Date of Report: 11/06/14
Date Received: 11/05/14
Project: North Edge KV030772B, F&BI 411062

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

Laboratory Code: 411056-01 (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	400	96	99	63-146	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	97	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.

411062

SAMPLE CHAIN OF CUSTODY ME 11-05-14

C03 / V53

Page # 1 of 2

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 822 5242 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. North Edge / KW0307228

PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH See Below
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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
SW-5 @ 10'	01A-E	11/5/14	1045	Soil	1 Encore 1 jar	X	X	X									←	5 day
PC-22 8-12'	02		1110			X	X	X										
PC-22 12-16'	03		1120			X	X	X										
PC-28 8-12'	04		1125			X	X	X										
PC-28 12-16'	05		1135			X	X	X										
PC-31 8-12'	06		1145			X	X	X										
PC-31 12-16'	07		1155			X	X	X										24 hour
PC-32 8-12'	08		1220			X	X	X										
PC-32 12-16'	09		1225			X	X	X										
PC-29 8-12'	10		1240			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	11/5/14	1420
Received by:		Nhan Phan	FCBI	11/5/14	1420
Relinquished by:					
Received by:			Samples received at 2		

411062

SAMPLE CHAIN OF CUSTODY

ME 11-05-14

C03 / V83

Page # 2 of 2

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 / KV03077 2B

PO#

REMARKS

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH See Below
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-29 12-16'	11	11/5/14	1250	Soil	1 jar	X	X	X									←	24 hour
SW-1 @ 20'	12	〃	1315	〃	〃	X	X	X										5 day
SW-2 @ 20'	13	〃	1325	〃	〃	X	X	X										〃

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Mocker	AESI	11/5/14	1420
Received by:	Nhan Pham	FedEx	11/5/14	1420
Relinquished by:				
Received by:		Samples received at 8 °C		

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

November 7, 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 November 6, 2014 from the North Edge KV030772B, F&BI 411101 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
AE11107R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 6, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411101 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411101 -01	PC-25 8-12
411101 -02	PC-25 12-16
411101 -03	SW-3 @ 20
411101 -04	SW-6 @ 10
411101 -05	SW-4 @ 20
411101 -06	PC-27 8-12
411101 -07	PC-27 12-16

All quality control requirements were acceptable.

Date of Report: 11/07/14
Date Received: 11/06/14
Project: North Edge KV030772B, F&BI 411101
Date Extracted: 11/06/14
Date Analyzed: 11/06/14 and 11/07/14

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-25 8-12 411101-01	<0.02	<0.02	<0.02	<0.06	<2	102
PC-25 12-16 411101-02 1/5	<0.02 j	0.93	3.6	5.0	620	117
SW-3 @ 20 411101-03	<0.02	<0.02	<0.02	<0.06	<2	101
SW-6 @ 10 411101-04	<0.02	<0.02	<0.02	<0.06	<2	101
SW-4 @ 20 411101-05	<0.02	<0.02	<0.02	<0.06	<2	100
PC-27 8-12 411101-06	<0.02	<0.02	<0.02	<0.06	<2	101
PC-27 12-16 411101-07 1/5	<0.02 j	0.54	2.1	2.9	410	110
Method Blank 04-2242 MB	<0.02	<0.02	<0.02	<0.06	<2	85

Date of Report: 11/07/14
Date Received: 11/06/14
Project: North Edge KV030772B, F&BI 411101
Date Extracted: 11/07/14
Date Analyzed: 11/07/14

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-25 8-12 411101-01	3,400	<250	93
PC-25 12-16 411101-02	1,600	<250	88
SW-3 @ 20 411101-03	<50	<250	93
SW-6 @ 10 411101-04	<50	<250	85
SW-4 @ 20 411101-05	<50	<250	84
PC-27 8-12 411101-06	<50	<250	88
PC-27 12-16 411101-07	<50	<250	97
Method Blank 04-2271 MB	<50	<250	86

Date of Report: 11/07/14
Date Received: 11/06/14
Project: North Edge KV030772B, F&BI 411101

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: 411096-01 (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	91	69-120
Toluene	mg/kg (ppm)	0.5	93	70-117
Ethylbenzene	mg/kg (ppm)	0.5	93	65-123
Xylenes	mg/kg (ppm)	1.5	94	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

Date of Report: 11/07/14
Date Received: 11/06/14
Project: North Edge KV030772B, F&BI 411101

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

Laboratory Code: 411101-06 (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	105	111	63-146	6

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.

411101

SAMPLE CHAIN OF CUSTODY

ME 11-06-14 VS2/CO2

Send Report To Frank Moeller AESI

Company 911 Fifth Ave Ste 100

Address

City, State, ZIP Kirkland, WA 98033

Phone #425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. NorthEdge / KV0307728

PO#

REMARKS

Page # 1 of 1

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH See Below
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-25 8-12	01 A-E	11/6/14	1230	Soil	1 kit 1 jar	X	X	X				24hr.
PC-25 12-16	02		1240			X	X	X				
SW-3 @ 20	03		1315			X	X	X				5 day
SW-6 @ 10	04		1325			X	X	X				
SW-4 @ 20	05		1440			X	X	X				
PC-27 8-12	06		1205			X	X	X				24hr.
PC-27 12-16	07		1215			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	11/6/14	1530
Received by:		Nhan Phan	FeBI	11/6/14	1530
Relinquished by:					
Received by:			Samples received at 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

November 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 November 10, 2014 from the North Edge KV030772B, F&BI 411152 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
AE11112R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 10, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411152 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411152 -01	PC-18 8-12
411152 -02	PC-18 12-16
411152 -03	PC-33 8-12
411152 -04	PC-33 12-16

All quality control requirements were acceptable.

Date of Report: 11/12/14
Date Received: 11/10/14
Project: North Edge KV030772B, F&BI 411152
Date Extracted: 11/10/14
Date Analyzed: 11/10/14

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-18 8-12 411152-01	<0.02	<0.02	<0.02	<0.06	<2	86
PC-18 12-16 411152-02	<0.02	<0.02	<0.02	<0.06	<2	96
PC-33 8-12 411152-03	<0.02	<0.02	<0.02	<0.06	<2	83
PC-33 12-16 411152-04	<0.02	<0.02	<0.02	<0.06	<2	86
Method Blank 04-2278 MB	<0.02	<0.02	<0.02	<0.06	<2	89

Date of Report: 11/12/14
Date Received: 11/10/14
Project: North Edge KV030772B, F&BI 411152
Date Extracted: 11/10/14
Date Analyzed: 11/10/14

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 8-12 411152-01	<50	<250	77
PC-18 12-16 411152-02	<50	<250	77
PC-33 8-12 411152-03	<50	<250	78
PC-33 12-16 411152-04	<50	<250	79
Method Blank 04-2289 MB	<50	<250	88

Date of Report: 11/12/14
Date Received: 11/10/14
Project: North Edge KV030772B, F&BI 411152

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: 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	87	91	66-121	4
Toluene	mg/kg (ppm)	0.5	88	92	72-128	4
Ethylbenzene	mg/kg (ppm)	0.5	95	96	69-132	1
Xylenes	mg/kg (ppm)	1.5	90	92	69-131	2
Gasoline	mg/kg (ppm)	20	100	100	61-153	0

Date of Report: 11/12/14
Date Received: 11/10/14
Project: North Edge KV030772B, F&BI 411152

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

Laboratory Code: 411150-01 (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	98	109	63-146	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	97	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.

411152

SAMPLE CHAIN OF CUSTODY

ME 11-10-14

VS2/C01

Page # 1 of 1

Send Report To Frank Mecker

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 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							Notes
PC-18 8-12	01 A-E	11/8/14		Soil	1 kit 1 jar	X	X	X										
PC-18 12-16	02	↓		↓	↓	X	X	X										
PC-33 8-12	03	↓		↓	↓	X	X	X										
PC-33 12-16	04 A-D	↓		↓	1 kit	X	X	X										– jar broke No Replacement

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:	[signature]	Frank Mecker	AESI	11/10/14	1045
Received by:	[signature]	Matt Livingston	FBI	11/10/14	1045
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

November 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 November 11, 2014 from the North Edge KV030772B, F&BI 411171 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
AE11112R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 11, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411171 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411171 -01	PC-12 24.5-28.5
411171 -02	PC-12 28.5-32.5
411171 -03	PC-23 8-12'
411171 -04	PC-23 12-16'
411171 -05	PC-34 8-12'
411171 -06	PC-34 12-16'
411171 -07	PC-24 8-12'
411171 -08	PC-24 12-16'
411171 -09	PC-35 8-12'
411171 -10	PC-35 12-16'
411171 -11	PC-26 8-12'
411171 -12	PC-26 12-16'

All quality control requirements were acceptable.

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171
Date Extracted: 11/11/14
Date Analyzed: 11/11/14 and 11/12/14

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 50-132)
PC-12 24.5-28.5 411171-01	<0.02	<0.02	<0.02	<0.06	<2	88
PC-12 28.5-32.5 411171-02	<0.02	<0.02	<0.02	<0.06	<2	85
PC-23 8-12' 411171-03 1/20	<0.4	<0.4	29	20	2,800	115
PC-23 12-16' 411171-04 1/5	0.11 j	0.14	2.3	1.6	280	101
PC-34 8-12' 411171-05 1/10	<0.2	<0.2	15	11	1,500	119
PC-34 12-16' 411171-06 1/10	<0.2	<0.2	21	14	2,100	127
PC-24 8-12' 411171-07 1/10	<0.2	<0.2	13	8.5	1,300	116
PC-24 12-16' 411171-08	<0.02	<0.02	1.1	0.81	150	116
PC-35 8-12' 411171-09 1/5	<0.02 j	<0.1	2.1	1.6	370	97
PC-35 12-16' 411171-10 1/10	<0.2	<0.2	18	12	1,800	127
PC-26 8-12' 411171-11	<0.02	<0.02	<0.02	<0.06	<2	85

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171
Date Extracted: 11/11/14
Date Analyzed: 11/11/14 and 11/12/14

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 50-132)
PC-26 12-16' 411171-12 1/10	<0.2	<0.2	18	15	1,900	128
Method Blank 04-2281 MB	<0.02	<0.02	<0.02	<0.06	<2	79

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171
Date Extracted: 11/11/14
Date Analyzed: 11/11/14

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-12 24.5-28.5 411171-01	<50	<250	111
PC-12 28.5-32.5 411171-02	<50	<250	102
PC-23 8-12' 411171-03	1,100 x	<250	102
PC-23 12-16' 411171-04	210 x	<250	104
PC-34 8-12' 411171-05	260 x	<250	97
PC-34 12-16' 411171-06	290 x	<250	98
PC-24 8-12' 411171-07	1,200 x	<250	102
PC-24 12-16' 411171-08	<50	<250	104
PC-35 8-12' 411171-09	<50	<250	98
PC-35 12-16' 411171-10	710 x	<250	103
PC-26 8-12' 411171-11	<50	<250	97

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171
Date Extracted: 11/11/14
Date Analyzed: 11/11/14

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-26 12-16' 411171-12	970 x	<250	103
Method Blank 04-2294 MB	<50	<250	104

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171

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: 411171-02 (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)	<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	89	72-128
Ethylbenzene	mg/kg (ppm)	0.5	88	69-132
Xylenes	mg/kg (ppm)	1.5	87	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 11/12/14
Date Received: 11/11/14
Project: North Edge KV030772B, F&BI 411171

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

Laboratory Code: 411164-01 (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	113	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	111	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.

411171

SAMPLE CHAIN OF CUSTODY

ME 11/11/14

VS2/C03

Page # 1 of 2

Send Report To: Frank Moeker

Company: AESI

Address: 911 Fifth Ave Ste100

City, State, ZIP: Kirkland WA 98033

Phone #: 425 766 5112 Fax #:

SAMPLERS (*signature*): [signature]

PROJECT NAME/NO.: North Edge / KU030772B → 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
PC-12 24.5-28.5	01 A-E	11/11/14	0825	Soil	1 Hot 1 jar	X	X	X				
PC-12 28.5-32.5	02	↓	0830	↓	↓	X	X	X				
PC-23 8-12'	03	↓	0845	↓	↓	X	X	X				
PC-23 12-16'	04	↓	0850	↓	↓	X	X	X				
PC-34 8-12'	05	↓	0900	↓	↓	X	X	X				
PC-34 12-16'	06	↓	0910	↓	↓	X	X	X				
PC-24 8-12'	07	↓	0915	↓	↓	X	X	X				
PC-24 12-16'	08	↓	0920	↓	↓	X	X	X				
PC-35 8-12'	09	↓	0935	↓	↓	X	X	X				
PC-35 12-16'	10	↓	0940	↓	↓	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	11/11/14	1104
Received by:	[signature]	Matt Lystad	FBI	11/11/14	1104
Relinquished by:					
Received by:			Samples received at 5 °C		

FORMS\COC\COC.DOC

411171

SAMPLE CHAIN OF CUSTODY

ME 11/11/14

VS2/C03

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 5512 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. North Edge / ICV030772B → 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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-26 8-12'	11 A-D	11/11/14	0945	Soil	1 jar	X	X	X										
PC-26 12-16'	12	11/11/14	0955	Soil	↓	X	X	X										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Moeller	AESI	11/11/14	1104
Received by:	Matt Kingsbury	F-B Inc	11/11/14	1104
Relinquished by:				
Received by:				

Samples received at 5 °C

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

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

November 13, 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 November 12, 2014 from the North Edge KV030772B, F&BI 411205 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
AE11113R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 12, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411205 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411205 -01	PC-40 (0-4)
411205 -02	PC-40 (4-8)
411205 -03	PC-41 (0-4)
411205 -04	PC-41 (4-8)
411205 -05	PC-42 (0-4)
411205 -06	PC-42 (4-8)

All quality control requirements were acceptable.

Date of Report: 11/13/14
Date Received: 11/12/14
Project: North Edge KV030772B, F&BI 411205
Date Extracted: 11/12/14
Date Analyzed: 11/12/14 and 11/13/14

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-40 (0-4) 411205-01	<0.02	<0.02	<0.02	<0.06	<2	88
PC-40 (4-8) 411205-02	<0.02	<0.02	<0.02	<0.06	<2	87
PC-41 (0-4) 411205-03	<0.02	<0.02	<0.02	<0.06	<2	87
PC-41 (4-8) 411205-04 1/2	<0.02 j	0.29	1.5	5.4	720	132
PC-42 (0-4) 411205-05	<0.02	0.098	1.0	1.6	390	ip
PC-42 (4-8) 411205-06 1/50	3.0	21	8.9	51	1,700	99
Method Blank 04-2283 MB	<0.02	<0.02	<0.02	<0.06	<2	86

Date of Report: 11/13/14
Date Received: 11/12/14
Project: North Edge KV030772B, F&BI 411205
Date Extracted: 11/12/14
Date Analyzed: 11/12/14

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 53-144)
PC-40 (0-4) 411205-01	<50	<250	104
PC-40 (4-8) 411205-02	<50	<250	104
PC-41 (0-4) 411205-03	<50	<250	99
PC-41 (4-8) 411205-04	11,000	<250	92
PC-42 (0-4) 411205-05	11,000	1,100 x	93
PC-42 (4-8) 411205-06	12,000	610 x	89
Method Blank 04-2303 MB	<50	<250	99

Date of Report: 11/13/14
Date Received: 11/12/14
Project: North Edge KV030772B, F&BI 411205

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	91	89	66-121	2
Toluene	mg/kg (ppm)	0.5	90	88	72-128	2
Ethylbenzene	mg/kg (ppm)	0.5	91	88	69-132	3
Xylenes	mg/kg (ppm)	1.5	89	86	69-131	3
Gasoline	mg/kg (ppm)	20	100	95	61-153	5

Date of Report: 11/13/14
Date Received: 11/12/14
Project: North Edge KV030772B, F&BI 411205

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

Laboratory Code: 411205-01 (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	111	111	64-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	101	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.

411205

SAMPLE CHAIN OF CUSTODY

ME 11/12/14

VS 2/C03

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Avenue Ste 100

City, State, ZIP Kirkland, WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. NorthEdge / KV030772B

PO#

REMARKS

Page # 1 of 1

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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-40 (0-4)	01 AE	11/12/14	1205	Soil	1 cut jar	X	X	X										
PC-40 (4-8)	02		1215			X	X	X										
PC-41 (0-4)	03		1150			X	X	X										
PC-41 (4-8)	04		1155			X	X	X										
PC-42 (0-4)	05		1125			X	X	X										
PC-42 (4-8)	06		1140			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	11/12/14	1435
Received by:		HONG NGUYEN	FB	✓	✓
Relinquished by:					
Received by:					

Samples received at 3 °C

Samples received at ____ °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

November 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 November 18, 2014 from the North Edge KV030772B, F&BI 411314 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
AE11125R.DOC

CASE NARRATIVE

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

Laboratory ID	Associated Earth Sciences
411314 -01	SW-7@11'
411314 -02	SW-7@13'
411314 -03	PC-22 16-20'
411314 -04	PC-22 20-24'
411314 -05	PC-23 16-20'
411314 -06	PC-23 20-24'
411314 -07	PC-24 16-20'
411314 -08	PC-24 20-24'
411314 -09	PC-25 16-20'
411314 -10	PC-25 20-24'

All quality control requirements were acceptable.

Date of Report: 11/25/14
Date Received: 11/18/14
Project: North Edge KV030772B, F&BI 411314
Date Extracted: 11/19/14
Date Analyzed: 11/19/14 and 11/22/14

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 50-150)
SW-7@11' 411314-01	<0.02	<0.02	<0.02	<0.06	<2	90
SW-7@13' 411314-02 1/10	<0.2	0.31	3.5	2.2	630	94
PC-22 16-20' 411314-03	<0.02	<0.02	<0.02	<0.06	<2	89
PC-22 20-24' 411314-04	<0.02	<0.02	<0.02	<0.06	<2	90
PC-23 16-20' 411314-05	<0.02	<0.02	<0.02	<0.06	<2	89
PC-23 20-24' 411314-06	<0.02	<0.02	<0.02	<0.06	<2	90
PC-24 16-20' 411314-07	<0.02	0.16	1.3	0.71	210	110
PC-24 20-24' 411314-08 1/10	<0.2	1.3	5.9	3.0	820	95
PC-25 16-20' 411314-09 1/20	<0.4	2.6	16	7.6	1,900	87
PC-25 20-24' 411314-10	<0.02	1.9	3.5	4.1	780	ip
Method Blank 04-2336 MB	<0.02	<0.02	<0.02	<0.06	<2	90

Date of Report: 11/25/14
Date Received: 11/18/14
Project: North Edge KV030772B, F&BI 411314
Date Extracted: 11/19/14
Date Analyzed: 11/19/14

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)
SW-7@11' 411314-01	<50	<250	86
SW-7@13' 411314-02	310 x	<250	89
PC-22 16-20' 411314-03	<50	<250	87
PC-22 20-24' 411314-04	<50	<250	88
PC-23 16-20' 411314-05	<50	<250	90
PC-23 20-24' 411314-06	<50	<250	85
PC-24 16-20' 411314-07	120 x	<250	97
PC-24 20-24' 411314-08	170 x	<250	88
PC-25 16-20' 411314-09	690 x	<250	89
PC-25 20-24' 411314-10	320 x	<250	87
Method Blank 04-2353 MB	<50	<250	96

Date of Report: 11/25/14
Date Received: 11/18/14
Project: North Edge KV030772B, F&BI 411314

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: 411314-01 (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	90	70-117
Ethylbenzene	mg/kg (ppm)	0.5	88	65-123
Xylenes	mg/kg (ppm)	1.5	89	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 11/25/14
Date Received: 11/18/14
Project: North Edge KV030772B, F&BI 411314

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

Laboratory Code: 411302-01 (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	94	94	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	92	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.

411314

SAMPLE CHAIN OF CUSTODY

ME 11-18-14 VS3/DO3

Send Report To Frank Mucker

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 / ICV030772B → PO#

REMARKS

Page # 1 of 1

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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
SW-7 @ 11'	01 A-E	11/17/14	1040	Soil	11x4 1Jar	X	X	X										
SW-7 @ 13'	02	11/17/14	1045	Soil		X	X	X										
PC-22 16-20'	03	11/18/14	0930			X	X	X										
PC-22 20-24'	04		0937			X	X	X										
PC-23 16-20'	05		0950			X	X	X										
PC-23 20-24'	06		0955			X	X	X										
PC-24 16-20'	07		1005			X	X	X										
PC-24 20-24'	08		1010			X	X	X										
PC-25 16-20'	09		1021			X	X	X										
PC-25 20-24'	10		1032			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 Mucker	AESI	11/18/14	1555
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

November 20, 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 November 19, 2014 from the North Edge KV030772B, F&BI 411335 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
AE11120R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 19, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411335 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411335 -01	PC-43 0-4
411335 -02	PC-43 4-8
411335 -03	PC-44 0-4
411335 -04	PC-44 4-8

All quality control requirements were acceptable.

Date of Report: 11/20/14
Date Received: 11/19/14
Project: North Edge KV030772B, F&BI 411335
Date Extracted: 11/19/14
Date Analyzed: 11/19/14 and 11/20/14

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-43 0-4 411335-01 1/10	<0.02 j	0.52	1.5	8.1	410	94
PC-43 4-8 411335-02 1/20	1.2	16	20	100	1,200	92
PC-44 0-4 411335-03 1/10	1.5	7.6	7.7	14	1,100	98
PC-44 4-8 411335-04 1/100	8.5	72	53	280	4,300	92
Method Blank 04-2336 MB	<0.02	<0.02	<0.02	<0.06	<2	90

Date of Report: 11/20/14
Date Received: 11/19/14
Project: North Edge KV030772B, F&BI 411335
Date Extracted: 11/19/14
Date Analyzed: 11/19/14

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 53-144)
PC-43 0-4 411335-01	410	<250	99
PC-43 4-8 411335-02	250	<250	93
PC-44 0-4 411335-03	2,800	<250	97
PC-44 4-8 411335-04	1,900	330 x	97
Method Blank 04-2356 MB	<50	<250	103

Date of Report: 11/20/14
Date Received: 11/19/14
Project: North Edge KV030772B, F&BI 411335

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: 411314-01 (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	90	70-117
Ethylbenzene	mg/kg (ppm)	0.5	88	65-123
Xylenes	mg/kg (ppm)	1.5	89	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 11/20/14
Date Received: 11/19/14
Project: North Edge KV030772B, F&BI 411335

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

Laboratory Code: 411328-01 (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	250	99	89	64-133	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	101	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.

411335

SAMPLE CHAIN OF CUSTODY

ME 11-19-14 VSI

Page # 1 of 1 DOI

Send Report To Frank Mocker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland, WA 98033

Phone #4257665712 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. NorthEdge / KNU307228 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	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							Notes
PC-43 0-4	01 A-E	11/14/14	1025	Soil	1 kit 1 jar	X	X	X										
PC-43 4-8	02		1035			X	X	X										
PC-44 0-4	03		1315			X	X	X										
PC-44 4-8	04		1330			X	X	X										
												Samples received at 4 °C						

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Mocker	AESI	11/19/14	1425
Received by:	Eric Young	F&B	11/19/14	1425
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

November 21, 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 November 20, 2014 from the North Edge/KV030772B, F&BI 411376 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
AE11121R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 20, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge/KV030772B, F&BI 411376 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411376-01	PC-14 (8-12)
411376-02	PC-14 (12-16)
411376-03	PC-15 (13-17)
411376-04	PC-15 (17-21)
411376-05	PC-20 (16-20)
411376-06	PC-20 (20-24)

All quality control requirements were acceptable.

Date of Report: 11/21/14
Date Received: 11/20/14
Project: North Edge/KV030772B, F&BI 411376
Date Extracted: 11/20/14
Date Analyzed: 11/20/14 and 11/21/14

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-14 (8-12) 411376-01	<0.02	<0.02	<0.02	<0.06	<2	90
PC-14 (12-16) 411376-02	<0.02	<0.02	<0.02	<0.06	<2	85
PC-15 (13-17) 411376-03	<0.02	<0.02	<0.02	<0.06	<2	87
PC-15 (17-21) 411376-04	<0.02	<0.02	<0.02	<0.06	<2	86
PC-20 (16-20) 411376-05 1/5	<0.02 j	0.11	4.7	4.2	920	121
PC-20 (20-24) 411376-06	<0.02	<0.02	0.33	0.27	73	94
Method Blank 04-2337 MB	<0.02	<0.02	<0.02	<0.06	<2	85

Date of Report: 11/21/14
Date Received: 11/20/14
Project: North Edge/KV030772B, F&BI 411376
Date Extracted: 11/21/14
Date Analyzed: 11/21/14

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-14 (8-12) 411376-01	<50	<250	94
PC-14 (12-16) 411376-02	<50	<250	104
PC-15 (13-17) 411376-03	<50	<250	106
PC-15 (17-21) 411376-04	<50	<250	104
PC-20 (16-20) 411376-05	1,400	<250	106
PC-20 (20-24) 411376-06	71	<250	100
Method Blank 04-2366 MB	<50	<250	101

Date of Report: 11/21/14
Date Received: 11/20/14
Project: North Edge/KV030772B, F&BI 411376

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: 411342-04 (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	66-121
Toluene	mg/kg (ppm)	0.5	77	72-128
Ethylbenzene	mg/kg (ppm)	0.5	80	69-132
Xylenes	mg/kg (ppm)	1.5	77	69-131
Gasoline	mg/kg (ppm)	20	75	61-153

Date of Report: 11/21/14
Date Received: 11/20/14
Project: North Edge/KV030772B, F&BI 411376

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

Laboratory Code: 411360-01 (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	92	93	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	98	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.

411376

SAMPLE CHAIN OF CUSTODY ME 11/20/14 VS1/D02

Send Report To Frank Mucker
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/KV03072B
PO#
REMARKS

Page # ____ of ____

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-14 (8-12)	01 A-E	11/20/14	0730	Soil	1 kit 1 jar	X	X	X										
PC-14 (12-16)	02		0740			X	X	X										
PC-15 (13-17)	03		0750			X	X	X										
PC-15 (17-21)	04		0805			X	X	X										
PC-20 (16-20)	05		0815			X	X	X										
PC-20 (20-24)	06		0825			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 Mucker	AESI	11/20/14	1520
Received by:		Khan Phan	FEBI	11/20/14	1520
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
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(206) 285-8282
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www.friedmanandbruya.com

December 5, 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 November 26, 2014 from the North Edge KV030772B, F&BI 411467 project. There are 17 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
AE11205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 26, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 411467 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
411467 -01	PC-3 8-12
411467 -02	PC-3 12-16
411467 -03	PC-42 8-12
411467 -04	PC-42 12-16
411467 -05	PC-41 8-12
411467 -06	PC-41 12-16
411467 -07	PC-40 8-12
411467 -08	PC-40 12-16
411467 -09	PC-4 8-12
411467 -10	PC-4 12-16
411467 -11	PC-16 7-11
411467 -12	PC-16 11-15
411467 -13	PC-44 8-12
411467 -14	PC-44 12-16
411467 -15	PC-43 8-12
411467 -16	PC-43 12-16
411467 -17	PC-45 0-4
411467 -18	PC-45 4-8

Several compounds in the 8270D laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The analytes were not detected in the sample, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467
Date Extracted: 12/01/14
Date Analyzed: 12/01/14 and 12/03/14

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 8-12 411467-01 1/5	0.1 j	0.47	1.2	4.5	150	96
PC-3 12-16 411467-02	<0.02	0.056	0.11	0.22	24	88
PC-42 8-12 411467-03 1/5	0.02 j	0.19	0.32	1.9	170	90
PC-42 12-16 411467-04 1/5	0.21	<0.1	3.9	6.9	750	114
PC-41 8-12 411467-05 1/2	<0.02 j	<0.04	0.59	0.68	230	98
PC-41 12-16 411467-06 1/100	6.4	<2	21	27	3,200	95
PC-40 8-12 411467-07	<0.02	<0.02	<0.02	<0.06	<2	84
PC-40 12-16 411467-08	<0.02	<0.02	<0.02	<0.06	<2	82
PC-4 8-12 411467-09 1/10	0.02 j	<0.2	1.6	4.4	800	101
PC-4 12-16 411467-10	<0.02	<0.02	<0.02	<0.06	<2	85
PC-16 7-11 411467-11 1/5	<0.02 j	<0.1	0.87	1.4	580	97

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467
Date Extracted: 12/01/14
Date Analyzed: 12/01/14 and 12/03/14

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-16 11-15 411467-12	<0.02	<0.02	<0.02	<0.06	<2	83
PC-44 8-12 411467-13 1/2	0.071	0.31	0.51	1.9	65	93
PC-44 12-16 411467-14	<0.02	0.022	<0.02	0.13	9.5	87
PC-43 8-12 411467-15 1/50	23	150	65	400	5,300	101
PC-43 12-16 411467-16	0.034	0.025	<0.02	<0.06	<2	76
PC-45 0-4 411467-17	<0.02	<0.02	0.027	<0.06	6.1	85
PC-45 4-8 411467-18	<0.02	<0.02	<0.02	<0.06	3.6	84
Method Blank 04-2393 MB	<0.02	<0.02	<0.02	<0.06	<2	80
Method Blank 04-2394 MB	<0.02	<0.02	<0.02	<0.06	<2	76

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467
Date Extracted: 12/01/14
Date Analyzed: 12/01/14 and 12/02/14

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-3 8-12 411467-01	130	<250	95
PC-3 12-16 411467-02	70	<250	104
PC-42 8-12 411467-03	910	<250	100
PC-42 12-16 411467-04	2,000	<250	95
PC-41 8-12 411467-05	3,300	<250	110
PC-41 12-16 411467-06	18,000	750 x	97
PC-40 8-12 411467-07	<50	<250	97
PC-40 12-16 411467-08	<50	<250	105
PC-4 8-12 411467-09	370 x	<250	92
PC-4 12-16 411467-10	<50	<250	83
PC-16 7-11 411467-11	220 x	<250	84
PC-16 11-15 411467-12	<50	<250	83

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467
Date Extracted: 12/01/14
Date Analyzed: 12/01/14 and 12/02/14

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-44 8-12 411467-13	<50	<250	110
PC-44 12-16 411467-14	<50	<250	110
PC-43 8-12 411467-15	1,300	<250	112
PC-43 12-16 411467-16	<50	<250	111
PC-45 0-4 411467-17	<50	<250	113
PC-45 4-8 411467-18	<50	<250	107
Method Blank 04-2408 MB	<50	<250	85

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-4 8-12	Client:	Associated Earth Sciences
Date Received:	11/26/14	Project:	North Edge KV030772B, F&BI 411467
Date Extracted:	12/01/14	Lab ID:	411467-09
Date Analyzed:	12/01/14	Data File:	411467-09.014
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	1.36

Analysis For Total Metals By EPA Method 200.8

Client ID:	PC-44 8-12	Client:	Associated Earth Sciences
Date Received:	11/26/14	Project:	North Edge KV030772B, F&BI 411467
Date Extracted:	12/01/14	Lab ID:	411467-13
Date Analyzed:	12/01/14	Data File:	411467-13.015
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Holmium	96	60	125

Analyte:	Concentration mg/kg (ppm)
Lead	1.26

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 411467
Date Extracted:	12/01/14	Lab ID:	I4-764 mb
Date Analyzed:	12/01/14	Data File:	I4-764 mb.008
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	<1

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	PC-4 8-12	Client:	Associated Earth Sciences
Date Received:	11/26/14	Project:	North Edge KV030772B, F&BI 411467
Date Extracted:	12/01/14	Lab ID:	411467-09 1/5
Date Analyzed:	12/01/14	Data File:	120108.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	50	150
Benzo(a)anthracene-d12	100	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:	PC-44 8-12	Client:	Associated Earth Sciences
Date Received:	11/26/14	Project:	North Edge KV030772B, F&BI 411467
Date Extracted:	12/01/14	Lab ID:	411467-13 1/5
Date Analyzed:	12/01/14	Data File:	120109.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	81	50	150
Benzo(a)anthracene-d12	107	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.031
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	0.019
Phenanthrene	0.032
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 411467
Date Extracted:	12/01/14	Lab ID:	04-2409 mb 1/5
Date Analyzed:	12/01/14	Data File:	120107.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	78	50	150
Benzo(a)anthracene-d12	99	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: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467

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: 411466-06 (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	0.021	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	8	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	78	66-121
Toluene	mg/kg (ppm)	0.5	76	72-128
Ethylbenzene	mg/kg (ppm)	0.5	80	69-132
Xylenes	mg/kg (ppm)	1.5	77	69-131
Gasoline	mg/kg (ppm)	20	85	61-153

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467

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	83	85	66-121	2
Toluene	mg/kg (ppm)	0.5	84	83	72-128	1
Ethylbenzene	mg/kg (ppm)	0.5	83	82	69-132	1
Xylenes	mg/kg (ppm)	1.5	81	80	69-131	1
Gasoline	mg/kg (ppm)	20	90	90	61-153	0

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467

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

Laboratory Code: 411467-07 (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	86	89	63-146	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	86	79-144

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467

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

Laboratory Code: 411466-07 (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	10.3	98 b	99 b	59-148	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	50	103	80-120

Date of Report: 12/05/14
Date Received: 11/26/14
Project: North Edge KV030772B, F&BI 411467

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

Laboratory Code: 411467-09 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	100	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	93	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	91	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	94	37-137
Phenanthrene	mg/kg (ppm)	0.17	<0.01	91	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	94	41-135
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	96	23-144
Chrysene	mg/kg (ppm)	0.17	<0.01	94	45-122
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	132	31-144
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	130	45-130
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	128	39-128
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	129	28-146
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	126	46-129
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	125	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	87	88	58-121	1
Acenaphthylene	mg/kg (ppm)	0.17	90	92	54-121	2
Acenaphthene	mg/kg (ppm)	0.17	87	89	54-123	2
Fluorene	mg/kg (ppm)	0.17	91	93	56-127	2
Phenanthrene	mg/kg (ppm)	0.17	89	92	55-122	3
Anthracene	mg/kg (ppm)	0.17	86	89	50-120	3
Fluoranthene	mg/kg (ppm)	0.17	92	94	54-129	2
Pyrene	mg/kg (ppm)	0.17	92	93	53-127	1
Benz(a)anthracene	mg/kg (ppm)	0.17	95	94	51-115	1
Chrysene	mg/kg (ppm)	0.17	92	95	55-129	3
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	127 vo	135 vo	56-123	6
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	133 vo	129	54-131	3
Benzo(a)pyrene	mg/kg (ppm)	0.17	122 vo	125 vo	51-118	2
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	133	131	49-148	2
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	130	132	50-141	2
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	127	130	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.

411467 [redacted]

SAMPLE CHAIN OF CUSTODY

ME 11/26/14 [redacted] Page # 1 of 2 VSY/D

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) [signature]

PROJECT NAME/NO. Nat'l Edge / KV030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH See below

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	PAH	Pb					Notes
PC-3 8-12	01 A-E	11/26/14	0855	Soil	1 kit 1 jar	X	X	X										5 day
PC-3 12-16	02	11/26/14	0907	Soil	1 kit 1 jar	X	X	X										5 day
PC-42 8-12	03	11/26/14	0920	Soil	1 kit 1 jar	X	X	X										5 day
PC-42 12-16	04	11/26/14	0931	Soil	1 kit 1 jar	X	X	X										5 day
PC-41 8-12	05	11/26/14	0942	Soil	1 kit 1 jar	X	X	X										5 day
PC-41 12-16	06	11/26/14	0955	Soil	1 kit 1 jar	X	X	X										5 day
PC-40 8-12	07	11/26/14	1117	Soil	1 kit 1 jar	X	X	X										5 day
PC-40 12-16	08	11/26/14	1131	Soil	1 kit 1 jar	X	X	X										5 day
PC-4 8-12	09	11/26/14	1143	Soil	1 kit 1 jar	X	X	X				X	X					24 hour
PC-4 12-16	10	11/26/14	1157	Soil	1 kit 1 jar	X	X	X										24 hour

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	11/26/14	1530
Received by: [signature]	Eric Young	F&B	11/26/14	1530
Relinquished by:				
Received by:		Samples received at	2 °C	

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411467

SAMPLE CHAIN OF CUSTODY

ME 11/26/14

VS4/2 D

Page # 2 of 2

Send Report To Frank Wacker

Company AESI

Address 911 Fifth Ave Ste 100

City, State, ZIP Kirkland WA 98033

Phone # 425 766 5112 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. Hawthedge/KU030772B

PO#

REMARKS

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☒ RUSH See Below

Rush charges authorized by F.S. Wacker

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	PCB					Notes
PC-16 7-11	11 ME	11/26/14	1212	Soil	1 4oz jar	X	X	X										24 hour
PC-16 11-15	12		1222			X	X	X										
PC-44 3-12	13		1254			X	X	X				X	X					
PC-44 12-16	14		1307			X	X	X										
PC-43 3-12	15		1320			X	X	X										
PC-43 12-16	16		1330			X	X	X										5 day
PC-45 0-4	17		1343			X	X	X										
PC-45 4-8	18		1350			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

FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Wacker	AESI	11/26/14	1530
Received by:	Eric Young	F&B	11/26/14	1530
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
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

December 2, 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 1, 2014 from the North Edge KV030772B, F&BI 412011 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
AE11202R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 1, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412011 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412011 -01	PC-29 16-20
412011 -02	PC-29 20-24
412011 -03	PC-32 16-20
412011 -04	PC-32 20-24
412011 -05	PC-46 0-4
412011 -06	PC-46 4-8
412011 -07	PC-36 4-8
412011 -08	PC-36 8-12
412011 -09	PC-39 4-8
412011 -10	PC-39 8-12

All quality control requirements were acceptable.

Date of Report: 12/02/14
Date Received: 12/01/14
Project: North Edge KV030772B, F&BI 412011
Date Extracted: 12/01/14
Date Analyzed: 12/01/14 and 12/02/14

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-29 16-20 412011-01 1/5	<0.02 j	1.3	4.6	5.5	740	104
PC-29 20-24 412011-02	<0.02	<0.02	<0.02	<0.06	12	92
PC-32 16-20 412011-03 1/10	<0.2	0.90	5.4	9.1	790	100
PC-32 20-24 412011-04 1/5	<0.02 j	0.88	5.1	8.6	710	108
PC-46 0-4 412011-05	<0.02	<0.02	<0.02	<0.06	<2	92
PC-46 4-8 412011-06	<0.02	<0.02	<0.02	<0.06	<2	92
PC-36 4-8 412011-07	<0.02	<0.02	<0.02	<0.06	<2	92
PC-36 8-12 412011-08	<0.02	<0.02	<0.02	<0.06	<2	92
PC-39 4-8 412011-09	<0.02	<0.02	<0.02	<0.06	4.5	89
PC-39 8-12 412011-10 1/10	<0.2	2.9	16	12	2,500	113
Method Blank 04-2394 MB	<0.02	<0.02	<0.02	<0.06	<2	76

Date of Report: 12/02/14
Date Received: 12/01/14
Project: North Edge KV030772B, F&BI 412011
Date Extracted: 12/01/14
Date Analyzed: 12/02/14

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-29 16-20 412011-01	3,700	<250	98
PC-29 20-24 412011-02	320	<250	101
PC-32 16-20 412011-03	490	<250	98
PC-32 20-24 412011-04	510	<250	98
PC-46 0-4 412011-05	<50	<250	111
PC-46 4-8 412011-06	<50	<250	103
PC-36 4-8 412011-07	<50	<250	105
PC-36 8-12 412011-08	<50	<250	92
PC-39 4-8 412011-09	<50	<250	102
PC-39 8-12 412011-10	2,300	<250	101
Method Blank 04-2411 MB	<50	<250	102

Date of Report: 12/02/14
Date Received: 12/01/14
Project: North Edge KV030772B, F&BI 412011

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	83	85	66-121	2
Toluene	mg/kg (ppm)	0.5	84	83	72-128	1
Ethylbenzene	mg/kg (ppm)	0.5	83	82	69-132	1
Xylenes	mg/kg (ppm)	1.5	81	80	69-131	1
Gasoline	mg/kg (ppm)	20	90	90	61-153	0

Date of Report: 12/02/14
Date Received: 12/01/14
Project: North Edge KV030772B, F&BI 412011

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

Laboratory Code: 412011-05 (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	100	99	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	99	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.

412011

SAMPLE CHAIN OF CUSTODY

ME 12/01/14 VS2/1/E03

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 / KV030772B
PO#
REMARKS

Page # 1 of 1

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-29 16-20	01 A-E	12/1/14	1010	Soil	1 Kit 1 jar	X	X	X										
PC-29 20-24	02		1015			X	X	X										
PC-32 16-20	03		1023			X	X	X										
PC-32 20-24	04		1028			X	X	X										
PC-46 0-4	05		1256			X	X	X										
PC-46 4-8	06		1307			X	X	X										
PC-36 4-8	07		1316			X	X	X										
PC-36 8-12	08		1326			X	X	X										
PC-39 4-8	09		1335			X	X	X										
PC-39 8-12	10		1345			X	X	X										

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Frank Mocker	AESI	12/1/14	1500
Received by:	Nhan Phan	FCBT	12/1/14	1500
Relinquished by:				
Received by:		Samples received at 6 °C		

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

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 5, 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 4, 2014 from the North Edge KV030772B, F&BI 412091 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
AE11205R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 4, 2014 by Friedman & Bruya, Inc. from the Associated Earth Sciences North Edge KV030772B, F&BI 412091 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Associated Earth Sciences
412091 -01	PC-18 16-20
412091 -02	PC-18 20-24
412091 -03	PC-33 16-20
412091 -04	PC-33 20-24
412091 -05	PC-47 0-4
412091 -06	PC-47 4-8
412091 -07	PC-51 0-4
412091 -08	PC-51 4-8
412091 -09	PC-50 0-4
412091 -10	PC-50 4-8
412091 -11	PC-52 0-4
412091 -12	PC-52 4-8
412091 -13	PC-48 0-4
412091 -14	PC-48 4-8
412091 -15	PC-53 0-4
412091 -16	PC-53 4-8
412091 -17	PC-54 0-4
412091 -18	PC-54 4-8

The 8021B ethylbenzene, xylenes, and gasoline concentrations exceeded the calibration range of the instrument in sample PC-51 4-8. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091
Date Extracted: 12/04/14
Date Analyzed: 12/04/14 and 12/05/14

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-18 16-20 412091-01	<0.02	<0.02	<0.02	<0.06	<2	78
PC-18 20-24 412091-02	<0.02	<0.02	<0.02	<0.06	<2	80
PC-33 16-20 412091-03	<0.02	<0.02	<0.02	<0.06	<2	78
PC-33 20-24 412091-04	<0.02	<0.02	<0.02	0.35	74	93
PC-47 0-4 412091-05	<0.02	<0.02	<0.02	<0.06	<2	79
PC-47 4-8 412091-06	<0.02	<0.02	<0.02	<0.06	<2	77
PC-51 0-4 412091-07 1/5	0.05 j	0.63	1.6	14	290	97
PC-51 4-8 412091-08 1/10	2.9	24	40 ve	220 ve	3,000 ve	ip
PC-50 0-4 412091-09	<0.02	<0.02	<0.02	<0.06	<2	82
PC-50 4-8 412091-10	<0.02	0.023	<0.02	<0.06	15	78
PC-52 0-4 412091-11	<0.02	<0.02	<0.02	<0.06	<2	81

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091
Date Extracted: 12/04/14
Date Analyzed: 12/04/14 and 12/05/14

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-52 4-8 412091-12 1/5	<0.02 j	10	5.4	12	1,200	123
PC-48 0-4 412091-13	<0.02	<0.02	<0.02	<0.06	<2	79
PC-48 4-8 412091-14 1/5	<0.02 j	0.22	0.89	5.8	170	89
PC-53 0-4 412091-15	<0.02	<0.02	<0.02	<0.06	<2	79
PC-53 4-8 412091-16	<0.02	<0.02	<0.02	<0.06	<2	75
PC-54 0-4 412091-17	<0.02	<0.02	<0.02	<0.06	<2	79
PC-54 4-8 412091-18	<0.02	<0.02	<0.02	<0.06	<2	79
Method Blank 04-2399 MB	<0.02	<0.02	<0.02	<0.06	<2	83

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091
Date Extracted: 12/04/14
Date Analyzed: 12/04/14 and 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 48-168)
PC-18 16-20 412091-01	<50	<250	102
PC-18 20-24 412091-02	<50	<250	111
PC-33 16-20 412091-03	<50	<250	108
PC-33 20-24 412091-04	340	<250	111
PC-47 0-4 412091-05	<50	<250	114
PC-47 4-8 412091-06	<50	<250	104
PC-51 0-4 412091-07	290 x	<250	108
PC-51 4-8 412091-08	1,300 x	<250	102
PC-50 0-4 412091-09	<50	<250	99
PC-50 4-8 412091-10	<50	<250	103
PC-52 0-4 412091-11	<50	<250	103

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091
Date Extracted: 12/04/14
Date Analyzed: 12/04/14 and 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 48-168)
PC-52 4-8 412091-12	630 x	<250	103
PC-48 0-4 412091-13	<50	<250	103
PC-48 4-8 412091-14	310 x	<250	111
PC-53 0-4 412091-15	<50	<250	113
PC-53 4-8 412091-16	<50	<250	113
PC-54 0-4 412091-17	<50	<250	106
PC-54 4-8 412091-18	<50	<250	114
Method Blank 04-2442 MB	<50	<250	115

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091

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: 412042-23 (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	84	66-121
Toluene	mg/kg (ppm)	0.5	87	72-128
Ethylbenzene	mg/kg (ppm)	0.5	87	69-132
Xylenes	mg/kg (ppm)	1.5	84	69-131
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 12/05/14
Date Received: 12/04/14
Project: North Edge KV030772B, F&BI 412091

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

Laboratory Code: 412091-01 (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	102	98	73-135	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	111	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.