



EAGLE
ENVIRONMENTAL
CONSULTING, INC.

4101 Inca Street, Denver, CO 80211 • Phone: 303-433-0479 • Fax: 303-325-5449 • www.eagle-enviro.com

December 11, 2018

Mr. Jacob Evans
Noble Energy, Inc.
2115 117th Avenue
Greeley, Colorado 80631

Aurora USX AB #25-10P, 16P
Water Vault Removal
40.543080 / -104.489690
NW¼ SE¼ SEC.25 T7N R64W 6PM
Weld County, Colorado
Location ID 410102

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present the results from the water vault removal at the Aurora USX AB #25-10P, 16P (site).

On November 30, 2018, EAGLE collected soil samples following the removal of the water vault at the site. Per Noble Standard Operation Procedures, a soil sample was collected from each sidewall and the floor for field screening. The sidewall soil sample with the highest photoionization detector (PID) reading (SS-02@3') and the floor soil sample (SS-05@5') were submitted for laboratory analysis.

Based on laboratory analytical results, the soil samples did not contain concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, or total petroleum hydrocarbons (TPH) exceeding Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 regulatory limits. Additionally, sidewall soil sample's (SS-02@3') specific conductance, pH, and sodium adsorption ratio (SAR) values were within COGCC Table 910-1 regulatory limits.

EAGLE sincerely appreciates the opportunity to provide our services. If you have any questions or require further information, please contact us at (303) 433-0479.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Andrew Newberry
Project Geologist

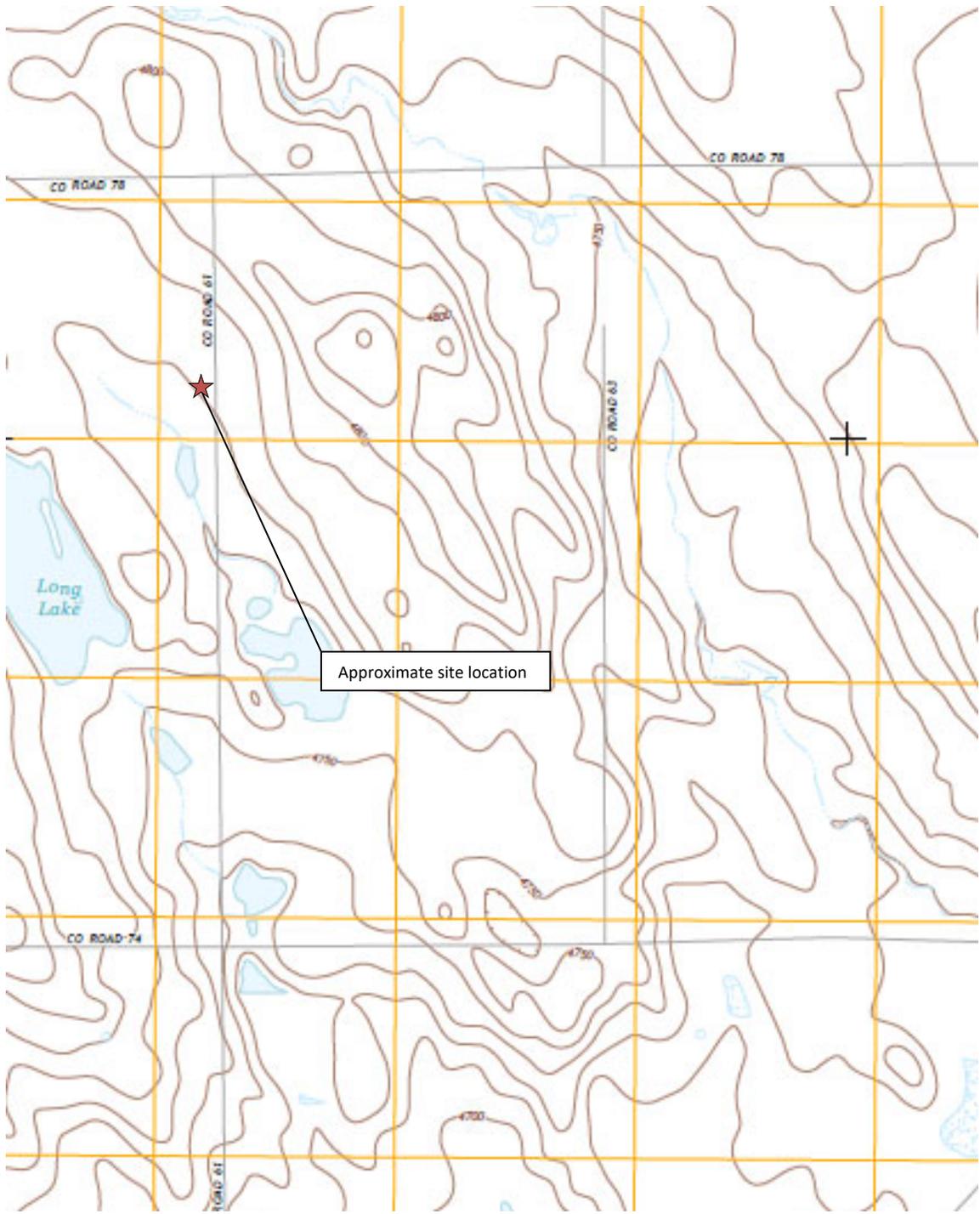


FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map



Topographical Site Location Map
 Aurora USX AB #25-10P, 16P
 Water Vault Removal
 40.543080 / -104.489690
 NW¼ SE¼ SEC.25 T7N R64W 6PM
 Weld County, Colorado
 Location ID 410102



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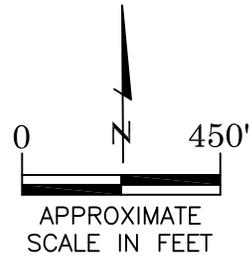
Source: USGS 7.5 Minute Topographic Map, Cornish, CO Quadrangle 2013

Figure 1



LEGEND

- AURORA USX AB #25-10P, 16P TANK BATTERY
- AURORA USX AB #25-10P WELL HEAD
- AURORA USX AB #25-16P WELL HEAD
- APPROXIMATE LOCATION OF WATER VAULT REMOVAL



AERIAL SITE LOCATION MAP
 AURORA USX AB #25-10P, 16P
 WATER VAULT REMOVAL
 40.543080 / -104.489690
 NW1/4 SE1/4 SEC.25 T7N R64W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 410102

DATE:
12/03/18

FIG. NO.
2

DRAWN BY:
kf



EAGLE

ENVIRONMENTAL
CONSULTING, INC.

4101 INCA STREET, DENVER, CO 80211
Ph: 303-433-0479 • F: 303-325-5449



SS-05@5'
 11/30/18
 5'
 B = <0.002
 T = <0.002
 E = <0.002
 X = <0.002
 N = <0.008
 G = <0.200
 D = <50.0
 EC = NA
 SAR= NA
 pH = NA

SS-02@3'
 11/30/18
 3'
 B = <0.002
 T = <0.002
 E = <0.002
 X = <0.002
 N = <0.008
 G = <0.200
 D = <50.0
 EC = 0.190
 SAR= 2.27
 pH = 8.17

LEGEND

- - - - APPROXIMATE EXCAVATION BOUNDARIES
- SS-01 APPROXIMATE LOCATION OF SOIL SAMPLES FIELD ANALYZED WITH PHOTOIONIZATION DETECTOR (PID)
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SOIL SAMPLE LOCATION
 DATE
 DEPTH (FEET)
 B = BENZENE (mg/kg)
 T = TOLUENE (mg/kg)
 E = ETHYLBENZENE (mg/kg)
 X = TOTAL XYLENES (mg/kg)
 N = NAPHTHALENE (mg/kg)
 G = TPH-GRO (mg/kg)
 D = TPH-DRO (mg/kg)
 EC = SPECIFIC CONDUCTANCE (mmhos/cm)
 SAR= SODIUM ADSORPTION RATIO
 pH = pH (pH UNITS)

mg/kg = MILLIGRAMS PER KILOGRAM

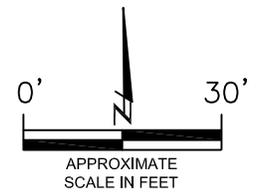
mmhos/cm = MILLIMHOS PER CENTIMETER

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

NA = NOT ANALYZED

NOTE: VALUES PRESENTED WITH A LESS THAN SYMBOL (<) DID NOT CONTAIN CONCENTRATIONS AT OR ABOVE LABORATORY DETECTION LIMITS



SOIL ANALYTICAL MAP
 AURORA USX AB #25-10P, 16P
 WATER VAULT REMOVAL
 40.543080 / -104.489690
 NW1/4 SE1/4 SEC.25 T7N R64W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 410102

DATE:
 12/06/18

DRAWN BY:
 kf

FIG.
 NO. 3



EAGLE
 ENVIRONMENTAL
 CONSULTING, INC.
 4101 INCA STREET, DENVER, CO 80211
 Ph: 303-433-0479 • F: 303-325-5449



ATTACHMENT A

Laboratory Analytical Report



December 06, 2018

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Aurora USX AB #25-10P, 16P **Project Number - [none]**

Attached are your analytical results for Noble - Aurora USX AB #25-10P, 16P received by Origins Laboratory, Inc. November 30, 2018. This project is associated with Origins project number Y811456-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Aurora USX AB #25-10P, 16P

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-02@3'	Y811456-01	Soil	November 30, 2018 11:22	11/30/2018 13:00
SS-05@5'	Y811456-02	Soil	November 30, 2018 11:28	11/30/2018 13:00

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

www.originslaboratory.com

page of

7811456

ORIGINS
LABORATORY, INC

Client: Eagle Environmental Consulting
 Address: 4101 Inca Street
 Telephone Number: 303.433.0479
 Email Address: MCE@eagle-environment.com

Project Manager: Martin Eckert
 Project Name: Aurora USX AB #25-10P, 16P
 Project Number:
 Samples Collected By: K. D. S. M. A. C. K.

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #		
SS-0203	11/30/18	1122	2	X				X			ERBTEX 8260C TPH-DE08015 Napthalene	1 X-Epith. SAP
SS-0505	11/30/18	1128	2	X				X				2 X
												3
												4
												5
												6
												7
												8
												9
												10

Relinquished by: [Signature] Date: 11/30/18 Time: 1255

Relinquished by: [Signature] Date: 11/30/18 Time: 1200

Received by: [Signature] Date: 11/30/18 Time: 1200

Turnaround Time: Same Day 24 Hr 48 Hr 72 Hr Standard

Origins Laboratory, Inc.

Jefe Pellegrini

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Origins Laboratory

F-012207-01-R1
 Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y811456

Client: Eagle

Client Project ID: Noble - Aurora USX AB 25

Checklist Completed by: JG

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11/30/2018

Airbill #: N/A

Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
(Describe)

Cooler Number/Temperature: 1 / 29 °C _____ °C _____ °C _____ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) OP

Date/Time Reviewed 12/3/18

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

SS-02@3'

11/30/2018 11:22:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y811456-01 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8L0403	KDK	12/04/2018	12/05/2018	U
<i>Surrogate: o-Terphenyl</i>	80.3 %	59-131			"	"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8L0404	KDK	12/04/2018	12/05/2018	U
Benzene	ND	0.002	"	"	"	KDK	"	"	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U
Naphthalene	ND	0.008	"	"	"	KDK	"	"	U

<i>Surrogate: 1,2-Dichloroethane-d4</i>	112 %	70-130			"	"	"	"	
<i>Surrogate: Toluene-d8</i>	91.8 %	70-130			"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	95.3 %	70-130			"	"	"	"	

Metals (Saturated Paste Prep)

Calcium	5.99		me/L	1	[none]		12/03/2018	12/04/2018	
Magnesium	4.93		"	"	"		"	"	
Sodium	5.30		"	"	"		"	"	

pH in Soil by EPA 9045D

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

SS-02@3'

11/30/2018 11:22:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

Origins Laboratory, Inc.
Y811456-01 (Soil)

pH in Soil by EPA 9045D

pH	8.17		pH Units	1	B8L0401	OLAB	12/04/2018	12/04/2018	
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SAR by 20B Saturated Paste

SAR	2.27			1	'[none]'		12/03/2018	12/04/2018	
-----	------	--	--	---	----------	--	------------	------------	--

Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.190	0.00500	mmhos/cm	1	B8L0402	OLAB	12/04/2018	12/04/2018	
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Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

SS-05@5'

11/30/2018 11:28:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
---------	--------	-----------------	-------	----------	-------	---------	----------	----------	-------

Origins Laboratory, Inc.
 Y811456-02 (Soil)

Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8L0403	KDK	12/04/2018	12/05/2018	U
<i>Surrogate: o-Terphenyl</i>	81.0 %	59-131			"	"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8L0404	KDK	12/04/2018	12/05/2018	U
Benzene	ND	0.002	"	"	"	KDK	"	"	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U
Napthalene	ND	0.008	"	"	"	KDK	"	"	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	110 %	70-130			"	"	"	"	
<i>Surrogate: Toluene-d8</i>	92.4 %	70-130			"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	95.2 %	70-130			"	"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8L0404 - EPA 5030 (soil)

Blank (B8L0404-BLK1)

Prepared: 12/04/2018 Analyzed: 12/04/2018

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		106	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.3	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8L0404 - EPA 5030 (soil)

Blank (B8L0404-BLK2)

Prepared: 12/04/2018 Analyzed: 12/04/2018

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.008	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.9	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.1	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8L0404 - EPA 5030 (soil)

LCS (B8L0404-BS1)

Prepared: 12/04/2018 Analyzed: 12/04/2018

Benzene	0.105	0.002	mg/kg	0.100		105	70-130			
Toluene	0.089	0.002	"	0.100		88.5	70-130			
Ethylbenzene	0.092	0.002	"	0.100		92.2	70-130			
m,p-Xylene	0.182	0.004	"	0.200		90.8	70-130			
o-Xylene	0.091	0.002	"	0.100		90.9	70-130			
Naphthalene	0.079	0.008	"	0.100		78.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		107	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		91.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8L0404 - EPA 5030 (soil)

LCS (B8L0404-BS2)

Prepared: 12/04/2018 Analyzed: 12/04/2018

Benzene	0.116	0.002	mg/kg	0.100		116	70-130			
Toluene	0.098	0.002	"	0.100		98.3	70-130			
Ethylbenzene	0.096	0.002	"	0.100		96.3	70-130			
m,p-Xylene	0.191	0.004	"	0.200		95.5	70-130			
o-Xylene	0.096	0.002	"	0.100		95.9	70-130			
Naphthalene	0.091	0.008	"	0.100		91.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		104	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		93.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B8L0404 - EPA 5030 (soil)

Matrix Spike (B8L0404-MS1)	Source: Y811452-01			Prepared: 12/04/2018 Analyzed: 12/04/2018						
Benzene	0.119	0.002	mg/kg	0.100	ND	119	70-130			
Toluene	0.098	0.002	"	0.100	ND	97.6	70-130			
Ethylbenzene	0.093	0.002	"	0.100	ND	92.5	70-130			
m,p-Xylene	0.187	0.004	"	0.200	0.001	92.7	70-130			
o-Xylene	0.095	0.002	"	0.100	0.0004	94.5	70-130			
Naphthalene	0.102	0.008	"	0.100	0.005	97.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		116	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		90.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Eagle Environmental Consulting, Inc.
 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8L0404 - EPA 5030 (soil)

Matrix Spike (B8L0404-MS2)	Source: Y811452-02			Prepared: 12/04/2018 Analyzed: 12/04/2018						
Benzene	0.113	0.002	mg/kg	0.100	ND	113	70-130			
Toluene	0.093	0.002	"	0.100	ND	93.1	70-130			
Ethylbenzene	0.090	0.002	"	0.100	ND	90.1	70-130			
m,p-Xylene	0.180	0.004	"	0.200	0.0009	89.9	70-130			
o-Xylene	0.092	0.002	"	0.100	ND	92.0	70-130			
Naphthalene	0.097	0.008	"	0.100	ND	96.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		90.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

Origins Laboratory, Inc.



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Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8L0404 - EPA 5030 (soil)

Matrix Spike Dup (B8L0404-MSD1)	Source: Y811452-01			Prepared: 12/04/2018 Analyzed: 12/04/2018						
Benzene	0.120	0.002	mg/kg	0.100	ND	120	70-130	0.284	20	
Toluene	0.099	0.002	"	0.100	ND	98.5	70-130	0.979	20	
Ethylbenzene	0.093	0.002	"	0.100	ND	93.4	70-130	0.925	20	
m,p-Xylene	0.186	0.004	"	0.200	0.001	92.4	70-130	0.290	20	
o-Xylene	0.095	0.002	"	0.100	0.0004	94.8	70-130	0.294	20	
Naphthalene	0.098	0.008	"	0.100	0.005	93.1	70-130	4.18	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		113	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		90.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8L0404 - EPA 5030 (soil)

Matrix Spike Dup (B8L0404-MSD2)	Source: Y811452-02			Prepared: 12/04/2018 Analyzed: 12/04/2018						
Benzene	0.114	0.002	mg/kg	0.100	ND	114	70-130	0.0881	20	
Toluene	0.093	0.002	"	0.100	ND	93.3	70-130	0.193	20	
Ethylbenzene	0.089	0.002	"	0.100	ND	89.4	70-130	0.758	20	
m,p-Xylene	0.177	0.004	"	0.200	0.0009	88.5	70-130	1.52	20	
o-Xylene	0.090	0.002	"	0.100	ND	90.3	70-130	1.93	20	
Naphthalene	0.097	0.008	"	0.100	ND	97.0	70-130	0.413	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		90.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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 Project: Noble - Aurora USX AB #25-10P, 16P

Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B8L0403 - EPA 3550B

Blank (B8L0403-BLK1)					Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Surrogate: o-Terphenyl	40		"	50.0		79.3	59-131			
Blank (B8L0403-BLK2)					Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Surrogate: o-Terphenyl	39		"	50.0		77.9	59-131			
LCS (B8L0403-BS1)					Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	1010	50.0	mg/kg	1000		101	64-121			
Surrogate: o-Terphenyl	47		"	50.0		94.3	59-131			
LCS (B8L0403-BS2)					Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	958	50.0	mg/kg	1000		95.8	64-121			
Surrogate: o-Terphenyl	45		"	50.0		90.1	59-131			
Matrix Spike (B8L0403-MS1)		Source: Y811452-01			Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	864	50.0	mg/kg	1000	ND	86.4	53-125			
Surrogate: o-Terphenyl	40		"	50.0		81.0	59-131			
Matrix Spike (B8L0403-MS2)		Source: Y811452-02			Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	813	50.0	mg/kg	1000	ND	81.3	53-125			
Surrogate: o-Terphenyl	38		"	50.0		76.2	59-131			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Extractable Petroleum Hydrocarbons by 8015C - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8L0403 - EPA 3550B										
Matrix Spike Dup (B8L0403-MSD1)		Source: Y811452-01			Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	874	50.0	mg/kg	1000	ND	87.4	53-125	1.23	20	
Surrogate: o-Terphenyl	41		"	50.0		81.3	59-131			
Matrix Spike Dup (B8L0403-MSD2)		Source: Y811452-02			Prepared: 12/04/2018 Analyzed: 12/04/2018					
Diesel (C10-C28)	909	50.0	mg/kg	1000	ND	90.9	53-125	11.1	20	
Surrogate: o-Terphenyl	41		"	50.0		81.6	59-131			

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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Aurora USX AB #25-10P, 16P

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B8L0401 - NO PREP										
Duplicate (B8L0401-DUP1)		Source: Y812017-07			Prepared: 12/04/2018 Analyzed: 12/04/2018					
pH	7.69		pH Units		7.89			2.57	25	
Batch B8L0402 - NO PREP										
Blank (B8L0402-BLK1)		Prepared: 12/04/2018 Analyzed: 12/04/2018								
Specific Conductance (EC)	0.00200	0.00500	mmhos/cm							
Duplicate (B8L0402-DUP1)		Source: Y812016-08			Prepared: 12/04/2018 Analyzed: 12/04/2018					
Specific Conductance (EC)	2.43	0.00500	mmhos/cm		2.48			1.96	25	

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Eagle Environmental Consulting, Inc.
4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Aurora USX AB #25-10P, 16P

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



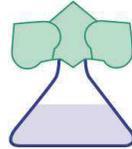
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American Agricultural Laboratory, Inc.

700 West D Street / PO Box 370 / McCook, Nebraska 69001

Office: 308-345-3670 / FAX: 308-345-7880

www.AmAgLab.com



95029

ORIGINS LABORATORY INC

1725 ELK PLACE

DENVER CO 80211

NAME : ORIGINS LAB

DATE RECEIVED: 12/03/2018

DATE REPORTED: 12/04/2018

SOIL TEST RESULTS

LAB NUMBER	FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	Depth Inches	pH		EL	SOLUBLE SALTS mod. SP mmhos/cm	OM LOI %	NITRATE-N (FIA)		PHOSPHORUS						
				1 : 1 Soil	Buffer Woodruff				ppm	lbs/A	P1 ppm	Bicarb ppm	P2 ppm	M2 ppm	M3 ppm		
2578452	Y811456	01	0-8														

LAB NUMBER	SULFATE-S Ca-P ppm	NH4OAc (Exchangeable)				DTPA				BORON Sorbitol ppm	EST. CATION EXCHANGE CAPACITY (CEC) me/100g	% SATURATION						
		K ppm	Ca ppm	Mg ppm	Na ppm	Zn ppm	Fe ppm	Mn ppm	Cu ppm			BASE	H	Ca	Mg	K	Na	
2578452																		

LAB NUMBER	SOLUBLE (SAT. EXT.)			SODIUM ADSORPTION RATIO (SAR)	EXCH. SODIUM PERCENT (ESP)	GYPSUM REQ T/A	PARTICLE SIZE ANALYSIS				CHLORIDE		EXCH. NH4-N		ALUMINUM ppm	TOTAL N %
	Ca me/L	Mg me/L	Na me/L				SAND %	SILT %	CLAY %	SOIL TEXTURE	ppm	lbs/A	ppm	lbs/A		
2578452	5.99	4.93	5.30	2.27	2	0										

SUGGESTED FERTILIZER RECOMMENDATIONS

LAB NUMBER	FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	CROP TO BE GROWN	YIELD GOAL	N	P2O5	K2O	S	Zn	MgO	Fe	Mn	Cu	B	Cl	LIME REC 60% ECCE T/A
2578452	Y811456	01								lbs/A						

Analysis By: American Agricultural Lab

Recommendations By: American Agricultural Lab



Your Lab's letterhead here...

Address

City, St. Zip

Phone/Fax

SUBCONTRACT ORDER

Sending Laboratory:

Origins Laboratory, Inc.
1725 West Elk Place
Denver, CO 80211
Phone: 303.433.1322
Fax: 303.265.9645

Project Manager: Noelle Doyle Mathis

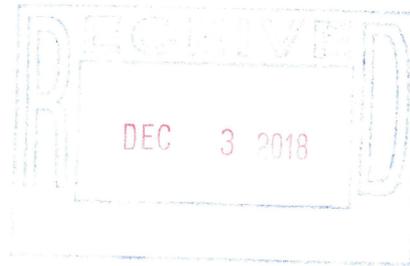
Subcontracted Laboratory:

American Agricultural Laboratory, Inc
210 East 1st Street
McCook, NE 69001
Phone: (308) 345-3670
Fax: (308) 345-7880

Work Order: Y811456

Analysis	Due	Expires	Comments
Sample ID: Y811456-01 <i>Soil</i> Sampled: 11/30/2018 11:22			
SAR (Saturated Paste Prep)	12/07/2018	12/01/2018 11:22	

584 Containers Supplied:





Released By

11/30/18
Date



Received By

12/3/18
Date