		nd			
1,1-Dichloroethane	5.0	nd		nd			
Chloroform	1.0	nd		nd			
1,1,1-Trichloroethane	1.0	nd		nd			
Carbontetrachloride	1.0	nd		nd			
1,2-Dichloroethane	5.0	nd		nd			
Trichloroethene	1.0	nd	98%	3.0	91%	91%	0%
1,2-Dichloropropane	5.0	nd		nd			
Bromodichloromethane	5.0	nd		nd			
cis-1,3-Dichloropropene	5.0	nd		nd			
trans-1,3-Dichloropropene	5.0	nd		nd			
Chlorobenzene	5.0	nd	97%	nd	91%	92%	1%
1,1,2-Trichloroethane	1.0	nd		nd			
Tetrachloroethene	1.0	nd		15			
Dibromochloromethane	5.0	nd		nd			
Bromoform	5.0	nd		nd			
1,1,2,2-Tetrachloroethane	5.0	nd		nd			
1,1,1,2-Tetrachloroethane	5.0	nd		nd			
Bromobenzene	5.0	nd		nd			
1,2,3-Trichloropropane	5.0	nd		nd			
Dibromomethane	5.0	nd		nd			
m-Dichlorobenzene	1.0	nd		nd			
p-Dichlorobenzene	1.0	nd		nd			
o-Dichlorobenzene	1.0	nd		nd			
Benzene	1.0	nd	118%	nd	112%	110%	2%
Toluene	1.0	nd	112%	nd	107%	105%	2%
Ethylbenzene	1.0	nd		nd			
Xylenes	1.0	nd		1.7			
Surrogate recoveries:							
Bromochloromethane		91%	96%	91%	89%	94%	0%
1,4-Dichlorobutane		92%	99%	96%	91%	95%	0%
Bromochloropropane		99%	109%	104%	98%	104%	0%
Trifluorotoluene		93%	94%	91%	88%	88%	0%
Bromofluorobenzene		98%	98%	97%	107%	96%	0%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

500327-2

CHAIN-OF-CUSTODY RECOR

CLIENT: GeoEngineers

ADDRESS: 8410 154th Ave NE, Redmond WA

PHONE: (425) 861-6076 FAX: (425) 861-6050

CLIENT PROJECT #: 3352-003-00 PROJECT MANAGER: Jim Roth

DATE: 3/27/00 PAGE 1 OF 1

PROJECT NAME: Nelson Properties

LOCATION: Cleaning Center of Redmond

COLLECTOR: Tony Orme DATE OF COLLECTION 3/27/0

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8010/8021B	VOA 8021B BTEX	VOA 8260	SEMI VOL 8270	TPH - HCID	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (d & o)	PAH 8100	PCBs 8082	Pesticides 8081	TOTAL LEAD	pH	8021	NOTES	Total Number of Containers	Laboratory
1. MW-7	–	1145	W	Voas (4)														X			
2.																					
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
11.																					
12.																					
13.																					
14.																					
15.																					
16.																					
17.																					
18.																					

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
	3/27/00	1230	3/27/00 1230
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
			12 30

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	

LABORATORY NOTES:

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

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ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8021B)

A calibration standard is run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00414-1
Client:	GEI
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results

8021B, µg/l		MW-8
Matrix	Water	Water
Date extracted	Reporting	04/14/00
Date analyzed	Limits	04/14/00
Chloromethane	5.0	nd
Bromomethane	5.0	nd
Vinyl chloride	5.0	nd
Chloroethane	5.0	nd
cis-1,2-Dichloroethene	5.0	nd
1,1-Dichloroethene	5.0	nd
Methylene Chloride	5.0	nd
trans-1,2-Dichloroethene	5.0	nd
1,1-Dichloroethane	5.0	nd
Chloroform	1.0	nd
1,1,1-Trichloroethane	1.0	nd
Carbontetrachloride	1.0	nd
1,2-Dichloroethane	5.0	nd
Trichloroethene	1.0	nd
1,2-Dichloropropane	5.0	nd
Bromodichloromethane	5.0	nd
cis-1,3-Dichloropropene	5.0	nd
trans-1,3-Dichloropropene	5.0	nd
Chlorobenzene	5.0	nd
1,1,2-Trichloroethane	1.0	nd
Tetrachloroethene	1.0	7.4
Dibromochloromethane	5.0	nd
Bromoform	5.0	nd
1,1,2,2-Tetrachloroethane	5.0	nd
1,1,1,2-Tetrachloroethane	5.0	nd
Bromobenzene	5.0	nd
1,2,3-Trichloropropane	5.0	nd
Dibromomethane	5.0	nd
m-Dichlorobenzene	1.0	nd
p-Dichlorobenzene	1.0	nd
o-Dichlorobenzene	1.0	nd
Benzene	1.0	nd
Toluene	1.0	nd
Ethylbenzene	1.0	nd
Xylenes	1.0	nd

Surrogate recoveries:	
Bromochloromethane	114%
1,4-Dichlorobutane	104%
Bromochloropropane	109%
Trifluorotoluene	100%
Bromofluorobenzene	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

GeoEngineers

800 Sleater-Kinney SE, PMB #262
Lacey, Washington 98503-1127

AUG 21 2000

Routing JGR

File

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

August 17, 2000

Jim Roth
GeoEngineers, Inc.
8410 154th Ave. NE
Redmond, WA 98052

Dear Mr. Roth:

Please find enclosed the analytical data report for the Nelson Properties Project in Redmond, Washington. Water samples were analyzed for Specific Halogenated Hydrocarbons and BTEX by Method 8021B on August 9, 2000.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

TEG Northwest appreciates the opportunity to have provided analytical services to GeoEngineers, Inc. for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

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Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8021B)

A calibration standard is run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number: S00809-1
Client: GEOENGINEERS
Client Job Name: NELSON PROPERTIES
Client Job Number: 3352-003-00

Analytical Results

8021B, µg/l		MTH BLK	LCS	MW-1	MW-2	MW-3	MW-4	MW-5
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	08/09/00	08/09/00	08/09/00	08/09/00	08/09/00	08/09/00	08/09/00
Chloromethane	5.0	nd		nd	nd	nd	nd	nd
Bromomethane	5.0	nd		nd	nd	nd	nd	nd
Vinyl chloride	5.0	nd		nd	nd	nd	nd	nd
Chloroethane	5.0	nd		nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	5.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethene	5.0	nd	124%	nd	nd	nd	nd	nd
Methylene Chloride	5.0	nd		nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	5.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethane	5.0	nd		nd	nd	nd	nd	nd
Chloroform	1.0	nd		nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
Carbontetrachloride	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichloroethane	5.0	nd		nd	nd	nd	nd	nd
Trichloroethene	1.0	nd	113%	nd	nd	nd	nd	nd
1,2-Dichloropropane	5.0	nd		nd	nd	nd	nd	nd
Bromodichloromethane	5.0	nd		nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	5.0	nd		nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	5.0	nd		nd	nd	nd	nd	nd
Chlorobenzene	5.0	nd	125%	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
Tetrachloroethene	1.0	nd		5.4	2.9	nd	9.2	nd
Dibromochloromethane	5.0	nd		nd	nd	nd	nd	nd
Bromoform	5.0	nd		nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	5.0	nd		nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	5.0	nd		nd	nd	nd	nd	nd
Bromobenzene	5.0	nd		nd	nd	nd	nd	nd
1,2,3-Trichloropropane	5.0	nd		nd	nd	nd	nd	nd
Dibromomethane	5.0	nd		nd	nd	nd	nd	nd
m-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
p-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
o-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Surrogate recoveries:								
Bromochloromethane		80%	86%	87%	68%	82%	72%	92%
1,4-Dichlorobutane		98%	94%	101%	84%	123%	92%	104%
Bromochloropropane		90%	102%	103%	68%	78%	77%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

TEG NW SEATTLE CHEMISTRY LABORATORY
(425) 957-9872, fax (425) 957-9904

TEG Job Number:	S00809-1
Client:	GEOENGINEERS
Client Job Name:	NELSON PROPERTIES
Client Job Number:	3352-003-00

Analytical Results		MS	MSD	RPD			
8021B, µg/l		**MW-5**	**MW-5**	**MW-5**	**MW-6**	**MW-7**	**MW-8**
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	08/09/00	08/09/00	08/09/00	08/09/00	08/09/00	08/09/00
Chloromethane	5.0				nd	nd	nd
Bromomethane	5.0				nd	nd	nd
Vinyl chloride	5.0				nd	nd	nd
Chloroethane	5.0				nd	nd	nd
cis-1,2-Dichloroethene	5.0				nd	nd	nd
1,1-Dichloroethene	5.0	73%	84%	14%	nd	nd	nd
Methylene Chloride	5.0				nd	nd	nd
trans-1,2-Dichloroethene	5.0				nd	nd	nd
1,1-Dichloroethane	5.0				nd	nd	nd
Chloroform	1.0				nd	nd	nd
1,1,1-Trichloroethane	1.0				nd	nd	nd
Carbontetrachloride	1.0				nd	nd	nd
1,2-Dichloroethane	5.0				nd	nd	nd
Trichloroethene	1.0	125%	120%	4%	nd	nd	nd
1,2-Dichloropropane	5.0				nd	nd	nd
Bromodichloromethane	5.0				nd	nd	nd
cis-1,3-Dichloropropene	5.0				nd	nd	nd
trans-1,3-Dichloropropene	5.0				nd	nd	nd
Chlorobenzene	5.0	94%	128%	31%	nd	nd	nd
1,1,2-Trichloroethane	1.0				nd	nd	nd
Tetrachloroethene	1.0				27	14	8.5
Dibromochloromethane	5.0				nd	nd	nd
Bromoform	5.0				nd	nd	nd
1,1,2,2-Tetrachloroethane	5.0				nd	nd	nd
1,1,1,2-Tetrachloroethane	5.0				nd	nd	nd
Bromobenzene	5.0				nd	nd	nd
1,2,3-Trichloropropane	5.0				nd	nd	nd
Dibromomethane	5.0				nd	nd	nd
m-Dichlorobenzene	1.0				nd	nd	nd
p-Dichlorobenzene	1.0				nd	nd	nd
o-Dichlorobenzene	1.0				nd	nd	nd
Surrogate recoveries:							
Bromochloromethane		77%	88%		88%	91%	81%
1,4-Dichlorobutane		107%	115%		111%	119%	87%
Bromochloropropane		89%	106%		154%	156%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

900809-1

CHAIN-OF-CUSTODY RECORD

CLIENT: GeoEngineers, Inc.
ADDRESS: 8410 154th Ave NE Redmond, WA
PHONE 425 861 6000 FAX: 425 861 6050
CLIENT PROJECT #: 3352-003-00 PROJECT MANAGER: Jim Roth

DATE: 8/9/00 PAGE 1 OF 1
PROJECT NAME: Nelson Proj.
LOCATION: Redmond, WA
COLLECTOR: GSA DATE OF COLLECTION 8/9/00

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH (8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	HVOC's by 8260	FIELD NOTES	Total Number of Containers	Laboratory Note Number
MW-1		1042	W	2 VOA															X	X			
MW-2		1201	W	"															X	X			
MW-3		1510	W	"															X	X			
MW-4		1119	W	"															X	X			
MW-5		1010	W	"															X	X			
MW-6		1332	W	"															X	X			
MW-7		1416	W	"															X	X			
MW-5		1536	W	"															X	X			

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
	8/9/00 1010		8/9/00 10:20
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS
☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

5 day

TABLE 1
SUMMARY OF GROUND WATER ELEVATIONS AND ORGANIC VAPOR CONCENTRATIONS IN MONITORING WELLS[1]

CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

Well Number	Date Measured	Depth to Ground Water (feet)	Ground Water Elevation[2] (feet)	Organic Vapor[3] Concentrations (ppm)
MW-1	04/14/00	10.55	89.53	0.6
	08/08/00	12.33	87.75	--
MW-2	04/14/00	11.74	89.02	0.3
	08/08/00	13.34	87.42	--
MW-3	04/14/00	9.39	89.02	0.8
	08/08/00	10.99	87.42	--
MW-4	04/14/00	9.26	89.56	2.2
	08/08/00	11.04	87.78	--
MW-5	04/14/00	11.37	89.74	1.7
	08/08/00	13.28	87.83	--
MW-6	04/14/00	9.48	89.04	0.6
	08/08/00	10.90	87.62	--
MW-7	04/14/00	9.45	88.84	--
	08/08/00	10.97	87.32	--
MW-8	04/14/00	11.08	88.03	--
	08/08/00	12.33	86.78	--

Notes:

[1]Approximate well locations are shown in Figures 3 through 6.

[2]Elevations referenced to a temporary benchmark on the southwest corner of a concrete vault located at the approximate location shown in Figures 4 and 5. The benchmark has an assumed elevation of 100.00 feet.

[3]Organic vapor measurements made on 03/06/00 using a photo-ionization detector (PID).

-- = not measured

ppm = parts per million

p:\00\finals\3352003phaseIIdata\table1.xls

TABLE 2
SUMMARY OF SOIL CHEMICAL ANALYTICAL DATA[1]
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

Sample Identification[1]	Sample Depth (feet)	Date Sampled	Tetrachloroethene[2,3] (PCE) (mg/kg)
B-1-10	10.0	02/29/00	<0.05
B-2-12.5	12.5	02/29/00	<0.05
B-3-15	15.0	02/29/00	<0.05
B-4-8.5	8.5	02/29/00	<0.05
B-5-8.5	8.5	02/29/00	<0.05
B-6-20	20.0	02/29/00	<0.05
B-7-16	16.0	02/29/00	<0.05
B-8-8	8.0	02/29/00	0.31
B-9-14	14.0	02/29/00	0.11
B-10-0.5	0.5	02/29/00	22
B-10-5.0	5.0	02/29/00	114
B-10-9.0	9.0	02/29/00	4.6
B-11-9	9.0	02/29/00	2.7
MW-4-22.5	22.5	03/06/00	0.140
MTCA Method A Cleanup Level			0.5

Notes:
[1]Chemical analyses of samples were conducted by Transglobal Environmental Geosciences Northwest located in Bellevue, WA.
[2]Only compounds exceeding laboratory detection limits are listed. See laboratory reports for a complete list of analytes and detection limits.
[3]Analyzed using EPA Method 8021B
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act
Shaded values indicate concentrations greater than MTCA Method A cleanup levels.

p:\00\finals\3352003phase11data\table2.xls

TABLE 3 (Page 1 of 2)
SUMMARY OF GROUND WATER CHEMICAL ANALYTICAL DATA[1]
CLEANING CENTER OF REDMOND
REDMOND, WASHINGTON

Sample Location[1]	Date Sampled	Dissolved Oxygen[2] (mg/l)	Toluene[3] (µg/l)	Xylenes[3] (µg/l)	Tetrachloroethene[3,4] (PCE) (µg/l)	Trichloroethene[3,4] (TCE) (µg/l)
B-1	02/29/00	--	2.9	3.4	<1.0	<1.0
B-2	02/29/00	--	2.3	<1.0	7.2	<1.0
B-3	02/29/00	--	2.5	<1.0	5.6	1.0
B-4	02/29/00	--	2.5	<1.0	4.4	<1.0
B-5	02/29/00	--	2.5	1.4	47	1.6
B-6	02/29/00	--	9.6	5.2	25	5.7
B-7	02/29/00	--	3.6	2.5	58	1.9
B-8	02/29/00	--	3.9	2.9	3.0	<1.0
B-9	02/29/00	--	4.6	3.6	1.3	<1.0
B-10	02/29/00	--	<50[5]	<50[5]	2,000	<50
B-11	02/29/00	--	4.6	1.9	530	8.7
MW-1	03/06/00	10.79	<1.0	<1.0	1.6	<1.0
	08/08/00	0.90	--	--	5.4	<1.0
MW-2	03/06/00	6.68	<1.0	<1.0	<1.0	<1.0
	08/08/00	1.32	--	--	2.9	<1.0
MW-3	03/06/00	9.80	<1.0	<1.0	<1.0	<1.0
	08/08/00	0.57	--	--	<1.0	<1.0
MW-4	03/06/00	1.26	<1.0	<1.0	50	<1.0
	08/08/00	0.69	--	--	9.2	<1.0
MW-5	03/06/00	6.59	<1.0	<1.0	<1.0	<1.0
	08/08/00	0.75	--	--	<1.0	<1.0
MW-6	03/06/00	1.04	<1.0	<1.0	11	<1.0
	08/08/00	0.42	--	--	27	<1.0
MW-7	03/28/00	1.35	1.7	1.7	15	3.0
	08/08/00	0.74	--	--	14	<1.0
MW-8	04/14/00	0.44	<1.0	<1.0	7.4	<1.0
	08/08/00	0.39	--	--	8.5	<1.0
MTCA Method A Cleanup Level		N/A	40.0	20.0	5.0	5.0

Notes appear on page 2 of 2.

TABLE 3 (Page 2 of 2)

Notes:

[1]Chemical analyses of samples were conducted by Transglobal Environmental Geosciences Northwest located in Bellevue, Washington.

[2]Measured in field with YSI 55 dissolved oxygen meter or Horiba U-10 water checker.

[3]Analyzed using EPA Method 8021B.

[4]Only compounds exceeding laboratory detection limits are listed. See laboratory reports for a complete list of analytes and detection limits.

[5]Detection limit is greater than MTCA Method A cleanup level.

µg/l = micrograms per liter

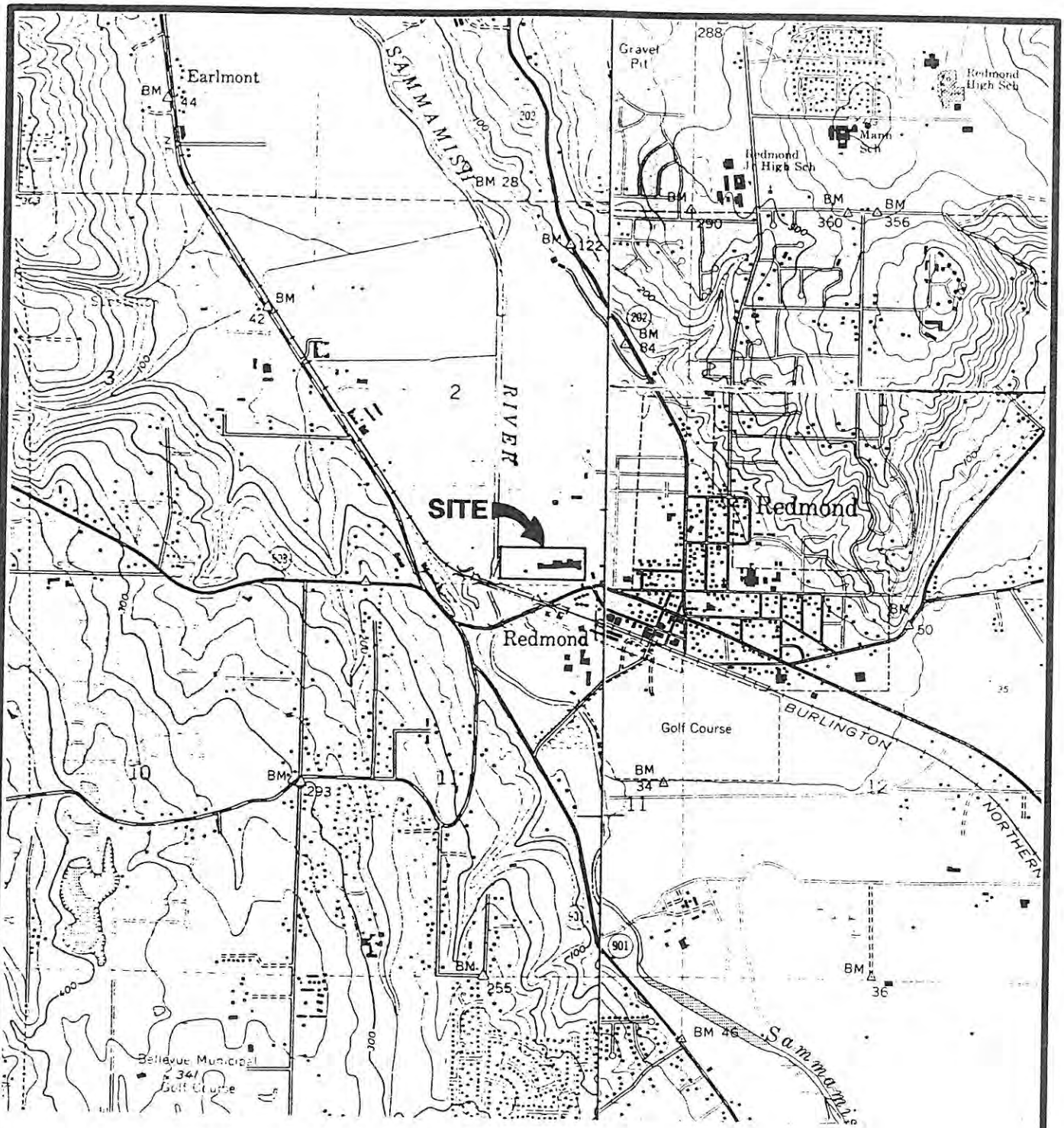
mg/l = milligrams per liter

-- = not measured or analyzed

MTCA = Model Toxics Control Act

Shaded values indicate concentrations greater than MTCA Method A cleanup levels.

p:\00\finals\3352003round2\table3.xls



Reference: USGS 7.5' topographic quadrangle map "Kirkland, Wash." and "Redmond, Wash." both photorevised 1973.

5/23/00
04/25/00

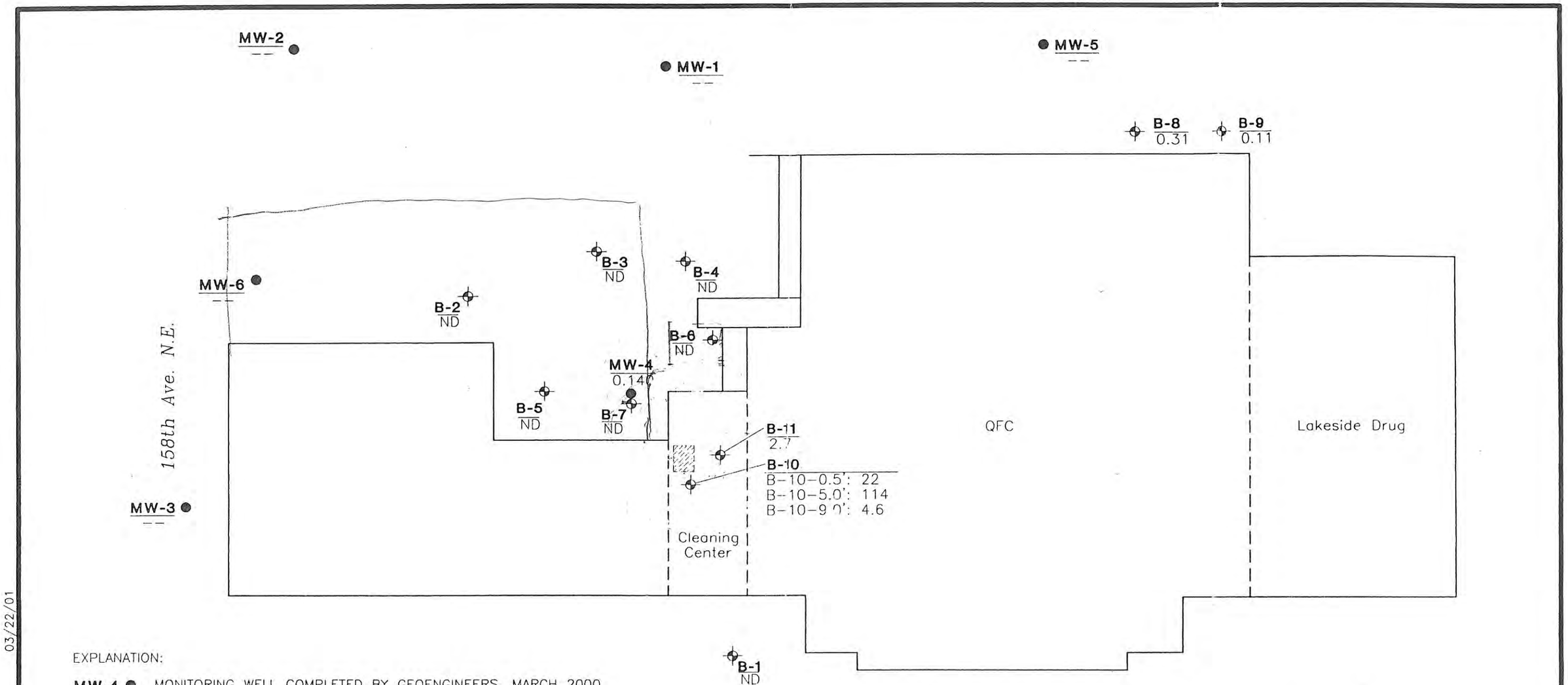
3352-003-00

TNO:HLA

GeoEngineers

VICINITY MAP

FIGURE 1



EXPLANATION:

MW-4 ● 0.140	MONITORING WELL COMPLETED BY GEOENGINEERS, MARCH 2000 PCE: TETRACHLOROETHENE (mg/kg)
B-11 ⊕ 2.7	DIRECT PUSH BORING COMPLETED BY GEOENGINEERS, FEBRUARY 2000 PCE: TETRACHLOROETHENE (mg/kg)
ND	PCE NOT DETECTED (GENERALLY <0.05 mg/kg)
--	PCE NOT ANALYZED
mg/kg	MILLIGRAMS PER KILOGRAM
▨	APPROXIMATE LOCATION OF DRY CLEANING MACHINE

Notes: 1. The locations of all features shown are approximate.
2. Model Toxics Control Act (MTCA) Method A Soil Cleanup Level for PCE = 0.5 mg/kg.

Reference: Drawing based on sketch by GeoEngineers' staff.

GeoEngineers

SOIL CHEMICAL ANALYTICAL DATA (PCE)

FIGURE 2

JGR:SYF P:\3352003\CAD\3352003G.DWG 03/22/01

Opportunity Building

70' to Sammamish River

MW-8
88.03

Parking Lot

158th Ave. N.E.

83rd Street N.E.

MW-7
88.84

MW-2
89.02

TBM

MW-1
89.53

MW-5
89.74

MW-6
89.04

MW-4
89.56

QFC

MW-3
89.02

Ben Franklin Crafts

Cleaning Center

88.20
88.40
88.60
88.80
89.00
89.20
89.40
89.60

EXPLANATION:

- **MW-1** / 89.53 — MONITORING WELL; GROUND WATER ELEVATION (FEET) BASED ON 04/14/00 MEASUREMENTS
- GROUND WATER FLOW DIRECTION BASED ON 04/14/00 MEASUREMENTS
- 88.20 — GROUND WATER CONTOUR
- TBM — TEMPORARY BENCH MARK (ASSUMED ELEVATION OF 100.00 FEET)

N

0 60 120
SCALE IN FEET

Note: The locations of all features shown are approximate.

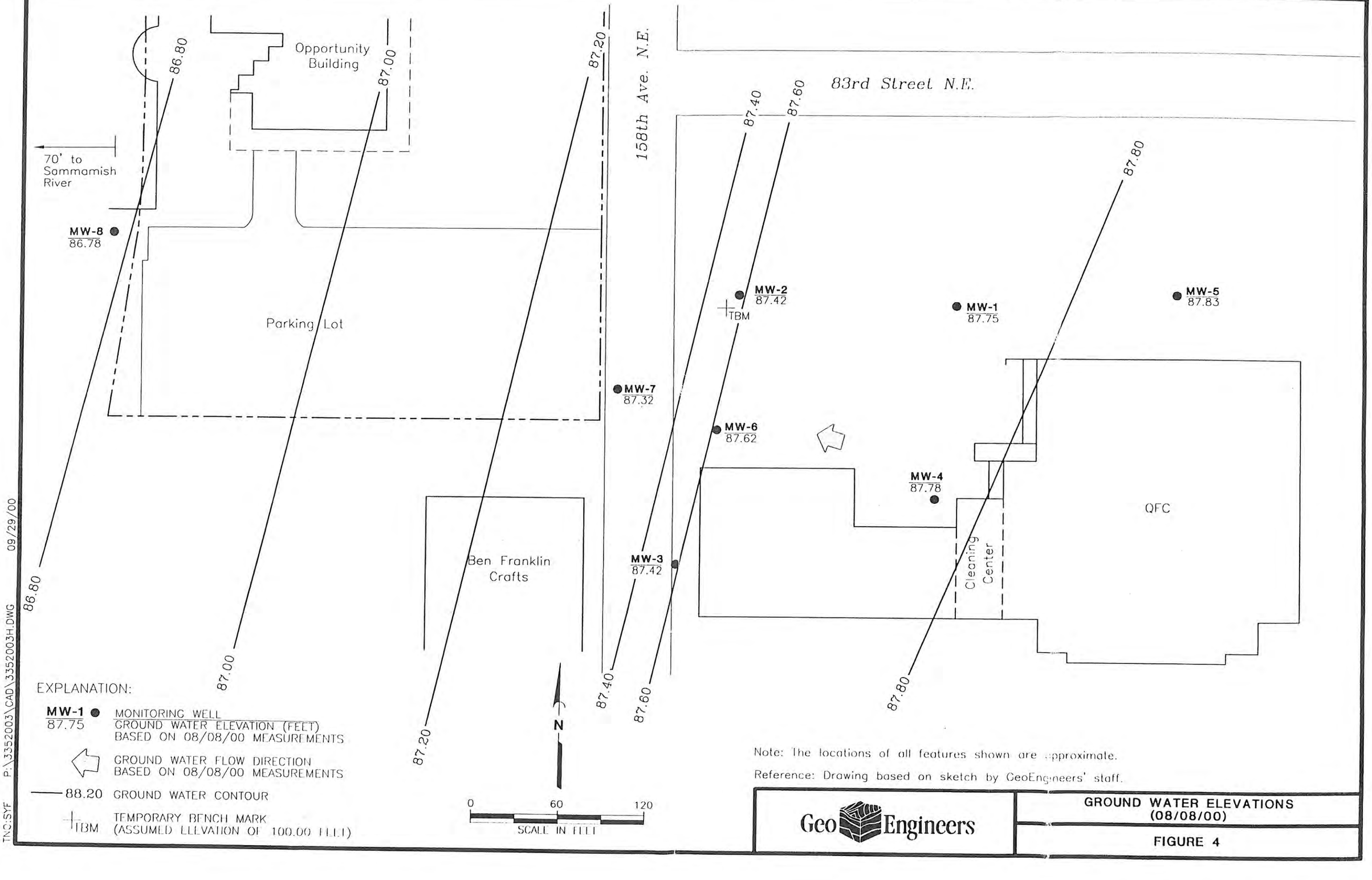
Reference: Drawing based on sketch by GeoEngineers' staff.

GeoEngineers

GROUND WATER ELEVATIONS (04/14/00)

FIGURE 3

TNO:SYF P:\3352003\CAD\3352003E.DWG 09/28/00



Note: The locations of all features shown are approximate.

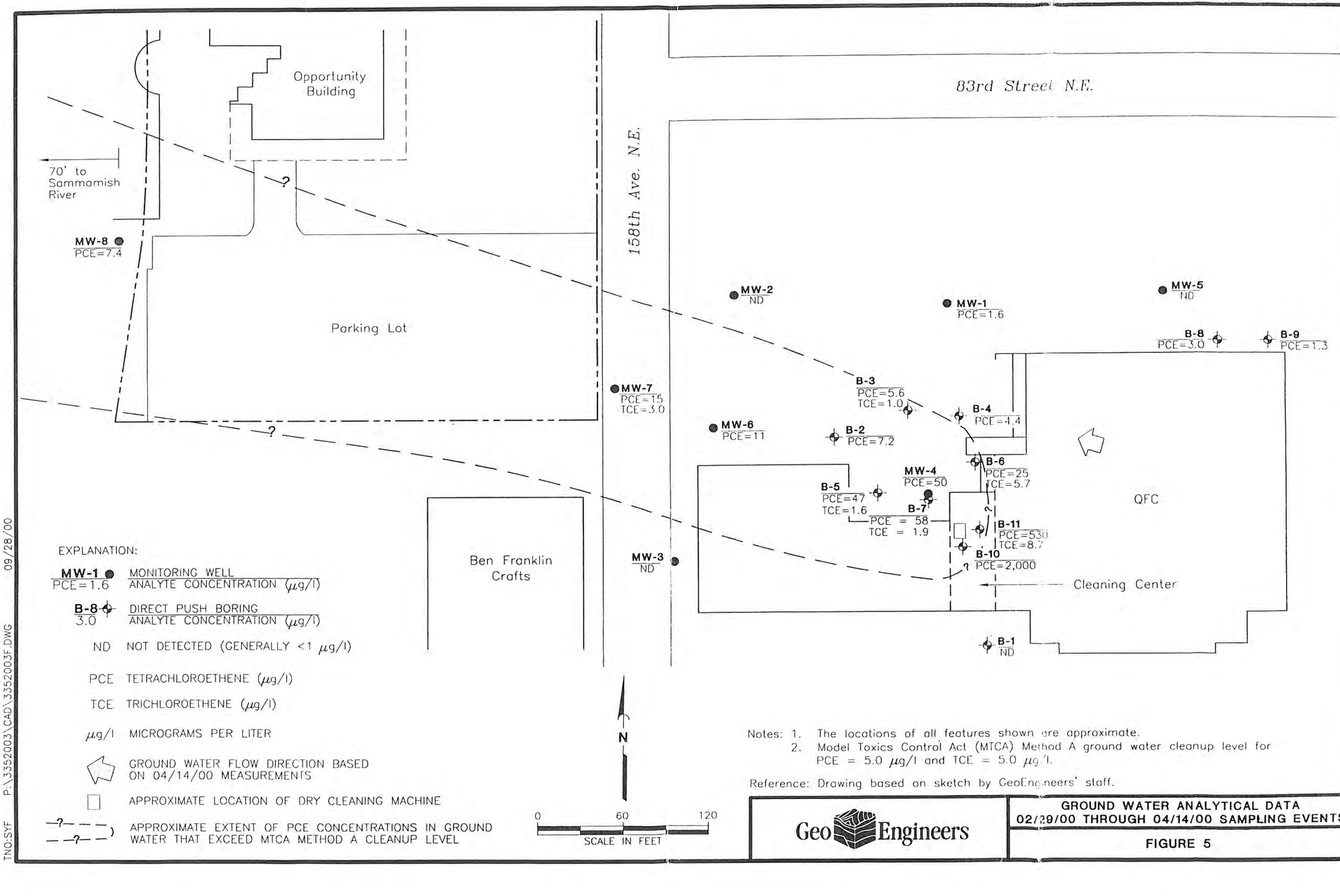
Reference: Drawing based on sketch by GeoEngineers' staff.

TNC:SYF P:\3352003\CAD\3352003H.DWG 09/29/00

GeoEngineers

GROUND WATER ELEVATIONS (08/08/00)

FIGURE 4



EXPLANATION:

- **MW-1** / PCE=1.6 — MONITORING WELL, ANALYTE CONCENTRATION ($\mu g/l$)
- **B-8** / 3.0 — DIRECT PUSH BORING, ANALYTE CONCENTRATION ($\mu g/l$)
- ND — NOT DETECTED (GENERALLY <1 $\mu g/l$)
- PCE — TETRACHLOROETHENE ($\mu g/l$)
- TCE — TRICHLOROETHENE ($\mu g/l$)
- $\mu g/l$ — MICROGRAMS PER LITER
- GROUND WATER FLOW DIRECTION BASED ON 04/14/00 MEASUREMENTS
- APPROXIMATE LOCATION OF DRY CLEANING MACHINE
- APPROXIMATE EXTENT OF PCE CONCENTRATIONS IN GROUND WATER THAT EXCEED MTCA METHOD A CLEANUP LEVEL

Notes: 1. The locations of all features shown are approximate.
2. Model Toxics Control Act (MTCA) Method A ground water cleanup level for PCE = 5.0 $\mu g/l$ and TCE = 5.0 $\mu g/l$.

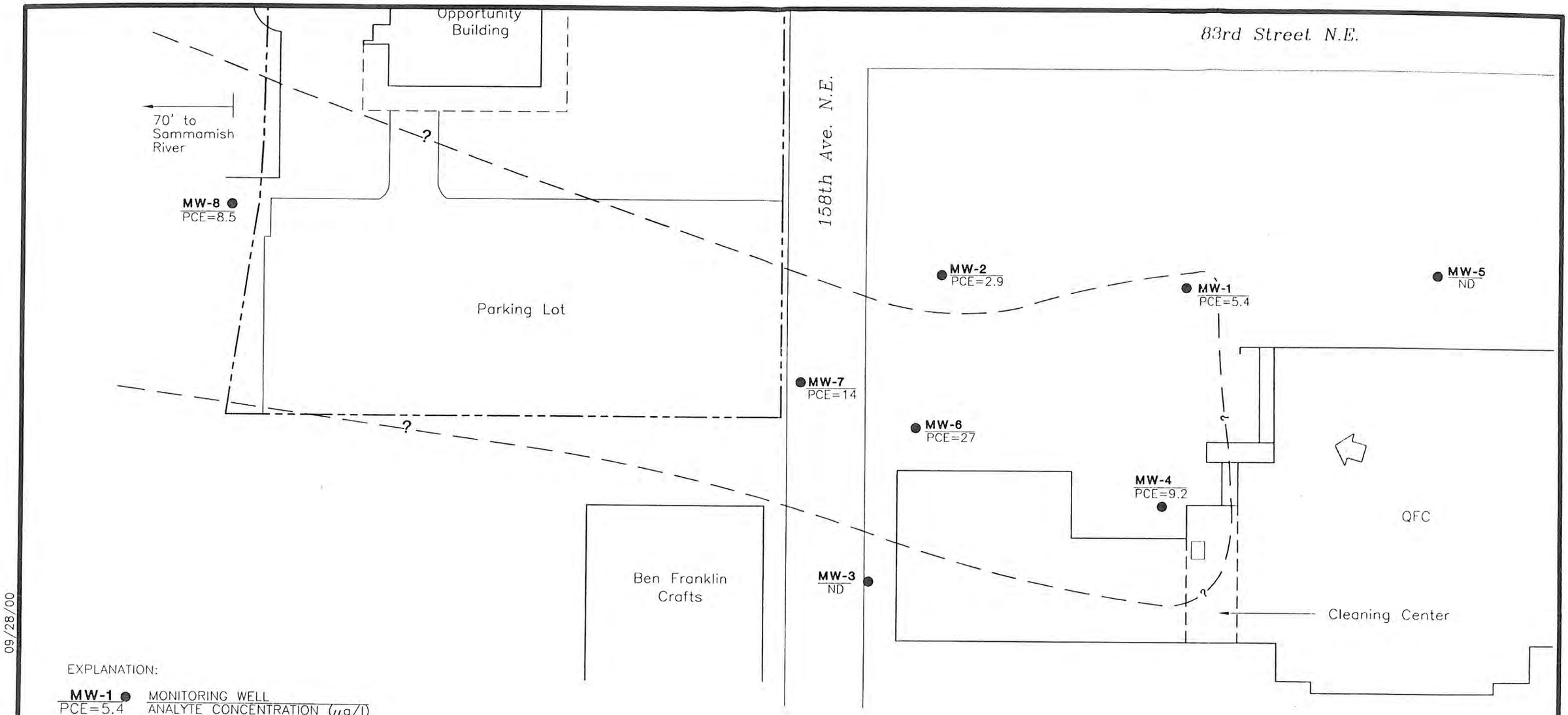
Reference: Drawing based on sketch by GeoEngineers' staff.

GeoEngineers

GROUND WATER ANALYTICAL DATA 02/29/00 THROUGH 04/14/00 SAMPLING EVENTS

FIGURE 5

09/28/00 P:\3352003\CAD\3352003F.DWG TNO:SYF



EXPLANATION:

MW-1 / PCE=5.4 — MONITORING WELL / ANALYTE CONCENTRATION ($\mu g/l$)

ND — NOT DETECTED (GENERALLY <1 $\mu g/l$)

PCE — TETRACHLOROETHENE ($\mu g/l$)

TCE — TRICHLOROETHENE ($\mu g/l$)

$\mu g/l$ — MICROGRAMS PER LITER

GROUND WATER FLOW DIRECTION BASED ON 08/08/00 MEASUREMENTS

APPROXIMATE LOCATION OF DRY CLEANING MACHINE

APPROXIMATE EXTENT OF PCE CONCENTRATIONS IN GROUND WATER THAT EXCEED MTCA METHOD A CLEANUP LEVEL

N

0 60 120

SCALE IN FEET

Notes: 1. The locations of all features shown are approximate.
2. Model Toxics Control Act (MTCA) Method A ground water cleanup level for PCE = 5.0 $\mu g/l$ and TCE = 5.0 $\mu g/l$.

Reference: Drawing based on sketch by GeoEngineers' staff.

GeoEngineers

GROUND WATER ANALYTICAL DATA 08/08/00 SAMPLING EVENT

FIGURE 6

09/28/00 P:\3352003\CAD\3352003I.DWG TNO:SYF

ATTACHMENT D
SITE-SPECIFIC TERRESTRIAL ECOLOGICAL EVALUATION

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

FARALLON consulting

975 5th Avenue Northwest, Issaquah, Washington 98027
Tel: (425) 295-0800 Fax: (425) 295-0850
www.farallonconsulting.com

March 1, 2011

Mr. Michael Kuntz
Toxics Cleanup Program
Washington State Department of Ecology
PO Box 47600
Olympia, Washington 98504

RE: REQUESTED INFORMATION
CLEANING CENTER OF REDMOND SITE
15796 REDMOND WAY, REDMOND, WASHINGTON
VCP IDENTIFICATION NO. NW1324
FARALLON PN: 650-001

Dear Mr. Kuntz:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter to transmit the information requested in your email dated January 31, 2011 that is necessary for Washington State Department of Ecology (Ecology) to issue a property-specific No Further Action determination for the release of the dry cleaning solvent tetrachloroethene (PCE) at the Cleaning Center of Redmond at 15796 Redmond Way in Redmond, Washington. The Cleaning Center of Redmond site is enrolled in the Ecology Voluntary Cleanup Program (VCP) and has been assigned VCP Identification No. NW1324. The requested information includes the following:

1) The tax parcel number for the Cleaning Center of Redmond facility;
2) The legal description for the subject property of the VCP Application;
3) A notice from the Ecology Environmental Information Management Data Coordinator that all data has been electronically submitted; and
4) A Terrestrial Ecological Evaluation for the site as described in Section 7493 of Chapter 173-340 of the Washington Administrative Code (WAC 173-340-7493).

The Cleaning Center of Redmond is located on King County Assessor Tax Parcel No. 719890-0080. The legal description for this property is as follows:

> LOT 1 OF CITY OF REDMOND LOT LINE REVISION LLR-90-01, AS RECORDED IN VOLUME 79 OF SURVEYS, AT PAGES 161 AND 161A, RECORDED UNDER RECORDING NO. 9104039002, RECORDS OF KING COUNTY, WASHINGTON.

Farallon has submitted all data collected after October 2005 at the Cleaning Center of Redmond Site to the Ecology Environmental Information Management Data Coordinator. The Data Coordinator confirmed receipt and acceptance of the data on March 1, 2011.

A completed Terrestrial Ecological Evaluation Form is attached to this letter. The release of PCE to soil and groundwater was cleaned up using a soil vapor extraction system as described in the *Site Closure Report, Cleaning Center of Redmond, 15796 Redmond Way, Redmond, Washington* dated September 21, 2007, prepared by Farallon. As documented in this report, concentrations of PCE were reduced to below the Model Toxics Control Act Cleanup Regulation (MTCA) Method A cleanup levels in soil and groundwater. Concentrations of PCE in confirmation soil samples collected at the former source area beneath the Cleaning Center of Redmond were less than 0.022 milligrams per kilogram. The area where the release of PCE to soil occurred is covered by a building floor slab and asphalt-surfaced loading dock area, which are not accessible to ecological receptors. As listed on the attached Terrestrial Ecological Evaluation Form under Section C: Site-Specific Evaluation, Item 1, this is not problematic because the release of PCE to soil was addressed by the cleanup action conducted to protect human health. In addition, PCE is not a chemical listed in MTCA Table 749-3 for protection of terrestrial plants and animals, nor under the references cited in footnotes c or d of this table. Therefore, the residual concentrations of PCE in soil at the former source area beneath the building floor slab that are below MTCA Method A cleanup levels for unrestricted land uses are considered protective of terrestrial ecological receptors.

Farallon trusts that this letter provides the information requested in your email dated January 31, 2011. Farallon looks forward to receipt of the Opinion Letter from Ecology providing a property-specific No Further Action determination. Other actions to assess potential residual concentrations of PCE in groundwater in the southeast portion of the Redmond Center property will be addressed by the City of Redmond and any other potentially liable persons. Please contact the undersigned at (425) 295-0800 if you have questions or need additional information.

Sincerely,

Farallon Consulting, L.L.C.

Clifford T. Schmitt, L.G., L.H.G.
Principal

Attachment: Terrestrial Ecological Evaluation Form

cc: Mr. Thomas L. Markl, CEO, Nelson Real Estate Management, LLC

CTS:bw

DEPARTMENT OF ECOLOGY
State of Washington

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation. You still need to submit your evaluation as part of your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Cleaning Center of Redmond	
Facility/Site Address: 15796 Redmond Way, Redmond, Washington 98052	
Facility/Site No:	VCP Project No.: NW1324

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Gerald Portele			Title: Principal
Organization: Farallon Consulting, L.L.C.			
Mailing address: 975 5th Avenue Northwest			
City: Issaquah		State: WA	Zip code: 98027
Phone: 425-295-0800	Fax: 425-295-0850	E-mail: jportele@farallonconsulting.com	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☒ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

☐ No issues were identified during the problem formulation step.

☒ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use? *Check all that apply. See* WAC 173-340-7493(3).

☐ Literature surveys.

☐ Soil bioassays.

☐ Wildlife exposure model.

☐ Biomarkers.

☐ Site-specific field studies.

☐ Weight of evidence.

☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

☐ Confirmed there was no problem.

☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☒ Yes If so, please identify the Ecology staff who approved those steps: **Michael Kuntz**

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: Sara Nied 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: Mark Dunbar 15 W. Yakima Ave., Suite 200 Yakima, WA 98902
Southwest Region: Attn: Scott Rose P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: Patti Carter N. 4601 Monroe Spokane WA 99205-1295

ATTACHMENT E
EIM SUBMITTAL ACKNOWLEDGMENTS

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
Former Cleaning Center of Redmond
15796 Redmond Way
Redmond, Washington

Farallon PN: 650-001

From: Kuntz, Michael G. (ECY)
To: Cliff Schmitt
Subject: File for Cleaning Center of Redmond
Date: Thursday, March 10, 2011 8:40:06 AM

Cliff,

I have received the EIM submittal,, Terrestrial Ecological Evaluation and the legal description. The EIM submittal is acceptable. It was my understanding that a summary sheet describing the Evaluation would be attached to the form. I will accept the summary in the letter however I will attach a copy of the summary to the form and make note of it on the form. The legal description is not acceptable. A copy of the recorded survey is required. If you have questions please do not hesitate to contact me by the means provided below.

Sincerely,

Mike

Michael Kuntz
Toxics Cleanup Program
Department of Ecology
POB 47600
Olympia, WA 98504
(360) 407-7239
Mkun461@ecy.wa.gov
Wear good boots and carry plenty of water.

From: Durkee, Jenna (ECY)
To: Brani Jurista
Subject: FW: VCNW2693-Nelgroup Properties, LLC, Redmond, WA
Date: Thursday, May 29, 2014 2:14:05 PM

Hi Brani,
Just wanted to include you on this as well. The EIM data that has been submitted for this site is loaded and will be available in EIM tomorrow.
Thank you,

Jenna Durkee
Environmental Specialist
TCP EIM Data Coordinator
Washington Department of Ecology
(509) 454-7865
Jenna.Durkee@ecy.wa.gov

From: Durkee, Jenna (ECY)
Sent: Thursday, May 29, 2014 2:00 PM
To: 'Lyndsey Needham'
Cc: Kuntz, Michael G. (ECY)
Subject: VCNW2693-Nelgroup Properties, LLC, Redmond, WA

All submitted data has been successfully loaded into EIM for the following study. The Ecology Project Manager should verify the results and locations, and that the study in EIM contains the correct number of results. Here is review guidance for the Ecology Project Manager: http://aww.ecology/programs/tcp/Site_Manager_Resource_Ctr/Policy_Resources/Policy_Resources_main.html

FS ID:281

Study ID: VCNW2693

Study Name: Nelgroup Properties, LLC, Redmond, WA

Locations: 2

Results: 46

*You can view the data **tomorrow** by using the following link and searching by the above Study ID: http://ecyeim/search/Eim/EIMSearch.aspx?SearchType=AllEIM&State=newsearch&Section=all*

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