ENVIRONMENTAL PARTNERS INC
10940 NE 33rd Place Suite 110 Bellevue, Was 98004 ph 206.889.4747 fax 206.889.4755

August 20, 1996

Ms. Sue Goertzan
Windermere Real Estate
2737 - 77th Avenue SE, Suite 100
Mercer Island, Washington 98040

Re: Phase II Environmental Site Assessment
6501-6515 California Avenue SW
Seattle, Washington 98116
EPI Project No. 15101.0

Dear Ms. Goertzan:

Environmental Partners, Inc. (EPI) is pleased to submit this letter report that documents a Phase II Environmental Site Assessment (ESA) conducted at 6501-6515 California Avenue SW, Seattle, Washington (subject property). This work was conducted in accordance with EPI's Phase II ESA proposal dated July 19, 1996. EPI received written authorization to proceed from Ms. Goertzan on July 23, 1996.

This letter report is divided into the following four sections: Introduction, Drilling and Sampling Methods, Analytical Methods and Results, and Conclusions and Recommendations. In addition, included as attachments to this letter report are site diagrams, soil boring logs, and laboratory data sheets and chain-of-custody documentation.

1.0 INTRODUCTION

EPI conducted a Phase II ESA at the subject property to determine if soil and/or ground water has been impacted by contaminants from former on-site sources. The scope of work for this project was based on a previous Phase I ESA of the subject property which was conducted by Northwest Envirocon, Inc. in March of 1996. Information from this report indicated that a portion of the subject property was previously occupied by Magic Cleaners, a dry cleaning operation. Soil boring locations were chosen near the portion of the subject property which previously contained the dry cleaning operation, near the present day Subway tennant space. Please note that EPI did not conduct a Phase I ESA for the subject property as part of the scope of this project.

The subject property is located at the southwest corner of the intersection of California Avenue SW and Fauntleroy Avenue SW as indicated on the Site Representation figure in Attachment A. The property consists of an irregular shaped building that is presently occupied by various commercial businesses. The subject property is bordered on the west and south by residential properties. Commercial properties are located across California Avenue to the east, and Fauntleroy Avenue to the north. Based on the surface topography, ground water would be expected to generally flow to the west.

2.0 DRILLING AND SAMPLING METHODS

2.1 Drilling Methods

EPI retained Transglobal Environmental Geosciences (TEG) to drill and collect subsurface soil and ground water samples from the area around the former dry cleaner. TEG used a Strataprobe drill rig to collect soil and ground water samples from temporary borings. A description of TEG's sampling methodology is provided below.

The Strataprobe is a truck-mounted drill rig that uses a 4,000-lb. per square inch hydraulic arm to push a 1-inch steel drill stem into the subsurface soil. When the Strataprobe drills to the desired sampling depth, a 2-inch split spoon soil sampler is attached to the end of the drill rod and pushed into the subsurface soil. Soil samples are then collected from the entire length of the split spoon sampler. For ground water sampling, a retractable stainless-steel screen is fitted to the down-hole end of the drill rod. When the sampling device is advanced to the desired sample location, the screen is then retracted inside the steel sleeve, exposing the screen to the ground water. A length of polyethylene tubing is advanced to the screened interval through the hollow steel rod that connects the sampling device to the Strataprobe. This tube is connected to a peristaltic pump for the withdrawal of a ground water sample volume.

After each boring was completed and soil and ground water samples were collected, the boring was filled with granular dry bentonite to the ground surface. This seals the boring and reduces the possibility that the boring will become a conduit for surface contaminants to reach subsurface soils and/or ground water.

2.2 Soil and Ground Water Sampling

Soil and ground water sampling was conducted on July 31, 1996. Under the direction of Mr. Eric Chapman and Ms. Kim Huguelet of EPI, TEG advanced soil borings at six locations on the subject property as indicated on the Site Representation figure in Attachment A. Soil characteristics for each boring were logged by Ms. Huguelet and are presented on the drilling logs included in Attachment B.

The objective of the sampling plan was to advance each soil boring to a depth of 20 feet below ground surface (bgs) or until ground water was encountered, whichever came first. EPI collected subsurface soil samples at each boring location. A portion of the sample was placed in a 4-ounce glass container and reserved for laboratory analysis. The remainder of the sample was placed in a resealable plastic bag for soil-type characterization and head space analysis.

Head space analysis was conducted using a photo ionizing detector (PID) that was inserted into the air space at the top of the plastic bag after the soil samples had warmed in the sun for approximately 15 minutes. PID measurements were then recorded for each sample to determine the relative

concentration of volatile organic compounds (VOCs) that volatized from the soil into the air space of the plastic bag. The PID measurements were recorded in the field logbook. PID head space measurements ranged from 11 ppm to 2,000 ppm. However, the EPI field geologist did not detect any noticable odors in the soils recovered from the borings. Due to the wide range of PID readings and the lack of observable indications of contamination (i.e. staining and odors), field personnel assumed that the PID was not operating properly.

All borings were advanced to 10 feet bgs because water was encountered at approximately 8 to 8.5 feet bgs. Soil samples were collected from each 3 foot interval, and at the soil/water interface. Soils collected from the boreholes consisted of fine to coarse grained sand with gravel, and occasional clay layers ranging from 1 inch to 1.5 feet in thickness.

A total of 18 soil samples were collected from the six soil borings. Water samples were collected from the first three borings (SB-1, SB-2, and SB-3). Because there were no observable indications of contamination in any of the soil borings, and EPI had only scheduled TEG for a one-half day investigation, water samples were not collected from borings SB-4, SB-5, or SB-6. In addition, EPI's scope of work, as presented in our proposal dated July 19, 1996, included collecting and analyzing only one ground water sample. However, all of the soil and ground water samples collected from the borings were submitted to TEG's laboratory in Lacey, Washington and placed on hold prior to analysis.

EPI used field observations and, to a lesser extent, the PID head space measurements to determine which soil samples to submit for analysis. In accordance with our proposal, EPI analyzed four soil samples (SB1-1'-4', SB3-4'-7', SB5-4'-7', and SB6-7'-10') and one ground water sample (SB-2W). After receiving the results of the intial analyses, EPI contacted Ms. Goertzan through Mr. Roy Wallace and requested permission to analyze two soil samples from the remaining two borings (SB2-7'-10', and SB4-7'-10') and one additional water sample (SB-3W). The ground water sample collected from boring SB-1 was not submitted for analysis because this first boring was completed through the saturated zone, and the sample recovered from the boring contained mostly sediment. In addition, this boring appeared to be up-gradient from borings SB-2 and SB-3.

Laboratory analytical methods and results are described in Section 3.0.

3.0 ANALYTICAL METHODS AND RESULTS

3.1 Laboratory Analytical Methods

Soil and ground water samples collected from the temporary borings were submitted to TEG's laboratory in Lacey, Washington for analysis. Samples were transported to TEG's laboratory in an ice-filled cooler under standard chain-of-custody protocol. Samples were analyzed by EPA Method 8010/8020 for specific halogentated hydrocarbons that are typical of dry cleaning operations.

3.2 Analytical Results

Analytical results of the soil and ground water samples collected from the borings are presented in Tables 1 and 2. The analytical results are compared to the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Ground Water and Soil Cleanup Levels (WAC 173-340-720(2)(a)(i) and 173-340-740(2)(a)(i)). Laboratory data sheets and chain-of-custody documentation are presented in Attachment C.

The analytical results, as presented in Table 1, indicate that tetrachloroethene concentrations were not detected above the MTCA Method A Soil Cleanup Level in the soil samples submitted for analysis. In addition, none of the degradation products associated with tetrachloroethene (e.g. trichloroethene and vinyl chloride) were identified in the samples.

Table 1
Soil Analytical Results (ppm)

	Sample Identification Number						
Compound	SB1-1'-4'	SB2-7'-10'	SB3-4'-7'	SB4-7'-10'	SB5-4'-7'	SB6-7'-10'	**MTCA**
Tetrachloroethene	ND	ND	ND	0.08	0.06	0.11	0.5

Notes:
ND = not detected at or above the laboratory method detection limit.
MTCA = Ecology's MTCA Method A Soil Cleanup Levels (WAC 173-340-740(2)(a)(i)).

Analytical results of the ground water sample collected from boring SB-2 (SB-2W) indicated a concentration of 6.5 parts per billion (ppb) tetrachloroethene which exceeds the MTCA Method A Ground Water Cleanup Level of 5.0 ppb. The concentration of tetrachloroethene detected in sample SB-3W sample submitted for analysis was below the MTCA Method A Ground Water Cleanup Level.

Table 2
Ground Water Analytical Results (ppb)

	Sample Identification Number		
Compound	SB-2W	SB-3W	**MTCA**
Tetrachloroethene	**6.5**	4.1	5

Notes:
Bold values exceed Ecology's MTCA Method A Ground Water Cleanup Levels (WAC 173-340-720(2)(a)(i)).

4.0 CONCLUSIONS AND RECOMMENDATIONS

EPI has performed a Phase II ESA of the subject property located at 6501-6515 California Avenue in Seattle, Washington. This investigation was conducted based on the former presence of a dry cleaning operation on the subject property. The Phase II ESA revealed evidence of tetrachloroethene contamination in soils and in ground water near the area of the former dry cleaning operation. Tetrachloroethene, also know and perchloroethene or PERC, is a solvent that is commonly used in dry cleaning operations. The concentrations of tetrachloroethene identified in one of the ground water samples is above the Ecology MTCA Method A Ground Water Cleanup Level.

At the direction of Mr. Louis Perez and Mr. Roy Wallace, EPI contacted Ms. Elaine Atkinson of Ecology's Northwest Regional Office (206-649-7042) to ask for recommendations regarding what additional actions should be taken at the site. Ms. Atkinson said that she could not give a determination over the telephone, but suggested that we schedule a technical assistance meeting with one of her staff members. Ecology may request that additional investigation and/or monitoring be conducted at the site. In contrast, they may determine that, based on the low concentrations of contaminants detected in the soil and ground water, additional work at the site is not necessary. EPI recommends that a meeting be scheduled with Ecology to discuss these findings. Upon request, we will be happy to accompany you to this meeting to discuss our findings and assist you with any further actions.

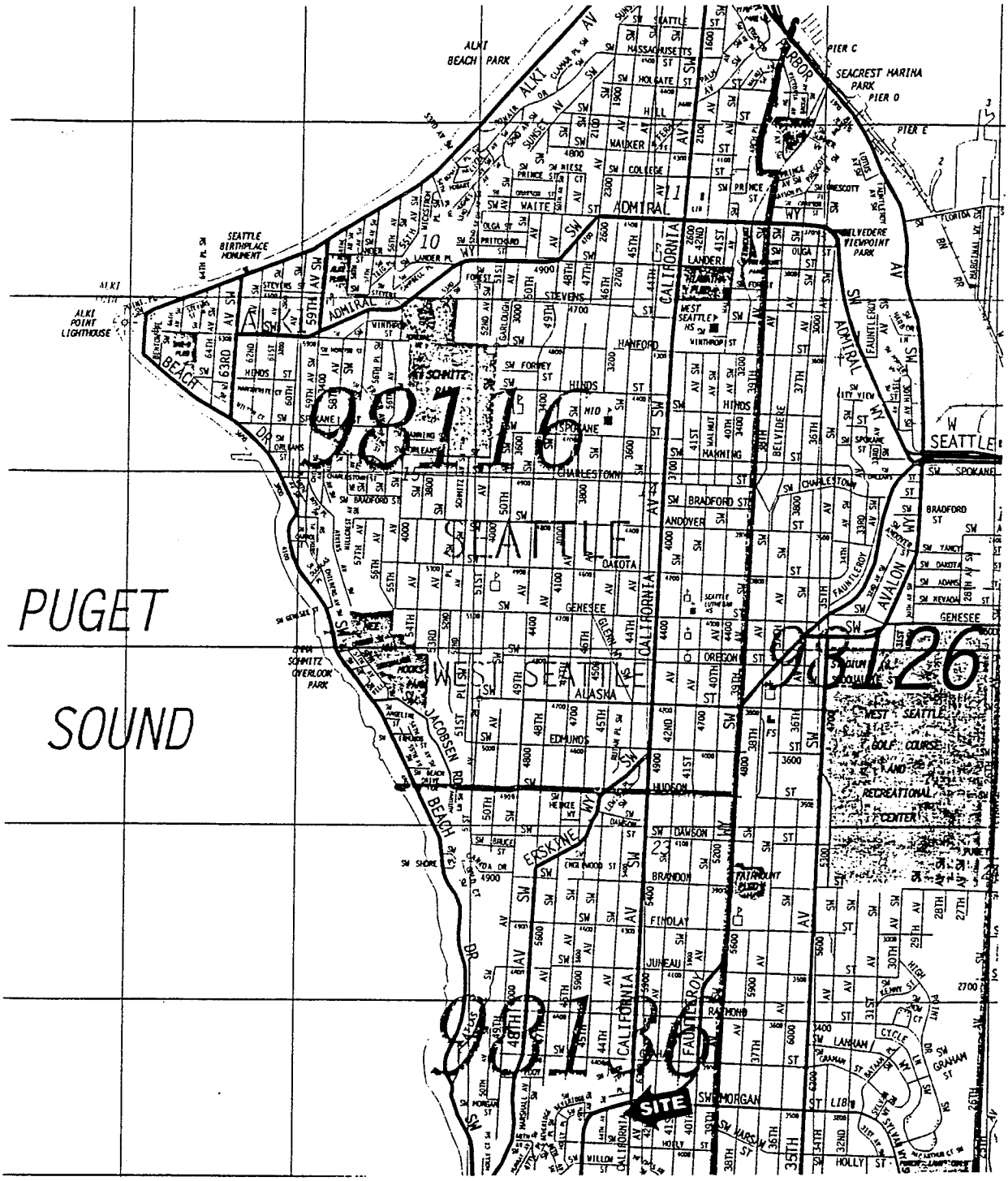
We appreciate the opportunity to have been of service to you. Please call us at (206) 889-4747 if you have any questions.

Sincerely,

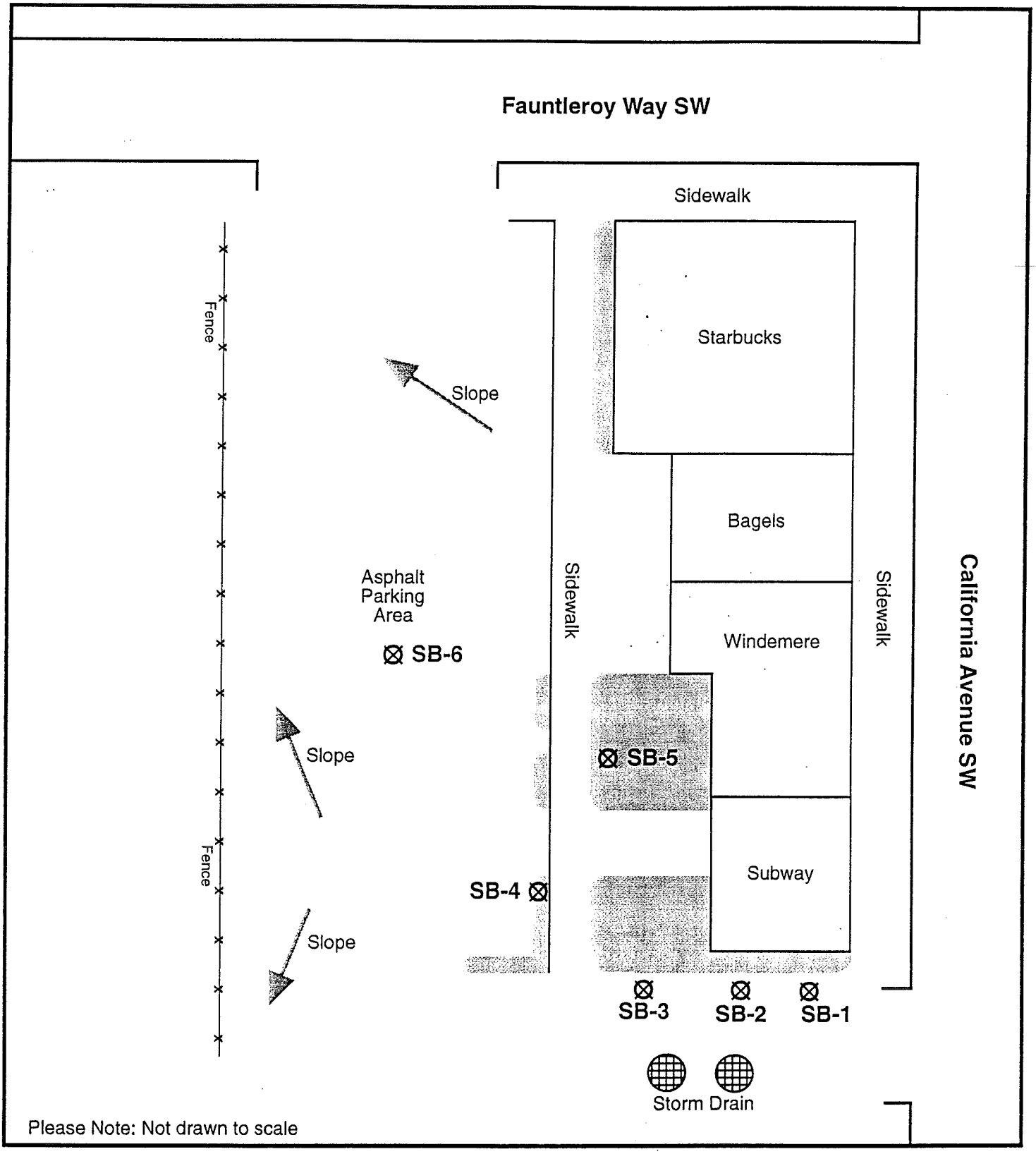
Eric K. Chapman, CHMM
Project Manager

Enc: Attachment A - Site Figures
Attachment B - Drilling Logs
Attachment C - Laboratory Data Sheets

Attachment A



ENVIRONMENTAL PARTNERS INC Date: August 20, 1996 Project No.: 15101.0 N	**General Vicinity Map** **Sue Goertzan Property** **6501-6515 California Avenue SW** **Seattle, Washington**	Source: Thomas Brothers Maps King/Pierce/Snohomish Counties Street Guide and Directory 1997



ENVIRONMENTAL PARTNERS INC

N

Date: August 20, 1996
Project No.: 15001.0

Site Representation
Sue Goertzan Property
6501-6515 California Avenue SW
Seattle, Washington

Key
- ⊠ Soil Boring Location
- Landscaped Areas

Attachment B

Borehole Log - Boring SB-2
Goertzan, Sue

Boring SB-2

Client	Goertzan, Sue	Job No.	15101.0
Drilling Contractor	TEG		
Drilling Method	Strataprobe		
Logged By	K. Huguelet		
Date	July 31, 1996		
Sheet #	1 of 1		

MEDIA G/S/W	SAMPLER TYPE	SAMPLE DEPTH (FT.) TOP	SAMPLE DEPTH (FT.) BOTTOM	BLOWS / 6" SAMPLER	IN. DRIVEN / IN. REC.	TIME	SAMPLE NAME	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION	COMMENTS
S	SS	1'	4'		36/36	8:30	SB2 1-4	1			1' - 2'2" 10 YR 6/2 pale yellowish-brown CLAY, some gravel, moist
								2			2'2" - 4' 10 YR 5/4 moderate yellowish-brown SAND, fine grain, trace of gravel, moist
								3			
								4			Headspace PID: 2,000 ppm
S	SS	4'	7'		36/36	8:40	SB2 4-7	5			4' - 7' 10 YR 5/4 SAND, fine to medium grained with some gravel, moist
								6			
								7			Headspace PID: 2,000 ppm
S/W	SS	8'	8'		36/36	8:50	SB2 7-10'	8			7' - 9' 10 YR 5/4 SAND, fine to medium grain, some gravel, moist
								9			Water 8'
								10			9' - 10' 5 GY 4/1 dark greenish-gray SAND, fine to medium grain, wet
											Headspace PID: 850 ppm

Borehole Log - Boring SB-3
Goertzan, Sue

Boring SB-3

Client	Goertzan, Sue	Job No.	15101.0
Drilling Contractor	TEG		
Drilling Method	Strataprobe		
Logged By	K. Huguelet		
Date	July 31, 1996		
Sheet #	1 of 1		

MEDIA G/S/W	SAMPLER TYPE	SAMPLE DEPTH (FT.) TOP	SAMPLE DEPTH (FT.) BOTTOM	BLOWS / 6" SAMPLER	IN. DRIVEN / IN. REC.	TIME	SAMPLE NAME	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION	COMMENTS
S	SS	2'	4'		36/24	9:30	SB3 1-4	1			
								2		2' - 3'9" 10 YR 5/4 moderate yellowish-brown SAND, fine to medium grain, some gravel, moist	
								3		3'9" - 4' 10 YR 6/2 yellowish-brown CLAY, some gravel, moist	Headspace PID: 2,000 ppm
S	SS	6'	7'		36/12	9:40	SB3 4-7	4			
								5			
								6		6' - 7' 10 YR 5/4 SAND, fine to medium grain, some gravel, moist	Headspace PID: 2,000 ppm
S/W	SS	7'	10'		36/36	9:50	SB3 7-10	7			
								8		7' - 9' 10 YR 5/4 SAND, fine to medium grain, some gravel, moist	Water 8.5'
								9		9' - 10' 5 GY 4/1 dark greenish-gray SAND, fine to medium grain, wet	Headspace, no reading taken
								10			

Borehole Log - Boring SB-4
Goertzan, Sue

Boring SB-4

Client	Goertzan, Sue	Job No.	15101.0
Drilling Contractor	TEG		
Drilling Method	Strataprobe		
Logged By	K. Huguelet		
Date	July 31, 1996		
Sheet #	1 of 1		

MEDIA G/S/W	SAMPLER TYPE	SAMPLE DEPTH (FT.) TOP	SAMPLE DEPTH (FT.) BOTTOM	BLOWS/6" SAMPLER	IN DRIVEN / IN REC.	TIME	SAMPLE NAME	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION	COMMENTS
S	SS	1'	4'		36/36	10:00	SB4 1-4	1			1' - 2'2" dark brown organic material
								2			2'2" - 4' 5 YR 4/1 pale yellowish-brown CLAY, some gravel, moist. Clay color grades to 5 GY 4/1, dark greenish-gray
								3			4" SAND lense at 3'
											2" SAND lense at 4'
								4			Headspace PID: 2,000 ppm
S	SS	4'	7'		36/36	10:10	SB4 4-7	5			4' - 7' 5 YR 4/1 to 10 YR 5/4 pale to moderate yellowish-brown SAND, fine to medium grain, some clay, some pebbles, moist
								6			5' - 7' iron-stained
								7			Headspace PID: 11.6 ppm
S	SS	7'	10'		36/36	10:20	SB4 7-10	8			7' - 9.5' olive-gray SAND, fine to medium grain, wet
								9			Water 8.5'
											9.5' - 10' medium gray SAND, medium to coarse grain, wet
								10			Headspace PID: 12.8 ppm

Borehole Log - Boring SB-5
Goertzan, Sue

Boring SB-5

Client	Goertzan, Sue	Job No.	15101.0
Drilling Contractor	TEG		
Drilling Method	Strataprobe		
Logged By	K. Huguelet		
Date	July 31, 1996		
Sheet #	1 of 1		

MEDIA G/S/W	SAMPLER TYPE	SAMPLE DEPTH (FT.) TOP	SAMPLE DEPTH (FT.) BOTTOM	BLOWS/6" SAMPLER	IN. DRIVEN / IN. REC.	TIME	SAMPLE NAME	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION	COMMENTS
S	SS	1'	4'		36/36	10:45	SB5 1-4	1			1' - 3'10" dark brown organic and fill material
								2			
								3			3'10" - 4' 10 YR 5/4 moderate yellowish-brown SAND, fine to coarse grain, moist
								4			Headspace PID: 35 ppm
S	SS	4.5'	7'		36/26	10:50	SB5 4-7				4'6" - 6' olive-gray CLAY, moist
								5			
								6			6' - 7' 10YR 5/4 iron-stained SAND, medium to coarse grain, some clay, some gravel, moist
								7			Headspace PID: 2,000 ppm
S	SS	7'	10'		36/36	11:00	SB5 7-10				7' - 10' olive-gray SAND, fine to coarse grain, wet
								8			
								9			Water 8' - 8.5'
								10			Headspace PID: 114 ppm

Borehole Log - Boring SB-6
Goertzan, Sue

Boring SB-6

Client	Goertzan, Sue	Job No.	15101.0
Drilling Contractor	TEG		
Drilling Method	Strataprobe		
Logged By	K. Huguelet		
Date	July 31, 1996		
Sheet #	1 of 1		

MEDIA G/S/W	SAMPLER TYPE	SAMPLE DEPTH (FT.) TOP	SAMPLE DEPTH (FT.) BOTTOM	BLOWS/6" SAMPLER	IN. DRIVEN / IN. REC.	TIME	SAMPLE NAME	DEPTH IN FEET	USCS SOIL TYPE	SOIL DESCRIPTION	COMMENTS
S	SS	2'	4'		36/24	11:10	SB6 1-4	1			
								2			2' - 3' fill, gravel and sand
								3			3' - 4' 10 YR 5/4 moderate yellowish-brown SAND, fine to medium grain, trace organics, some gravel, moist Headspace PID: 1,400 ppm
S	SS	4.5'	7'		36/30	11:25	SB6 4-7	4			
								5			4'6" - 7' olive-gray SAND, fine to coarse grain, some gravel, moist
								6			
								7			Headspace PID: 102 ppm
S	SS	8.5'	10'		36/16	11:35	SB6 7-10	8			Water 8'
								9			8'6" - 9' olive-gray SAND, fine to coarse grain, some gravel, moist 9' - 10' color grades to medium gray
								10			Headspace PID: 1,150 ppm

Attachment C

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST, INC.

7110 38th Drive SE
Lacey, Washington 98503

Mobile Environmental Laboratories
Environmental Sampling Services

Telephone: 360-459-4670
Fax: 360-459-3432

August 8, 1996

Eric Chapman
Environmental Partners Inc.
10940 NE. 33rd Place
Suite 110
Bellevue, WA 98004

Dear Mr. Chapman:

Please find enclosed the data reports from Strataprobe collection of soil and water samples at the West Seattle Project site, Project No. 15101.0, in West Seattle, Washington. Soil and water samples were analyzed for Specific Halogenated Hydrocarbons and BTEX by Modified EPA Method 8010/8020 on July 31, August 2 and 5, 1996.

The results of the analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for the sample collection and analytical work is also enclosed.

TEG Northwest appreciates the opportunity to have provided geosampling and analytical services to Environmental Partners for this project. It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

QA/QC FOR ANALYTICAL METHODS

GENERAL

The TEG Northwest Laboratory quality assurance and quality control (QA/QC) procedures are conducted following the guidelines and objectives which meet or exceed certification/-accreditation requirements of California DOHS, Washington DOE, and Oregon DEQ. The Quality Control Program is a consistent set of procedures which assures data quality through the use of appropriate blanks, replicate analyses, surrogate spikes, and matrix spikes, and with the use of reference standards that meet or exceed EPA standards.

When analyses are taking place on-site with the mobile lab, the need for Field Blanks or Travel/Trip Blanks is eliminated. If there is going to be a delay before sample preparation for analysis, the sample is stored at 4° C.

ANALYTICAL METHODS

TEG Northwest Labs use analytical methodologies which are in conformity with U. S. Environmental Protection Agency (EPA), Washington DOE, and Oregon DEQ methodologies. When necessary and appropriate due to the nature or composition of the sample, TEG may use variations of the methods which are consistent with recognized standards or variations used by the industry and government laboratories.

Purgeable Volatile Aromatics (BTEX, EPA 602/8020)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

Purgeable Volatile Halocarbons
(Chlorinated Hydrocarbons, EPA 601/8010,8021)

A blank and a calibration standard are run at the beginning of the day. The standard must be within 15% of the continuing calibration curve value. The standard is rerun at the end of the day if more than 10 samples have been run. All samples are prepared with a surrogate spike, and the recovery must be between 65% and 135%. At least 1 method blank is run per day.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

WEST SEATTLE PROJECT
West Seattle, Washington
Environmental Partners, Inc.
Project No.: 15101.0

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Soil

Sample-Number	MDL	Method Blank	SB1-1'-4'	SB3-4'-7'	SB5-4'-7'	SB6-7'-10'	SB6-7'-10' Dup
Date		07/31/96	07/31/96	07/31/96	07/31/96	07/31/96	07/31/96
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1,1 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Trans-1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Cis-1,2 Dichloroethene	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.05	nd	nd	nd	nd	nd	nd
Trichloroethene	0.05	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
Tetrachloroethene	0.05	nd	nd	nd	0.06	0.11	0.11
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
m,p-Xylene	0.05	nd	nd	nd	nd	nd	nd
o-Xylene	0.05	nd	nd	nd	nd	nd	nd
Dichloromethane	0.05	nd	nd	nd	nd	nd	nd
1,1 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,2 Dichloroethane	0.05	nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	0.05	nd	nd	nd	nd	nd	nd
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	nd	nd
1,1,2 Trichloroethane	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 (%)		123	107	101	102	101	103

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

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

WEST SEATTLE PROJECT
West Seattle, Washington
Environmental Partners, Inc.
Project No.: 15101.0

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Soil

Sample-Number	MDL	SB1-1'-4' MS	SB1-1'-4' MSD
Date		07/31/96	07/31/96
	mg/kg	mg/kg	mg/kg
1,1 Dichloroethene	0.05	1.18	1.18
Trans-1,2 Dichloroethene	0.05	0.95	0.93
Cis-1,2 Dichloroethene	0.05	0.96	0.93
Benzene	0.05	0.94	0.89
Trichloroethene	0.05	0.93	0.93
Toluene	0.05	0.85	1.04
Tetrachloroethene	0.05	0.90	0.89
Ethylbenzene	0.05	0.80	0.88
m,p-Xylene	0.05	1.83	1.73
o-Xylene	0.05	1.02	1.00
Dichloromethane	0.05	0.96	0.95
1,1 Dichloroethane	0.05	0.93	0.95
1,2 Dichloroethane	0.05	0.95	0.95
Chloroform	0.05	0.97	0.95
Carbon Tetrachloride	0.05	0.97	0.94
1,1,1 Trichloroethane	0.05	0.95	0.94
1,1,2 Trichloroethane	0.05	0.93	0.90
1,1,1,2-Tetrachloroethane	0.05	0.97	0.96
1,1,2,2-Tetrachloroethane	0.05	0.90	0.95
Spike Recovery (%)		86	96

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

"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

WEST SEATTLE PROJECT
West Seattle, Washington
Environmental Partners, Inc.
Project No.: 15101.0

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Soil

Sample-Number	MDL	SB1-1'-4' MS	SB1-1'-4' MSD					
Date		07/31/96	07/31/96					
	mg/kg	mg/kg	mg/kg					
1,1 Dichloroethene	0.05	1.18	1.18					
Trans-1,2 Dichloroethene	0.05	0.95	0.93					
Cis-1,2 Dichloroethene	0.05	0.96	0.93					
Benzene	0.05	0.94	0.89					
Trichloroethene	0.05	0.93	0.93					
Toluene	0.05	0.85	1.04					
Tetrachloroethene	0.05	0.90	0.89					
Ethylbenzene	0.05	0.80	0.88					
m,p-Xylene	0.05	1.83	1.73					
o-Xylene	0.05	1.02	1.00					
Dichloromethane	0.05	0.96	0.95					
1,1 Dichloroethane	0.05	0.93	0.95					
1,2 Dichloroethane	0.05	0.95	0.95					
Chloroform	0.05	0.97	0.95					
Carbon Tetrachloride	0.05	0.97	0.94					
1,1,1 Trichloroethane	0.05	0.95	0.94					
1,1,2 Trichloroethane	0.05	0.93	0.90					
1,1,1,2-Tetrachloroethane	0.05	0.97	0.96					
1,1,2,2-Tetrachloroethane	0.05	0.90	0.95					
Spike Recovery (%)		86	96					

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

"int" Indicates that interference peaks prevent determination.

WEST SEATTLE PROJECT
West Seattle, Washington
Environmental Partners, Inc.
Project No.: 15101.0

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Water

Sample-Number	MDL	Method Blank	SB-2W	SB-2W Dup	SB-3W	5 PPB MS	5 PPB MSD
Date	ug/l	08/02/96 ug/l	08/02/96 ug/l	08/02/96 ug/l	08/02/96 ug/l	08/02/96 ug/l	08/02/96 ug/l
Vinyl Chloride	1	nd	nd	nd	nd	--	--
1,1 Dichloroethene	1	nd	nd	nd	nd	5.4	4.6
Trans-1,2 Dichloroethene	1	nd	nd	nd	nd	5.5	5.9
Cis-1,2 Dichloroethene	1	nd	nd	nd	nd	5.6	5.1
Benzene	1	nd	nd	nd	nd	5.5	5.0
Trichloroethene	1	nd	nd	nd	nd	5.6	5.1
Toluene	1	nd	nd	nd	nd	5.7	5.2
Tetrachloroethene	1	nd	6.5	6.9	4.1	5.5	5.3
Ethylbenzene	1	nd	nd	nd	nd	6.0	5.2
m,p-Xylene	1	nd	nd	nd	nd	11.5	10.9
o-Xylene	1	nd	nd	nd	nd	5.2	4.5
Dichloromethane	1	nd	nd	nd	nd	5.6	5.8
1,1 Dichloroethane	1	nd	nd	nd	nd	5.6	5.6
1,2 Dichloroethane	1	nd	nd	nd	nd	5.2	5.9
Chloroform	1	nd	nd	nd	nd	5.5	5.1
Carbon Tetrachloride	1	nd	nd	nd	nd	5.5	5.7
1,1,1 Trichloroethane	1	nd	nd	nd	nd	5.5	5.0
1,1,2 Trichloroethane	1	nd	nd	nd	nd	5.5	5.9
1,1,1,2-Tetrachloroethane	1	nd	nd	nd	nd	5.7	5.5
1,1,2,2-Tetrachloroethane	1	nd	nd	nd	nd	5.7	5.5
Spike Recovery (%)		104	108	122	121	112	118

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

WEST SEATTLE PROJECT
West Seattle, Washington
Environmental Partners, Inc.
Project No.: 15101.0

Specific Halogenated Hydrocarbons and BTEX (Mod. EPA 8010/8020) in Soil

Sample-Number	MDL	Method Blank	SB2-7'-10'	SB4-7'-10'	SB4-7'-10' Dup	1 PPM MS	1 PPM MSD
Date		08/05/96	08/05/96	08/05/96	08/05/96	08/05/96	08/05/96
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
1,1 Dichloroethene	0.05	nd	nd	nd	nd	0.97	1.05
Trans-1,2 Dichloroethene	0.05	nd	nd	nd	nd	0.85	1.05
Cis-1,2 Dichloroethene	0.05	nd	nd	nd	nd	0.96	1.05
Benzene	0.05	nd	nd	nd	nd	0.83	0.88
Trichloroethene	0.05	nd	nd	nd	nd	1.03	1.04
Toluene	0.05	nd	nd	nd	nd	0.95	0.94
Tetrachloroethene	0.05	nd	nd	0.08	0.11	1.02	1.07
Ethylbenzene	0.05	nd	nd	nd	nd	0.83	1.10
m,p-Xylene	0.05	nd	nd	nd	nd	2.06	2.11
o-Xylene	0.05	nd	nd	nd	nd	1.00	0.89
Dichloromethane	0.05	nd	nd	nd	nd	0.98	1.04
1,1 Dichloroethane	0.05	nd	nd	nd	nd	0.94	1.06
1,2 Dichloroethane	0.05	nd	nd	nd	nd	0.95	1.04
Chloroform	0.05	nd	nd	nd	nd	0.97	0.94
Carbon Tetrachloride	0.05	nd	nd	nd	nd	1.05	1.01
1,1,1 Trichloroethane	0.05	nd	nd	nd	nd	1.05	0.92
1,1,2 Trichloroethane	0.05	nd	nd	nd	nd	0.98	0.98
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd	0.96	1.00
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd	0.94	0.92
Spike Recovery (%)		98	97	99	100	96	104

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

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

CHAIN-OF-CUSTODY RECORD

CLIENT: Environmental Partners

ADDRESS: 10910 NE 33rd Place, Bellevue WA

PHONE (206) 889-4747 FAX: (206) 889-4755

CLIENT PROJECT #: 15101.0 PROJECT MANAGER: Eric Chapman

DATE: 7-31-96 PAGE 1 OF 2

PROJECT NAME:

LOCATION: West Seattle

COLLECTOR: K Huguelet DATE OF COLLECTION 7-31-96

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH (8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	FIELD NOTES	Total Number of Containers	Laboratory Number
*	SB1-1-4'	4'	7:45	Soil	4oz	X	X															1	
	SB1-4-7'	7'	7:55	Soil	4oz	X																	
	SB1-7'-10'	10'	8:00			X																	
	SB2-1'-4'	4'	8:30			X																	
	SB2-4'-7'	7'	8:40			X																	
	SB2-7'-10'	10'	8:50			X																	
	SB3-1'-4'	4'	9:30			X																	
*	SB3-4'-7'	7'	9:40			X	X																
	SB3-7'-10'	10'	9:50			X																	
	SB4-1'-4'	4'	10:00			X																	
	SB4-4'-7'	7'	10:10																				
	SB4-7'-10'	10'	10:20																				
	SB5-1'-4'	4'	10:45																				
*	SB5-4'-7'	7'	10:50				X																
	SB5-7'-10'	10'	11:00																				
	SB6-1'-4'	4'	11:10																				
	SB6-4'-7'	7'	11:25																				
*	SB6-7'-10'	10'	11:35				X																

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
K Huguelet	12:20 7-31-96		7/31/96 12:30
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	18
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES: * means analyze

Hold all Analyses until I contacted

teg TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES

CHAIN-OF-CUSTODY RECORD

CLIENT: Environmental Partners

ADDRESS: 10940 NE 33rd Pl Bellevue WA

PHONE (206) 889-4747 FAX: (206) 889-4755

CLIENT PROJECT #: 15101.0 PROJECT MANAGER: Eric Chapman

DATE: 7-31-96 PAGE 2 OF 2

PROJECT NAME:

LOCATION: West Seattle

COLLECTOR: K Huguelet DATE OF COLLECTION 7-31-96

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8240	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH (8015 (diesel)	TPH 8015 (g & d)	PAH 610/8100	PEST/PCBs 8080	HEX CHROME	ORGANIC LEAD	TOTAL LEAD	pH	ASBESTOS	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SB1W	8.5'	8:05	W	40ml	X																2	
* SB-2W	8.5'	9:00	W	"	X	X															2	
SB-3W	8.5'	9:55	W	"	X																2	

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
K Huguelet	12:20 7-31-96	Kevin Vadthauer	7/31/96 18:30
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE DISPOSAL INSTRUCTIONS

☐ TEG DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	6
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

* means analyze Hold all Anaylses until contacted