



February 11, 2015

Mr. Jacob Evans  
Noble Energy, Inc.  
1600 Broadway, Suite 2200  
Denver, Colorado 80202

**RE:                   Field Assessment and Excavation Report – Request For No Further Action**  
**Alles #7-31, #31-2**  
**Dump Line Release / Water Vault Removal**  
**40.362218 / -104.472400**  
**SW¼ NE¼ SEC.31 T5N R63W 6PM**  
**Weld County, Colorado**  
**API # 05-123-13141, 05-123-1789**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present this Field Assessment and Excavation Report – Request For No Further Action for the Alles #7-31, #31-2 site (Site).

## **1.0     SITE BACKGROUND**

EAGLE was requested by Noble Energy, Inc. (Noble), to perform surficial and subsurface assessment activities at the site in response to potential soil and groundwater impacts associated with a dump line release at the Site. On August 20, 2014, EAGLE collected soil samples SS-01 through SS-15 in conjunction with repairs to the dump line. Groundwater was not observed within the excavated area at the time of the initial assessment.

On October 1, 2014, EAGLE collected soil samples SS-16 through SS-20 following removal of the water vault associated with the Alles #7-31 and Alles #31-2 wells. Groundwater was not observed within the excavation at the time of the water vault removal.

Soil samples were submitted to Origins Laboratory, Inc. (Origins) for laboratory analysis, following standard chain of custody procedures. Based on laboratory analytical results, a release was confirmed and excavation activities were scheduled. The following narrative details assessment and excavation activities that were completed at the site.

## **2.0     SITE DESCRIPTION**

The Alles #7-31, #31-2 site is located within the southwest quarter of the northeast quarter of Section 31, Township 5 south, Range 63 west of the 6<sup>th</sup> Prime Meridian. The dump line release was located at latitude: 40.362218 and longitude: -104.472400. The removed water vault was located at latitude: 40.362207 and longitude: -104.472369. A topographic site location map is presented as Figure 1. An aerial site location map is presented in Figure 2.

## 2.1 Site Lithology

The soil lithology observed beneath the release location, consists of a clayey gravelly sand from the surface to approximately 5.5 feet bgs. A well-sorted sand was observed from approximately 5.5 feet bgs to 21 feet bgs. Groundwater was not observed during field activities.

## 3.0 SOIL EXCAVATION ACTIVITIES

### 3.1 Assessment Activities

On August 20, 2014, EAGLE collected soil samples, SS-01 through SS-05, beneath the release location, to determine if adsorbed petroleum hydrocarbon impacts existed above COGCC Table 910-1 regulatory limits. Upon arrival, EAGLE observed surface staining extending northwest from the repair location. Soil samples SS-06 through SS-10 were collected within the surface stained area at approximately 0.25 feet 3bgs. Based on initial field screening of the soil samples the area was scraped to approximately 1 foot bgs. Following scraping activities, EAGLE collected confirmation soil samples (SS-11 through SS-15) to determine if adsorbed petroleum hydrocarbon impacts remained above COGCC Table 910-1 regulatory limits. A portion of each soil sample was placed in a sealable plastic bag for volatile organic carbon (VOC) headspace analysis utilizing a field calibrated photoionization detector (PID). Another portion of the soil sample was placed in a 4-ounce glass jar and packed in an iced cooler for laboratory analysis.

Based on location and PID analysis, selected jarred soil samples were submitted to Origins, located in Denver, Colorado, under standard chain of custody procedures. The soil samples were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, total petroleum hydrocarbons – gasoline range organics (TPH-GRO), and total petroleum hydrocarbons – diesel range organics (TPH-DRO) following modified Environmental Protection Agency (EPA) Methods 8260c and 8015. The soil samples were received within the required holding time for each laboratory analysis.

Soil samples SS-01@4' and SS-02@4.5' contained concentrations of benzene (0.74 milligrams per kilogram (mg/kg) and 1.84 mg/kg, respectively), and TPH (combined TPH-GRO/TPH-DRO concentrations) (2,662 mg/kg and 5,530 mg/kg, respectively) exceeding their respective COGCC Table 910-1 regulatory limits of 0.17 mg/kg and 500 mg/kg. Soil sample SS-03@4' contained concentrations of benzene (32.8 mg/kg), toluene (217 mg/kg), total xylenes (300 mg/kg), and TPH (23,380 mg/kg) exceeding their respective COGCC Table 910-1 regulatory limits of 0.17 mg/kg, 85 mg/kg, 175 mg/kg, and 500 mg/kg. Soil sample SS-05@5.5' contained concentrations of TPH (833 mg/kg combined) exceeding the COGCC Table 910-1 regulatory limit of 500 mg/kg.

On October 1, 2014, EAGLE collected soil samples SS-16 through SS-20, following the removal of the water vault associated with the Alles #7-31 and Alles #31-2 wells, to determine if adsorbed petroleum hydrocarbon impacts existed above COGCC Table 910-1 regulatory limits. Based on location and PID readings, EAGLE submitted soil samples SS-18 and SS-20 to Origins, located in Denver, Colorado, under standard chain of custody procedures.

The soil samples were analyzed for BTEX, naphthalene, TPH-GRO, and TPH-DRO following modified EPA Methods 8260c and 8015. In addition, soil sample SS-18@3' was analyzed for Sodium Adsorption Ratio (SAR) following United States Department of Agriculture (USDA) Method 20B, Specific Conductance (EC) following USDA method 3, and pH following EPA method 9045D. The soil samples were received within the required holding time for each laboratory analysis.

Based on laboratory analytical results, soil sample SS-20@5.5' contained concentrations of benzene (24.8 mg/kg) and TPH (5,530 mg/kg) exceeding their respective COGCC Table 910-1 regulatory limits of 0.17

mg/kg and 500 mg/kg. The laboratory analytical results confirmed source removal was required around the area of the dump line repair and removed water vault.

### 3.2 Excavation Activities

From November 4, 2014 through November 7, 2014, EAGLE supervised excavation activities to remove adsorbed petroleum hydrocarbon impacts beneath and adjacent to the removed water vault and repaired dump line associated with the Alles #7-31 and Alles #31-2 wells. BG Services LLC (BG) provided the necessary equipment and personnel to remove and transport petroleum hydrocarbon impacted soil from the site.

Waste characterization/confirmation soil samples (SS-21 through SS-54) were collected at various locations to determine the lateral and vertical extents of petroleum hydrocarbon impacts beneath and adjacent to the removed water vault and repaired dump line. A portion of each soil sample was placed in a sealable plastic bag for VOC headspace analysis utilizing a field calibrated PID. Another portion of the soil sample was placed in a 4-ounce glass jar and packed in an iced cooler for laboratory analysis.

Based on location and PID analysis, selected jarred soil samples were submitted to Origins, under standard chain of custody procedures, for analysis of BTEX, naphthalene, TPH-GRO, and TPH-DRO following modified EPA Methods 8260c and 8015. The laboratory received the soil samples within the required holding time for each laboratory analysis.

A total of 13 confirmation soil samples (SS-28@12', SS-30@11.5', SS-31@15', SS-34@21', SS-35@21', SS-38@18', SS-39@18', SS-40@18', SS-41@18', SS-48@21', SS-50@18', SS-51@18', and SS-53@18') were submitted for laboratory analysis. Spatial location of each soil sample was recorded using a Trimble GeoXT 6000 series instrument. A site map presenting the limits of the excavation, as well as soil sample locations, is included as Figure 3.

The final limits of the Alles #7-31, #31-2 excavation extended approximately 40 feet northwest to southeast, and 35 feet northeast to southwest. The excavation was advanced to a total depth of approximately 21 feet bgs. Approximately 940 cubic yards of soil were removed during excavation activities. Groundwater was not observed within the excavation.

Following collection of confirmatory soil samples, the excavation was backfilled with clean structural fill and compacted to grade.

### 4.0 LABORATORY ANALYTICAL RESULTS

Based on laboratory analytical results, confirmation soil samples SS-28@12', SS-30@11.5', SS-34@21', SS-35@21', SS-38@18', SS-39@18', SS-40@18', SS-41@18', SS-48@21', SS-50@18', SS-51@18', and SS-53@18' collected from the Alles #7-31, #31-2 excavation did not contain concentrations of BTEX, naphthalene, TPH-GRO, and TPH-DRO exceeding their respective COGCC Table 910-1 regulatory limits and/or laboratory reporting limits.

Soil sample SS-31@15' contained concentrations of benzene (2.88 mg/kg) and TPH (4,015 mg/kg) exceeding their respective COGCC Table 910-1 regulatory limits of 0.17 mg/kg and 500 mg/kg, respectively. The excavation was continued vertically to approximately 21 feet bgs, and soil sample SS-35@21' was collected as a confirmatory sample.

Soil analytical results are summarized in Table 1 and presented in Figure 4. Laboratory analytical reports for soil samples collected during source removal activities at the Alles #7-31, #31-2 site are included in Attachment A.

## 5.0 CONCLUSIONS

Based on the information presented in this report, EAGLE concludes the following:

- Approximately 940 cubic yards of soil was removed from beneath the Alles #7-31, #31-2 dump line release and water vault removal location from November 4, 2014, through November 7, 2014.
- Confirmation soil samples (SS-28@12', SS-30@11.5', SS-34@21', SS-35@21', SS-38@18', SS-39@18', SS-40@18', SS-41@18', SS-48@21', SS-50@18', SS-51@18', and SS-53@18') collected from the sidewalls and floor of the Alles #7-31, #31-2 excavation did not contain concentrations of BTEX, naphthalene, TPH-GRO, and TPH-DRO exceeding their respective COGCC Table 910-1 regulatory limits and/or laboratory reporting limits.

## 6.0 RECOMMENDATIONS

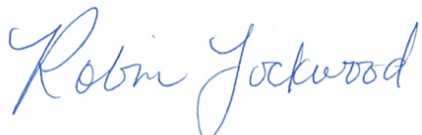
Based on the information presented in this report, EAGLE recommends the following:

- No further assessment or remediation is warranted for the Alles #7-31, #31-2 dump line release and water vault removal at this time.

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.***



Robin Lockwood  
Project Scientist



Martin Eckert III  
Senior Project Manager

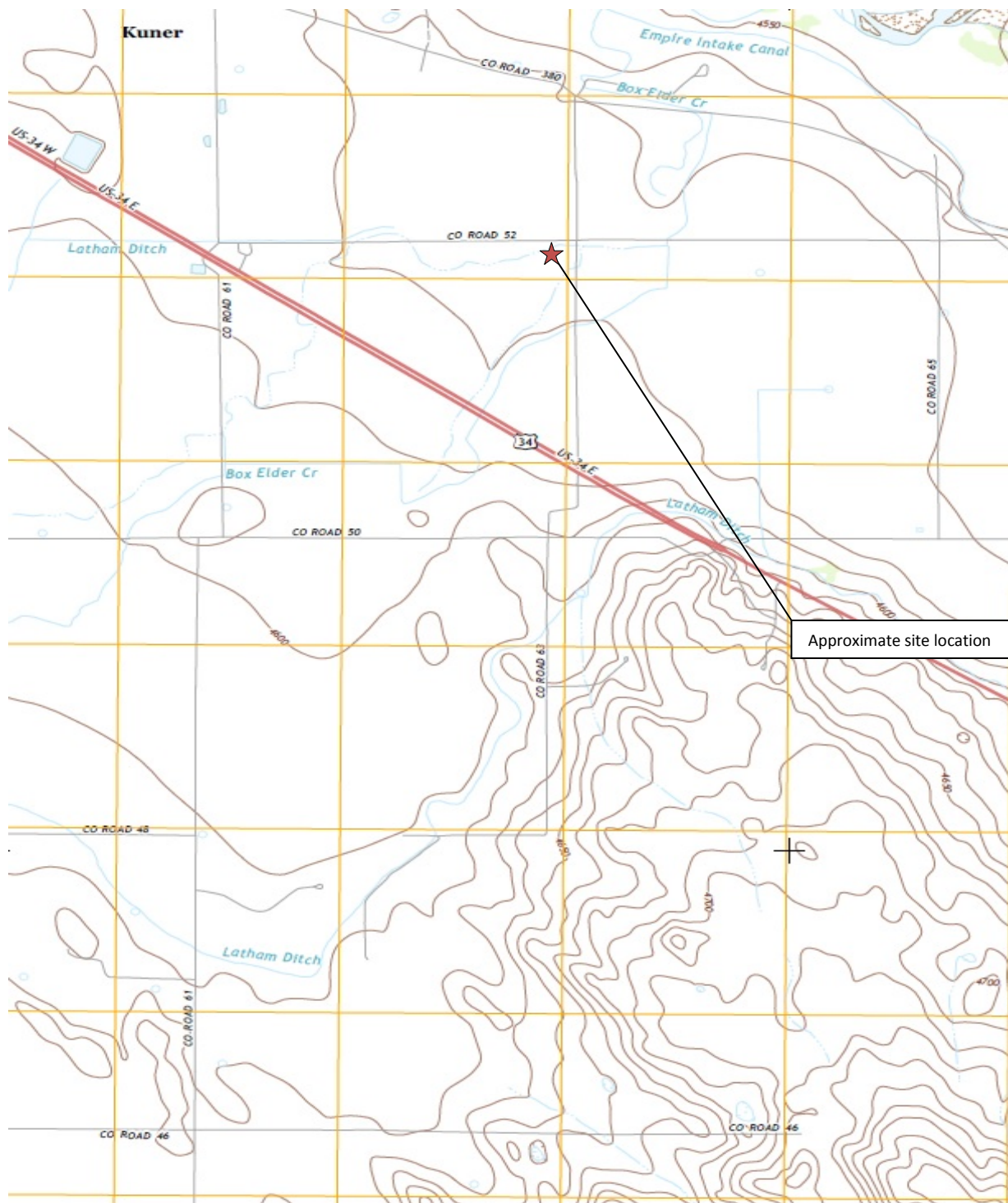
## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Sample Location Map**

**Figure 5: Soil Sample Analytical Map**



**Topographic Site Location Map**

Alles #7-31, #31-2  
 Dump Line Release/Water Vault Removal  
 40.362218/-104.472400  
 SW¼ NE¼ SEC.31 T5N R63W 6PM  
 Weld County, Colorado  
 API # 05-123-13141, 05-123-17389



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

**Figure 1**



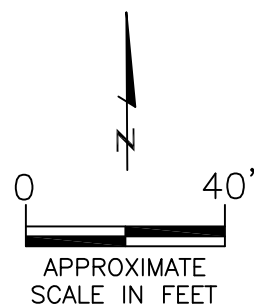
**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.





# LEGEND

- APPROXIMATE TANK BATTERY BOUNDARY
- X APPROXIMATE RELEASE LOCATION (40.362218/-104.472400)



## AERIAL SITE LOCATION MAP

ALLES #7-31, #31-2  
 DUMP LINE RELEASE / WATER VAULT REMOVAL  
 40.362218/-104.472400  
 SW1/4 NE1/4 SEC.31 T5N R63W 6PM  
 WELD COUNTY, COLORADO  
 API # 05-123-13141 & 05-123-17389

DATE:  
08/20/14

FIG. NO.  
2

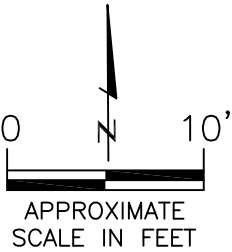
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**EAGLE**  
 ENVIRONMENTAL  
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 Ph: 303-433-0479 • F: 303-325-5449



- LEGEND**
- APPROXIMATE UTILITY LINE LOCATIONS
  - - - APPROXIMATE DUMP LINE RELEASE SURFACE STAINING ASSESSMENT EXTENTS
  - - - APPROXIMATE DUMP LINE RELEASE ASSESSMENT EXCAVATION EXTENTS
  - - - APPROXIMATE WATER VAULT REMOVAL EXTENTS
  - - - APPROXIMATE EXCAVATION EXTENTS
  - SS-01 ● APPROXIMATE LOCATION OF SOIL SAMPLES FIELD ANALYZED WITH PHOTOIONIZATION DETECTOR (PID)
  - SS-02 ● LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS



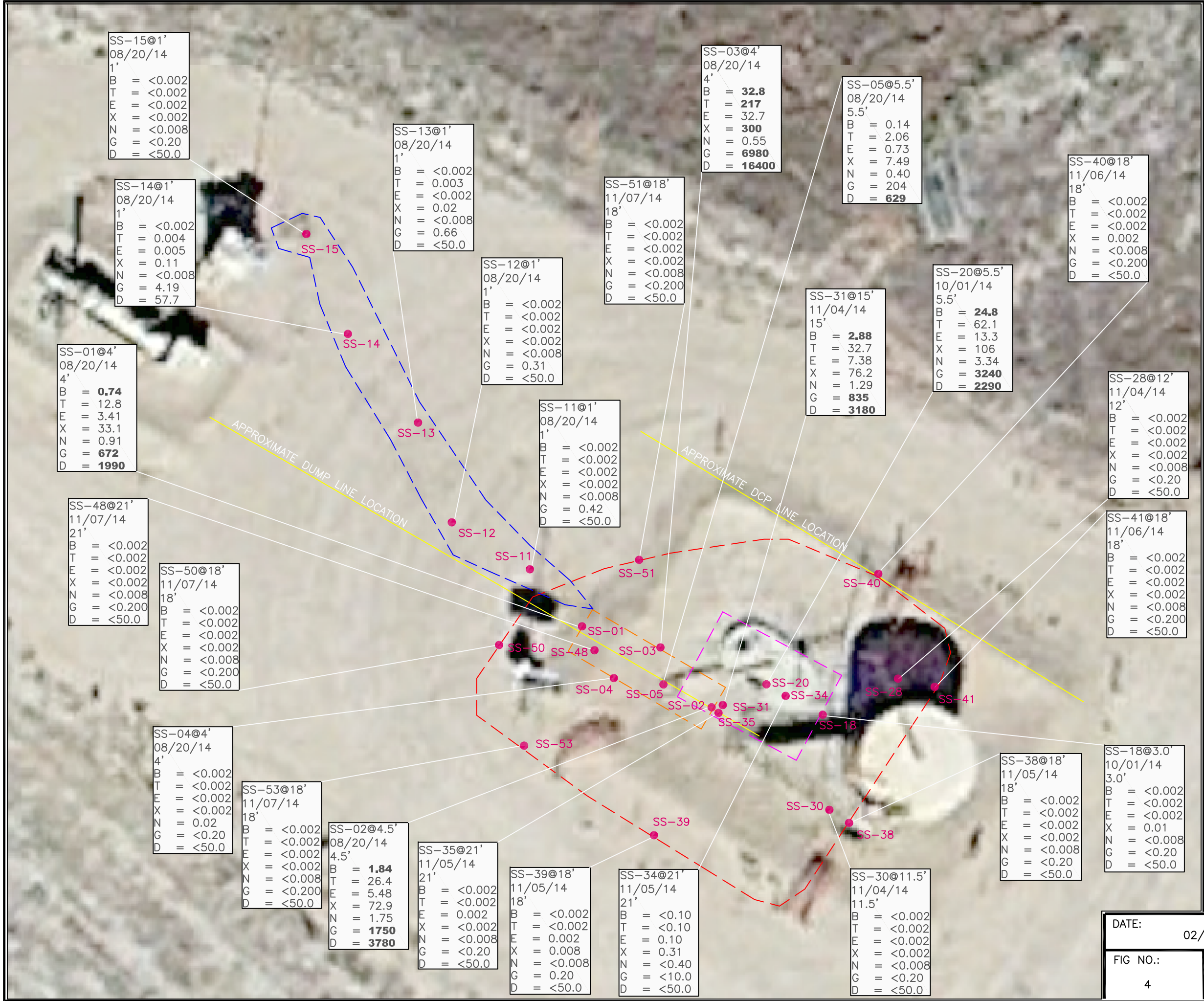
**SOIL SAMPLE LOCATION MAP**  
ALLES #7-31, #31-2  
DUMP LINE RELEASE/WATER VAULT REMOVAL  
40.362218/-104.472400  
SW1/4 NE1/4 SEC.31 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13141, 05-123-17389

DATE:	02/11/15
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**LEGEND**

- APPROXIMATE UTILITY LINE LOCATIONS
- APPROXIMATE DUMP LINE RELEASE SURFACE STAINING ASSESSMENT EXTENTS
- APPROXIMATE DUMP LINE RELEASE ASSESSMENT EXCAVATION EXTENTS
- APPROXIMATE WATER VAULT REMOVAL EXTENTS
- APPROXIMATE EXCAVATION EXTENTS

**SS-02** 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)

mg/kg = MILLIGRAMS PER KILOGRAM

TPH-GRO = TOTAL PETROLEUM HYDROCARBONS – GASOLINE RANGE ORGANICS

TPH-DRO = TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS

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

VALUES PRESENTED IN **BOLD** EXCEED THE COGCC TABLE 910-1 REGULATORY LIMITS FOR THAT COMPOUND

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

0 10'

APPROXIMATE SCALE IN FEET

**SOIL SAMPLE ANALYTICAL MAP**  
ALLES #7-31, #31-2  
DUMP LINE RELEASE/WATER VAULT REMOVAL  
40.362218/-104.472400  
SW1/4 NE1/4 SEC.31 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13141, 05-123-17389

DATE:	02/11/15
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Ph: 303-433-0479 • F: 303-325-5449

## **TABLES**

**Table 1:     Soil Analytical Results Summary**

TABLE 1  
SOIL ANALYTICAL RESULTS SUMMARY  
ALLES #7-31, #31-2  
DUMP LINE RELEASE / WATER VAULT REMOVAL  
40.362218 / -104.472400  
SW¼ NE¼ SEC.31 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13141, 05-123-17389

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Specific Conductance (mmhos/cm)	pH (pH units)	SAR
<b>COGCC Table 910-1 Regulatory Limits (mg/kg)</b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>23</b>	<b>500</b>		<b>&lt;4</b>	<b>6 to 9</b>	<b>&lt;12^5</b>
SS-01 @ 4' (40.362254444 / -104.472440798)	08/20/14	4	<b>0.74</b>	12.8	3.41	33.1	0.91	<b>672</b>	<b>1990</b>	NA	NA	NA
SS-02 @ 4.5' (40.362231545 / -104.472392886)	08/20/14	5	<b>1.84</b>	26.4	5.48	72.9	1.75	<b>1750</b>	<b>3780</b>	NA	NA	NA
SS-03 @ 4' (40.362246532 / -104.472412707)	08/20/14	4	<b>32.8</b>	<b>217</b>	32.7	<b>300</b>	0.55	<b>6980</b>	<b>16400</b>	NA	NA	NA
SS-04 @ 4' (40.362232997 / -104.472411799)	08/20/14	4	<0.002	<0.002	<0.002	<0.002	0.02	<0.20	<50.0	NA	NA	NA
SS-05 @ 5.5' (40.362220309 / -104.472400256)	08/20/14	6	0.14	2.06	0.73	7.49	0.40	204	<b>629</b>	NA	NA	NA
SS-11 @ 1' (40.362242117 / -104.472458209)	08/20/14	1	<0.002	<0.002	<0.002	<0.002	<0.008	0.42	<50.0	NA	NA	NA
SS-12 @ 1' (40.362254254 / -104.472492174)	08/20/14	1	<0.002	<0.002	<0.002	<0.002	<0.008	0.31	<50.0	NA	NA	NA
SS-13 @ 1' (40.362295365 / -104.472494872)	08/20/14	1	<0.002	0.003	<0.002	0.02	<0.008	0.66	<50.0	NA	NA	NA
SS-14 @ 1' (40.362308100 / -104.472531023)	08/20/14	1	<0.002	0.004	0.005	0.11	<0.008	4.19	57.7	NA	NA	NA
SS-15 @ 1' (40.362335051 / -104.472543405)	08/20/14	1	<0.002	<0.002	<0.002	<0.002	<0.008	<0.20	<50.0	NA	NA	NA
SS-18 @ 3' (40.362200314 / -104.472343564)	10/01/14	3	<0.002	<0.002	<0.002	0.01	<0.008	<0.20	<50.0	0.142	8.39	0.7
SS-20 @ 5.5' (40.362207111 / -104.472369286)	10/01/14	6	<b>24.8</b>	62.1	13.3	106	3.34	<b>3240</b>	<b>2290</b>	NA	NA	NA
SS-28 @ 12' (40.362230369 / -104.472339662)	11/04/14	12	<0.002	<0.002	<0.002	<0.002	<0.008	<0.20	<50.0	NA	NA	NA
SS-30 @ 11.5' (40.36220456 / -104.472362157)	11/04/14	12	<0.002	<0.002	<0.002	<0.002	<0.008	<0.20	<50.0	NA	NA	NA
SS-31 @ 15' (40.362213181 / -104.472393846)	11/04/14	15	<b>2.88</b>	32.7	7.38	76.2	1.29	<b>835</b>	<b>3180</b>	NA	NA	NA



TABLE 1  
SOIL ANALYTICAL RESULTS SUMMARY  
ALLES #7-31, #31-2  
DUMP LINE RELEASE / WATER VAULT REMOVAL  
40.362218 / -104.472400  
SW¼ NE¼ SEC.31 T5N R63W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-13141, 05-123-17389

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Specific Conductance (mmhos/cm)	pH (pH units)	SAR
<b>COGCC Table 910-1 Regulatory Limits (mg/kg)</b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>23</b>	<b>500</b>		<b>&lt;4</b>	<b>6 to 9</b>	<b>&lt;12^5</b>
SS-34 @ 21' (40.362228866 / -104.472364422)	11/05/14	21	<0.10	<0.10	0.10	0.31	<0.40	<10.0	<50.0	NA	NA	NA
SS-35 @ 21' (40.362213181 / -104.472393846)	11/05/14	21	<0.002	<0.002	0.002	<0.002	<0.008	<0.20	<50.0	NA	NA	NA
SS-38 @ 18' (40.362179181 / -104.472326729)	11/05/14	18	<0.002	<0.002	<0.002	<0.002	<0.008	<0.20	<50.0	NA	NA	NA
SS-39 @ 18' (40.362179167 / -104.472390232)	11/05/14	18	<0.002	<0.002	0.002	0.008	<0.008	0.20	<50.0	NA	NA	NA
SS-40 @ 18' (40.362269263 / -104.472333162)	11/06/14	18	<0.002	<0.002	<0.002	0.002	<0.008	<0.200	<50.0	NA	NA	NA
SS-41 @ 18' (40.362226231 / -104.472305025)	11/06/14	18	<0.002	<0.002	<0.002	<0.002	<0.008	<0.200	<50.0	NA	NA	NA
SS-48 @ 21' (40.362229939 / -104.472428061)	11/07/14	21	<0.002	<0.002	<0.002	<0.002	<0.008	<0.200	<50.0	NA	NA	NA
SS-50 @ 18' (40.362256341 / -104.472474042)	11/07/14	18	<0.002	<0.002	<0.002	<0.002	<0.008	<0.200	<50.0	NA	NA	NA
SS-51 @ 18' (40.362289048 / -104.472419407)	11/07/14	18	<0.002	<0.002	<0.002	<0.002	<0.008	<0.200	<50.0	NA	NA	NA
SS-53 @ 18' (40.362190519 / -104.472459042)	11/07/14	18	<0.002	<0.002	<0.002	<0.002	<0.008	<0.200	<50.0	NA	NA	NA

COGCC = Colorado Oil and Gas Conservation Commission

mg/kg = milligrams per kilogram

mmhos/cm = millimhos per centimeter

NA = Not Analyzed

TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

SAR = Sodium Adsorption Ratio

Note: Values presented with a less than symbol (<) did not contain concentrations at or above laboratory reporting limits.

Values presented in bold typeface exceed their respective COGCC - Regulatory Limits (Table 910-1).





## **ATTACHMENT A**

### **Laboratory Analytical Reports**



November 09, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Alles #7-31 & #31-2

Project Number - [none]

Attached are your analytical results for Noble - Alles #7-31 & #31-2 received by Origins Laboratory, Inc. November 07, 2014. This project is associated with Origins project number X411074-01.

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 - Alles #7-31 &amp; #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-48 @ 21'	X411074-01	Soil	November 7, 2014 10:03	11/07/2014 16:38
SS-50 @ 18'	X411074-02	Soil	November 7, 2014 10:00	11/07/2014 16:38
SS-51 @ 18'	X411074-03	Soil	November 7, 2014 9:45	11/07/2014 16:38
SS-53 @ 18'	X411074-04	Soil	November 7, 2014 10:25	11/07/2014 16:38

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.*

Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

X411074

page 1 of 1

Client: Eagle Env Consulting  
Address: 4101 Inca St  
Telephone Number: 303.433.0479  
Project Manager/Send Report To: Martin C Eckert  
Email Address: mce3@eagle-env.com  
Project Name/Number: Alles #7-31 & Alles #31-2  
Samples Collected By: HP

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #		
SS-48@7'	11/7/14	1003	2	X					X		GPTE-X82600 DLO 8015 Waple	1
SS-50@18'	11/7/14	1006	2	X					X			2
SS-51@18'	11/7/14	945	2	X					X			3
SS-53@18'	11/7/14	1025	2	X					X			4
												5
												6
												7
												8
												9
												10
Relinquished By: [Signature]	Date: 11/7/14	Time: 1638		Received By: [Signature]	Date: 11/7/14	Time: 1638		Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/> S.I				
Relinquished By: [Signature]	Date: 11/7/14	Time: 1638		Received By: [Signature]	Date: 11/7/14	Time: 1638						

Comments:

Date Results Needed:

Origins Laboratory, Inc.

[Signature]

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 - Alles #7-31 & #31-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X411074

Client: Eagle

Client Project ID: Alles #7-31 + Alles #31-2

Checklist Completed by: Dele Smith

Shipped Via: H/D  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11/7/14

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_

Cooler Number/Temperature: 1 / 5.1 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C (Describe)

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"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" 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 checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<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 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 in the additional comments (above) and the case narrative.

Reviewed by: [Signature] (Project Manager)

11-7-14  
Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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 - Alles #7-31 & #31-2

SS-48 @ 21'

11/7/2014 10:03:00AM

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

Origins Laboratory, Inc.  
X411074-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K07005	11/07/2014	11/07/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	75.1 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K07015	11/07/2014	11/07/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130			"	"	"
Surrogate: Toluene-d8	99.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	99.4 %	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.  
4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

SS-50 @ 18'

11/7/2014 10:00:00AM

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

Origins Laboratory, Inc.  
X411074-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K07005	11/07/2014	11/07/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	79.0 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K07015	11/07/2014	11/07/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"
Surrogate: Toluene-d8	98.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.1 %	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 - Alles #7-31 & #31-2

SS-51 @ 18'  
11/7/2014 9:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411074-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K07005	11/07/2014	11/07/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	72.7 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K07015	11/07/2014	11/07/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130			"	"	"
Surrogate: Toluene-d8	98.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.8 %	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 - Alles #7-31 & #31-2

SS-53 @ 18'

11/7/2014 10:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411074-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K07005	11/07/2014	11/07/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	72.2 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K07015	11/07/2014	11/07/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"	"
Surrogate: Toluene-d8	101 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	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 - Alles #7-31 & #31-2

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 4K07015 - EPA 5030 (soil)

Blank (4K07015-BLK1)

Prepared: 11/07/2014 Analyzed: 11/07/2014

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.6	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.

Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4K07015 - EPA 5030 (soil)										
LCS (4K07015-BS1)					Prepared: 11/07/2014 Analyzed: 11/07/2014					
Benzene	0.106	0.002	mg/kg	0.100		106	70-130			
Toluene	0.104	0.002	"	0.100		104	70-130			
Ethylbenzene	0.108	0.002	"	0.100		108	70-130			
m,p-Xylene	0.219	0.004	"	0.200		110	70-130			
o-Xylene	0.108	0.002	"	0.100		108	70-130			
Naphthalene	0.111	0.008	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	59		ug/kg	62.5		94.4	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	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 - Alles #7-31 & #31-2

**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 4K07015 - EPA 5030 (soil)

Matrix Spike (4K07015-MS1)		Source: X411074-02			Prepared: 11/07/2014 Analyzed: 11/07/2014					
Benzene	0.096	0.002	mg/kg	0.100	ND	96.2	70-130			
Toluene	0.098	0.002	"	0.100	ND	98.0	70-130			
Ethylbenzene	0.100	0.002	"	0.100	ND	100	70-130			
m,p-Xylene	0.199	0.004	"	0.200	ND	99.6	70-130			
o-Xylene	0.102	0.002	"	0.100	ND	102	70-130			
Naphthalene	0.103	0.008	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		93.5	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4K07015 - EPA 5030 (soil)

Matrix Spike Dup (4K07015-MSD1)		Source: X411074-02			Prepared: 11/07/2014 Analyzed: 11/07/2014					
Benzene	0.095	0.002	mg/kg	0.100	ND	95.1	70-130	1.19	20	
Toluene	0.095	0.002	"	0.100	ND	95.0	70-130	3.15	20	
Ethylbenzene	0.098	0.002	"	0.100	ND	98.5	70-130	1.95	20	
m,p-Xylene	0.195	0.004	"	0.200	ND	97.6	70-130	2.02	20	
o-Xylene	0.100	0.002	"	0.100	ND	99.6	70-130	1.89	20	
Naphthalene	0.106	0.008	"	0.100	ND	106	70-130	3.00	20	
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.8	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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

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

Batch 4K07005 - EPA 3580

**Blank (4K07005-BLK1)**

Prepared: 11/07/2014 Analyzed: 11/07/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	30		g	50.0		60.0	59-131			

**LCS (4K07005-BS1)**

Prepared: 11/07/2014 Analyzed: 11/07/2014

Diesel (C10-C28)	1030	50.0	mg/kg	1000		103	64-121			
Surrogate: o-Terphenyl	37		g	50.0		73.6	59-131			

**Matrix Spike (4K07005-MS1)**

Source: X411064-01

Prepared: 11/07/2014 Analyzed: 11/07/2014

Diesel (C10-C28)	1090	50.0	mg/kg	1000	ND	109	53-125			
Surrogate: o-Terphenyl	20		g	50.0		40.3	59-131			QM-07

**Matrix Spike Dup (4K07005-MSD1)**

Source: X411064-01

Prepared: 11/07/2014 Analyzed: 11/07/2014

Diesel (C10-C28)	1080	50.0	mg/kg	1000	ND	108	53-125	1.40	20	
Surrogate: o-Terphenyl	31		g	50.0		62.9	59-131			

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.*

Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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.



*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.*

Noelle Doyle Mathis, President



November 07, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Alles #7-31 & #31-2**

**Project Number - [none]**

Attached are your analytical results for Noble - Alles #7-31 & #31-2 received by Origins Laboratory, Inc. November 06, 2014. This project is associated with Origins project number X411060-01.

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 - Alles #7-31 & #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-40 @ 18'	X411060-01	Soil	November 6, 2014 9:43	11/06/2014 16:45
SS-41 @ 18'	X411060-02	Soil	November 6, 2014 9:41	11/06/2014 16:45

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 - Alles #7-31 & #31-2

www.originslaboratory.com

page 1 of 1

# ORIGINS

LABORATORY, INC

X411000

Client: Eagle Env Consulting Project Manager/Send Report To: Martin C Eckert III  
Address: 4101 Inca St  
Denver, CO 80211  
Telephone Number: 303 433 0479  
Email Address: MCE3@eagle-env.com  
Project Name/Number: Alles #7-31 & #31-2  
Samples Collected By: HP

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Continer #		
SS-40@18'	11/6/14	0643	2	X					X		BTEX/G-8240C DRO 8015 Depth	1
SS-41@18'	11/6/14	0941	2	X					X			2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By:	Date: 11/6/14	Time: 1145										Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/> 1.7
Relinquished By:	Date: 11/6/14	Time: 1145										

Comments:

Date Results Needed:

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.

Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver

CO

80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X411066

Client: Eagle

Client Project ID: Alles #7-31 & #31-2

Checklist Completed by: Jen Pellegrini

Shipped Via: H/D  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 11-16-14

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 1.7 °C        /        °C        /        °C (Describe)

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> ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		X		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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)

Date/Time Reviewed: 11-16-14 1719

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 - Alles #7-31 & #31-2

**SS-40 @ 18'**  
**11/6/2014 9:43:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X411060-01 (Soil)**

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K06005	11/06/2014	11/06/2014
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Surrogate: o-Terphenyl	77.9 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K06008	11/06/2014	11/06/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	<b>0.002</b>	0.002	"	"	"	"	"
Napthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	96.5 %	70-130			"	"	"
Surrogate: Toluene-d8	96.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	99.5 %	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 - Alles #7-31 & #31-2

**SS-41 @ 18'**  
**11/6/2014 9:41:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X411060-02 (Soil)**

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K06005	11/06/2014	11/06/2014
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Surrogate: o-Terphenyl	69.3 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	4K06008	11/06/2014	11/06/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.2 %	70-130			"	"	"
Surrogate: Toluene-d8	94.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	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 - Alles #7-31 & #31-2

**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 4K06008 - EPA 5030 (soil)**

**Blank (4K06008-BLK1)**

Prepared: 11/06/2014 Analyzed: 11/06/2014

Gasoline Range Hydrocarbons	ND	0.200	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
<b>Batch 4K06008 - EPA 5030 (soil)</b>										
<b>LCS (4K06008-BS1)</b>					Prepared: 11/06/2014 Analyzed: 11/06/2014					
Benzene	0.102	0.002	mg/kg	0.100		102	70-130			
Toluene	0.101	0.002	"	0.100		101	70-130			
Ethylbenzene	0.093	0.002	"	0.100		93.4	70-130			
m,p-Xylene	0.207	0.004	"	0.200		103	70-130			
o-Xylene	0.093	0.002	"	0.100		92.5	70-130			
Naphthalene	0.113	0.008	"	0.100		113	70-130			
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		97.7	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 - Alles #7-31 & #31-2

**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 4K06008 - EPA 5030 (soil)**

Matrix Spike (4K06008-MS1)		Source: X411046-01			Prepared: 11/06/2014 Analyzed: 11/06/2014					
Benzene	0.118	0.002	mg/kg	0.100	ND	118	70-130			
Toluene	0.112	0.002	"	0.100	ND	112	70-130			
Ethylbenzene	0.099	0.002	"	0.100	0.002	96.8	70-130			
m,p-Xylene	0.219	0.004	"	0.200	ND	109	70-130			
o-Xylene	0.103	0.002	"	0.100	ND	103	70-130			
Naphthalene	0.117	0.008	"	0.100	0.0009	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		108	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	67		"	62.5		107	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4K06008 - EPA 5030 (soil)**

Matrix Spike Dup (4K06008-MSD1)		Source: X411046-01			Prepared: 11/06/2014 Analyzed: 11/06/2014					
Benzene	0.101	0.002	mg/kg	0.100	ND	101	70-130	15.3	20	
Toluene	0.097	0.002	"	0.100	ND	97.1	70-130	14.5	20	
Ethylbenzene	0.087	0.002	"	0.100	0.002	85.6	70-130	12.0	20	
m,p-Xylene	0.195	0.004	"	0.200	ND	97.4	70-130	11.6	20	
o-Xylene	0.086	0.002	"	0.100	ND	86.0	70-130	17.5	20	
Naphthalene	0.110	0.008	"	0.100	0.0009	109	70-130	6.26	20	
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	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 - Alles #7-31 & #31-2

## 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 8015M - 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 4K06005 - EPA 3580

#### Blank (4K06005-BLK1)

Prepared: 11/06/2014 Analyzed: 11/06/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	37		g	50.0		73.1	59-131			

#### LCS (4K06005-BS1)

Prepared: 11/06/2014 Analyzed: 11/06/2014

Diesel (C10-C28)	1030	50.0	mg/kg	1000		103	64-121			
Surrogate: o-Terphenyl	39		g	50.0		77.8	59-131			

#### Matrix Spike (4K06005-MS1)

Source: X411040-01

Prepared: 11/06/2014 Analyzed: 11/06/2014

Diesel (C10-C28)	1070	50.0	mg/kg	1000	ND	107	53-125			
Surrogate: o-Terphenyl	36		g	50.0		71.3	59-131			

#### Matrix Spike Dup (4K06005-MSD1)

Source: X411040-01

Prepared: 11/06/2014 Analyzed: 11/06/2014

Diesel (C10-C28)	1100	50.0	mg/kg	1000	ND	110	53-125	2.96	20	
Surrogate: o-Terphenyl	41		g	50.0		81.6	59-131			

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 - Alles #7-31 & #31-2

### Notes and Definitions

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.



*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.*

Noelle Doyle Mathis, President





November 06, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Alles #7-31 & #31-2**

**Project Number - [none]**

Attached are your analytical results for Noble - Alles #7-31 & #31-2 received by Origins Laboratory, Inc. November 05, 2014. This project is associated with Origins project number X411039-01.

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 - Alles #7-31 & #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-34 @ 21'	X411039-01	Soil	November 5, 2014 10:17	11/05/2014 17:52
SS-35 @ 21'	X411039-02	Soil	November 5, 2014 12:03	11/05/2014 17:52
SS-38 @ 18'	X411039-03	Soil	November 5, 2014 13:54	11/05/2014 17:52
SS-39 @ 18'	X411039-04	Soil	November 5, 2014 14:02	11/05/2014 17:52

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.*

Ross S Hutto For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

www.originslaboratory.com

page 1 of 1

**X411039**

**ORIGINS**  
LABORATORY, INC

Client: Eagle Environmental Consulting, Inc. - Project Manager/Send Report To: Martin Eckert III  
Address: 4101 Inca Street Email Address: mce3@eek-eenvira.com  
Denver, CO Project Name/Number: Alles #7-31 + Alles #31-2  
Telephone Number: 303-433-0474 Samples Collected By: M Rianda / H Phillips

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #		
SS-34 @ 21'	11/05/14	10:17	2	X				X			X	1
SS-35 @ 21'	11/05/14	12:03	2	X				X			X	2
SS-38 @ 18'	11/05/14	13:54	2	X				X			X	3
SS-39 @ 18'	11/05/14	14:02	2	X				X			X	4
												5
												6
												7
												8
												9
												10
Relinquished By: <u>[Signature]</u>	Date: <u>11/05/14</u>	Time: <u>1752</u>	Time: <u>1752</u>	Received By: <u>[Signature]</u>				Date: <u>11/05/14</u>	Time: <u>1752</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/> 6-5		
Relinquished By: <u>[Signature]</u>	Date: <u>11/05/14</u>	Time: <u>1752</u>	Time: <u>1752</u>	Received By: <u>[Signature]</u>				Date: <u>11/05/14</u>	Time: <u>1752</u>			

Comments:

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

Data Results Mandant

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 - Alles #7-31 & #31-2

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

## Sample Receipt Checklist

Origins Work Order: X411039

Client: Eagle

Client Project ID: Alles #7-31 + Alles #31-2

Checklist Completed by: Jeff Smith

Shipped Via: H/D

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

Date/time completed: 11/5/14

Airbill #: N/A

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_

Cooler Number/Temperature: 1 C.S. °C / 1 °C / 1 °C (Describe) / 1 °C

Thermometer ID: 7003

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"/>		<u>Sampled Same Day</u>
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" 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 checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)?</sup>		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)?</sup>	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<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 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 in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

Date/Time Reviewed: 11/6/14 6:34

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 - Alles #7-31 & #31-2

SS-34 @ 21'

11/5/2014 10:17:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411039-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K05011	11/05/2014	11/05/2014
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Surrogate: o-Terphenyl	78.0 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	10.0	mg/kg	50	4K05013	11/05/2014	11/05/2014
Benzene	ND	0.10	"	"	"	"	"
Toluene	ND	0.10	"	"	"	"	"
Ethylbenzene	0.10	0.10	"	"	"	"	"
Xylenes, total	0.31	0.10	"	"	"	"	"
Naphthalene	ND	0.40	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	92.5 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	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 - Alles #7-31 & #31-2

SS-35 @ 21'

11/5/2014 12:03:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

X411039-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K05011	11/05/2014	11/05/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	69.0 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4K05013	11/05/2014	11/05/2014
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Benzene	ND	0.002	"	"	"	"	"
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Toluene	ND	0.002	"	"	"	"	"
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Ethylbenzene	0.002	0.002	"	"	"	"	"
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Xylenes, total	ND	0.002	"	"	"	"	"
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Napthalene	ND	0.008	"	"	"	"	"
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Surrogate: 1,2-Dichloroethane-d4	93.9 %	70-130			"	"	"
----------------------------------	--------	--------	--	--	---	---	---

Surrogate: Toluene-d8	98.0 %	70-130			"	"	"
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Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"
---------------------------------	-------	--------	--	--	---	---	---

Origins Laboratory, Inc.



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Ross S Hutto For Noelle Doyle Mathis, President



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

SS-38 @ 18'  
11/5/2014 1:54:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411039-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K05011	11/05/2014	11/05/2014
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Surrogate: o-Terphenyl	72.9 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4K05013	11/05/2014	11/05/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	91.5 %	70-130			"	"	"
Surrogate: Toluene-d8	98.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	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 - Alles #7-31 & #31-2

SS-39 @ 18'  
11/5/2014 2:02:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411039-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K05011	11/05/2014	11/05/2014
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Surrogate: o-Terphenyl	74.1 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.20	0.20	mg/kg	1	4K05013	11/05/2014	11/05/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	0.002	0.002	"	"	"	"	"
Xylenes, total	0.008	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.2 %	70-130			"	"	"
Surrogate: Toluene-d8	99.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130			"	"	"

Origins Laboratory, Inc.



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Ross S Hutto For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
<b>Batch 4K05013 - EPA 5030 (soil)</b>										
<b>Blank (4K05013-BLK1)</b>					Prepared: 11/05/2014 Analyzed: 11/05/2014					
Gasoline Range Hydrocarbons	ND	0.20	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.3	70-130			
Surrogate: Toluene-d8	63		"	62.5		100	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.9	70-130			

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
<b>Batch 4K05013 - EPA 5030 (soil)</b>										
<b>LCS (4K05013-BS1)</b>					Prepared: 11/05/2014 Analyzed: 11/05/2014					
Benzene	0.10	0.002	mg/kg	0.100		97.4	70-130			
Toluene	0.09	0.002	"	0.100		94.9	70-130			
Ethylbenzene	0.09	0.002	"	0.100		86.4	70-130			
m,p-Xylene	0.17	0.004	"	0.200		85.5	70-130			
o-Xylene	0.09	0.002	"	0.100		87.0	70-130			
Naphthalene	0.11	0.008	"	0.100		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.2	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	59		"	62.5		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 - Alles #7-31 & #31-2

**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 4K05013 - EPA 5030 (soil)**

Matrix Spike (4K05013-MS1)		Source: X411035-01			Prepared: 11/05/2014 Analyzed: 11/05/2014					
Benzene	0.08	0.002	mg/kg	0.100	ND	82.1	70-130			
Toluene	0.08	0.002	"	0.100	ND	80.1	70-130			
Ethylbenzene	0.07	0.002	"	0.100	ND	73.3	70-130			
m,p-Xylene	0.14	0.004	"	0.200	0.004	70.3	70-130			
o-Xylene	0.08	0.002	"	0.100	ND	75.6	70-130			
Naphthalene	0.08	0.008	"	0.100	0.0007	75.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	74		ug/kg	62.5		119	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.2	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		95.8	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 - Alles #7-31 & #31-2

**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
<b>Batch 4K05013 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (4K05013-MSD1)</b>		<b>Source: X411035-01</b>			Prepared: 11/05/2014 Analyzed: 11/05/2014					
Benzene	0.10	0.002	mg/kg	0.100	ND	97.0	70-130	16.7	20	
Toluene	0.09	0.002	"	0.100	ND	93.7	70-130	15.6	20	
Ethylbenzene	0.08	0.002	"	0.100	ND	83.7	70-130	13.1	20	
m,p-Xylene	0.16	0.004	"	0.200	0.004	79.9	70-130	12.6	20	
o-Xylene	0.08	0.002	"	0.100	ND	81.9	70-130	7.92	20	
Naphthalene	0.10	0.008	"	0.100	0.0007	103	70-130	30.4	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	69		ug/kg	62.5		110	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	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 - Alles #7-31 & #31-2

## 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 8015M - 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 4K05011 - EPA 3580

#### Blank (4K05011-BLK1)

Prepared: 11/05/2014 Analyzed: 11/05/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	46		g	250		18.4	59-131			
<b>LCS (4K05011-BS1)</b>										
Prepared: 11/05/2014 Analyzed: 11/05/2014										
Diesel (C10-C28)	955	50.0	mg/kg	1000		95.5	64-121			
Surrogate: o-Terphenyl	44		g	50.0		89.0	59-131			
<b>Matrix Spike (4K05011-MS1)</b>										
Source: X411034-01										
Prepared: 11/05/2014 Analyzed: 11/05/2014										
Diesel (C10-C28)	959	50.0	mg/kg	1000	27.3	93.2	53-125			
Surrogate: o-Terphenyl	42		g	50.0		84.5	59-131			
<b>Matrix Spike Dup (4K05011-MSD1)</b>										
Source: X411034-01										
Prepared: 11/05/2014 Analyzed: 11/05/2014										
Diesel (C10-C28)	960	50.0	mg/kg	1000	27.3	93.3	53-125	0.131	20	
Surrogate: o-Terphenyl	42		g	50.0		84.5	59-131			

Origins Laboratory, Inc.



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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

Origins Laboratory, Inc.



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Ross S Hutto For Noelle Doyle Mathis, President



November 05, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Alles #7-31 & #31-2**

**Project Number - [none]**

Attached are your analytical results for Noble - Alles #7-31 & #31-2 received by Origins Laboratory, Inc. November 04, 2014. This project is associated with Origins project number X411020-01.

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 - Alles #7-31 & #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-28 @ 12'	X411020-01	Soil	November 4, 2014 15:10	11/04/2014 17:20
SS-30 @ 11.5'	X411020-02	Soil	November 4, 2014 15:20	11/04/2014 17:20
SS-31 @ 15'	X411020-03	Soil	November 4, 2014 15:30	11/04/2014 17:20

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 - Alles #7-31 & #31-2

www.originslaboratory.com

X411020

page 1 of 1

# ORIGINS

LABORATORY, INC

Client: Eagle Env. Consulting, Inc. Project Manager/Send Report To: Martin Eckert III  
Address: 4101 Inca Street Email Address: McC3@eagle-enviro.com  
Denver, CO 80211 Project Name/Number: Alles #7-31 & #31-2  
Telephone Number: (303) 433-0479 Samples Collected By: A. Newberry

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #			Other
SS-28 @ 12'	11-4-14	1510	2	X				X				1	<p>6, BTEX - ELUO DRO - 8015 Naphthalene</p>
SS-30 @ 11.5'	11-4-14	1520	2	X				X				2	
SS-31 @ 15'	11-4-14	1530	2	X				X				3	
												4	
												5	
												6	
												7	
												8	
												9	
												10	
Relinquished By: <u>Aditya</u>	Date: <u>11-4-14</u>	Time: <u>1720</u>		Received By: <u>[Signature]</u>				Date: <u>11-4-14</u>	Time: <u>1720</u>	Turnaround Time: <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <u>2.0</u>			
Relinquished By: <u>[Signature]</u>	Date: <u>11-4-14</u>	Time: <u>1720</u>		Received By: <u>[Signature]</u>				Date: <u>11-4-14</u>	Time: <u>1720</u>				

Date Results Needed: Noble

Comments: Hold samples for PAHs - TBD

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 - Alles #7-31 & #31-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X411020 Client: Eagle Env.  
Client Project ID: Alles #7-31  
Checklist Completed by: Jen Pellegrini Shipped Via: H/D  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)  
Date/time completed: 11-4-14 Airbill #: N/A  
Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)  
Cooler Number/Temperature: 1 / 20 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °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> ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		X		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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 in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

Date/Time Reviewed

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 - Alles #7-31 & #31-2

SS-28 @ 12'  
11/4/2014 3:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411020-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K04013	11/04/2014	11/04/2014
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Surrogate: o-Terphenyl	74.5 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4K04011	11/04/2014	11/05/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	95.4 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.6 %	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 - Alles #7-31 & #31-2

**SS-30 @ 11.5'**  
**11/4/2014 3:20:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X411020-02 (Soil)**

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4K04013	11/04/2014	11/04/2014
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Surrogate: o-Terphenyl	73.5 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4K04011	11/04/2014	11/05/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	106 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.7 %	70-130			"	"	"

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

SS-31 @ 15'  
11/4/2014 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X411020-03 (Soil)

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

Diesel (C10-C28)	3180	50.0	mg/kg	1	4K04013	11/04/2014	11/04/2014
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Surrogate: o-Terphenyl	119 %	59-131			"	"	"
------------------------	-------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	835	10.0	mg/kg	50	4K04011	11/04/2014	11/05/2014
Benzene	2.88	0.50	"	250	"	"	11/05/2014
Toluene	32.7	0.50	"	"	"	"	"
Ethylbenzene	7.38	0.50	"	"	"	"	"
Xylenes, total	76.2	0.50	"	"	"	"	"
Naphthalene	1.29	0.40	"	50	"	"	11/05/2014

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	11/05/2014
Surrogate: Toluene-d8	110 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	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 - Alles #7-31 & #31-2

**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 4K04011 - EPA 5030 (soil)**

**Blank (4K04011-BLK1)**

Prepared: 11/04/2014 Analyzed: 11/04/2014

Gasoline Range Hydrocarbons	ND	0.20	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	58		ug/kg	62.5		92.5	70-130			
Surrogate: Toluene-d8	49		"	62.5		79.1	70-130			
Surrogate: 4-Bromofluorobenzene	50		"	62.5		79.4	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.*

Ross S Hutto For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
<b>Batch 4K04011 - EPA 5030 (soil)</b>										
<b>LCS (4K04011-BS1)</b>					Prepared: 11/04/2014 Analyzed: 11/04/2014					
Benzene	0.10	0.002	mg/kg	0.100		104	70-130			
Toluene	0.09	0.002	"	0.100		88.8	70-130			
Ethylbenzene	0.09	0.002	"	0.100		93.2	70-130			
m,p-Xylene	0.18	0.004	"	0.200		88.0	70-130			
o-Xylene	0.09	0.002	"	0.100		85.8	70-130			
Naphthalene	0.09	0.008	"	0.100		89.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.7	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	55		"	62.5		87.5	70-130			

Origins Laboratory, Inc.



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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4K04011 - EPA 5030 (soil)**

Matrix Spike (4K04011-MS1)		Source: X411015-01			Prepared: 11/04/2014 Analyzed: 11/04/2014					
Benzene	0.12	0.002	mg/kg	0.100	ND	115	70-130			
Toluene	0.11	0.002	"	0.100	ND	110	70-130			
Ethylbenzene	0.11	0.002	"	0.100	ND	106	70-130			
m,p-Xylene	0.20	0.004	"	0.200	ND	97.6	70-130			
o-Xylene	0.10	0.002	"	0.100	ND	96.8	70-130			
Naphthalene	0.11	0.008	"	0.100	0.003	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		101	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	55		"	62.5		87.6	70-130			

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4K04011 - EPA 5030 (soil)**

Matrix Spike Dup (4K04011-MSD1)		Source: X411015-01			Prepared: 11/04/2014 Analyzed: 11/04/2014					
Benzene	0.10	0.002	mg/kg	0.100	ND	102	70-130	12.7	20	
Toluene	0.10	0.002	"	0.100	ND	95.4	70-130	14.0	20	
Ethylbenzene	0.10	0.002	"	0.100	ND	96.1	70-130	9.50	20	
m,p-Xylene	0.18	0.004	"	0.200	ND	89.3	70-130	8.86	20	
o-Xylene	0.09	0.002	"	0.100	ND	87.0	70-130	10.7	20	
Naphthalene	0.10	0.008	"	0.100	0.003	98.8	70-130	5.35	20	
Surrogate: 1,2-Dichloroethane-d4	61		ug/kg	62.5		98.0	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	56		"	62.5		90.3	70-130			

Origins Laboratory, Inc.



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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

## 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 8015M - 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 4K04013 - EPA 3580

#### Blank (4K04013-BLK1)

Prepared: 11/04/2014 Analyzed: 11/04/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	38		g	50.0		75.7	59-131			

#### LCS (4K04013-BS1)

Prepared: 11/04/2014 Analyzed: 11/04/2014

Diesel (C10-C28)	1150	50.0	mg/kg	1000		115	64-121			
Surrogate: o-Terphenyl	47		g	50.0		94.2	59-131			

#### Matrix Spike (4K04013-MS1)

Source: X411021-01

Prepared: 11/04/2014 Analyzed: 11/04/2014

Diesel (C10-C28)	3220	50.0	mg/kg	1000	2060	116	53-125			
Surrogate: o-Terphenyl	52		g	50.0		105	59-131			

#### Matrix Spike Dup (4K04013-MSD1)

Source: X411021-01

Prepared: 11/04/2014 Analyzed: 11/04/2014

Diesel (C10-C28)	3200	50.0	mg/kg	1000	2060	114	53-125	0.647	20	
Surrogate: o-Terphenyl	51		g	50.0		102	59-131			

Origins Laboratory, Inc.



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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

### Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

Origins Laboratory, Inc.



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Ross S Hutto For Noelle Doyle Mathis, President



October 03, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Alles #7-31 & #31-2

Project Number - [none]

Attached are your analytical results for Noble - Alles #7-31 & #31-2 received by Origins Laboratory, Inc. October 01, 2014. This project is associated with Origins project number X410011-01.

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 - Alles #7-31 &amp; #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-18 @ 3'	X410011-01	Soil	October 1, 2014 8:10	10/01/2014 16:30
SS-20 @ 5.5'	X410011-02	Soil	October 1, 2014 8:12	10/01/2014 16:30

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

[www.originslaboratory.com](http://www.originslaboratory.com)

page 7 of 7

**ORIGINS**  
LABORATORY, INC.

Client: Engle Env Consulting, Inc.  
Address: 4101 Iowa St  
Denver, CO 80211  
Telephone Number: (303) 433-0479

Project Manager/Send Report To: Martha Eckert III  
Email Address: MEC3@engle-ecv.com  
Project Name/Number: Alles 7-31, 31-2  
Samples Collected By: A. Newberry

Fax: 303.265.9645

[illegible]Date Results Needed: Mobile

Comments: ① Hold sample for PMS-700

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 - Alles #7-31 & #31-2

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X410041

Client: Eagle

Client Project ID: Q2100 - Alles #7-31 & Alles #31-2

Checklist Completed by: Jeff Smith

Shipped Via: HVD

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

Date/time completed: 10/1/14

Airbill #: 7-4

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

Cooler Number/Temperature: 1 / 1.3 °C        /        °C        /        °C (Describe)

Thermometer ID: R-52

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 8°C <sup>(1)</sup> ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analyses or samples with HTs due within 48 hours present <sup>(1)</sup> ?	X			pH
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> 1/2 inch bubble) present? If yes, contact client and note in narrative.			X	
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)			X	
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 in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

Date/Time Reviewed

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 - Alles #7-31 & #31-2

SS-18 @ 3'  
10/1/2014 8:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X410011-01 (Soil)

## Conductance/Specific Conductance by EPA 120.1

Specific Conductance (EC)	0.142	mmhos/cm	1	4J02008	10/02/2014	10/02/2014
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## Diesel Range Organics (DRO/TEPH) by EPA 8015C

Diesel (C10-C28)	ND	50.0	mg/kg	1	4J01012	10/01/2014	10/01/2014
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Surrogate: o-Terphenyl	91.0 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4J01011	10/01/2014	10/01/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	0.01	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.2 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	109 %	70-130			"	"	"

## Percent Moisture by SM2540G

Percent Moisture	18.8	0.1	%	1	952015	10/02/2014	10/02/2014
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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 - Alles #7-31 &amp; #31-2

SS-18 @ 3'

10/1/2014 8:10:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.  
X410011-01 (Soil)**pH in Soil by EPA 9045D**

pH	8.39		pH Units	1	4J02007	10/02/2014	10/02/2014
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**SAR Metals by SW-846 6010C**

Calcium	6180	97.1	mg/kg	1	952003	10/02/2014	10/02/2014
Magnesium	2210	97.1	"	"	"	"	"
Sodium	253	97.1	"	"	"	"	"

**Sodium Absorption Ratio**

Sodium Absorption Ratio	0.7			1	952008	"	10/02/2014
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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 - Alles #7-31 & #31-2

SS-20 @ 5.5'  
10/1/2014 8:12:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X410011-02 (Soil)

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

Diesel (C10-C28)	2290	50.0	mg/kg	1	4J01012	10/01/2014	10/01/2014
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Surrogate: o-Terphenyl	89.6 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	3240	50.0	mg/kg	250	4J01011	10/01/2014	10/01/2014
Benzene	24.8	0.50	"	"	"	"	"
Toluene	62.1	0.50	"	"	"	"	"
Ethylbenzene	13.3	0.50	"	"	"	"	"
Xylenes, total	106	0.50	"	"	"	"	"
Naphthalene	3.34	2.00	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	125 %	70-130			"	"	"
Surrogate: Toluene-d8	118 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

Origins Laboratory, Inc.



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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

**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 4J01011 - EPA 5030 (soil)

Blank (4J01011-BLK1)

Prepared: 10/01/2014 Analyzed: 10/01/2014

Gasoline Range Hydrocarbons	ND	0.20	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

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 4J01011 - EPA 5030 (soil)										
LCS (4J01011-BS1)					Prepared: 10/01/2014 Analyzed: 10/01/2014					
Benzene	0.10	0.002	mg/kg	0.100		105	70-130			
Toluene	0.09	0.002	"	0.100		94.7	70-130			
Ethylbenzene	0.10	0.002	"	0.100		96.9	70-130			
m,p-Xylene	0.19	0.004	"	0.200		96.5	70-130			
o-Xylene	0.10	0.002	"	0.100		102	70-130			
Naphthalene	0.10	0.008	"	0.100		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.5	70-130			

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

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 4J01011 - EPA 5030 (soil)

Matrix Spike (4J01011-MS1)		Source: X409335-05			Prepared: 10/01/2014 Analyzed: 10/01/2014			QM-07		
Benzene	0.12	0.002	mg/kg	0.100	0.07	50.7	70-130			
Toluene	0.28	0.002	"	0.100	0.28	0.440	70-130			
Ethylbenzene	ND	0.002	"	0.100	ND		70-130			
m,p-Xylene	ND	0.004	"	0.200	ND		70-130			
o-Xylene	ND	0.002	"	0.100	ND		70-130			
Naphthalene	0.23	0.008	"	0.100	0.24	NR	70-130			
Surrogate: 1,2-Dichloroethane-d4	52		ug/kg	62.5		83.9	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	70-130			

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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 4J01011 - EPA 5030 (soil)

Matrix Spike Dup (4J01011-MSD1)		Source: X409335-05			Prepared: 10/01/2014 Analyzed: 10/01/2014				QM-07	
Benzene	0.14	0.002	mg/kg	0.100	0.07	70.2	70-130	14.5	20	
Toluene	0.27	0.002	"	0.100	0.28	NR	70-130	3.66	20	
Ethylbenzene	ND	0.002	"	0.100	ND		70-130		20	
m,p-Xylene	ND	0.004	"	0.200	ND		70-130		20	
o-Xylene	ND	0.002	"	0.100	ND		70-130		20	
Naphthalene	0.20	0.008	"	0.100	0.24	NR	70-130	13.8	20	
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		90.2	70-130			
Surrogate: Toluene-d8	64		"	62.5		102	70-130			
Surrogate: 4-Bromofluorobenzene	48		"	62.5		77.1	70-130			

Origins Laboratory, Inc.



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Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

**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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

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

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

Batch 4J01012 - EPA 3580

**Blank (4J01012-BLK1)**

Prepared: 10/01/2014 Analyzed: 10/01/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	52		g	50.0		104	59-131			

**LCS (4J01012-BS1)**

Prepared: 10/01/2014 Analyzed: 10/01/2014

Diesel (C10-C28)	1100	50.0	mg/kg	1000		110	64-121			
Surrogate: o-Terphenyl	56		g	50.0		111	59-131			

**LCS Dup (4J01012-BSD1)**

Prepared: 10/01/2014 Analyzed: 10/01/2014

Diesel (C10-C28)	994	50.0	mg/kg	1000		99.4	64-121	10.3	20	
Surrogate: o-Terphenyl	51		g	50.0		102	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 - Alles #7-31 & #31-2

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 4J02007 - NO PREP										
Duplicate (4J02007-DUP1)		Source: X410015-02			Prepared: 10/02/2014 Analyzed: 10/02/2014					
pH	6.85		pH Units		6.88			0.466	25	
Batch 4J02008 - NO PREP										
Blank (4J02008-BLK1)		Prepared: 10/02/2014 Analyzed: 10/02/2014								
Specific Conductance (EC)	0.00190		mmhos/cm							
Duplicate (4J02008-DUP1)		Source: X410011-01			Prepared: 10/02/2014 Analyzed: 10/02/2014					
Specific Conductance (EC)	0.151		mmhos/cm		0.142			5.99	25	

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & #31-2

## SAR Metals by SW-846 6010C - Quality Control XENCO

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 952003 - SW3050B										
<b>MS (494297-028 S)</b>		<b>Source: 494297-028 S</b>			<b>Prepared: 10/02/2014 Analyzed: 10/02/2014</b>					
Magnesium	1380	123	mg/kg	1100	235	104	75-125		20	
Sodium	1160	123	"	1100	42.5	102	75-125		20	
Calcium	12400	123	"	1100	12000	36	75-125		20	
<b>MSD (494297-028 SD)</b>		<b>Source: 494297-028 SD</b>			<b>Prepared: 10/02/2014 Analyzed: 10/02/2014</b>					
Calcium	13200	119	mg/kg	1070	12000	112	75-125	6	20	
Magnesium	1380	119	"	1070	235	107	75-125	0	20	
Sodium	1130	119	"	1070	42.5	102	75-125	3	20	
<b>LCS (662346-1-BKS)</b>		<b>Source: 662346-1-BKS</b>			<b>Prepared: 10/02/2014 Analyzed: 10/02/2014</b>					
Calcium	857	100	mg/kg	900	<0.570	95	75-125		20	
Magnesium	876	100	"	900	<1.22	97	75-125		20	
Sodium	843	100	"	900	<0.260	94	75-125		20	
<b>BLANK (662346-1-BLK)</b>		<b>Source: 662346-1-BLK</b>			<b>Prepared: 10/02/2014 Analyzed: 10/02/2014</b>					
Calcium	ND	100	mg/kg	900			-		20	
Magnesium	ND	100	"	900			-		20	
Sodium	ND	100	"	900			-		20	
<b>LCSD (662346-1-BSD)</b>		<b>Source: 662346-1-BSD</b>			<b>Prepared: 10/02/2014 Analyzed: 10/02/2014</b>					
Sodium	842	100	mg/kg	900	<0.260	94	75-125	0	20	
Calcium	852	100	"	900	<0.570	95	75-125	1	20	
Magnesium	874	100	"	900	<1.22	97	75-125	0	20	

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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & #31-2

### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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.



*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.*

Noelle Doyle Mathis, President



August 21, 2014

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Alles #7-31 & Alles #31-2    Project Number - [none]**

Attached are your analytical results for Noble - Alles #7-31 & Alles #31-2 received by Origins Laboratory, Inc. August 20, 2014. This project is associated with Origins project number X408187-01.

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 - Alles #7-31 &amp; Alles #31-2

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-01 @ 4'	X408187-01	Soil	August 20, 2014 12:35	08/20/2014 16:53
SS-02 @ 4.5'	X408187-02	Soil	August 20, 2014 12:37	08/20/2014 16:53
SS-03 @ 4'	X408187-03	Soil	August 20, 2014 12:39	08/20/2014 16:53
SS-04 @ 4'	X408187-04	Soil	August 20, 2014 12:41	08/20/2014 16:53
SS-05 @ 5.5'	X408187-05	Soil	August 20, 2014 12:43	08/20/2014 16:53
SS-11 @ 1'	X408187-06	Soil	August 20, 2014 13:11	08/20/2014 16:53
SS-12 @ 1'	X408187-07	Soil	August 20, 2014 13:13	08/20/2014 16:53
SS-13 @ 1'	X408187-08	Soil	August 20, 2014 13:15	08/20/2014 16:53
SS-14 @ 1'	X408187-09	Soil	August 20, 2014 13:17	08/20/2014 16:53
SS-15 @ 1'	X408187-10	Soil	August 20, 2014 13:20	08/20/2014 16:53

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 - Alles #7-31 & Alles #31-2

www.originslaboratory.com

page 1 of 1

**ORIGINS** LABORATORY, INC

Client: Eagle Env. Consulting, Inc. Project Manager/Send Report To: Martin Eckert III

Address: 4101 Inca St. Email Address: alice.3@eagle-enviro.com

Denver, CO 80211 Project Name/Number: Alles #7-31 + Alles #31-2

Telephone Number: (303) 433-0479 Samples Collected By: A. Newberry

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis/Method	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #		
SS-01 @ 4'	8-20-14	1235	2	X				X			G, BTEX - 8260 DRO - 8015	1
SS-02 @ 4.5'		1237									Naphthalene	2
SS-03 @ 4'		1239										3
SS-04 @ 4'		1241										4
SS-05 @ 5.5'		1243										5
SS-11 @ 1'		1311										6
SS-12 @ 1'		1313										7
SS-13 @ 1'		1315										8
SS-14 @ 1'		1317										9
SS-15 @ 1'		1320										10
Relinquished By: <u>[Signature]</u>	Date: <u>8/20/14</u>	Time: <u>11:53</u>	Received By: <u>[Signature]</u>	Date: <u>8/20/14</u>	Time: <u>11:53</u>	Turnaround Time: Same Day <input checked="" type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input type="checkbox"/>						

Comments: Hold samples for PAHs - TBD

Date Results Needed: 8/20/14

Origins Laboratory, Inc.

[Signature]

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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & Alles #31-2

Origins Laboratory

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

### Sample Receipt Checklist

Origins Work Order: X408187

Client: Eagle

Client Project ID: Alles #7-31 & Alles #31-2

Checklist Completed by: Jeff Smith

Shipped Via: H/D

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

Date/time completed: 8/20/14

Airbill #: NA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_ (Describe)

Cooler Number/Temperature: 16-0 °C 1 °C 1 °C 1 °C

Thermometer ID: R02

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 in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

8/21/14 3:30  
Date/Time Reviewed

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 - Alles #7-31 & Alles #31-2

SS-01 @ 4'

8/20/2014 12:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-01 (Soil)

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

Diesel (C10-C28)	1990	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	103 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	672	10.0	mg/kg	50	4H20011	08/20/2014	08/20/2014
Benzene	0.74	0.10	"	"	"	"	"
Toluene	12.8	0.20	"	100	"	"	08/21/2014
Ethylbenzene	3.41	0.20	"	"	"	"	"
Xylenes, total	33.1	0.20	"	"	"	"	"
Naphthalene	0.91	0.40	"	50	"	"	08/20/2014

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	08/21/2014
Surrogate: Toluene-d8	124 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-02 @ 4.5'

8/20/2014 12:37:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-02 (Soil)

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

Diesel (C10-C28)	3780	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	108 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	1750	50.0	mg/kg	250	4H20011	08/20/2014	08/21/2014
Benzene	1.84	0.50	"	"	"	"	"
Toluene	26.4	0.50	"	"	"	"	"
Ethylbenzene	5.48	0.50	"	"	"	"	"
Xylenes, total	72.9	0.50	"	"	"	"	"
Naphthalene	1.75	0.40	"	50	"	"	08/20/2014

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	08/21/2014
Surrogate: Toluene-d8	119 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

Origins Laboratory, Inc.



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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-03 @ 4'

8/20/2014 12:39:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-03 (Soil)

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

Diesel (C10-C28)	16400	500	mg/kg	10	4H20012	08/20/2014	08/21/2014	
Surrogate: o-Terphenyl	139 %	59-131			"	"	"	S-01

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	6980	200	mg/kg	1000	4H20011	08/20/2014	08/21/2014	
Benzene	32.8	2.00	"	"	"	"	"	
Toluene	217	2.00	"	"	"	"	"	
Ethylbenzene	32.7	2.00	"	"	"	"	"	
Xylenes, total	300	2.00	"	"	"	"	"	
Naphthalene	0.55	0.20	"	25	"	"	08/20/2014	
Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	08/21/2014	
Surrogate: Toluene-d8	129 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"	

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-04 @ 4'

8/20/2014 12:41:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	89.8 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4H20011	08/20/2014	08/21/2014
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Benzene	ND	0.002	"	"	"	"	"
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Toluene	ND	0.002	"	"	"	"	"
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Ethylbenzene	ND	0.002	"	"	"	"	"
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Xylenes, total	ND	0.002	"	"	"	"	"
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Napthalene	0.02	0.008	"	"	"	"	08/20/2014
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Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"
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Surrogate: Toluene-d8	111 %	70-130			"	"	"
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Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"
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Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-05 @ 5.5'

8/20/2014 12:43:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-05 (Soil)

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

Diesel (C10-C28)	629	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
------------------	-----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	88.6 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	204	10.0	mg/kg	50	4H20011	08/20/2014	08/20/2014
Benzene	0.14	0.10	"	"	"	"	"
Toluene	2.06	0.10	"	"	"	"	"
Ethylbenzene	0.73	0.10	"	"	"	"	"
Xylenes, total	7.49	0.10	"	"	"	"	"
Naphthalene	0.40	0.40	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	70-130			"	"	"
Surrogate: Toluene-d8	115 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	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 - Alles #7-31 & Alles #31-2

SS-11 @ 1'  
8/20/2014 1:11:00PM

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

Origins Laboratory, Inc.  
X408187-06 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	85.6 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.42	0.20	mg/kg	1	4H20011	08/20/2014	08/20/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Napthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	118 %	70-130			"	"	"
Surrogate: Toluene-d8	108 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	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 - Alles #7-31 & Alles #31-2

SS-12 @ 1'  
8/20/2014 1:13:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-07 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	86.0 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.31	0.20	mg/kg	1	4H20011	08/20/2014	08/20/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Napthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	119 %	70-130			"	"	"
Surrogate: Toluene-d8	112 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"

Origins Laboratory, Inc.



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4101 Inca Street  
Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-13 @ 1'  
8/20/2014 1:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-08 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	83.5 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.66	0.20	mg/kg	1	4H20011	08/20/2014	08/20/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	0.003	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	0.02	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	120 %	70-130			"	"	"
Surrogate: Toluene-d8	111 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-14 @ 1'  
8/20/2014 1:17:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-09 (Soil)

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

Diesel (C10-C28)	57.7	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	82.8 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	4.19	0.20	mg/kg	1	4H20011	08/20/2014	08/20/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	0.004	0.002	"	"	"	"	"
Ethylbenzene	0.005	0.002	"	"	"	"	"
Xylenes, total	0.11	0.002	"	"	"	"	"
Napthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	120 %	70-130			"	"	"
Surrogate: Toluene-d8	108 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

SS-15 @ 1'  
8/20/2014 1:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X408187-10 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	4H20012	08/20/2014	08/20/2014
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Surrogate: o-Terphenyl	93.0 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.20	mg/kg	1	4H20011	08/20/2014	08/20/2014
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Naphthalene	ND	0.008	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	107 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	"

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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & Alles #31-2

**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 4H20011 - EPA 5030 (soil)**

**Blank (4H20011-BLK1)**

Prepared: 08/20/2014 Analyzed: 08/20/2014

Gasoline Range Hydrocarbons	ND	0.20	mg/kg							
Benzene	ND	0.002	"							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
Xylenes, total	ND	0.002	"							
Naphthalene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	65		"	62.5		104	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

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Ross S Hutto For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & Alles #31-2

**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 4H20011 - EPA 5030 (soil)

**LCS (4H20011-BS1)**

Prepared: 08/20/2014 Analyzed: 08/20/2014

Benzene	0.09	0.002	mg/kg	0.100		92.8	70-130			
Toluene	0.09	0.002	"	0.100		93.3	70-130			
Ethylbenzene	0.08	0.002	"	0.100		82.4	70-130			
m,p-Xylene	0.17	0.004	"	0.200		83.3	70-130			
o-Xylene	0.08	0.002	"	0.100		82.3	70-130			
Naphthalene	0.08	0.008	"	0.100		83.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	66		"	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & Alles #31-2

**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 4H20011 - EPA 5030 (soil)**

**LCS Dup (4H20011-BSD1)**

Prepared: 08/20/2014 Analyzed: 08/20/2014

Benzene	0.11	0.002	mg/kg	0.100		107	70-130	14.5	20	
Toluene	0.11	0.002	"	0.100		109	70-130	15.2	20	
Ethylbenzene	0.09	0.002	"	0.100		94.4	70-130	13.6	20	
m,p-Xylene	0.19	0.004	"	0.200		93.1	70-130	11.1	20	
o-Xylene	0.09	0.002	"	0.100		94.8	70-130	14.1	20	
Naphthalene	0.10	0.008	"	0.100		98.6	70-130	16.8	20	
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	66		"	62.5		105	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

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Denver CO 80211

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Alles #7-31 & Alles #31-2

## 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 8015M - 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 4H20012 - EPA 3580

#### Blank (4H20012-BLK1)

Prepared: 08/20/2014 Analyzed: 08/20/2014

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	43		g	50.0		85.1	59-131			
<b>LCS (4H20012-BS1)</b>										

Prepared: 08/20/2014 Analyzed: 08/20/2014

Diesel (C10-C28)	947	50.0	mg/kg	1000		94.7	64-121			
Surrogate: o-Terphenyl	44		g	50.0		88.8	59-131			
<b>LCS Dup (4H20012-BSD1)</b>										

Prepared: 08/20/2014 Analyzed: 08/20/2014

Diesel (C10-C28)	914	50.0	mg/kg	1000		91.4	64-121	3.53	20	
Surrogate: o-Terphenyl	43		g	50.0		86.0	59-131			

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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Alles #7-31 & Alles #31-2

### Notes and Definitions

- S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

Origins Laboratory, Inc.



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