

5508 35<sup>th</sup> Avenue NE, Suite 108 Seattle, Washington 98105 Phone: (206) 523-3505 Whitenviro@yahoo.com

January 24, 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 third 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 October 19<sup>th</sup> and 31<sup>st</sup>, 2011. As discussed below, additional samples were obtained from one monitoring well on November 17<sup>th</sup>, 2011. 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 on October 19<sup>th</sup>, 2011. The measurements were obtained 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 new elevation of the top of pipe of each of these wells.

The current measurements show that groundwater is at a depth of 5.88 to 9.56 feet below the ground surface, which represent elevations ranging from 89.89 to 92.14 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.

FedEx Freight, Inc.
Groundwater Monitoring Results
FedEx Freight Former Seattle Area Terminal
Kent, Washington

Page 2

The measured groundwater levels in the monitoring wells are mostly slightly higher than measured in prior groundwater sampling event conducted in July, 2011.

### Initial Groundwater Sampling

WES obtained groundwater samples from all eleven of the site monitoring wells. Seven of the monitoring wells were sampled on October 19<sup>th</sup>, 2011. The remaining four wells were sampled on October 28<sup>th</sup>, 2011. 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 was purged of at least three volumes of the standing water volume in the well prior to sampling, except RW-1. 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 for about an hour then pumped again. The well purging was repeated until a total volume of approximately 60 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. All laboratory quality assurance/ quality control criteria were met by the analyses and the laboratory reporting limits are low enough that the data can be compared to appropriate regulatory cleanup levels.

Of the current samples, only one, from monitoring well MW-10 contained detectable concentrations of any of the analyzed parameters. The sample from MW-10 contained 6.4 ug/l of benzene and 130 ug/l of gasoline range total petroleum hydrocarbons. The benzene concentration exceeds the current Washington Model Toxics Control Act (MTCA) Method A groundwater cleanup criteria of 5 ug/l. The MTCA groundwater cleanup criteria for gasoline range petroleum hydrocarbons is 800 ug/l when benzene is present. The reported gasoline range petroleum concentration is below cleanup criteria.

In two 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 and July, 2011, for reference.

FedEx Freight, Inc.
Groundwater Monitoring Results
FedEx Freight Former Seattle Area Terminal
Kent, Washington

Page 3

### **Confirmation Sampling**

Based on the initial testing for this quarterly sampling, additional samples were obtained from MW-10 for confirmation. On November 17, 2011, WES returned to the site and conducted two additional purges on MW-10, then repeated sampling following proper environmental sample handling procedures.

First, the well was purged at a relatively rapid rate using a small submersible pump, to remove approximately 30 gallons of water. This step was followed by pumping with a peristaltic pump to remove approximately three well volumes at a rate of approximately one liter a minute. For sampling, the flow rate was reduced to a low flow rate of approximately 100 milliliters per minute. After sampling at this rate, pumping was continued until approximately two gallons of water were purged. This sample was identified as a "micro-purge" sample, MW-10MP.

These samples were placed in laboratory prepared bottles, chilled and held under chain of custody until delivered to Friedman & Bruya, Inc., for testing. Both samples were analyzed for BTEX compounds commonly associated with gasoline. The laboratory results are summarized in Table 2. The laboratory reports of analytical results are attached.

Both of these confirmation samples contained benzene, at concentrations of 1.6 ug/l and 4.1 ug/l, for the standard purge and micro-purge sample, respectively. No other analyzed parameter was detected.

For compliance purposes, Washington State commonly allows averaging of multiple sampling within monitoring conducted in a single quarter. (However, averaging is not allowed between subsequent quarters). Based on this, the results of MW-10 average 2.7 ug/l in the current quarterly samples, meeting MTCA groundwater cleanup criteria for benzene.

### **Conclusions**

In the current groundwater sampling, ten of the eleven groundwater monitoring wells show no evidence of detectable petroleum impacts. One monitoring well, MW-10, located directly downgradient with respect to groundwater flow from the former underground storage tank area, found detectable concentrations of benzene for the first time in three consecutive quarterly monitoring rounds. Three samples from MW-10 found the average groundwater concentration does not exceed Washington State groundwater cleanup criteria under the Model Toxics Control Act (Chapter 173-340 WAC).

At least one additional round of groundwater monitoring should be conducted to demonstrate compliance with Washington State groundwater cleanup criteria. An additional round of sampling will be conducted in late January 2012.

FedEx Freight, Inc.
Groundwater Monitoring Results
FedEx Freight Former Seattle Area Terminal
Kent, Washington

January 24, 2012

Page 4

### 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

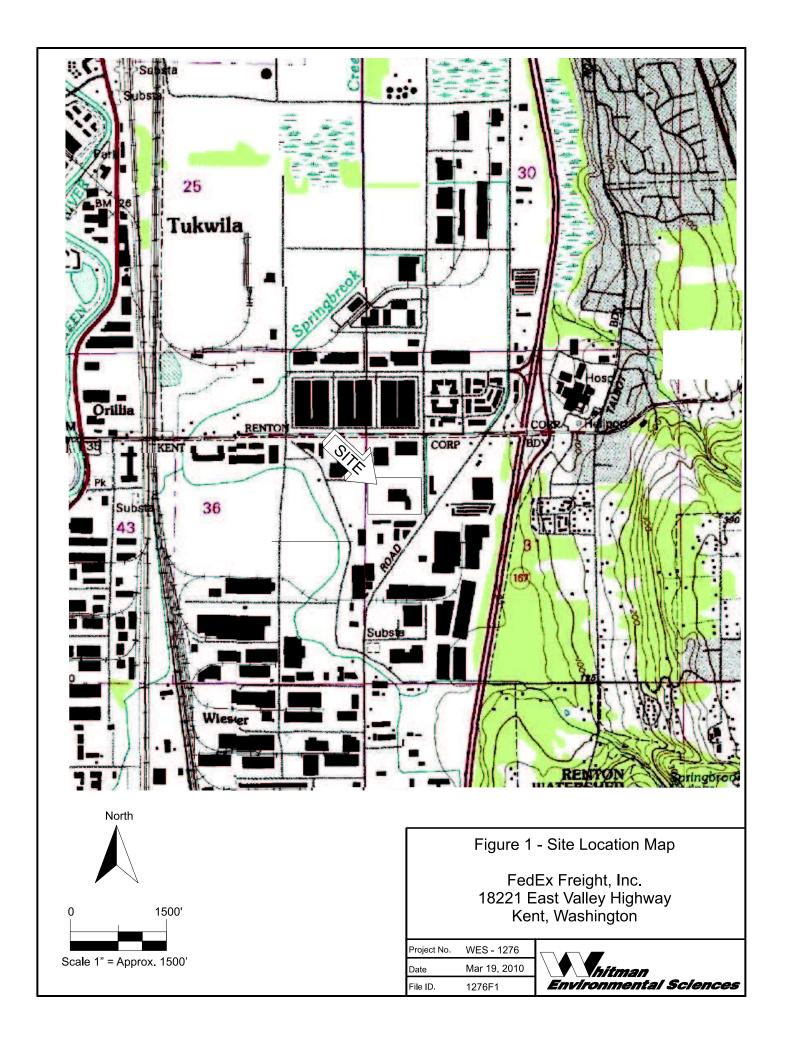
Contours

Table 1 - Groundwater Level Measurements

Table 2 - Groundwater Sample Analytical Results

Table 3 - Summary of Quarterly Groundwater Sample Analytical Results

Laboratory Analytical Reports - Friedman & Bruya, Inc.



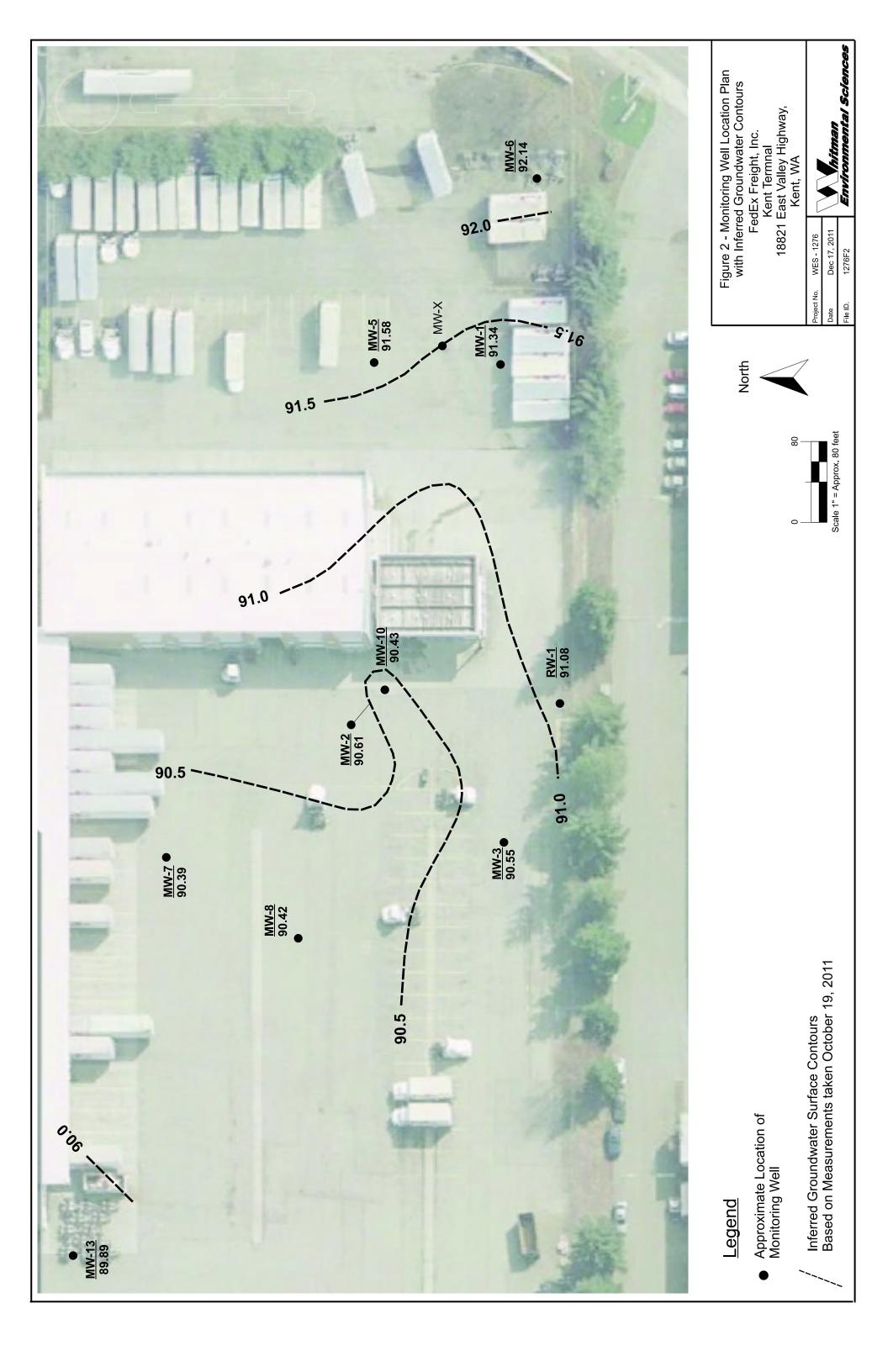


Table 1
Summary of Groundwater Level Data October 19, 2011
FedEx Freight, Inc. Former Seattle Area Terminal
Kent, Washington

Comments	Monument repaired	Monument repaired	Monument repaired		Monument missing one bolt anchor	Monument replaced	Well secured in unbolted style monument	Monument replaced		Vault in poor condition, well secured			Monument repaired			Top of 6" well open inside secure vault
Groundwater Elevation*	91.34	90.61	90.55	1	91.58	92.14	90.39	90.42	ł	90.43	ł	ł	89.89	-	ł	91.08
Top of Pipe Elevation*	98.68	99.15	99.01	ł	98.33	98.02**	99.14**	98.47**	ł	97.63	ł	ł	99.45	-	ł	98.11
Total Depth of Well (ft)	15.2	17.0	18.5	Present	18.8	21.6	18.2	18.4	Present	25.6	ł	1	19.15	1	ł	19.6
Water Level Relative to Top of Pipe (ft)	-7.34	8.54	-8.46	Not	-6.75	-5.88	-8.75	-8.05	Not	-7.20	Abandoned	Abandoned	-9.56	Abandoned	Abandoned	-7.03
Monitoring Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	V-WW	MW-8	WW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	RW-1

<sup>\*</sup> 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)								
		7	d Oil Range PH PH-D(x)	Gasoline Range TPH NWTPH-G	Benzene	Toluene	Ethyl- benzene	Total Xylenes		
MW-1	10/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-2	10/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-3	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-5	10/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-6	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-7	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-8	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-10	10/28/2011	Diesel - Oil -	ND(<50) ND(<250)	130	6.4	ND (<1)	ND (<1)	ND (<3)		
	11/17/2011	Standard I	Purge	ND (<100)	1.6	ND (<1)	ND (<1)	ND (<3)		
		Micropurge	Э	ND (<100)	4.1	ND (<1)	ND (<1)	ND (<3)		
MW-13	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
MW-X	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)		
RW-1	10/19/2011	Diesel - Oil -	ND(<50) 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 FedEx Freight, Inc., Seattle Area Terminal Summary of Quarterly Groundwater Sample Analytical Results

Sample I.D.	Sample			Laboratory		ults in ug/l (ppl	b)	
	Date	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 - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-2	2/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-3	2/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-5	3/1/2011	Diesel - Oil -	52 ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)

# Table 3 (Continued) FedEx Freight, Inc., Seattle Area Terminal Summary of Historical Groundwater Sample Analytical Results

Page 2

Sample I.D.	Sample			Laboratory	Analytical Res	ults in ug/l (pp	ob)	
	Date		d Oil Range PH*	Gasoline Range TPH (NWTPH-G)	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-6	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-7	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-8	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-10	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/31/2011	Diesel - Oil -	ND(<50) ND(<250)	130	6.4	ND (<1)	ND (<1)	ND (<3)
	11/17/2011	Standard F	urge	ND (<100)	1.6	ND (<1)	ND (<1)	ND (<3)
		Micropurge	)	ND (<100)	4.1	ND (<1)	ND (<1)	ND (<3)

# Table 3 (Continued) FedEx Freight, Inc., Seattle Area Terminal

Summary of Historical Groundwater Sample Analytical Results

Page 3

Sample I.D.	Sample Date			Laboratory	Analytical Resi	ults in ug/l (pp	ob)	
			nd Oil Range TPH*	Gasoline Range TPH (NWTPH-G)	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-13	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
MW-X	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/27/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
RW-1	3/1/2011	Diesel - Oil -	ND (<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	7/28/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
	10/19/2011	Diesel - Oil -	ND(<50) ND(<250)	ND (<100)	ND (<1)	ND (<1)	ND (<1)	ND (<3)
Model Toxics Method A Gro Cleanup Leve			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.

<sup>\*</sup>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.

### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

October 26, 2011

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 October 19, 2011 from the FedEx Kent PO WES-1276, F&BI 110264 project. There are 6 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.

Math act

Michael Erdahl Project Manager

Enclosures WES1026R.DOC

### ENVIRONMENTAL CHEMISTS

## CASE NARRATIVE

This case narrative encompasses samples received on October 19, 2011 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences FedEx Kent PO WES-1276, F&BI 110264 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Whitman Environmental Sciences
110264-01	MW-13
110264-02	MW-8
110264-03	MW-7
110264-04	MW-6
110264-05	MW-3
110264-06	MW-1
110264-07	MW-X

All quality control requirements were acceptable.

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 10/26/11 Date Received: 10/19/11

Project: FedEx Kent PO WES-1276, F&BI 110264

Date Extracted: 10/20/11

Date Analyzed: 10/20/11 and 10/21/11

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

Sample ID Laboratory ID	Benzene	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW-13 110264-01	<1	<1	<1	<3	<100	105
MW-8 110264-02	<1	<1	<1	<3	<100	105
MW-7 110264-03	<1	<1	<1	<3	<100	109
MW-6 110264-04	<1	<1	<1	<3	<100	107
MW-3 110264-05	<1	<1	<1	<3	<100	108
MW-1 110264-06	<1	<1	<1	<3	<100	108
MW-X 110264-07	<1	<1	<1	<3	<100	108
Method Blank	<1	<1	<1	<3	<100	103

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 10/26/11 Date Received: 10/19/11

Project: FedEx Kent PO WES-1276, F&BI 110264

Date Extracted: 10/20/11 Date Analyzed: 10/24/11

# 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

Sample ID Laboratory ID	$\frac{\text{Diesel Range}}{\text{(C}_{10}\text{-C}_{25}\text{)}}$	Motor Oil Range (C25-C36)	Surrogate (% Recovery) (Limit 50-150)
MW-13 110264-01	<50	<250	86
MW-8 110264-02	<50	<250	82
MW-7 110264-03	<50	<250	83
MW-6 110264-04	<50	<250	79
MW-3 110264-05	<50	<250	85
MW-1 110264-06	<50	<250	84
MW-X 110264-07	<50	<250	87
Method Blank	<50	<250	69

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 10/26/11 Date Received: 10/19/11

Project: FedEx Kent PO WES-1276, F&BI 110264

# 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: 110258-03 (Duplicate)

Analuta	Reporting	Sample	Duplicate	Relative Percent Difference
Analyte	Units	Result	Result	(Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

			$\operatorname{Percent}$	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Benzene	ug/L (ppb)	50	93	65-118
Toluene	ug/L (ppb)	50	91	72 - 122
Ethylbenzene	ug/L (ppb)	50	94	73 - 126
Xylenes	ug/L (ppb)	150	93	74-118
Gasoline	ug/L (ppb)	1,000	109	69-134

### ENVIRONMENTAL CHEMISTS

Date of Report: 10/26/11 Date Received: 10/19/11

Project: FedEx Kent PO WES-1276, F&BI 110264

# 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

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	68	66	58-134	3

#### ENVIRONMENTAL CHEMISTS

### **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.
- ${
  m jr}$  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.
- $\operatorname{pc}$  The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- $\operatorname{pr}$  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.



### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

November 4, 2011

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 October 31, 2011 from the FedEx Kent, WES 1276, F&BI 110402 project. There are 6 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.

Math act

Michael Erdahl Project Manager

Enclosures WES1104R.DOC

### **ENVIRONMENTAL CHEMISTS**

## CASE NARRATIVE

This case narrative encompasses samples received on October 31, 2011 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences FedEx Kent, WES 1276, F&BI 110402 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	Whitman Environmental Sciences
110402-01	MW-2
110402-02	RW-1
110402-03	MW-10
110402-04	MW-5

All quality control requirements were acceptable.

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/04/11 Date Received: 10/31/11

Project: FedEx Kent, WES 1276, F&BI 110402

Date Extracted: 10/31/11 Date Analyzed: 10/31/11

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

Sample ID Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl Benzene	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate (% Recovery) (Limit 52-124)
MW-2 110402-01	<1	<1	<1	<3	<100	97
RW-1 110402-02	<1	<1	<1	<3	<100	101
MW-10 110402-03	6.4	<1	<1	<3	130	99
MW-5 110402-04	<1	<1	<1	<3	<100	101
Method Blank	<1	<1	<1	<3	<100	100

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/04/11 Date Received: 10/31/11

Project: FedEx Kent, WES 1276, F&BI 110402

Date Extracted: 10/31/11 Date Analyzed: 11/01/11

# 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

Sample ID Laboratory ID	$rac{ ext{Diesel Range}}{ ext{(C}_{10} ext{-C}_{25} ext{)}}$	$rac{ ext{Motor Oil Range}}{ ext{(C}_{25} ext{-C}_{36} ext{)}}$	Surrogate (% Recovery) (Limit 51-134)
MW-2 110402-01	<50	<250	80
RW-1 110402-02	<50	<250	96
MW-10 110402-03	<50	<250	81
MW-5 110402-04	<50	<250	74
Method Blank 01-1964 MB	<50	<250	89

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/04/11 Date Received: 10/31/11

Project: FedEx Kent, WES 1276, F&BI 110402

# 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: 110390-12 (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	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

	Percent					
	Reporting	Spike	Recovery	Acceptance		
Analyte	Units	Level	LCS	Criteria		
Benzene	ug/L (ppb)	50	92	65-118		
Toluene	ug/L (ppb)	50	86	72 - 122		
Ethylbenzene	ug/L (ppb)	50	90	73 - 126		
Xylenes	ug/L (ppb)	150	88	74-118		
Gasoline	ug/L (ppb)	1,000	105	69-134		

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/04/11 Date Received: 10/31/11

Project: FedEx Kent, WES 1276, F&BI 110402

# 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

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	81	86	58-134	6

#### ENVIRONMENTAL CHEMISTS

### **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.
- ${
  m jr}$  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.
- $\operatorname{pc}$  The sample was received in a container not approved by the method. The value reported should be considered an estimate.
- $\operatorname{pr}$  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.



### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

November 23, 2011

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 November 18, 2011 from the Fedex Kent, WES-1276, F&BI 111256 project. There are 4 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.

Math act

Michael Erdahl Project Manager

Enclosures WES1123R.DOC

# FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

### CASE NARRATIVE

This case narrative encompasses samples received on November 18, 2011 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences Fedex Kent, WES-1276, F&BI 111256 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u> <u>Whitman Environmental Sciences</u>

111256-01 MW-10

All quality control requirements were acceptable.

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/23/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111256

Date Extracted: 11/18/11 Date Analyzed: 11/18/11

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

Sample ID Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate (% Recovery) (Limit 50-150)
MW-10 111256-01	1.6	<1	<1	<3	<100	97
Method Blank	<1	<1	<1	<3	<100	95

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/23/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111256

# 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: 111253-06 (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	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

			Percent	
	Reporting	Spike	Recovery	Acceptance
Analyte	Units	Level	LCS	Criteria
Benzene	ug/L (ppb)	50	88	65-118
Toluene	ug/L (ppb)	50	83	72 - 122
Ethylbenzene	ug/L (ppb)	50	87	73 - 126
Xylenes	ug/L (ppb)	150	84	74-118
Gasoline	ug/L (ppb)	1,000	91	69-134

#### ENVIRONMENTAL CHEMISTS

### **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.
- ${
  m jr}$  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.
- $\operatorname{pr}$  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.



### **ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 e-mail: fbi@isomedia.com

November 29, 2011

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 November 18, 2011 from the Fedex Kent, WES-1276, F&BI 111257 project. There are 6 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.

Made Call

Michael Erdahl Project Manager

Enclosures WES1129R.DOC

# FRIEDMAN & BRUYA, INC. ENVIRONMENTAL CHEMISTS

### CASE NARRATIVE

This case narrative encompasses samples received on November 18, 2011 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences Fedex Kent, WES-1276, F&BI 111257 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u> <u>Whitman Environmental Sciences</u>

111257-01 MW-10-MP

All quality control requirements were acceptable.

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/29/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111257

Date Extracted: 11/18/11 Date Analyzed: 11/18/11

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

Sample ID Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	Ethyl <u>Benzene</u>	Total <u>Xylenes</u>	Gasoline <u>Range</u>	Surrogate (% Recovery) (Limit 50-150)
MW-10-MP 111257-01	4.1	<1	<1	<3	<100	97
Method Blank 01-2095 MB	<1	<1	<1	<3	<100	95

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/29/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111257

Date Extracted: 11/21/11 Date Analyzed: 11/23/11

# 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

Sample ID Laboratory ID	$rac{ ext{Diesel Range}}{ ext{(C}_{10} ext{-C}_{25} ext{)}}$	$rac{ ext{Motor Oil Range}}{ ext{(C}_{25} ext{-C}_{36} ext{)}}$	Surrogate (% Recovery) (Limit 50-150)
MW-10-MP 111257-01	<50	<250	94
Method Blank	<50	<250	96

### **ENVIRONMENTAL CHEMISTS**

Date of Report: 11/29/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111257

# 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: 111253-06 (Duplicate)

				Relative Percent
	Reporting	Sample	Duplicate	Difference
Analyte	Units	Result	Result	(Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

		$\operatorname{Percent}$				
	Reporting	$\operatorname{Spike}$	Recovery	Acceptance		
Analyte	$\operatorname{Units}$	Level	LCS	Criteria		
Benzene	ug/L (ppb)	50	88	65-118		
Toluene	ug/L (ppb)	50	83	72 - 122		
Ethylbenzene	ug/L (ppb)	50	87	73 - 126		
Xylenes	ug/L (ppb)	150	84	74-118		
Gasoline	ug/L (ppb)	1,000	91	69-134		

### ENVIRONMENTAL CHEMISTS

Date of Report: 11/29/11 Date Received: 11/18/11

Project: Fedex Kent, WES-1276, F&BI 111257

# 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

			Percent	Percent		
	Reporting	$\operatorname{Spike}$	Recovery	Recovery	Acceptance	$\operatorname{RPD}$
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	89	91	63-142	2

#### ENVIRONMENTAL CHEMISTS

### **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.
- ${
  m jr}$  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.
- $\operatorname{pr}$  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.

