



**EAGLE**  
ENVIRONMENTAL  
CONSULTING, INC.

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8000 West 44<sup>th</sup> Ave., Wheat Ridge, CO 80033 • Phone: 303-433-0479 • Fax: 303-325-5449 • [www.eagle-enviro.com](http://www.eagle-enviro.com)

December 3, 2019

Mr. Jacob Evans  
Noble Energy, Inc.  
2115 117<sup>th</sup> Avenue  
Greeley, Colorado 80631

**UPRC #25-11I7, 12I7, 13I7, 14I7**  
**Water Vault Removal**  
**40.280778 / -104.848450**  
**NW¼ SW¼ SEC.25 T4N R67W 6PM**  
**Weld County, Colorado**  
**Remediation # 13815**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present the results from the water vault removal at the UPRC #25-11I7, 12I7, 13I7, 14I7 site (site).

On November 4, 2019, EAGLE collected soil samples following the removal of the water vaults at the site. Per Noble Standard Operating Procedures, a soil sample was collected from each sidewall and the floor for field screening. The sidewall soil samples with the highest photoionization detector (PID) reading (SS-02@3' and SS-06@3') and the floor soil samples (FS-01@6' and FS-02@6') were submitted for laboratory analysis.

Based on laboratory analytical results, the soil samples (SS-02@3', SS-06@3', FS-01@6', and FS-02@6') did not contain concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, or total petroleum hydrocarbons (TPH) exceeding applicable Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 regulatory limits. Additionally, the sidewall soil sample's (SS-02@3' and SS-06@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

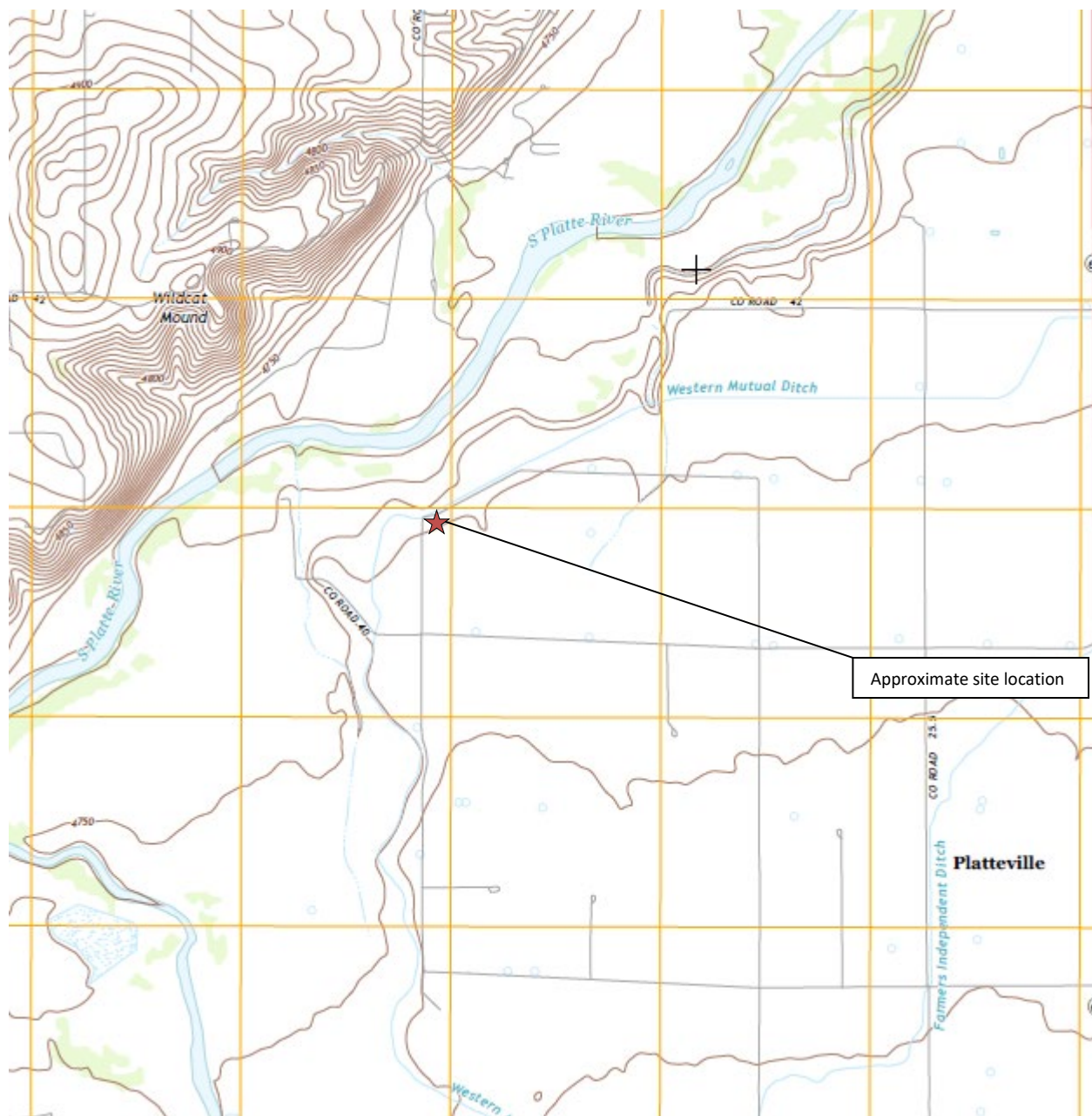


## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Analytical Map**



**Topographic Site Location Map**  
 UPRC #25-1117, 1217, 1317, 1417  
 Water Vault Removal  
 40.280778 / -104.848450  
 NW ¼ SW ¼ Sec. 25 T4N R67W 6PM  
 Weld County, Colorado  
 Remediation # 13815



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.

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

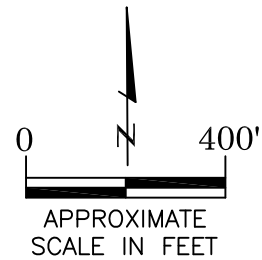
**Figure 1**





# **LEGEND**

- UPRC #25-1117, 1217, 1317, 1417 TANK BATTERY
- UPRC #25-1117 WELL HEAD
- UPRC #25-1217 WELL HEAD
- UPRC #25-1317 WELL HEAD
- UPRC #25-1417 WELL HEAD
- APPROXIMATE LOCATIONS OF WATER VAULT REMOVAL



AERIAL SITE LOCATION MAP  
 UPRC #25-1117, 1217, 1317, 1417  
 WATER VAULT REMOVAL  
 40.280778 / -104.848450  
 NW1/4 SW1/4 SEC.25 T4N R67W 6PM  
 WELD COUNTY, COLORADO  
 REMEDIATION # 13815

DATE:  
11/20/19

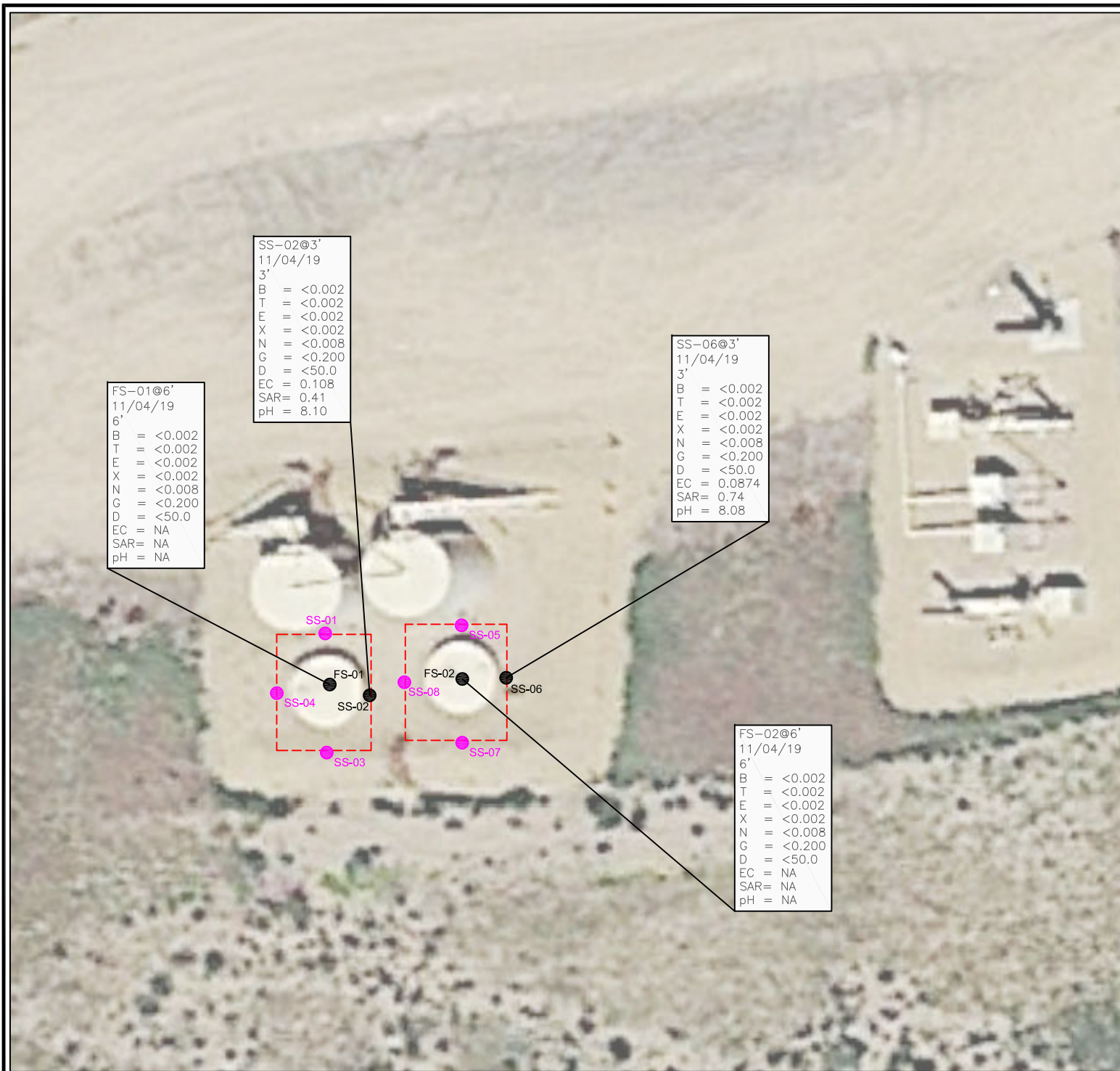
FIG. NO.  
2

DRAWN BY:  
amn



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.  
 8000 W 44th Ave, Wheat Ridge, CO 80033  
 Ph: 303-433-0479 • F: 303-325-5449





# LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- APPROXIMATE LOCATION OF SOIL SAMPLES FIELD ANALYZED WITH PHOTOIONIZATION DETECTOR (PID)
- 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

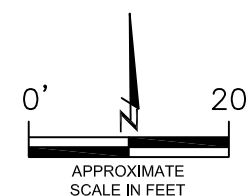
mmhos/cm = MILLIHOS PER CENTIMETER

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

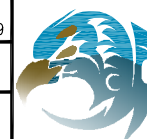


SOIL ANALYTICAL MAP  
UPRC #25-1117, 1217, 1317, 1417  
WATER VAULT REMOVAL  
40.280778 / -104.848450  
NW1/4 SW1/4 SEC.25 T4N R67W 6PM  
WELD COUNTY, COLORADO  
REMEDATION # 13815

DATE:  
11/20/19

DRAWN BY:  
amn

FIG.  
NO. 3



**EAGLE**  
ENVIRONMENTAL  
CONSULTING, INC.  
8000 W 44th Ave, Wheat Ridge, CO 80033  
Ph: 303-433-0479 • F: 303-325-5449



## **ATTACHMENT A**

### **Laboratory Analytical Report**



November 12, 2019

Eagle Environmental Consulting, Inc.

Martin C Eckert III

8000 W 44th Ave

Wheat Ridge CO 80033

**Project Name - Noble - UPRC 25-11I7, 12I7, 13I7, 14I7**      **Project Number - N/A**

Attached are your analytical results for Noble - UPRC 25-11I7, 12I7, 13I7, 14I7 received by Origins Laboratory, Inc. November 04, 2019. This project is associated with Origins project number Y911031-01.

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.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

## CROSS REFERENCE REPORT

| Sample ID | Laboratory ID | Matrix | Date Sampled           | Date Received    |
|-----------|---------------|--------|------------------------|------------------|
| SS-02@3'  | Y911031-01    | Soil   | November 4, 2019 13:12 | 11/04/2019 14:53 |
| FS-01@6'  | Y911031-02    | Soil   | November 4, 2019 13:18 | 11/04/2019 14:53 |
| SS-06@3'  | Y911031-03    | Soil   | November 4, 2019 13:23 | 11/04/2019 14:53 |
| FS-02@6'  | Y911031-04    | Soil   | November 4, 2019 13:29 | 11/04/2019 14:53 |

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.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-1117, 1217, 1317, 1417

www.originslaboratory.com

1911031

page 1 of 1

Project Manager: Martin Eckert III  
Project Name: UPRC #25-1117, 1217, 1317, 1417  
Project Number: ~  
Samples Collected By: GEC

Client: Eagle Env. Consulting  
Address: 8000 W 44th Ave  
Wheat Ridge, CO 80033  
Telephone Number: 303-433-0479  
Email Address: mec3@eagle-enviro.com

Fax: 303.265.9645

| Sample ID Description | Date Sampled | Time Sampled | # of Containers | Preservative |     |                  |       | Matrix      |      | Analysis             |       |      |     | Sample Instructions |
|-----------------------|--------------|--------------|-----------------|--------------|-----|------------------|-------|-------------|------|----------------------|-------|------|-----|---------------------|
|                       |              |              |                 | Unpreserved  | HCl | HNO <sub>3</sub> | Other | Groundwater | Soil | Air Summa Canister # | Other | BTEX | GRD |                     |
| SS-0203'              | 11/4/19      | 1312         | 2               | X            |     |                  |       |             | X    |                      |       |      | X   | 1                   |
| FS-0106'              |              | 1318         | 1               |              |     |                  |       |             |      |                      |       |      | X   | 2                   |
| SS-0603'              |              | 1323         | 1               |              |     |                  |       |             |      |                      |       |      | X   | 3                   |
| FS-0206'              |              | 1329         | 1               |              |     |                  |       |             |      |                      |       |      | X   | 4                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 5                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 6                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 7                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 8                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 9                   |
|                       |              |              |                 |              |     |                  |       |             |      |                      |       |      |     | 10                  |

Relinquished By: [Signature] Date: 11/4/19 Time: 1453  
Relinquished By: [Signature] Date: 11/4/19 Time: 1453

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

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

RC-8157067  
Code: 217039  
Temp Received: 4.6  
Date Results Needed: 11/14/19

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.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-1117, 1217, 1317, 1417

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y911031

Client: Eagle

Client Project ID: UPRC 25-1117, 1217, 1317

Checklist Completed by: JG

Shipped Via: HD

Date/time completed: 11 / 4 / 2019

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

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 4.6 °C      /      °C      /      °C (Describe) °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 <sup>(1)</sup> ?   | <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 <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |
| Was adequate sample volume provided <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |
| Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                   |
| Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                   |
| Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?   | <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 <sup>(1)</sup> ? (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 <sub>3</sub> , HCl, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                   |
| Additional Comments (if any):   |                                     |                                     |                                     |                   |

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

Reviewed by (Project Manager) JG

Date/Time Reviewed 11/5/19

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.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

SS-02@3'

11/4/2019 1:12:00PM

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

Origins Laboratory, Inc.  
Y911031-01 (Soil)

## Diesel Range Organics (DRO/TEPH) by EPA 8015D

|                  |    |      |       |   |         |     |            |            |   |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|
| Diesel (C10-C28) | ND | 50.0 | mg/kg | 1 | B9K0502 | KDK | 11/05/2019 | 11/05/2019 | U |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|

|                        |        |        |  |  |   |   |   |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: o-Terphenyl | 78.5 % | 50-150 |  |  | " | " | " |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|

## GBTEX + Naphthalene by EPA 8260D

|                             |    |       |       |   |         |     |            |            |   |
|-----------------------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Gasoline Range Hydrocarbons | ND | 0.200 | mg/kg | 1 | B9K0501 | KDK | 11/05/2019 | 11/05/2019 | 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 |

|                                  |        |        |  |  |   |   |   |  |  |
|----------------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: 1,2-Dichloroethane-d4 | 83.3 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: Toluene-d8            | 97.2 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: 4-Bromofluorobenzene  | 97.1 % | 70-130 |  |  | " | " | " |  |  |

## Metals (Saturated Paste Prep)

|           |      |      |   |        |  |            |            |
|-----------|------|------|---|--------|--|------------|------------|
| Calcium   | 4.82 | me/L | 1 | [none] |  | 11/06/2019 | 11/11/2019 |
| Magnesium | 2.02 | "    | " | "      |  | "          | "          |
| Sodium    | 0.76 | "    | " | "      |  | "          | "          |

## pH in Soil by EPA 9045D

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.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

SS-02@3'

11/4/2019 1:12:00PM

| Analyte | Result | Reporting<br>Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|

Origins Laboratory, Inc.  
Y911031-01 (Soil)

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 8.10 |  | pH Units | 1 | B9K0503 | DJL | 11/05/2019 | 11/05/2019 |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |      |  |  |   |        |  |            |            |  |
|-----|------|--|--|---|--------|--|------------|------------|--|
| SAR | 0.41 |  |  | 1 | [none] |  | 11/06/2019 | 11/11/2019 |  |
|-----|------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |       |         |          |   |         |     |            |            |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | 0.108 | 0.00507 | mmhos/cm | 1 | B9K0504 | DJL | 11/05/2019 | 11/05/2019 |  |
|---------------------------|-------|---------|----------|---|---------|-----|------------|------------|--|

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

FS-01@6'  
11/4/2019 1:18:00PM

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

Origins Laboratory, Inc.  
Y911031-02 (Soil)

## Diesel Range Organics (DRO/TEPH) by EPA 8015D

|                  |    |      |       |   |         |     |            |            |   |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|
| Diesel (C10-C28) | ND | 50.0 | mg/kg | 1 | B9K0502 | KDK | 11/05/2019 | 11/05/2019 | U |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|

|                        |        |        |  |  |   |   |   |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: o-Terphenyl | 76.4 % | 50-150 |  |  | " | " | " |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|

## GBTEX + Naphthalene by EPA 8260D

|                             |    |       |       |   |         |     |            |            |   |
|-----------------------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Gasoline Range Hydrocarbons | ND | 0.200 | mg/kg | 1 | B9K0501 | KDK | 11/05/2019 | 11/05/2019 | 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 |

|                                  |        |        |  |  |   |   |   |  |  |
|----------------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: 1,2-Dichloroethane-d4 | 88.9 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: Toluene-d8            | 92.1 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: 4-Bromofluorobenzene  | 95.4 % | 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.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

SS-06@3'

11/4/2019 1:23:00PM

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

Origins Laboratory, Inc.  
Y911031-03 (Soil)

## Diesel Range Organics (DRO/TEPH) by EPA 8015D

|                  |    |      |       |   |         |     |            |            |   |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|
| Diesel (C10-C28) | ND | 50.0 | mg/kg | 1 | B9K0502 | KDK | 11/05/2019 | 11/05/2019 | U |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|

|                        |        |        |  |  |   |   |   |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: o-Terphenyl | 78.5 % | 50-150 |  |  | " | " | " |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|

## GBTEX + Naphthalene by EPA 8260D

|                             |    |       |       |   |         |     |            |            |   |
|-----------------------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Gasoline Range Hydrocarbons | ND | 0.200 | mg/kg | 1 | B9K0501 | KDK | 11/05/2019 | 11/05/2019 | 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 |

|                                  |        |        |  |  |   |   |   |  |  |
|----------------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: 1,2-Dichloroethane-d4 | 90.8 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: Toluene-d8            | 102 %  | 70-130 |  |  | " | " | " |  |  |
| Surrogate: 4-Bromofluorobenzene  | 104 %  | 70-130 |  |  | " | " | " |  |  |

## Metals (Saturated Paste Prep)

|           |      |      |   |        |  |            |            |
|-----------|------|------|---|--------|--|------------|------------|
| Calcium   | 3.41 | me/L | 1 | [none] |  | 11/06/2019 | 11/11/2019 |
| Magnesium | 1.38 | "    | " | "      |  | "          | "          |
| Sodium    | 1.15 | "    | " | "      |  | "          | "          |

## pH in Soil by EPA 9045D

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

SS-06@3'

11/4/2019 1:23:00PM

| Analyte | Result | Reporting<br>Limit | Units | Dilution | Batch | Analyst | Prepared | Analyzed | Notes |
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|
|---------|--------|--------------------|-------|----------|-------|---------|----------|----------|-------|

**Origins Laboratory, Inc.**  
Y911031-03 (Soil)

**pH in Soil by EPA 9045D**

|    |      |  |          |   |         |     |            |            |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|
| pH | 8.08 |  | pH Units | 1 | B9K0503 | DJL | 11/05/2019 | 11/05/2019 |  |
|----|------|--|----------|---|---------|-----|------------|------------|--|

**SAR by 20B Saturated Paste**

|     |      |  |  |   |        |  |            |            |  |
|-----|------|--|--|---|--------|--|------------|------------|--|
| SAR | 0.74 |  |  | 1 | [none] |  | 11/06/2019 | 11/11/2019 |  |
|-----|------|--|--|---|--------|--|------------|------------|--|

**Specific Conductance by Modified 9050A**

|                           |        |         |          |   |         |     |            |            |  |
|---------------------------|--------|---------|----------|---|---------|-----|------------|------------|--|
| Specific Conductance (EC) | 0.0874 | 0.00500 | mmhos/cm | 1 | B9K0504 | DJL | 11/05/2019 | 11/05/2019 |  |
|---------------------------|--------|---------|----------|---|---------|-----|------------|------------|--|

Origins Laboratory, Inc.



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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

FS-02@6'  
11/4/2019 1:29:00PM

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

**Origins Laboratory, Inc.**  
**Y911031-04 (Soil)**

**Diesel Range Organics (DRO/TEPH) by EPA 8015D**

|                  |    |      |       |   |         |     |            |            |   |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|
| Diesel (C10-C28) | ND | 50.0 | mg/kg | 1 | B9K0502 | KDK | 11/05/2019 | 11/05/2019 | U |
|------------------|----|------|-------|---|---------|-----|------------|------------|---|

|                        |        |        |  |  |   |   |   |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: o-Terphenyl | 79.1 % | 50-150 |  |  | " | " | " |  |  |
|------------------------|--------|--------|--|--|---|---|---|--|--|

**GBTEX + Naphthalene by EPA 8260D**

|                             |    |       |       |   |         |     |            |            |   |
|-----------------------------|----|-------|-------|---|---------|-----|------------|------------|---|
| Gasoline Range Hydrocarbons | ND | 0.200 | mg/kg | 1 | B9K0501 | KDK | 11/05/2019 | 11/05/2019 | 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 |

|                                  |        |        |  |  |   |   |   |  |  |
|----------------------------------|--------|--------|--|--|---|---|---|--|--|
| Surrogate: 1,2-Dichloroethane-d4 | 94.6 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: Toluene-d8            | 91.4 % | 70-130 |  |  | " | " | " |  |  |
| Surrogate: 4-Bromofluorobenzene  | 93.1 % | 70-130 |  |  | " | " | " |  |  |

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Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

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

| Analyte                                | Result | Reporting Limit | Units | Spike Level | Source Result                             | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------|-------------|---|------|-------------|-----|-----------|-------|
| <b>Batch B9K0501 - EPA 5030 (soil)</b> |        |                 |       |             |   |      |             |     |           |       |
| <b>Blank (B9K0501-BLK1)</b>            |        |                 |       |             | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |             |     |           |       |
| 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       |   | 101  | 70-130      |     |           |       |
| Surrogate: Toluene-d8                  | 0.12   |                 | "     | 0.125       |   | 93.8 | 70-130      |     |           |       |
| Surrogate: 4-Bromofluorobenzene        | 0.12   |                 | "     | 0.125       |   | 93.6 | 70-130      |     |           |       |

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

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

| Analyte                                | Result | Reporting Limit | Units | Spike Level | Source Result                             | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------|-------------|---|------|-------------|-----|-----------|-------|
| <b>Batch B9K0501 - EPA 5030 (soil)</b> |        |                 |       |             |   |      |             |     |           |       |
| <b>LCS (B9K0501-BS1)</b>               |        |                 |       |             | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |             |     |           |       |
| Benzene                                | 0.099  | 0.002           | mg/kg | 0.100       |   | 98.9 | 70-130      |     |           |       |
| Toluene                                | 0.102  | 0.002           | "     | 0.100       |   | 102  | 70-130      |     |           |       |
| Ethylbenzene                           | 0.086  | 0.002           | "     | 0.100       |   | 86.1 | 70-130      |     |           |       |
| m,p-Xylene                             | 0.183  | 0.004           | "     | 0.200       |   | 91.4 | 70-130      |     |           |       |
| o-Xylene                               | 0.095  | 0.002           | "     | 0.100       |   | 94.9 | 70-130      |     |           |       |
| Naphthalene                            | 0.106  | 0.008           | "     | 0.100       |   | 106  | 70-130      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4       | 0.12   |                 | "     | 0.125       |   | 92.8 | 70-130      |     |           |       |
| Surrogate: Toluene-d8                  | 0.12   |                 | "     | 0.125       |   | 99.1 | 70-130      |     |           |       |
| Surrogate: 4-Bromofluorobenzene        | 0.11   |                 | "     | 0.125       |   | 90.9 | 70-130      |     |           |       |

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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-1117, 1217, 1317, 1417

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

| Analyte                                | Result | Reporting Limit           | Units | Spike Level | Source Result                             | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|---------------------------|-------|-------------|---|------|-------------|-----|-----------|-------|
| <b>Batch B9K0501 - EPA 5030 (soil)</b> |        |                           |       |             |   |      |             |     |           |       |
| <b>Matrix Spike (B9K0501-MS1)</b>      |        | <b>Source: Y911031-01</b> |       |             | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |             |     |           |       |
| Benzene                                | 0.080  | 0.002                     | mg/kg | 0.100       | ND  | 80.3 | 70-130      |     |           |       |
| Toluene                                | 0.084  | 0.002                     | "     | 0.100       | ND  | 84.1 | 70-130      |     |           |       |
| Ethylbenzene                           | 0.080  | 0.002                     | "     | 0.100       | ND  | 80.1 | 70-130      |     |           |       |
| m,p-Xylene                             | 0.157  | 0.004                     | "     | 0.200       | ND  | 78.6 | 70-130      |     |           |       |
| o-Xylene                               | 0.082  | 0.002                     | "     | 0.100       | ND  | 81.6 | 70-130      |     |           |       |
| Naphthalene                            | 0.112  | 0.008                     | "     | 0.100       | ND  | 112  | 70-130      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4       | 0.12   |                           | "     | 0.125       |   | 99.8 | 70-130      |     |           |       |
| Surrogate: Toluene-d8                  | 0.12   |                           | "     | 0.125       |   | 98.5 | 70-130      |     |           |       |
| Surrogate: 4-Bromofluorobenzene        | 0.12   |                           | "     | 0.125       |   | 94.6 | 70-130      |     |           |       |

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8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

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

| Analyte                                | Result | Reporting Limit           | Units | Spike Level | Source Result                             | %REC | %REC Limits | RPD  | RPD Limit | Notes |
|--|--------|---------------------------|-------|-------------|---|------|-------------|------|-----------|-------|
| <b>Batch B9K0501 - EPA 5030 (soil)</b> |        |                           |       |             |   |      |             |      |           |       |
| <b>Matrix Spike Dup (B9K0501-MSD1)</b> |        | <b>Source: Y911031-01</b> |       |             | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |             |      |           |       |
| Benzene                                | 0.079  | 0.002                     | mg/kg | 0.100       | ND  | 78.8 | 70-130      | 1.99 | 20        |       |
| Toluene                                | 0.075  | 0.002                     | "     | 0.100       | ND  | 74.9 | 70-130      | 11.6 | 20        |       |
| Ethylbenzene                           | 0.072  | 0.002                     | "     | 0.100       | ND  | 71.9 | 70-130      | 10.8 | 20        |       |
| m,p-Xylene                             | 0.145  | 0.004                     | "     | 0.200       | ND  | 72.3 | 70-130      | 8.31 | 20        |       |
| o-Xylene                               | 0.075  | 0.002                     | "     | 0.100       | ND  | 75.0 | 70-130      | 8.51 | 20        |       |
| Naphthalene                            | 0.098  | 0.008                     | "     | 0.100       | ND  | 98.3 | 70-130      | 13.4 | 20        |       |
| Surrogate: 1,2-Dichloroethane-d4       | 0.12   |                           | "     | 0.125       |   | 99.1 | 70-130      |      |           |       |
| Surrogate: Toluene-d8                  | 0.11   |                           | "     | 0.125       |   | 89.6 | 70-130      |      |           |       |
| Surrogate: 4-Bromofluorobenzene        | 0.12   |                           | "     | 0.125       |   | 93.0 | 70-130      |      |           |       |

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-1117, 1217, 1317, 1417

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

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

Batch B9K0502 - EPA 3580

Blank (B9K0502-BLK1)

Prepared: 11/05/2019 Analyzed: 11/05/2019

|                        |    |      |       |      |  |      |        |  |  |   |
|------------------------|----|------|-------|------|--|------|--------|--|--|---|
| Diesel (C10-C28)       | ND | 25.0 | mg/kg |      |  |      |        |  |  | U |
| Surrogate: o-Terphenyl | 21 |      | "     | 25.0 |  | 83.7 | 50-150 |  |  |   |

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-1117, 1217, 1317, 1417

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

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

Batch B9K0502 - EPA 3580

### LCS (B9K0502-BS1)

Prepared: 11/05/2019 Analyzed: 11/05/2019

|                        |     |      |       |      |  |      |        |  |  |  |
|------------------------|-----|------|-------|------|--|------|--------|--|--|--|
| Diesel (C10-C28)       | 989 | 50.0 | mg/kg | 1000 |  | 98.9 | 70-130 |  |  |  |
| Surrogate: o-Terphenyl | 51  |      | "     | 50.0 |  | 102  | 50-150 |  |  |  |

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-1117, 1217, 1317, 1417

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

| Analyte | Result | Reporting<br>Limit | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch B9K0502 - EPA 3580

| Matrix Spike (B9K0502-MS1) |     | Source: Y911031-01 |       |      | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |        |  |  |  |
|----------------------------|-----|--------------------|-------|------|---|------|--------|--|--|--|
| Diesel (C10-C28)           | 866 | 50.0               | mg/kg | 1000 | 23.0                                      | 84.3 | 70-130 |  |  |  |
| Surrogate: o-Terphenyl     | 45  |                    | "     | 50.0 |   | 90.9 | 50-150 |  |  |  |

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-1117, 1217, 1317, 1417

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

Origins Laboratory, Inc.

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

Batch B9K0502 - EPA 3580

| Matrix Spike Dup (B9K0502-MSD1) |     | Source: Y911031-01 |       |      | Prepared: 11/05/2019 Analyzed: 11/05/2019 |      |        |       |    |  |
|---------------------------------|-----|--------------------|-------|------|---|------|--------|-------|----|--|
| Diesel (C10-C28)                | 864 | 50.0               | mg/kg | 1000 | 23.0                                      | 84.1 | 70-130 | 0.264 | 35 |  |
| Surrogate: o-Terphenyl          | 48  |                    | "     | 50.0 |   | 95.4 | 50-150 |       |    |  |

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Eagle Environmental Consulting, Inc.  
8000 W 44th Ave  
Wheat Ridge CO 80033

Martin C Eckert III  
Project Number: N/A  
Project: Noble - UPRC 25-1117, 1217, 1317, 1417

## Extractable Petroleum Hydrocarbons by 8015D - Quality Control

### Origins Laboratory, Inc.

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

## 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 B9K0503 - NO PREP

|                                 |      |                           |          |  |   |  |  |      |    |  |
|---------------------------------|------|---------------------------|----------|--|---|--|--|------|----|--|
| <b>Duplicate (B9K0503-DUP1)</b> |      | <b>Source: Y911031-01</b> |          |  | Prepared: 11/05/2019 Analyzed: 11/05/2019 |  |  |      |    |  |
| pH                              | 8.21 |                           | pH Units |  | 8.10                                      |  |  | 1.35 | 25 |  |

#### Batch B9K0504 - NO PREP

|                                 |         |   |          |  |   |  |  |       |    |  |
|---------------------------------|---------|---|----------|--|---|--|--|-------|----|--|
| <b>Blank (B9K0504-BLK1)</b>     |         | Prepared: 11/05/2019 Analyzed: 11/05/2019 |          |  |   |  |  |       |    |  |
| Specific Conductance (EC)       | 0.00200 | 0.00500                                   | mmhos/cm |  |   |  |  |       |    |  |
| <b>Duplicate (B9K0504-DUP1)</b> |         | <b>Source: Y911031-01</b>                 |          |  | Prepared: 11/05/2019 Analyzed: 11/05/2019 |  |  |       |    |  |
| Specific Conductance (EC)       | 0.109   | 0.00500                                   | mmhos/cm |  | 0.108                                     |  |  | 0.647 | 25 |  |

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Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Martin C Eckert III

Project Number: N/A

Project: Noble - UPRC 25-11I7, 12I7, 13I7, 14I7

### 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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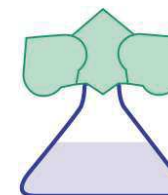


# American Agricultural Laboratory, Inc.

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www.AmAgLab.com



95029

ORIGINS LABORATORY INC

1725 ELK PLACE

DENVER CO 80211

NAME : ORIGINS LAB

DATE RECEIVED: 11/06/2019

DATE REPORTED: 11/11/2019

## SOIL TEST RESULTS

| LAB<br>NUMBER | FIELD<br>IDENTIFICATION | SAMPLE<br>IDENTIFICATION | Depth<br>Inches | pH            |                    | EL | SOLUBLE<br>SALTS<br>mod. SP<br>mmhos/cm | OM<br>LOI<br>% | NITRATE-N<br>(FIA) |       | PHOSPHORUS |               |           |           |           |
|---------------|-------------------------|--------------------------|-----------------|---------------|--------------------|----|---|----------------|--------------------|-------|------------|---------------|-----------|-----------|-----------|
|               |                         |                          |                 | 1 : 1<br>Soil | Buffer<br>Woodruff |    |   |                | ppm                | lbs/A | P1<br>ppm  | Bicarb<br>ppm | P2<br>ppm | M2<br>ppm | M3<br>ppm |
| 2659239       | Y911031                 | 01                       | 0-8             |               |                    |    |   |                |                    |       |            |               |           |           |           |
| 2659240       | Y911031                 | 03                       | 0-8             |               |                    |    |   |                |                    |       |            |               |           |           |           |

| LAB<br>NUMBER | SULFATE-S<br>Ca-P<br>ppm | NH4OAc (Exchangeable) |           |           |           | DTPA      |           |           |           | BORON<br>Sorbitol<br>ppm | EST. CATION<br>EXCHANGE<br>CAPACITY (CEC)<br>me/100g | % SATURATION |   |    |    |   |    |
|---------------|--------------------------|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------------|--|--------------|---|----|----|---|----|
|               |                          | K<br>ppm              | Ca<br>ppm | Mg<br>ppm | Na<br>ppm | Zn<br>ppm | Fe<br>ppm | Mn<br>ppm | Cu<br>ppm |                          |  | BASE         | H | Ca | Mg | K | Na |
| 2659239       |                          |                       |           |           |           |           |           |           |           |                          |  |              |   |    |    |   |    |
| 2659240       |                          |                       |           |           |           |           |           |           |           |                          |  |              |   |    |    |   |    |

| LAB<br>NUMBER | SOLUBLE (SAT. EXT.) |            |            | SODIUM<br>ADSORPTION<br>RATIO<br>(SAR) | EXCH.<br>SODIUM<br>PERCENT<br>(ESP) | GYPSUM<br>REQ<br>T/A | PARTICLE SIZE ANALYSIS |           |           |                 | CHLORIDE |       | EXCH. NH4-N |       | ALUMINUM<br>ppm | TOTAL<br>N<br>% |
|---------------|---------------------|------------|------------|--|-------------------------------------|----------------------|------------------------|-----------|-----------|-----------------|----------|-------|-------------|-------|-----------------|-----------------|
|               | Ca<br>me/L          | Mg<br>me/L | Na<br>me/L |  |                                     |                      | SAND<br>%              | SILT<br>% | CLAY<br>% | SOIL<br>TEXTURE | ppm      | lbs/A | ppm         | lbs/A |                 |                 |
| 2659239       | 4.82                | 2.02       | 0.76       | 0.41                                   | 1                                   | 0                    |                        |           |           |                 |          |       |             |       |                 |                 |
| 2659240       | 3.41                | 1.38       | 1.15       | 0.74                                   | 1                                   | 0                    |                        |           |           |                 |          |       |             |       |                 |                 |

## SUGGESTED FERTILIZER RECOMMENDATIONS

| LAB<br>NUMBER | FIELD<br>IDENTIFICATION | SAMPLE<br>IDENTIFICATION | CROP TO BE<br>GROWN | YIELD<br>GOAL | N | P2O5 | K2O | S | Zn | MgO | Fe | Mn | Cu | B | Cl | LIME REC<br>60% ECCE<br>T/A |
|---------------|-------------------------|--------------------------|---------------------|---------------|---|------|-----|---|----|-----|----|----|----|---|----|-----------------------------|
| 2659239       | Y911031                 | 01                       |                     |               |   |      |     |   |    |     |    |    |    |   |    |                             |
| 2659240       | Y911031                 | 03                       |                     |               |   |      |     |   |    |     |    |    |    |   |    |                             |

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: Y911031

| Analysis  | Due        | Expires          | Comments |
|---|------------|------------------|----------|
| <b>Sample ID: Y911031-01   Soil   Sampled: 11/04/2019 13:12</b> |            |                  |          |
| 878 SAR (Saturated Paste Prep)                                  | 11/11/2019 | 11/05/2019 13:12 |          |
| Containers Supplied:  |            |                  |          |
| <b>Sample ID: Y911031-03   Soil   Sampled: 11/04/2019 13:23</b> |            |                  |          |
| 879 SAR (Saturated Paste Prep)                                  | 11/11/2019 | 11/05/2019 13:23 |          |
| Containers Supplied:  |            |                  |          |

Released By

Date

Received By

Date