



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

**Dinner #15-42, 43
Water Vault Removal
40.484886 / -104.648726
NW¼ SE¼ SEC.15 T6N R65W 6PM
Weld County, Colorado
Location ID 332226**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present the results from the water vault removal at the Dinner #15-42, 43 (site).

On November 6, 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-01@3') and the floor soil sample (SS-05@6') 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-01@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

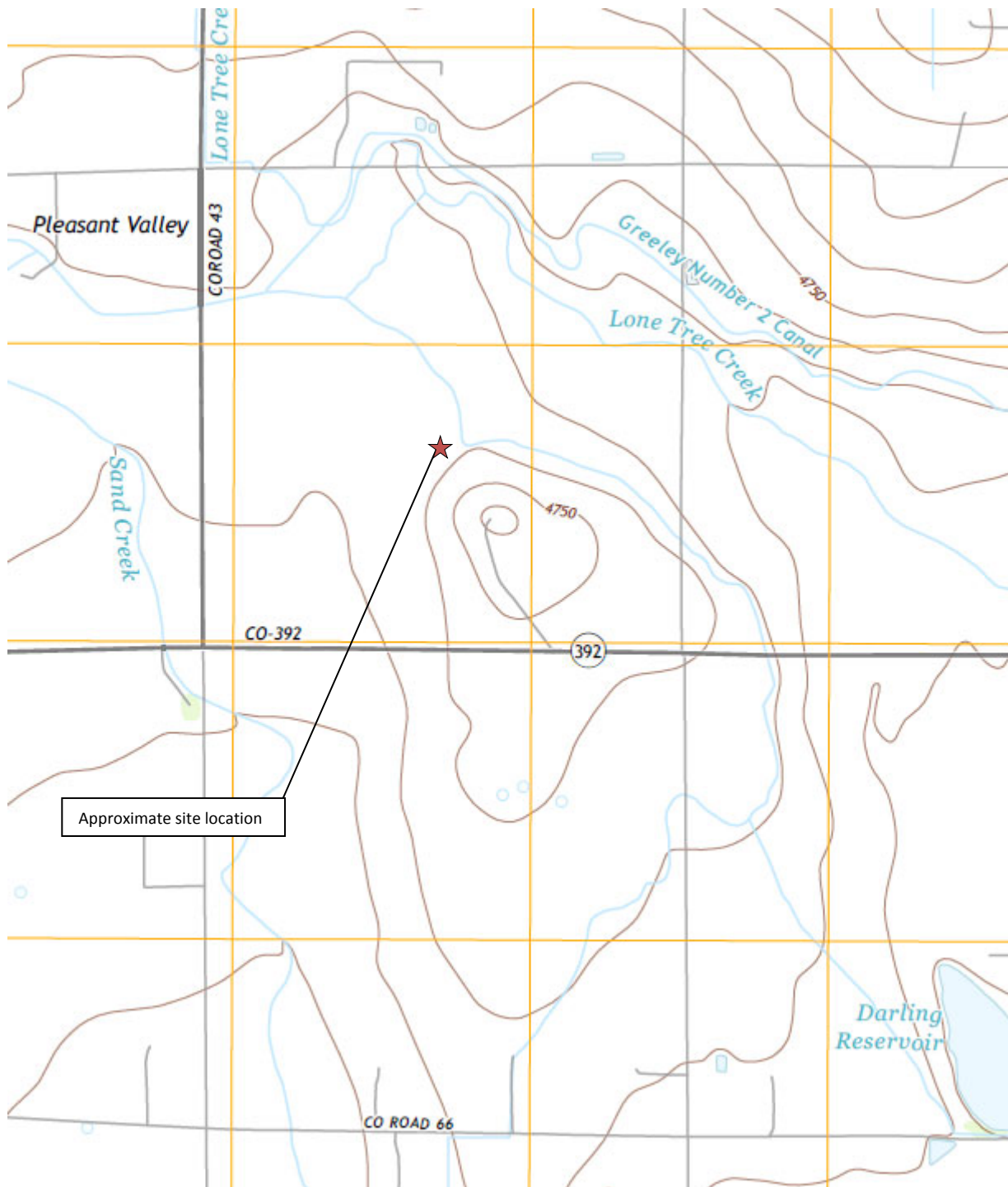


FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Analytical Map



Topographic Site Location Map

Dinner #15-42, 43
 Water Vault Removal
 40.484886 / -104.648723
 NW¼ SE¼ SEC.15 T6N R65W 6PM
 Weld County, Colorado
 Location ID 332226

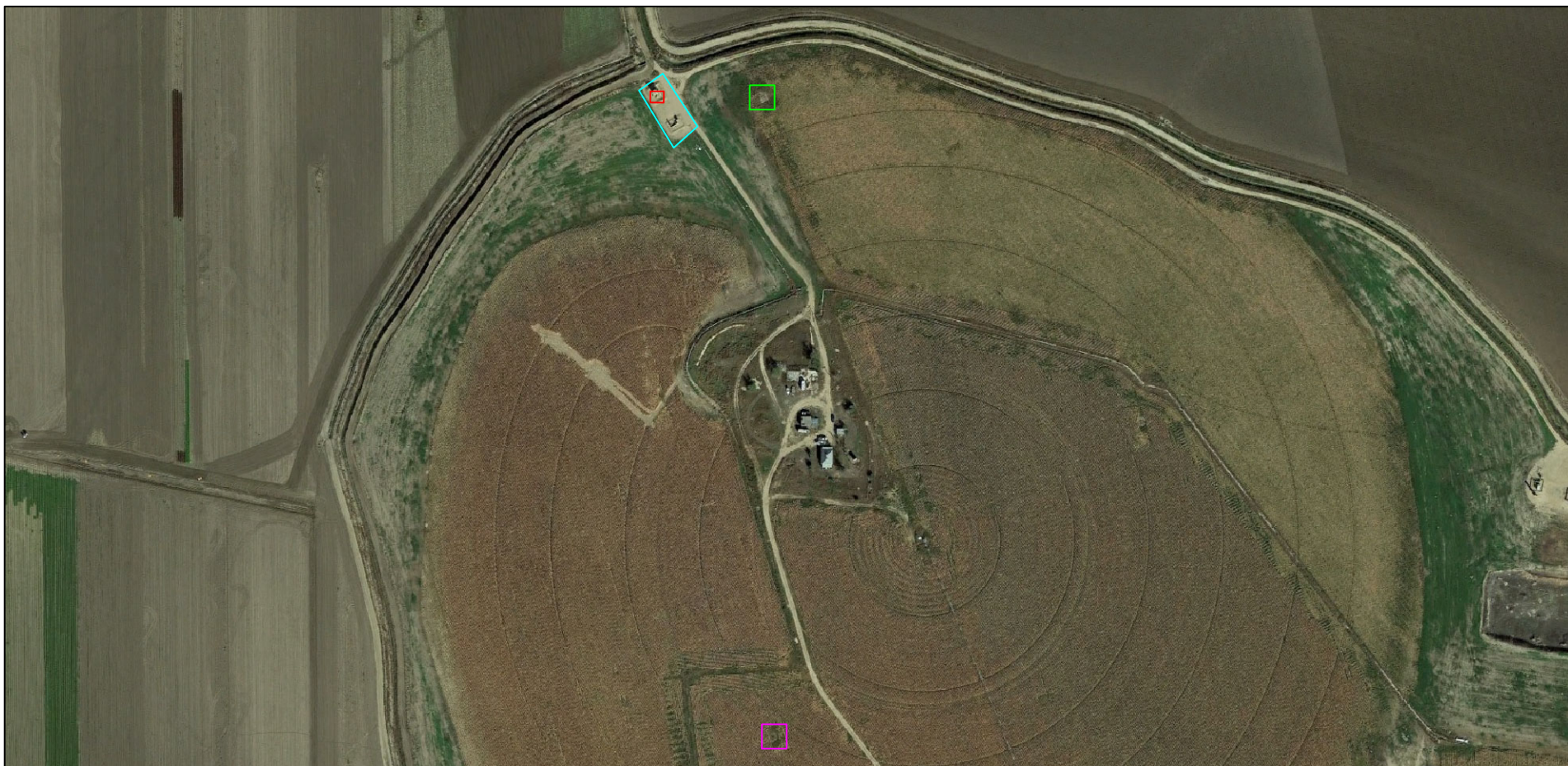


Source: USGS 7.5 Minute Topographic Map, Greeley, CO Quadrangle 2013

Figure 1

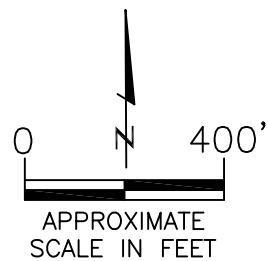


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LEGEND

- DINNER #15-42, 43 TANK BATTERY
- DINNER #15-42 WELL HEAD
- DINNER #15-43 WELL HEAD
- APPROXIMATE LOCATION OF WATER VAULT REMOVAL



AERIAL SITE LOCATION MAP

DINNER #15-42, 43
 WATER VAULT REMOVAL
 40.484886 / -104.648726
 NW1/4 SE1/4 SEC.15 T6N R65W 6PM
 WELD COUNTY, COLORADO
 LOCATION ID 332226

DATE:
 11/06/18

FIG. NO.
 2

DRAWN BY:
 ar



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



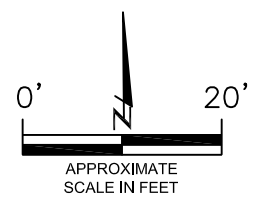
LEGEND

- 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
DINNER #15-42, 43
WATER VAULT REMOVAL
40.484886 / -104.648723
NW1/4 SE1/4 SEC.15 T6N R65W 6PM
WELD COUNTY, COLORADO
LOCATION ID 332226

DATE:
11/13/18
DRAWN BY:
ar
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



November 13, 2018

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Dinner 15-42/43

Project Number - [none]

Attached are your analytical results for Noble - Dinner 15-42/43 received by Origins Laboratory, Inc. November 06, 2018. This project is associated with Origins project number Y811100-01.

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 - Dinner 15-42/43

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-01@3'	Y811100-01	Soil	November 6, 2018 11:50	11/06/2018 16:40
SS-05@6'	Y811100-02	Soil	November 6, 2018 11:58	11/06/2018 16:40

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.

Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

ORIGINS

LABORATORY, INC

www.originslaboratory.com

Y811100

page 1 of 1

Client: STABLE ENV. CONSULTING
 Address: 4101 14th ST.
DENVER, CO
 Telephone Number: 303-433-0479
 Email Address: MIKE@EVALG-LABVIR.COM

Project Manager: MARTIN ECKERT III
 Project Name: DINNER 15-12/43
 Project Number: _____
 Samples Collected By: ME

Sample ID Description	Date Sampled	Time Sampled	# of Containers		Preservative			Matrix			Analysis				Sample Instructions
			Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	At Surface	Other	BTX	CRD	DDP	LABS	
SS-D1E3'	11-6-18	1150	2	X				X					X	X	1
SS-O5E6'	11-6-18	1158	2	X				T					X	X	2
															3
															4
															5
															6
															7
															8
															9
															10
Relinquished By: <u>[Signature]</u>	Date: <u>11-6-18</u>	Time: <u>1640</u>	Received By: <u>[Signature]</u>			Date: <u>11-6-18</u>	Time: <u>1440</u>	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard							
Relinquished By: _____	Date: _____	Time: _____	Received By: _____			Date: _____	Time: _____								

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

ALM: 85401253 11/13/18

Temp Received: 39

Date Results Needed 11/13/18

Origins Laboratory, Inc.

Jose Pellegrini

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: y811100

Client: Eagle

Client Project ID: Noble - Dinner 15-42/43

Checklist Completed by: JG

Shipped Via: HD

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11 / 7 / 2018

Airbill #: N/A

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

(Describe)

Cooler Number/Temperature: 1 / 3.9 °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) JG

11/8/18
Date/Time Reviewed

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 - Dinner 15-42/43

SS-01@3'

11/6/2018 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y811100-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8K0809	JTD	11/08/2018	11/09/2018	U
------------------	----	------	-------	---	---------	-----	------------	------------	---

Surrogate: o-Terphenyl	83.4 %	59-131			"	"	"		
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8K0808	JTD	11/08/2018	11/09/2018	U
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U
Naphthalene	ND	0.008	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"		
Surrogate: Toluene-d8	100 %	70-130			"	"	"		
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	"		

Metals (Saturated Paste Prep)

Calcium	2.02	me/L	1	'[none]'	11/08/2018	11/12/2018
Magnesium	1.13	"	"	"	"	"
Sodium	0.68	"	"	"	"	"

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 - Dinner 15-42/43

SS-01@3'

11/6/2018 11:50:00AM

Analyte	Result	Reporting	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.
Y811100-01 (Soil)

pH in Soil by EPA 9045D

pH	8.76	pH Units	1	B8K0803	OLAB	11/08/2018	11/08/2018
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SAR by 20B Saturated Paste

SAR	0.54		1	'[none]'		11/08/2018	11/12/2018
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0591	0.00500	mmhos/cm	1	B8K0804	OLAB	11/08/2018	11/08/2018
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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 - Dinner 15-42/43

SS-05@6'

11/6/2018 11:58:00AM

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

Origins Laboratory, Inc.
Y811100-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8K0809	JTD	11/08/2018	11/09/2018	U
------------------	----	------	-------	---	---------	-----	------------	------------	---

Surrogate: o-Terphenyl	74.9 %	59-131			"	"	"		
------------------------	--------	--------	--	--	---	---	---	--	--

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8K0808	JTD	11/08/2018	11/09/2018	U
Benzene	ND	0.002	"	"	"	JTD	"	"	U
Toluene	ND	0.002	"	"	"	JTD	"	"	U
Ethylbenzene	ND	0.002	"	"	"	JTD	"	"	U
Xylenes, total	ND	0.002	"	"	"	JTD	"	"	U
Naphthalene	ND	0.008	"	"	"	JTD	"	"	U

Surrogate: 1,2-Dichloroethane-d4	113 %	70-130			"	"	"		
Surrogate: Toluene-d8	99.5 %	70-130			"	"	"		
Surrogate: 4-Bromofluorobenzene	107 %	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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
Blank (B8K0808-BLK1)					Prepared: 11/08/2018 Analyzed: 11/08/2018					
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	0.008	0.008	"							B-05
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	70-130			

Origins Laboratory, Inc.



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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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
Blank (B8K0808-BLK2)					Prepared: 11/08/2018 Analyzed: 11/08/2018					
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	0.009	0.008	"							B-05
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
LCS (B8K0808-BS1)					Prepared: 11/08/2018 Analyzed: 11/08/2018					
Benzene	0.112	0.002	mg/kg	0.100		112	70-130			
Toluene	0.111	0.002	"	0.100		111	70-130			
Ethylbenzene	0.118	0.002	"	0.100		118	70-130			
m,p-Xylene	0.233	0.004	"	0.200		116	70-130			
o-Xylene	0.111	0.002	"	0.100		111	70-130			
Naphthalene	0.108	0.008	"	0.100		108	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
LCS (B8K0808-BS2)					Prepared: 11/08/2018 Analyzed: 11/09/2018					
Benzene	0.092	0.002	mg/kg	0.100		92.2	70-130			
Toluene	0.099	0.002	"	0.100		99.4	70-130			
Ethylbenzene	0.101	0.002	"	0.100		101	70-130			
m,p-Xylene	0.203	0.004	"	0.200		102	70-130			
o-Xylene	0.099	0.002	"	0.100		99.2	70-130			
Naphthalene	0.107	0.008	"	0.100		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.6	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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)

Matrix Spike (B8K0808-MS1)		Source: Y811120-01			Prepared: 11/08/2018 Analyzed: 11/08/2018					
Benzene	0.097	0.002	mg/kg	0.100	ND	97.5	70-130			
Toluene	0.105	0.002	"	0.100	ND	105	70-130			
Ethylbenzene	0.110	0.002	"	0.100	0.002	109	70-130			
m,p-Xylene	0.217	0.004	"	0.200	ND	109	70-130			
o-Xylene	0.109	0.002	"	0.100	0.0003	108	70-130			
Naphthalene	0.077	0.008	"	0.100	0.0009	75.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.5	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		105	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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
Matrix Spike (B8K0808-MS2)		Source: Y811120-02			Prepared: 11/08/2018 Analyzed: 11/08/2018					
Benzene	0.084	0.002	mg/kg	0.100	ND	83.6	70-130			
Toluene	0.089	0.002	"	0.100	ND	89.2	70-130			
Ethylbenzene	0.091	0.002	"	0.100	ND	91.0	70-130			
m,p-Xylene	0.184	0.004	"	0.200	ND	92.0	70-130			
o-Xylene	0.090	0.002	"	0.100	ND	90.1	70-130			
Naphthalene	0.089	0.008	"	0.100	0.002	86.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		104	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	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 - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
Matrix Spike Dup (B8K0808-MSD1)		Source: Y811120-01			Prepared: 11/08/2018 Analyzed: 11/08/2018					
Benzene	0.100	0.002	mg/kg	0.100	ND	100	70-130	3.05	20	
Toluene	0.107	0.002	"	0.100	ND	107	70-130	1.51	20	
Ethylbenzene	0.111	0.002	"	0.100	0.002	109	70-130	0.524	20	
m,p-Xylene	0.213	0.004	"	0.200	ND	107	70-130	1.69	20	
o-Xylene	0.110	0.002	"	0.100	0.0003	110	70-130	1.06	20	
Naphthalene	0.091	0.008	"	0.100	0.0009	90.4	70-130	17.3	20	
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.9	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

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 B8K0808 - EPA 5030 (soil)										
Matrix Spike Dup (B8K0808-MSD2)		Source: Y811120-02			Prepared: 11/08/2018 Analyzed: 11/08/2018					
Benzene	0.082	0.002	mg/kg	0.100	ND	82.3	70-130	1.52	20	
Toluene	0.088	0.002	"	0.100	ND	87.8	70-130	1.63	20	
Ethylbenzene	0.091	0.002	"	0.100	ND	90.9	70-130	0.110	20	
m,p-Xylene	0.182	0.004	"	0.200	ND	91.0	70-130	0.995	20	
o-Xylene	0.089	0.002	"	0.100	ND	89.1	70-130	1.05	20	
Naphthalene	0.089	0.008	"	0.100	0.002	86.6	70-130	0.270	20	
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

Origins Laboratory, Inc.



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Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

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 B8K0809 - EPA 3580

Blank (B8K0809-BLK1)

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
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Surrogate: o-Terphenyl

38

"

50.0

76.9

59-131

Blank (B8K0809-BLK2)

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	ND	50.0	mg/kg							U
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Surrogate: o-Terphenyl

42

"

50.0

84.7

59-131

LCS (B8K0809-BS1)

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	1190	50.0	mg/kg	1000		119	64-121			
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Surrogate: o-Terphenyl

56

"

50.0

112

59-131

LCS (B8K0809-BS2)

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	935	50.0	mg/kg	1000		93.5	64-121			
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Surrogate: o-Terphenyl

43

"

50.0

86.0

59-131

Matrix Spike (B8K0809-MS1)

Source: Y811120-01

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	1080	50.0	mg/kg	1000	ND	108	53-125			
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Surrogate: o-Terphenyl

46

"

50.0

92.1

59-131

Matrix Spike (B8K0809-MS2)

Source: Y811120-02

Prepared: 11/08/2018 Analyzed: 11/09/2018

Diesel (C10-C28)	964	50.0	mg/kg	1000	ND	96.4	53-125			
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Surrogate: o-Terphenyl

43

"

50.0

85.7

59-131

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 - Dinner 15-42/43

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 B8K0809 - EPA 3580										
Matrix Spike Dup (B8K0809-MSD1)		Source: Y811120-01			Prepared: 11/08/2018 Analyzed: 11/09/2018					
Diesel (C10-C28)	1060	50.0	mg/kg	1000	ND	106	53-125	1.64	20	
Surrogate: o-Terphenyl	48		"	50.0		95.3	59-131			
Matrix Spike Dup (B8K0809-MSD2)		Source: Y811120-02			Prepared: 11/08/2018 Analyzed: 11/09/2018					
Diesel (C10-C28)	955	50.0	mg/kg	1000	ND	95.5	53-125	0.928	20	
Surrogate: o-Terphenyl	42		"	50.0		84.7	59-131			

Origins Laboratory, Inc.



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Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Dinner 15-42/43

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 B8K0803 - NO PREP										
Duplicate (B8K0803-DUP1)		Source: Y811097-01			Prepared: 11/08/2018 Analyzed: 11/08/2018					
pH	7.48		pH Units		8.51			12.9	25	
Batch B8K0804 - NO PREP										
Blank (B8K0804-BLK1)		Prepared: 11/08/2018 Analyzed: 11/08/2018								
Specific Conductance (EC)	0.00140	0.00500	mmhos/cm							
Duplicate (B8K0804-DUP1)		Source: Y811097-01			Prepared: 11/08/2018 Analyzed: 11/08/2018					
Specific Conductance (EC)	0.0725	0.00500	mmhos/cm		0.0629			14.2	25	

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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Dinner 15-42/43

Notes and Definitions

U Sample is Non-Detect.

B-05 Contamination in blank is carryover from previous sample analyzed in same purge vessel. This contamination is not present in purge vessels that associated samples were purged in.

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.



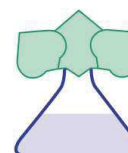
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American Agricultural Laboratory, Inc.

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: 11/08/2018

DATE REPORTED: 11/12/2018

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
2568087	Y811100	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
2568087																	

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		
2568087	2.02	1.13	0.68	0.54	1	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
2568087	Y811100	01														

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: Y811100

Analysis	Due	Expires	Comments
----------	-----	---------	----------

Sample ID: Y811100-01 *Soil* **Sampled: 11/06/2018 11:50**

427 SAR (Saturated Paste Prep) 11/13/2018 11/07/2018 11:50

Containers Supplied:



Released By

11/7/18

Date



Received By

Date