APPENDIX A

Laboratory Test Certificates

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

August 28, 2014

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

Dear Mr. Mocker:

Included are the results from the testing of material submitted on August 26, 2014 from the North Edge KV030772B, F&BI 408403 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
AE10828R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 26, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 408403 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
408403-01	AST-1 (North)

All quality control requirements were acceptable.

Date of Report: 08/28/14
Date Received: 08/26/14
Project: North Edge KV030772B, F&BI 408403
Date Extracted: 08/26/14
Date Analyzed: 08/26/14

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
AST-1 (North) 408403-01	<1	<1	<1	<3	<100	96
Method Blank 04-1732 MB	<1	<1	<1	<3	<100	94

Date of Report: 08/28/14
Date Received: 08/26/14
Project: North Edge KV030772B, F&BI 408403
Date Extracted: 08/26/14
Date Analyzed: 08/26/14

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
AST-1 (North) 408403-01	<50	<250	88
Method Blank 04-1727 MB2	<50	<250	81

Date of Report: 08/28/14
Date Received: 08/26/14
Project: North Edge KV030772B, F&BI 408403

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

Laboratory Code: 408403-01 (Duplicate)

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	100	72-119
Toluene	ug/L (ppb)	50	101	71-113
Ethylbenzene	ug/L (ppb)	50	103	72-114
Xylenes	ug/L (ppb)	150	97	72-113
Gasoline	ug/L (ppb)	1,000	93	70-119

Date of Report: 08/28/14
Date Received: 08/26/14
Project: North Edge KV030772B, F&BI 408403

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	110	63-142	14

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.

408403

SAMPLE CHAIN OF CUSTODY

ME 08/26/14 VI/002

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/KV030772B

PO#

REMARKS

_____ of _____

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

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
AST-1 (North)	01 A-D	8/26/14	1130	water	4	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	8/26/14	1210
Received by:	Eric Nam	FEB	8/26/14	1210
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

September 24, 2014

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

Dear Mr. Mocker:

Included are the results from the testing of material submitted on September 18, 2014 from the North Edge KV030772B, F&BI 409322 project. There are 20 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: Jon Sondergaard
AE10924R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 18, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 409322 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
409322 -01	PC-1 (0-5')
409322 -02	PC-1 (7-11')
409322 -03	PC-2 (0-5')
409322 -04	PC-2 (6-10')

All quality control requirements were acceptable.

Date of Report: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322
Date Extracted: 09/18/14
Date Analyzed: 09/18/14 and 09/19/14

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 50-132)
PC-1 (0-5') 409322-01 1/100	3.2	17	22	130	2,500	101
PC-1 (7-11') 409322-02 1/20	2.3	14	23	110	2,100	122
PC-2 (0-5') 409322-03	<0.02	0.19	0.17	0.65	220	111
PC-2 (6-10') 409322-04	<0.02	0.11	0.053	0.26	76	103
Method Blank 04-1846 MB	<0.02	<0.02	<0.02	<0.06	<2	90

Date of Report: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322
Date Extracted: 09/19/14
Date Analyzed: 09/19/14

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-1 (0-5') 409322-01	2,600	<250	103
PC-1 (7-11') 409322-02	1,500	<250	102
PC-2 (0-5') 409322-03	420	<250	102
PC-2 (6-10') 409322-04	<50	<250	103
Method Blank 04-1887 MB	<50	<250	99

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-1 (0-5')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/22/14	Lab ID:	409322-01
Date Analyzed:	09/22/14	Data File:	409322-01.017
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	19.6

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-1 (7-11')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/22/14	Lab ID:	409322-02
Date Analyzed:	09/22/14	Data File:	409322-02.018
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	99	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	6.17

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-2 (0-5')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/22/14	Lab ID:	409322-03
Date Analyzed:	09/22/14	Data File:	409322-03.020
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	3.81

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-2 (6-10')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/22/14	Lab ID:	409322-04
Date Analyzed:	09/22/14	Data File:	409322-04.021
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	98	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	1.57

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Associated Earth Sciences
Date Received:	NA	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/22/14	Lab ID:	I4-593 mb
Date Analyzed:	09/22/14	Data File:	I4-593 mb.009
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-1 (0-5')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-01 1/5
Date Analyzed:	09/19/14	Data File:	091914.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	122	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	5.6 ve
Acenaphthylene	<0.01
Acenaphthene	0.25
Fluorene	0.69
Phenanthrene	1.4
Anthracene	<0.01
Fluoranthene	0.041
Pyrene	0.045
Benz(a)anthracene	0.012
Chrysene	0.020
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:	PC-1 (0-5')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-01 1/50
Date Analyzed:	09/22/14	Data File:	092204.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80 d	50	150
Benzo(a)anthracene-d12	147 d	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	7.6
Acenaphthylene	<0.1
Acenaphthene	0.29
Fluorene	1.0
Phenanthrene	1.5
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-1 (7-11')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-02 1/5
Date Analyzed:	09/19/14	Data File:	091915.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	50	150
Benzo(a)anthracene-d12	136	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	4.0 ve
Acenaphthylene	<0.01
Acenaphthene	0.11
Fluorene	0.37
Phenanthrene	0.66
Anthracene	<0.01
Fluoranthene	0.018
Pyrene	0.022
Benz(a)anthracene	<0.01
Chrysene	0.013
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:	PC-1 (7-11')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-02 1/50
Date Analyzed:	09/22/14	Data File:	092205.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	80 d	50	150
Benzo(a)anthracene-d12	112 d	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	4.7
Acenaphthylene	<0.1
Acenaphthene	0.13
Fluorene	0.46
Phenanthrene	0.80
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-2 (0-5')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-03 1/5
Date Analyzed:	09/19/14	Data File:	091916.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	97	50	150
Benzo(a)anthracene-d12	125	50	150

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:	PC-2 (6-10')	Client:	Associated Earth Sciences
Date Received:	09/18/14	Project:	North Edge KV030772B, F&BI 409322
Date Extracted:	09/18/14	Lab ID:	409322-04 1/5
Date Analyzed:	09/19/14	Data File:	091917.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	104	50	150
Benzo(a)anthracene-d12	107	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.011
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 409322
Date Extracted:	09/18/14	Lab ID:	04-1886 mb 1/5
Date Analyzed:	09/18/14	Data File:	091810.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	114	50	150
Benzo(a)anthracene-d12	98	50	150

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: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322

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: 409291-01 (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	74	66-121
Toluene	mg/kg (ppm)	0.5	87	72-128
Ethylbenzene	mg/kg (ppm)	0.5	88	69-132
Xylenes	mg/kg (ppm)	1.5	88	69-131
Gasoline	mg/kg (ppm)	20	100	61-153

Date of Report: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322

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

Laboratory Code: 409288-02 (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	103	96	63-146	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	108	79-144

Date of Report: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 409094-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	2.05	102	102	59-148	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	104	80-120

Date of Report: 09/24/14
Date Received: 09/18/14
Project: North Edge KV030772B, F&BI 409322

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

Laboratory Code: 409288-02 1/5 (Matrix Spike) 1/5

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	96	99	50-150	3
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	94	96	50-150	2
Acenaphthene	mg/kg (ppm)	0.17	<0.01	98	98	50-150	0
Fluorene	mg/kg (ppm)	0.17	<0.01	104	106	50-150	2
Phenanthrene	mg/kg (ppm)	0.17	<0.01	103	108	50-150	5
Anthracene	mg/kg (ppm)	0.17	<0.01	108	115	50-150	6
Fluoranthene	mg/kg (ppm)	0.17	<0.01	114	119	50-150	4
Pyrene	mg/kg (ppm)	0.17	<0.01	103	105	50-150	2
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	107	110	50-150	3
Chrysene	mg/kg (ppm)	0.17	<0.01	107	109	50-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	97	99	50-150	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	86	91	50-150	6
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	88	91	50-150	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	87	89	50-150	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	84	87	50-150	4
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	83	86	50-150	4

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	97	70-130
Acenaphthylene	mg/kg (ppm)	0.17	95	70-130
Acenaphthene	mg/kg (ppm)	0.17	98	70-130
Fluorene	mg/kg (ppm)	0.17	104	70-130
Phenanthrene	mg/kg (ppm)	0.17	105	70-130
Anthracene	mg/kg (ppm)	0.17	105	70-130
Fluoranthene	mg/kg (ppm)	0.17	111	70-130
Pyrene	mg/kg (ppm)	0.17	102	70-130
Benz(a)anthracene	mg/kg (ppm)	0.17	100	70-130
Chrysene	mg/kg (ppm)	0.17	104	70-130
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	90	70-130
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	88	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.17	85	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	76	70-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	78	70-130
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	76	70-130

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.

409322

SAMPLE CHAIN OF CUSTODY

ME 9/18/14 BI2/V81

Page # 1 of 1

Send Report To Frank Mocker

Company AESI

Address 911 5th Avenue

City, State, ZIP Kirkland, WA 98033

Phone # 4257660512 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. North Edge / 1CV030772B

PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☐ RUSH 9/25/14
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	PAH	Pb					Notes
PC-1 (0-5')	01 A-F	9/18/14	1030	Soil	2 jars 1 Kit	X	X	X				X	X					TCLP if
PC-1 (7-11')	02 ↓	9/18/14	1145	Soil	2 jars 1 Kit	X	X	X				X	X					Pb exceeds
PC-2 (0-5')	03 A-E	9/18/14	1230	Soil	1 jar 1 Kit	X	X	X				X	X					100 ppm on
PC-2 (6-10')	04 ↓	9/18/14	1300	Soil	1 jar 1 Kit	X	X	X				X	X					highest result
																		may request
																		TCLP on Benzene
																		depending on
																		Result

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 Mocker	AESI	9/18/14	1410
Received by:		Michael Erdahl	FB Inc	9/18/14	1410
Relinquished by:					
Received by:			Samples received at 9 °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

September 25, 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 September 19, 2014 from the North Edge KV030772B, F&BI 409352 project. There are 22 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
AE10925R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 19, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 409352 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
409352 -01	PC-3 0-6'
409352 -02	PC-3 7-11.4'
409352 -03	PC-4 0-5'
409352 -04	PC-4 5-10'

All quality control requirements were acceptable.

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352
Date Extracted: 09/19/14
Date Analyzed: 09/19/14, 09/20/14 and 09/23/14

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)
PC-3 0-6' 409352-01	<0.02	<0.02	<0.02	<0.06	8.3	94
PC-3 7-11.4' 409352-02 1/20	0.61	8.4	9.5	56	1,200	105
PC-4 0-5' 409352-03	<0.02	<0.02	0.23	0.76	150	126
PC-4 5-10' 409352-04 1/5	<0.02 j	0.93	10	13	2,500	ip
Method Blank 04-1905 MB	<0.02	<0.02	<0.02	<0.06	<2	87

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352
Date Extracted: 09/22/14
Date Analyzed: 09/22/14

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)
PC-3 0-6' 409352-01	<50	<250	98
PC-3 7-11.4' 409352-02	2,400	<250	91
PC-4 0-5' 409352-03	300 x	670	96
PC-4 5-10' 409352-04	280 x	<250	86
Method Blank 04-1928 MB	<50	<250	99

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-3 0-6'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-01
Date Analyzed:	09/22/14	Data File:	409352-01.027
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	1.41

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-3 7-11.4'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-02
Date Analyzed:	09/22/14	Data File:	409352-02.028
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	97	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	2.10

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-4 0-5'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-03
Date Analyzed:	09/22/14	Data File:	409352-03.029
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	94	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	125

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-4 5-10'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-04
Date Analyzed:	09/22/14	Data File:	409352-04.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	4.75

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Associated Earth Sciences
Date Received:	NA	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	I4-593 mb
Date Analyzed:	09/22/14	Data File:	I4-593 mb.009
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	<1

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	PC-4 0-5'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/24/14	Lab ID:	409352-03
Date Analyzed:	09/24/14	Data File:	409352-03.064
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	85	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis for TCLP Metals By EPA Method 200.8 and 40 CFR PART 261

Client ID:	Method Blank	Client:	Associated Earth Sciences
Date Received:	NA	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/24/14	Lab ID:	I4-601 mb
Date Analyzed:	09/24/14	Data File:	I4-601 mb.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/L (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	84	60	125

Analyte:	Concentration mg/L (ppm)	TCLP Limit
Lead	<1	5.0

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-3 0-6'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-01 1/5
Date Analyzed:	09/23/14	Data File:	092315.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	115	50	150
Benzo(a)anthracene-d12	112	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.020
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:	PC-3 7-11.4'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-02 1/5
Date Analyzed:	09/22/14	Data File:	092222.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	50	150
Benzo(a)anthracene-d12	146	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	3.8 ve
Acenaphthylene	<0.01
Acenaphthene	0.19
Fluorene	0.97
Phenanthrene	1.4
Anthracene	<0.01
Fluoranthene	0.026
Pyrene	0.025
Benz(a)anthracene	<0.01
Chrysene	0.025
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:	PC-3 7-11.4'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-02 1/50
Date Analyzed:	09/22/14	Data File:	092225.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	212 d	50	150
Benzo(a)anthracene-d12	87 d	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	4.4
Acenaphthylene	<0.1
Acenaphthene	0.18
Fluorene	0.90
Phenanthrene	1.5
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-4 0-5'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-03 1/5
Date Analyzed:	09/23/14	Data File:	092325.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	77	50	150
Benzo(a)anthracene-d12	120	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.016
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.033
Anthracene	<0.01
Fluoranthene	0.041
Pyrene	0.061
Benz(a)anthracene	0.036
Chrysene	0.050
Benzo(a)pyrene	0.043
Benzo(b)fluoranthene	0.067
Benzo(k)fluoranthene	0.019
Indeno(1,2,3-cd)pyrene	0.038
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.048

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-4 5-10'	Client:	Associated Earth Sciences
Date Received:	09/19/14	Project:	North Edge KV030772B, F&BI 409352
Date Extracted:	09/22/14	Lab ID:	409352-04 1/5
Date Analyzed:	09/22/14	Data File:	092224.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	112	50	150
Benzo(a)anthracene-d12	92	50	150

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	0.014
Phenanthrene	0.036
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 409352
Date Extracted:	09/22/14	Lab ID:	04-1926 mb 1/5
Date Analyzed:	09/22/14	Data File:	092207.D
Matrix:	Soil	Instrument:	GCMS10
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	105	50	150
Benzo(a)anthracene-d12	104	50	150

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: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352

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: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	0.5	90	90	69-120	0
Toluene	mg/kg (ppm)	0.5	91	91	70-117	0
Ethylbenzene	mg/kg (ppm)	0.5	90	91	65-123	1
Xylenes	mg/kg (ppm)	1.5	88	88	66-120	0
Gasoline	mg/kg (ppm)	20	95	95	71-131	0

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352

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

Laboratory Code: 409363-01 (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	103	110	63-146	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	104	79-144

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 409094-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	50	2.05	102	102	59-148	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	104	80-120

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TCLP METALS USING EPA METHOD 200.8 AND 40 CFR PART 261

Laboratory Code: 409352-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/L (ppm)	1.0	<1	97	96	50-150	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/L (ppm)	1.0	101	70-130

Date of Report: 09/25/14
Date Received: 09/19/14
Project: North Edge KV030772B, F&BI 409352

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

Laboratory Code: 409356-02 1/5 (Matrix Spike) 1/5

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	94	91	50-150	3
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	85	83	50-150	2
Acenaphthene	mg/kg (ppm)	0.17	<0.01	86	82	50-150	5
Fluorene	mg/kg (ppm)	0.17	<0.01	92	87	50-150	6
Phenanthrene	mg/kg (ppm)	0.17	<0.01	99	97	50-150	2
Anthracene	mg/kg (ppm)	0.17	<0.01	85	84	50-150	1
Fluoranthene	mg/kg (ppm)	0.17	<0.01	85	86	50-150	1
Pyrene	mg/kg (ppm)	0.17	<0.01	89	87	50-150	2
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	95	89	50-150	7
Chrysene	mg/kg (ppm)	0.17	<0.01	97	101	50-150	4
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	81	89	50-150	9
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	91	86	50-150	6
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	86	86	50-150	0
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	86	83	50-150	4
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	83	82	50-150	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	81	78	50-150	4

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	94	70-130
Acenaphthylene	mg/kg (ppm)	0.17	97	70-130
Acenaphthene	mg/kg (ppm)	0.17	97	70-130
Fluorene	mg/kg (ppm)	0.17	99	70-130
Phenanthrene	mg/kg (ppm)	0.17	97	70-130
Anthracene	mg/kg (ppm)	0.17	91	70-130
Fluoranthene	mg/kg (ppm)	0.17	100	70-130
Pyrene	mg/kg (ppm)	0.17	97	70-130
Benz(a)anthracene	mg/kg (ppm)	0.17	100	70-130
Chrysene	mg/kg (ppm)	0.17	97	70-130
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	84	70-130
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	88	70-130
Benzo(a)pyrene	mg/kg (ppm)	0.17	80	70-130
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	78	70-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	77	70-130
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	77	70-130

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.

409352

SAMPLE CHAIN OF CUSTODY

ME 09-19-14 BII / VSI

Page # 1 of 1

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (*signature*) [signature]

PROJECT NAME/NO. North Edge/KV030772B → PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 5 day
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	PAH	Pb	TCLP Pb				Notes
PC-3 0-6'	01 A-E	9/19/14	1000	Soil	1 kit 1 jar	X	X	X				X	X					O-added per COC 9/23/14 ML
PC-3 7-11.4'	02	9/19/14	1035	Soil	1 kit 1 jar	X	X	X				X	X					Run TCLP
PC-4 0-5'	03	9/19/14	1310	Soil	1 kit 1 jar	X	X	X				X	X	O				on highest
PC-4 5-10'	04	9/19/14	1325	Soil	1 kit 1 jar	X	X	X				X	X					Pb sample
																		that is over
																		100 ppm
																		May run
																		TCLP on
																		Benzene
																		depending
																		on result

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	9/19/14	1440
Received by:	[signature]	Dd 10	F&BI	〃	〃
Relinquished by:					
Received by:			Samples received at		5

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

September 26, 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 September 25, 2014 from the North Edge, PO KV030772B, F&BI 409468 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
AE10926R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge, PO KV030772B, F&BI 409468 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
409468 -01	PC-6 0-4'
409468 -02	PC-6 4-8'
409468 -03	PC-7 0-4'
409468 -04	PC-7 4-8'
409468 -05	PC-8 0-4'
409468 -06	PC-8 4-8'
409468 -07	PC-9 0-4'
409468 -08	PC-9 4-8'

All quality control requirements were acceptable.

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468
Date Extracted: 09/25/14
Date Analyzed: 09/25/14

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-6 0-4' 409468-01	<0.02	<0.02	<0.02	<0.06	<2	90
PC-6 4-8' 409468-02	<0.02	<0.02	<0.02	<0.06	<2	87
PC-7 0-4' 409468-03	<0.02	<0.02	<0.02	<0.06	<2	88
PC-7 4-8' 409468-04	<0.02	<0.02	<0.02	<0.06	<2	87
PC-8 0-4' 409468-05	<0.02	<0.02	<0.02	<0.06	<2	87
PC-8 4-8' 409468-06	<0.02	<0.02	<0.02	<0.06	<2	87
PC-9 0-4' 409468-07	<0.02	<0.02	<0.02	<0.06	<2	86
PC-9 4-8' 409468-08	<0.02	<0.02	<0.02	<0.06	<2	87
Method Blank 04-1945 MB	<0.02	<0.02	<0.02	<0.06	<2	87

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468
Date Extracted: 09/25/14
Date Analyzed: 09/25/14

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported 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-7 0-4' 409468-03	<50	<250	99
PC-7 4-8' 409468-04	<50	<250	99
Method Blank 04-1961 MB	<50	<250	93

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468
Date Extracted: 09/25/14
Date Analyzed: 09/25/14

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-6 0-4' 409468-01	<50	<250	93
PC-6 4-8' 409468-02	<50	<250	89
PC-8 0-4' 409468-05	<50	<250	92
PC-8 4-8' 409468-06	<50	<250	90
PC-9 0-4' 409468-07	<50	<250	96
PC-9 4-8' 409468-08	<50	<250	94
Method Blank 04-1961 MB	<50	<250	92

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468

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: 409456-01 (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	69-120
Toluene	mg/kg (ppm)	0.5	91	70-117
Ethylbenzene	mg/kg (ppm)	0.5	89	65-123
Xylenes	mg/kg (ppm)	1.5	87	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468

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

Laboratory Code: 409468-04 (Matrix Spike) Silica Gel

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	96	63-146	2

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	99	79-144

Date of Report: 09/26/14
Date Received: 09/25/14
Project: North Edge, PO KV030772B, F&BI 409468

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

Laboratory Code: 409468-04 (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	88	89	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	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.

409468

SAMPLE CHAIN OF CUSTODY

MP 09-25-14

BEQ / VSQ

Page # 1 of 1

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave

City, State, ZIP Kirkland WA 98033

Phone #425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. North Edge / KV030772

PO#

REMARKS PAHs and Pb placed on hold per FM 9/25/14 MP.

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

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	Pb	PAH					Notes
PC-6 0-4'	01A-E	9/25/14	0745	Soil	1 kit 1 jar	X	X	X				X	X					
PC-6 4-8'	02		0750			X	X	X				X	X					
PC-7 0-4'	03		0800			X	X	X				X	X					3 Silica Gel
PC-7 4-8'	04		0805			X	X	X				X	X					
PC-8 0-4'	05		0816			X	X	X				X	X					
PC-8 4-8'	06		0825			X	X	X				X	X					
PC-9 0-4'	07		0835			X	X	X				X	X					
PC-9 4-8'	08		0840			X	X	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	9/25/14	0950
Received by:	DOUG	FCBI	"	4
Relinquished by:				
Received by:		Samples received at 5 °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

September 29, 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 September 26, 2014 from the North Edge, KV030772B, F&BI 409512 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
AE10929R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 26, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge, KV030772B, F&BI 409512 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
409512 -01	PC-10 0-4
409512 -02	PC-10 4-8
409512 -03	PC-11 0-4
409512 -04	PC-11 4-8
409512 -05	PC-12 0-4
409512 -06	PC-12 4-8
409512 -07	PC-13 0-4
409512 -08	PC-13 4-8

All quality control requirements were acceptable.

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512
Date Extracted: 09/26/14
Date Analyzed: 09/26/14

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-10 0-4 409512-01	<0.02	<0.02	<0.02	<0.06	<2	90
PC-10 4-8 409512-02	<0.02	<0.02	<0.02	<0.06	<2	89
PC-11 0-4 409512-03	<0.02	<0.02	<0.02	<0.06	<2	87
PC-11 4-8 409512-04	<0.02	<0.02	<0.02	<0.06	<2	86
PC-12 0-4 409512-05	<0.02	<0.02	<0.02	<0.06	<2	86
PC-12 4-8 409512-06	<0.02	<0.02	<0.02	<0.06	<2	86
PC-13 0-4 409512-07	<0.02	<0.02	<0.02	<0.06	<2	89
PC-13 4-8 409512-08	<0.02	<0.02	<0.02	<0.06	<2	90
Method Blank 04-1947 MB	<0.02	<0.02	<0.02	<0.06	<2	89

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512
Date Extracted: 09/26/14
Date Analyzed: 09/26/14

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported 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-10 0-4 409512-01	<50	<250	107
PC-10 4-8 409512-02	<50	<250	99
PC-11 0-4 409512-03	<50	<250	100
PC-13 0-4 409512-07	<50	<250	99
Method Blank 04-1961 MB2	<50	<250	97

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512
Date Extracted: 09/26/14
Date Analyzed: 09/26/14

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-11 4-8 409512-04	<50	<250	98
PC-12 0-4 409512-05	<50	<250	98
PC-12 4-8 409512-06	<50	<250	97
PC-13 4-8 409512-08	<50	<250	96
Method Blank 04-1961 MB2	<50	<250	93

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512

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: 409512-01 (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	87	69-120
Toluene	mg/kg (ppm)	0.5	86	70-117
Ethylbenzene	mg/kg (ppm)	0.5	86	65-123
Xylenes	mg/kg (ppm)	1.5	86	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512

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

Laboratory Code: 409468-04 (Matrix Spike) Silica Gel

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	96	63-146	2

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	99	79-144

Date of Report: 09/29/14
Date Received: 09/26/14
Project: North Edge, KV030772B, F&BI 409512

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

Laboratory Code: 409468-04 (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	88	89	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	90	79-144