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DRAFT

PRELIMINARY SUBSURFACE INVESTIGATION SNOHOMISH SQUARE LAUNDRY & CLEANERS 1419 AVENUE D SNOHOMISH, WASHINGTON

Submitted to:

Skotdal Real Estate
P. O. Box 5267
Everett, Washington 98206

Submitted by:

Golder Associates Inc.
18300 NE Union Hill Road, Suite 200
Redmond, Washington 98052

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1 Copy - Skotdal Real Estate
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December 10, 2003

033-1002.000

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1.0 INTRODUCTION

This report summarizes the Preliminary Subsurface Investigation conducted at the subject site that consisted of soil and groundwater sampling around a retail dry cleaning facility known as Snohomish Square Laundry & Cleaners.

1.1 Site Description

Snohomish Square Laundry & Cleaners (subject site) is located in the Snohomish Square Shopping Center at 1419 Avenue D in Snohomish, Washington (see Figure 1). The shopping center consists of several buildings occupied by retail shops, restaurants, U.S. Post Office, and a Top Foods supermarket. The subject site is located in the north end area of the shopping center (see Figure 2). The shopping center is mostly paved with some limited areas of landscape.

The subject site is at an elevation of approximately 150 feet above mean seal level. The topographic slope at the shopping center is gradually toward the southwest. Blackmans Lake, a freshwater lake, is located approximately 600 feet northeast of the subject site.

1.2 Purpose and Scope

The purpose of the Preliminary Subsurface Investigation was to determine soil and groundwater quality with respect to the presence of halogenated volatile organic compounds (HVOCs) around the Snohomish Square Laundry & Cleaners. Snohomish Square Laundry & Cleaners currently uses and appears to have historically used tetrachloroethene -based solvent in its operations. Tetrachloroethene is also known as perchloroethylene and is abbreviated as PCE in this report. The expected contaminants from a dry cleaner operation using PCE include PCE and its degradation compounds trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride.

Golder visually reviewed the interior and exterior areas of the dry cleaner facility on October 30, 2003. The purpose of this review was to evaluate accessibility, location of belowground and aboveground utilities, and potential sources of release to the environment. One dry cleaning machine that uses PCE was located inside the facility. The area behind the machine was used for storing waste and chemicals. The area behind the machine was stained and there were filters resting on the concrete floor.

The Preliminary Subsurface Investigation scope of work included the following:

- Two hollow-stem auger borings were drilled (SNSB-1 and SNSB-2). Temporary groundwater monitoring wells were installed in both borings.
- Soil samples were collected during drilling at approximately 5- foot intervals in both borings.
- Groundwater samples were collected from temporary wells installed in both borings that were constructed of 2-inch PVC casing.
- Soil and groundwater samples were analyzed for the presence of HVOCs using EPA Method 8260B.
- After the groundwater samples were collected, the temporary wells were abandoned in accordance with Washington State regulations (Chapter 173-160 WAC).

- One shallow soil boring was advanced through the concrete slab adjacent to the dry cleaning machine. One soil sample was collected from directly underneath the slab, in pea gravel and sand underlying the slab. A hand auger was advanced to about 3 feet underneath the slab, and a second sample was collected.

2.0 SUBSURFACE INVESTIGATION

2.1 Field Investigation

Utilities were notified using the Utilities Underground Location Center (UULC) in advance of the field investigation (at least 48 hours before). Golder's Geophysical Group investigated the boring locations for underground utilities using ground-penetrating radar (GPR).

The field investigation was conducted on November 19, 2003. The field investigation included drilling two soil borings (SNSB-1 and SNSB-2) with a hollow-stem auger drilling rig. Boring SNSB-1 was advanced to a depth of 15.25 feet below ground surface (bgs) and boring SNSB-2 was advanced to a depth of approximately 15 feet bgs. Both borings were drilled through asphalt pavement adjacent to the dry cleaner, with boring SNSB-1 being drilled in front (west) of the dry cleaner, and boring SNSB-2 being to the side (north) of the dry cleaner. The boring locations are depicted on Figures 2 and 3.

It should be noted that in the scope of work presented in our October 31, 2003 proposal we state that one boring would be advanced to the rear of the building in the adjacent eastern property owned by Skotdal Real Estate. However, because of an unusual snowfall event on the day of the field investigation, access to the rear of the dry cleaning facility on the adjacent property was not possible. Golder advanced the second boring (SNSB-2) at an alternative location to the northern side of the dry cleaner.

Soil samples were collected at 5-foot intervals using a standard two-inch-diameter split-spoon sampler driven by a 140-pound hammer falling a distance of 30 inches, in accordance with ASTM D-1586. Three six-inch long brass or steel liners were placed inside the split-spoon sampler to minimize disturbance to the samples and to minimize volatilization of any volatile organic compounds (VOCs) present in the soil. One liner from each sample was capped, labeled and placed in an ice chest and maintained in a chilled state until relinquished to the laboratory. Two soil samples were selected from each boring for laboratory analysis. The drilling and sampling of soils were performed in accordance with GAI Technical Procedure TP-1.2-5, "Drilling, Sampling, and Logging of Soils." Soil samples were classified in accordance with GAI Technical Procedure TP-1.2-6, "Field Identification of Soil" which is summarized on the Soil Description Index in Appendix A. Boring logs describing the subsurface conditions are included in Appendix A. A Golder geologist performed all subsurface sampling and logging of soils.

Temporary wells were installed in both borings using 2-inch diameter schedule 40 well casing. The well screen consisted of 0.020 inch machine-slotted casing. The well casing was installed through the auger stem. The augers were then retracted leaving the well casing in place. A sand filter pack was placed around the well screen. Groundwater samples were collected using dedicated PVC bailers and carefully poured into laboratory-provided containers (standard 40-milliliter VOA vials). The containers were then labeled, placed into an ice chest, and maintained in a chilled state until relinquished to the laboratory.

The groundwater sample collection method used for this investigation was for screening purposes to determine if groundwater was potentially adversely affected. This method provided an economic alternative for collecting groundwater samples from a soil boring without the installation of a permanent groundwater monitoring well. The groundwater analytical results using the temporary well method are subject to more variability than if collected from a permanent groundwater monitoring well.

The temporary wells were abandoned in accordance with Washington State regulations (Chapter 173-160 WAC) after the groundwater samples were collected.

One shallow soil boring (HA-1) was advanced through the concrete slab adjacent to the dry cleaning machine inside the facility. An 8-inch diameter core was cut from the 4-inch thick concrete floor slab to access the underlying soil. One soil sample was collected from directly underneath the slab, in pea gravel and sand underlying the slab. A hand auger was advanced to about 3 feet underneath the slab, and a second sample was collected at that depth.

The soil and groundwater samples were submitted to OnSite Environmental, Inc. in Redmond, Washington. Chain of custody procedures were followed during sample collection and transport to the laboratory. The samples were analyzed for the presence of HVOCs using EPA Method 8260B.

Investigation-derived waste (IDW), which included soil and decontamination rinsates, was placed and sealed into 55-gallon DOT drums. These drums were labeled and left in a designated on-site location pending proper disposition.

2.2 Subsurface Conditions

A Golder field geologist logged subsurface conditions encountered during the drilling of the two soil borings. Boring logs are included in Appendix A. The regional surficial geology resulted from the advance and retreat of continental glacial ice-sheets that covered much of northwestern Washington during the Pleistocene. Sediments underlying the subject site were deposited by and in response to the continental glacial ice-sheets. The advancing glacial ice sheet, which in the mid-Puget Sound region was over 3,000 feet thick, overran these sediments. As a result, they have been over-consolidated and have a dense/hard consistency.

The area of investigation underneath the asphalt pavement is underlain by pea gravel and sand fill to about 2 feet bgs. Underlying the fill to about 8 to 9 feet bgs is a very stiff to hard clayey silt to silty clay which appears to be a glaciolacustrine deposit (sediment deposited in a pro-glacial lake). Underlying the glaciolacustrine deposit to the end of the borehole is a very dense fine to coarse sand with fine to coarse gravel and little fines. This unit appears to be a transitional unit between the glaciolacustrine deposit and glacial outwash. Samples collected from 10 feet bgs in both boreholes were wet. The water level in boring SNSB-1 was measured at about 6.5 feet bgs at the time of drilling, and at about 13.5 feet bgs in boring SNSB-2. In both borings, the water level appeared to be rising rapidly, and the piezometric surface of the water table is likely to be around 6 feet bgs or shallower.

3.0 ANALYTICAL RESULTS

The soil and groundwater samples submitted to the laboratory were analyzed for the presence of HVOCs using EPA Method 8260B. The analytical results are summarized on Tables 1 and 2 and include the results for all detected HVOCs and also for PCE and its common degradation products, regardless of whether they were detected. Laboratory analytical reports are included in Appendix B.

3.1 Soil

Only PCE was detected in the soil. No other HVOCs, including PCE degradation products, were detected in soil.

PCE was detected in all of the six analyzed soil samples. The PCE concentrations in these six samples exceeded the MTCA Method A cleanup level of 0.05 milligrams per kilogram (mg/kg) in only one sample. This sample was the 3 foot bgs sample (SNHA:2) from the inside boring (HA-1) adjacent to the dry cleaner machine. This sample (SNHA:2) had a PCE concentration of 0.061 mg/kg, slightly exceeding the MTCA Method A cleanup level.

3.2 Groundwater

PCE was detected in groundwater samples from both temporary wells. The concentrations of PCE were 430 micrograms per liter (µg/L) in SNSB-1 and 480 µg/L in SNSB-2. These concentrations exceed the 5 µg/L MTCA Method A cleanup level for PCE in groundwater.

TCE was detected in groundwater only from SNSB-1 at the western (front) side of the facility at a concentration of 8.4 µg/L, slightly exceeding the Method A cleanup level of 5 µg/L.

Cis-1,2-DCE was detected only from SNSB-1 at the western (front) side of the facility at a concentration of 5.5 µg/L, considerably less than the Method B cleanup level of 80 µg/L.

Trans-1,2-DCE, 1,1-DCE and vinyl chloride were not detected in the groundwater samples. However, the laboratory practical quantitation limit (PQL) was raised because of the sample dilution required due to the presence of relatively high concentrations of PCE. Therefore, 1,1-DCE and vinyl chloride could be present in groundwater at concentrations that exceed Method A or B cleanup levels but are less than the PQL of 4 µg/L (see Table 2).

Chloroform was detected in groundwater only from SNSB-1 at the western (front) side of the facility at a concentration of 5.2 µg/L, less than the Method B cleanup level of 7.17 µg/L.

4.0 CONCLUSIONS

The results of the Preliminary Subsurface Investigation indicate that a release of PCE has occurred that has affected soil and groundwater at the subject site. PCE and several of its degradation products including TCE and cis-1,2-DCE were detected in soil and groundwater at the subject site.

PCE was detected in groundwater at concentrations that considerably exceed the 5 µg/L MTCA Method A cleanup level for PCE in groundwater. The concentrations of PCE in soil were small relative to the Method A cleanup level and the relatively high PCE concentrations detected in groundwater. This may suggest that there are higher PCE concentrations in soil that were not discovered during this preliminary investigation and which represent the potential source of groundwater contamination.

Based on the limited scope of this investigation, the specific sources and transport mechanisms for the PCE release are not conclusively known. Typically, releases at dry cleaner facilities occur around the dry cleaning machine, at floor drains, or through leaking sewer pipes. These typical point source release areas have not been thoroughly investigated as part of this approved scope of work. Because, there is evidence that a release of PCE has occurred and the source has not been determined, further investigation is recommended.

The further investigation should include a review of the operational history of the dry cleaning facility, history of the shopping center property and surrounding area, location of underground utilities under the facility, and any other information that could indicate the source, fate, and transport of the release. The investigation should also include an evaluation of potential sensitive receptors in the surrounding area including surface water and water supply wells. This available information can then be used to plan and focus a subsurface investigation into the nature and extent of contamination at the site.

The Model Toxics Control Act (MTCA) Cleanup Regulation (WAC 173-340) has established an owner or operator's requirements for reporting releases of hazardous substances to the environment that may be a threat to human health and the environment and such reports must be made within 90 days of discovery. The findings of this study suggest that the release will need to be reported to the Washington State Department of Ecology in accordance with MTCA regulations. However, before reporting we recommend further investigation as summarized above in order to more clearly establish whether the release may be a threat to human health and the environment in accordance with MTCA guidelines.

5.0 LIMITATIONS

This Preliminary Subsurface Investigation has been prepared for the exclusive use of Skotdal Real Estate. We have performed the Preliminary Subsurface Investigation in accordance with the scope of work presented in our proposal dated October 31, 2003.

This report includes data and information collected during the site visit and field investigation by Golder Associates, Inc. and is based solely on the condition of the property at the time of the site visit and field investigation.

This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Golder Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

6.0 REFERENCES

Washington State Department of Ecology, *Cleanup Levels and Risk Calculations under the Model Toxics Control Act Cleanup Regulation*, Version 3.1, November 2001.

Washington State Department of Ecology, *Model Toxics Control Act Cleanup Regulation*, Chapter 173-340, amended February 12, 2001.

TABLES

TABLE 1

Soil Analytical Results for Detected Halogenated Volatile Organic Compounds

Boring No.	Location	Sample No.	Depth (feet)[1]	Soil Analytical Results (milligrams per kilogram)[2]					
				Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
SNSB-1	West of facility	SNSB-1:1	5 - 5.5	0.0037	<0.0014	<0.0014	<0.0014	<0.0014	<0.0014
		SNSB-1:2	10 - 10.5	0.0023	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
SNSB-2	North of facility	SNSB-2:1	5 - 5.5	0.0074	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
		SNSB-2:2	10 - 10.5	0.021	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
HA-1	Interior	SNHA:1	0.5	0.0062	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
		SNHA:2	3	***0.061***	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
MTCA Cleanup Levels for Soil				0.05 [3]	0.03 [3]	1.67 [4]	800 [4]	1,600 [4]	0.667 [4]

Results in ***BOLD/ITALIC*** indicates the analytical result exceeds MTCA cleanup levels

[1]Depth in feet below ground surface (bgs)

[2]Analysis using EPA Method 8260B

[3]Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1, Model Toxics Control Act (MTCA) Cleanup Regulation - Chapter 173-340 WAC (amended February 12, 2001)

[4]Method B Formula Value for Soil (Unrestricted Land Use) - Direct Contact Pathway (Ingestion Only), Cleanup Levels and Risk Calculations under MTCA, version 3.1, updated November 2001

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TABLE 2

Groundwater Analytical Results for Detected Halogenated Volatile Organic Compounds

Boring No.	Location	Sample No.	Groundwater Analytical Results (micrograms per liter)[1]						
			Tetrachloroethene	Trichloroethene	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride[2]	Chloroform
SNSB-1	West of facility	SNSB-1:GW	***430***	***8.4***	<4.0	5.5	<4.0	<4.0	5.2
SNSB-2	North of facility	SNSB-2:GW	***480***	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
MTCA Cleanup Levels for Groundwater			**5 [3]**	**5 [3]**	**0.729 [4,5]**	**80 [4]**	**160 [4]**	**0.2 [3]**	**7.17 [4]**

Results in ***BOLD/ITALIC*** indicates the analytical result exceeds MTCA cleanup levels

[1]Analysis using EPA Method 8260B

[2]Practical Quantitation Limit exceeds MTCA cleanup level

[3]Method A Cleanup Levels for Ground Water, Table 720-1, Model Toxics Control Act (MTCA) Cleanup Regulation - Chapter 173-340 WAC (amended February 12, 2001)

[4]Method B Formula Value for Potable Groundwater, Cleanup Levels and Risk Calculations under MTCA, version 3.1, updated November 2001

[5]Adjusted cleanup level per MTCA Chapter 173-340-720(7)(b)

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FIGURES

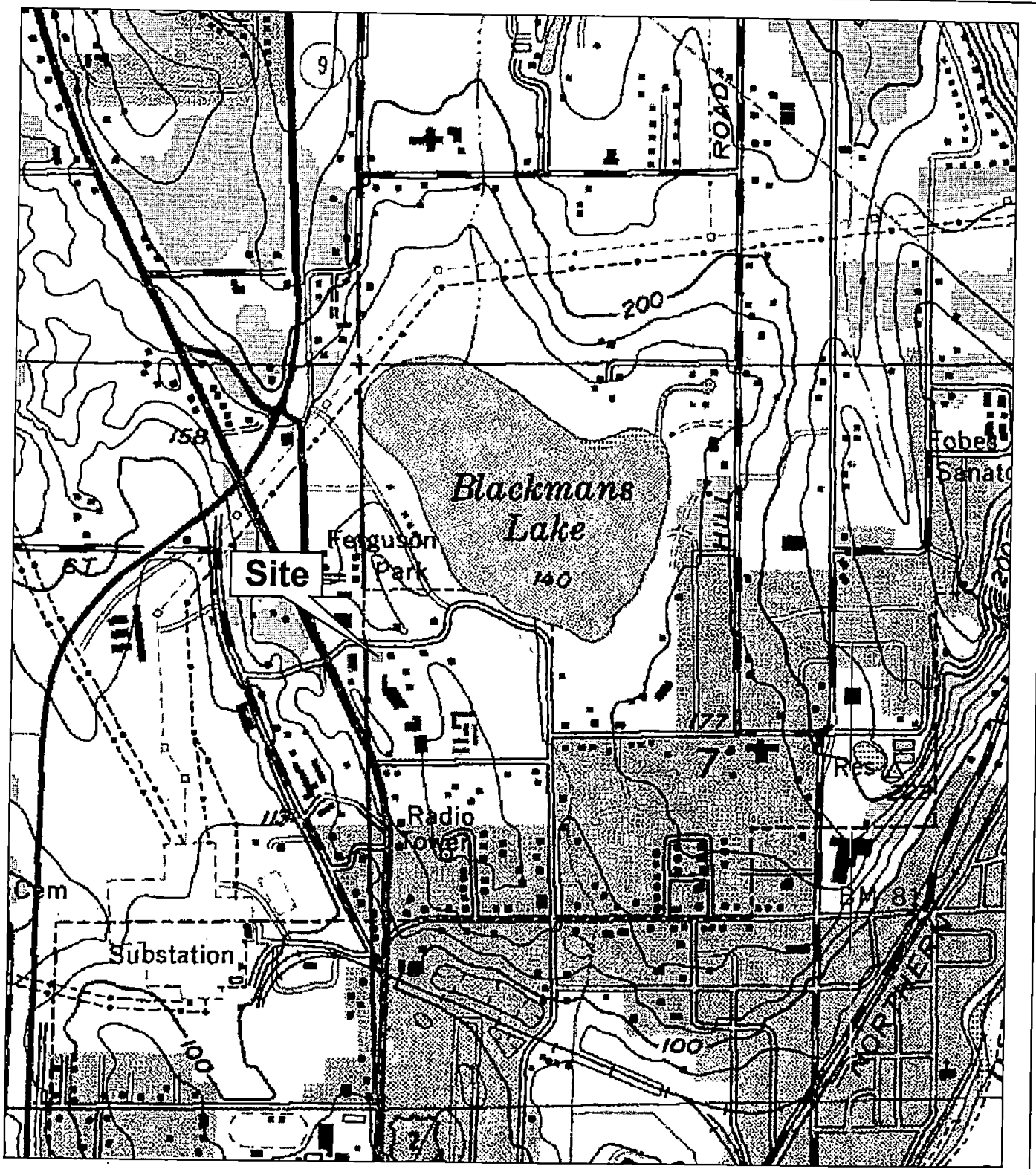
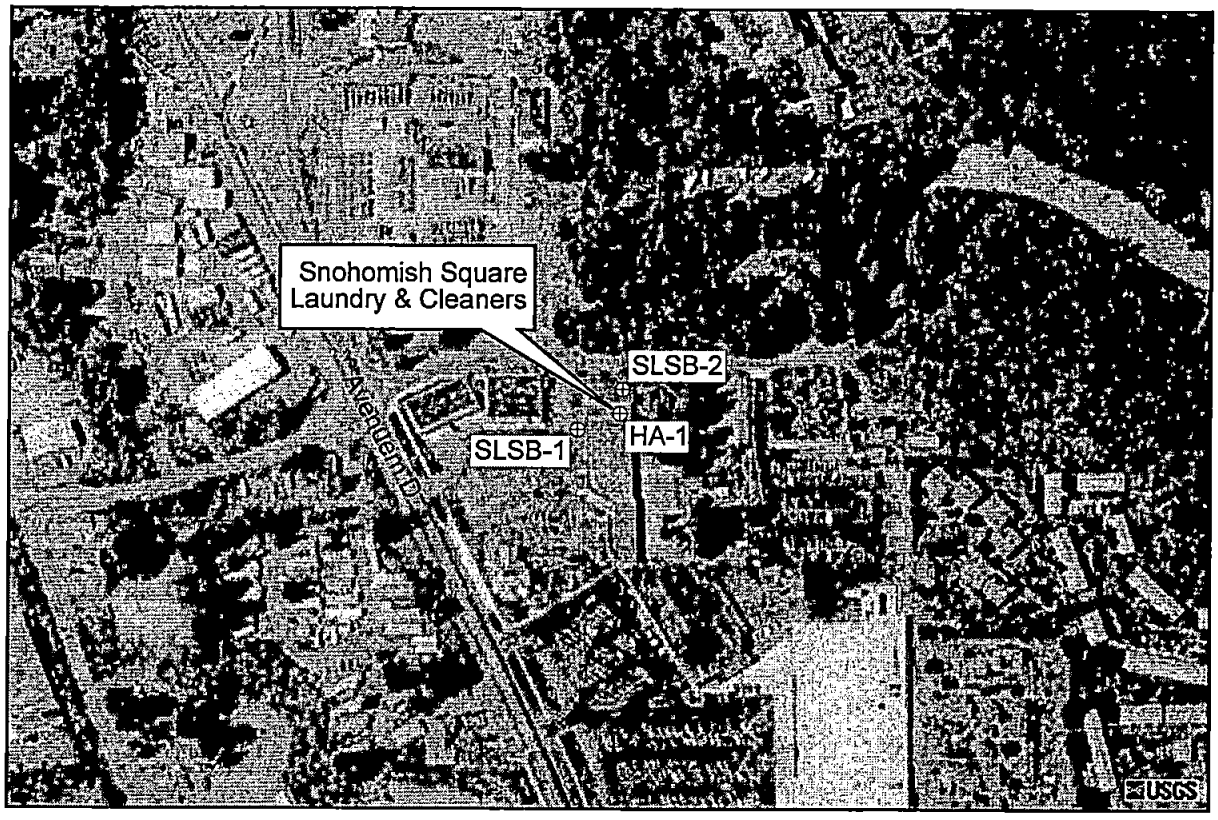


FIGURE 1
SITE LOCATION MAP
SKOTDAL/SNOHOMISH SQUARE INVEST./WA

DRAWING NO. 0331002000fg01.fh11 DATE 12/01/03 DRAWN BY AMP

Golder Associates



LEGEND

⊕ Boring Locations

N

FIGURE **2**
SITE MAP
SKOTDAL/SNOHOMISH SQUARE INVEST./WA

DRAWING NO. 0331002000fg02.fh11 DATE 12/02/03 DRAWN BY AMP

Golder Associates

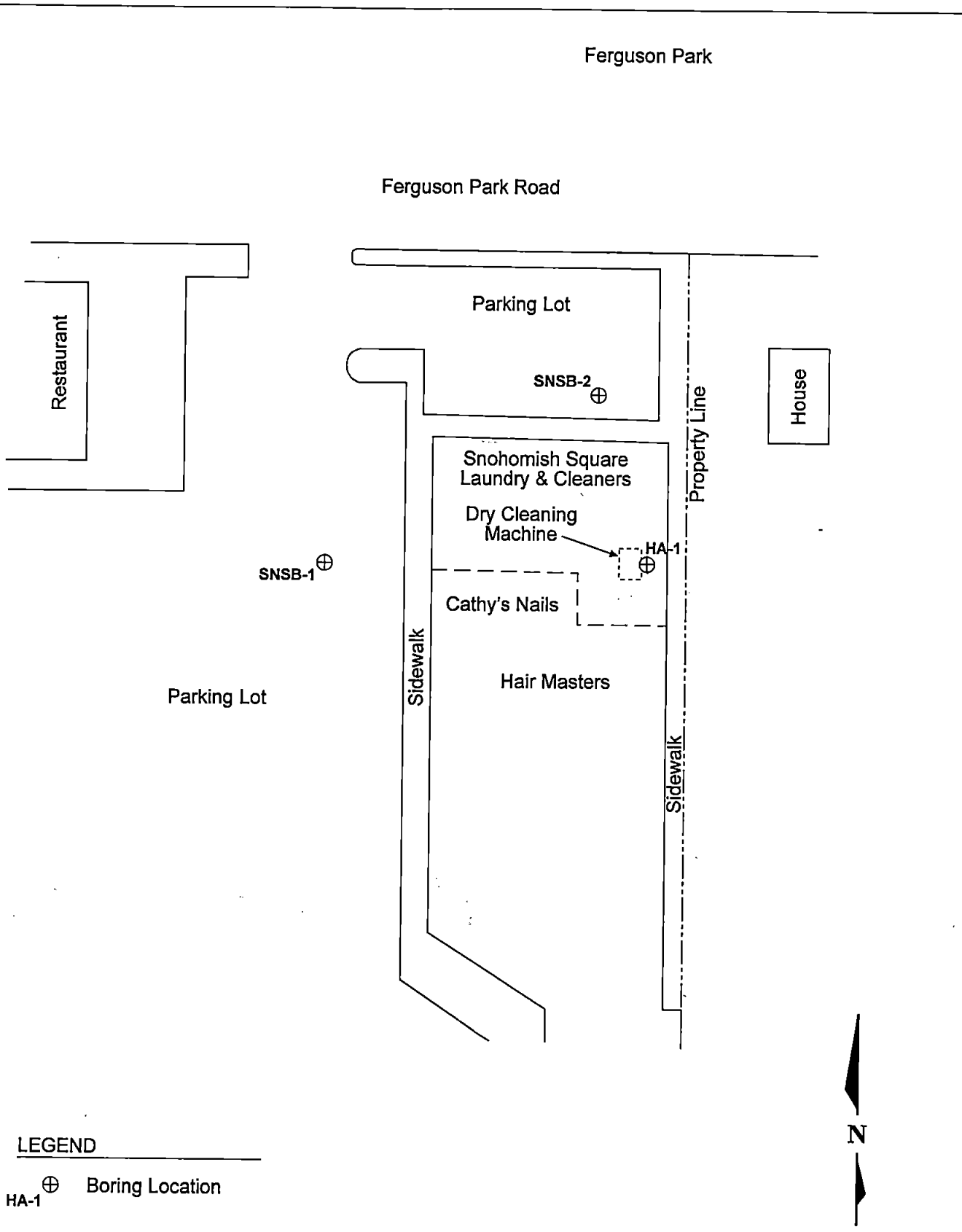


FIGURE **3**

BORING LOCATION PLAN

SKOTDAL/SNOHOMISH SQUARE INVEST./WA

DRAWING NO. 0331002000fg03.fh11 DATE 12/02/03 DRAWN BY EL

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APPENDIX A

BORING LOGS

RECORD OF BOREHOLE SNSB-1

PROJECT: Snohomish Dry Cleaners Phase I
PROJECT NUMBER: 033-1002
LOCATION: Snohomish, WA

DRILLING METHOD: HSA
DRILLING DATE: 11/19/03
DRILL RIG: CME 55

DATUM:
AZIMUTH: N/A
COORDINATES: not surveyed

ELEVATION:
INCLINATION: -90

DEPTH (ft)	BORING METHOD	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer, 30 inch drop)	N	REC / ATT	NOTES / WATER LEVELS / GRAPHIC
0	HSA	0.0 - 2.0 Asphalt underlain by pea gravel and sand.								
		2.0 - 8.0 Very stiff, yellowish brown, poorly bedded, CLAYEY SILT to SILTY CLAY with trace sand and gravel. Moist. (GLACIOLACUSTRINE DEPOSIT)	CL-ML	2.0						2" Dia. PVC Casing
5					1	SS	19-10-10	20	0.7/1.5	6.5' ATD - Water level appears to be rising
		8.0 - 15.3 Very dense, yellowish brown and dark gray, unstratified, fine to coarse SAND and fine to coarse sub-rounded to sub-angular GRAVEL with little fines. Wet. (ADVANCE OUTWASH)	SM	8.0						10-20 Silica Sand
10					2	SS	10-28-32	>50	1.5/1.5	Schedule 20 Screen
15		Basically no recovery - driller noted that sampler appeared to be bouncing off of cobble(s). Boring completed at 15.3 ft.		15.3		SS	50/3"	50/3"	0.0/0.3	
20										

PENETRATION RESISTANCE BLOWS / ft ■ (10, 20, 30, 40)
WATER CONTENT (PERCENT) W_p — W — W_l

1 in to 3 ft
DRILLING CONTRACTOR: Cascade
DRILLER:

LOGGED: A. McKenzie-Johnson
CHECKED: Neil Gilham
DATE: 12/8/03

Golder Associates

RECORD OF BOREHOLE SNSB-2

SHEET 1 of 1

PROJECT: Snohomish Dry Cleaners Phase II
PROJECT NUMBER: 033-1002
LOCATION: Snohomish, WA

DRILLING METHOD: HSA
DRILLING DATE: 11/19/03
DRILL RIG: CME 55

DATUM:
AZIMUTH: N/A
COORDINATES: not surveyed

ELEVATION:
INCLINATION: -90

DEPTH (ft)	BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N	REC / ATT	PENETRATION RESISTANCE BLOWS / ft ■ (10 20 30 40) / WATER CONTENT (PERCENT) W_p W W_l	NOTES WATER LEVELS GRAPHIC
0	HSA	0.0 - 3.0 Asphalt underlain by pea gravel and sand.										
		3.0 - 8.0 Hard, pale gray, yellowish brown, and black (mangenese) with iron oxide staining, poorly bedded, CLAYEY SILT to SILT CLAY with trace to little sand and fine gravel. Moist. (GLACIOLACUSTRINE DEPOSIT)	CL-ML		3.0	1	SS	12-21-22	43	1.2 / 1.5		2" Dia. PVC Casing
5												
		8.0 - 15.0 Very dense, yellowish brown, unstratified, fine to coarse SAND and fine to coarse GRAVEL with little fines. Wet. (ADVANCE OUTWASH)	SM		8.0	2	SS	50/6"	50/6"	0.4 / 0.5		10-20 Silica Sand
10												
												Schedule 20 Screen
												13.5' ATD - Water level appears to be rising
15		Driller notes that sampler appears to be bouncing on rock - no recovery. Boring completed at 15.0 ft.			15.0		SS	50/0"	50/0"	0.0 / 0.0		
20												

1 in to 3 ft
DRILLING CONTRACTOR: Cascade
DRILLER:

LOGGED: A. McKenzie-Johnson
CHECKED: Neil Gilham
DATE: 12/8/03

Golder Associates

BOREHOLE RECORD 033-1002 BORELOGS.GPJ GLDR_WA.GDT 12/9/03

APPENDIX B

LABORATORY ANALYTICAL RESULTS

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

November 26, 2003

Neil Gilham
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052-3333

Re: Analytical Data for Project 033-1002
Laboratory Reference No. 0311-146

Dear Neil:

Enclosed are the analytical results and associated quality control data for samples submitted on November 19, 2003.

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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

Case Narrative

Samples were collected on November 19, 2003, and received by the laboratory on November 19, 2003. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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

The Matrix Spike/Matrix Spike Duplicate RPD for Trichloroethene is outside of control limits. Please see Spike Blank data.

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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-146-01
Client ID:	**SNSB-1:1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0014
Chloromethane	ND		0.0014
Vinyl Chloride	ND		0.0014
Bromomethane	ND		0.0014
Chloroethane	ND		0.0014
Trichlorofluoromethane	ND		0.0014
1,1-Dichloroethene	ND		0.0014
Iodomethane	ND		0.0068
Methylene Chloride	ND		0.0068
(trans) 1,2-Dichloroethene	ND		0.0014
1,1-Dichloroethane	ND		0.0014
2,2-Dichloropropane	ND		0.0014
(cis) 1,2-Dichloroethene	ND		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		0.0068
(cis) 1,3-Dichloropropene	ND		0.0014
(trans) 1,3-Dichloropropene	ND		0.0014

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

page 2 of 2

Lab ID: 11-146-01
Client ID: SNSB-1:1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0014
Tetrachloroethene	0.0037		0.0014
1,3-Dichloropropane	ND		0.0014
Dibromochloromethane	ND		0.0014
1,2-Dibromoethane	ND		0.0068
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		0.0068
1,2,4-Trichlorobenzene	ND		0.0014
Hexachlorobutadiene	ND		0.0068
1,2,3-Trichlorobenzene	ND		0.0014

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	76	60-137
Toluene, d8	85	71-129
4-Bromofluorobenzene	83	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

page 1 of 2

Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-146-02
Client ID:	**SNSB-1:2**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0013
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0013
Chloroethane	ND		0.0013
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Iodomethane	ND		0.0063
Methylene Chloride	ND		0.0063
(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		0.0063
(cis) 1,3-Dichloropropene	ND		0.0013
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 11-146-02
Client ID: SNSB-1:2

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	0.0023		0.0013
1,3-Dichloropropane	ND		0.0013
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0063
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		0.0063
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0063
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	60-137
Toluene, d8	82	71-129
4-Bromofluorobenzene	86	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Date Extracted: 11-23-03
Date Analyzed: 11-23-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 11-146-03
Client ID: SNSB-2:1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0013
Chloromethane	ND		0.0013
Vinyl Chloride	ND		0.0013
Bromomethane	ND		0.0013
Chloroethane	ND		0.0013
Trichlorofluoromethane	ND		0.0013
1,1-Dichloroethene	ND		0.0013
Iodomethane	ND		0.0066
Methylene Chloride	ND		0.0066
(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		0.0066
(cis) 1,3-Dichloropropene	ND		0.0013
(trans) 1,3-Dichloropropene	ND		0.0013

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 11-146-03
Client ID: SNSB-2:1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0013
Tetrachloroethene	0.0074		0.0013
1,3-Dichloropropane	ND		0.0013
Dibromochloromethane	ND		0.0013
1,2-Dibromoethane	ND		0.0066
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		0.0066
1,2,4-Trichlorobenzene	ND		0.0013
Hexachlorobutadiene	ND		0.0066
1,2,3-Trichlorobenzene	ND		0.0013

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	60-137
Toluene, d8	92	71-129
4-Bromofluorobenzene	89	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-146-04
Client ID:	**SNSB-2:2**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 11-146-04
Client ID: SNSB-2:2

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	0.021		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0059
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	85	60-137
Toluene, d8	86	71-129
4-Bromofluorobenzene	84	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

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Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-146-07
Client ID:	**SNHA:1**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Iodomethane	ND		0.0052
Methylene Chloride	ND		0.0052
(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		0.0052
(cis) 1,3-Dichloropropene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 11-146-07
Client ID: SNHA:1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	0.0062		0.0010
1,3-Dichloropropane	ND		0.0010
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0052
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	85	60-137
Toluene, d8	90	71-129
4-Bromofluorobenzene	83	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	11-146-08
Client ID:	**SNHA:2**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0012
Chloromethane	ND		0.0012
Vinyl Chloride	ND		0.0012
Bromomethane	ND		0.0012
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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 11-146-08
Client ID: **SNHA:2**

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0012
Tetrachloroethene	0.061		0.0012
1,3-Dichloropropane	ND		0.0012
Dibromochloromethane	ND		0.0012
1,2-Dibromoethane	ND		0.0059
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	79	60-137
Toluene, d8	86	71-129
4-Bromofluorobenzene	92	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted:	11-23-03
Date Analyzed:	11-23-03
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1123S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB1123S1

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		0.0050
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	60-137
Toluene, d8	88	71-129
4-Bromofluorobenzene	86	60-149

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 11-23-03
Date Analyzed: 11-23-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 11-147-03

Compound	Sample Amount	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	ND	0.0500	0.0444	89	0.0460	92	30-153	
Benzene	ND	0.0500	0.0532	106	0.0498	100	58-140	
Trichloroethene	ND	0.0500	0.0586	117	0.0507	101	38-130	
Toluene	ND	0.0500	0.0555	111	0.0536	107	28-147	
Chlorobenzene	ND	0.0500	0.0520	104	0.0505	101	47-131	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	4	11	
Benzene	7	11	
Trichloroethene	14	11	L
Toluene	3	10	
Chlorobenzene	3	11	

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
SPIKE BLANK QUALITY CONTROL

Date Extracted: 11-23-03
Date Analyzed: 11-23-03

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: SB1123S1

Compound	Spike Amount	Spike Recovery	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	0.0500	0.0436	87	45-145	
Benzene	0.0500	0.0499	100	67-138	
Trichloroethene	0.0500	0.0535	107	49-136	
Toluene	0.0500	0.0495	99	72-121	
Chlorobenzene	0.0500	0.0488	98	66-137	

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	11-20-03
Date Analyzed:	11-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-146-05
Client ID:	**SNSB-1:GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		4.0
Chloromethane	ND		4.0
Vinyl Chloride	ND		4.0
Bromomethane	ND		4.0
Chloroethane	ND		4.0
Trichlorofluoromethane	ND		4.0
1,1-Dichloroethene	ND		4.0
Iodomethane	ND		20
Methylene Chloride	ND		20
(trans) 1,2-Dichloroethene	ND		4.0
1,1-Dichloroethane	ND		4.0
2,2-Dichloropropane	ND		4.0
(cis) 1,2-Dichloroethene	5.5		4.0
Bromochloromethane	ND		4.0
Chloroform	5.2		4.0
1,1,1-Trichloroethane	ND		4.0
Carbon Tetrachloride	ND		4.0
1,1-Dichloropropene	ND		4.0
1,2-Dichloroethane	ND		4.0
Trichloroethene	8.4		4.0
1,2-Dichloropropane	ND		4.0
Dibromomethane	ND		4.0
Bromodichloromethane	ND		4.0
2-Chloroethyl Vinyl Ether	ND		20
(cis) 1,3-Dichloropropene	ND		4.0
(trans) 1,3-Dichloropropene	ND		4.0

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

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Lab ID: 11-146-05
Client ID: SNSB-1:GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		4.0
Tetrachloroethene	430		4.0
1,3-Dichloropropane	ND		4.0
Dibromochloromethane	ND		4.0
1,2-Dibromoethane	ND		4.0
Chlorobenzene	ND		4.0
1,1,1,2-Tetrachloroethane	ND		4.0
Bromoform	ND		20
Bromobenzene	ND		4.0
1,1,2,2-Tetrachloroethane	ND		4.0
1,2,3-Trichloropropane	ND		4.0
2-Chlorotoluene	ND		4.0
4-Chlorotoluene	ND		4.0
1,3-Dichlorobenzene	ND		4.0
1,4-Dichlorobenzene	ND		4.0
1,2-Dichlorobenzene	ND		4.0
1,2-Dibromo-3-chloropropane	ND		20
1,2,4-Trichlorobenzene	ND		4.0
Hexachlorobutadiene	ND		4.0
1,2,3-Trichlorobenzene	ND		4.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	121	63-130
Toluene, d8	117	75-125
4-Bromofluorobenzene	108	75-125

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

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Date Extracted:	11-20-03
Date Analyzed:	11-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	11-146-06
Client ID:	**SNSB-2:GW**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		4.0
Chloromethane	ND		4.0
Vinyl Chloride	ND		4.0
Bromomethane	ND		4.0
Chloroethane	ND		4.0
Trichlorofluoromethane	ND		4.0
1,1-Dichloroethene	ND		4.0
Iodomethane	ND		20
Methylene Chloride	ND		20
(trans) 1,2-Dichloroethene	ND		4.0
1,1-Dichloroethane	ND		4.0
2,2-Dichloropropane	ND		4.0
(cis) 1,2-Dichloroethene	ND		4.0
Bromochloromethane	ND		4.0
Chloroform	ND		4.0
1,1,1-Trichloroethane	ND		4.0
Carbon Tetrachloride	ND		4.0
1,1-Dichloropropene	ND		4.0
1,2-Dichloroethane	ND		4.0
Trichloroethene	ND		4.0
1,2-Dichloropropane	ND		4.0
Dibromomethane	ND		4.0
Bromodichloromethane	ND		4.0
2-Chloroethyl Vinyl Ether	ND		20
(cis) 1,3-Dichloropropene	ND		4.0
(trans) 1,3-Dichloropropene	ND		4.0

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 11-146-06
Client ID: SNSB-2:GW

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		4.0
Tetrachloroethene	480		4.0
1,3-Dichloropropane	ND		4.0
Dibromochloromethane	ND		4.0
1,2-Dibromoethane	ND		4.0
Chlorobenzene	ND		4.0
1,1,1,2-Tetrachloroethane	ND		4.0
Bromoform	ND		20
Bromobenzene	ND		4.0
1,1,2,2-Tetrachloroethane	ND		4.0
1,2,3-Trichloropropane	ND		4.0
2-Chlorotoluene	ND		4.0
4-Chlorotoluene	ND		4.0
1,3-Dichlorobenzene	ND		4.0
1,4-Dichlorobenzene	ND		4.0
1,2-Dichlorobenzene	ND		4.0
1,2-Dibromo-3-chloropropane	ND		20
1,2,4-Trichlorobenzene	ND		4.0
Hexachlorobutadiene	ND		4.0
1,2,3-Trichlorobenzene	ND		4.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	116	63-130
Toluene, d8	116	75-125
4-Bromofluorobenzene	109	75-125

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL

Page 1 of 2

Date Extracted:	11-20-03
Date Analyzed:	11-20-03
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB1120W1

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: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB1120W1

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	122	63-130
Toluene, d8	115	75-125
4-Bromofluorobenzene	112	75-125

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 11-20-03
Date Analyzed: 11-20-03

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB1120W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	Recovery Limits	Flags
1,1-Dichloroethene	10	9.64	96	9.91	99	50-129	
Benzene	10	10.5	105	10.7	107	62-131	
Trichloroethene	10	10.7	107	10.3	103	71-117	
Toluene	10	10.7	107	10.5	105	71-123	
Chlorobenzene	10	10.2	102	9.99	100	80-120	

	RPD	RPD Limit	Flags
1,1-Dichloroethene	3	15	
Benzene	1	10	
Trichloroethene	3	12	
Toluene	2	15	
Chlorobenzene	2	10	

Date of Report: November 26, 2003
Samples Submitted: November 19, 2003
Laboratory Reference: 0311-146
Project: 033-1002

% MOISTURE

Date Analyzed: 11-23-03

Client ID	Lab ID	% Moisture
SNSB-1:1	11-146-01	26
SNSB-1:2	11-146-02	20
SNSB-2:1	11-146-03	24
SNSB-2:2	11-146-04	15
SNHA:1	11-046-07	3
SNHA:2	11-046-08	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.

G - Insufficient sample quantity for duplicate analysis.

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 outside the defined gasoline range are present in the sample.

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.

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 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: Golder Associates
Project Number: 033-1002
Project Name: Snohomish Dg Cleanup PH II
Project Manager: Neil Gilham
Sampled by: Alex McKenzie-Johnson

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Standard (7 working days)
- ☐ _____ (other)

Laboratory Number: 11-146

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	SNSB-1:1	11/19/03	1315	S	1					X															X
2	SNSB-1:2		1320		1					X															X
3	SNSB-~~1~~ 2:1		1400		1					X															X
4	SNSB-~~1~~ 2:2		1410		1					X															X
5	SNSB-1:GW		1420	W	3					X															
6	SNSB-2:GW		1430		3					X															
7	SNHA:1		1210	S	1					X															X
8	SNHA:2		1240		1					X															X

	Signature	Company	Date	Time
Relinquished by		Golder Assoc.	11/19/03	1630
Received by			11/19/03	4:30
Relinquished by				
Received by				
Relinquished by				
Received by				
Reviewed by/Date		Reviewed by/Date		

Comments/Special Instructions:

Chromatograms with final report ☐

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