Whitman Environmental Sciences

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March 20, 2012

FedEx Freight, Inc.
3405 Victor St.
Santa Clara, CA 95054

Attention: Mr. Chong Lee

Subject: Groundwater Monitoring
FedEx Freight, Inc. Former Seattle Area Terminal
18221 E. Valley Highway
Kent, Washington

Dear Mr. Lee:

As you requested, Whitman Environmental Sciences (WES) has conducted a fourth quarterly round of groundwater sampling from existing monitoring wells at the FedEx Freight terminal in Kent, Washington (Figure 1). This letter is to document the monitoring procedures and report the results of our sampling.

Field Procedures

WES mobilized to the site for a groundwater sampling event on February 23rd and 24th, 2012. At the time of this sampling, the terminal was vacant.

Groundwater Level Measurements

As part of this monitoring, WES measured the depth to groundwater in all accessible monitoring wells. The measurements for all wells were obtained on February 23rd, before the wells were purged of standing groundwater. Table 1 summarizes the depth to groundwater, the measured total depth of the wells, the reported top-of-pipe elevation and calculated elevation of groundwater at each well, relative to an on-site assigned datum. The elevations are relative to an on-site reference point assigned an assumed elevation of 100.00.

For the purpose of this study the well elevations are based on those reported from a 1998 site survey by other consultants. Monitoring wells MW-6, MW-7 and MW-8 have each had an additional piece of PVC riser pipe added to the top of the well casings to improve security and prevent surface water infiltration. Table 1 notes the revised elevation of the top of pipe of each of these wells.

The current measurements show that groundwater is at a depth of 4.31 to 8.49 feet below the ground surface, which represent elevations ranging from 90.96 to 93.86 feet, based on site datum. The groundwater elevations were used to calculate the inferred groundwater surface contours, as shown in Figure 2. The contours imply a general trend of groundwater migration toward the west.

The measured groundwater levels in the monitoring wells range from 1.04 to 2.28 feet higher than measured in the most recent prior groundwater sampling event conducted in October, 2011, but are comparable to water levels measured in February 2011.

Groundwater Sampling

WES obtained groundwater samples from all eleven of the site monitoring wells. Six of the monitoring wells were sampled on February 23rd, 2012. The remaining five wells were sampled on February 24th. Table 2 notes the date of sampling for each well. The samples were obtained with a peristaltic pump using new polyethylene tubing in each well. Each well except RW-1 was purged of at least three volumes of the standing water in the well while periodically measuring pH, conductivity and temperature. RW-1 is a six-inch diameter well with a standing water volume of approximately 35 gallons. RW-1 was pumped to remove the standing water, at which point the well was completely drained and recharged slowly. The well was allowed to stand overnight then pumped again the following morning. The well purging was repeated until a total volume of approximately 50 gallons had been removed, then sampled.

Samples were taken following proper environmental sampling techniques and protocols, placed in laboratory prepared bottles, chilled and held under chain of custody until delivered to the laboratory. The samples were submitted to Friedman & Bruya, Inc., a Washington State accredited laboratory, for testing.

Each sample was analyzed by Washington accepted methods NWTPH-G for total petroleum hydrocarbons (TPH) in the gasoline range, as well as the volatile aromatic compounds benzene, toluene, ethylbenzene and xylenes (BTEX), commonly associated with gasoline. The samples were also tested for total petroleum hydrocarbons in the diesel and oil ranges by Washington accepted method NWTPH-D(x), following a silica gel cleanup to remove organic materials that could bias the testing results.

Laboratory Analytical Results

The results of laboratory testing and Washington State cleanup criteria are summarized in Table 2. The laboratory reports of the current analytical results are attached. The laboratory reporting limits are low enough that the data can be compared to appropriate regulatory cleanup levels. The testing found no detectable concentrations of any of the analyzed parameters.

All laboratory quality assurance/ quality control criteria were met by the analyses with the exception of two analyses for diesel and motor oil range petroleum hydrocarbons. The samples from MW-1 and MW-8 had surrogate recoveries that exceeded the range allowed as laboratory limits. However, an elevated surrogate recovery indicates the reported value of the test may be higher than the actual concentration. Since neither of these samples contained detectable hydrocarbons, there is no concern that the test results exceed the actual concentration.

In three prior consecutive sampling rounds in 2011 all wells met MTCA groundwater cleanup for all of the analyzed parameters. Table 3 is a summary, including the results of the recent prior sampling rounds from February, July and October 2011, for reference.

In October 2011, a sample from monitoring well MW-10 contained a reported benzene concentration of 6.4 ug/l. Two subsequent samples from that well in November had reported concentrations of 1.6 and 4.1 ug/l. The quarterly average for samples from this well was 4 ug/l. This finding is the only significant reported detection in the four consecutive quarters of sampling conducted at the site.

Conclusions

In the current groundwater sampling, none of the eleven groundwater monitoring wells showed evidence of detectable petroleum impacts. These findings demonstrate compliance with Washington State groundwater cleanup criteria.

The Washington Department of Ecology currently identifies this site as a leaking underground storage tank site, with cleanup started in 1995. The agency has not updated the status of the site since that time. It is my understanding that FedEx Freight will request a review under Ecology's Voluntary Cleanup Program (VCP). The VCP is a program that allows Ecology to recover costs for their technical review and assistance.

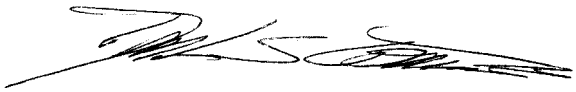
Applying to the VCP requires submitting a complete record of the cleanup, along with an application and contract acknowledging that Ecology will bill for their review time. Their opinion letters are based on "boilerplate" versions that are publicly available for review on Ecology's web site:
http://www.ecy.wa.gov/programs/tcp/vcp/vcp2008/vcpOpinionFlowchart.html

For groundwater cleanup, Ecology typically requires four consecutive quarterly rounds of sampling demonstrating that all contaminants of concern at the site meet water quality cleanup criteria. This requirement appears to have been met in the current sampling.

Closure

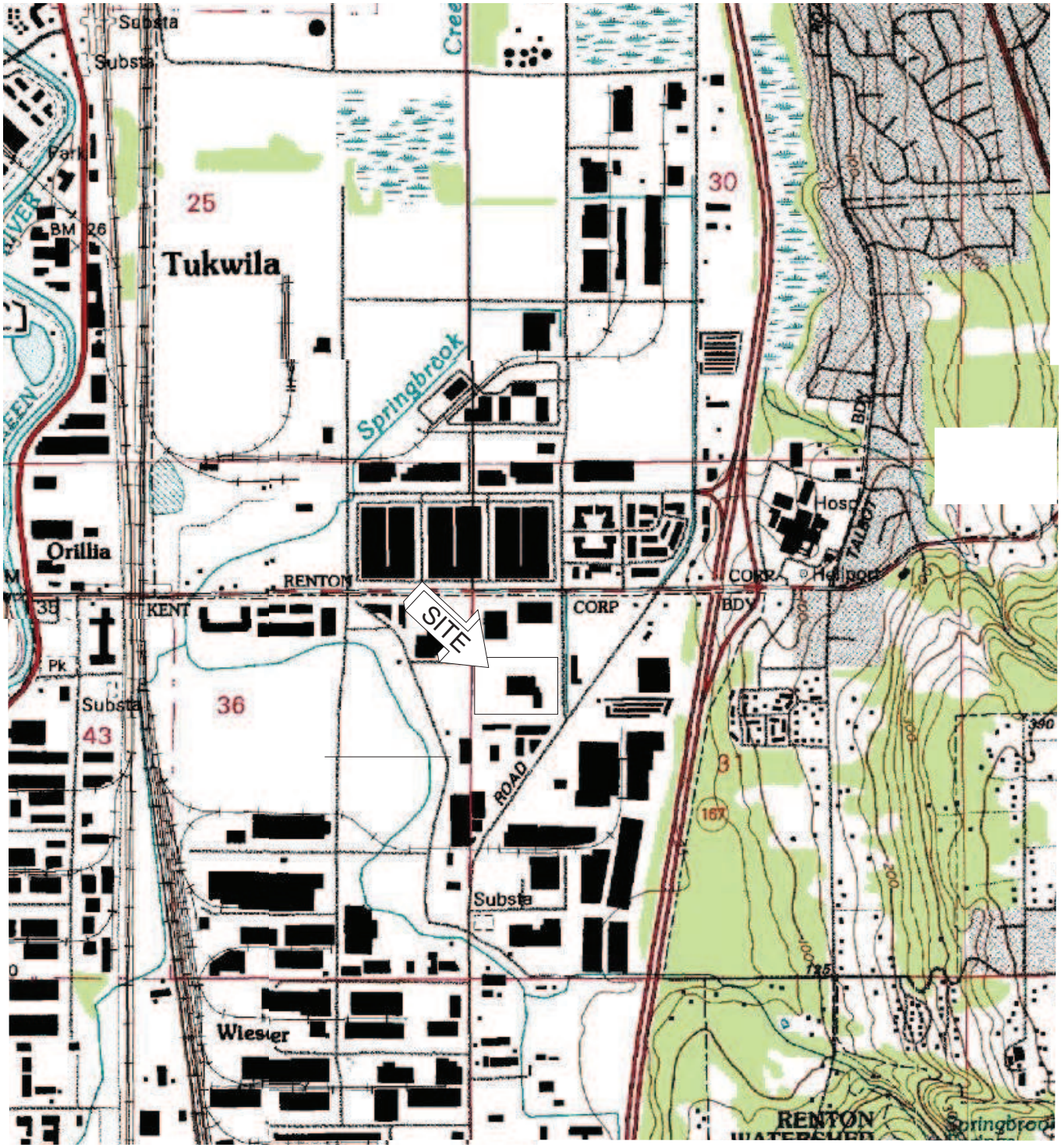
Thank you for the opportunity to be of service to you in this matter. If you have any questions regarding this letter, or if I may be of any further assistance, please feel free to contact me at your convenience.

Respectfully submitted,
Whitman Environmental Sciences



Daniel S. Whitman
Principal

Attachments:
Figure 1 - Site Location Map
Figure 2 - Groundwater Sample Location Plan, with Inferred Groundwater Contours
Table 1 - Groundwater Level Measurements
Table 2 - Groundwater Sample Analytical Results
Table 3 - Summary of Quarterly Groundwater Sample Analytical Results
Laboratory Analytical Report - Friedman & Bruya, Inc.



North

0

1500'

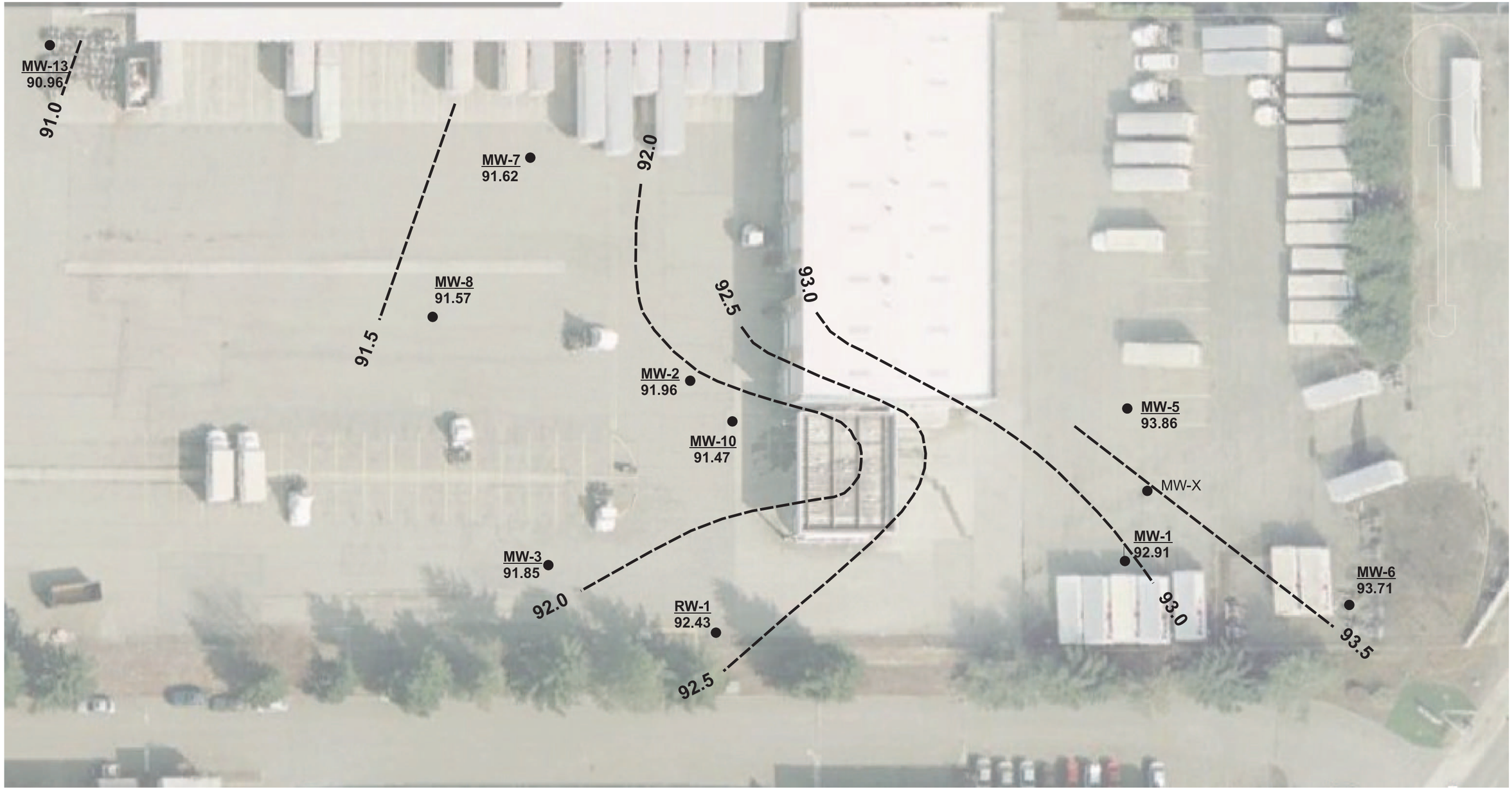
Scale 1" = Approx. 1500'

Figure 1 - Site Location Map

FedEx Freight, Inc.
18221 East Valley Highway
Kent, Washington

Project No.	WES - 1276
Date	Mar 19, 2010
File ID.	1276F1

Whitman Environmental Sciences



Legend

- Approximate Location of Monitoring Well

Inferred Groundwater Surface Contours
Based on Measurements taken February 23, 2012

0 80

Scale 1" = Approx. 80 feet

North

Figure 2 - Monitoring Well Location Plan
with Inferred Groundwater Contours
FedEx Freight, Inc.
Former Kent Terminal
18821 East Valley Highway,
Kent, WA

Project No.	WES - 1276
Date	Mar 17, 2012
File ID.	1276F2

Whitman Environmental Sciences

Table 1 ***Project No. WES-1276***

Summary of Groundwater Level Data February 23, 2012
FedEx Freight, Inc. Former Seattle Area Terminal
Kent, Washington

Monitoring Well	Water Level Relative to Top of Pipe (ft)	Total Depth of Well (ft)	Top of Pipe Elevation*	Groundwater Elevation*	Comments
MW-1	-5.77	15.2	98.68	92.91	Monument repaired
MW-2	-7.19	17.0	99.15	91.96	Monument repaired
MW-3	-7.16	18.5	99.01	91.85	Monument repaired
MW-4	Not	Present	--	--	
MW-5	-4.47	18.8	98.33	93.86	Monument missing one bolt anchor
MW-6	-4.31	21.6	98.02**	93.71	Monument replaced
MW-7	-7.52	18.2	99.14**	91.62	Well secured in unbolted style monument
MW-8	-6.90	18.4	98.47**	91.57	Monument replaced
MW-9	Not	Present	--	--	
MW-10	-6.16	25.6	97.63	91.47	Vault in poor condition, well secured
MW-11	Abandoned	--	--	--	
MW-12	Abandoned	--	--	--	
MW-13	-8.49	19.15	99.45	90.96	Monument repaired
MW-14	Abandoned	--	--	--	
MW-15	Abandoned	--	--	--	
RW-1	-5.68	19.6	98.11	92.43	Top of 6" well open inside secure vault

* Top of Pipe and Groundwater Elevations relative to an on-site reference point assigned elevation of 100.00 for the purposes of this study.
** Top of pipe raised with new piece of PVC riser during reconstruction of monuments for well security. Elevation based on prior survey, plus measured distance above old top of pipe.

Table 2
FedEx Freight, Inc., Former Seattle Area Terminal
Current Groundwater Sample Analytical Results

Sample I.D.	Sample Date	Laboratory Analytical Results in ug/l (ppb)					
		Diesel and Oil Range TPH NWTPH-D(x)	Gasoline Range TPH NWTPH-G	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-1	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-2	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-3	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-5	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-6	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-7	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-8	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-10	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-13	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-X	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
RW-1	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
Model Toxics Control Act Method A Ground-water Cleanup Level		***2,000***	***800****	***5***	***1,000***	***700***	***1,000***

Table 2 Notes:
Diesel and Oil Range total petroleum hydrocarbons conducted by Washington Method NWTPH-D(x).
Gasoline range total petroleum hydrocarbons by Northwest Method NWTPH-G for petroleum in the gasoline range.
BTEX Compounds by EPA Method 8021B.
ND (<X.XXX) - Not Detected by Analysis at levels above the noted detection reporting limit. N/A - Not analyzed for the listed parameter.
*MTCA Method A cleanup level for gasoline range petroleum hydrocarbons, when benzene is present. If benzene is not present, Method A cleanup level is 1,000 ug/l.

Table 3 ***WES-1276***

FedEx Freight, Inc., Seattle Area Terminal

Summary of Quarterly Groundwater Sample Analytical Results

Sample I.D.	***Sample Date***	***Laboratory Analytical Results in ug/l (ppb)***					
		Diesel and Oil Range TPH NWTPH-D(x)	***Gasoline Range TPH NWTPH-G***	***Benzene***	***Toluene***	***Ethyl-benzene***	***Total Xylenes***
MW-1	3/1/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-2	2/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/24/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-3	2/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)

Sample I.D.	*Sample Date*	*Laboratory Analytical Results in ug/l (ppb)*					
		*Diesel and Oil Range TPH**	*Gasoline Range TPH (NWTPH-G)*	*Benzene*	*Toluene*	*Ethylbenzene*	*Total Xylenes*
MW-5	3/1/2011	Diesel - 52 Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-6	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-7	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/24/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)

Sample I.D.	*Sample Date*	*Laboratory Analytical Results in ug/l (ppb)*					
		*Diesel and Oil Range TPH**	*Gasoline Range TPH (NWTPH-G)*	*Benzene*	*Toluene*	*Ethylbenzene*	*Total Xylenes*
MW-8	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/24/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-10	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - ND(<50) Oil - ND(<250)	130	***6.4***	ND (<1)	ND (<1)	ND (<3)
	11/17/2011	Standard Purge	ND (<100)	1.6	ND (<1)	ND (<1)	ND (<3)
		Micropurge	ND (<100)	4.1	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-13	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/24/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)

Sample I.D.	*Sample Date*	*Laboratory Analytical Results in ug/l (ppb)*					
		*Diesel and Oil Range TPH**	*Gasoline Range TPH (NWTPH-G)*	*Benzene*	*Toluene*	*Ethylbenzene*	*Total Xylenes*
MW-X	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/23/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
RW-1	3/1/2011	Diesel - ND (<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	2/24/2012	Diesel - ND(<50) Oil - ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
Model Toxics Control Act Method A Ground-water Cleanup Level		***2,000***	***800****	***5***	***1,000***	***700***	***1,000***

Table 3 Notes:
Diesel and Oil Range total petroleum hydrocarbons conducted by Washington Method NWTPH-D(x).
Gasoline range total petroleum hydrocarbons by Northwest Method NWTPH-G for petroleum in the gasoline range.
BTEX Compounds by EPA Method 8021B.
ND (<X.XXX) - Not Detected by Analysis at levels above the noted detection reporting limit. N/A - Not analyzed for the listed parameter.
*MTCA Method A cleanup level for gasoline range petroleum hydrocarbons, when benzene is present. If benzene is not present, Method A cleanup level is 1,000 ug/l.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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e-mail: fbi@isomedia.com

March 2, 2012

Dan Whitman, Project Manager
Whitman Environmental Sciences
5508 35th Ave. NE
Seattle, WA 98105

Dear Mr. Whitman:

Included are the results from the testing of material submitted on February 24, 2012 from the FedEx Kent Old Site WES 1276, F&BI 202281 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
WES0302R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 24, 2012 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences Fedex Kent Old Site, WES 1276, F&BI 202281 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Whitman Environmental Sciences
202281 -01	MW-1
202281 -02	MW-2
202281 -03	MW-3
202281 -04	MW-5
202281 -05	MW-6
202281 -06	MW-7
202281 -07	MW-8
202281 -08	MW-10
202281 -09	MW-13
202281 -10	RW-1
202281 -11	MW-X

Several NWTPH-Dx surrogate results exceeded the acceptance criteria. Nothing was detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 03/02/12
Date Received: 02/24/12
Project: FedEx Kent Old Site WES 1276, F&BI 202281
Date Extracted: 02/24/12
Date Analyzed: 02/24/12 and 02/27/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW-1 202281-01	<1	<1	<1	<3	<100	89
MW-2 202281-02	<1	<1	<1	<3	<100	87
MW-3 202281-03	<1	<1	<1	<3	<100	88
MW-5 202281-04	<1	<1	<1	<3	<100	90
MW-6 202281-05	<1	<1	<1	<3	<100	92
MW-7 202281-06	<1	<1	<1	<3	<100	86
MW-8 202281-07	<1	<1	<1	<3	<100	86
MW-10 202281-08	<1	<1	<1	<3	<100	84
MW-13 202281-09	<1	<1	<1	<3	<100	84
RW-1 202281-10	<1	<1	<1	<3	<100	83

Date of Report: 03/02/12
Date Received: 02/24/12
Project: FedEx Kent Old Site WES 1276, F&BI 202281
Date Extracted: 02/24/12
Date Analyzed: 02/24/12 and 02/27/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW-X 202281-11	<1	<1	<1	<3	<100	84
Method Blank 02-0299 MB	<1	<1	<1	<3	<100	86

Date of Report: 03/02/12
Date Received: 02/24/12
Project: FedEx Kent Old Site WES 1276, F&BI 202281
Date Extracted: 02/27/12
Date Analyzed: 02/28/12 and 02/29/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW-1 202281-01	<50	<250	135 vo
MW-2 202281-02	<50	<250	116
MW-3 202281-03	<50	<250	113
MW-5 202281-04	<50	<250	115
MW-6 202281-05	<50	<250	122
MW-7 202281-06	<50	<250	122
MW-8 202281-07	<50	<250	170 vo
MW-10 202281-08	<50	<250	115
MW-13 202281-09	<50	<250	125

Date of Report: 03/02/12
Date Received: 02/24/12
Project: FedEx Kent Old Site WES 1276, F&BI 202281
Date Extracted: 02/27/12
Date Analyzed: 02/28/12 and 02/29/12

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
RW-1 202281-10	<50	<250	105
MW-X 202281-11	<50	<250	106
Method Blank 02-305 MB	<50	<250	102

Date of Report: 03/02/12
Date Received: 02/24/12
Project: Fedex Kent Old Site, WES 1276, F&BI 202281

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 202268-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	1.2	<1	nm
Ethylbenzene	ug/L (ppb)	3.7	3.7	0
Xylenes	ug/L (ppb)	12	12	0
Gasoline	ug/L (ppb)	220	220	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	90	72-119
Toluene	ug/L (ppb)	50	90	71-113
Ethylbenzene	ug/L (ppb)	50	92	72-114
Xylenes	ug/L (ppb)	150	86	72-113
Gasoline	ug/L (ppb)	1,000	98	70-119

Date of Report: 03/02/12
Date Received: 02/24/12
Project: FedEx Kent Old Site WES 1276, F&BI 202281

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	102	58-134	6

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

202281

SAMPLE CHAIN OF CUSTODY ME 02/24/12

B05/V2

Page # 1 of 2

Send Report To Dan Whitman

Company Whitman Env. Sciences

Address 5508 35th Ave NE

City, State, ZIP Seattle WA 98105

Phone # 523-3505 Fax # ______

SAMPLERS (signature)

PROJECT NAME/NO.	PO #
FEDEX KENT OLD SITE	WES 1276

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH ______
- Rush charges authorized by: ______

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

ANALYSES REQUESTED

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS						Notes
MW-1	01 A-C	2-23		WATER	3	X	X	X									
MW-2	02	2-24															
MW-3	03	2-23															
MW-5	04	2-23															
MW-6	05	2-23															
MW-7	06	2-24															
MW-8	07	2-24															
MW-10	08	2-23															
MW-13	09	2-24															
RW-1	10	2-24															

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	[illegible]	WES	2-24	3:25
Received by:	[signature]	Nhan Phan	FeBI	2/24/12	3:35
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

Samples received at 6 °C

202281

SAMPLE CHAIN OF CUSTODY

ME 02/24/12 BOS/V2

Page # 2 of 2

Send Report To: Dan Whitman
Company: GES
Address:
City, State, ZIP:
Phone #: Fax #:

SAMPLERS (signature):
PROJECT NAME/NO.: FEDEX KEARNY OLD SITE
PO #: 065/276

REMARKS:

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH:

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260B	SVOCs by 8270	MTBE							Notes
MW2-X	11A-5	2-23		WATER	3	X	X	X										

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:			GES	2-24	3:55
Received by:		Nhan Phan	FedEx	2/24/12	3:35
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

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Samples received at 6 °C