

WHITMAN Environmental Sciences

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Seattle, WA 98115

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September 2, 2020

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

Attention: Mr. Chong Lee

Subject: 2nd Quarter 2020 Groundwater Monitoring
Former FedEx Freight, Inc. Seattle Area Terminal
18221 E. Valley Highway
Kent, Washington

Dear Mr. Lee:

As you requested, Whitman Environmental Sciences (WES) has conducted a quarterly sampling event on monitoring well RW-2 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

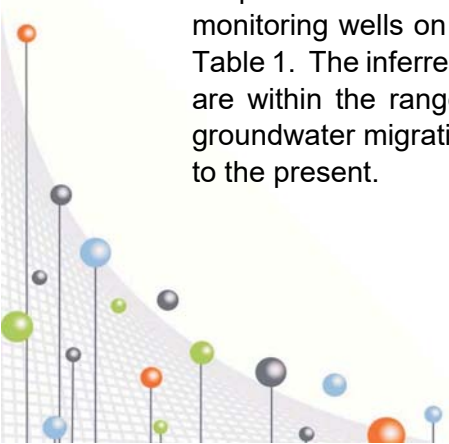
WES mobilized to the site for a groundwater purge on May 5th, 2020. A vacuum truck was used to purge a total of approximately 2,800 gallons of water from RW-2, a six-inch diameter well installed near the southern boundary of the site (Figure 2). This procedure is in accordance with the scope of work proposed to the Washington Department of Ecology in our November 15th, 2019 summary letter of monitoring conducted from 2016 to 2019, and our discussions with Mr. Grant Yang, the Department of Ecology Site Manager.

The vacuum truck was supplied and operated by Marine Vacuum Services, Inc., of Seattle, who managed and disposed the purge water under their wastewater discharge permit with King County METRO.

The well was allowed to recover for about six weeks before sampling. On June 25th, 2020, WES returned to the site and conducted a limited purge of approximately three well volumes, then sampled RW-2 following standard environmental sampling protocols.

Groundwater Level Measurements

As part of this monitoring event, WES measured the depth to groundwater on all of the site monitoring wells on May 5th, 2020, before the purge of RW-2. Water levels are summarized in Table 1. The inferred groundwater surface contours are shown in Figure 2. The measured depths are within the range of prior measurements of site water levels and the inferred direction of groundwater migration is to the northwest, consistent with previously observed trends from 2011 to the present.



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

Groundwater Sampling

A sample was 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 sample was submitted to Friedman & Bruya, Inc., a Washington State accredited laboratory, for testing.

The 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 sample was also tested for total petroleum hydrocarbons in the diesel and oil ranges by Washington accepted method NWTPH-D(x).

Laboratory Analytical Results

The results of laboratory testing and Washington State cleanup criteria are summarized in Table 2. The laboratory report of analytical results is 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.

Table 2
2nd Quarter 2020 Groundwater Monitoring Results - RW-2
Sample Date: June 25th, 2020

| Parameter | Laboratory Analytical Result (ug/l) | MTCA Method A Groundwater Cleanup Level (ug/l) |
|--------------------|--|---|
| Benzene | 11 | 5 |
| Toluene | ND (<1) | 1,000 |
| Ethylbenzene | ND (<1) | 700 |
| Xylenes | 4.3 | 1,000 |
| GRO- (NWTPH-G) | ND (<100) | 800* |
| DRO - (NWTPH-D(x)) | 71 | 500 |
| MRO - (NWTPH-D(x)) | ND (<250) | 500 |

Table Notes:

BTEX compounds by EPA Method 8021B.

MTCA Method A Cleanup Levels from Dept. of Ecology 2020 CLARC database.

ND - Not detected at a level above the noted concentration.

* - MTCA Method A cleanup level for gasoline range petroleum hydrocarbons, when benzene is present.

If benzene is not present, the Method A cleanup level is 1,000 ug/l.

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

Page 3

The sample from RW-2 contained a concentration of 11 ug/l of benzene, 4.3 ug/l of xylenes and 71 ug/l of diesel range petroleum hydrocarbons, with no other detections of the analyzed parameters. The detected benzene concentration exceeds the applicable Washington Model Toxics Control Act (MTCA) Method A groundwater cleanup criteria of 5 ug/l for benzene. The diesel fraction was flagged by the laboratory as not resembling the laboratory standard for diesel, suggesting organic material or degraded petroleum from another range interfered with the analysis. This site in the Kent Valley has soil with a relatively high organic content that influences the NWTPH-D(x) test method.

Additional Monitoring Well Sampling

During the 2nd Quarter purge event on May 5th, monitoring wells MW-5, MW-6, MW-8, MW-13 and RW-1 were sampled. Monitoring wells MW-1, MW-3 and MW-10 were also sampled during the RW-2 sampling event on June 25th.

The samples were analyzed by Washington accepted methods for total petroleum hydrocarbons in the gasoline, diesel and oil ranges by Washington accepted methods. Samples from monitoring wells MW-5, MW-6, MW-8, MW-10, MW-13 and RW-1 were also analyzed by method NWTPH-D(x) following a silica gel cleanup to remove non-polar organic material from the water samples. The laboratory analytical results are summarized in Table 3.

None of these other samples contained any detectable concentrations of gasoline range petroleum hydrocarbons or BTEX compounds. Samples from monitoring wells MW-1, MW-3, MW-5, MW-6, MW-8, MW-10 and MW-13 all contained diesel range petroleum hydrocarbons in the portion of the sample conducted without silica gel cleanup, demonstrating widespread interference of organic material with the test. Those samples were each flagged by the laboratory as not resembling the laboratory standard for diesel. Two samples (MW-8 and MW-13) also showed low but detectable concentrations of oil range petroleum hydrocarbons similarly flagged by the laboratory. The portion of each of those samples passed through silica gel did not contain any detectable diesel or oil range petroleum hydrocarbons.

Conclusions

This sampling was conducted as part of compliance monitoring of the subject site. The current groundwater sampling shows evidence of benzene impacts in RW-2 exceeding Washington State groundwater cleanup criteria under the Model Toxics Control Act (Chapter 173-340 WAC). Monitoring well RW-2 is the only remaining well on the property that has a recent history of exceeding groundwater cleanup levels.

Additional quarterly monitoring will be conducted throughout 2020, following the same purge and sampling technique used in this quarter. Over the year at least one sample from each of the remaining on-site wells will also be collected to demonstrate continuing compliance throughout the site.

September 2, 2020

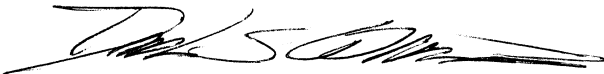
**Groundwater Monitoring Results
Former FedEx Freight Seattle Area Terminal
Kent, Washington**

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

A handwritten signature in black ink, appearing to read 'D. Whitman', with a long horizontal flourish extending to the right.

Daniel S. Whitman
Principal

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

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

Project No. WES-1276

| Date | Monitoring Well | Water Level Relative to Top of Pipe (ft) | Total Depth of Well (ft) | Top of Pipe Elevation* | Groundwater Elevation* |
|-------------|------------------------|---|-------------------------------------|-----------------------------------|-------------------------------|
| 5-5-2020 | MW-1 | -6.93 | 15.2 | 98.68 | 91.75 |
| | MW-2 | -7.75 | 17.0 | 99.15 | 91.40 |
| | MW-3 | -7.71 | 18.5 | 99.01 | 91.30 |
| | MW-5 | -5.52 | 18.8 | 98.33 | 92.81 |
| | MW-6 | -5.12 | 21.6 | 98.02** | 92.90 |
| | MW-7 | -7.87 | 18.2 | 99.14** | 92.27 |
| | MW-8 | -7.20 | 18.4 | 98.47** | 91.27 |
| | MW-10 | -6.86 | 25.6 | 97.63 | 90.77 |
| | MW-13 | -8.55 | 19.1 | 99.45 | 90.90 |
| | RW-1 | -6.29 | 19.6 | 98.11 | 91.82 |
| | RW-2 | -6.67 | 30.0 | 97.96 | 91.29 |

Table 1 Notes:

* 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 3

WES-1276

FedEx Freight, Inc., Seattle Area Terminal
Summary of 2nd Quarter 2020 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 | 6/25/2020 | Diesel - 170 ^x Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| MW-2 | Not Sampled | | | | | | |
| MW-3 | 6/25/2020 | Diesel - 310 ^x Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| MW-5 | 5/5/2020 | Diesel - 130 ^x Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |
| MW-6 | 5/5/2020 | Diesel - 130 ^x Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |
| MW-7 | Not Sampled | | | | | | |
| MW-8 | 5/5/2020 | Diesel - 380 ^x Oil - 430 ^x | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |
| MW-10 | 6/25/2020 | Diesel - 700 ^x Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |

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

WES-1249

Page 2

| Sample I.D. | Sample Date | Laboratory Analytical Results in ug/l (ppb) | | | | | |
|---|-------------|---|------------------------------------|-----------|--------------|--------------|------------------|
| | | Diesel and Oil Range TPH (NWTPH-Dx) | Gasoline Range TPH (NWTPH-G) | Benzene | Toluene | Ethylbenzene | Total Xylenes |
| MW-13 | 5/5/2020 | Diesel - 360 ^x Oil - 380 ^x | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |
| RW-1 | 5/5/2020 | Diesel - ND (<50) Oil - ND(<250) | ND (<100) | ND (<1) | ND (<1) | ND (<1) | ND (<3) |
| | | With Silica Gel Cleanup Diesel - ND(<50) Oil - ND(<250) | | | | | |
| RW-2 | 6/25/2020 | Diesel - 71 ^x Oil - ND(<250) | ND (<100) | 11 | ND (<1) | 4.3 | ND (<3) |
| Model Toxics Control Act Method A Groundwater Cleanup Level (ug/l) | | 500 | 800* | 5 | 1,000 | 700 | 1,000 |

Table 3 Notes:

Diesel and Oil Range total petroleum hydrocarbons conducted by Washington Method NWTPH-D(x). Analytical result reported with and without silica gel cleanup prior to analysis, where available.

Gasoline range total petroleum hydrocarbons by Northwest Method NWTPH-G.

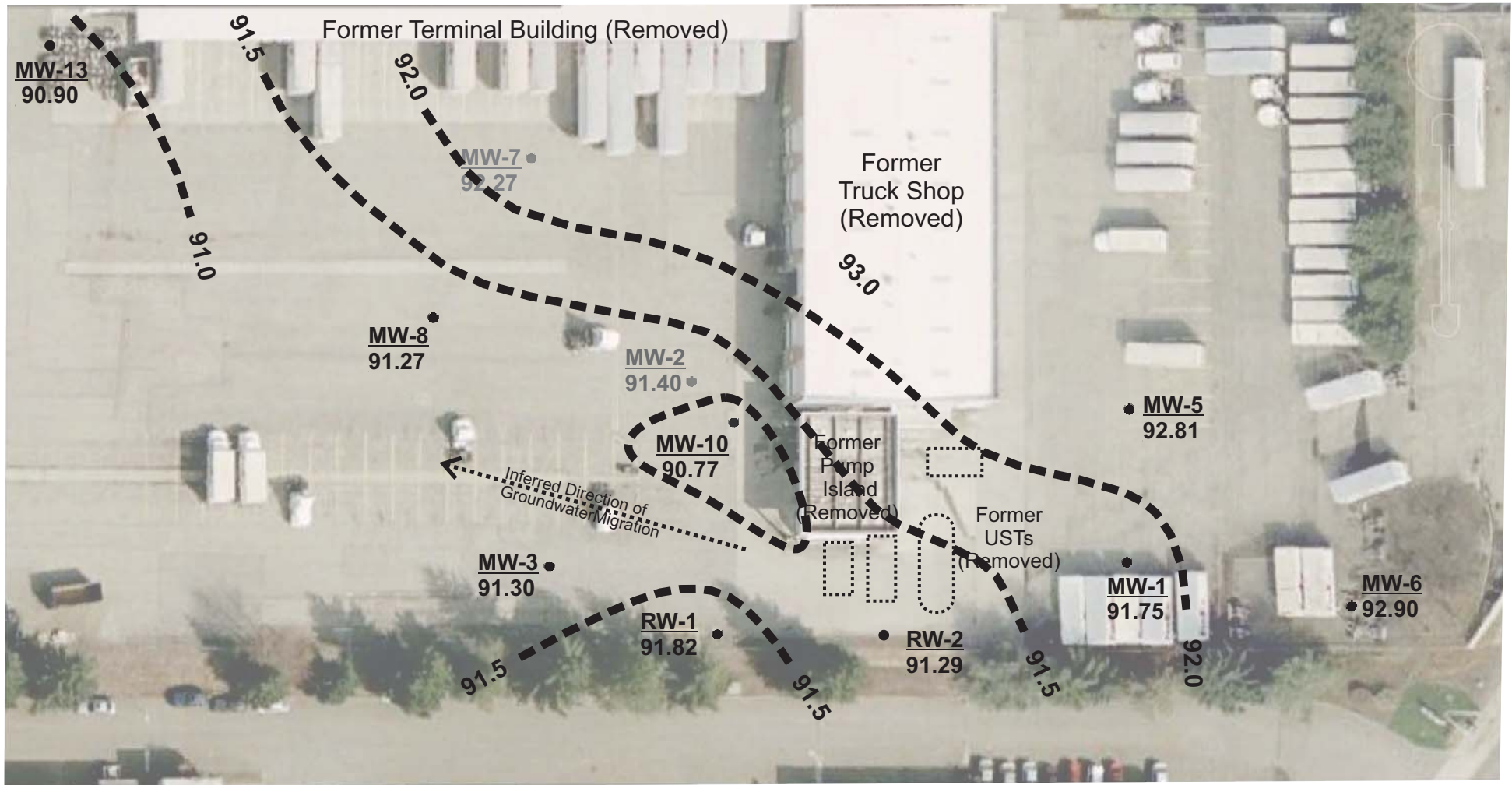
BTEX Compounds by EPA Method 8021B.

^x - Denotes laboratory flag on data - sample chromatogram does not resemble the fuel standard used for quantification. Commonly interpreted as native organic material in the sample or crossover from a different range of petroleum.

ND (<X.XXX) - Not Detected by Analysis at levels above the noted detection reporting limit.

*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.

Sample results exceeding applicable cleanup criteria are noted in ***Bold Italic***.



Legend

- Approximate Location of Sampled Monitoring Wells, 2nd Quarter 2020

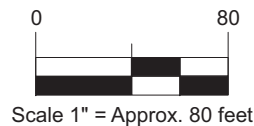
- Approximate Location of Other Site Monitoring Wells



Inferred Groundwater Surface Contour Measurements on 5/5/2020

MW-8
91.27

Well I.D. and Relative Groundwater Elevation



North



Figure 2 - Site and Groundwater Sample Location Plan
Former FedEx Freight, Inc. Kent Terminal
18221 E. Valley Highway
Kent, Washington

Project No. WES - 1276
Date June 7, 2020
File ID. 1276F2

WHITMAN
Environmental Sciences

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
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Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 11, 2020

Dan Whitman, Project Manager
Whitman Environmental Sciences
6812 16th Ave NE
Seattle, WA 98115

Dear Mr Whitman:

Included are the results from the testing of material submitted on May 5, 2020 from the WES 1276, F&BI 005056 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
WES0511R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 5, 2020 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences WES 1276, F&BI 005056 project. Samples were logged in under the laboratory ID's listed below.

| <u>Laboratory ID</u> | <u>Whitman Environmental Sciences</u> |
|----------------------|---------------------------------------|
| 005056 -01 | MW-5-GW |
| 005056 -02 | MW-6-GW |
| 005056 -03 | MW-8-GW |
| 005056 -04 | MW-13-GW |
| 005056 -05 | RW-1-GW |

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20

Date Received: 05/05/20

Project: WES 1276, F&BI 005056

Date Extracted: 05/06/20

Date Analyzed: 05/07/20

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

Results Reported as ug/L (ppb)

| <u>Sample ID</u> Laboratory ID | <u>Benzene</u> | <u>Toluene</u> | <u>Ethyl Benzene</u> | <u>Total Xylenes</u> | <u>Gasoline Range</u> | <u>Surrogate (% Recovery)</u> (Limit 52-124) |
|-----------------------------------|----------------|----------------|--------------------------|--------------------------|---------------------------|---|
| MW-5-GW 005056-01 | <1 | <1 | <1 | <3 | <100 | 92 |
| MW-6-GW 005056-02 | <1 | <1 | <1 | <3 | <100 | 93 |
| MW-8-GW 005056-03 | <1 | <1 | <1 | <3 | <100 | 89 |
| MW-13-GW 005056-04 | <1 | <1 | <1 | <3 | <100 | 95 |
| RW-1-GW 005056-05 | <1 | <1 | <1 | <3 | <100 | 93 |
| Method Blank 00-873 MB | <1 | <1 | <1 | <3 | <100 | 93 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20
Date Received: 05/05/20
Project: WES 1276, F&BI 005056
Date Extracted: 05/06/20
Date Analyzed: 05/06/20

**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)**

| <u>Sample ID</u> Laboratory ID | <u>Diesel Range</u> (C ₁₀ -C ₂₅) | <u>Motor Oil Range</u> (C ₂₅ -C ₃₆) | <u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140) |
|-----------------------------------|--|---|---|
| MW-5-GW 005056-01 | <50 | <250 | 95 |
| MW-6-GW 005056-02 | <50 | <250 | 95 |
| MW-8-GW 005056-03 | <50 | <250 | 93 |
| MW-13-GW 005056-04 | <50 | <250 | 100 |
| RW-1-GW 005056-05 | <50 | <250 | 112 |
| Method Blank 00-1027 MB2 | <50 | <250 | 94 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20
Date Received: 05/05/20
Project: WES 1276, F&BI 005056
Date Extracted: 05/06/20
Date Analyzed: 05/06/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx**
Results Reported as ug/L (ppb)

| <u>Sample ID</u> Laboratory ID | <u>Diesel Range</u> (C ₁₀ -C ₂₅) | <u>Motor Oil Range</u> (C ₂₅ -C ₃₆) | <u>Surrogate</u> (% Recovery) (Limit 41-152) |
|-----------------------------------|--|---|--|
| MW-5-GW 005056-01 | 130 x | <250 | 99 |
| MW-6-GW 005056-02 | 130 x | <250 | 99 |
| MW-8-GW 005056-03 | 380 x | 430 x | 89 |
| MW-13-GW 005056-04 | 360 x | 380 x | 105 |
| RW-1-GW 005056-05 | <50 | <250 | 100 |
| Method Blank 00-1027 MB2 | <50 | <250 | 93 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20

Date Received: 05/05/20

Project: WES 1276, F&BI 005056

**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: 005040-01 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (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

| Analyte | Reporting Units | Spike Level | Percent | |
|--------------|--------------------|----------------|-----------------|------------------------|
| | | | Recovery LCS | Acceptance Criteria |
| Benzene | ug/L (ppb) | 50 | 97 | 65-118 |
| Toluene | ug/L (ppb) | 50 | 96 | 72-122 |
| Ethylbenzene | ug/L (ppb) | 50 | 99 | 73-126 |
| Xylenes | ug/L (ppb) | 150 | 95 | 74-118 |
| Gasoline | ug/L (ppb) | 1,000 | 107 | 69-134 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20

Date Received: 05/05/20

Project: WES 1276, F&BI 005056

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

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 | 100 | 105 | 61-133 | 5 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/11/20

Date Received: 05/05/20

Project: WES 1276, F&BI 005056

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

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Percent Recovery LCSD | Acceptance Criteria | RPD (Limit 20) |
|-----------------|--------------------|----------------|----------------------------|-----------------------------|------------------------|-------------------|
| Diesel Extended | ug/L (ppb) | 2,500 | 100 | 116 | 63-142 | 15 |

FRIEDMAN & BRUYA, INC.

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.

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 the analyte were outside of acceptance criteria. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

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

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. 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 laboratory control sample(s) percent recovery and/or RPD were 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 analyte 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 with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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.

V432 / 100

Phone _____ Email FAU11K00@fau.edu

INVOICE TO

Default: Dispose after 30 days

ANALYSES REQUESTED

[illegible]

Ph. (206) 285-8282

TIME

Received by: _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 6, 2020

Dan Whitman, Project Manager
Whitman Environmental Sciences
6812 16th Ave NE
Seattle, WA 98115

Dear Mr Whitman:

Included are the results from the testing of material submitted on June 26, 2020 from the FedEx Old Kent PO WES 1276, F&BI 006459 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
WES0706R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 26, 2020 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences FedEx Old Kent PO WES 1276, F&BI 006459 project. Samples were logged in under the laboratory ID's listed below.

| <u>Laboratory ID</u> | <u>Whitman Environmental Sciences</u> |
|----------------------|---------------------------------------|
| 006459 -01 | RW-2-GW |
| 006459 -02 | MW-1-GW |
| 006459 -03 | MW-3-GW |
| 006459 -04 | MW-10-GW |

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

Date Received: 06/26/20

Project: FedEx Old Kent PO WES 1276, F&BI 006459

Date Extracted: 06/26/20

Date Analyzed: 06/29/20

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

Results Reported as ug/L (ppb)

| <u>Sample ID</u> Laboratory ID | <u>Benzene</u> | <u>Toluene</u> | <u>Ethyl Benzene</u> | <u>Total Xylenes</u> | <u>Gasoline Range</u> | <u>Surrogate (% Recovery)</u> (Limit 50-150) |
|-----------------------------------|----------------|----------------|--------------------------|--------------------------|---------------------------|---|
| RW-2-GW 006459-01 | 11 | <1 | 4.1 | <3 | <100 | 79 |
| MW-1-GW 006459-02 | <1 | <1 | <1 | <3 | <100 | 77 |
| MW-3-GW 006459-03 | <1 | <1 | <1 | <3 | <100 | 81 |
| MW-10-GW 006459-04 | <1 | <1 | <1 | <3 | <100 | 80 |
| Method Blank 00-1324 MB | <1 | <1 | <1 | <3 | <100 | 94 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

Date Received: 06/26/20

Project: FedEx Old Kent PO WES 1276, F&BI 006459

Date Extracted: 06/26/20

Date Analyzed: 07/01/20

**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)**

| <u>Sample ID</u> | <u>Diesel Range</u> | <u>Motor Oil Range</u> | <u>Surrogate</u> |
|------------------|-------------------------------------|-------------------------------------|------------------|
| Laboratory ID | (C ₁₀ -C ₂₅) | (C ₂₅ -C ₃₆) | (% Recovery) |
| | | | (Limit 41-152) |
| MW-10-GW | <50 | <250 | 89 |
| 006459-04 | | | |
| Method Blank | <50 | <250 | 89 |
| 00-1470 MB2 | | | |

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ENVIRONMENTAL CHEMISTS

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**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx**

Results Reported as ug/L (ppb)

| <u>Sample ID</u> Laboratory ID | <u>Diesel Range</u> (C ₁₀ -C ₂₅) | <u>Motor Oil Range</u> (C ₂₅ -C ₃₆) | <u>Surrogate</u> (% Recovery) (Limit 41-152) |
|-----------------------------------|--|---|--|
| RW-2-GW 006459-01 | 71 x | <250 | 104 |
| MW-1-GW 006459-02 | 170 x | <250 | 100 |
| MW-3-GW 006459-03 | 310 x | <250 | 103 |
| MW-10-GW 006459-04 | 700 x | <250 | 90 |
| Method Blank 00-1470 MB2 | <50 | <250 | 88 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

Date Received: 06/26/20

Project: FedEx Old Kent PO WES 1276, F&BI 006459

**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: 006443-01 (Duplicate)

| Analyte | Reporting Units | Sample Result | Duplicate Result | RPD (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

| Analyte | Reporting Units | Spike Level | Percent | |
|--------------|--------------------|----------------|-----------------|------------------------|
| | | | Recovery LCS | Acceptance Criteria |
| Benzene | ug/L (ppb) | 50 | 98 | 65-118 |
| Toluene | ug/L (ppb) | 50 | 99 | 72-122 |
| Ethylbenzene | ug/L (ppb) | 50 | 105 | 73-126 |
| Xylenes | ug/L (ppb) | 150 | 103 | 74-118 |
| Gasoline | ug/L (ppb) | 1,000 | 106 | 69-134 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

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Project: FedEx Old Kent PO WES 1276, F&BI 006459

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

Laboratory Code: Laboratory Control Silica Gel Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Percent Recovery LCSD | Acceptance Criteria | RPD (Limit 20) |
|-----------------|--------------------|----------------|----------------------------|-----------------------------|------------------------|-------------------|
| Diesel Extended | ug/L (ppb) | 2,500 | 88 | 92 | 63-142 | 4 |

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/06/20

Date Received: 06/26/20

Project: FedEx Old Kent PO WES 1276, F&BI 006459

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

Laboratory Code: Laboratory Control Sample

| Analyte | Reporting Units | Spike Level | Percent Recovery LCS | Percent Recovery LCSD | Acceptance Criteria | RPD (Limit 20) |
|-----------------|--------------------|----------------|----------------------------|-----------------------------|------------------------|-------------------|
| Diesel Extended | ug/L (ppb) | 2,500 | 92 | 96 | 61-133 | 4 |

FRIEDMAN & BRUYA, INC.

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.

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 the analyte were outside of acceptance criteria. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

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

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. 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 laboratory control sample(s) percent recovery and/or RPD were 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 analyte 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 with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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.

