



November 10, 2015

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

**Field Assessment Report  
Oscar Y Econode SW  
Flow Line Release  
40.152086 / -104.542257  
NWSW Sec.10 T2N R64W 6PM  
Weld County, Colorado  
Location ID: 434482**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present this Field Assessment Report for the above referenced site.

## **1.0 SITE BACKGROUND**

Based on records on file with the Colorado Oil and Gas Conservation Commission (COGCC), the Oscar Y Econode SW is located within the northwest quarter of the southwest quarter of Section 10, Township 2 north, Range 64 west of the 6<sup>th</sup> Prime Meridian. The flowline release area was located at an approximately latitude: 40.152086, and longitude -104.542257. A topographical site location map is presented as Figure 1. An aerial site location map is presented as Figure 2.

EAGLE was requested by Noble Energy, Inc. (Noble), to perform subsurface assessment activities at the site in response to potential soil and groundwater impacts associated with a flow line release at the Oscar Y Econode SW. On July 2, 2015, EAGLE collected soil samples following repairs to a crude oil flow line at the site. The following narrative details field assessment activities that were completed at the site.

## **2.0 INITIAL ASSESSMENT ACTIVITIES**

On July 2, 2015, EAGLE collected soil samples SS-01 through SS-05 within the open excavation following repairs to a crude oil flow line at the site.

The soil lithology observed beneath the site was a gravelly clayey sand from the surface to approximately 7 feet bgs. Groundwater was not observed during excavation/soil boring advancement activities.

A portion of each soil sample was placed in a sealable plastic bag, for volatile organic compound (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.

Soil samples SS-01 through SS-05 were submitted to Origins Laboratory, Inc., located in Denver, Colorado, under standard chain of custody procedures, for analysis of 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.

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.

Based on soil laboratory analytical results, soil samples SS-02@3' and SS-05@3' contained concentrations of benzene (0.348 milligrams per liter (mg/L) and 0.344 mg/L, respectively) exceeding the COGCC Table 910-1 regulatory limit of 0.17 mg/L. The remaining soil samples did not contain concentrations of BTEX, naphthalene, TPH-GRO, or TPH-DRO exceeding their respective COGCC Table 910-1 regulatory limits.

Soil analytical results are summarized in Table 1 and are presented in Figure 3.

### **3.0 CONFIRMATION SOIL SAMPLING ACTIVITIES**

On July 22, 2015, EAGLE advanced a soil boring (SB-01) within the previous excavation to determine the extents of adsorbed benzene impacts associated with the flow line release.

Utilizing a hand auger, An EAGLE geologist advanced soil boring SB-01 from the base of the previously excavated area (approximately 3.5' bgs) to approximately 7 feet bgs. Soil samples were collected every six inches. A portion of each soil sample was placed in a sealable plastic bag, for volatile organic compound (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.

While onsite, the north and east walls of the excavation were scraped approximately six inches and EAGLE collected soil samples SS-06 and SS-07 in the areas of previously collected samples SS-02 and SS-05 that contained benzene concentrations exceeding COGCC Table 910-1 regulatory limits.

Based on depth and PID reading, soil samples SB-01@4-4.5', SB-01@6.5-7', SS-06@3.5', and SS-07@3.5' were submitted to Origins Laboratory, Inc., located in Denver, Colorado, under standard chain of custody procedures, for analysis of BTEX, naphthalene, TPH-GRO, and TPH-DRO following EPA Methods 8260c and 8015. The soil samples were received within the required holding time for each laboratory analysis.

Based on analytical results, the soil samples did not contain concentrations of BTEX, naphthalene, TPH-GRO, or TPH-GRO exceeding applicable COGCC Table 910-1 regulatory or laboratory reporting limits.

### **4.0 CONCLUSIONS**

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

- On July 2, 2015, EAGLE collected soil samples following a flow line repair at the Oscar Y Econode SW. Soil samples SS-02@3' and SS-05@3' contained concentrations of benzene exceeding the COGCC Table 910-1 regulatory limit.

- On July 22, 2015, EAGLE collected confirmation soil samples and advanced a soil boring within the previously excavated area.
- Confirmation soil samples SS-06@3.5', SS-07@3.5', SB-01@4-4.5', and SB-01@6.5-7' 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.

## RECOMMENDATIONS

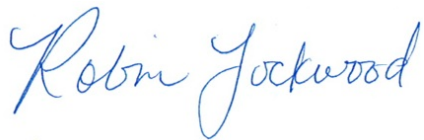
Based on the information presented in this report, EAGLE recommends the following:

- No further assessment or remediation is warranted for the Oscar Y Econode SW crude oil flow line repair at this time.

EAGLE 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



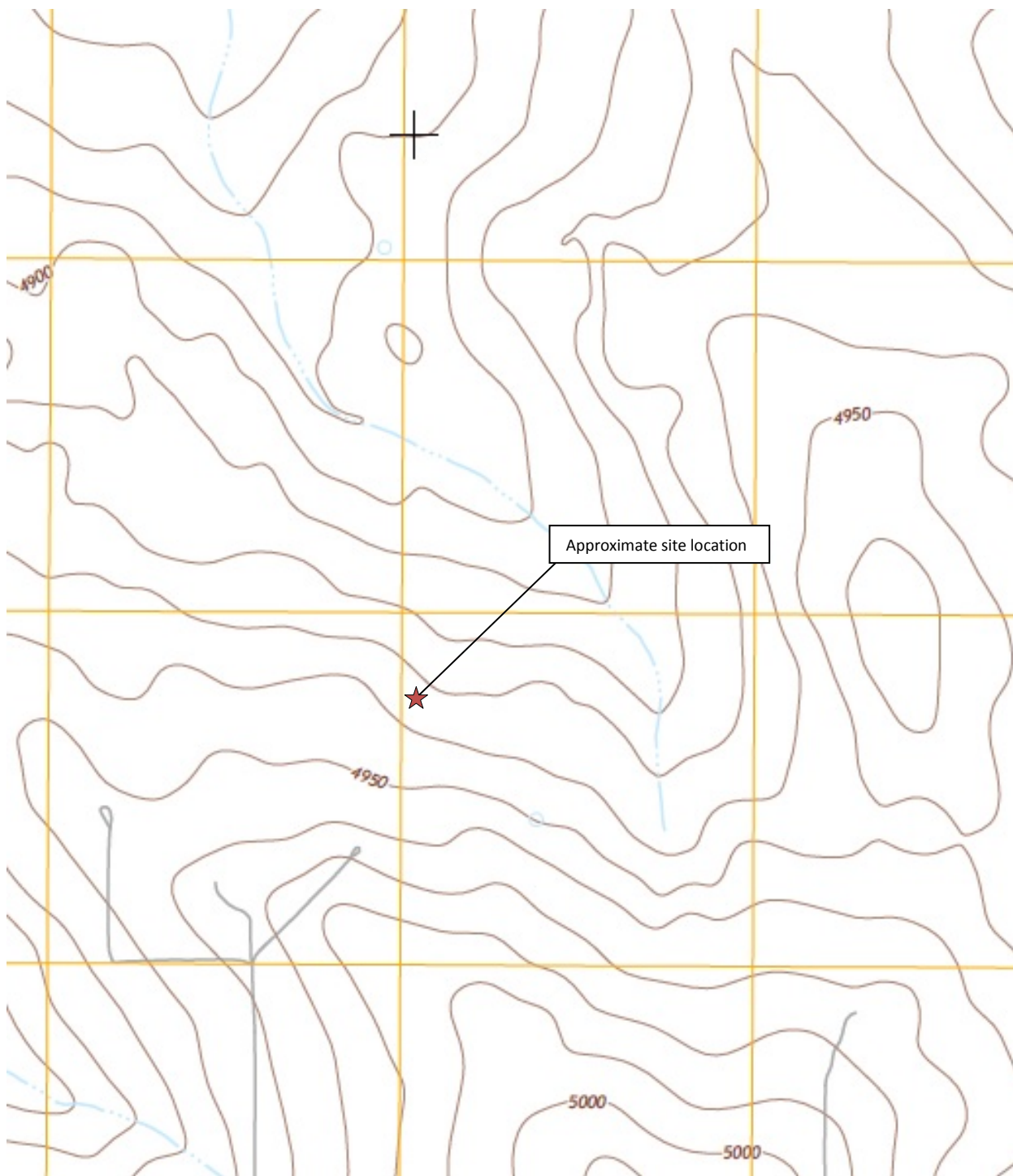
Martin Eckert III  
Senior Project Manager

## **FIGURES**

**Figure 1: Topographic Site Location Map**

**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Sample Analytical Map**



**Topographic Site Location Map**  
 Oscar Y Econode SW  
 Flow Line Release  
 40.152086/-104.542257  
 NW¼ SW¼ SEC.10 T2N R64W 6PM  
 Weld County, Colorado  
 Location # 434482

Source: USGS 7.5 Minute Topographic  
 Map, Klug Ranch, CO Quadrangle 2013

**Figure 1**



**EAGLE**  
 ENVIRONMENTAL  
 CONSULTING, INC.



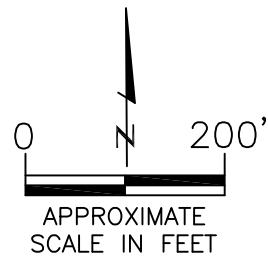
# LEGEND



OSCAR Y ECONODE SOUTHWEST



APPROXIMATE LOCATION OF REPAIRED FLOWLINE / RELEASE



AERIAL SITE LOCATION MAP  
OSCAR Y ECONODE SW  
FLOW LINE RELEASE  
40.152086 / -104.542257  
NWSW SEC.10 T2N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION # 434482

DATE:  
07/06/15

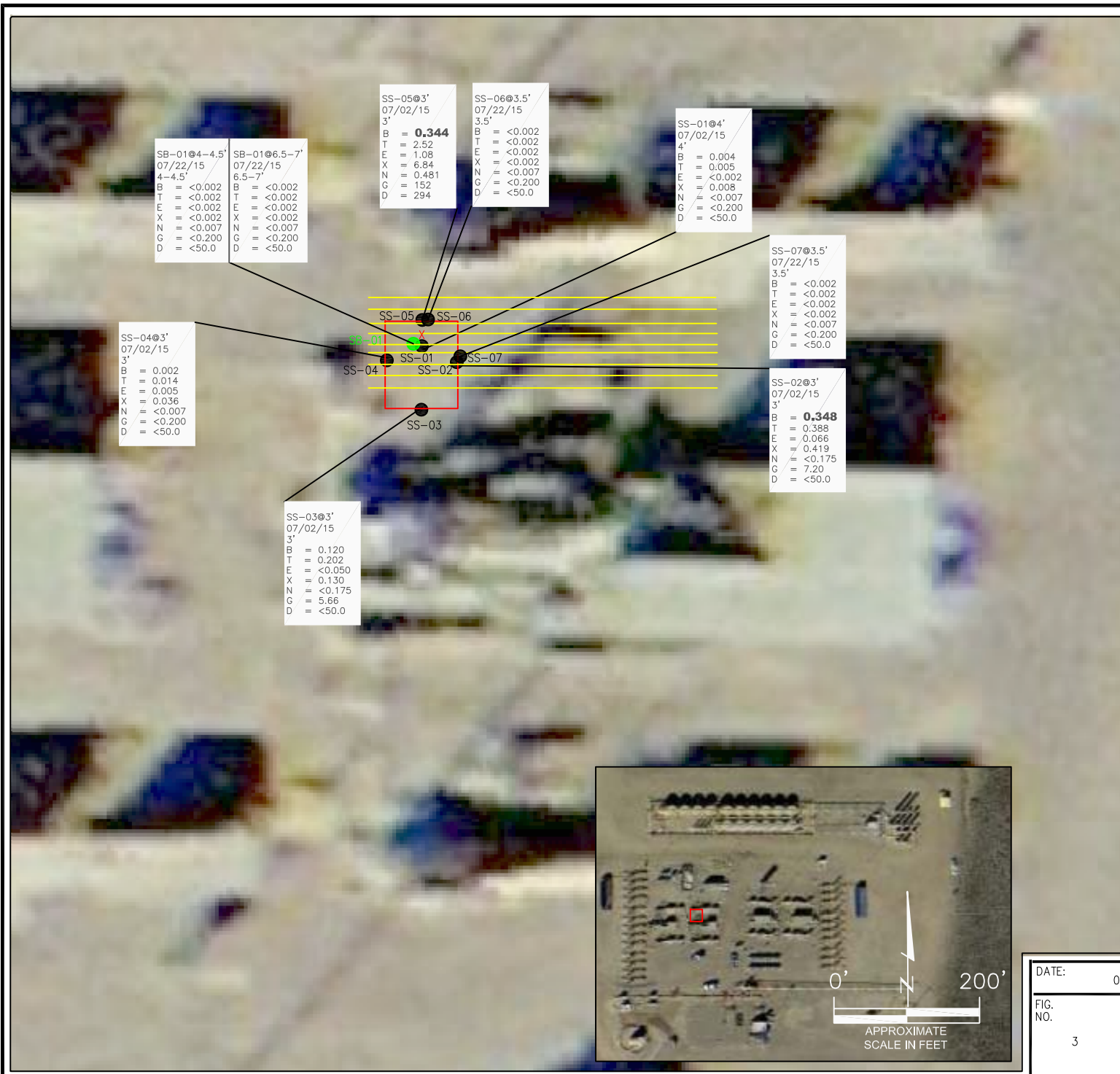
FIG. NO.  
2

DRAWN BY:  
RAL



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





**LEGEND**

- X APPROXIMATE SOURCE LOCATION
- APPROXIMATE FLOW LINE LOCATION
- APPROXIMATE EXTENTS OF FLOWLINE REPAIR EXCAVATION
- SS-02 APPROXIMATE LOCATION OF EXCAVATION SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
- SB-01 APPROXIMATE SOIL BORING LOCATION

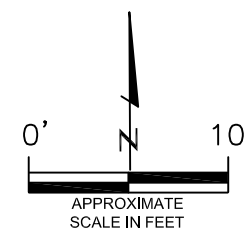
**PARAMETERS**

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 DETECTION LIMITS

VALUES PRESENTED IN BOLD TYPEFACE EXCEED THE COGCC TABLE 910-1 REGULATORY LIMITS.  
COGCC - COLORADO OIL AND GAS CONSERVATION COMMISSION

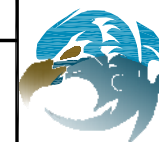


SOIL SAMPLE ANALYTICAL MAP  
OSCAR Y ECONODE SW  
FLOW LINE RELEASE  
40.152086 / -104.542257  
NWSW SEC.10 T2N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION # 434482

DATE: 07/28/15

FIG. NO. 3

DRAWN BY: RAL



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**TABLES**

**Table 1:     Soil Analytical Results Summary**



TABLE 1  
SOIL ANALYTICAL RESULTS SUMMARY  
OSCAR Y ECONODE SW  
FLOW LINE RELEASE  
40.152086 / -104.542257  
NW¼ SW¼ SEC.10 T2N R64W 6PM  
WELD COUNTY, COLORADO  
LOCATION # 434482

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)
<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>	
SS-01 @ 4' (40.152099 / -104.542249)	07/02/15	4	0.004	0.005	<0.002	0.008	<0.007	<0.200	<50.0
SS-02 @ 3' (40.152095 / -104.542236)	07/02/15	3	<b>0.348</b>	0.388	0.066	0.419	<0.175	7.20	<50.0
SS-03 @ 3' (40.152087 / -104.542248)	07/02/15	3	0.120	0.202	<0.050	0.130	<0.175	5.66	<50.0
SS-04 @ 3' (40.152094 / -104.542264)	07/02/15	3	0.002	0.014	0.005	0.036	<0.007	<0.200	<50.0
SS-05 @ 3' (40.152102 / -104.542248)	07/02/15	3	<b>0.344</b>	2.52	1.08	6.84	0.481	152	294
SS-06 @ 3.5' (40.152103 / -104.542247)	07/22/15	3.5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
SS-07 @ 3.5' (40.152094 / -104.542235)	07/22/15	3.5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
SB-01 @ 4-4.5' (40.152099 / -104.542249)	07/22/15	4-4.5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
SB-01 @ 6.5-7' (40.152099 / -104.542249)	07/22/15	6.5-7	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
COGCC = Colorado Oil and Gas Conservation Commission mg/kg = milligrams per kilogram  TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics  Note: Values presented in bold typeface exceed their respective COGCC - Regulatory Limits (Table 910-1).									



## **ATTACHMENT A**

### **Soil Boring Log**

# Boring Log/Well Completion Diagram: SB-01

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS		
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %							
0	(0-3.5')	SP							NOTES: EXCAVATION LEFT OPEN. BEGAN HAND AUGERING FROM BASE OF EXCAVATION (APPX. 3.5').			
2.5	gravelly SAND - dark brown to brown, dry to moist, med. dense, subrounded, fine to medium grained, poorly graded with 20% fine to coarse grained gravel, N/O, N/S							2.5				
5	(3.5-7')	SP - SC	HA	1	-	2.3	N/A					
	gravelly clayey SAND - dark brown to brown, dry to moist, loose to med. dense, subrounded, fine to medium grained, poorly graded with 40% clay and 10% gravel, N/O, N/S		HA	2	-	8.2	N/A					
			HA	3	-	0.5	N/A	5				
			HA	4	-	0.5	N/A					
			HA	5	-	0.4	N/A					
			HA	6	-	0.0	N/A					
			HA	7	-	0.0	N/A					
7.5	BoB @ 7'							7.5				
10								10				
12.5								12.5				
</												

NOTES:  
EXCAVATION LEFT OPEN. BEGAN HAND AUGERING FROM BASE OF EXCAVATION (APPX. 3.5').

HC - Hydrocarbon  
BoB - Bottom of Boring  
N/O - no odor  
N/S - no staining  
TOC - top of casing  
bgs - below ground surface

START/COMPLETION DATE: 07/22/15

SAND PACK INTERVAL (FEET): N/A

PROJECT: OSCAR Y ECONODE SW

BENTONITE/GROUT INTERVAL (FEET): N/A

LOGGED BY: A. NEWBERRY/A. ROMANSKY

WELL SCREEN INTERVAL (FEET): N/A

DRILLING COMPANY/EQUIPMENT: EAGLE/HAND AUGER

WELL DIAMETER (INCHES): N/A

BORING DEPTH (FEET): 7

WELL DEPTH (FEET): N/A

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1000/1110

SAMPLE COLLECTION DEPTH (FEET)/TIME: 4-4.5/1030 & 6.5-7/1105



**EAGLE**  
ENVIRONMENTAL  
CONSULTING, INC.

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

## **ATTACHMENT B**

### **Laboratory Analytical Reports**



July 06, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Oscar Econode South  
West**

**Project Number - [none]**

Attached are your analytical results for Noble - Oscar Econode South West received by Origins Laboratory, Inc. July 03, 2015. This project is associated with Origins project number X507056-01.

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 - Oscar Econode South West

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-01 @ 4'	X507056-01	Soil	July 2, 2015 18:00	07/03/2015 12:00
SS-02 @ 3'	X507056-02	Soil	July 2, 2015 18:10	07/03/2015 12:00
SS-03 @ 3'	X507056-03	Soil	July 2, 2015 18:15	07/03/2015 12:00
SS-04 @ 3'	X507056-04	Soil	July 2, 2015 18:20	07/03/2015 12:00
SS-05 @ 3'	X507056-05	Soil	July 2, 2015 18:25	07/03/2015 12:00

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President



Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Econode South West

# ORIGINS

LABORATORY, INC

www.originslaboratory.com

X507056

page 1 of 1

Client: Cadle Environmental Consulting

Project Manager: Maria Leticia / Robin Lockwood

Address: 4401 Tanager St.

Project Name: Mobile District Escrowed South West

Denver, CO

Project Number: \_\_\_\_\_

Telephone Number: 3433-0479

Samples Collected By: Chad G

Email Address: blackrose@cadle-consult.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa #	Other	BTEX	GLC	Volatile		
SS-01 @ 4'	7/2/15	1800	1							✓			✓	✓	P.D. 36.3 ppm	1
SS-02 @ 3'		1810	1						✓				✓	✓	P.D. 55.9, 8 ppm	2
SS-03 @ 3'		1815	1						✓				✓	✓	P.D. 44.9, 4 ppm	3
SS-04 @ 3'		1820	1						✓				✓	✓	P.D. 32.4, 7 ppm	4
SS-05 @ 3'		1825	1						✓				✓	✓	P.D. 59.6, 6 ppm	5
																6
																7
																8
																9
																10
Relinquished By: <u>[Signature]</u>	Date: <u>7/3/15</u>		Time: <u>1200</u>	Received By:				Date:			Time:		Turnaround Time:			
Relinquished By:	Date:		Time:	Received By: <u>[Signature]</u>				Date: <u>7-23-15</u>			Time: <u>1200</u>		Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>			

Temp Received-

Date Results Needed 7/6/15

Origins Laboratory, Inc.

Jeff Pellipini

*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 - Oscar Econode South West

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X507056

Client: Eagle

Client Project ID: Noble-Oscar Econode

Checklist Completed by: David Mathis

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

Date/time completed: 07-15-12 19

Airbill #: \_\_\_\_\_

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

Cooler Number/Temperature: 107 °C \_\_\_\_\_ °C \_\_\_\_\_ °C (Describe) \_\_\_\_\_ °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	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	Soil
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	Soil
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) [Signature]

Date/Time Reviewed 07-15-12 19

Origins Laboratory, Inc.

Jefe Pellegrini

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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Econode South West

SS-01 @ 4'  
7/2/2015 6:00:00PM

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

Origins Laboratory, Inc.  
X507056-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G04003	07/04/2015	07/05/2015
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	73.9 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G04002	07/04/2015	07/05/2015
Benzene	0.004	0.002	"	"	"	"	"
Toluene	0.005	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	0.008	0.002	"	"	"	"	"
Naphthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"
Surrogate: Toluene-d8	95.1 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	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 - Oscar Econode South West

SS-02 @ 3'  
7/2/2015 6:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507056-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G04003	07/04/2015	07/04/2015
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Surrogate: o-Terphenyl	61.8 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	7.20	5.00	mg/kg	25	5G04002	07/04/2015	07/05/2015
Benzene	0.348	0.050	"	"	"	"	"
Toluene	0.388	0.050	"	"	"	"	"
Ethylbenzene	0.066	0.050	"	"	"	"	"
Xylenes, total	0.419	0.050	"	"	"	"	"
Napthalene	ND	0.175	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"
Surrogate: Toluene-d8	97.2 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	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 - Oscar Econode South West

SS-03 @ 3'  
7/2/2015 6:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507056-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G04003	07/04/2015	07/04/2015
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Surrogate: o-Terphenyl	78.4 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	5.66	5.00	mg/kg	25	5G04002	07/04/2015	07/05/2015
Benzene	0.120	0.050	"	"	"	"	"
Toluene	0.202	0.050	"	"	"	"	"
Ethylbenzene	ND	0.050	"	"	"	"	"
Xylenes, total	0.130	0.050	"	"	"	"	"
Napthalene	ND	0.175	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"
Surrogate: Toluene-d8	97.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	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 - Oscar Econode South West

SS-04 @ 3'  
7/2/2015 6:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507056-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G04003	07/04/2015	07/04/2015
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Surrogate: o-Terphenyl	71.7 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G04002	07/04/2015	07/05/2015
Benzene	0.002	0.002	"	"	"	"	"
Toluene	0.014	0.002	"	"	"	"	"
Ethylbenzene	0.005	0.002	"	"	"	"	"
Xylenes, total	0.036	0.002	"	"	"	"	"
Naphthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"	"
Surrogate: Toluene-d8	95.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	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 - Oscar Econode South West

SS-05 @ 3'  
7/2/2015 6:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507056-05 (Soil)

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

Diesel (C10-C28)	294	50.0	mg/kg	1	5G04003	07/04/2015	07/04/2015
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Surrogate: o-Terphenyl	63.5 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	152	10.0	mg/kg	50	5G04002	07/04/2015	07/05/2015
Benzene	0.344	0.100	"	"	"	"	"
Toluene	2.52	0.100	"	"	"	"	"
Ethylbenzene	1.08	0.100	"	"	"	"	"
Xylenes, total	6.84	0.100	"	"	"	"	"
Naphthalene	0.481	0.350	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	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 - Oscar Econode South West

**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 5G04002 - EPA 5030 (soil)</b>										
<b>Blank (5G04002-BLK1)</b>					Prepared: 07/04/2015 Analyzed: 07/04/2015					
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	0.007	"							
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	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 - Oscar Econode South West

**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 5G04002 - EPA 5030 (soil)

**LCS (5G04002-BS1)**

Prepared: 07/04/2015 Analyzed: 07/04/2015

Benzene	0.087	0.002	mg/kg	0.100		86.9	70-130			
Toluene	0.083	0.002	"	0.100		83.1	70-130			
Ethylbenzene	0.086	0.002	"	0.100		86.0	70-130			
m,p-Xylene	0.173	0.004	"	0.200		86.4	70-130			
o-Xylene	0.087	0.002	"	0.100		87.4	70-130			
Naphthalene	0.092	0.007	"	0.100		91.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	62		ug/kg	62.5		99.8	70-130			
Surrogate: Toluene-d8	61		"	62.5		96.9	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Econode South West

**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 5G04002 - EPA 5030 (soil)</b>										
<b>LCS Dup (5G04002-BSD1)</b>					Prepared: 07/04/2015 Analyzed: 07/04/2015					
Benzene	0.087	0.002	mg/kg	0.100		87.1	70-130	0.207	20	
Toluene	0.083	0.002	"	0.100		82.8	70-130	0.338	20	
Ethylbenzene	0.083	0.002	"	0.100		82.9	70-130	3.65	20	
m,p-Xylene	0.168	0.004	"	0.200		83.9	70-130	3.03	20	
o-Xylene	0.086	0.002	"	0.100		86.1	70-130	1.54	20	
Naphthalene	0.095	0.007	"	0.100		95.0	70-130	3.64	20	
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	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 - Oscar Econode South West

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

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5G04003 - EPA 3580**

**Blank (5G04003-BLK1)**

Prepared: 07/04/2015 Analyzed: 07/04/2015

Diesel (C10-C28) ND 50.0 mg/kg

Surrogate: o-Terphenyl 43 " 50.0 85.1 59-131

**LCS (5G04003-BS1)**

Prepared: 07/04/2015 Analyzed: 07/04/2015

Diesel (C10-C28) 925 50.0 mg/kg 64-121

Surrogate: o-Terphenyl 47 " 50.0 94.5 59-131

**Matrix Spike (5G04003-MS1)**

**Source: X507056-01**

Prepared: 07/04/2015 Analyzed: 07/04/2015

Diesel (C10-C28) 930 50.0 mg/kg 17.2 53-125

Surrogate: o-Terphenyl 38 " 50.0 75.4 59-131

**Matrix Spike Dup (5G04003-MSD1)**

**Source: X507056-01**

Prepared: 07/04/2015 Analyzed: 07/04/2015

Diesel (C10-C28) 924 50.0 mg/kg 17.2 53-125 0.631 20

Surrogate: o-Terphenyl 40 " 50.0 79.7 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 - Oscar Econode South West

### 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.*





July 24, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Oscar Y Econode SW**

**Project Number - [none]**

Attached are your analytical results for Noble - Oscar Y Econode SW received by Origins Laboratory, Inc. July 22, 2015. This project is associated with Origins project number X507308-01.

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 - Oscar Y Econode SW

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-01 @ 4-4.5'	X507308-01	Soil	July 22, 2015 10:30	07/22/2015 12:45
SB-01 @ 6.5-7'	X507308-02	Soil	July 22, 2015 11:05	07/22/2015 12:45

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.*

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

**ORIGINS**

**LABORATORY, INC**

**X507308**

www.originslaboratory.com

page 1 of 1

Client: Eagle Env. Consulting, Inc.

Address: 4101 Iowa Street

Denver, CO, 80211

Telephone Number: (303) 433-0179

Email Address: Mike3@eagle-enviro.com

Project Manager: Martin Gilbert III

Project Name: Oscar Y Encarnado SW

Project Number:

Samples Collected By: AN/AR

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa	Other	BTEX	PCO	DOC		MPH/MLV
SB-01 @ 4-4.5'	7/22/15	1030	2	X					X			X	X	X	1	Sample Instructions
SB-01 @ 6.5-7'	7/22/15	1105	2	X					X			X	X	X	2	
															3	
															4	
															5	
															6	
															7	
															8	
															9	
															10	
Relinquished By: <u>[Signature]</u>	Date: <u>7/22/15</u>	Time: <u>1245</u>		Received By: <u>Jay Smith</u>	Date: <u>7/22/15</u>	Time: <u>1245</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								
Relinquished By: <u>[Signature]</u>	Date: <u>7/22/15</u>	Time: <u>1245</u>		Received By: <u>Jay Smith</u>	Date: <u>7/22/15</u>	Time: <u>1245</u>										

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Bill & Linda

Temp Received:

Date Results Needed: 7/22/15

Date: 7/22/15

Origins Laboratory, Inc.

Jose Pellegrini

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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver

CO

80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Oscar Y Econode SW

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: XS07308

Client: Eagle

Client Project ID: Oscar Y Econode SW

Checklist Completed by: Jeff Smith

Shipped Via: H/D

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

Date/time completed: 7/22/15

Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.2 °C 1 / \_\_\_\_\_ °C 1 / \_\_\_\_\_ °C (Describe)

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"/>			
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"/>	<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): <u>Andrew N. Requested by Phone conversation that TAT be changed to a 72hr Turn</u>				
<u>7/22/15 Jeff Smith</u>				

<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)

7/22/15  
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

SB-01 @ 4-4.5'

7/22/2015 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507308-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G22003	07/22/2015	07/23/2015
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Surrogate: o-Terphenyl	94.3 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G22004	07/22/2015	07/22/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Napthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.0 %	70-130			"	"	"
Surrogate: Toluene-d8	96.1 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	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 - Oscar Y Econode SW

SB-01 @ 6.5-7'

7/22/2015 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X507308-02 (Soil)****Diesel Range Organics (DRO/TEPH) by EPA 8015C**

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G22003	07/22/2015	07/23/2015
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Surrogate: o-Terphenyl	86.6 %	59-131			"	"	"
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**GBTEX + Napthalene by 8260C**

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G22004	07/22/2015	07/22/2015
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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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Naphthalene	ND	0.007	"	"	"	"	"
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Surrogate: 1,2-Dichloroethane-d4	95.8 %	70-130			"	"	"
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Surrogate: Toluene-d8	97.7 %	70-130			"	"	"
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Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"
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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 - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)</b>										
<b>Blank (5G22004-BLK1)</b>					Prepared: 07/22/2015 Analyzed: 07/22/2015					
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	0.007	"							
Surrogate: 1,2-Dichloroethane-d4	55		ug/kg	62.5		88.0	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)

**LCS (5G22004-BS1)**

Prepared: 07/22/2015 Analyzed: 07/22/2015

Benzene	0.089	0.002	mg/kg	0.100		89.3	70-130			
Toluene	0.089	0.002	"	0.100		89.1	70-130			
Ethylbenzene	0.094	0.002	"	0.100		93.7	70-130			
m,p-Xylene	0.187	0.004	"	0.200		93.6	70-130			
o-Xylene	0.096	0.002	"	0.100		95.5	70-130			
Naphthalene	0.080	0.007	"	0.100		80.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	50		ug/kg	62.5		80.0	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)

Matrix Spike (5G22004-MS1)		Source: X507293-01			Prepared: 07/22/2015 Analyzed: 07/22/2015					
Benzene	0.089	0.002	mg/kg	0.100	ND	89.4	70-130			
Toluene	0.086	0.002	"	0.100	ND	86.0	70-130			
Ethylbenzene	0.089	0.002	"	0.100	ND	88.5	70-130			
m,p-Xylene	0.176	0.004	"	0.200	ND	88.2	70-130			
o-Xylene	0.093	0.002	"	0.100	ND	92.6	70-130			
Naphthalene	0.073	0.007	"	0.100	0.002	70.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		90.1	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	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.

Jen Pellegrini For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)

Matrix Spike Dup (5G22004-MSD1)		Source: X507293-01			Prepared: 07/22/2015 Analyzed: 07/22/2015					
Benzene	0.089	0.002	mg/kg	0.100	ND	89.2	70-130	0.202	20	
Toluene	0.086	0.002	"	0.100	ND	86.4	70-130	0.441	20	
Ethylbenzene	0.088	0.002	"	0.100	ND	88.0	70-130	0.566	20	
m,p-Xylene	0.176	0.004	"	0.200	ND	88.1	70-130	0.0340	20	
o-Xylene	0.093	0.002	"	0.100	ND	92.8	70-130	0.173	20	
Naphthalene	0.079	0.007	"	0.100	0.002	77.1	70-130	9.08	20	
Surrogate: 1,2-Dichloroethane-d4	55		ug/kg	62.5		88.4	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		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 - Oscar Y Econode SW

## Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

### Origins Laboratory, Inc.

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

#### Batch 5G22003 - EPA 3580

#### Blank (5G22003-BLK1)

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	36		"	50.0		72.9	59-131			

#### LCS (5G22003-BS1)

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	915	50.0	mg/kg	1000		91.5	64-121			
Surrogate: o-Terphenyl	46		"	50.0		92.4	59-131			

#### Matrix Spike (5G22003-MS1)

Source: X507293-01

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	1200	50.0	mg/kg	1000	235	96.3	53-125			
Surrogate: o-Terphenyl	49		"	50.0		99.0	59-131			

#### Matrix Spike Dup (5G22003-MSD1)

Source: X507293-01

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	1160	50.0	mg/kg	1000	235	92.1	53-125	3.56	20	
Surrogate: o-Terphenyl	49		"	50.0		98.4	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 - Oscar Y Econode SW

### 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.*



July 24, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Oscar Y Econode SW**

**Project Number - [none]**

Attached are your analytical results for Noble - Oscar Y Econode SW received by Origins Laboratory, Inc. July 22, 2015. This project is associated with Origins project number X507309-01.

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 - Oscar Y Econode SW

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-06 @ 3.5'	X507309-01	Soil	July 22, 2015 10:50	07/22/2015 12:45
SS-07 @ 3.5'	X507309-02	Soil	July 22, 2015 10:55	07/22/2015 12:45

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 - Oscar Y Econode SW

www.originslaboratory.com

X567309

ORIGINS  
LABORATORY, INC

page 1 of 1

Client: EAGLE ENV CONSULTING  
Address: 4101 INCA ST  
DENVER, CO 80211  
Telephone Number: 303 433 0479  
Email Address: NCS@eagle-env.com

Project Manager: MARTIN ECKERT III  
Project Name: OSCAR Y ECONODE SW  
Project Number: —  
Samples Collected By: AE/AJ

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	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #			
55-060 3.5'	7/22/15	1050	2	X				X			X	1	
55-070 3.5'	7/22/15	1055	2	X				X			X	2	
												3	3.5'
												4	
												5	
												6	
												7	
												8	
												9	
												10	

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
<i>[Signature]</i>	7/22/15	1245	<i>[Signature]</i>	7/22/15	1245	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"/>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

Date Results Needed: Noble

Temp Received:

55-060 3.5'

Origins Laboratory, Inc.

*Jefe Pellegrini*

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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver

CO

80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Oscar Y Econode SW

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: XS07309

Client: Eagle

Client Project ID: Oscar Y Econode SW

Checklist Completed by: Jeff Smith

Shipped Via: H/D

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

Date/time completed: 7/22/15

Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.2 °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> ?	<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): <u>Andrew N. Requested by phone conversation that TAT be changed to a 72 hr Turn.</u>				
<u>7/22/15 Jeff Smith</u>				

<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)

7/22/15  
Date/Time Reviewed

Origins Laboratory, Inc.

*Jeff Pellegrini*

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

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

SS-06 @ 3.5'

7/22/2015 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507309-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G22003	07/22/2015	07/23/2015
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Surrogate: o-Terphenyl	90.7 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G22004	07/22/2015	07/22/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Napthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.3 %	70-130			"	"	"
Surrogate: Toluene-d8	97.1 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	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 - Oscar Y Econode SW

SS-07 @ 3.5'

7/22/2015 10:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.  
X507309-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G22003	07/22/2015	07/23/2015
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Surrogate: o-Terphenyl	87.7 %	59-131			"	"	"
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## GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G22004	07/22/2015	07/22/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	ND	0.002	"	"	"	"	"
Xylenes, total	ND	0.002	"	"	"	"	"
Napthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	95.8 %	70-130			"	"	"
Surrogate: Toluene-d8	97.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	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 - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)</b>										
<b>Blank (5G22004-BLK1)</b>					Prepared: 07/22/2015 Analyzed: 07/22/2015					
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	0.007	"							
Surrogate: 1,2-Dichloroethane-d4	55		ug/kg	62.5		88.0	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)</b>										
<b>LCS (5G22004-BS1)</b>					Prepared: 07/22/2015 Analyzed: 07/22/2015					
Benzene	0.089	0.002	mg/kg	0.100		89.3	70-130			
Toluene	0.089	0.002	"	0.100		89.1	70-130			
Ethylbenzene	0.094	0.002	"	0.100		93.7	70-130			
m,p-Xylene	0.187	0.004	"	0.200		93.6	70-130			
o-Xylene	0.096	0.002	"	0.100		95.5	70-130			
Naphthalene	0.080	0.007	"	0.100		80.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	50		ug/kg	62.5		80.0	70-130			
Surrogate: Toluene-d8	63		"	62.5		101	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 - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)

Matrix Spike (5G22004-MS1)		Source: X507293-01			Prepared: 07/22/2015 Analyzed: 07/22/2015					
Benzene	0.089	0.002	mg/kg	0.100	ND	89.4	70-130			
Toluene	0.086	0.002	"	0.100	ND	86.0	70-130			
Ethylbenzene	0.089	0.002	"	0.100	ND	88.5	70-130			
m,p-Xylene	0.176	0.004	"	0.200	ND	88.2	70-130			
o-Xylene	0.093	0.002	"	0.100	ND	92.6	70-130			
Naphthalene	0.073	0.007	"	0.100	0.002	70.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		90.1	70-130			
Surrogate: Toluene-d8	62		"	62.5		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		105	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - Oscar Y Econode SW

**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 5G22004 - EPA 5030 (soil)</b>										
<b>Matrix Spike Dup (5G22004-MSD1)</b>		<b>Source: X507293-01</b>			Prepared: 07/22/2015 Analyzed: 07/22/2015					
Benzene	0.089	0.002	mg/kg	0.100	ND	89.2	70-130	0.202	20	
Toluene	0.086	0.002	"	0.100	ND	86.4	70-130	0.441	20	
Ethylbenzene	0.088	0.002	"	0.100	ND	88.0	70-130	0.566	20	
m,p-Xylene	0.176	0.004	"	0.200	ND	88.1	70-130	0.0340	20	
o-Xylene	0.093	0.002	"	0.100	ND	92.8	70-130	0.173	20	
Naphthalene	0.079	0.007	"	0.100	0.002	77.1	70-130	9.08	20	
Surrogate: 1,2-Dichloroethane-d4	55		ug/kg	62.5		88.4	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		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 - Oscar Y Econode SW

## Volatile Organic Compounds by GC/MS SW846 8260C - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Extractable Petroleum Hydrocarbons by 8015C - Quality Control

### Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 5G22003 - EPA 3580

#### Blank (5G22003-BLK1)

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	36		"	50.0		72.9	59-131			

#### LCS (5G22003-BS1)

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	915	50.0	mg/kg	1000		91.5	64-121			
Surrogate: o-Terphenyl	46		"	50.0		92.4	59-131			

#### Matrix Spike (5G22003-MS1)

Source: X507293-01

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	1200	50.0	mg/kg	1000	235	96.3	53-125			
Surrogate: o-Terphenyl	49		"	50.0		99.0	59-131			

#### Matrix Spike Dup (5G22003-MSD1)

Source: X507293-01

Prepared: 07/22/2015 Analyzed: 07/23/2015

Diesel (C10-C28)	1160	50.0	mg/kg	1000	235	92.1	53-125	3.56	20	
Surrogate: o-Terphenyl	49		"	50.0		98.4	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 - Oscar Y Econode SW

### 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.



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