IMPACT ENVIRONMENTAL, INC.

August 25, 2000

Department of Ecology
Voluntary Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Attn.: Mr. Chuck Cline

Subject: Independent Action Notification Regarding the Lakewood Mall, Lakewood, Washington

Dear Mr. Cline:

Impact Environmental has been retained by ATC Realty Sixteen, Inc. (ATC) to evaluate the environmental status of its property, the Lakewood Mall, located in Lakewood, Washington. This document is provided on behalf of ATC pursuant to the applicable requirements of the Model Toxics Control Act, 70.105D RCW; Chapter 173-340 WAC, including, but not limited to: WAC 173-340-300, Site discovery and reporting: WAC 173-340-300(4), Report of independent actions and WAC 173-340-500(5), Independent remedial action; as well as applicable policies of the Voluntary Cleanup Program. The purpose of this document is to provide notification to the Washington Department of Ecology regarding: (1) the presence of volatile organic compounds in the shallow groundwater beneath the site and (2) our intention to pursue further assessment and groundwater monitoring of that portion of the site with identified elevated concentrations of volatile organic compounds.

Background

The subject property is the Lakewood Mall, a retail shopping center located at 10509 Gravelly Lake Drive, SW, in the city of Lakewood, Washington. The mall is approximately six miles southwest of Tacoma. The location of the site and the mall layout are included as Figures 1 and 2. The mall covers an area of about 100 acres. Development at this site began in approximately 1957 with the construction of the Villa Plaza Shopping Center. Businesses that have been or are located at the mall include a gas station, a paint store, dry cleaners, automotive service centers, a printing shop, film developers, and various miscellaneous retailers. Subsurface site assessments conducted in the past by other consultants have identified the presence of petroleum solvents. The current property owner is ATC of San Francisco, California.

4533 MacArthur Boulevard, Suite 541 • Newport Beach, California 92660 • (949) 488-8397. Phone • (949) 488-8398. Fax

Subsurface Sampling and Analysis

Environmental assessments have been conducted recently at the site to evaluate whether activities from any of the former or current tenants have resulted in adverse impacts to the environment. Based on the findings of the Phase I environmental site assessments conducted at the site, several potential areas of concern were identified, including the former use of septic systems during the earlier history of the site.

An evaluation of the potential areas of concern has been conducted which included the collection and laboratory analysis of subsurface soil and groundwater samples. Much of the sampling has been conducted using the Geoprobe™ direct push sampling method. The various sampling events occurred in December 1998, January 1999, May-June 2000, and July-August 2000. The sampling locations were positioned at and near former and current tenant spaces with uses that could have released chemicals to the environment, including the locations of former septic tanks and leach fields.

Four groundwater monitoring wells have also been installed at the site. The wells are located near the northwest corner of the mall near Gravely Lake Drive and within the north-central portion of the mall. The monitoring well and Geoprobe groundwater sampling locations are shown on Figure 3. Based on the results of the assessments conducted to date, shallow groundwater is present beneath the site at depths ranging from about 12 to 20 feet below grade with a groundwater flow direction estimated to be towards the west. A groundwater gradient map is included as Figure 4. Well completion information is included in Table 1.

Laboratory Analysis Results

The laboratory analysis performed on the collected soil and groundwater samples was dependent upon the type of historical use that had been identified at or near the sampling location. The results of the subsurface assessments conducted to date indicate that soil with elevated concentrations of hydrocarbons or VOCs has not been identified. Low concentrations of fuel hydrocarbons were detected at one groundwater sample location (P-11) located near a former hardware store. Low concentrations of volatile organic compounds (VOCs) have been detected in several of the groundwater samples across the northern portion of the mall property. These include primarily tetrachloroethene (PCE) and its degradation products. Most of these occurrences are below either the Washington Method A or B cleanup levels. The laboratory results and chain-of-custody records for each of the sampling events are included in Appendices A through D. Figure 5 shows all of the groundwater sampling locations and the associated PCE concentrations that have been detected in the groundwater at the site.

Based on the laboratory results from the groundwater sample collected at the probe P-12 location, which was at the second of the former Plaza Cleaners locations, some detected VOCs exceeded at least one of the state cleanup levels. Sample P-12 is located within the north-central portion of the mall. Additional focused assessment of the groundwater near and in the vicinity of the P-12 location has been conducted to both verify the detected concentrations and evaluate the lateral extent of the compounds identified in the P-12 sample. This has included the installation of three groundwater monitoring wells and the collection of six additional Geoprobe™ samples. Table 2 presents the results of the groundwater sample laboratory analyses that have been conducted to date.

Summary

An evaluation of the subsurface soil and groundwater beneath the Lakewood Mall site has not identified the presence of elevated concentrations of petroleum hydrocarbons or VOCs in the soil. Low concentrations of VOCs have been identified in the groundwater at several sample locations across the northern portion of the site. The only groundwater samples with elevated concentrations of VOCs were obtained initially from sample P-12, and subsequently from other locations in the near vicinity of P-12. This is near the former location of the Plaza Cleaners, in the north-central portion of the mall. Based on the extensive site-wide subsurface assessment conducted thus far, the area with elevated concentrations of VOCs (near the P-12 probe location) appears to be laterally restricted and not extensive.

Planned Additional Assessment

In order to further confirm and evaluate the presence of volatile organic compounds in the shallow groundwater beneath the site at the P-12 location, three or four additional shallow groundwater monitoring wells will be installed. The purpose of this additional assessment will be to both confirm the presence of and evaluate the lateral extent of previously detected VOCs at the site. The precise locations of the additional wells will be provided to your office upon their completion; however, the wells are expected to be located near previously identified elevated VOC concentrations and/or downgradient from prior sample locations with identified VOCs. Following installation of these additional wells, a program of quarterly groundwater monitoring and sampling will begin. Quarterly groundwater monitoring reports will be prepared and submitted to your office for your consideration. We expect to seek your review and file any additional reports when appropriate.

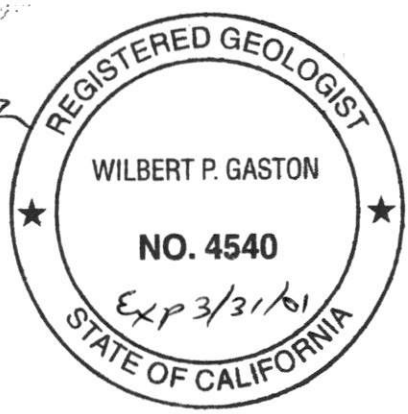
If there are any questions regarding any of the issues discussed in this document, please call us at your convenience. Any future correspondence may be directed to either of the undersigned.

Sincerely,

Impact Environmental, Inc.

Kathleen L. Dallaire, Ph.D.
President

Wilbert P. Gaston, R.G. 4540
Project Geologist



FIGURES

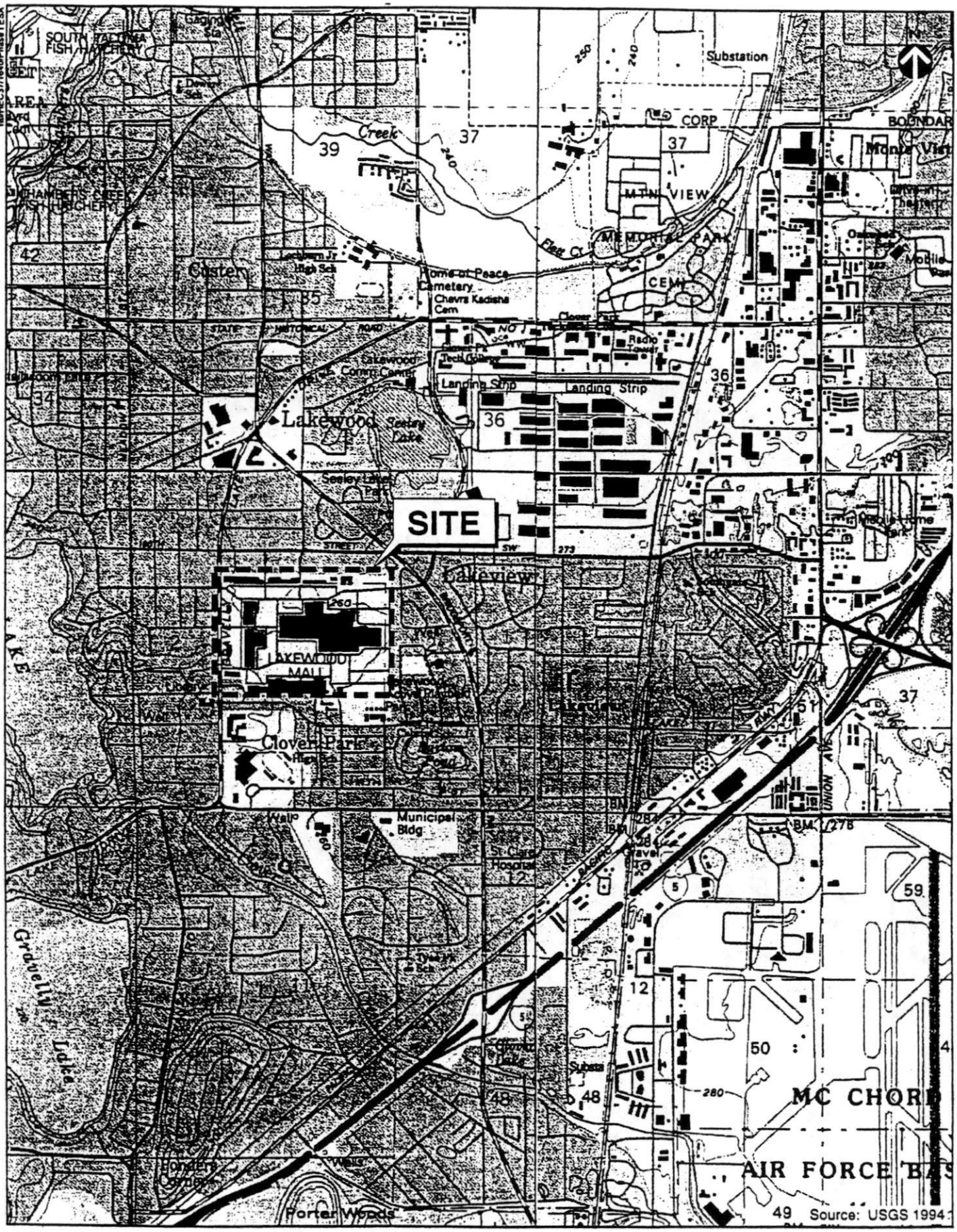


Figure 1. **Vicinity map of Lakewood Mall, Lakewood, Washington.**

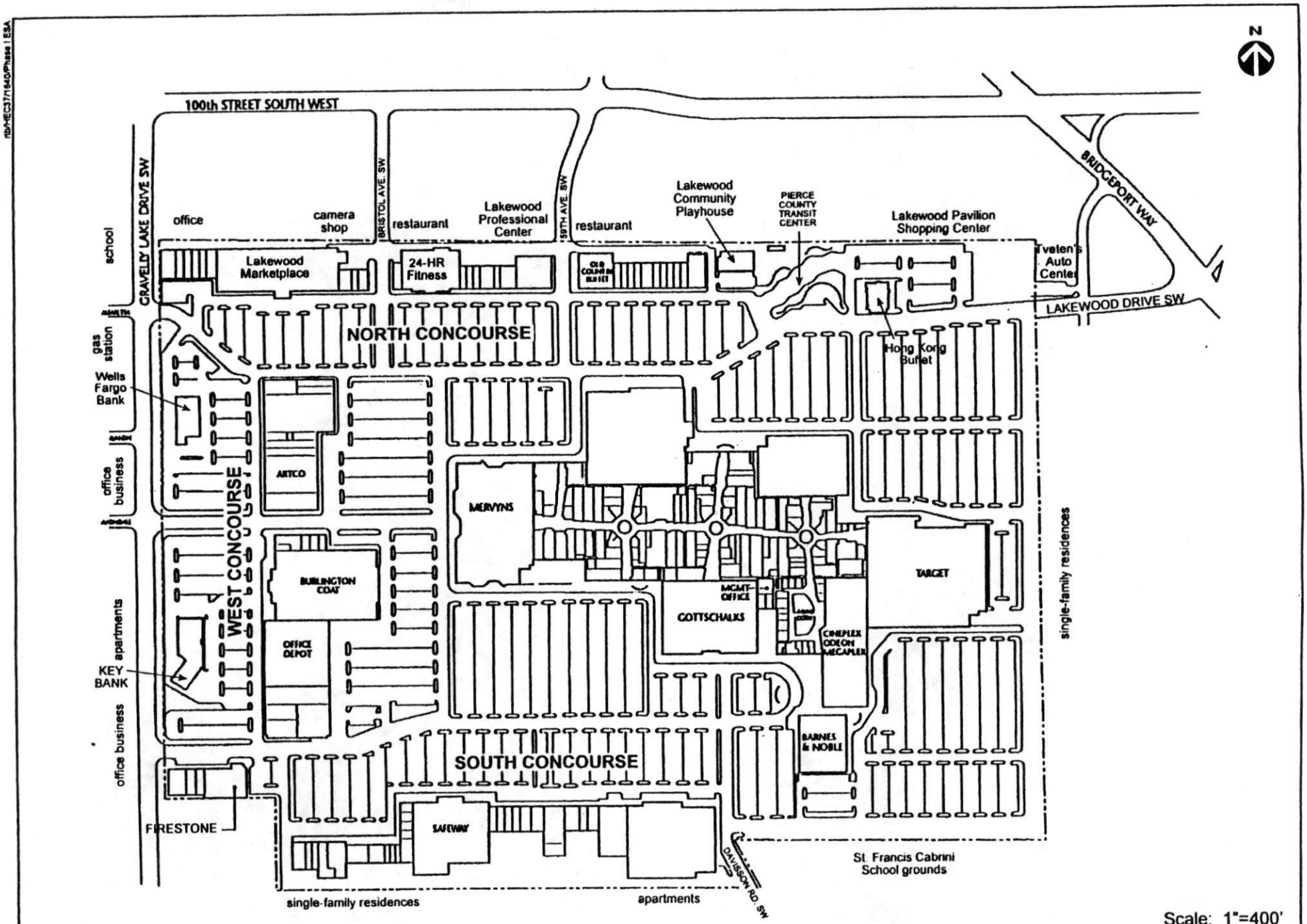


Figure 2. Site map of Lakewood Mall I & II, Lakewood, Washington.

Table 2. Ground water analytical results from probe borings and monitoring wells at Lakewood Mall site, Lakewood, Washington (µg/L).

Analytes	*MTCA method A cleanup level*[a]	*MTCA method B cleanup level*[b]	MW-1s	MW-1d	MW-2d	MW-3	P1	P2	P3
Halogenated Volatile Organic Compounds									
Tetrachloroethene	*5*	*0.858*	0.80/0.80	0.50	0.73	0.69	—	(0.20)	(0.20)
Trichloroethene	*5*	*3.98*	0.45/0.44	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
(cis) 1,2-Dichloroethene	*NA*	*80*	5.0/4.8	0.29	(0.20)	1.1	—	(0.20)	(0.20)
(trans) 1,2-Dichloroethene	*NA*	*160*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
1,1-Dichloroethene	*NA*	*0.0729*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
1,1-Dichloroethane	*NA*	*800*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
Vinyl chloride	*0.2*	*0.023*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
1,4-Dichlorobenzene	*NA*	*1.82*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
Chloroform	*NA*	*7.17*	(0.20)/(0.20)	(0.20)	(0.20)	(0.20)	—	(0.20)	(0.20)
Volatile Organic Compounds									
Benzene	*5*	*1.51*	—	—	—	—	—	(0.20)	(0.20)
Toluene	*40*	*1,600*	—	—	—	—	—	(0.20)	(0.20)
Ethylbenzene	*30*	*800*	—	—	—	—	—	(0.20)	(0.20)
1,2,4-Trimethylbenzene	*NA*	*NA*	—	—	—	—	—	(0.20)	(0.20)
Naphthalene	*NA*	*320*	—	—	—	—	—	(1.0)	(1.0)
NWTPH-HCID[c]									
Gasoline range hydrocarbons	*NA*	*NA*	—	—	—	—	(250)	—	(250)
Diesel range hydrocarbons	*NA*	*NA*	—	—	—	—	(630)	—	(630)
Heavy oil range hydrocarbons	*NA*	*NA*	—	—	—	—	(630)	—	(630)

Values reported in micrograms per liter (µg/L).
(0.20) Analyte was not detected above the practical quantitation limit indicated.
NA Established ground water cleanup level for this constituent is not available.
0.80/0.80 Indicates duplicate results.
— Sample was not analyzed for this constituent.
Values in boldface type indicate constituent detected above MTCA method A or method B cleanup levels.
[a] MTCA—Model Toxics Control Act method A ground water cleanup regulation (Department of Ecology publication 94-06, 1996)
[b] MTCA method B ground water cleanup levels (Department of Ecology publication 94-145, updated 1996).
[c] HCID is a screening method to determine the need for further analysis.

Table 2. Ground water analytical results from probe borings and monitoring wells at Lakewood Mall site, Lakewood, Washington (µg/L) (continued).

Analytes	*MTCA method A cleanup level*[a]	*MTCA method B cleanup level*[b]	P4	P5	P6	P9	P10	P11	P12
Halogenated Volatile Organic Compounds									
Tetrachloroethene	*5*	*0.858*	(0.20)	(0.20)	0.29	—	—	(0.20)	4.2
Trichloroethene	*5*	*3.98*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	**9.5**
(cis) 1,2-Dichloroethene	*NA*	*80*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	**400**
(trans) 1,2-Dichloroethene	*NA*	*160*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	6.5
1,1-Dichloroethene	*NA*	*0.0729*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	**0.36**
1,1-Dichloroethane	*NA*	*800*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	5.8
Vinyl chloride	*0.2*	*0.023*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	**28**
1,4-Dichlorobenzene	*NA*	*1.82*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	(0.20)
Chloroform	*NA*	*7.17*	(0.20)	(0.20)	(0.20)	—	—	(0.20)	(0.20)
Volatile Organic Compounds									
Benzene	*5*	*1.51*	(0.20)	(0.20)	(0.20)	—	—	0.23	(0.20)
Toluene	*40*	*1,600*	(0.20)	(0.20)	(0.20)	—	—	0.27	(0.20)
Ethylbenzene	*30*	*800*	(0.20)	(0.20)	(0.20)	—	—	0.24	(0.20)
1,2,4-Trimethylbenzene	*NA*	*NA*	(0.20)	(0.20)	(0.20)	—	—	0.30	(0.20)
Naphthalene	*NA*	*320*	(1.0)	(1.0)	(1.0)	—	—	160	(10)
NWTPH-HCID[c]									
Gasoline range hydrocarbons	*NA*	*NA*	—	—	—	(250)	(250)	(250)	—
Diesel range hydrocarbons	*NA*	*NA*	—	—	—	(630)	(630)	(630)	—
Heavy oil range hydrocarbons	*NA*	*NA*	—	—	—	(630)	(630)	(630)	—

Values reported in micrograms per liter (µg/L).
(0.20) Analyte was not detected above the practical quantitation limit indicated.
NA Established ground water cleanup level for this constituent is not available.
0.80/0.80 Indicates duplicate results.
— Sample was not analyzed for this constituent.
Values in boldface type indicate constituent detected above MTCA method A or method B cleanup levels.
[a] MTCA—Model Toxics Control Act method A ground water cleanup regulation (Department of Ecology publication 94-06, 1996)
[b] MTCA method B ground water cleanup levels (Department of Ecology publication 94-145, updated 1996).
[c] HCID is a screening method to determine the need for further analysis.

Table 2. Ground water analytical results from probe borings and monitoring wells at Lakewood Mall site, Lakewood, Washington (µg/L) (continued).

Analytes	*MTCA method A cleanup level*[a]	*MTCA method B cleanup level*[b]	P16	P17	P22	P24	P25	P26	P27
Halogenated Volatile Organic Compounds									
Tetrachloroethene	*5*	*0.858*	0.27	(0.20)	0.22	0.47	0.78	(0.20)	0.39
Trichloroethene	*5*	*3.98*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
(cis) 1,2-Dichloroethene	*NA*	*80*	(0.20)	(0.20)	1.0	(0.20)	(0.20)	(0.20)	(0.20)
(trans) 1,2-Dichloroethene	*NA*	*160*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
1,1-Dichloroethene	*NA*	*0.0729*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
1,1-Dichloroethane	*NA*	*800*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Vinyl chloride	*0.2*	*0.023*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
1,4-Dichlorobenzene	*NA*	*1.82*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Chloroform	*NA*	*7.17*	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	0.21
Volatile Organic Compounds									
Benzene	*5*	*1.51*	(0.20)	(0.20)	—	—	—	—	—
Toluene	*40*	*1,600*	(0.20)	0.75	—	—	—	—	—
Ethylbenzene	*30*	*800*	(0.20)	(0.20)	—	—	—	—	—
1,2,4-Trimethylbenzene	*NA*	*NA*	(0.20)	(0.20)	—	—	—	—	—
Naphthalene	*NA*	*320*	(1.0)	8.4	—	—	—	—	—
NWTPH-HCID[c]									
Gasoline range hydrocarbons	*NA*	*NA*	—	(250)	(250)	—	—	—	—
Diesel range hydrocarbons	*NA*	*NA*	—	(630)	(630)	—	—	—	—
Heavy oil range hydrocarbons	*NA*	*NA*	—	(630)	(630)	—	—	—	—

Values reported in micrograms per liter (µg/L).
(0.20) Analyte was not detected above the practical quantitation limit indicated.
NA Established ground water cleanup level for this constituent is not available.
0.80/0.80 Indicates duplicate results.
— Sample was not analyzed for this constituent.
Values in boldface type indicate constituent detected above MTCA method A or method B cleanup levels.
[a] MTCA—Model Toxics Control Act method A ground water cleanup regulation (Department of Ecology publication 94-06, 1996)
[b] MTCA method B ground water cleanup levels (Department of Ecology publication 94-145, updated 1996).
[c] HCID is a screening method to determine the need for further analysis.

Table 2. Ground water analytical results from probe borings and monitoring wells at Lakewood Mall site, Lakewood, Washington (µg/L) (continued).

Analytes	*MTCA method A cleanup level*[a]	*MTCA method B cleanup level*[b]	P28	P29	P30	P31	P32	P33	P34
Halogenated Volatile Organic Compounds									
Tetrachloroethene	*5*	*0.858*	0.60	**21**	2.3	**7.7**	0.34	3.4	**6.5**
Trichloroethene	*5*	*3.98*	(0.20)	**78**	**5.5**	**15**	0.65	(0.20)	(0.20)
(cis) 1,2-Dichloroethene	*NA*	*80*	(0.20)	**1,300**	**89**	71	20	(0.20)	(0.20)
(trans) 1,2-Dichloroethene	*NA*	*160*	(0.20)	19	1.6	1.7	0.34	(0.20)	(0.20)
1,1-Dichloroethene	*NA*	*0.0729*	(0.20)	**1.1**	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
1,1-Dichloroethane	*NA*	*800*	(0.20)	10	0.68	0.65	(0.20)	(0.20)	(0.20)
Vinyl chloride	*0.2*	*0.023*	(0.20)	**51**	(0.20)	**0.25**	**1.5**	(0.20)	(0.20)
1,4-Dichlorobenzene	*NA*	*1.82*	(0.20)	0.46	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Chloroform	*NA*	*7.17*	(0.20)	(0.20)	(0.20)	0.28	(0.20)	(0.20)	(0.20)
Volatile Organic Compounds									
Benzene	*5*	*1.51*	—	—	—	—	—	—	—
Toluene	*40*	*1,600*	—	—	—	—	—	—	—
Ethylbenzene	*30*	*800*	—	—	—	—	—	—	—
1,2,4-Trimethylbenzene	*NA*	*NA*	—	—	—	—	—	—	—
Naphthalene	*NA*	*320*	—	—	—	—	—	—	—
NWTPH-HCID[c]									
Gasoline range hydrocarbons	*NA*	*NA*	—	—	—	—	—	—	—
Diesel range hydrocarbons	*NA*	*NA*	—	—	—	—	—	—	—
Heavy oil range hydrocarbons	*NA*	*NA*	—	—	—	—	—	—	—

Values reported in micrograms per liter (µg/L).

(0.20) Analyte was not detected above the practical quantitation limit indicated.

NA Established ground water cleanup level for this constituent is not available.

0.80/0.80 Indicates duplicate results.

— Sample was not analyzed for this constituent.

Values in boldface type indicate constituent detected above MTCA method A or method B cleanup levels.

[a] MTCA—Model Toxics Control Act method A ground water cleanup regulation (Department of Ecology publication 94-06, 1996)

[b] MTCA method B ground water cleanup levels (Department of Ecology publication 94-145, updated 1996).

[c] HCID is a screening method to determine the need for further analysis.

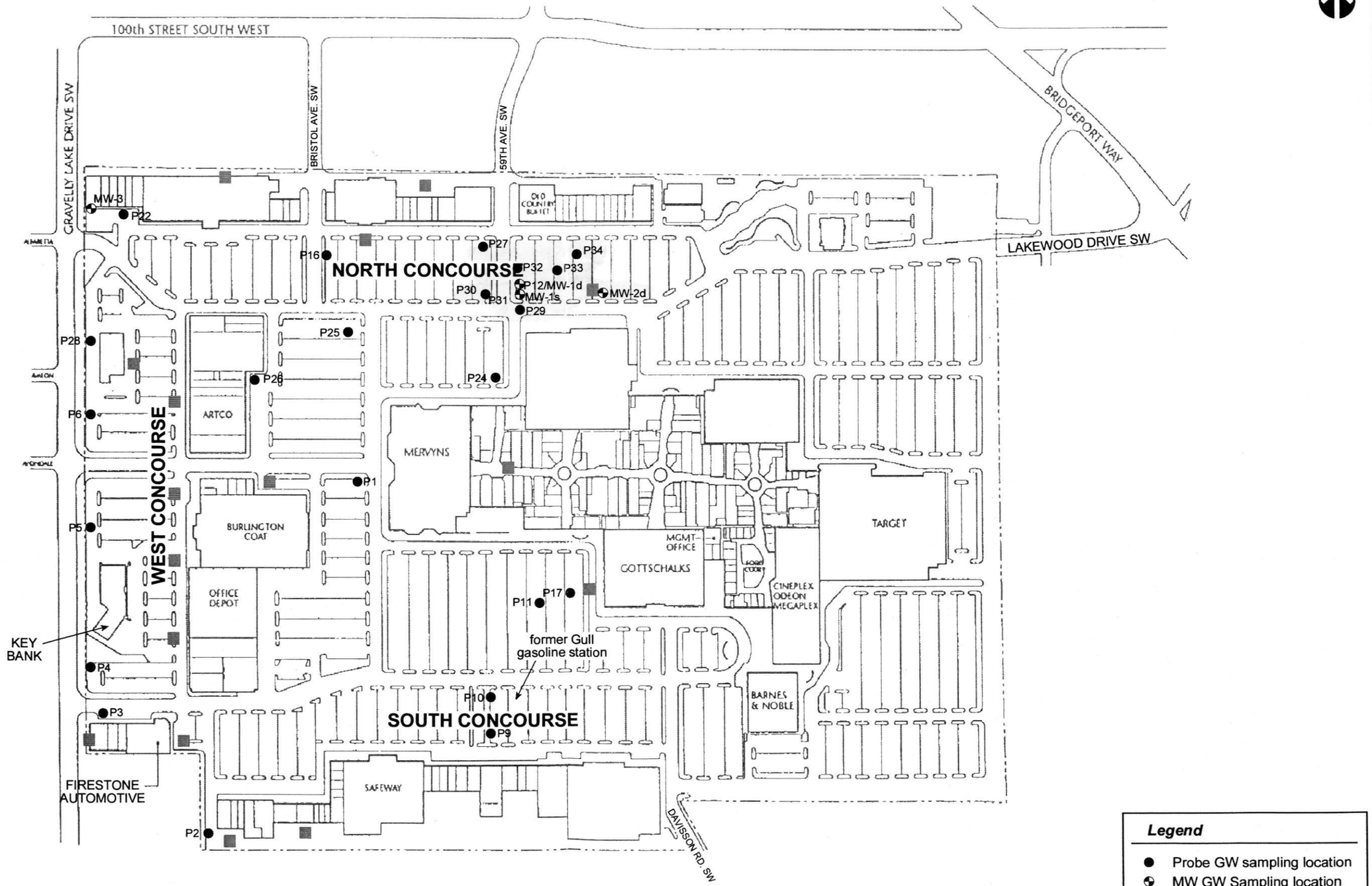


Figure 3 **Ground water sampling locations, Lakewood Mall, Lakewood, Washington.**

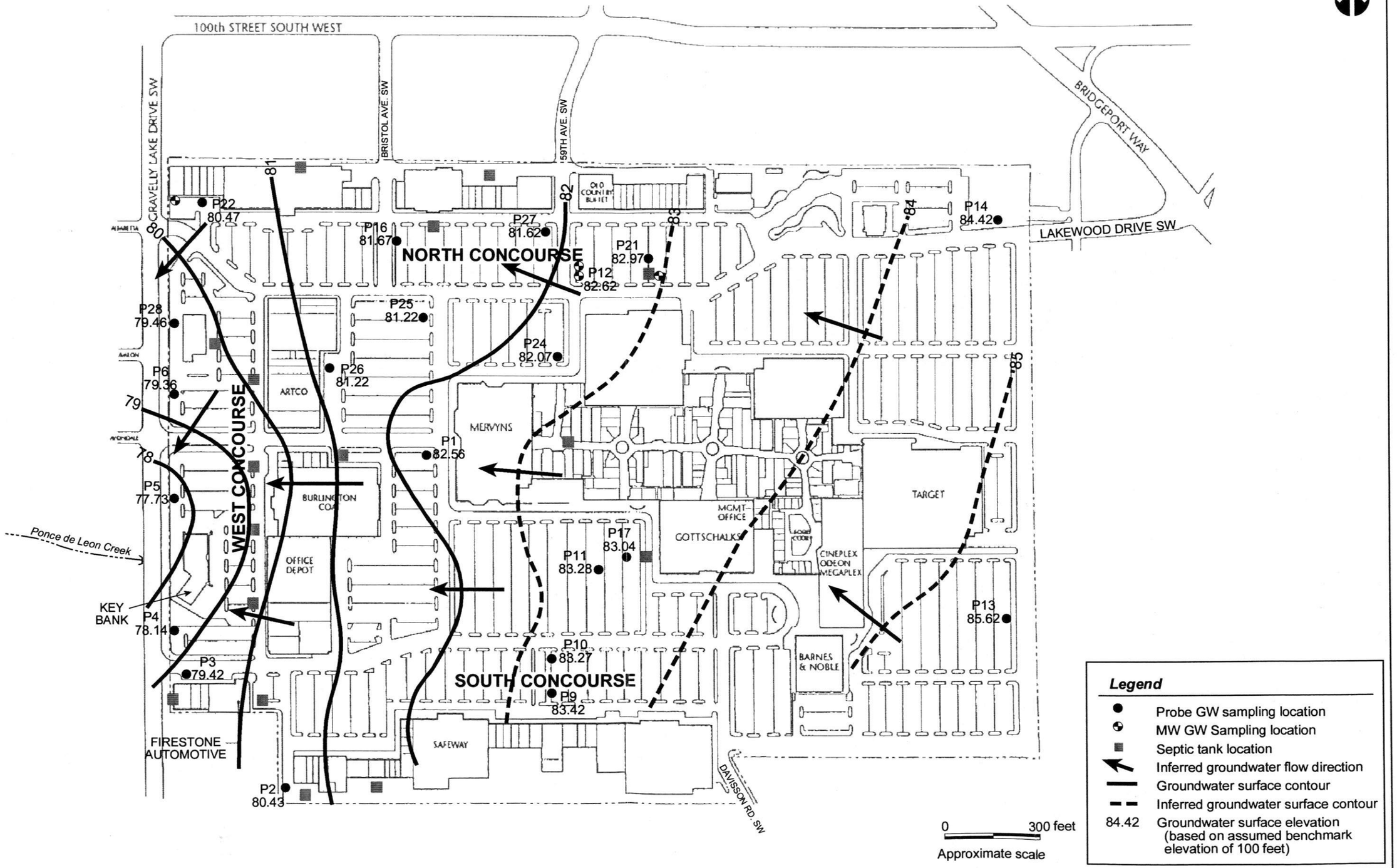


Figure 4 **Groundwater flow gradient based on water level data collected from probe borings (May 31, June 1, July 12, 13, and July 29, 2000) in Lakewood, Washington.**

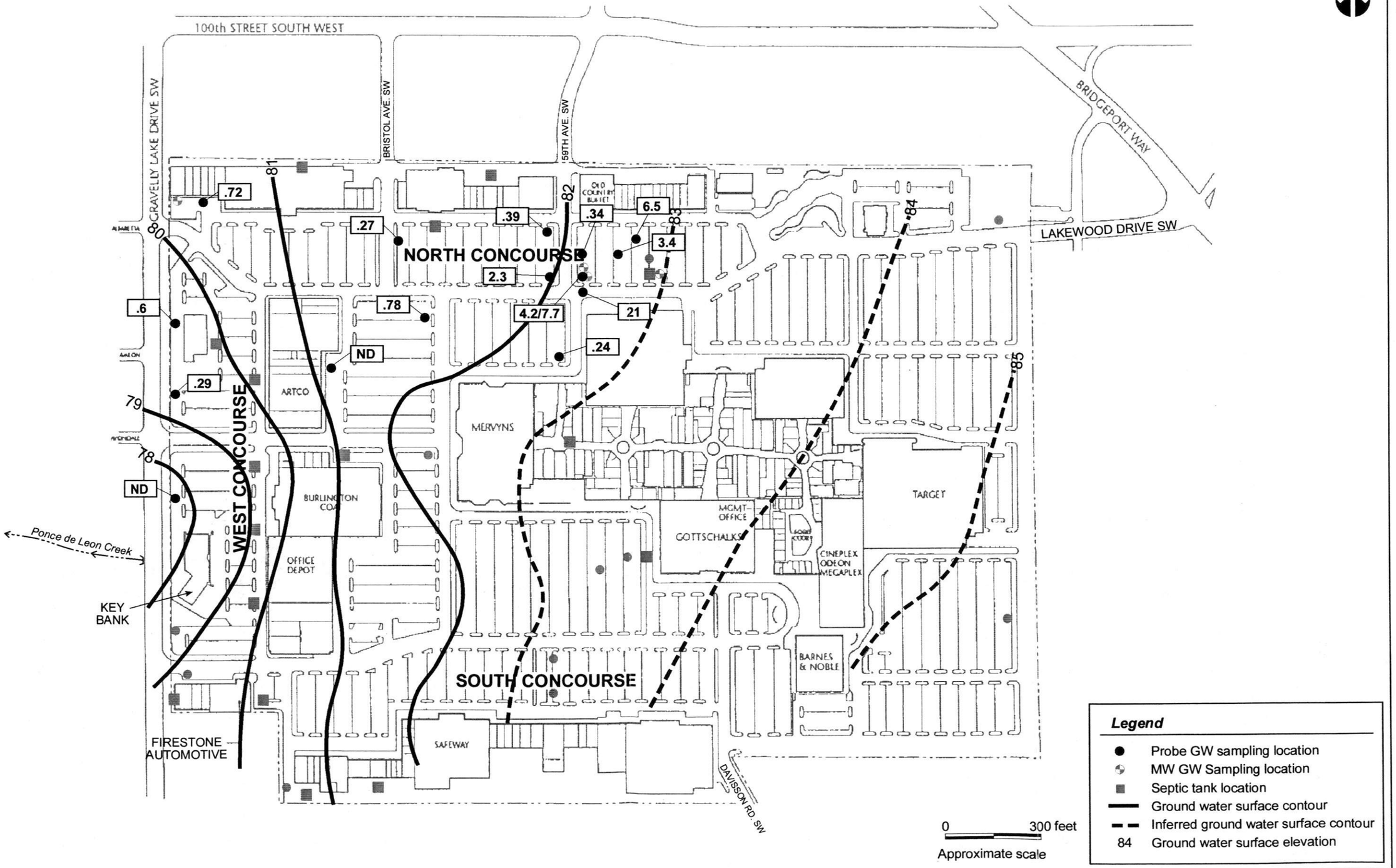


Figure 5 **PCE (µg/L) superimposed over inferred ground water flow pattern, Lakewood, Washington.**

APPENDIX A

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS FOR ASSESSMENT CONDUCTED DECEMBER 1998

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Soil

Sample-Number	MDL	Method Blank	P1	P1 Dup.	P2	P3	P4
Date		12/11/98	12/11/98	12/11/98	12/11/98	12/11/98	12/11/98
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vinylchloride	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
Total-Xylene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Dichloromethane	0.05	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	0.05	nd	nd	nd	0.05	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Trichloroethene	0.05	nd	0.06	0.08	nd	nd	nd
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.05	nd	0.11	0.15	nd	nd	0.99
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		92	111	88	110	97	98

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Soil

Sample-Number	MDL	P6	P7	P5	P9	P10	P11
Date		12/11/98	12/11/98	12/11/98	12/11/98	12/11/98	12/11/98
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vinylchloride	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
Total-Xylene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Dichloromethane	0.05	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Trichloroethene	0.05	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.05	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		94	90	89	98	92	96

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Soil

Sample-Number	MDL	MS (P2)	MSD (P2)	RPD (P2)
Date		12/11/98	12/11/98	12/11/98
	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	0.05	80	87	8.4%
Toluene	0.05	105	86	19.9%
Trichloroethene	0.05	106	88	18.6%
Chlorobenzene Spike Recovery (%)		106	113	6.4%

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Water

Sample-Number	MDL	Method Blank	W1	W2	W3
Date		12/11/98	12/11/98	12/11/98	12/11/98
	ug/l	ug/l	ug/l	ug/l	ug/l
Vinylchloride	1	nd	nd	nd	nd
Benzene	1	nd	nd	nd	nd
Toluene	1	nd	nd	nd	nd
Ethylbenzene	1	nd	nd	nd	nd
Total-Xylene	1	nd	nd	nd	nd
1,1 Dichloroethene	1	nd	nd	nd	nd
Dichloromethane	1	nd	nd	nd	nd
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd
1,1 Dichloroethane	1	nd	nd	nd	nd
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd
Chloroform	1	nd	nd	nd	nd
1,1,1 Trichloroethane	1	nd	nd	nd	nd
Carbon Tetrachloride	1	nd	nd	nd	nd
1,2 Dichloroethane	1	nd	nd	nd	nd
Trichloroethene	1	nd	nd	nd	nd
1,1,2 Trichloroethane	1	nd	nd	nd	nd
Tetrachloroethene	1	nd	1	nd	nd
1,1,1,2-Tetrachloroethane	1	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1	nd	nd	nd	nd
Spike Recovery (%)		118	82	110	84

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Diesel and Oil in Soil by NWTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Diesel mg/kg	Heavy Oil mg/kg
Meth. Blank	12/11/98	108	nd	nd
P10	12/11/98	100	nd	nd
P10 Dup.	12/11/98	93	nd	nd
P11	12/11/98	89	nd	nd
P13	12/11/98	117	nd	nd
P14	12/11/98	111	nd	nd
MDL			20	40

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Diesel and Oil in Water by NWTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Diesel ug/l	Heavy Oil ug/l
Meth. Blank	12/11/98	94	nd	nd
W-1	12/11/98	107	3000	nd
W-2	12/11/98	105	1900	nd
W-3	12/11/98	89	nd	nd
MDL			200	400

"nd" Indicates not detected at the listed detection Limit.

"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Water.

Sample-Number	MDL	Method Blank	W - 4	MS	MSD	RPD
Date		12/14/98	12/14/98	12/15/98	12/15/98	
	ug/l	ug/l	ug/l	ug/l	ug/l	
Vinylchloride	1	nd	nd	--	--	--
Benzene	1	nd	nd	5.3	4.8	9.0%
Toluene	1	nd	nd	--	--	--
Ethylbenzene	1	nd	nd	5.0	4.8	5.3%
Total-Xylene	1	nd	nd	--	--	--
1,1 Dichloroethene	1	nd	nd	4.4	4.3	3.0%
Dichloromethane	1	nd	nd	5.6	5.1	9.4%
Trans-1,2 Dichloroethene	1	nd	nd	5.7	5.4	4.1%
1,1 Dichloroethane	1	nd	nd	--	--	--
Cis-1,2 Dichloroethene	1	nd	nd	5.4	5.4	0.0%
Chloroform	1	nd	nd	5.4	4.6	15.1%
1,1,1 Trichloroethane	1	nd	nd	--	--	--
Carbon Tetrachloride	1	nd	nd	--	--	--
1,2 Dichloroethane	1	nd	nd	5.7	5.4	5.4%
Trichloroethene	1	nd	nd	--	--	--
1,1,2 Trichloroethane	1	nd	nd	--	--	--
Tetrachloroethene	1	nd	nd	5.8	5.4	7.5%
1,1,1,2-Tetrachloroethane	1	nd	nd	4.6	4.6	0.0%
Spike Recovery (%)		122	83	92	84	

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engineering, Inc.

Diesel and Oil in Water by NWTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Diesel ug/kg	Heavy Oil ug/kg
Meth. Blank	12/14/98	125	nd	nd
W 4	12/14/98	83	nd	nd
MDL			200	400

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest, Inc.
Client ID:	P10 SLC
Lab ID:	77746-01
Date Received:	12/14/98
Date Prepared:	12/14/98
Date Analyzed:	12/15/98
Dilution Factor	1
% Solids	93.76

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
Beryllium	ND	0.57	
Chromium	23	1.9	
Copper	16	3.8	
Nickel	29	7.6	
Silver	ND	1.9	
Zinc	43	3.8	

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest, Inc.
Client ID:	P10 SLC
Lab ID.	77746-01
Date Received:	12/14/98
Date Prepared:	12/14/98
Date Analyzed:	12/15/98
Dilution Factor	5
% Solids	93.76

Metals by ICP-MS - USEPA Method 6020

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
Arsenic	2.1	0.95	
Antimony	ND	0.95	
Cadmium	ND	0.95	
Lead	2.8	0.95	
Selenium	ND	2.9	
Thallium	ND	0.48	

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest, Inc.
Client ID:	P10 SLC
Lab ID:	77746-01
Date Received:	12/14/98
Date Prepared:	12/15/98
Date Analyzed:	12/15/98
Dilution Factor	1
% Solids	93.76

Mercury by CVAA - USEPA Method 7471

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
Mercury	ND	0.089	

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest, Inc.
Client ID:	P13
Lab ID:	77746-02
Date Received:	12/14/98
Date Prepared:	12/14/98
Date Analyzed:	12/15/98
Dilution Factor	1
% Solids	95.69

Metals by ICP - USEPA Method 6010

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
Beryllium	ND	0.56	
Chromium	9.8	1.9	
Copper	12	3.7	
Nickel	14	7.4	
Silver	ND	1.9	
Zinc	25	3.7	

SOUND ANALYTICAL SERVICES, INC.

Client Name	TEG Northwest, Inc.
Client ID:	P13
Lab ID:	77746-02
Date Received:	12/14/98
Date Prepared:	12/15/98
Date Analyzed:	12/15/98
Dilution Factor	1
% Solids	95.69

Mercury by CVAA - USEPA Method 7471

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	PQL	Flags
Mercury	ND	0.074	

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Adapt Engingeering, Inc.

Specific Halogenated Hydrocarbons and BTEX (EPA 8021B) in Soil

Sample-Number	MDL	Method Blank	P - 13	P - 14	MS	MSD	RPD %
Date		12/14/98	12/14/98	12/14/98	12/14/98	12/14/98	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Vinylchloride	0.05	nd	nd	nd	--	--	--
Benzene	0.05	nd	nd	nd	0.92	0.97	5.3%
Toluene	0.05	nd	nd	nd	0.82	0.96	15.7%
Ethylbenzene	0.05	nd	nd	nd	0.81	0.72	11.8%
Total-Xylene	0.05	nd	nd	nd	2.2	2.7	20.4%
1,1 Dichloroethene	0.05	nd	nd	nd	1.07	1.0	6.8%
Dichloromethane	0.05	nd	nd	nd	1.14	1.19	4.3%
Trans-1,2 Dichloroethene	0.05	nd	nd	nd	0.95	0.97	2.1%
1,1 Dichloroethane	0.05	nd	nd	nd	0.8	0.91	12.9%
Cis-1,2 Dichloroethene	0.05	nd	nd	nd	1.03	0.99	4.0%
Chloroform	0.05	nd	nd	nd	0.88	0.85	3.5%
1,1,1 Trichloroethane	0.05	nd	nd	nd	1.07	1.06	0.9%
Carbon Tetrachloride	0.05	nd	nd	nd	0.82	0.84	2.4%
1,2 Dichloroethane	0.05	nd	nd	nd	--	--	--
Trichloroethene	0.05	nd	nd	nd	1.0	0.85	16.2%
1,1,2 Trichloroethane	0.05	nd	nd	nd	0.79	0.8	1.3%
Tetrachloroethene	0.05	nd	nd	nd	1.33	1.29	3.1%
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	0.83	0.94	12.4%
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	0.85	0.99	15.2%
Spike Recovery (%)		86	125	111	91	71	

"nd" Indicates Not Detected at the listed detection limit.

"int" Indicates that interference peaks prevent determination.

GEOSCIENCES

CLIENT: Adapt Engineering	DATE: 12/11/98 PAGE 1 OF
ADDRESS: 800 Maynard Ave. S, Suite 403, Seattle 98134	PROJECT NAME: LAKEWOOD MALL PHASE II
PHONE (206) 654-7048 FAX: (206) 654-7045	LOCATION: Lakewood, WA
CLIENT PROJECT #: PROJECT MANAGER: GSP	COLLECTOR: Greg Peterson DATE OF COLLECTION 12/11/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES VOA 601/8010	VOA 602/8020 8021B	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	Priority Pollutant Metals					FIELD NOTES	Total Number of Containers	Laboratory Note Number
P1			soil	4oz jar	X	X																				1	
P2			soil	4oz jar	X	X																				1	
P3			soil	4oz jar	X	X																				1	
W-1			water	4 voa's	X	X					X															4	
P4			s	4oz jar	X	X																				1	
P6			s	"	X	X																				1	
P7			s	"	X	X																				1	
P5			s	"	X	X																				1	
P9			s	"	X	X																				1	
W-2			water	2 voa's	X	X					X															2	
P10			s	4oz jar	X	X					X									X						2	
P11			s	"	X	X					X									~~X~~ e GSP						2	
P12			s	"	X	X					X									~~X~~ e GSP					Hold until told by Greg	2	
P13			s	"	X	X					X									X						2	
P14			s	"	X	X					X															2	
P15			s	"	X	X					X														Hold until told by Greg	2	
W-3			w	2 voas	X	X					X															2	
W-4			w	2 voas	X	X					X															2	

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	12/11/98 16:25		[signature] 12/11/98 1625
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	30
CHAIN OF CUSTODY SEALS Y/N/NA (NA circled)	
SEALS INTACT? Y/N/NA (NA circled)	
RECEIVED GOOD COND./COLD (GOOD COND. circled)	
NOTES:	

LABORATORY NOTES:
Told to run TPH at 305pm
FAX RESULTS
(206) 525 2336
VOICE = (206) 525 4565

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

~~Do not~~

Greg said to run rest of samples [illegible]

APPENDIX B

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS FOR ASSESSMENT CONDUCTED JANUARY 1999

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

LAKEWOOD MALL PHASE II PROJECT
Lakewood, Washington
Hillman Environmental, Inc.
Project No.: C1.1806.001

Diesel and Oil in Water by NWTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Diesel ug/l	Heavy Oil ug/l
Meth. Blank	1/11/99	116	nd	nd
5W	1/11/99	105	nd	nd
5W Dup.	1/11/99	116	nd	nd
6W	1/11/99	93	nd	nd
7W	1/11/99	93	nd	nd
8W	1/11/99	95	nd	nd
9W	1/11/99	66	nd	nd
10W	1/11/99	112	nd	nd
11W	1/11/99	100	nd	nd
12W	1/11/99	95	nd	nd
13W	1/11/99	125	nd	nd
14W	1/11/99	83	nd	nd
MDL			200	400

"nd" Indicates not detected at the listed detection Limit.
"int" Indicates that interference peaks prevent determination.

APPENDIX C

LABORATORY REPORTS, CHAIN-OF-CUSTODY RECORDS, AND SOIL PROBE RECORDS FOR ASSESSMENT CONDUCTED MAY - JUNE 2000

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 7, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02 Task 2.0
Laboratory Reference No. 0006-001

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 1, 2000.

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, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

NWTPH-HCID

Date Extracted: 6-1-00
Date Analyzed: 6-1-00

Matrix: Water
Units: mg/L (ppm)

Client ID:	P1	P3
Lab ID:	06-001-01	06-001-03
Gasoline:	ND	ND
PQL:	0.25	0.25
Diesel Fuel:	ND	ND
PQL:	0.63	0.63
Heavy Oil:	ND	ND
PQL:	0.63	0.63
Surrogate Recovery:		
o-Terphenyl	74%	67%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-1-00
Date Analyzed:	6-1-00
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0601W1
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	70%

Flags

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-02
Client ID:	**P2**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-001-02
Client ID: P2

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	113	75-139

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-03
Client ID:	**P3**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-001-03
Client ID: P3

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	114	75-139

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Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-04
Client ID:	**P4**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-04
Client ID: P4

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	115	75-139

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Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-05
Client ID: P5

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-05
Client ID: P5

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: June 7, 2000
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Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-06
Client ID:	**P6**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.29		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-06
Client ID: P6

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	93	71-133
Toluene-d8	99	80-151
4-Bromofluorobenzene	112	75-139

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METHOD BLANK QUALITY CONTROL
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Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0602W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0602W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	98	80-151
4-Bromofluorobenzene	116	75-139

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VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0602W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.0	100	10.3	103	2.8	
Benzene	10.0	9.91	99	9.93	99	0.2	
Trichloroethene	10.0	9.32	93	9.41	94	1.0	
Toluene	10.0	9.12	91	9.29	93	1.8	
Chlorobenzene	10.0	10.3	103	10.7	107	4.4	I

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02
Client ID: P2

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-03
Client ID: P3

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-04
Client ID: P4

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-05
Client ID: P5

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-06
Client ID: P6

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**2.6**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	6-6-00
Date Analyzed:	6-6-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0606D1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	.50	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	1.0	
Zinc	**ND**	**ND**	NA	50	

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**217**	109	**215**	107	0.95	
Arsenic	55	**237**	118	**213**	107	10	
Beryllium	200	**222**	111	**208**	104	6.3	
Cadmium	200	**220**	110	**207**	103	6.1	
Chromium	200	**220**	110	**210**	105	4.7	
Copper	200	**210**	105	**201**	101	4.1	
Lead	27.5	**231**	115	**218**	109	5.8	
Mercury	5.0	**5.15**	103	**5.17**	103	0.39	
Nickel	200	**210**	105	**199**	99	5.6	
Selenium	55	**235**	117	**212**	106	10	
Silver	200	**216**	108	**207**	103	4.5	
Thallium	27.5	**235**	117	**215**	107	8.9	
Zinc	200	**226**	113	**216**	108	4.3	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Chain of Custody

Turnaround Request (in working days) (Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☒ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ 6/6 [crossed out] (other)

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1640.02/TASK 2.0

Project Name: LAKESA II

Project Manager: PETER JUWISE

Project Chemist: DAVID BAUMEISTER

Laboratory No. 06-001

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	*DISSOLVED PRIORITY POLLUTANT METALS						% Moisture
1	P1	5/31/00	09:30	W	2	X																			
2	P2	5/31/00	11:05	W	4				X										X						
3	P3	5/31/00	12:25	W	6	X			X										X						
4	P4	5/31/00	13:40	W	4				X										X						
5	P5	5/31/00	14:45	W	4				X										X						
6	P6	5/31/00	15:55	W	4				X										X						

RELINQUISHED BY	DATE	RECEIVED BY	DATE
[signature]	6/1/00	[signature]	6.1.00
FIRM: HERRERA	TIME: 6:33 am	FIRM: OSE	TIME: 6:30 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
* SAMPLE HAS BEEN FIELD FILTERED THRU 0.45 MICRON IN-LINE FILTER.
PP METALS = Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn
CALL PETER JUWISE AS SOON AS RESULTS COME IN.

Chromatographs with final report ☐

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 7, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02
Laboratory Reference No. 0006-018

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 2, 2000.

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,

for David Baumeister
Project Manager

Enclosures

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID

Date Extracted: 6-5-00
Date Analyzed: 6-5-00

Matrix: Water
Units: mg/L (ppm)

Client ID:	P9	P10	P11
Lab ID:	06-018-01	06-018-02	06-018-03
Gasoline:	ND	ND	ND
PQL:	0.25	0.25	0.25
Diesel Fuel:	ND	ND	ND
PQL:	0.63	0.63	0.63
Heavy Oil:	ND	ND	ND
PQL:	0.63	0.63	0.63
Surrogate Recovery:			
o-Terphenyl	90%	84%	95%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID

Date Extracted:	6-5-00
Date Analyzed:	6-5-00
Matrix:	Water
Units:	mg/L (ppm)
Client ID:	P16
Lab ID:	06-018-05
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	87%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-5-00
Date Analyzed:	6-5-00
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0605W1
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	80%

Flags

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-018-03
Client ID:	**P11**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	0.23		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
Toluene	0.27		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-03
Client ID: P11

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.24		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	0.30		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	160		10
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	115	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-018-04
Client ID: P12

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	28		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	0.36		0.20
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	6.5		0.20
1,1-Dichloroethane	5.8		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	400		2.0
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	9.5		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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	4.2		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-04
Client ID: P12

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		10
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	71-133
Toluene-d8	96	80-151
4-Bromofluorobenzene	112	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0602W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Lab ID: MB0602W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	98	80-151
4-Bromofluorobenzene	116	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0602W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.0	100	10.3	103	2.8	
Benzene	10.0	9.91	99	9.93	99	0.2	
Trichloroethene	10.0	9.32	93	9.41	94	1.0	
Toluene	10.0	9.12	91	9.29	93	1.8	
Chlorobenzene	10.0	10.3	103	10.7	107	4.4	I

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☒ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☐ 4/7 (other)

Project Chemist: DAVID BAUMEISTER

Laboratory No. 06-018

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1640.02

Project Name: LAKESA II

Project Manager: PETER JOWISE

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P9	6/1/00	0850	W	2	X													
2	P10	6/1/00	0935	W	2	X													
3	P11	6/1/00	1130	W	5	X			X										
4	P12	6/1/00	1155	W	3				X										
5	P16	6/1/00	1735	W	2	X													

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Dennis M. Phelan	6-2-00	[signature]	6.2.00
FIRM HERRERA	TIME 07:15	FIRM OSE	TIME 7:15 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

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Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East o Tacoma, WA 98424
(253) 922-2310 o FAX (253) 922-5047
e-mail: info@saslab.com

TRANSMITTAL MEMORANDUM

DATE: June 15, 2000

TO: Peter Jowise
Herrera Environmental Consultants
2200 Sixth Ave., Ste. 601
Seattle, WA 98121

PROJECT: LAKESA II-LAKEWOOD MALL CIL640.02

REPORT NUMBER: 90106

Enclosed are the test results for nine samples received at Sound Analytical Services on June 2, 2000.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers and analytical narrative when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (253) 922-2310.

Sincerely,

Dawn Werner
Project Manager

SOUND ANALYTICAL SERVICES, INC.

Client Name Herrera Environmental Consultants
Project Name LAKESA II-LAKEWOOD MALL
CIL640.02
Date Received 06-02-00

General Chemistry Parameters

Client Sample ID P4
Lab ID 90106-01

Parameter	Method	Date Analyzed	Units	Result	PQL
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.07	0.01

Client Sample ID P6
Lab ID 90106-02

Parameter	Method	Date Analyzed	Units	Result	PQL
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.05	0.01

Client Sample ID P10
Lab ID 90106-03

Parameter	Method	Date Analyzed	Units	Result	PQL
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.07	0.01

Client Sample ID P12
Lab ID 90106-04

Parameter	Method	Date Analyzed	Units	Result	PQL
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.25	0.01

Client Sample ID P13
Lab ID 90106-05

Parameter	Method	Date Analyzed	Units	Result	PQL
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.06	0.01

SOUND ANALYTICAL SERVICES, INC.

	Client Sample ID		P14		
	Lab ID		90106-06		
Parameter	**Method**	**Date Analyzed**	**Units**	**Result**	**PQL**
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.04	0.01

	Client Sample ID		SD1		
	Lab ID		90106-07		
Parameter	**Method**	**Date Analyzed**	**Units**	**Result**	**PQL**
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.05	0.01

	Client Sample ID		SD2		
	Lab ID		90106-08		
Parameter	**Method**	**Date Analyzed**	**Units**	**Result**	**PQL**
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.07	0.01

	Client Sample ID		SD3		
	Lab ID		90106-09		
Parameter	**Method**	**Date Analyzed**	**Units**	**Result**	**PQL**
Total Phosphorus	EPA 365.1	06-14-00	mg/L	0.07	0.01

SOUND ANALYTICAL SERVICES, INC.

QUALITY CONTROL REPORT

Client Sample ID: Batch QC
Lab ID: 90077-01
QC Batch Number: R2003

Method Blank

Parameter	Result (mg/L)	PQL
Total Phosphorus	ND	0.01

Duplicate

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	RPD (%)	Flag
Total Phosphorus	0.06	0.06	0.0	

Matrix Spike

Parameter	Sample Result (mg/L)	Matrix Spike Result (mg/L)	Spike Amount (mg/L)	Recovery (%)	Flag
Total Phosphorus	0.06	0.21	0.20	75	

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: info@saslab.com

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C1: Second column confirmation was performed. The relative percent difference value (RPD) between the results on the two columns was evaluated and determined to be $\leq 40\%$.

C2: Second column confirmation was performed. The RPD between the results on the two columns was evaluated and determined to be $> 40\%$. The higher result was reported unless anomalies were noted.

M: GC/MS confirmation was performed. The result derived from the original analysis was reported.

D: The reported result for this analyte was calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range and should be considered an estimated quantity.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

N: See analytical narrative.

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____ .

X2: Contaminant does not appear to be "typical" product.

X3: Identification and quantitation of the analyte or surrogate was complicated by matrix interference.

X4: RPD for duplicates was outside advisory QC limits. The sample was re-analyzed with similar results. The sample matrix may be nonhomogeneous.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike recovery was not determined due to the required dilution.

X6: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery and/or RPD values for matrix spike(/matrix spike duplicate) outside advisory QC limits. Matrix interference may be indicated based on acceptable blank spike recovery and/or RPD.

X7a: Recovery and/or RPD values for this spiked analyte outside advisory QC limits due to high concentration of the analyte in the original sample.

X8: Surrogate recovery was not determined due to the required dilution.

X9: Surrogate recovery outside advisory QC limits due to matrix interference.

Sound Analytical Services, Inc.
ANALYTICAL & ENVIRONMENTAL CHEMISTS
4813 Pacific Hwy East • Tacoma, WA 98424
(253) 922-2310 • FAX (253) 922-5047
e-mail: sainc1@uswest.net

RECEIVED 6/2

7/3 SAS Lab No. 90106

TURNAROUND REQUEST (business days)
Standard (10 days) X
RUSH: 24 hrs ___ 48 hrs ___ 5 day ___

CHAIN OF CUSTODY/REQUEST FOR LABORATORY ANALYSIS

Client: HERRERA ENVIRONMENTAL
Project Name: LAKESA II - LAKEWOOD MALL C1640.02
Contact: PETER JOWISE
Phone No.: 206-441-9080
Fax No.: 206-441-9108
Email: pjowise@herreraINC.com

Analyses Requested

Lab Use Only	Sample ID	Date	Time	Matrix	# of Containers	DISSOLVED * 365.1 PHOSPHORUS	TOTAL PHOSPHORUS 365.1
1	P4	5/31/00	1340	W	1	X	
2	P6	5/31/00	1555	W	1	X	
3	P10	6/1/00	0935	W	1	X	
4	P12	6/1/00	1155	W	1	X	
5	P13	6/1/00	1305	W	1	X	
6	P14	6/1/00	1425	W	1	X	
7							
8	SD1	6/1/00	1055	W	1		X
9	SD2	6/1/00	1830	W	1		X
10	SD3	6/1/00	1915	W	1		X

BOTTLES FOR DISSOLVED PHOSPHORUS NEEDS TO BE PRESERVED AS SOON AS COOLER ARRIVES AT LAB

	Signature	Printed Name	Firm	Time/Date
Relinquished By:	Diana M. Phelan	DIANA M. PHELAN	HERRERA	13:00 / 6-2-00
Received By	A Strom	A Strom	SAS	6/2/00 1250
Relinquished By:				
Received By				
Relinquished By:				
Received By				

Special Instructions:
* SAMPLE HAS BEEN FIELD FILTERED THRU 0.45 MICRO IN-LINE FILTER FOR DISSOLVED PHOSPHORUS
CALL OR FAX RESULTS TO PETER JOWISE AS SOON AS RESULTS BECOME AVAILABLE

COC No. _____

Page 1 of 1

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 16, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02
Laboratory Reference No. 0006-018

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 2, 2000.

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 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-15-00
Date Analyzed:	6-15-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-018-05
Client ID:	**P16**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.27		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-05
Client ID: P16

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		1.0
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	109	71-133
Toluene-d8	109	80-151
4-Bromofluorobenzene	104	75-139

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Date Extracted:	6-15-00
Date Analyzed:	6-15-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0615W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	9.7		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Lab ID: MB0615W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		1.0
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	107	71-133
Toluene-d8	108	80-151
4-Bromofluorobenzene	102	75-139

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-15-00
Date Analyzed: 6-16-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0615W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.6	106	10.7	107	1.3	
Benzene	10.0	9.97	100	8.47	85	16	L
Trichloroethene	10.0	9.87	99	10.6	106	7.2	
Toluene	10.0	9.90	99	9.65	97	2.5	
Chlorobenzene	10.0	9.96	100	9.64	96	3.3	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☒ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☐ 6/7 (other)

Project Chemist: DAVID BAUMEISTER

Laboratory No. 06-018

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1640.02

Project Name: LAKESAII

Project Manager: PETER JOWISE

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P9	6/1/00	0850	W	2	X													
2	P10	6/1/00	0935	W	2	X													
3	P11	6/1/00	1030	W	5	X			X										
4	P12	6/1/00	1155	W	3				X										
5	P16	6/1/00	1735	W	2	X			⊗										

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Donna M. Phelan	6-2-00	[signature]	6.2.00
FIRM HERRERA	TIME 07:15	FIRM OSE	TIME 7:15 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 6/14/00. DB. 2 DAY.

Chromatographs with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 7, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02 Task 2.0
Laboratory Reference No. 0006-001

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 1, 2000.

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, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

NWTPH-HCID

Date Extracted:	6-1-00
Date Analyzed:	6-1-00
Matrix:	Water
Units:	mg/L (ppm)

Client ID:	P1	P3
Lab ID:	06-001-01	06-001-03
Gasoline:	ND	ND
PQL:	0.25	0.25
Diesel Fuel:	ND	ND
PQL:	0.63	0.63
Heavy Oil:	ND	ND
PQL:	0.63	0.63
Surrogate Recovery:		
o-Terphenyl	74%	67%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-1-00
Date Analyzed:	6-1-00
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0601W1
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	70%

Flags

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02
Client ID: P2

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-001-02
Client ID: P2

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	113	75-139

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Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-03
Client ID: P3

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-03
Client ID: P3

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	114	75-139

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Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-04
Client ID:	**P4**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-04
Client ID: **P4**

Compound	**Results**	**Flags**	**PQL**
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	**Percent Recovery**	**Control Limits**
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	115	75-139

Date of Report: June 7, 2000
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Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-05
Client ID:	**P5**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-05
Client ID: P5

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: June 7, 2000
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Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-001-06
Client ID:	**P6**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.29		0.20
1,3-Dichloropropane	ND		0.20

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Lab ID: 06-001-06
Client ID: P6

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	93	71-133
Toluene-d8	99	80-151
4-Bromofluorobenzene	112	75-139

Date of Report: June 7, 2000
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METHOD BLANK QUALITY CONTROL
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Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0602W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0602W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	98	80-151
4-Bromofluorobenzene	116	75-139

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0602W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.0	100	10.3	103	2.8	
Benzene	10.0	9.91	99	9.93	99	0.2	
Trichloroethene	10.0	9.32	93	9.41	94	1.0	
Toluene	10.0	9.12	91	9.29	93	1.8	
Chlorobenzene	10.0	10.3	103	10.7	107	4.4	I

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02
Client ID: P2

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-03
Client ID: P3

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-04
Client ID: P4

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-05
Client ID: P5

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-06
Client ID: P6

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**2.6**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	6-6-00
Date Analyzed:	6-6-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0606D1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	1.0
Zinc	200.8	**ND**	50

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	.50	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	1.0	
Zinc	**ND**	**ND**	NA	50	

Date of Report: June 7, 2000
Samples Submitted: June 1, 2000
Lab Traveler: 06-001
Project: C1640.02 Task 2.0

DISSOLVED METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Filtered: 5-31-00
Date Analyzed: 6-6-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 06-001-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**217**	109	**215**	107	0.95	
Arsenic	55	**237**	118	**213**	107	10	
Beryllium	200	**222**	111	**208**	104	6.3	
Cadmium	200	**220**	110	**207**	103	6.1	
Chromium	200	**220**	110	**210**	105	4.7	
Copper	200	**210**	105	**201**	101	4.1	
Lead	27.5	**231**	115	**218**	109	5.8	
Mercury	5.0	**5.15**	103	**5.17**	103	0.39	
Nickel	200	**210**	105	**199**	99	5.6	
Selenium	55	**235**	117	**212**	106	10	
Silver	200	**216**	108	**207**	103	4.5	
Thallium	27.5	**235**	117	**215**	107	8.9	
Zinc	200	**226**	113	**216**	108	4.3	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.

14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Chain of Custody

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1640.02/TASK 2.0

Project Name: LAKESA II

Project Manager: PETER JUWISE

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☒ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ 6/6 (other)

Project Chemist: DAVID BAUMEISTER

Laboratory No. 06-001

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	*DISSOLVED PRIORITY POLLUTANT METALS						% Moisture
1	P1	5/31/00	09:30	W	2	X																			
2	P2	5/31/00	11:05	W	4				X										X						
3	P3	5/31/00	12:25	W	6	X			X										X						
4	P4	5/31/00	13:40	W	4				X										X						
5	P5	5/31/00	14:45	W	4				X										X						
6	P6	5/31/00	15:55	W	4				X										X						

RELINQUISHED BY	DATE	RECEIVED BY	DATE
[illegible]	6/1/00	[illegible]	6.1.00
FIRM: HERRERA	TIME: 6:33 am	FIRM: OSE	TIME: 6:30 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
*SAMPLE HAS BEEN FIELD FILTERED THRU 0.45 MICRON IN-LINE FILTER.
PP METALS = Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn
CALL PETER JUWISE AS SOON AS RESULTS COME IN.

Chromatographs with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 7, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02
Laboratory Reference No. 0006-018

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 2, 2000.

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,

for David Baumeister
Project Manager

Enclosures

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID

Date Extracted: 6-5-00
Date Analyzed: 6-5-00

Matrix: Water
Units: mg/L (ppm)

Client ID:	P9	P10	P11
Lab ID:	06-018-01	06-018-02	06-018-03
Gasoline:	ND	ND	ND
PQL:	0.25	0.25	0.25
Diesel Fuel:	ND	ND	ND
PQL:	0.63	0.63	0.63
Heavy Oil:	ND	ND	ND
PQL:	0.63	0.63	0.63
Surrogate Recovery:			
o-Terphenyl	90%	84%	95%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID

Date Extracted:	6-5-00
Date Analyzed:	6-5-00
Matrix:	Water
Units:	mg/L (ppm)
Client ID:	P16
Lab ID:	06-018-05
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	87%

Flags:

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	6-5-00
Date Analyzed:	6-5-00
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0605W1
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	80%

Flags

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-018-03
Client ID:	**P11**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	0.23		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
Toluene	0.27		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-03
Client ID: P11

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.24		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	0.30		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	160		10
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-133
Toluene-d8	97	80-151
4-Bromofluorobenzene	115	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-018-04
Client ID:	**P12**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	28		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	0.36		0.20
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	6.5		0.20
1,1-Dichloroethane	5.8		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	400		2.0
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	9.5		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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	4.2		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-04
Client ID: P12

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		10
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	92	71-133
Toluene-d8	96	80-151
4-Bromofluorobenzene	112	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Date Extracted:	6-2-00
Date Analyzed:	6-2-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0602W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Lab ID: MB0602W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	89	71-133
Toluene-d8	98	80-151
4-Bromofluorobenzene	116	75-139

Date of Report: June 7, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-2-00
Date Analyzed: 6-2-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0602W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.0	100	10.3	103	2.8	
Benzene	10.0	9.91	99	9.93	99	0.2	
Trichloroethene	10.0	9.32	93	9.41	94	1.0	
Toluene	10.0	9.12	91	9.29	93	1.8	
Chlorobenzene	10.0	10.3	103	10.7	107	4.4	I

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: HERRERA ENVIRONMENTAL CONSULTANTS
Project No.: C1640.02
Project Name: LAKESAII
Project Manager: PETER JOWISE

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☒ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ 6/7 (other)

Project Chemist: DAVID BAUMEISTER

Laboratory No. 06-018

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P9	6/1/00	0850	W	2	X													
2	P10	6/1/00	0935	W	2	X													
3	P11	6/1/00	1030	W	5	X			X										
4	P12	6/1/00	1155	W	3				X										
5	P16	6/1/00	1735	W	2	X													

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Dennis M. Phelan	6-2-00	[signature]	6.2.00
FIRM: HERRERA	TIME: 07:15	FIRM: QSE	TIME: 7:15 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

June 16, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1640.02
Laboratory Reference No. 0006-018

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on June 2, 2000.

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 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	6-15-00
Date Analyzed:	6-15-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	06-018-05
Client ID:	**P16**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.27		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 06-018-05
Client ID: P16

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		1.0
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	109	71-133
Toluene-d8	109	80-151
4-Bromofluorobenzene	104	75-139

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Date Extracted: 6-15-00
Date Analyzed: 6-15-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0615W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	9.7		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

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

Lab ID: MB0615W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		1.0
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	107	71-133
Toluene-d8	108	80-151
4-Bromofluorobenzene	102	75-139

Date of Report: June 16, 2000
Samples Submitted: June 2, 2000
Lab Traveler: 06-018
Project: C1640.02

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 6-15-00
Date Analyzed: 6-16-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0615W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.6	106	10.7	107	1.3	
Benzene	10.0	9.97	100	8.47	85	16	L
Trichloroethene	10.0	9.87	99	10.6	106	7.2	
Toluene	10.0	9.90	99	9.65	97	2.5	
Chlorobenzene	10.0	9.96	100	9.64	96	3.3	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☒ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☐ 6/7 (other)

Company: HERRERA ENVIRONMENTAL CONSULTANTS
Project No.: C1640.02
Project Name: LAKESAII
Project Manager: PETER JOWISE

Project Chemist: DAVID BAUMEISTER
Laboratory No. 06-018

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P9	6/1/00	0850	W	2	X													
2	P10	6/1/00	0935	W	2	X													
3	P11	6/1/00	1030	W	5	X			X										
4	P12	6/1/00	1155	W	3				X										
5	P16	6/1/00	1735	W	2	X			⊗										

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Diana M. Phelan	6-2-00		6-2-00
FIRM HERRERA	TIME 07:15	FIRM OSE	TIME 7:15 am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 6/14/00. DB. 2 DAY.

Chromatographs with final report ☐

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS FOR ASSESSMENT CONDUCTED JULY - AUGUST 2000

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

July 19, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1712.01
Laboratory Reference No. 0007-075

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 14, 2000.

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: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

NWTPH-HCID

Date Extracted:	7-14-00
Date Analyzed:	7-17-00
Matrix:	Water
Units:	mg/L (ppm)
Client ID:	P17
Lab ID:	07-075-01
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	118%

Flags:

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

NWTPH-HCID
METHOD BLANK QUALITY CONTROL

Date Extracted:	7-14-00
Date Analyzed:	7-14-00
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0714W1
Gasoline:	ND
PQL:	0.25
Diesel Fuel:	ND
PQL:	0.63
Heavy Oil:	ND
PQL:	0.63
Surrogate Recovery:	
o-Terphenyl	90%

Flags

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	7-16-00
Date Analyzed:	7-16-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-075-01
Client ID:	**P17**

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	0.75		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

VOLATILES by EPA 8260B
page 2 of 2

Lab ID: 07-075-01
Client ID: P17

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	8.4		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	119	71-133
Toluene-d8	103	80-151
4-Bromofluorobenzene	112	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

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

Date Extracted:	7-16-00
Date Analyzed:	7-16-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0716W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

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

Lab ID: MB0716W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	122	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 7-16-00
Date Analyzed: 7-16-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0716W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	11.2	112	11.3	113	0.78	
Benzene	10.0	11.0	110	10.9	109	0.56	
Trichloroethene	10.0	10.4	104	10.3	103	1.0	
Toluene	10.0	10.3	103	9.93	99	3.4	
Chlorobenzene	10.0	9.96	100	10.1	101	1.5	

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted: 7-17-00
Date Analyzed: 7-17-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 07-075-02
Client ID: P18-4

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.066
Chloromethane	ND		0.066
Vinyl Chloride	ND		0.066
Bromomethane	ND		0.066
Chloroethane	ND		0.066
Trichlorofluoromethane	ND		0.066
1,1-Dichloroethene	ND		0.066
Methylene Chloride	ND		0.33
(trans) 1,2-Dichloroethene	ND		0.066
1,1-Dichloroethane	ND		0.066
2,2-Dichloropropane	ND		0.066
(cis) 1,2-Dichloroethene	ND		0.066
Chloroform	ND		0.066
1,1,1-Trichloroethane	ND		0.066
Carbon Tetrachloride	ND		0.066
1,1-Dichloropropene	ND		0.066
1,2-Dichloroethane	ND		0.066
Trichloroethene	ND		0.066
1,2-Dichloropropane	ND		0.066
Dibromomethane	ND		0.066
Bromodichloromethane	ND		0.066
2-Chloroethyl Vinyl Ether	ND		0.33
(cis) 1,3-Dichloropropene	ND		0.066
(trans) 1,3-Dichloropropene	ND		0.066
1,1,2-Trichloroethane	ND		0.066
Tetrachloroethene	ND		0.066
1,3-Dichloropropane	ND		0.066

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-075-02
Client ID: P18-4

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.066
1,2-Dibromoethane	ND		0.066
Chlorobenzene	ND		0.066
1,1,1,2-Tetrachloroethane	ND		0.066
Bromoform	ND		0.066
Bromobenzene	ND		0.066
1,1,2,2-Tetrachloroethane	ND		0.066
1,2,3-Trichloropropane	ND		0.066
2-Chlorotoluene	ND		0.066
4-Chlorotoluene	ND		0.066
1,3-Dichlorobenzene	ND		0.066
1,4-Dichlorobenzene	ND		0.066
1,2-Dichlorobenzene	ND		0.066
1,2-Dibromo-3-chloropropane	ND		0.33
1,2,4-Trichlorobenzene	ND		0.066
Hexachlorobutadiene	ND		0.33
1,2,3-Trichlorobenzene	ND		0.066

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	98	65-125
Toluene-d8	97	77-116
4-Bromofluorobenzene	106	67-133

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	7-17-00
Date Analyzed:	7-17-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	07-075-03
Client ID:	**P18-10**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.055
Chloromethane	ND		0.055
Vinyl Chloride	ND		0.055
Bromomethane	ND		0.055
Chloroethane	ND		0.055
Trichlorofluoromethane	ND		0.055
1,1-Dichloroethene	ND		0.055
Methylene Chloride	ND		0.27
(trans) 1,2-Dichloroethene	ND		0.055
1,1-Dichloroethane	ND		0.055
2,2-Dichloropropane	ND		0.055
(cis) 1,2-Dichloroethene	ND		0.055
Chloroform	ND		0.055
1,1,1-Trichloroethane	ND		0.055
Carbon Tetrachloride	ND		0.055
1,1-Dichloropropene	ND		0.055
1,2-Dichloroethane	ND		0.055
Trichloroethene	ND		0.055
1,2-Dichloropropane	ND		0.055
Dibromomethane	ND		0.055
Bromodichloromethane	ND		0.055
2-Chloroethyl Vinyl Ether	ND		0.27
(cis) 1,3-Dichloropropene	ND		0.055
(trans) 1,3-Dichloropropene	ND		0.055
1,1,2-Trichloroethane	ND		0.055
Tetrachloroethene	ND		0.055
1,3-Dichloropropane	ND		0.055

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 07-075-03
Client ID: P18-10

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.055
1,2-Dibromoethane	ND		0.055
Chlorobenzene	ND		0.055
1,1,1,2-Tetrachloroethane	ND		0.055
Bromoform	ND		0.055
Bromobenzene	ND		0.055
1,1,2,2-Tetrachloroethane	ND		0.055
1,2,3-Trichloropropane	ND		0.055
2-Chlorotoluene	ND		0.055
4-Chlorotoluene	ND		0.055
1,3-Dichlorobenzene	ND		0.055
1,4-Dichlorobenzene	ND		0.055
1,2-Dichlorobenzene	ND		0.055
1,2-Dibromo-3-chloropropane	ND		0.27
1,2,4-Trichlorobenzene	ND		0.055
Hexachlorobutadiene	ND		0.27
1,2,3-Trichlorobenzene	ND		0.055

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	102	65-125
Toluene-d8	98	77-116
4-Bromofluorobenzene	108	67-133

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

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

Date Extracted:	7-17-00
Date Analyzed:	7-17-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0717S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.050
Chloromethane	ND		0.050
Vinyl Chloride	ND		0.050
Bromomethane	ND		0.050
Chloroethane	ND		0.050
Trichlorofluoromethane	ND		0.050
1,1-Dichloroethene	ND		0.050
Methylene Chloride	ND		0.25
(trans) 1,2-Dichloroethene	ND		0.050
1,1-Dichloroethane	ND		0.050
2,2-Dichloropropane	ND		0.050
(cis) 1,2-Dichloroethene	ND		0.050
Chloroform	ND		0.050
1,1,1-Trichloroethane	ND		0.050
Carbon Tetrachloride	ND		0.050
1,1-Dichloropropene	ND		0.050
1,2-Dichloroethane	ND		0.050
Trichloroethene	ND		0.050
1,2-Dichloropropane	ND		0.050
Dibromomethane	ND		0.050
Bromodichloromethane	ND		0.050
2-Chloroethyl Vinyl Ether	ND		0.25
(cis) 1,3-Dichloropropene	ND		0.050
(trans) 1,3-Dichloropropene	ND		0.050
1,1,2-Trichloroethane	ND		0.050
Tetrachloroethene	ND		0.050
1,3-Dichloropropane	ND		0.050

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

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

Lab ID: MB0717S1

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.050
1,2-Dibromoethane	ND		0.050
Chlorobenzene	ND		0.050
1,1,1,2-Tetrachloroethane	ND		0.050
Bromoform	ND		0.050
Bromobenzene	ND		0.050
1,1,2,2-Tetrachloroethane	ND		0.050
1,2,3-Trichloropropane	ND		0.050
2-Chlorotoluene	ND		0.050
4-Chlorotoluene	ND		0.050
1,3-Dichlorobenzene	ND		0.050
1,4-Dichlorobenzene	ND		0.050
1,2-Dichlorobenzene	ND		0.050
1,2-Dibromo-3-chloropropane	ND		0.25
1,2,4-Trichlorobenzene	ND		0.050
Hexachlorobutadiene	ND		0.25
1,2,3-Trichlorobenzene	ND		0.050

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	104	65-125
Toluene-d8	97	77-116
4-Bromofluorobenzene	108	67-133

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 7-17-00
Date Analyzed: 7-17-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 07-075-03

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	2.50	2.34	94	2.12	85	9.7	
Benzene	2.50	2.25	90	2.23	89	0.89	
Trichloroethene	2.50	2.17	87	2.13	85	1.6	
Toluene	2.50	2.31	92	2.26	90	2.3	
Chlorobenzene	2.50	2.30	92	2.27	91	1.0	

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-16-00
Date Analyzed:	7-16-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-075-08
Client ID:	**P22**

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
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	1.0		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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.72		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-075-08
Client ID: P22

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	117	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-16-00
Date Analyzed:	7-16-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-075-09
Client ID:	**P24**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.47		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-075-09
Client ID: P24

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	120	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	113	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

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Date Extracted:	7-16-00
Date Analyzed:	7-16-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-075-10
Client ID:	**P26**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
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Lab ID: 07-075-10
Client ID: P26

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	121	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Date Extracted: 7-16-00
Date Analyzed: 7-16-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0716W1

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
Acetone	ND		5.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Lab ID: MB0716W1

Compound	Results	Flags	PQL
Methyl Isobutyl Ketone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	122	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	110	75-139

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 7-16-00
Date Analyzed: 7-16-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0716W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	11.2	112	11.3	113	0.78	
Benzene	10.0	11.0	110	10.9	109	0.56	
Trichloroethene	10.0	10.4	104	10.3	103	1.0	
Toluene	10.0	10.3	103	9.93	99	3.4	
Chlorobenzene	10.0	9.96	100	10.1	101	1.5	

Date of Report: July 19, 2000
Samples Submitted: July 14, 2000
Lab Traveler: 07-075
Project: C1712.01

Date Analyzed: 7-17-00

% MOISTURE

Client ID	Lab ID	% Moisture
P18-4	07-075-02	24
P18-10	07-075-03	10

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
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
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Day
- ☐ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ _____ (other)

Project Chemist: TDB

Laboratory No.

Company: HERRERA ENVIRONMENT CONSULTANTS

Project No.: C1712.01

Project Name: LAKE III

Project Manager: PETER JOWISE

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P17	7-12-00	10:30	GW	5	X			X										
2	P18-4	7-12-00	12:30	S	1					X									Y
3	P18-10	7-12-00	14:00	S	1					X									X
4	P19-6	7-12-00	15:10	S	1	HOLD													
5	P20-9	7-12-00	16:00	S	1	HOLD													
6	P21-9	7-12-00	16:45	S	1	HOLD													
7	P22-14	7-13-00	09:20	S	1	HOLD													
8	P22	7-13-00	09:30	GW	3					X									
9	P24	7-13-00	14:40	GW	3					X									
10	P26	7-13-00	16:40	GW	3					X									

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Diana M. Phelan	7-14-00		7/14/00
FIRM HERRERA	TIME 07:10	FIRM	TIME 7:10
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

July 24, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1712.01
Laboratory Reference No. 0007-111

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 18, 2000.

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: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-18-00
Date Analyzed:	7-19-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	07-111-01
Client ID:	**MW2D-10**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.063
Chloromethane	ND		0.063
Vinyl Chloride	ND		0.063
Bromomethane	ND		0.063
Chloroethane	ND		0.063
Trichlorofluoromethane	ND		0.063
1,1-Dichloroethene	ND		0.063
Methylene Chloride	ND		0.31
(trans) 1,2-Dichloroethene	ND		0.063
1,1-Dichloroethane	ND		0.063
2,2-Dichloropropane	ND		0.063
(cis) 1,2-Dichloroethene	ND		0.063
Chloroform	ND		0.063
1,1,1-Trichloroethane	ND		0.063
Carbon Tetrachloride	ND		0.063
1,1-Dichloropropene	ND		0.063
1,2-Dichloroethane	ND		0.063
Trichloroethene	ND		0.063
1,2-Dichloropropane	ND		0.063
Dibromomethane	ND		0.063
Bromodichloromethane	ND		0.063
2-Chloroethyl Vinyl Ether	ND		0.31
(cis) 1,3-Dichloropropene	ND		0.063
(trans) 1,3-Dichloropropene	ND		0.063
1,1,2-Trichloroethane	ND		0.063
Tetrachloroethene	ND		0.063
1,3-Dichloropropane	ND		0.063

Date of Report: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-111-01
Client ID: MW2D-10

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.063
1,2-Dibromoethane	ND		0.063
Chlorobenzene	ND		0.063
1,1,1,2-Tetrachloroethane	ND		0.063
Bromoform	ND		0.063
Bromobenzene	ND		0.063
1,1,2,2-Tetrachloroethane	ND		0.063
1,2,3-Trichloropropane	ND		0.063
2-Chlorotoluene	ND		0.063
4-Chlorotoluene	ND		0.063
1,3-Dichlorobenzene	ND		0.063
1,4-Dichlorobenzene	ND		0.063
1,2-Dichlorobenzene	ND		0.063
1,2-Dibromo-3-chloropropane	ND		0.31
1,2,4-Trichlorobenzene	ND		0.063
Hexachlorobutadiene	ND		0.31
1,2,3-Trichlorobenzene	ND		0.063

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	107	65-125
Toluene-d8	100	77-116
4-Bromofluorobenzene	102	67-133

Date of Report: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

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

Date Extracted:	7-18-00
Date Analyzed:	7-18-00
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0718S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.050
Chloromethane	ND		0.050
Vinyl Chloride	ND		0.050
Bromomethane	ND		0.050
Chloroethane	ND		0.050
Trichlorofluoromethane	ND		0.050
1,1-Dichloroethene	ND		0.050
Methylene Chloride	ND		0.25
(trans) 1,2-Dichloroethene	ND		0.050
1,1-Dichloroethane	ND		0.050
2,2-Dichloropropane	ND		0.050
(cis) 1,2-Dichloroethene	ND		0.050
Chloroform	ND		0.050
1,1,1-Trichloroethane	ND		0.050
Carbon Tetrachloride	ND		0.050
1,1-Dichloropropene	ND		0.050
1,2-Dichloroethane	ND		0.050
Trichloroethene	ND		0.050
1,2-Dichloropropane	ND		0.050
Dibromomethane	ND		0.050
Bromodichloromethane	ND		0.050
2-Chloroethyl Vinyl Ether	ND		0.25
(cis) 1,3-Dichloropropene	ND		0.050
(trans) 1,3-Dichloropropene	ND		0.050
1,1,2-Trichloroethane	ND		0.050
Tetrachloroethene	ND		0.050
1,3-Dichloropropane	ND		0.050

Date of Report: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

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

Lab ID: MB0718S1

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.050
1,2-Dibromoethane	ND		0.050
Chlorobenzene	ND		0.050
1,1,1,2-Tetrachloroethane	ND		0.050
Bromoform	ND		0.050
Bromobenzene	ND		0.050
1,1,2,2-Tetrachloroethane	ND		0.050
1,2,3-Trichloropropane	ND		0.050
2-Chlorotoluene	ND		0.050
4-Chlorotoluene	ND		0.050
1,3-Dichlorobenzene	ND		0.050
1,4-Dichlorobenzene	ND		0.050
1,2-Dichlorobenzene	ND		0.050
1,2-Dibromo-3-chloropropane	ND		0.25
1,2,4-Trichlorobenzene	ND		0.050
Hexachlorobutadiene	ND		0.25
1,2,3-Trichlorobenzene	ND		0.050

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	106	65-125
Toluene-d8	99	77-116
4-Bromofluorobenzene	103	67-133

Date of Report: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 7-18-00
Date Analyzed: 7-18-00

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 07-034-01

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	2.50	2.22	89	2.19	88	1.5	
Benzene	2.50	2.54	102	2.54	102	0.16	
Trichloroethene	2.50	2.30	92	2.36	94	2.6	
Toluene	2.50	2.43	97	2.48	99	2.2	
Chlorobenzene	2.50	2.52	101	2.51	100	0.61	

Date of Report: July 24, 2000
Samples Submitted: July 18, 2000
Lab Traveler: 07-111
Project: C1712.01

Date Analyzed: 7-18-00

% MOISTURE

Client ID	Lab ID	% Moisture
MW2D-10	07-111-01	20

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Day
- ☐ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ _____ (other)

Project Chemist: DR

Laboratory No. 07-111

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1712.01

Project Name: LAKE III

Project Manager: PETER JOWISE

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	MW2D-10	7-18-00	0900	S	1					X									X
2	MW2D-60	7-18-00	1130	S	1	HOLD													

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Diana M. Phelan	7-18-00	DR	7/18/00
FIRM: HERRERA	TIME: 15:36	FIRM: OSE	TIME: 1536
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME

REVIEWED BY

DATE REVIEWED

COMMENTS:

Chromatographs with final report ☐

DIS ION D: V nSite Yellc ort C nk - C py

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

July 26, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1712.01
Laboratory Reference No. 0007-139

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 20, 2000.

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: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-139-01
Client ID:	**P25**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.78		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 07-139-01
Client ID: P25

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	129	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	107	75-139

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-139-02
Client ID:	**P27**

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
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
Chloroform	0.21		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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.39		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 07-139-02
Client ID: P27

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	125	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	109	75-139

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-139-03
Client ID:	**P28**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.60		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
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Lab ID: 07-139-03
Client ID: P28

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	128	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	106	75-139

Date of Report: July 26, 2000
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HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0724W1

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Lab ID: MB0724W1

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	131	71-133
Toluene-d8	103	80-151
4-Bromofluorobenzene	109	75-139

Date of Report: July 26, 2000
Samples Submitted: July 20, 2000
Lab Traveler: 07-139
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 7-24-00
Date Analyzed: 7-24-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0724W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	11.2	112	11.1	111	1.3	
Benzene	10.0	12.2	122	11.6	116	4.7	
Trichloroethene	10.0	11.1	111	10.8	108	2.4	
Toluene	10.0	10.6	106	10.3	103	3.1	
Chlorobenzene	10.0	10.1	101	10.3	103	1.4	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

7-25 TUES

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☒ 2 Day ☒ 3 Day

☐ Standard
(Hydrocarbon analyses: 5 days, All other analyses: 7 days)

☒ 7/25
(other)

Project Chemist:

Laboratory No.

Company: HERRERA ENVIRONMENTAL CONSULTANTS

Project No.: C1712.01

Project Name: LAKE III

Project Manager: PETER JOWISE

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P25	7/20/00	1150	W	3					X									
2	P27	7/20/00	0945	W	3					X									
3	P26	7/20/00	1330	W	3					X									

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Diana M. Phelan	7-20-00		7-20-00
FIRM: HERRERA	TIME: 1537	FIRM: OSE	TIME: 15:37
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

July 26, 2000

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C1712.01
Laboratory Reference No. 0007-157

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on July 22, 2000.

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: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-157-01
Client ID:	**MW-1S**

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
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	5.0		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	0.45		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.80		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 07-157-01
Client ID: MW-1S

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	124	71-133
Toluene-d8	103	80-151
4-Bromofluorobenzene	103	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-157-02
Client ID:	**MW-1D**

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
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	0.29		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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.50		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-157-02
Client ID: MW-1D

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	133	71-133
Toluene-d8	104	80-151
4-Bromofluorobenzene	100	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted: 7-24-00
Date Analyzed: 7-24-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 07-157-03
Client ID: MW-2S

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
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	4.8		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	0.44		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.80		0.20
1,3-Dichloropropane	ND		0.20

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Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-157-03
Client ID: MW-2S

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	127	71-133
Toluene-d8	105	80-151
4-Bromofluorobenzene	104	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	07-157-04
Client ID:	**MW-2D**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.73		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-157-04
Client ID: MW-2D

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	130	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	106	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Date Extracted: 7-24-00
Date Analyzed: 7-24-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 07-157-05
Client ID: MW-3

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
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	1.1		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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.69		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B

Lab ID: 07-157-05
Client ID: **MW-3**

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	132	71-133
Toluene-d8	105	80-151
4-Bromofluorobenzene	105	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

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

Date Extracted:	7-24-00
Date Analyzed:	7-24-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0724W1

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

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

Lab ID: MB0724W1

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	131	71-133
Toluene-d8	103	80-151
4-Bromofluorobenzene	109	75-139

Date of Report: July 26, 2000
Samples Submitted: July 22, 2000
Lab Traveler: 07-157
Project: C1712.01

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 7-24-00
Date Analyzed: 7-24-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0724W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	11.2	112	11.1	111	1.3	
Benzene	10.0	12.2	122	11.6	116	4.7	
Trichloroethene	10.0	11.1	111	10.8	108	2.4	
Toluene	10.0	10.6	106	10.3	103	3.1	
Chlorobenzene	10.0	10.1	101	10.3	103	1.4	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: HERRERA ENVIRONMENTAL CONSULTANTS
Project No.: C1712.01
Project Name: LAKE III
Project Manager: PETER JOWISE

Turnaround Request (in working days)
(Check One)
- ☐ Same Day
- ☐ 1 Day
- ☒ 2 Day
- ☐ 3 Day
- ☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
- ☐ ______ (other)

Project Chemist: DAB
Laboratory No. [struck out]

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	MW-1S	7/21/00	12:30	W	3					X									
2	MW-1D	↓	11:30	W	3					X									
3	MW-2S	↓	12:00	W	3					X									
4	MW-2D	↓	15:15	W	3					X									
5	MW-3	↓	09:40	W	3					X									

RELINQUISHED BY: [signature]	DATE: 7-22-00	RECEIVED BY: Mark Lybeer	DATE: 7-22-00
FIRM: HERRERA	TIME: 09:55	FIRM: OnSite	TIME: 09:55
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

August 14, 2000

Diana Phelan
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project 1712
Laboratory Reference No. 0008-083

Dear Diana:

Enclosed are the analytical results and associated quality control data for samples submitted on August 9, 2000.

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: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B

Date Extracted: 8-10-00
Date Analyzed: 8-10-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: 08-083-01
Client ID: P-29

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	51		10
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	1.1		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	19		0.20
1,1-Dichloroethane	10		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	1300		10
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	78		10
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	21		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-01
Client ID: P-29

Compound	Results	Flags	PQL
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	0.46		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	121	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	95	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	8-10-00
Date Analyzed:	8-10-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-083-02
Client ID:	**P-30**

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
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	1.6		0.20
1,1-Dichloroethane	0.68		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	89		10
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	5.5		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.3		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-02
Client ID: P-30

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	119	71-133
Toluene-d8	108	80-151
4-Bromofluorobenzene	96	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	8-10-00
Date Analyzed:	8-10-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-083-03
Client ID:	**P-31**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	0.25		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	1.7		0.20
1,1-Dichloroethane	0.65		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	71		10
Chloroform	0.28		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	15		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	7.7		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-03
Client ID: P-31

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	123	71-133
Toluene-d8	109	80-151
4-Bromofluorobenzene	96	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	8-10-00
Date Analyzed:	8-10-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-083-04
Client ID:	**P-32**

Compound	**Results**	**Flags**	**PQL**
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	1.5		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	0.34		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	20		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	0.65		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.34		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-04
Client ID: P-32

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	118	71-133
Toluene-d8	106	80-151
4-Bromofluorobenzene	98	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	8-10-00
Date Analyzed:	8-10-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-083-05
Client ID:	**P-33**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	3.4		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-05
Client ID: P-33

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	123	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	98	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted:	8-10-00
Date Analyzed:	8-10-00
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	08-083-06
Client ID:	**P-34**

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	6.5		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 08-083-06
Client ID: P-34

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	123	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	97	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

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

Date Extracted: 8-10-00
Date Analyzed: 8-10-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0810W1

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
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
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		5.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

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

Lab ID: MB0810W1

Compound	Results	Flags	PQL
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		5.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	121	71-133
Toluene-d8	107	80-151
4-Bromofluorobenzene	96	75-139

Date of Report: August 14, 2000
Samples Submitted: August 9, 2000
Lab Traveler: 08-083
Project: 1712

HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 8-10-00
Date Analyzed: 8-10-00

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0810W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	10.7	107	10.8	108	1.6	
Benzene	10.0	10.9	109	11.2	112	2.2	
Trichloroethene	10.0	12.1	121	12.2	122	0.81	
Toluene	10.0	11.4	114	11.5	115	0.81	
Chlorobenzene	10.0	10.2	102	10.2	102	0.85	

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.

D - Data from 1:____ dilution.

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 inhomogeniety. 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; NWTPH-Dx recommended.

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
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page _____ of _____

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☒ 2 Day ☒ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☐ 2/11 (other)

Project Chemist: DP

Laboratory No. 08-083

Company:	Landau Associates
Project No.:	1212
Project Name:	Colman Mill
Project Manager:	Dana Phelps

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	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	P-21		0943	SO	3					X									
2	P-20		1000	SO															
3	P-31		1045	SO															
4	P-22		1050	SO															
5	P-23		1055	SO															
6	P-24		1100	SO	✓														
7	P-20 (MS)		1211	W	1														
8	P-22 (MSD)		1300	W	1														
9	P-23		1135	W	1														

Hold

RELINQUISHED BY	DATE	RECEIVED BY	DATE
	2/9/00		2/9/00
FIRM	TIME	FIRM	TIME
		ACL	12:00
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS: Please Hold No. 3 soil samples.

Chromatographs with final report ☐

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