

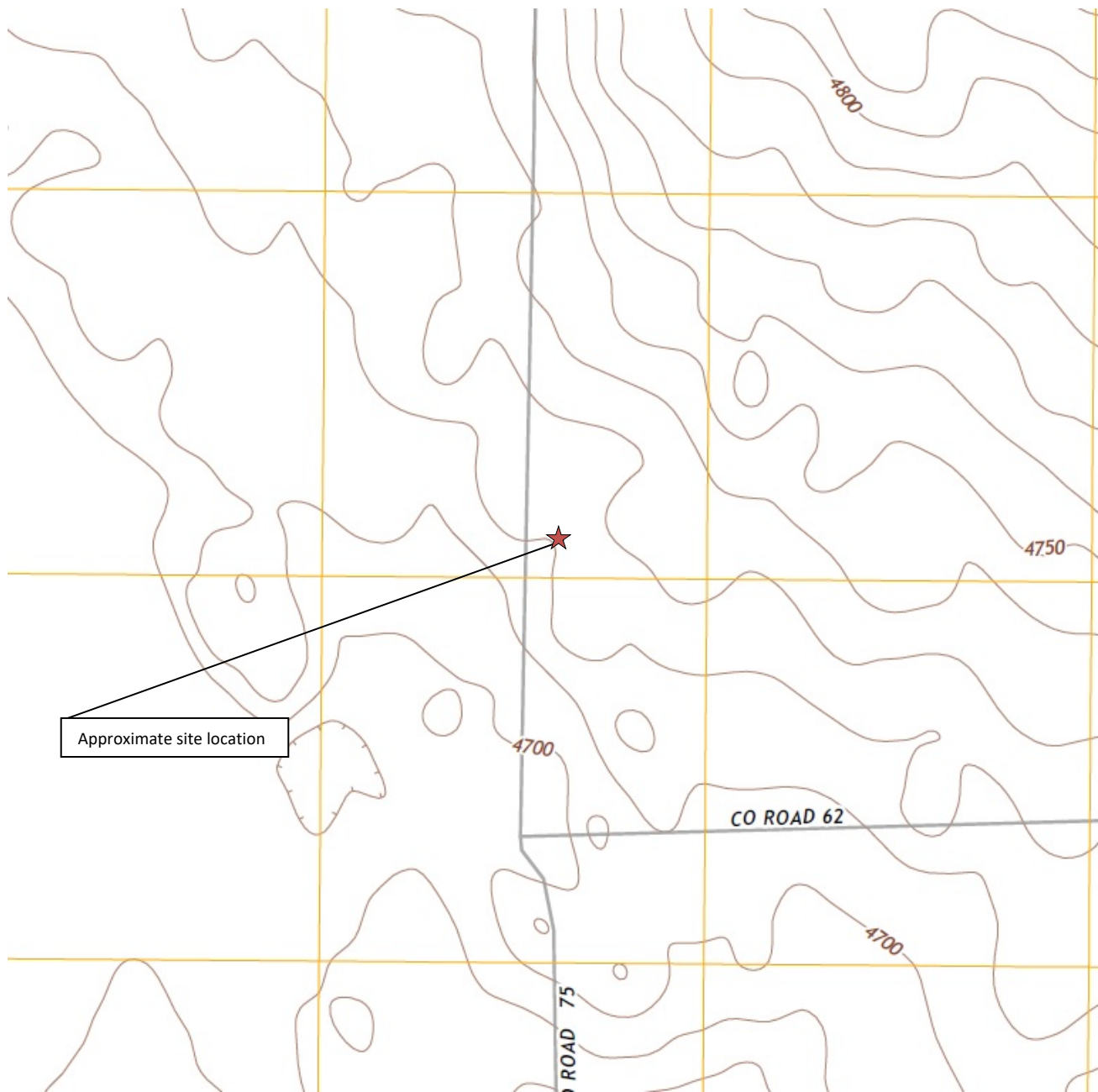


FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Analytical Map

Figure 3: Proposed Soil Delineation Map



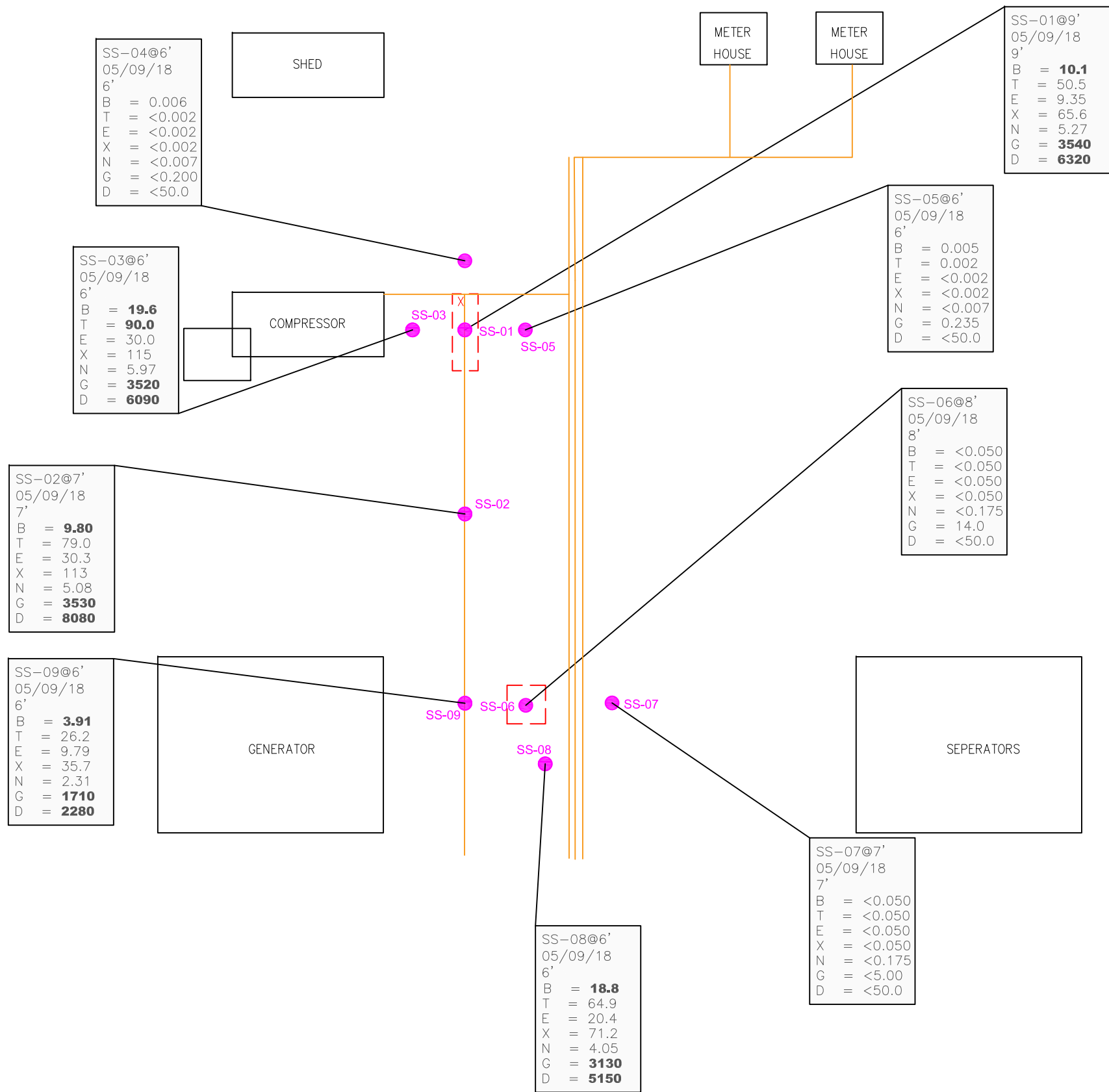
Topographic Site Location Map
Wells Ranch AE32 Econode
Flow Line Release
40.4440 / -104.3552
SW¼ NW¼ SEC.32 T6N R62W 6PM
Weld County, Colorado
Spill ID 455000



EAGLE
ENVIRONMENTAL
CONSULTING, INC.

Source: USGS 7.5 Minute Topographic
Map, Point of Rocks, CO Quadrangle
2013

Figure 1



- LEGEND**
- X APPROXIMATE RELEASE LOCATION
 - APPROXIMATE FLOWLINE LOCATIONS
 - - - APPROXIMATE SURFACING/EXCAVATION BOUNDARIES 05/09/18
 - APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

SOIL SAMPLE LOCATION
DATE
DEPTH (FEET)
B = BENZENE (mg/kg)
T = TOLUENE (mg/kg)
E = ETHYLBENZENE (mg/kg)
X = TOTAL XYLENES (mg/kg)
N = NAPHTHALENE (mg/kg)
G = TPH-GRO (mg/kg)
D = TPH-DRO (mg/kg)

mg/kg = MILLIGRAMS PER KILOGRAM

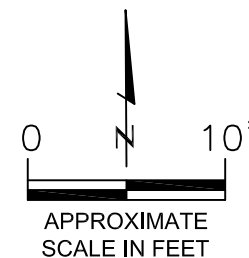
TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

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 IN **BOLD** EXCEED COGCC TABLE 910-1 REGULATORY LIMITS.

COGCC - COLORADO OIL AND GAS CONSERVATION COMMISSION



SOIL ANALYTICAL MAP
WELLS RANCH AE32 ECONODE
FLOW LINE RELEASE
40.4440 / -104.3552
SW1/4 NW1/4 SEC.32 T6N R62W 6PM
WELD COUNTY, COLORADO
SPILL ID 455000

NOTE: AERIAL IMAGE NOT AVAILABLE FOR LOCATION.
DRAWING BASED ON FIELD OBSERVATIONS AND MEASUREMENTS

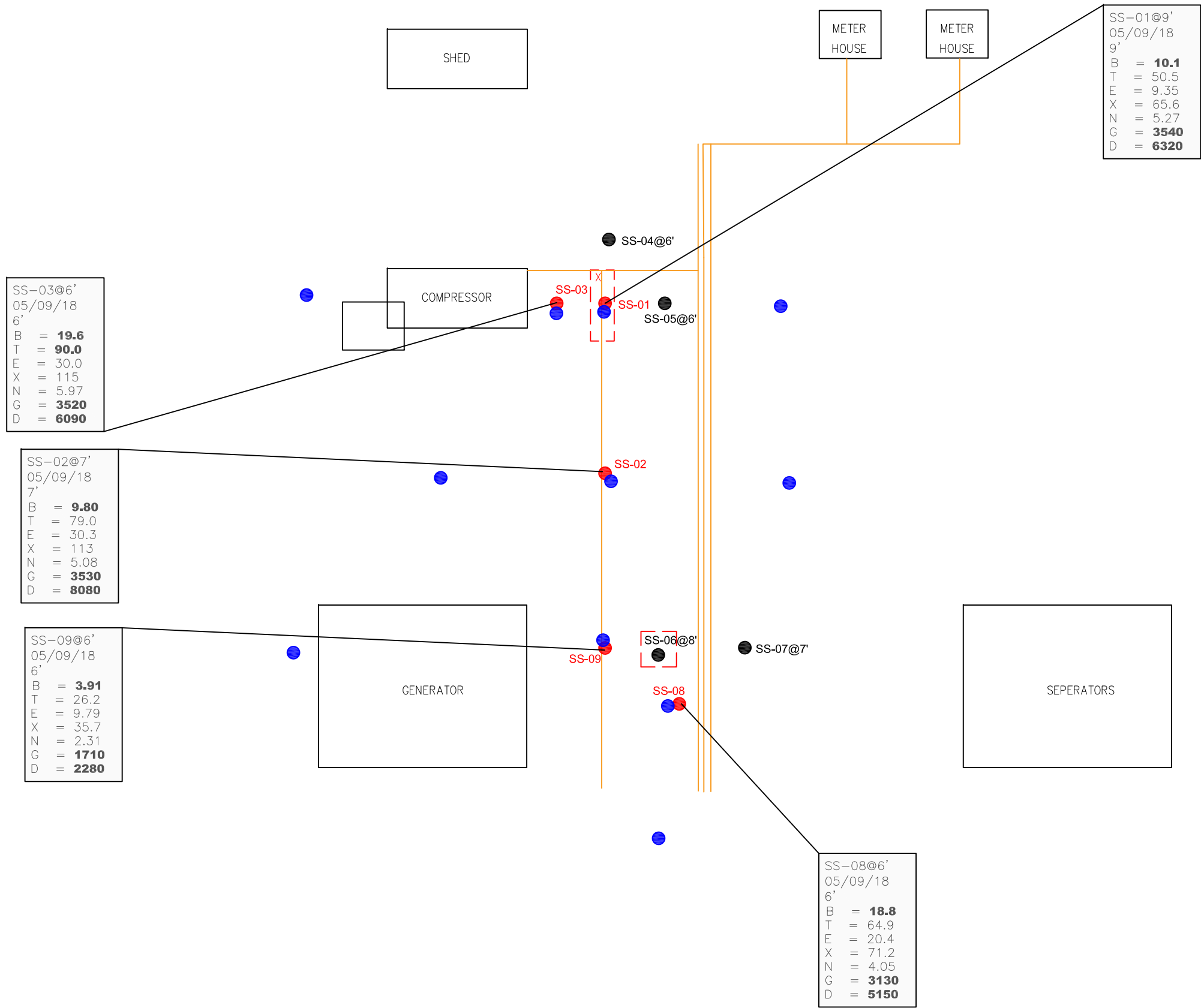
DATE
11/14/18

FIG.
NO.
2

DRAWN BY
amn



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



- LEGEND**
- X APPROXIMATE RELEASE LOCATION
 - APPROXIMATE FLOWLINE LOCATIONS
 - - - APPROXIMATE SURFACING/EXCAVATION BOUNDARIES 05/09/18
 - SS-02 APPROXIMATE LOCATION OF INITIAL SOIL SAMPLES BELOW COGCC TABLE 910-1 REGULATORY LIMITS
 - SS-02 APPROXIMATE LOCATION OF INITIAL SOIL SAMPLES ABOVE COGCC TABLE 910-1 REGULATORY LIMITS

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

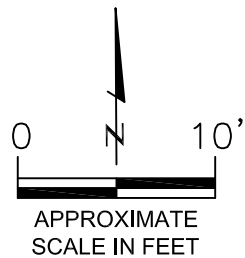
TPH-DRO = TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS

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

VALUES IN **BOLD** EXCEED COGCC TABLE 910-1 REGULATORY LIMITS.

COGCC – COLORADO OIL AND GAS CONSERVATION COMMISSION

● PROPOSED SOIL SAMPLES/DELINEATION LOCATIONS



PROPOSED SOIL DELINEATION MAP
WELLS RANCH AE32 ECONODE
FLOW LINE RELEASE
40.4440 / -104.3552
SW1/4 NW1/4 SEC.32 T6N R62W 6PM
WELD COUNTY, COLORADO
SPILL ID 455000

NOTE: AERIAL IMAGE NOT AVAILABLE FOR LOCATION.
DRAWING BASED ON FIELD OBSERVATIONS AND MEASUREMENTS

DATE
11/14/18

FIG.
NO.
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DRAWN BY
amn





ATTACHMENT A

Laboratory Analytical Report



May 10, 2018

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

**Project Name - Noble - Wells Ranch AE32
Econode**

Project Number - [none]

Attached are your analytical results for Noble - Wells Ranch AE32 Econode received by Origins Laboratory, Inc. May 09, 2018. This project is associated with Origins project number Y805148-01.

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 - Wells Ranch AE32 Econode

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-01 @ 9'	Y805148-01	Soil	May 9, 2018 12:25	05/09/2018 15:16
SS-02 @ 7'	Y805148-02	Soil	May 9, 2018 10:58	05/09/2018 15:16
SS-03 @ 6'	Y805148-03	Soil	May 9, 2018 11:34	05/09/2018 15:16
SS-04 @ 6'	Y805148-04	Soil	May 9, 2018 11:18	05/09/2018 15:16
SS-05 @ 6'	Y805148-05	Soil	May 9, 2018 11:15	05/09/2018 15:16
SS-06 @ 8'	Y805148-06	Soil	May 9, 2018 11:45	05/09/2018 15:16
SS-07 @ 7'	Y805148-07	Soil	May 9, 2018 11:54	05/09/2018 15:16
SS-08 @ 6'	Y805148-08	Soil	May 9, 2018 12:09	05/09/2018 15:16
SS-09 @ 6'	Y805148-09	Soil	May 9, 2018 12:39	05/09/2018 15:16

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 - Wells Ranch AE32 Econode

ORIGINS

LABORATORY, INC

www.originslaboratory.com

Y805148

page 1 of 1

Client: EGGLE ENV. CONSULTING
 Address: 4101 INLA ST.
DENVER, CO
 Telephone Number: 303-433-0474
 Email Address: ML67@EGGLE-ENVIR0.COM

Project Manager: MARTIN ELLERTZ III
 Project Name: WELLS RANVAH AE32 ELANDDE
 Project Number: _____
 Samples Collected By: KEA

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	Biot	LT0	DT0		MT0
SS-01 @ 9'	5-9-18	1225	2	X					X				X	X	X	1
SS-02 @ 7'		1058														2
SS-03 @ 6'		1134														3
SS-04 @ 6'		1118														4
SS-05 @ 6'		1115														5
SS-06 @ 8'		1145														6
SS-07 @ 7'		1154														7
SS-08 @ 6'		1209														8
SS-09 @ 6'	✓	1234														9
																10
Relinquished By: <u>[Signature]</u>	Date: <u>5-9-18</u>	Time: <u>1516</u>	Received By: <u>[Signature]</u>	Date: <u>5/9/18</u>	Time: <u>1516</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"/>										
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____											

REA: 81509726 \$ BILL TO
 WORK: 519315
 HOWARD

Temp Received: 39

Date Results Needed

\$ LABILE

Origins Laboratory, Inc.

Jeff Pellgrini

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 - Wells Ranch AE32 Econode

Origins Laboratory

F-012207-01-R1

Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: Y805148

Client: Eagle

Client Project ID: Noble - Wells Ranch AE32 Econode

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 5/9/2018

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 5 °C / 5 °C / 5 °C / 5 °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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄ / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any):				

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

Reviewed by (Project Manager)

Date/Time Reviewed

Origins Laboratory, Inc.

Jen 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 - Wells Ranch AE32 Econode

SS-01 @ 9'
5/9/2018 12:25:00PM

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

Origins Laboratory, Inc.
Y805148-01 (Soil)

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

Diesel (C10-C28)	6320	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018
------------------	------	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	84.3 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	3540	500	mg/kg	2500	B8E0907	05/09/2018	05/10/2018
Benzene	10.1	4.98	"	"	"	"	"
Toluene	50.5	4.98	"	"	"	"	"
Ethylbenzene	9.35	4.98	"	"	"	"	"
Xylenes, total	65.6	4.98	"	"	"	"	"
Naphthalene	5.27	0.175	"	25	"	"	05/09/2018

Surrogate: 1,2-Dichloroethane-d4	92.2 %	70-130			"	"	05/10/2018
Surrogate: Toluene-d8	83.8 %	70-130			"	"	05/09/2018
Surrogate: 4-Bromofluorobenzene	100 %	70-130			"	"	05/10/2018

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 - Wells Ranch AE32 Econode

SS-02 @ 7'
5/9/2018 10:58:00AM

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

Origins Laboratory, Inc.
Y805148-02 (Soil)

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

Diesel (C10-C28)	8080	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018
------------------	------	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	108 %	59-131			"	"	"
------------------------	-------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	3530	500	mg/kg	2500	B8E0907	05/09/2018	05/10/2018
Benzene	9.80	4.98	"	"	"	"	"
Toluene	79.0	4.98	"	"	"	"	"
Ethylbenzene	30.3	4.98	"	"	"	"	"
Xylenes, total	113	4.98	"	"	"	"	"
Naphthalene	5.08	0.175	"	25	"	"	05/09/2018

Surrogate: 1,2-Dichloroethane-d4	126 %	70-130			"	"	"
Surrogate: Toluene-d8	96.8 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	99.0 %	70-130			"	"	05/10/2018

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 - Wells Ranch AE32 Econode

SS-03 @ 6'
5/9/2018 11:34:00AM

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

Origins Laboratory, Inc.
Y805148-03 (Soil)

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

Diesel (C10-C28)	6090	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018
------------------	------	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	88.8 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	3520	500	mg/kg	2500	B8E0907	05/09/2018	05/10/2018
Benzene	19.6	4.98	"	"	"	"	"
Toluene	90.0	4.98	"	"	"	"	"
Ethylbenzene	30.0	4.98	"	"	"	"	"
Xylenes, total	115	4.98	"	"	"	"	"
Naphthalene	5.97	0.175	"	25	"	"	05/09/2018

Surrogate: 1,2-Dichloroethane-d4	99.8 %	70-130			"	"	05/10/2018
Surrogate: Toluene-d8	97.7 %	70-130			"	"	05/09/2018
Surrogate: 4-Bromofluorobenzene	97.6 %	70-130			"	"	05/10/2018

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 - Wells Ranch AE32 Econode

SS-04 @ 6'
5/9/2018 11:18:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y805148-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018	U
Surrogate: o-Terphenyl	94.4 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B8E0907	05/09/2018	05/10/2018	U
Benzene	0.006	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	U
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Napthalene	ND	0.007	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"	
Surrogate: Toluene-d8	95.6 %	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 - Wells Ranch AE32 Econode

SS-05 @ 6'
5/9/2018 11:15:00AM

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

Origins Laboratory, Inc.
Y805148-05 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018	U
Surrogate: o-Terphenyl	97.1 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.235	0.200	mg/kg	1	B8E0907	05/09/2018	05/10/2018	
Benzene	0.005	0.002	"	"	"	"	"	
Toluene	0.002	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	U
Xylenes, total	ND	0.002	"	"	"	"	"	U
Naphthalene	ND	0.007	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.0 %	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 - Wells Ranch AE32 Econode

SS-06 @ 8'
5/9/2018 11:45:00AM

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

Origins Laboratory, Inc.
Y805148-06 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018	U
------------------	----	------	-------	---	---------	------------	------------	---

Surrogate: o-Terphenyl	106 %	59-131			"	"	"	
------------------------	-------	--------	--	--	---	---	---	--

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	14.0	5.00	mg/kg	25	B8E0907	05/09/2018	05/09/2018	
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Napthalene	ND	0.175	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	82.4 %	70-130			"	"	"	
Surrogate: Toluene-d8	115 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	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 - Wells Ranch AE32 Econode

SS-07 @ 7'
5/9/2018 11:54:00AM

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

Origins Laboratory, Inc.
Y805148-07 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018	U
Surrogate: o-Terphenyl	96.2 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	5.00	mg/kg	25	B8E0907	05/09/2018	05/09/2018	U
Benzene	ND	0.050	"	"	"	"	"	U
Toluene	ND	0.050	"	"	"	"	"	U
Ethylbenzene	ND	0.050	"	"	"	"	"	U
Xylenes, total	ND	0.050	"	"	"	"	"	U
Naphthalene	ND	0.175	"	"	"	"	"	U
Surrogate: 1,2-Dichloroethane-d4	86.2 %	70-130			"	"	"	
Surrogate: Toluene-d8	96.3 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.6 %	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.

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

SS-08 @ 6'
5/9/2018 12:09:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y805148-08 (Soil)

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

Diesel (C10-C28)	5150	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018
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Surrogate: o-Terphenyl	62.5 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	3130	50.0	mg/kg	250	B8E0907	05/09/2018	05/10/2018
Benzene	18.8	0.498	"	"	"	"	"
Toluene	64.9	0.498	"	"	"	"	"
Ethylbenzene	20.4	0.498	"	"	"	"	"
Xylenes, total	71.2	0.498	"	"	"	"	"
Naphthalene	4.05	0.175	"	25	"	"	05/09/2018

Surrogate: 1,2-Dichloroethane-d4	121 %	70-130			"	"	"
Surrogate: Toluene-d8	101 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.8 %	70-130			"	"	05/10/2018

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Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

SS-09 @ 6'
5/9/2018 12:39:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y805148-09 (Soil)

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

Diesel (C10-C28)	2280	50.0	mg/kg	1	B8E0903	05/09/2018	05/09/2018	
Surrogate: o-Terphenyl	184 %	59-131			"	"	"	S-DUP

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	1710	50.0	mg/kg	250	B8E0907	05/09/2018	05/10/2018	
Benzene	3.91	0.050	"	25	"	"	05/09/2018	
Toluene	26.2	0.498	"	250	"	"	05/10/2018	
Ethylbenzene	9.79	0.498	"	"	"	"	"	
Xylenes, total	35.7	0.498	"	"	"	"	"	
Naphthalene	2.31	0.175	"	25	"	"	05/09/2018	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	108 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	70-130			"	"	05/10/2018	

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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
Blank (B8E0907-BLK1)										
Prepared: 05/09/2018 Analyzed: 05/09/2018										
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.007	"							U
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		105	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
Blank (B8E0907-BLK2)					Prepared: 05/09/2018 Analyzed: 05/10/2018					
Gasoline Range Hydrocarbons	ND	0.200	mg/kg							U
Benzene	ND	0.002	"							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Naphthalene	ND	0.007	"							U
Surrogate: 1,2-Dichloroethane-d4	68		ug/kg	62.5		109	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
LCS (B8E0907-BS1)					Prepared: 05/09/2018 Analyzed: 05/09/2018					
Benzene	0.109	0.002	mg/kg	0.100		109	70-130			
Toluene	0.108	0.002	"	0.100		108	70-130			
Ethylbenzene	0.110	0.002	"	0.100		110	70-130			
m,p-Xylene	0.206	0.004	"	0.200		103	70-130			
o-Xylene	0.105	0.002	"	0.100		105	70-130			
Naphthalene	0.098	0.007	"	0.100		97.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.4	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 - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
LCS (B8E0907-BS2)					Prepared: 05/09/2018 Analyzed: 05/10/2018					
Benzene	0.114	0.002	mg/kg	0.100		114	70-130			
Toluene	0.112	0.002	"	0.100		112	70-130			
Ethylbenzene	0.115	0.002	"	0.100		115	70-130			
m,p-Xylene	0.215	0.004	"	0.200		108	70-130			
o-Xylene	0.110	0.002	"	0.100		110	70-130			
Naphthalene	0.094	0.007	"	0.100		94.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.2	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Martin C Eckert III

Project Number: [none]

Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)

Matrix Spike (B8E0907-MS1)		Source: Y805148-04			Prepared: 05/09/2018 Analyzed: 05/09/2018					
Benzene	0.269	0.002	mg/kg	0.100	0.006	263	70-130			QM-07
Toluene	0.113	0.002	"	0.100	0.001	112	70-130			
Ethylbenzene	0.125	0.002	"	0.100	ND	125	70-130			
m,p-Xylene	0.232	0.004	"	0.200	0.002	115	70-130			
o-Xylene	0.110	0.002	"	0.100	ND	110	70-130			
Naphthalene	0.094	0.007	"	0.100	ND	93.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	59		"	62.5		94.8	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)

Matrix Spike (B8E0907-MS2)		Source: Y805151-01			Prepared: 05/09/2018 Analyzed: 05/09/2018					
Benzene	0.111	0.002	mg/kg	0.100	ND	111	70-130			
Toluene	0.108	0.002	"	0.100	ND	108	70-130			
Ethylbenzene	0.106	0.002	"	0.100	ND	106	70-130			
m,p-Xylene	0.196	0.004	"	0.200	ND	98.0	70-130			
o-Xylene	0.101	0.002	"	0.100	ND	101	70-130			
Naphthalene	0.096	0.007	"	0.100	ND	95.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

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Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
Matrix Spike Dup (B8E0907-MSD1)		Source: Y805148-04			Prepared: 05/09/2018 Analyzed: 05/09/2018					
Benzene	0.243	0.002	mg/kg	0.100	0.006	237	70-130	10.2	20	QM-07
Toluene	0.114	0.002	"	0.100	0.001	113	70-130	0.968	20	
Ethylbenzene	0.121	0.002	"	0.100	ND	121	70-130	2.57	20	
m,p-Xylene	0.227	0.004	"	0.200	0.002	112	70-130	2.26	20	
o-Xylene	0.107	0.002	"	0.100	ND	107	70-130	2.10	20	
Naphthalene	0.093	0.007	"	0.100	ND	93.4	70-130	0.449	20	
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0907 - EPA 5030 (soil)										
Matrix Spike Dup (B8E0907-MSD2)		Source: Y805151-01			Prepared: 05/09/2018 Analyzed: 05/09/2018					
Benzene	0.106	0.002	mg/kg	0.100	ND	106	70-130	4.63	20	
Toluene	0.104	0.002	"	0.100	ND	104	70-130	3.60	20	
Ethylbenzene	0.107	0.002	"	0.100	ND	107	70-130	1.13	20	
m,p-Xylene	0.197	0.004	"	0.200	ND	98.5	70-130	0.540	20	
o-Xylene	0.102	0.002	"	0.100	ND	102	70-130	0.907	20	
Naphthalene	0.095	0.007	"	0.100	ND	95.1	70-130	0.503	20	
Surrogate: 1,2-Dichloroethane-d4	63		ug/kg	62.5		100	70-130			
Surrogate: Toluene-d8	60		"	62.5		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		103	70-130			

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Martin C Eckert III
Project Number: [none]
Project: Noble - Wells Ranch AE32 Econode

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 B8E0903 - EPA 3550B

Blank (B8E0903-BLK1)

Prepared: 05/09/2018 Analyzed: 05/09/2018

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

47	"	50.0	95.0	59-131
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Blank (B8E0903-BLK2)

Prepared: 05/09/2018 Analyzed: 05/09/2018

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

48	"	50.0	96.8	59-131
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LCS (B8E0903-BS1)

Prepared: 05/09/2018 Analyzed: 05/09/2018

Diesel (C10-C28)	996	50.0	mg/kg	1000	99.6	64-121
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Surrogate: o-Terphenyl

55	"	50.0	109	59-131
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LCS (B8E0903-BS2)

Prepared: 05/09/2018 Analyzed: 05/09/2018

Diesel (C10-C28)	975	50.0	mg/kg	1000	97.5	64-121
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Surrogate: o-Terphenyl

59	"	50.0	117	59-131
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Matrix Spike (B8E0903-MS1)

Source: Y805128-02

Prepared: 05/09/2018 Analyzed: 05/10/2018

Diesel (C10-C28)	1070	50.0	mg/kg	1000	25.5	104	53-125
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Surrogate: o-Terphenyl

57	"	50.0	114	59-131
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Matrix Spike (B8E0903-MS2)

Source: Y805148-04

Prepared: 05/09/2018 Analyzed: 05/09/2018

Diesel (C10-C28)	979	50.0	mg/kg	1000	ND	97.9	53-125
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Surrogate: o-Terphenyl

49	"	50.0	98.0	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 - Wells Ranch AE32 Econode

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 B8E0903 - EPA 3550B

Matrix Spike Dup (B8E0903-MSD1)		Source: Y805128-02			Prepared: 05/09/2018 Analyzed: 05/10/2018					
Diesel (C10-C28)	974	50.0	mg/kg	1000	25.5	94.8	53-125	9.41	20	
Surrogate: o-Terphenyl	63		"	50.0		126	59-131			
Matrix Spike Dup (B8E0903-MSD2)		Source: Y805148-04			Prepared: 05/09/2018 Analyzed: 05/09/2018					
Diesel (C10-C28)	963	50.0	mg/kg	1000	ND	96.3	53-125	1.70	20	
Surrogate: o-Terphenyl	51		"	50.0		102	59-131			

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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Wells Ranch AE32 Econode

Notes and Definitions

U Sample is Non-Detect.

S-DUP Duplicate analysis confirmed surrogate failure due to matrix effects.

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.

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