412091

SAMPLE CHAIN OF CUSTODY

ME 12/4/14

VS2 EDD

Page # 1 of 2

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5712 Fax #

SAMPLERS *(signature)*

PROJECT NAME/NO. NorthEdge/KV030722B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
						ANALYSES REQUESTED												
PC-18 16-20	A-E 01	12/4/14	0817	Soil	1 for 1 jar	X	X	X										
PC-18 20-24	A-E 02		0823			X	X	X										
PC-33 16-20	A-E 03		0758			X	X	X										
PC-33 20-24	A-E 04		0805			X	X	X										
PC-47 0-4	A-E 05		0957			X	X	X										
PC-47 4-8	A-E 06		1003			X	X	X										
PC-51 0-4	A-E 07		1023			X	X	X										
PC-51 4-8	A-E 08		1032			X	X	X										
PC-50 0-4	A-E 09		1044			X	X	X										
PC-50 4-8	A-E 10		1053			X	X	X										

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:	Frank Mocker	AESI	12/4/14	1311
Received by:	James Bruya	F&B	12/4/14	1311
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

412091

SAMPLE CHAIN OF CUSTODY ME 12/4/14

VS2 E04

Send Report To Frank Moecker
Company AESI
Address 911 Fifth Ave Ste 100
City, State, ZIP Kirkland WA 98033
Phone # 425 766 5112 Fax #

SAMPLERS (signature) [signature]

PROJECT NAME/NO.	PO#
NorthEdge / KW03072B	

REMARKS

Page # 2 of 2

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24 hour
Rush charges authorized by

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-52 0-4	11 A-E	12/4/14	1103	Soil	1 kit 1 jar	✓	✓	✓										✓ per FM
PC-52 4-8	12 A-E	↓	1109	↓	↓	✓	✓	✓										M 12/4/14
PC-48 0-4	13 A-E	↓	1121	↓	↓	✓	✓	✓										
PC-48 4-8	14 A-E	↓	1131	↓	↓	✓	≠	✓										
PC-53 0-4	15 A-E	↓	1148	↓	↓	✓	✓	✓										
PC-53 4-8	16 A-E	↓	1155	↓	↓	✓	✓	✓										
PC-54 0-4	17 A-E	↓	1205	↓	↓	✓	✓	✓										
PC-54 4-8	18 A-E	↓	1211	↓	↓	✓	✓	✓										

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]	Frank Moecker	AESI	12/4/14	1311
Received by: [signature]	James Bruya	F&B	12/4/14	1311
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

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.

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

December 9, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 5, 2014 from the North Edge KV030772B, F&BI 412121 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11209R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 5, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412121 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412121 -01	PC-37 4-8
412121 -02	PC-37 8-12
412121 -03	PC-56 0-4
412121 -04	PC-56 4-8
412121 -05	PC-49 4-8
412121 -06	PC-49 8-12
412121 -07	PC-38 4-8
412121 -08	PC-38 8-12
412121 -09	PC-55 4-8
412121 -10	PC-55 8-12

All quality control requirements were acceptable.

Date of Report: 12/09/14
Date Received: 12/05/14
Project: North Edge KV030772B, F&BI 412121
Date Extracted: 12/05/14
Date Analyzed: 12/05/14, 12/06/14 and 12/08/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-37 4-8 412121-01	<0.02	<0.02	<0.02	<0.06	<2	79
PC-37 8-12 412121-02 1/10	<0.02 j	1.4	6.4	9.2	1,600	90
PC-56 0-4 412121-03	0.042	0.11	<0.02	<0.06	<2	79
PC-56 4-8 412121-04 1/5	0.04 j	0.37	<0.1	4.4	690	90
PC-49 4-8 412121-05	<0.02	<0.02	<0.02	<0.06	<2	80
PC-49 8-12 412121-06	<0.02	<0.02	0.087	0.087	27	91
PC-38 4-8 412121-07	<0.02	<0.02	<0.02	<0.06	<2	79
PC-38 8-12 412121-08	<0.02	<0.02	0.39	0.33	100	99
PC-55 4-8 412121-09	<0.02	<0.02	<0.02	<0.06	<2	78
PC-55 8-12 412121-10	<0.02	1.4	<0.02	6.9	1,100	ip
Method Blank 04-2433 MB	<0.02	<0.02	<0.02	<0.06	<2	79

Date of Report: 12/09/14
Date Received: 12/05/14
Project: North Edge KV030772B, F&BI 412121
Date Extracted: 12/05/14
Date Analyzed: 12/05/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
PC-37 4-8 412121-01	<50	<250	102
PC-37 8-12 412121-02	1,400	<250	95
PC-56 0-4 412121-03	<50	<250	96
PC-56 4-8 412121-04	620	<250	93
PC-49 4-8 412121-05	<50	<250	96
PC-49 8-12 412121-06	<50	<250	101
PC-38 4-8 412121-07	<50	<250	90
PC-38 8-12 412121-08	<50	<250	90
PC-55 4-8 412121-09	<50	<250	89
PC-55 8-12 412121-10	1,600	<250	90
Method Blank 04-2449 MB	<50	<250	95

Date of Report: 12/09/14
Date Received: 12/05/14
Project: North Edge KV030772B, F&BI 412121

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

Laboratory Code: 412121-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	77	69-120
Toluene	mg/kg (ppm)	0.5	78	70-117
Ethylbenzene	mg/kg (ppm)	0.5	79	65-123
Xylenes	mg/kg (ppm)	1.5	79	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 12/09/14
Date Received: 12/05/14
Project: North Edge KV030772B, F&BI 412121

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

Laboratory Code: 412121-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	96	95	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	95	79-144

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412121

SAMPLE CHAIN OF CUSTODY

ME 12-05-14

V3/E0

Send Report To Frank Mosher

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. NorthEdge/ICV0307728

PO#

REMARKS

Page # 1 of 1

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by F. S. Mosher

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-37 4-8	01	12/5/14	0916	Soil	1 4oz jar	X	X	X										
PC-37 8-12	02		0924			X	X	X										
PC-56 0-4	03		0938			X	X	X										
PC-56 4-8	04		0945			X	X	X										
PC-49 4-8	05		1009			X	X	X										
PC-49 8-12	06		1015			X	X	X										
PC-38 4-8	07		1124			X	X	X										
PC-38 8-12	08		1134			X	X	X										
PC-55 4-8	09		1153			X	X	X										Samples received at 4 °C
PC-55 8-12	10		1159			X	X	X										

ANALYSES REQUESTED

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:		Frank Mosher	AESI	12/5/14	1455
Received by:		Jon Shimazu	FBI	"	"
Relinquished by:					
Received by:					

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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.

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

December 11, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 10, 2014 from the North Edge KV030772B, F&BI 412187 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11211R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 10, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412187 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412187 -01	PC-21 24-28
412187 -02	PC-21 28-32
412187 -03	PC-22 24-28
412187 -04	PC-22 28-32
412187 -05	PC-23 24-28
412187 -06	PC-23 28-32
412187 -07	PC-30 24-28
412187 -08	PC-30 28-32
412187 -09	PC-28 24-28
412187 -10	PC-28 28-32
412187 -11	PC-24 24-28
412187 -12	PC-24 28-32
412187 -13	PC-18 24-28
412187 -14	PC-18 28-32
412187 -15	PC-32 24-28
412187 -16	PC-32 28-32
412187 -17	PC-27 24-28
412187 -18	PC-27 28-32

All quality control requirements were acceptable.

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187
Date Extracted: 12/10/14
Date Analyzed: 12/10/14 and 12/11/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-21 24-28 412187-01	<0.02	<0.02	<0.02	<0.06	<2	93
PC-21 28-32 412187-02	<0.02	<0.02	<0.02	<0.06	<2	93
PC-22 24-28 412187-03	<0.02	<0.02	<0.02	<0.06	<2	94
PC-22 28-32 412187-04	<0.02	<0.02	<0.02	<0.06	<2	93
PC-23 24-28 412187-05	<0.02	<0.02	<0.02	<0.06	<2	93
PC-23 28-32 412187-06	<0.02	<0.02	<0.02	<0.06	<2	93
PC-30 24-28 412187-07	<0.02	<0.02	<0.02	<0.06	<2	92
PC-30 28-32 412187-08	<0.02	<0.02	<0.02	<0.06	<2	95
PC-28 24-28 412187-09	<0.02	<0.02	<0.02	<0.06	<2	93
PC-28 28-32 412187-10	<0.02	<0.02	<0.02	<0.06	<2	92
PC-24 24-28 412187-11	<0.02	<0.02	<0.02	<0.06	<2	93

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187
Date Extracted: 12/10/14
Date Analyzed: 12/10/14 and 12/11/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-24 28-32 412187-12	<0.02	<0.02	<0.02	<0.06	<2	92
PC-18 24-28 412187-13	<0.02	<0.02	0.13	0.11	44	98
PC-18 28-32 412187-14	<0.02	<0.02	<0.02	<0.06	<2	94
PC-32 24-28 412187-15	<0.02	<0.02	<0.02	<0.06	<2	94
PC-32 28-32 412187-16	<0.02	<0.02	<0.02	<0.06	<2	94
PC-27 24-28 412187-17	<0.02	<0.02	<0.02	<0.06	7.2	82
PC-27 28-32 412187-18	<0.02	<0.02	<0.02	<0.06	<2	93
Method Blank 04-2439 MB	<0.02	<0.02	<0.02	<0.06	<2	93

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187
Date Extracted: 12/10/14
Date Analyzed: 12/10/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
PC-21 24-28 412187-01	<50	<250	116
PC-21 28-32 412187-02	<50	<250	102
PC-22 24-28 412187-03	<50	<250	105
PC-22 28-32 412187-04	<50	<250	108
PC-23 24-28 412187-05	<50	<250	107
PC-23 28-32 412187-06	<50	<250	107
PC-30 24-28 412187-07	<50	<250	110
PC-30 28-32 412187-08	<50	<250	110
PC-28 24-28 412187-09	<50	<250	107
PC-28 28-32 412187-10	<50	<250	108
PC-24 24-28 412187-11	<50	<250	107
PC-24 28-32 412187-12	<50	<250	101

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187
Date Extracted: 12/10/14
Date Analyzed: 12/10/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
PC-18 24-28 412187-13	140	<250	117
PC-18 28-32 412187-14	<50	<250	104
PC-32 24-28 412187-15	<50	<250	103
PC-32 28-32 412187-16	<50	<250	122
PC-27 24-28 412187-17	<50	<250	105
PC-27 28-32 412187-18	<50	<250	101
Method Blank 04-2475 MB	<50	<250	110

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187

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

Laboratory Code: 412187-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	89	69-120
Toluene	mg/kg (ppm)	0.5	89	70-117
Ethylbenzene	mg/kg (ppm)	0.5	91	65-123
Xylenes	mg/kg (ppm)	1.5	90	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 12/11/14
Date Received: 12/10/14
Project: North Edge KV030772B, F&BI 412187

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

Laboratory Code: 412187-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	96	110	63-146	14

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	79-144

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412187 | MG 12/10/14 | VS3/E03

SAMPLE CHAIN OF CUSTODY

Page # 1 of 2

Send Report To Frank Moeller

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5112 Fax # ______

SAMPLERS (signature)

PROJECT NAME/NO.	PO#
NorthEdge / KV030772B	

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour
- Rush charges authorized by F. S. Moeller

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-21 24-28	01 A-E	12/10/14	0826	Soil	1 kit 1 jar	X	X	X										
PC-21 28-32	02	↓	0832	↓	↓	X	X	X										
PC-22 24-28	03	↓	0839	↓	↓	X	X	X										
PC-22 28-32	04	↓	0845	↓	↓	X	X	X										
PC-23 24-28	05	↓	0900	↓	↓	X	X	X										
PC-23 28-32	06	↓	0908	↓	↓	X	X	X										
PC-30 24-28	07	↓	1108	↓	↓	X	X	X										
PC-30 28-32	08	↓	1117	↓	↓	X	X	X										
PC-28 24-28	09	↓	1129	↓	↓	X	X	X										
PC-28 28-32	10	↓	1133	↓	↓	X	X	X										Samples received at 4 °C

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:	Frank Moeller	AESI	12/10/14	1352
Received by:	Matt Langston	FBI	12/10/14	1352
Relinquished by:				
Received by:				

412187

SAMPLE CHAIN OF CUSTODY

MG 12/10/14

VSS/EVS

Page # 2 of 2

Send Report To Frank Moeller

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (Signature)

PROJECT NAME/NO. Mortmedge/KV030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by F.S. Moeller

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-24 24-28	11A-E	12/10/14	1145	Soil	1 Kit 1 jar	X	X	X										
PC-24 28-32	12		1151			X	X	X										
PC-18 24-28	13		1222			X	X	X										
PC-18 28-32	14		1231			X	X	X										
PC-32 24-28	15		1202			X	X	X										
PC-32 28-32	16		1209			X	X	X										
PC-27 24-28	17		1252			X	X	X										
PC-27 28-32	18		1257			X	X	X										

Samples received at 4 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Frank Moeller	AESI	12/10/14	1352
Received by:		Matt Tangstad	FBI	12/10/14	1352
Relinquished by:					
Received by:					

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

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.

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

December 12, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 11, 2014 from the North Edge KV030772B, F&BI 412210 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11212R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 11, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412210 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412210 -01	PC-5 7-11
412210 -02	PC-5 11-15
412210 -03	PC-39 11-15
412210 -04	PC-39 15-19
412210 -05	PC-55 11-15
412210 -06	PC-55 15-19
412210 -07	PC-56 7-11
412210 -08	PC-56 11-15
412210 -09	PC-53 7-11
412210 -10	PC-53 11-15
412210 -11	PC-57 11-15
412210 -12	PC-57 15-19
412210 -13	PC-38 11-15
412210 -14	PC-38 15-19
412210 -15	PC-46 7-11
412210 -16	PC-46 11-15

All quality control requirements were acceptable.

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210
Date Extracted: 12/11/14
Date Analyzed: 12/11/14 and 12/12/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-5 7-11 412210-01 1/2	<0.02 j	0.11	0.89	0.72	190	103
PC-5 11-15 412210-02	<0.02	<0.02	<0.02	<0.06	<2	93
PC-39 11-15 412210-03	<0.02	<0.02	0.15	0.087	52	96
PC-39 15-19 412210-04	<0.02	<0.02	<0.02	<0.06	<2	92
PC-55 11-15 412210-05 1/2	<0.02 j	0.10	0.80	0.66	180	98
PC-55 15-19 412210-06	<0.02	<0.02	<0.02	<0.06	5.7	93
PC-56 7-11 412210-07 1/2	<0.02 j	0.077	0.75	0.65	180	101
PC-56 11-15 412210-08	<0.02	<0.02	<0.02	<0.06	3.0	92
PC-53 7-11 412210-09	<0.02	<0.02	<0.02	<0.06	<2	92
PC-53 11-15 412210-10	<0.02	<0.02	<0.02	<0.06	<2	93
PC-57 11-15 412210-11	<0.02	<0.02	<0.02	<0.06	<2	91

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210
Date Extracted: 12/11/14
Date Analyzed: 12/11/14 and 12/12/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-57 15-19 412210-12	<0.02	<0.02	<0.02	<0.06	<2	80
PC-38 11-15 412210-13	<0.02	<0.02	<0.02	<0.06	<2	91
PC-38 15-19 412210-14	<0.02	<0.02	<0.02	<0.06	<2	92
PC-46 7-11 412210-15	<0.02	<0.02	<0.02	<0.06	<2	79
PC-46 11-15 412210-16 1/2	<0.02 j	0.15	0.93	0.72	220	91
Method Blank 04-2481 MB	<0.02	<0.02	<0.02	<0.06	<2	91

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210
Date Extracted: 12/11/14
Date Analyzed: 12/11/14 and 12/12/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
PC-5 7-11 412210-01	420	<250	118
PC-5 11-15 412210-02	<50	<250	125
PC-39 11-15 412210-03	210	<250	115
PC-39 15-19 412210-04	<50	<250	117
PC-55 11-15 412210-05	610	<250	97
PC-55 15-19 412210-06	82	<250	99
PC-56 7-11 412210-07	270	<250	95
PC-56 11-15 412210-08	<50	<250	93
PC-53 7-11 412210-09	<50	<250	98
PC-53 11-15 412210-10	<50	<250	96
PC-57 11-15 412210-11	<50	<250	99

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210
Date Extracted: 12/11/14
Date Analyzed: 12/11/14 and 12/12/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
PC-57 15-19 412210-12	<50	<250	97
PC-38 11-15 412210-13	<50	<250	97
PC-38 15-19 412210-14	<50	<250	91
PC-46 7-11 412210-15	<50	<250	98
PC-46 11-15 412210-16	1,200	<250	90
Method Blank 04-2490 MB	<50	<250	123

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210

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

Laboratory Code: 412210-13 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	77	69-120
Toluene	mg/kg (ppm)	0.5	78	70-117
Ethylbenzene	mg/kg (ppm)	0.5	81	65-123
Xylenes	mg/kg (ppm)	1.5	80	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 12/12/14
Date Received: 12/11/14
Project: North Edge KV030772B, F&BI 412210

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

Laboratory Code: 412210-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	106	73-135	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	74-139

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412210

SAMPLE CHAIN OF CUSTODY

ME 12/11/14

VS3/A04

Page # 1 of 2

Send Report To Frank Moeker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5712 Fax #

SAMPLERS (signature) [signature]

PROJECT NAME/NO. North Edge / KV030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by F. S. Moeker

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Notes
PC-5 7-11	01 A-E	12/11/14	1043	Soil	1 kit 1 jar	X	X	X				
PC-5 11-15	02		1053			X	X	X				
PC-39 11-15	03		1139			X	X	X				
PC-39 15-19	04		1147			X	X	X				
PC-55 11-15	05		1157			X	X	X				
PC-55 15-19	06		1211			X	X	X				
PC-56 7-11	07		1315			X	X	X				
PC-56 11-15	08		1344			X	X	X				
PC-53 7-11	09		1222			X	X	X				
PC-53 11-15	10		1231			X	X	X				

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]	Frank Moeker	AESI	12/11/14	1447
Received by:	[signature]	HONG NGUYEN	FBI	✓	✓
Relinquished by:					
Received by:			Samples received at 3 °C		

412210

SAMPLE CHAIN OF CUSTODY

ME 12/11/14

VS3/A04

Page # 2 of 2

Send Report To Frank Moeller

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone #425 766 5712 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. NorthEdge/KV030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by F.S. Moeller

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
						ANALYSES REQUESTED												
PC-57 11-15	11 AE	12/11/14	1118	Soil	1 Cat 1 Jar	X	X	X										
PC-57 15-19	12		1125			X	X	X										
PC-38 11-15	13		1357			X	X	X										
PC-38 15-19	14		1404			X	X	X										
PC-46 7-11	15		1316			X	X	X										
PC-46 11-15	16		1323			X	X	X										

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:		Frank Moeller	AESI	12/11/14	1447
Received by:		HONG NGUYEN	FBI	"	"
Relinquished by:					
Received by:			Samples received at 3 °C		

FORMS\COC\COC.DOC

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.

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

December 23, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 15, 2014 from the North Edge KV030772B, F&BI 412254 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11223R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 15, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412254 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412254 -01	SW-8 @ 10'
412254 -02	SW-9 @ 10'
412254 -03	SW-10 @ 10'

All quality control requirements were acceptable.

Date of Report: 12/23/14
Date Received: 12/15/14
Project: North Edge KV030772B, F&BI 412254
Date Extracted: 12/16/14
Date Analyzed: 12/16/14 and 12/17/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
SW-8 @ 10' 412254-01	<0.02	<0.02	<0.02	<0.06	<2	86
SW-9 @ 10' 412254-02 1/5	<0.02 j	0.29	2.5	2.3	680	102
SW-10 @ 10' 412254-03 1/5	<0.02 j	<0.1	0.19	<0.3	200	88
Method Blank 04-2488 MB	<0.02	<0.02	<0.02	<0.06	<2	82

Date of Report: 12/23/14
Date Received: 12/15/14
Project: North Edge KV030772B, F&BI 412254
Date Extracted: 12/15/14
Date Analyzed: 12/15/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
SW-8 @ 10' 412254-01	<50	<250	102
SW-9 @ 10' 412254-02	1,800	<250	93
SW-10 @ 10' 412254-03	890 x	390	99
Method Blank 04-2494 MB	<50	<250	101

Date of Report: 12/23/14
Date Received: 12/15/14
Project: North Edge KV030772B, F&BI 412254

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

Laboratory Code: 412254-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	79	69-120
Toluene	mg/kg (ppm)	0.5	81	70-117
Ethylbenzene	mg/kg (ppm)	0.5	82	65-123
Xylenes	mg/kg (ppm)	1.5	82	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 12/23/14
Date Received: 12/15/14
Project: North Edge KV030772B, F&BI 412254

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

Laboratory Code: 412231-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	111	111	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	110	74-139

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412254

SAMPLE CHAIN OF CUSTODY

ME 12/15/14 VSI/A01

Page # 1 of 1

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. North Edge / KCV030772B

PO#

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 Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
SW-8 @10'	01	12/15/14	1101	Soil	1 jar	X	X	X										
SW-9 @10'	02	"	1155	"	"	X	X	X										
SW-10 @10'	03	"	1330	"	"	X	X	X										
																	Samples received at 5 °C	

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Frank Mocker	AESI	12/15/14	1510
Received by:		VINH	FBI	12/15/14	1510
Relinquished by:					
Received by:					

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

FORMS\COC\COC.DOC

5°C

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.

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

December 23, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 17, 2014 from the North Edge KV030772B, F&BI 412290 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11223R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 17, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412290 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412290 -01	SW-11 @ 10'
412290 -02	SW-12 @ 10'
412290 -03	SW-13 @ 10'
412290 -04	SW-14 @ 10'
412290 -05	SW-15 @ 10'

All quality control requirements were acceptable.

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412290
Date Extracted: 12/18/14
Date Analyzed: 12/18/14, 12/19/14, and 12/22/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
SW-11 @ 10' 412290-01	<0.02	<0.02	<0.02	<0.06	<2	85
SW-12 @ 10' 412290-02	<0.02	<0.02	<0.02	<0.06	<2	102
SW-13 @ 10' 412290-03	<0.02	<0.02	<0.02	0.10	<2	102
SW-14 @ 10' 412290-04 1/10	1.9	40	21	130	2,700	ip
SW-15 @ 10' 412290-05 1/5	<0.02 j	<0.1	1.8	6.0	780	132
Method Blank 04-2513 MB	<0.02	<0.02	<0.02	<0.06	<2	107

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412290
Date Extracted: 12/17/14
Date Analyzed: 12/17/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
SW-11 @ 10' 412290-01	<50	<250	111
SW-12 @ 10' 412290-02	<50	<250	115
SW-13 @ 10' 412290-03	<50	<250	112
SW-14 @ 10' 412290-04	9,900	300 x	108
SW-15 @ 10' 412290-05	6,900	<250	114
Method Blank 04-2522 MB	<50	<250	115

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412290

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

Laboratory Code: 412312-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	66-121
Toluene	mg/kg (ppm)	0.5	96	72-128
Ethylbenzene	mg/kg (ppm)	0.5	97	69-132
Xylenes	mg/kg (ppm)	1.5	98	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412290

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

Laboratory Code: 412280-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	114	116	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	117	58-147

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412290 [redacted]

SAMPLE CHAIN OF CUSTODY

ME 12/17/14 [redacted] VS/A01

Page # 1 of 1

Send Report To: Frank Mueler
Company: AESI
Address: 911 Fifth Ave Ste 100
City, State, ZIP: Kirkland, WA 98033
Phone #: 425 766 5712 Fax #:

SAMPLERS (signature): [signature]

PROJECT NAME/NO.	PO#
North Edge / KV030772B	

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 Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS								Notes
SW-11 @ 10'	01 A-E	12/16/14	0924	Soil	1 1 kit 1 jar	X	X	X											
SW-12 @ 10'	02		1139			X	X	X											
SW-13 @ 10'	03		1346			X	X	X											
SW-14 @ 10'	04		1401			X	X	X											
SW-15 @ 10'	05	12/17/14	0726	Soil	1 kit 1 jar	X	X	X											

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]	Frank Mueler	AESI	12/17/14	0935
Received by:	[signature]	Matt Langston	F-Bruya	12/17/14	0935
Relinquished by:					
Received by:			Samples received at 4 °C		

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.

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

December 23, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 17, 2014 from the North Edge KV030772B, F&BI 412300 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11223R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 17, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412300 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412300 -01	SW-5 @ 25'
412300 -02	SW-16 @ 15'
412300 -03	SW-1 @ 35'
412300 -04	SW-2 @ 34'

All quality control requirements were acceptable.

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412300
Date Extracted: 12/18/14
Date Analyzed: 12/18/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
SW-5 @ 25' 412300-01	<0.02	<0.02	<0.02	<0.06	<2	100
SW-16 @ 15' 412300-02	<0.02	<0.02	0.024	<0.06	4.6	102
SW-1 @ 35' 412300-03	<0.02	<0.02	<0.02	<0.06	<2	103
SW-2 @ 34' 412300-04	<0.02	<0.02	<0.02	<0.06	<2	96
Method Blank 04-2513 MB	<0.02	<0.02	<0.02	<0.06	<2	107

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412300
Date Extracted: 12/18/14
Date Analyzed: 12/18/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
SW-5 @ 25' 412300-01	<50	<250	101
SW-16 @ 15' 412300-02	<50	<250	93
SW-1 @ 35' 412300-03	<50	<250	99
SW-2 @ 34' 412300-04	<50	<250	97
Method Blank 04-2534 MB	<50	<250	95

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412300

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

Laboratory Code: 412312-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	66-121
Toluene	mg/kg (ppm)	0.5	96	72-128
Ethylbenzene	mg/kg (ppm)	0.5	97	69-132
Xylenes	mg/kg (ppm)	1.5	98	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 12/23/14
Date Received: 12/17/14
Project: North Edge KV030772B, F&BI 412300

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

Laboratory Code: 412309-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	260	115	109	73-135	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	124	74-139

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412300 ME 12-17-14 A01 / V31

SAMPLE CHAIN OF CUSTODY

Page # 1 of 1

Send Report To Frank Mocker
AESI
Company 911 Fifth Ave Ste 100
Address
City, State, ZIP Kirkland, WA 98033
Phone # 4257665712 Fax #

SAMPLERS (signature)
PROJECT NAME/NO. NorthEdge/ICVU 307728 PO#
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 Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS						Notes
~~SW-15 @10'~~ D		12/17/14	0726	Soil	1 4oz Jar	X	X	X									do not Received
SW-5 @25'	01A-E		1030			X	X	X									
SW-16 @15'	02		1400			X	X	X									
SW-1 @35'	03		1055			X	X	X									
SW-2 @34'	04		1115			X	X	X									
																	Samples received at 2 °C

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:	Frank Mocker	AESI	12/17/14	1510
Received by:	D of W	F&B	"	1510
Relinquished by:				
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.

3012 16th Avenue West
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fbi@isomedia.com
www.friedmanandbruya.com

December 23, 2014

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 19, 2014 from the North Edge KV030772B, F&BI 412339 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE11223R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 19, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412339 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412339 -01	PC-34 16-20'
412339 -02	PC-34 20-24'
412339 -03	PC-14 16-20'
412339 -04	PC-14 20-24'

All quality control requirements were acceptable.

Date of Report: 12/23/14
Date Received: 12/19/14
Project: North Edge KV030772B, F&BI 412339
Date Extracted: 12/19/14
Date Analyzed: 12/19/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
PC-34 16-20' 412339-01	<0.02	<0.02	0.026	<0.06	13	97
PC-34 20-24' 412339-02	<0.02	<0.02	<0.02	<0.06	3.0	97
PC-14 16-20' 412339-03	<0.02	<0.02	<0.02	<0.06	<2	97
PC-14 20-24' 412339-04	<0.02	<0.02	<0.02	<0.06	<2	101
Method Blank 04-2514 MB	<0.02	<0.02	<0.02	<0.06	<2	98

Date of Report: 12/23/14
Date Received: 12/19/14
Project: North Edge KV030772B, F&BI 412339
Date Extracted: 12/19/14
Date Analyzed: 12/19/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
PC-34 16-20' 412339-01	<50	<250	90
PC-34 20-24' 412339-02	<50	<250	105
PC-14 16-20' 412339-03	<50	<250	93
PC-14 20-24' 412339-04	<50	<250	98
Method Blank 04-2544 MB	<50	<250	99

Date of Report: 12/23/14
Date Received: 12/19/14
Project: North Edge KV030772B, F&BI 412339

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

Laboratory Code: 412318-02 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	4	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	96	66-121
Toluene	mg/kg (ppm)	0.5	98	72-128
Ethylbenzene	mg/kg (ppm)	0.5	102	69-132
Xylenes	mg/kg (ppm)	1.5	101	69-131
Gasoline	mg/kg (ppm)	20	100	61-153

Date of Report: 12/23/14
Date Received: 12/19/14
Project: North Edge KV030772B, F&BI 412339

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

Laboratory Code: 412339-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	112	111	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	102	79-144

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412339

SAMPLE CHAIN OF CUSTODY ME 12-19-14

A01/VS1

Page # 1 of 1

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5712 Fax #

SAMPLERS (signature) [signature]

PROJECT NAME/NO. NorthEdge/ KV030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH 24 hour

Rush charges authorized by F.S. Mocker

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-34 16-20'	01A-E	12/19/14	0739	Soil	1 4oz jar	X	X	X										
PC-34 20-24'	02		0747			X	X	X										
PC-14 16-20'	03		0803			X	X	X										
PC-14 20-24'	04		0817			X	X	X										

Samples received at 7 °C

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]	Frank Mocker	AESI	12/19/14	0855
Received by: [signature]	James Bruya	F&B	12/19	0855
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC

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.

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

January 6, 2015

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 31, 2014 from the North Edge KV030772B, F&BI 412450 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE10106R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 31, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412450 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412450 -01	Com1
412450 -02	SW-7@25'
412450 -03	Com2
412450 -04	PC-51 11-15
412450 -05	PC-51 15-19
412450 -06	PC-58 11-15
412450 -07	PC-58 15-19
412450 -08	PC-56 15-19
412450 -09	PC-55 19-23
412450 -10	PC-55 23-27

All quality control requirements were acceptable.

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412450
Date Extracted: 12/31/14
Date Analyzed: 12/31/14

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
Com1 412450-01	<0.02	<0.02	<0.02	<0.06	<2	104
SW-7@25' 412450-02	<0.02	<0.02	<0.02	<0.06	<2	98
Com2 412450-03	<0.02	<0.02	<0.02	<0.06	<2	106
PC-51 11-15 412450-04	<0.02	<0.02	<0.02	<0.06	<2	105
PC-51 15-19 412450-05	<0.02	<0.02	<0.02	<0.06	<2	109
PC-58 11-15 412450-06	<0.02	<0.02	<0.02	<0.06	<2	112
PC-58 15-19 412450-07	<0.02	<0.02	<0.02	<0.06	<2	107
PC-56 15-19 412450-08	<0.02	<0.02	<0.02	<0.06	<2	107
PC-55 19-23 412450-09	<0.02	<0.02	<0.02	<0.06	<2	107
PC-55 23-27 412450-10	<0.02	<0.02	<0.02	<0.06	<2	105
Method Blank 04-2584 MB	<0.02	<0.02	<0.02	<0.06	<2	108

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412450
Date Extracted: 12/31/14
Date Analyzed: 12/31/14 and 01/02/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
Com1 412450-01	<50	<250	107
SW-7@25' 412450-02	<50	<250	101
Com2 412450-03	<50	<250	97
PC-51 11-15 412450-04	<50	<250	111
PC-51 15-19 412450-05	<50	<250	112
PC-58 11-15 412450-06	<50	<250	113
PC-58 15-19 412450-07	<50	<250	108
PC-56 15-19 412450-08	<50	<250	106
PC-55 19-23 412450-09	<50	<250	107
PC-55 23-27 412450-10	<50	<250	112
Method Blank 04-2585 MB	<50	<250	106

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412450

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

Laboratory Code: 412450-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	66-121
Toluene	mg/kg (ppm)	0.5	91	72-128
Ethylbenzene	mg/kg (ppm)	0.5	92	69-132
Xylenes	mg/kg (ppm)	1.5	92	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412450

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

Laboratory Code: 412450-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	90	90	63-146	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	79-144

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412456

SAMPLE CHAIN OF CUSTODY ME 12-31-14

A02 / VS2

Page # 1 of 1

Send Report To Frank Moeller
Company AESI
Address 911 Fifth Ave Ste 100
City, State, ZIP Kirkland, WA 98033
Phone # 425 766 5114 Fax #

SAMPLERS (signature)
PROJECT NAME/NO. North Edge / 1CV03077213
PO#
REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 24 hour See Below
Rush charges authorized by F. S. Moeller

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS	Notes
Com 1	01A-E	12/29/14	0910	Soil	1 1pt 1 jar	X	X	X				Standard 2 weeks
SW-7@25'	02	12/30/14	0730	Soil	1 1pt 1 jar	X	X	X				
COM 2	03		0740			X	X	X				
PC-51 11-15	04		1204			X	X	X				Rush 24 hour
PC-51 15-19	05		1214			X	X	X				
PC-58 11-15	06		1232			X	X	X				
PC-58 15-19	07		1241			X	X	X				
PC-56 15-19	08		1613			X	X	X				
PC-55 19-23	09		1621			X	X	X				
PC-55 23-27	10		1630			X	X	X				

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

FORMS\COC\COC.DOC

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Frank Moeller	AESI	12/31/14	930
Received by:		Matt Langstaff	FBI Inc	12/31/14	930
Relinquished by:					
Received by:			Samples received at 1 °C		

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.

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

January 6, 2015

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on December 31, 2014 from the North Edge KV030772B, F&BI 412456 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE10106R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 31, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412456 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412456 -01	SW-13 @ 19'
412456 -02	SW-14 @ 19'
412456 -03	SW-15 @ 19'
412456 -04	Com 3
412456 -05	SW-8 @ 25'

All quality control requirements were acceptable.

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412456
Date Extracted: 12/31/14
Date Analyzed: 01/01/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
SW-13 @ 19' 412456-01	0.071	0.077	<0.02	0.12	<2	106
SW-14 @ 19' 412456-02	<0.02	<0.02	<0.02	<0.06	<2	109
SW-15 @ 19' 412456-03	<0.02	<0.02	<0.02	<0.06	2.4	112
Com 3 412456-04	<0.02	<0.02	<0.02	<0.06	<2	105
SW-8 @ 25' 412456-05	<0.02	<0.02	<0.02	<0.06	<2	109
Method Blank 04-2584 MB	<0.02	<0.02	<0.02	<0.06	<2	108

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412456
Date Extracted: 01/02/15
Date Analyzed: 01/02/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
SW-13 @ 19' 412456-01	<50	<250	101
SW-14 @ 19' 412456-02	<50	<250	99
SW-15 @ 19' 412456-03	<50	<250	92
Com 3 412456-04	<50	<250	98
SW-8 @ 25' 412456-05	<50	<250	100
Method Blank 05-008 MB	<50	<250	98

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412456

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

Laboratory Code: 412450-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	66-121
Toluene	mg/kg (ppm)	0.5	91	72-128
Ethylbenzene	mg/kg (ppm)	0.5	92	69-132
Xylenes	mg/kg (ppm)	1.5	92	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 01/06/15
Date Received: 12/31/14
Project: North Edge KV030772B, F&BI 412456

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

Laboratory Code: 412456-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	93	95	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	95	74-139

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

412456

SAMPLE CHAIN OF CUSTODY

ME 12-14-31-14 A02/V81

Send Report To Frank Mocker
Company AESI
Address 911 Fifth Ave Ste 100
City, State, ZIP Kirkland, WA 98033
Phone #425 766 5112 Fax #

SAMPLERS (signature)
PROJECT NAME/NO. NorthEdge / KV0307725
PO#
REMARKS

Page # 1 of 1

TURNAROUND TIME
☒ Standard (2 Weeks) 3 see below
☒ RUSH 24 hour
Rush charges authorized by

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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
SW-13@19'	01A-E	12/31/14	0730	Soil	1 kit 1 jar	X	X	X										
SW-14@19'	02		0737			X	X	X										RUSH 24 hour
SW-15@19'	03		0750			X	X	X										
Com 3	04		0840			X	X	X										Standard
SW-8@25'	05		1050			X	X	X										

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:		Frank Mocker	AESI	12/31/14	1345
Received by:			F&B	11	1341
Relinquished by:					
Received by:				Samples received at	4 °C

FORMS\COC\COC.DOC

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.

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

January 8, 2015

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on January 2, 2015 from the North Edge KV030772B, F&BI 501009 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE10108R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 2, 2015 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 501009 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
501009 -01	Com 4
501009 -02	SW-9 @ 25

All quality control requirements were acceptable.

Date of Report: 01/08/15
Date Received: 01/02/15
Project: North Edge KV030772B, F&BI 501009
Date Extracted: 01/06/15
Date Analyzed: 01/06/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
Com 4 501009-01	<0.02	<0.02	<0.02	<0.06	<2	95
SW-9 @ 25 501009-02	<0.02	<0.02	<0.02	<0.06	<2	96
Method Blank 05-0014 MB	<0.02	<0.02	<0.02	<0.06	<2	100

Date of Report: 01/08/15
Date Received: 01/02/15
Project: North Edge KV030772B, F&BI 501009
Date Extracted: 01/05/15
Date Analyzed: 01/05/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
Com 4 501009-01	<50	<250	92
SW-9 @ 25 501009-02	<50	<250	105
Method Blank 05-011 MB	<50	<250	105

Date of Report: 01/08/15
Date Received: 01/02/15
Project: North Edge KV030772B, F&BI 501009

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

Laboratory Code: 501008-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	86	66-121
Toluene	mg/kg (ppm)	0.5	89	72-128
Ethylbenzene	mg/kg (ppm)	0.5	91	69-132
Xylenes	mg/kg (ppm)	1.5	90	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 01/08/15
Date Received: 01/02/15
Project: North Edge KV030772B, F&BI 501009

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

Laboratory Code: 501004-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	108	98	64-133	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	58-147

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.

501009

SAMPLE CHAIN OF CUSTODY

ME 01-02-15 V51 / B01

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 4257665112 Fax #

SAMPLERS *(signature)*

PROJECT NAME/NO. Northridge / KVU30772B

PO#

REMARKS

Page # 1 of 1

TURNAROUND TIME
- [x] 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 Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
						ANALYSES REQUESTED												
Com4	01A-E	1/2/15	1346	Soil	1 Iced 1 jar	X	X	X										
SW-9@25	02A-E	"	1402	"	"	X	X	X										
																		Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Mocker	AESI	1/2/15	1605
Received by:	VINH	FBI	1/2/15	1605
Relinquished by:				
Received by:				

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

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.

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

January 8, 2015

Jon Sondergaard, Project Manager
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, WA 98033

Dear Mr. Sondergaard:

Included are the results from the testing of material submitted on January 5, 2015 from the North Edge KV030772B, F&BI 501017 project. There are 11 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Frank Mocker
AE10108R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 5, 2015 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 501017 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
501017 -01	Com 14
501017 -02	Com 22 @ 41
501017 -03	Com 24 @ 47
501017 -04	Com 15
501017 -05	Com 23 @ 44'

All quality control requirements were acceptable.

Date of Report: 01/08/15
Date Received: 01/05/15
Project: North Edge KV030772B, F&BI 501017
Date Extracted: 01/05/15
Date Analyzed: 01/05/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
Com 14 501017-01	<0.02	<0.02	<0.02	<0.06	<2	101
Com 22 @ 41 501017-02	<0.02	<0.02	<0.02	<0.06	<2	94
Com 24 @ 47 501017-03	<0.02	<0.02	<0.02	<0.06	<2	98
Com 15 501017-04	<0.02	<0.02	<0.02	<0.06	<2	97
Com 23 @ 44' 501017-05	<0.02	<0.02	<0.02	<0.06	<2	101
Method Blank 05-0014 MB	<0.02	<0.02	<0.02	<0.06	<2	100

Date of Report: 01/08/15
Date Received: 01/05/15
Project: North Edge KV030772B, F&BI 501017
Date Extracted: 01/05/15
Date Analyzed: 01/05/15

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
Com 14 501017-01	<50	<250	100
Com 22 @ 41 501017-02	<50	<250	108
Com 24 @ 47 501017-03	<50	<250	95
Com 15 501017-04	<50	<250	93
Com 23 @ 44' 501017-05	<50	<250	98
Method Blank 05-024 MB	<50	<250	108

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Com 14	Client:	Associated Earth Sciences
Date Received:	01/05/15	Project:	North Edge KV030772B, F&BI 501017
Date Extracted:	01/05/15	Lab ID:	501017-01 1/5
Date Analyzed:	01/05/15	Data File:	010515.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	118	50	150
Benzo(a)anthracene-d12	127	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Com 15	Client:	Associated Earth Sciences
Date Received:	01/05/15	Project:	North Edge KV030772B, F&BI 501017
Date Extracted:	01/05/15	Lab ID:	501017-04 1/5
Date Analyzed:	01/05/15	Data File:	010516.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	123	50	150
Benzo(a)anthracene-d12	123	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Com 23 @ 44'	Client:	Associated Earth Sciences
Date Received:	01/05/15	Project:	North Edge KV030772B, F&BI 501017
Date Extracted:	01/05/15	Lab ID:	501017-05 1/5
Date Analyzed:	01/05/15	Data File:	010517.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	120	50	150
Benzo(a)anthracene-d12	118	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Associated Earth Sciences
Date Received:	Not Applicable	Project:	North Edge KV030772B, F&BI 501017
Date Extracted:	01/05/15	Lab ID:	05-010 mb 1/5
Date Analyzed:	01/05/15	Data File:	010505.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	104	50	150
Benzo(a)anthracene-d12	106	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Date of Report: 01/08/15
Date Received: 01/05/15
Project: North Edge KV030772B, F&BI 501017

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

Laboratory Code: 501008-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	86	66-121
Toluene	mg/kg (ppm)	0.5	89	72-128
Ethylbenzene	mg/kg (ppm)	0.5	91	69-132
Xylenes	mg/kg (ppm)	1.5	90	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 01/08/15
Date Received: 01/05/15
Project: North Edge KV030772B, F&BI 501017

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

Laboratory Code: 501017-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	99	100	73-135	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	107	74-139

Date of Report: 01/08/15
Date Received: 01/05/15
Project: North Edge KV030772B, F&BI 501017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM

Laboratory Code: 501017-05 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	<0.01	89	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	89	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	90	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	92	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	90	45-124
Anthracene	mg/kg (ppm)	0.17	<0.01	90	32-124
Fluoranthene	mg/kg (ppm)	0.17	<0.01	96	50-125
Pyrene	mg/kg (ppm)	0.17	<0.01	90	41-135
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	89	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	93	45-122
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	97	31-144
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	99	45-130
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	88	39-128
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	76	28-146
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	75	46-129
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	79	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	91	93	58-121	2
Acenaphthylene	mg/kg (ppm)	0.17	88	92	54-121	4
Acenaphthene	mg/kg (ppm)	0.17	93	96	54-123	3
Fluorene	mg/kg (ppm)	0.17	89	95	56-127	7
Phenanthrene	mg/kg (ppm)	0.17	93	95	55-122	2
Anthracene	mg/kg (ppm)	0.17	89	92	50-120	3
Fluoranthene	mg/kg (ppm)	0.17	89	95	54-129	7
Pyrene	mg/kg (ppm)	0.17	101	101	53-127	0
Benz(a)anthracene	mg/kg (ppm)	0.17	86	87	51-115	1
Chrysene	mg/kg (ppm)	0.17	95	97	55-129	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	96	95	56-123	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	95	99	54-131	4
Benzo(a)pyrene	mg/kg (ppm)	0.17	84	84	51-118	0
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	80	79	49-148	1
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	80	74	50-141	8
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	87	85	52-131	2

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 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. 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. Compounds in the sample matrix interfered with the quantitation of the analyte.

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.