



April 25, 2016

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

**RE: Soil Boring and Groundwater Assessment Report
 Coleman #22-7I4
 Flow Line Release
 40.303420 / -104.533883
 SW1/4 NE1/4 SEC.22 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-17861**

Dear Mr. Evans,

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

1.0 SITE BACKGROUND

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 an unintentional release from a flow line between the Coleman #22-7I4 well and Coleman #22-7I4 tank battery. On December 4, 2015, EAGLE installed seven monitoring wells around the unintentional release area. Soil and groundwater samples were collected from each location and submitted for laboratory analysis.

Soil and groundwater samples were collected to determine if adsorbed petroleum hydrocarbon impacts existed above Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 regulatory limits.

The following narrative details monitoring well installation and assessment activities completed at the site.

2.0 SITE DESCRIPTION

The Coleman #22-7I4 site is located within the southwest quarter of the northeast quarter of Section 22, Township 4 north, Range 64 west of the 6th Prime Meridian. The flow line release was located at latitude: 40.303420 and longitude: -104.533883. A topographic site location map is presented as Figure 1. An aerial site location map is presented as Figure 2.

2.1 Site Hydrogeology

The soil lithology observed beneath the release location, consists of a soft, silty clay from the surface to approximately 5 feet below ground surface (bgs), underlain by a loose, clayey sand from 5 feet bgs to approximately 15 feet bgs. Depth to groundwater was observed during installation activities at a depth of

approximately 6 feet bgs. A detailed description of the subsurface lithology beneath the site is presented within the boring logs included in Attachment A.

3.0 SOIL BORING ADVANCEMENT/MONITORING WELL INSTALLATION ACTIVITIES

To assess dissolved BTEX impacts associated with the flow line release, EAGLE proposed seven (7) monitoring well locations to Noble on November 20, 2015. Following Noble approval, EAGLE scheduled monitoring well installation activities for December 4, 2015.

3.1 Field Work Preparation and Planning

The Utility Notification Center of Colorado (UNCC) was called at least 48 hours in advance of drilling activities to confirm that no unmarked utilities or other obstacles were present within the proposed drilling locations. Tier II facility owners were also contacted to confirm the necessary buried utility notifications were completed. Prior to installation, select locations were potholed by Energes Oilfield Solutions (Energes) to ensure proposed locations were free of any unmarked, underground facilities.

3.2 Soil Boring Advancement/Monitoring Well Completion Activities

On December 4, 2015, a total of seven (7) soil borings (MW-01 through MW-07) were advanced around the flow line release area. Following advancement activities, each soil boring was completed as a 1-inch, groundwater monitoring well to define the extents of dissolved petroleum hydrocarbon impacts beneath the site. Soil boring advancement/monitoring well installation activities were completed by EAGLE using a 7822DT Series Geoprobe track rig.

Each location was logged in the field according to soil description, soil classification, moisture content, staining, and VOC concentrations. Monitoring wells, MW-01 through MW-04, MW-06, and MW-07, were each completed with 1-inch, schedule 40, poly vinyl chloride (PVC) pipe to a total depth of approximately 12.5 feet bgs. Monitoring well MW-05 was completed with 1-inch, schedule 40, poly vinyl chloride (PVC) pipe to a total depth of approximately 15 feet. Ten feet of 0.010 slot, 1-inch, PVC screen was placed at the bottom of the boring followed by five feet of PVC riser. The well annulus was backfilled with 10/20 silica sand to approximately 2 feet above the screened section followed by a hydrated bentonite seal to the surface.

All monitoring wells (MW-01 through MW-07) were completed as 2.5-foot PVC stick ups. Following monitoring well completion, each monitoring well was developed through purging each location a minimum of ten well volumes using disposable PVC bailers. EAGLE also recorded spatial locations of each monitoring well using a Trimble GeoXT 6000 series instrument.

Soil boring logs/monitoring well completion diagrams are included in Attachment A. Monitoring well locations are presented in Figure 3.

3.3 Soil Sampling Procedures

During soil boring advancement/monitoring well installation activities, soil samples were collected continuously within 5-foot, plastic sample liners. The samples within the plastic liners were separated in 2.5-foot intervals for soil identification and analysis. A portion from each interval was placed in a sealable plastic bag, for VOC headspace analysis utilizing a field calibrated PID. Another portion of the soil sample was placed in a 2-ounce glass jar and packed in an iced cooler for laboratory analysis.

Based on PID reading and sample location above the observed saturated zone, one soil sample from each boring (MW-01 through MW-07) were submitted to Origins Laboratory, Inc. (Origins), located in Denver, Colorado, following standard chain of custody procedures, for laboratory analysis. Each soil sample was analyzed for BTEX, naphthalene, TPH-GRO, and TPH-DRO, following modified EPA Methods 8260c and 8015. The samples were transported in an iced cooler under standard chain-of-custody procedures to Origins, and were received within Quality Assurance/Quality Control (QA/QC) parameters.

3.4 Groundwater Sampling Procedures

Groundwater samples were collected from monitoring wells MW-01 through MW-07 on December 4, 2015. Prior to groundwater sample collection, depth to groundwater data was collected using a decontaminated interface probe capable of measuring the depth to groundwater or light non aqueous phase liquid (LNAPL) to an accuracy of 0.01 feet.

Groundwater samples were collected from each monitoring well in 40 milliliter (mL) amber vials and submitted for laboratory analysis of BTEX following EPA Method 8260C. The samples were transported in an iced cooler under standard chain-of-custody procedures to Origins, and were received within QA/QC parameters.

3.5 Laboratory Analytical Results

3.5.1 Soil Analytical Results

Based on laboratory analytical results:

- Soil samples collected from MW-01 (0.439 (milligrams per kilogram (mg/kg)) and MW-07 (0.245 mg/kg) contained concentrations of benzene exceeding the COGCC Table 910-1 regulatory limit of 0.17 mg/kg.
- Soil samples collected from the remaining monitoring wells did not contain concentrations of BTEX, naphthalene, TPH-GRO, and TPH-DRO exceeding their respective COGCC Table 910-1 regulatory limits and/or laboratory reporting limits.

Soil analytical results are summarized in Table 1 and included in Figure 3. The soil sample laboratory analytical reports are included in Attachment B.

3.5.2 Groundwater Analytical Results

Based on laboratory analytical results:

- Groundwater samples collected from MW-01 (621 µg/L), MW-02 (647 µg/L), MW-04 (5.8 µg/L), MW-05 (301 µg/L), MW-06 (17.1 µg/L), and MW-07 (3,130 µg/L) contained concentrations of benzene exceeding the COGCC Table 910-1 regulatory limit of 5 micrograms per liter (µg/L).
- Groundwater samples collected from MW-01 (5,570 µg/L), MW-02 (6,550 µg/L), and MW-07 (5,050 µg/L) contained concentrations of total xylenes exceeding the COGCC Table 910-1 regulatory limit of 1,400 µg/L.

- Monitoring well MW-03 did not contain concentrations of BTEX exceeding applicable COGCC Table 910-1 regulatory limits.

Groundwater analytical results are summarized in Table 2 and presented in Figure 4. The groundwater laboratory analytical reports are included in Attachment B.

4.0 1ST QUARTER 2016 GROUNDWATER SAMPLING ACTIVITIES

On March 2, 2016, EAGLE completed 1st quarter 2016 groundwater sampling at the site. EAGLE gauged and collected groundwater samples from monitoring wells MW-01 through MW-07. Prior to groundwater sample collection, depth to groundwater data was collected using a decontaminated interface probe capable of measuring the depth to groundwater or light non aqueous phase liquid (LNAPL) to an accuracy of 0.01 feet.

Groundwater elevations were measured for all monitoring wells on March 2, 2016. Relative groundwater elevations within each monitoring well ranged from 91.58 (MW-06) and 92.17 (MW-05). The groundwater flow direction beneath the site during 1st quarter 2016 groundwater sampling activities was predominantly to the north-northwest, with an average hydraulic gradient of 0.0026 feet per foot across the site (measured from MW-05 to MW-07).

All groundwater samples were transported in an iced cooler to Origins and submitted for laboratory analysis of BTEX following EPA Method 8260C.

Based on laboratory analytical results:

- Groundwater samples collected from MW-01 (2,690 µg/L), MW-02 (732 µg/L), MW-05 (383 µg/L), MW-06 (34.1 µg/L) and MW-07 (6,120 µg/L) contained concentrations of benzene exceeding the COGCC Table 910-1 regulatory limit of 5 µg/L.
- Groundwater samples collected from MW-01 (4,660 µg/L), MW-02 (5,300 µg/L), and MW-07 (4,360 µg/L) contained concentrations of total xylenes exceeding the COGCC Table 910-1 regulatory limit of 1,400 µg/L.
- Monitoring wells MW-03 and MW-04 did not contain concentrations of BTEX exceeding applicable COGCC Table 910-1 regulatory limits and currently serve as point of compliance (POC) wells at the site.

Groundwater analytical results are summarized in Table 2 and included in Figure 4. Groundwater elevation data is summarized in Table 3 and presented in Figure 5. The March 2, 2016 groundwater laboratory report is presented in Attachment B.

5.0 CONCLUSIONS

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

- On December 4, 2015, EAGLE installed seven (7) groundwater monitoring wells (MW-01 through MW-07) at the site.
- Soil samples collected from MW-01@5-6' and MW-07@5-6' contained concentrations of benzene exceeding their COGCC Table 910-1 regulatory limits.

- Groundwater samples collected on March 2, 2016 from MW-01, MW-02, MW-05, MW-06, and MW-07 contained concentrations of benzene exceeding the COGCC Table 910-1 regulatory limit.

6.0 RECOMMENDATIONS

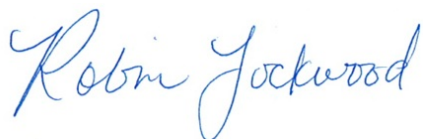
Based on the information presented in this report, EAGLE recommends the following:

- Continue quarterly groundwater sampling activities.
- Complete air sparge/soil vapor extraction (AS/SVE) pilot testing activities, to determine whether the technology is a viable remedial option for full-scale implementation.
- Complete additional characterization activities to obtain POC where soil and groundwater analyticals exceed COGCC Table 910-1 regulatory limits.

EAGLE sincerely appreciates the opportunity to provide our services. If you have any questions or require further information, please contact us at (303) 433-0479.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.



Robin Lockwood
Project Scientist



Martin Eckert III
Senior Project Manager

FIGURES

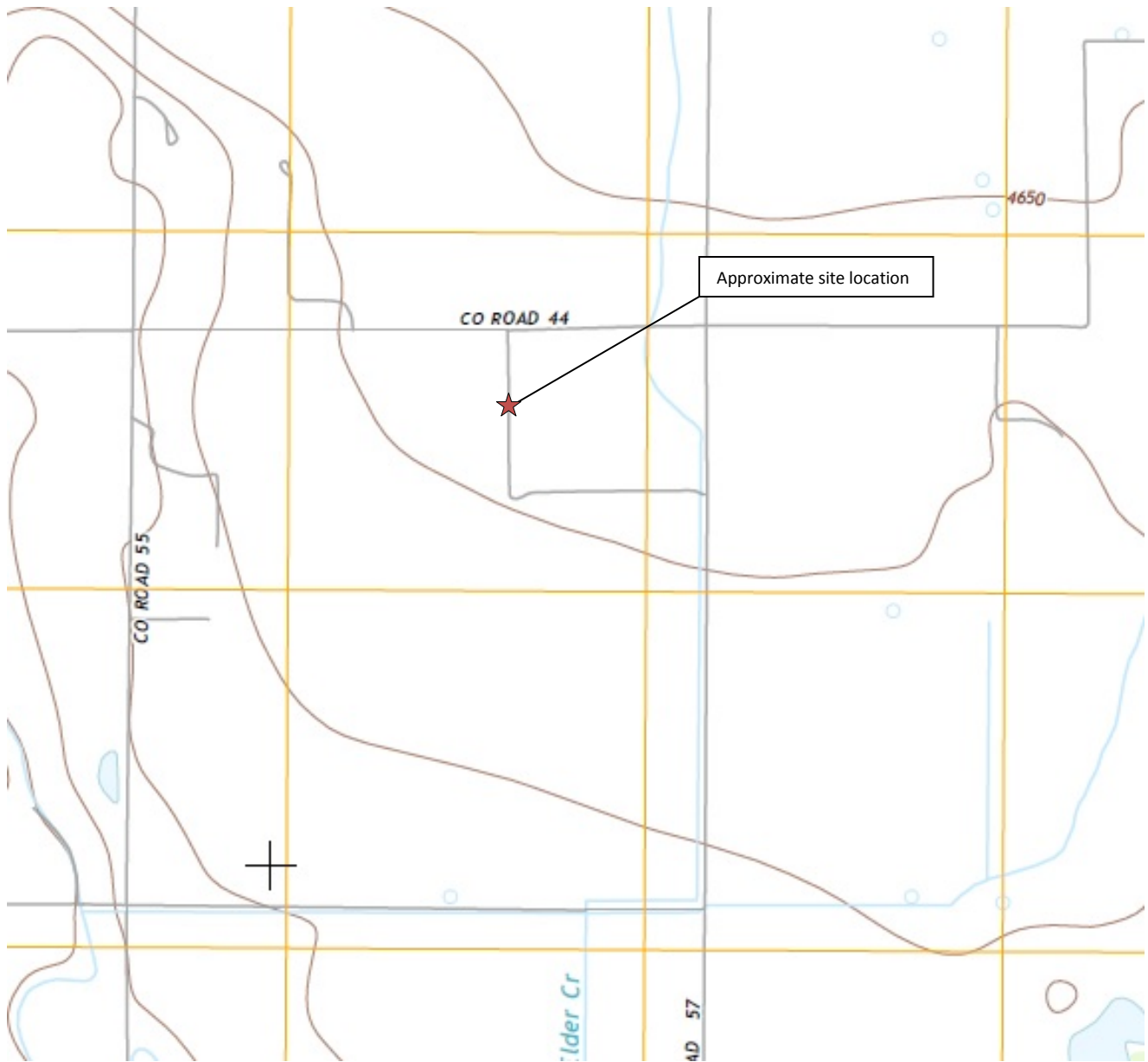
Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Monitoring Well Soil Analytical Map

Figure 4: Groundwater Sample Location Map

Figure 5: Groundwater Elevation Map



Topographic Site Location Map

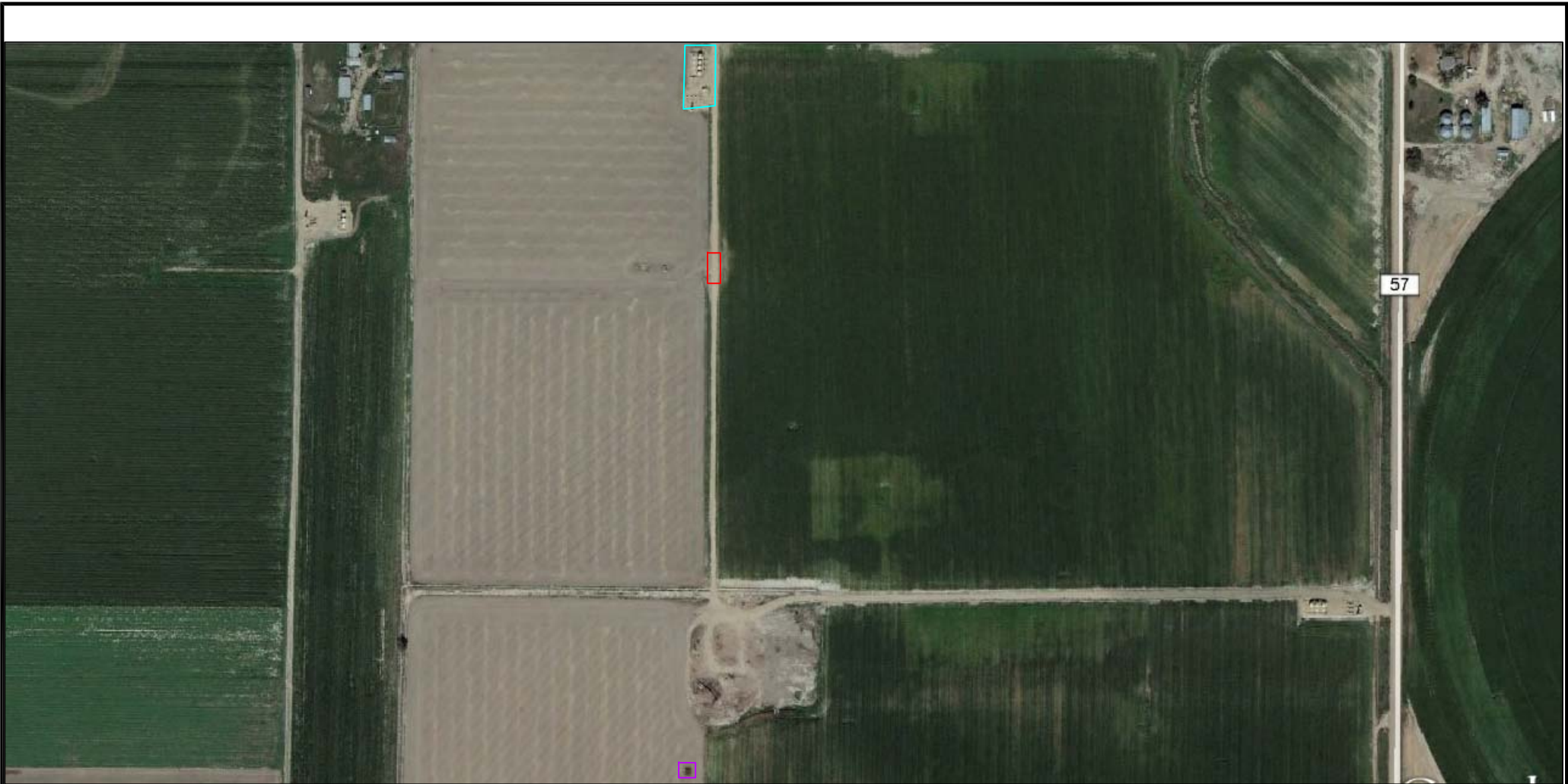
Coleman #22-714
Flow Line Release
40.303420/-104.533883
SW¼ NE¼ SEC.22 T4N R64W 6PM
Weld County, Colorado
API # 05-123-17861



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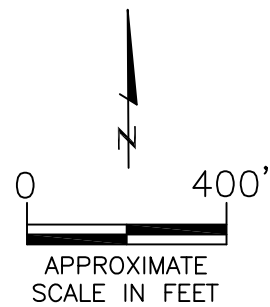
Source: USGS 7.5 Minute Topographic
Map, Valley View School, CO
Quadrangle 2013

Figure 1



LEGEND

- COLEMAN #22-714 TANK BATTERY
- COLEMAN #22-714 WELL HEAD (40.29978 / -104.53409)
- APPROXIMATE LOCATION OF FLOW LINE RELEASE (40.303420 / -104.533883)



AERIAL SITE LOCATION MAP
 COLEMAN #22-714
 FLOW LINE RELEASE
 40.303420 / -104.533883
 SW1/4 NE1/4 SEC.22 T4N R64W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-17861

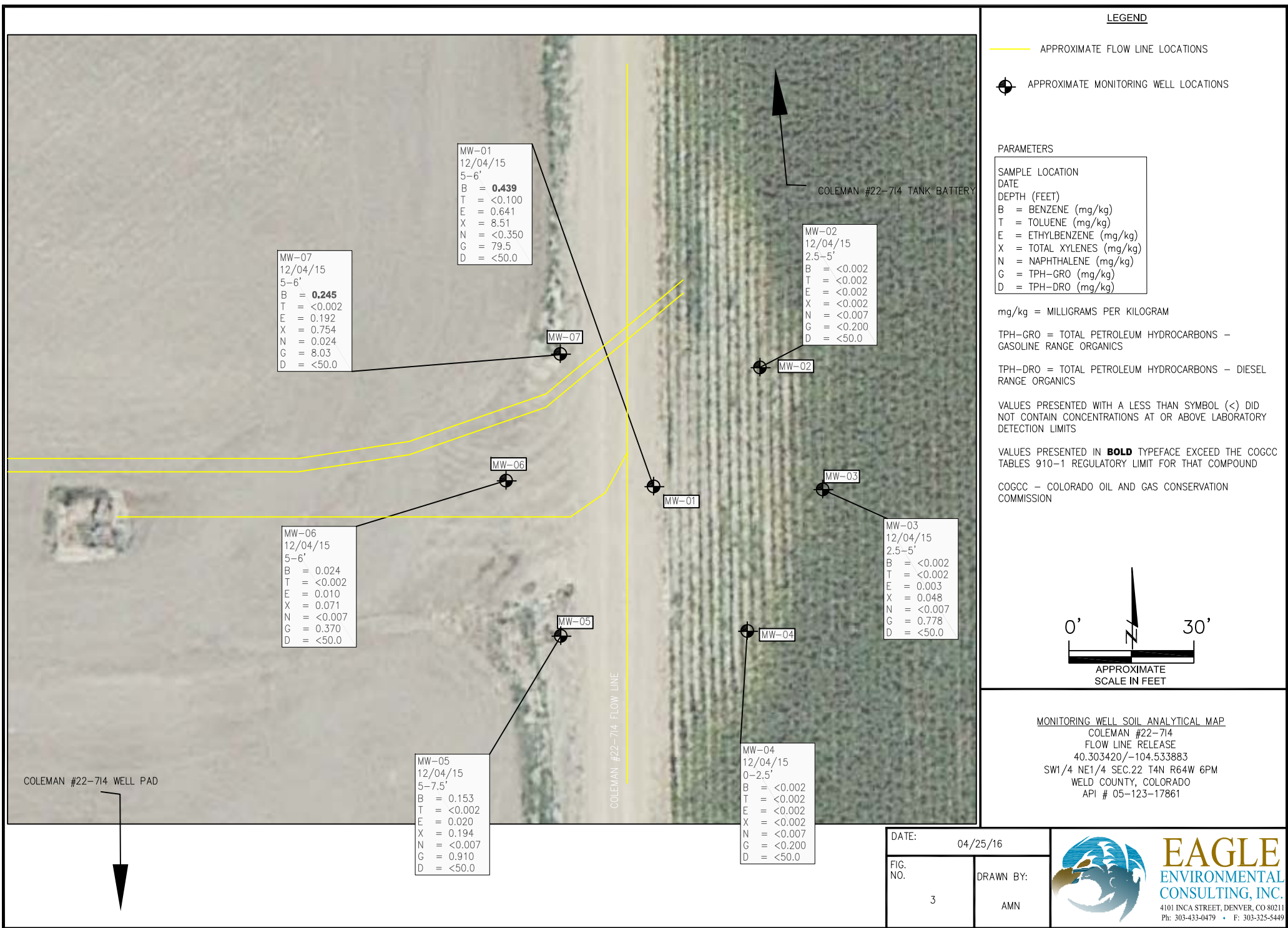
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12/08/15

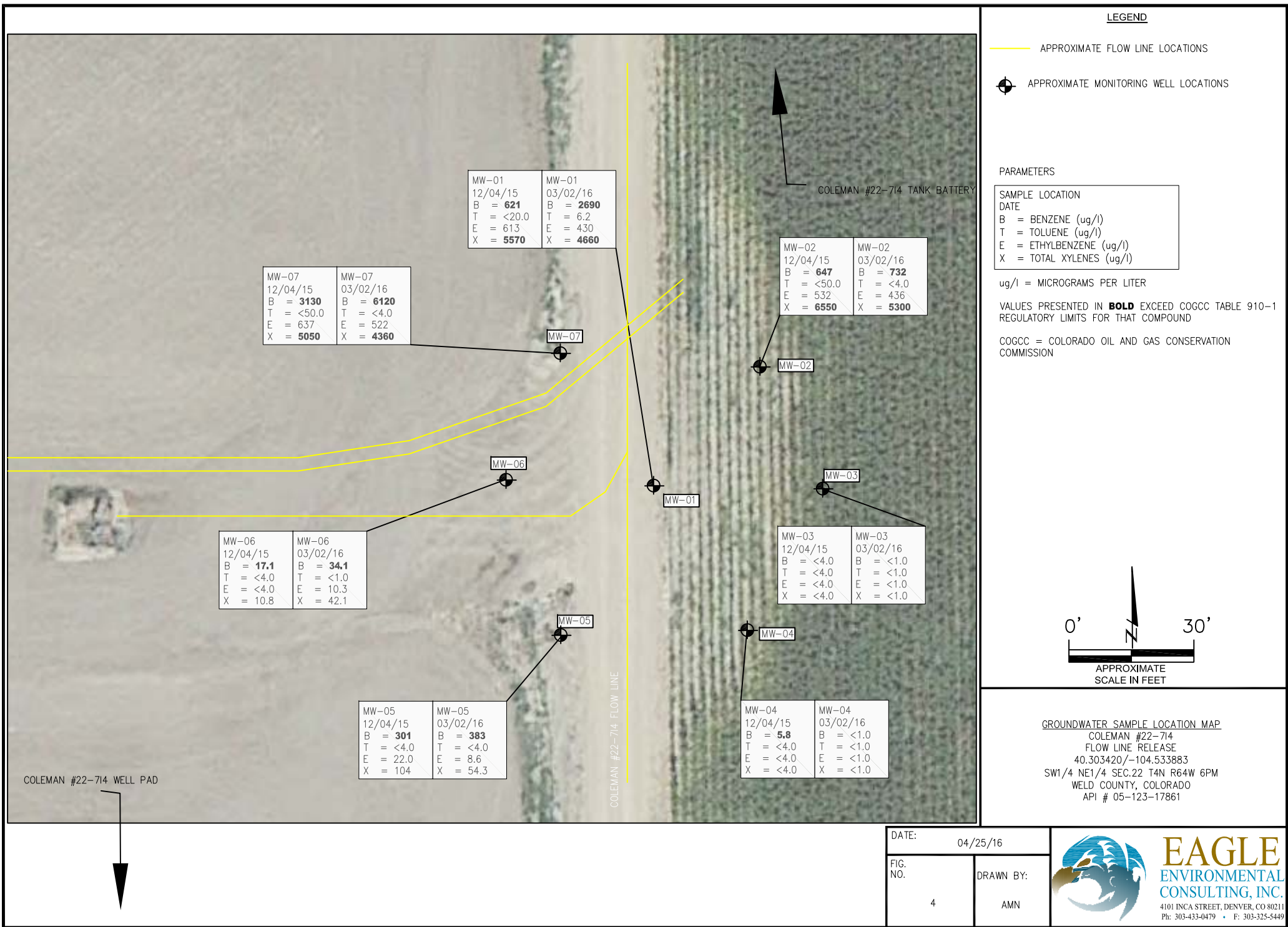
FIG. NO.
2

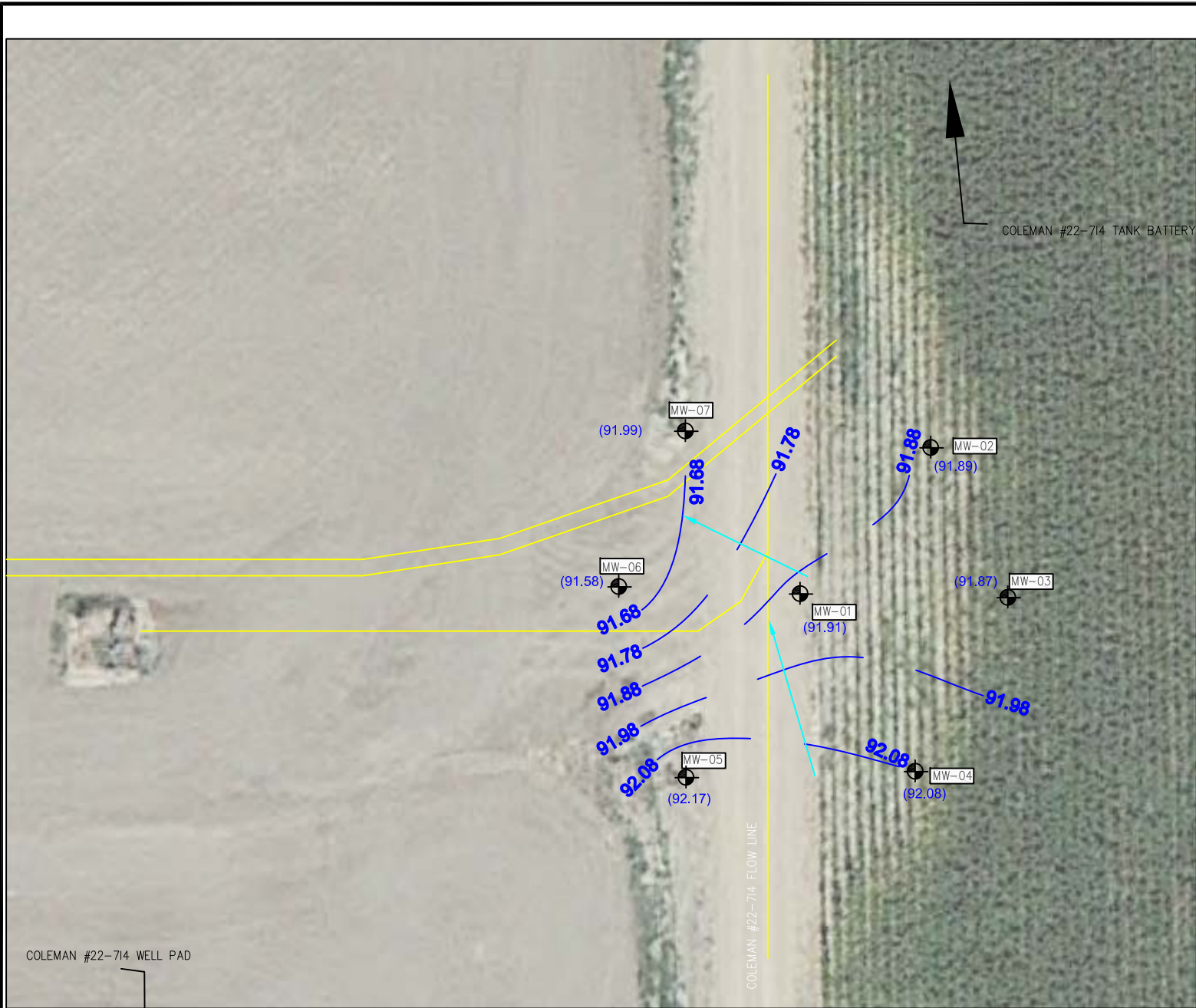
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LEGEND

— APPROXIMATE FLOW LINE LOCATIONS

⊕ APPROXIMATE MONITORING WELL LOCATIONS

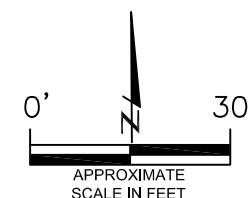
(4748.25) GROUNDWATER ELEVATION (FT.)

- - - INFERRED GROUNDWATER ELEVATION CONTOUR (FT.)

→ APPROXIMATE GROUNDWATER FLOW DIRECTION

FT. = FEET

NOTE:
GROUNDWATER ELEVATION DATA COLLECTED FROM MONITORING WELL MW-07 WAS NOT USED IN CONSTRUCTION OF INFERRED GROUNDWATER ELEVATION CONTOURS.



GROUNDWATER ELEVATION MAP
COLEMAN #22-714
FLOW LINE RELEASE
40.303420/-104.533883
SW1/4 NE1/4 SEC.22 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-17861

COLEMAN #22-714 WELL PAD

DATE: 04/25/16

FIG. NO.

5

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TABLES

Table 1: Soil Analytical Results Summary

Table 2: Groundwater Analytical Results Summary

Table 3: Groundwater Elevation Summary

TABLE 1
SOIL ANALYTICAL RESULTS SUMMARY
COLEMAN #22-714
FLOW LINE RELEASE
40.303420 / -104.533883
SW¼ NE¼ SEC.22 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-17861

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)
COGCC Table 910-1 Regulatory Limits (mg/kg)			0.17	85	100	175	23	500	
MW-01 @ 5-6' 40.3034277582 / -104.533862701	12/04/15	5.0-6.0	0.439	<0.100	0.641	8.51	<0.350	79.5	<50.0
MW-02 @ 2.5-5' 40.3035163972 / -104.533776068	12/04/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
MW-03 @ 2.5-5' 40.3034277512 / -104.533695732	12/04/15	2.5-5	<0.002	<0.002	0.003	0.048	<0.007	0.778	<50.0
MW-04 @ 0-2.5' 40.3033333832 / -104.533779744	12/04/15	0-2.5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0
MW-05 @ 5-7.5' 40.3033351652 / -104.533940683	12/04/15	5-7.5	0.153	<0.002	0.020	0.194	<0.007	0.910	<50.0
MW-06 @ 5-6' 40.303436372 / -104.533986901	12/04/15	5.0-6.0	0.024	<0.002	0.010	0.071	<0.007	0.370	<50.0
MW-07 @ 5-6' 40.3035263682 / -104.533942406	12/04/15	5.0-6.0	0.245	<0.002	0.192	0.754	0.024	8.03	<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 the COGCC Table 910-1 regulatory limits
Note: Values presented with a less than symbol (<) did not contain concentrations at or above laboratory detection limits.



TABLE 2
GROUNDWATER ANALYTICAL RESULTS SUMMARY
COLEMAN #22-714
FLOW LINE RELEASE
40.303420 / -104.533883
SW¼ NE¼ SEC.22 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-17861

Sample Location (Latitude/Longitude)	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Table 910-1 Regulatory Limits (µg/L)		5	560	700	1400
MW-01 (40.3034277582 / -104.533862701)	12/04/15	621	<20.0	613	5570
	03/02/16	2690	6.2	430	4660
MW-02 (40.3035163972 / -104.533776068)	12/04/15	647	<50.0	532	6550
	03/02/16	732	<4.0	436	5300
MW-03 (40.3034277512 / -104.533695732)	12/04/15	<4.0	<4.0	<4.0	<4.0
	03/02/16	<1.0	<1.0	<1.0	<1.0
MW-04 (40.3033333832 / -104.533779744)	12/04/15	5.8	<4.0	<4.0	<4.0
	03/02/16	<1.0	<1.0	<1.0	<1.0
MW-05 (40.3033351652 / -104.533940683)	12/04/15	301	<4.0	22.0	104
	03/02/16	383	<4.0	8.6	54.3
MW-06 (40.303436372 / -104.533986901)	12/04/15	17.1	<4.0	<4.0	10.8
	03/02/16	34.1	<1.0	10.3	42.1
MW-07 (40.3035263682 / -104.533942406)	12/04/15	3130	<50.0	<50.0	5050
	03/02/16	6120	<4.0	552	4360
COGCC = Colorado Oil and Gas Conservation Commission µg/L - micrograms per liter Note: Values presented with a less than symbol (<) indicate concentrations were not observed at or above the laboratory reporting limit. Values presented in bold typeface exceed their respective COGCC - Regulatory Limits (Table 910-1).					



TABLE 3
GROUNDWATER ELEVATION SUMMARY
COLEMAN #22-714
FLOW LINE RELEASE
40.303420 / -104.533883
SW¼ NE¼ SEC.22 T4N R64W 6PM
WELD COUNTY, COLORADO
API # 05-123-17861

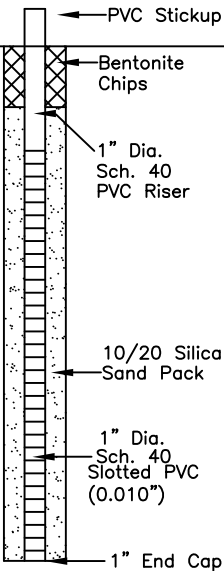
Sample Location (Latitude/Longitude)	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-01 (40.3034277582 / -104.533862701)	12/04/15	99.85	6.11	93.74
	03/02/16		7.94	91.91
MW-02 (40.3035163972 / -104.533776068)	12/04/15	99.24	5.20	94.04
	03/02/16		7.35	91.89
MW-03 (40.3034277512 / -104.533695732)	12/04/15	98.78	4.81	93.97
	03/02/16		6.91	91.87
MW-04 (40.3033333832 / -104.533779744)	12/04/15	99.45	5.43	94.02
	03/02/16		7.37	92.08
MW-05 (40.3033351652 / -104.533940683)	12/04/15	99.57	6.93	92.64
	03/02/16		7.40	92.17
MW-06 (40.303436372 / -104.533986901)	12/04/15	98.48	6.18	92.30
	03/02/16		6.90	91.58
MW-07 (40.3035263682 / -104.533942406)	12/04/15	100.00	6.37	93.63
	03/02/16		8.01	91.99
NOTES:				

ATTACHMENT A

Boring Logs and Monitoring Well Completion Diagrams

Boring Log/Well Completion Diagram: MW-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	(0-5') Pothole									
5	(5-12.5') clayey SAND - gray, moist-wet, loose, fine grained, poorly graded, w/ 15-40% clay, strong odor, gray HC staining @6.5' - wet	SC	GP	1	80	119.2	N/A	5		
						401.1				
10	@11.5' - SI/O, slight staining					108.8	N/A	10		
			GP	2	40	33.2				
15	BoB @ 12.5'							15		HC - Hydrocarbon BoB - Bottom of Boring N/O - no odor N/S - no staining TOC - top of casing bgs - below ground surface
20								20		
25								25		
30										

START/COMPLETION DATE: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1400/1436

SAMPLE COLLECTION DEPTH (FEET)/TIME: 5-6'/1421



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Boring Log/Well Completion Diagram: MW-02

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	(0-5') clayey SILT - brown, moist, soft, moderate plasticity, poorly graded, w/ 30% clay SI/O, slight gray HC staining	ML	GP	1	80	4.8	N/A			
						13.2				
5	(5-12.5') silty clayey SAND - grayish brown, very moist to wet, loose, fine grained, poorly graded, w/ 30% clay and trace silt, strong odor and gray HC staining	SC	GP	2	60	247.8	N/A			
						79.6				
10	@10' - clayey SAND, 5% clay, brown, SI/O		GP	3	25	4.1	N/A			
	BoB @ 12.5'									
15										
20										
25										
30										

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: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1010/1040

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1020

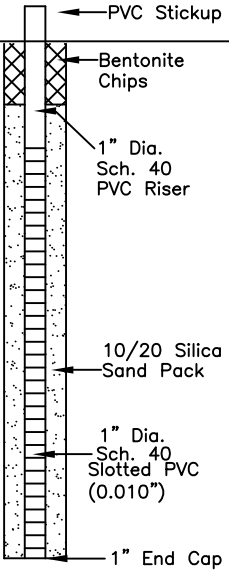


EAGLE
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Boring Log/Well Completion Diagram: MW-03

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	(0-5') clayey SILT/silty CLAY - brown, moist, soft, moderate plasticity, poorly graded, w/ 50/50 clay and silt	CL ML	GP	1	50	4.9	N/A			
						22.7				
5	(5-12.5') silty clayey SAND - brown, wet, loose, fine grained, poorly graded, w/ 20% clay and trace silt, slight odor and N/S	SC	GP	2	80	11.6	N/A			
						4.7				
10	@10' - N/O		GP	3	30	0.5	N/A			
15	BoB @ 12.5'									
20										
25										
30										

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: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1055/1130

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1110

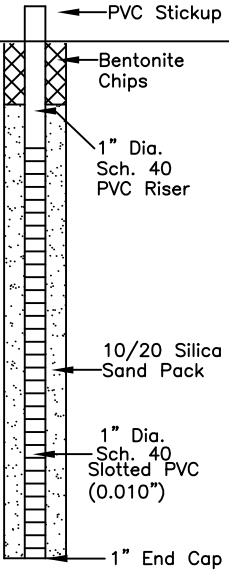


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Boring Log/Well Completion Diagram: MW-04

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	(0-4.5') silty CLAY - brown, moist, soft, moderate plasticity, poorly graded, w/ 20% silt, N/O N/S	CL	GP	1	40	6.5	N/A			
						5.5				
5	(4.5-12.5') clayey SAND - brown, wet, loose, fine grained, poorly graded, w/ 10-30% clay, N/O, N/S	SC	GP	2	80	3.9	N/A	5		
						1.1				
10			GP	3	25	0.9	N/A	10		
15	BoB @ 12.5'							15		
20								20		
25								25		
30								30		

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: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1145/1230

SAMPLE COLLECTION DEPTH (FEET)/TIME: 0-2.5'/1200



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Boring Log/Well Completion Diagram: MW-05

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	(0-5') POT HOLE									
5	(5-11') silty CLAY - grayish brown, moist, soft, moderate-high plasticity, poorly graded with 10% silt N/O N/S	CL	GP	1	50	8.4	N/A	5		
10						0.9		10		
15	(11-15') clayey SAND - brown, wet, loose, fine to medium grained, poorly graded with 10% clay N/O N/S	SC	GP	2	75	0.3	N/A	15		
15	BoB @ 15'					0.1		15		
20								20		
25								25		
30								30		

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: 12/04/2015

SAND PACK INTERVAL (FEET): 3-15

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 1-3

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 5-15

DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 15

WELL DEPTH (FEET): 15

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 920/1000

SAMPLE COLLECTION DEPTH (FEET)/TIME: 5-7.5/935

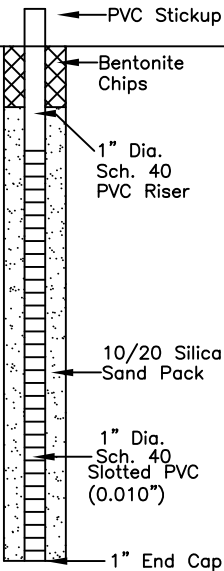


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Boring Log/Well Completion Diagram: MW-06

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	(0-5') Pothole									
5	(5-12.5') clayey SAND - gray, moist-wet, loose, fine grained, poorly graded, w/ 10-30% clay SI/O, slight HC staining	SC	GP	1	80	4.3	N/A	5		
10	@11.5' - SI/O, N/S @12.5' - N/O, N/S					17.5		10		
15	BoB @ 12.5'					11.2		15		
20								20		
25								25		
30								30		

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: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1235/1305

SAMPLE COLLECTION DEPTH (FEET)/TIME: 5-6'/1255

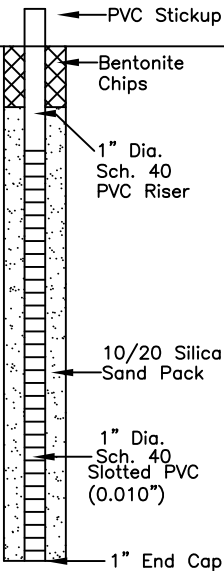


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Boring Log/Well Completion Diagram: MW-07

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	(0-5') Pothole									
5	(5-12.5') clayey SAND - gray, moist-wet, loose, fine grained, poorly graded, w/ 20-35% clay ST/O, slight gray HC staining	SC	GP	1	65	72.2	N/A	5		
10	@11' - SI/O, N/S					111.7		10		
	BoB @ 12.5'									
15								15		
20								20		
25								25		
30										

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: 12/04/2015

SAND PACK INTERVAL (FEET): 1.5-12.5

PROJECT: COLEMAN #22-714

BENTONITE/GROUT INTERVAL (FEET): 0-1.5

LOGGED BY: A. NEWBERRY

WELL SCREEN INTERVAL (FEET): 2.5-12.5

DRILLING COMPANY/EQUIPMENT: EECI/GEOPROBE

WELL DIAMETER (INCHES): 1

BORING DEPTH (FEET): 12.5

WELL DEPTH (FEET): 12.5

PID INSTRUMENT: MiniRAE 3000 - PID #6

TIME STARTED/COMPLETED: 1320/1351

SAMPLE COLLECTION DEPTH (FEET)/TIME: 5-6'/1332



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ATTACHMENT B

Laboratory Analytical Reports



December 08, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Coleman #22-714

Project Number - [none]

Attached are your analytical results for Noble - Coleman #22-714 received by Origins Laboratory, Inc. December 04, 2015. This project is associated with Origins project number X512075-01.

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 - Coleman #22-714

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01 @ 5-6'	X512075-01	Soil	December 4, 2015 14:21	12/04/2015 17:15
MW-02 @ 2.5-5'	X512075-02	Soil	December 4, 2015 10:20	12/04/2015 17:15
MW-03 @ 2.5-5'	X512075-03	Soil	December 4, 2015 11:10	12/04/2015 17:15
MW-04 @ 0-2.5'	X512075-04	Soil	December 4, 2015 12:00	12/04/2015 17:15
MW-05 @ 5-7.5'	X512075-05	Soil	December 4, 2015 9:35	12/04/2015 17:15
MW-06 @ 5-6'	X512075-06	Soil	December 4, 2015 12:55	12/04/2015 17:15
MW-07 @ 5-6'	X512075-07	Soil	December 4, 2015 13:32	12/04/2015 17:15

Per phone call with Andrew on 12/7/15, the TAT has been changed to 24 hours.

Per phone call with Andrew on 12/8/15, the project name has been changed to Noble-Coleman #22-714.

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 - Coleman #22-714

[illegible]

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 - Coleman #22-714

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: X512075

Client: Eagle Env.

Client Project ID: Noble - Valkens # 31-22

Checklist Completed by: J. E. Smith

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

Date/time completed: 12/7/11

Airbill #: N/A

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

Cooler Number/Temperature: 1 13.1 °C 1 °C 1 °C 1 °C (Describe)

Thermometer ID: TC03

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	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 ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		X		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	X			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation and was it checked ⁽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)			X	
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) J. E. Smith

Date/Time Reviewed 12/7/11

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 - Coleman #22-714

MW-01 @ 5-6'
12/4/2015 2:21:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	76.6 %	59-131			"	"	"
------------------------	--------	--------	--	--	---	---	---

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	79.5	5.00	mg/kg	25	B5L0702	12/07/2015	12/07/2015
Benzene	0.439	0.100	"	50	"	"	"
Toluene	ND	0.100	"	"	"	"	"
Ethylbenzene	0.641	0.100	"	"	"	"	"
Xylenes, total	8.51	0.100	"	"	"	"	"
Naphthalene	ND	0.350	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"
Surrogate: Toluene-d8	102 %	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 - Coleman #22-714

MW-02 @ 2.5-5'**12/4/2015 10:20:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.**X512075-02 (Soil)****Diesel Range Organics (DRO/TEPH) by EPA 8015C**

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
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Surrogate: o-Terphenyl	84.8 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B5L0702	12/07/2015	12/07/2015
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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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Napthalene	ND	0.007	"	"	"	"	"
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Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"
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Surrogate: Toluene-d8	96.3 %	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 - Coleman #22-714

MW-03 @ 2.5-5'

12/4/2015 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
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Surrogate: o-Terphenyl	63.0 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.778	0.200	mg/kg	1	B5L0702	12/07/2015	12/07/2015
Benzene	ND	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	0.003	0.002	"	"	"	"	"
Xylenes, total	0.048	0.002	"	"	"	"	"
Naphthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	107 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	95.2 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Martin C Eckert III
Project Number: [none]
Project: Noble - Coleman #22-714

MW-04 @ 0-2.5'

12/4/2015 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	90.7 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	B5L0702	12/07/2015	12/07/2015
-----------------------------	----	-------	-------	---	---------	------------	------------

Benzene	ND	0.002	"	"	"	"	"
---------	----	-------	---	---	---	---	---

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	97.9 %	70-130			"	"	"
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Surrogate: Toluene-d8	104 %	70-130			"	"	"
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Surrogate: 4-Bromofluorobenzene	94.6 %	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 - Coleman #22-714

MW-05 @ 5-7.5'
12/4/2015 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-05 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	76.2 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.910	0.200	mg/kg	1	B5L0702	12/07/2015	12/07/2015
Benzene	0.153	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	0.020	0.002	"	"	"	"	"
Xylenes, total	0.194	0.002	"	"	"	"	"
Naphthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	94.5 %	70-130			"	"	"
Surrogate: Toluene-d8	106 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.4 %	70-130			"	"	"

Origins Laboratory, Inc.



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

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Coleman #22-714

MW-06 @ 5-6'

12/4/2015 12:55:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-06 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
------------------	----	------	-------	---	---------	------------	------------

Surrogate: o-Terphenyl	74.1 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	0.370	0.200	mg/kg	1	B5L0702	12/07/2015	12/07/2015
Benzene	0.024	0.002	"	"	"	"	"
Toluene	ND	0.002	"	"	"	"	"
Ethylbenzene	0.010	0.002	"	"	"	"	"
Xylenes, total	0.071	0.002	"	"	"	"	"
Naphthalene	ND	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"
Surrogate: Toluene-d8	97.4 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	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.

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Coleman #22-714

MW-07 @ 5-6'
12/4/2015 1:32:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X512075-07 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	B5L0704	12/07/2015	12/07/2015
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Surrogate: o-Terphenyl	86.6 %	59-131			"	"	"
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GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	8.03	1.00	mg/kg	5	B5L0702	12/07/2015	12/07/2015
Benzene	0.245	0.010	"	"	"	"	"
Toluene	ND	0.002	"	1	"	"	12/07/2015
Ethylbenzene	0.192	0.002	"	"	"	"	"
Xylenes, total	0.754	0.002	"	"	"	"	"
Napthalene	0.024	0.007	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	87.4 %	70-130			"	"	12/07/2015
Surrogate: Toluene-d8	105 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	93.8 %	70-130			"	"	"

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Coleman #22-714

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 B5L0702 - EPA 5030 (soil)

Blank (B5L0702-BLK1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

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	66		ug/kg	62.5		106	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.6	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	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 - Coleman #22-714

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 B5L0702 - EPA 5030 (soil)

LCS (B5L0702-BS1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

Benzene	0.089	0.002	mg/kg	0.100		89.3	70-130			
Toluene	0.088	0.002	"	0.100		88.4	70-130			
Ethylbenzene	0.090	0.002	"	0.100		89.6	70-130			
m,p-Xylene	0.181	0.004	"	0.200		90.6	70-130			
o-Xylene	0.090	0.002	"	0.100		90.4	70-130			
Naphthalene	0.096	0.007	"	0.100		95.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	64		ug/kg	62.5		102	70-130			
Surrogate: Toluene-d8	62		"	62.5		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	70-130			

Origins Laboratory, Inc.



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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 - Coleman #22-714

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 B5L0702 - EPA 5030 (soil)										
Matrix Spike (B5L0702-MS1)		Source: X512075-06			Prepared: 12/07/2015 Analyzed: 12/07/2015					
Benzene	0.100	0.002	mg/kg	0.100	0.024	75.6	70-130			
Toluene	0.076	0.002	"	0.100	ND	75.6	70-130			
Ethylbenzene	0.092	0.002	"	0.100	0.010	82.5	70-130			
m,p-Xylene	0.211	0.004	"	0.200	0.051	80.0	70-130			
o-Xylene	0.100	0.002	"	0.100	0.020	79.6	70-130			
Naphthalene	0.062	0.007	"	0.100	ND	62.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	67		ug/kg	62.5		107	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	70-130			
Surrogate: 4-Bromofluorobenzene	68		"	62.5		109	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 - Coleman #22-714

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 B5L0702 - EPA 5030 (soil)										
Matrix Spike Dup (B5L0702-MSD1)			Source: X512075-06		Prepared: 12/07/2015 Analyzed: 12/07/2015					
Benzene	0.106	0.002	mg/kg	0.100	0.024	81.3	70-130	5.58	20	
Toluene	0.082	0.002	"	0.100	ND	82.2	70-130	8.42	20	
Ethylbenzene	0.096	0.002	"	0.100	0.010	86.1	70-130	3.79	20	
m,p-Xylene	0.228	0.004	"	0.200	0.051	88.7	70-130	7.87	20	
o-Xylene	0.107	0.002	"	0.100	0.020	86.6	70-130	6.78	20	
Naphthalene	0.074	0.007	"	0.100	ND	73.9	70-130	17.5	20	
Surrogate: 1,2-Dichloroethane-d4	65		ug/kg	62.5		103	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.5	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 - Coleman #22-714

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 B5L0704 - EPA 3580

Blank (B5L0704-BLK1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	45		"	50.0		90.0	59-131			

LCS (B5L0704-BS1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

Diesel (C10-C28)	987	50.0	mg/kg	1000		98.7	64-121			
Surrogate: o-Terphenyl	54		"	50.0		107	59-131			

Matrix Spike (B5L0704-MS1)

Source: X512075-06

Prepared: 12/07/2015 Analyzed: 12/07/2015

Diesel (C10-C28)	839	50.0	mg/kg	1000	ND	83.9	53-125			
Surrogate: o-Terphenyl	44		"	50.0		87.3	59-131			

Matrix Spike Dup (B5L0704-MSD1)

Source: X512075-06

Prepared: 12/07/2015 Analyzed: 12/07/2015

Diesel (C10-C28)	794	50.0	mg/kg	1000	ND	79.4	53-125	5.52	20	
Surrogate: o-Terphenyl	42		"	50.0		84.9	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 - Coleman #22-714

Notes and Definitions

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President



December 08, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Coleman #22-714

Project Number - [none]

Attached are your analytical results for Noble - Coleman #22-714 received by Origins Laboratory, Inc. December 04, 2015. This project is associated with Origins project number X512077-01.

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 - Coleman #22-714

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	X512077-01	Water	December 4, 2015 14:50	12/04/2015 17:15
MW-02	X512077-02	Water	December 4, 2015 10:55	12/04/2015 17:15
MW-03	X512077-03	Water	December 4, 2015 11:42	12/04/2015 17:15
MW-04	X512077-04	Water	December 4, 2015 12:20	12/04/2015 17:15
MW-05	X512077-05	Water	December 4, 2015 10:15	12/04/2015 17:15
MW-06	X512077-06	Water	December 4, 2015 13:20	12/04/2015 17:15
MW-07	X512077-07	Water	December 4, 2015 13:50	12/04/2015 17:15

Per phone call with Andrew on 12/7/15, the TAT has been changed to 24 hours.

Per phone call with Andrew on 12/8/15, the project name has been changed to Noble-Coleman #22-714.

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 - Coleman #22-714

www.originslaboratory.com

page / of /

XS12077

ORIGINS
LABORATORY, INC

Client: Eagle Env. Consulting, Inc.
Address: 4101 Inca Street
Telephone Number: (303) 433-0479
Email Address: p11c3@eagle-enviro.com

Project Manager: Martin Eckert III
Project Name: Volleys #3-22
Project Number: -
Samples Collected By: A. Neuberg

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
MW-01	12/4/15	1450	3	X				X			ETEX	1
MW-02		1055						X				2
MW-03		1142										3
MW-04		1320										4
MW-05		1015										5
MW-06		1320										6
MW-07		1350										7
												8
												9
												10

Relinquished By: [Signature]

Relinquished By: [Signature]

Date: 12/4/15

Date: 12/4/15

Time: 1715

Time: 1715

Received By: [Signature]

Received By: [Signature]

Date: 12/4/15

Date: 12/4/15

Time: 1715

Time: 1715

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

Temp Received: 7.1

Date Results Needed: 12/4/15

Temp Received: 7.1

Date Results Needed: 12/4/15

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 - Coleman #22-714

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS12017

Client: Eagle Env

Client Project ID: Noble - Valkens# 31-22

Checklist Completed by: Jeff Smith

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

Date/time completed: 12/7/15

Airbill #: N/A

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

Cooler Number/Temperature: 1 31 °C 1 °C 1 °C 1 °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>mw 022C</u> <u>mw-05(B,C)</u>
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 ₂ -NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>HCL</u>
Additional Comments (if any): <u>Martin E. was informed regarding sample headspace by email</u>				
<u>12/7/15</u> <u>JMS</u>				

⁽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) JMS

Date/Time Reviewed 12/7/15

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 - Coleman #22-714

MW-01

12/4/2015 2:50:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X512077-01 (Water)

BTEX by EPA 8260C

Benzene	621	20.0	ug/L	20	B5L0706	12/07/2015	12/07/2015
Toluene	ND	20.0	"	"	"	"	"
Ethylbenzene	613	20.0	"	"	"	"	"
Xylenes, total	5570	20.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	84-121			"	"	"
Surrogate: Toluene-d8	102 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	97.5 %	84-114			"	"	"

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 - Coleman #22-714

MW-02

12/4/2015 10:55:00AM

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

X512077-02 (Water)

BTEX by EPA 8260C

Benzene	647	50.0	ug/L	50	B5L0706	12/07/2015	12/07/2015
Toluene	ND	50.0	"	"	"	"	"
Ethylbenzene	532	50.0	"	"	"	"	"
Xylenes, total	6550	50.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	117 %	84-121			"	"	"
Surrogate: Toluene-d8	101 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"

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 - Coleman #22-714

MW-03

12/4/2015 11:42:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X512077-03 (Water)

BTEX by EPA 8260C

Benzene	ND	4.0	ug/L	4	B5L0706	12/07/2015	12/07/2015
Toluene	ND	4.0	"	"	"	"	"
Ethylbenzene	ND	4.0	"	"	"	"	"
Xylenes, total	ND	4.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	116 %	84-121			"	"	"
Surrogate: Toluene-d8	101 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	99.0 %	84-114			"	"	"

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 - Coleman #22-714

MW-04

12/4/2015 12:20:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X512077-04 (Water)

BTEX by EPA 8260C

Benzene	5.8	4.0	ug/L	4	B5L0706	12/07/2015	12/07/2015
Toluene	ND	4.0	"	"	"	"	"
Ethylbenzene	ND	4.0	"	"	"	"	"
Xylenes, total	ND	4.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	116 %	84-121			"	"	"
Surrogate: Toluene-d8	100 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	99.0 %	84-114			"	"	"

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 - Coleman #22-714

MW-05

12/4/2015 10:15:00AM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X512077-05 (Water)

BTEX by EPA 8260C

Benzene	301	4.0	ug/L	4	B5L0706	12/07/2015	12/07/2015
Toluene	ND	4.0	"	"	"	"	"
Ethylbenzene	22.0	4.0	"	"	"	"	"
Xylenes, total	104	4.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	116 %	84-121	"	"	"
Surrogate: Toluene-d8	100 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	84-114	"	"	"

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 - Coleman #22-714

MW-06

12/4/2015 1:20:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X512077-06 (Water)

BTEX by EPA 8260C

Benzene	17.1	4.0	ug/L	4	B5L0706	12/07/2015	12/07/2015
Toluene	ND	4.0	"	"	"	"	"
Ethylbenzene	ND	4.0	"	"	"	"	"
Xylenes, total	10.8	4.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	84-121	"	"	"
Surrogate: Toluene-d8	99.8 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	98.7 %	84-114	"	"	"

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 - Coleman #22-714

MW-07
12/4/2015 1:50:00PM

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

Origins Laboratory, Inc.
X512077-07 (Water)

BTEX by EPA 8260C

Benzene	3130	50.0	ug/L	50	B5L0706	12/07/2015	12/07/2015
Toluene	ND	50.0	"	"	"	"	"
Ethylbenzene	637	50.0	"	"	"	"	"
Xylenes, total	5050	50.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	115 %	84-121			"	"	"
Surrogate: Toluene-d8	101 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"

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 - Coleman #22-714

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 B5L0706 - EPA 5030B (Water)

Blank (B5L0706-BLK1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	72		"	62.5	116		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.5		85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	102		84-114			

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 - Coleman #22-714

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 B5L0706 - EPA 5030B (Water)

LCS (B5L0706-BS1)

Prepared: 12/07/2015 Analyzed: 12/07/2015

Benzene	44.8	1.0	ug/L	50.0		89.5	73.3-129
Toluene	44.5	1.0	"	50.0		89.1	76.2-123
Ethylbenzene	46.7	1.0	"	50.0		93.5	73.6-130
m,p-Xylene	95.5	2.0	"	100		95.5	76.1-126
o-Xylene	48.5	1.0	"	50.0		97.0	76.6-124
Surrogate: 1,2-Dichloroethane-d4	66		"	62.5		106	84-121
Surrogate: Toluene-d8	65		"	62.5		103	85-115
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114

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 - Coleman #22-714

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 B5L0706 - EPA 5030B (Water)

Matrix Spike (B5L0706-MS1)		Source: X512080-01			Prepared: 12/07/2015 Analyzed: 12/07/2015					
Benzene	45.6	1.0	ug/L	50.0	ND	91.3	74-130			
Toluene	45.2	1.0	"	50.0	ND	90.5	73-131			
Ethylbenzene	47.3	1.0	"	50.0	ND	94.6	76-132			
m,p-Xylene	95.5	2.0	"	100	ND	95.5	69-139			
o-Xylene	47.4	1.0	"	50.0	ND	94.7	74-131			
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		110	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.8	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 - Coleman #22-714

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 B5L0706 - EPA 5030B (Water)

Matrix Spike Dup (B5L0706-MSD1)		Source: X512080-01			Prepared: 12/07/2015 Analyzed: 12/07/2015					
Benzene	44.3	1.0	ug/L	50.0	ND	88.5	74-130	3.05	20	
Toluene	43.4	1.0	"	50.0	ND	86.9	73-131	4.08	20	
Ethylbenzene	45.1	1.0	"	50.0	ND	90.2	76-132	4.74	20	
m,p-Xylene	92.8	2.0	"	100	ND	92.8	69-139	2.87	20	
o-Xylene	46.0	1.0	"	50.0	ND	92.0	74-131	2.89	20	
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		107	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

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 - Coleman #22-714

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.

Jen Pellegrini For Noelle Doyle Mathis, President



March 08, 2016

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Coleman #22-714

Project Number - [none]

Attached are your analytical results for Noble - Coleman #22-714 received by Origins Laboratory, Inc. March 02, 2016. This project is associated with Origins project number X603033-01.

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 - Coleman #22-714

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	X603033-01	Water	March 2, 2016 12:30	03/02/2016 14:45
MW-02	X603033-02	Water	March 2, 2016 12:40	03/02/2016 14:45
MW-03	X603033-03	Water	March 2, 2016 12:50	03/02/2016 14:45
MW-04	X603033-04	Water	March 2, 2016 13:05	03/02/2016 14:45
MW-05	X603033-05	Water	March 2, 2016 13:15	03/02/2016 14:45
MW-06	X603033-06	Water	March 2, 2016 13:25	03/02/2016 14:45
MW-07	X603033-07	Water	March 2, 2016 13:40	03/02/2016 14:45

Origins Laboratory, Inc.



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

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Coleman #22-714

www.originslaboratory.com

X603033

Client: EAGLE ENV CONSULTING
Address: 4101 INCA ST
DENVER, CO 80211
Telephone Number: 303 433 0479
Email Address: MCE3@eagle-env.co

Project Manager: MARTIN ECKERT III
Project Name: COLEMAN #22-714
Project Number: [blank]
Samples Collected By: A BOMABSKI

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa Canister #		
MW-01	5/2/16	1230	3	X				X			GREX	1
MW-02		1240										2
MW-03		1250										3
MW-04		1305										4
MW-05		1315										5
MW-06		1325										6
MW-07		1340										7
												8
												9
												10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:		
						Same Day	48 Hr	72 Hr
[Signature]	5/2/16	1445	[Signature]	5/2/16	1445	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Standard ☒

Temp Received: 3.7°C
Date Results Needed: N/A

BILL TO JACOBS

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 - Coleman #22-714

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: **X603033**

Client: Eagle Env Consulting

Client Project ID: COLEMAN #22-714

Checklist Completed by: Jeff Smith

Shipped Via: HQ

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

Date/time completed: 3/2/12

Airbill #: N/A

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

Cooler Number/Temperature: 3.2 / 3.2 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" 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"/>	HCL
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 Jeff Smith (Project Manager)

03/04/12
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 - Coleman #22-714

MW-01

3/2/2016 12:30:00PM

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

X603033-01 (Water)

BTEX by EPA 8260C

Benzene	2690	20.0	ug/L	20	B6C0309	03/03/2016	03/04/2016
Toluene	6.2	4.0	"	4	"	"	03/04/2016
Ethylbenzene	430	4.0	"	"	"	"	"
Xylenes, total	4660	20.0	"	20	"	"	03/04/2016

Surrogate: 1,2-Dichloroethane-d4	85.1 %	84-121			"	"	03/04/2016
Surrogate: Toluene-d8	99.5 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"

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 - Coleman #22-714

MW-02

3/2/2016 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X603033-02 (Water)

BTEX by EPA 8260C

Benzene	732	4.0	ug/L	4	B6C0309	03/03/2016	03/04/2016	
Toluene	ND	4.0	"	"	"	"	"	U
Ethylbenzene	436	4.0	"	"	"	"	"	
Xylenes, total	5300	20.0	"	20	"	"	03/04/2016	

Surrogate: 1,2-Dichloroethane-d4	91.2 %	84-121			"	"	03/04/2016	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"	

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 - Coleman #22-714

MW-03

3/2/2016 12:50:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X603033-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B6C0309	03/03/2016	03/04/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	89.9 %	84-121	"	"	"
Surrogate: Toluene-d8	100 %	85-115	"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	84-114	"	"	"

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 - Coleman #22-714

MW-04

3/2/2016 1:05:00PM

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

Origins Laboratory, Inc.

X603033-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B6C0309	03/03/2016	03/04/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	93.2 %	84-121			"	"	"
Surrogate: Toluene-d8	100 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"

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 - Coleman #22-714

MW-05

3/2/2016 1:15:00PM

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

X603033-05 (Water)

BTEX by EPA 8260C

Benzene	383	4.0	ug/L	4	B6C0309	03/03/2016	03/04/2016	
Toluene	ND	4.0	"	"	"	"	"	U
Ethylbenzene	8.6	4.0	"	"	"	"	"	
Xylenes, total	54.3	4.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	91.2 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.3 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"	

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 - Coleman #22-714

MW-06
3/2/2016 1:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X603033-06 (Water)

BTEX by EPA 8260C

Benzene	34.1	1.0	ug/L	1	B6C0309	03/03/2016	03/04/2016	
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	10.3	1.0	"	"	"	"	"	
Xylenes, total	42.1	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	91.5 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %	84-114			"	"	"	

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 - Coleman #22-714

MW-07
3/2/2016 1:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X603033-07 (Water)

BTEX by EPA 8260C

Benzene	6120	50.0	ug/L	50	B6C0309	03/03/2016	03/05/2016	
Toluene	ND	4.0	"	4	"	"	03/04/2016	U
Ethylbenzene	552	4.0	"	"	"	"	"	
Xylenes, total	4360	20.0	"	20	"	"	03/04/2016	

Surrogate: 1,2-Dichloroethane-d4	88.7 %	84-121			"	"	03/04/2016	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"	

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 - Coleman #22-714

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 B6C0309 - EPA 5030B (Water)

Blank (B6C0309-BLK1)

Prepared: 03/03/2016 Analyzed: 03/04/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	63		"	62.5	101		84-121			
Surrogate: Toluene-d8	62		"	62.5	98.5		85-115			
Surrogate: 4-Bromofluorobenzene	69		"	62.5	110		84-114			

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 - Coleman #22-714

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 B6C0309 - EPA 5030B (Water)

LCS (B6C0309-BS1)

Prepared: 03/03/2016 Analyzed: 03/04/2016

Benzene	57.7	1.0	ug/L	50.0		115	73.3-129			
Toluene	56.8	1.0	"	50.0		114	76.2-123			
Ethylbenzene	56.7	1.0	"	50.0		113	73.6-130			
m,p-Xylene	114	2.0	"	100		114	76.1-126			
o-Xylene	56.8	1.0	"	50.0		114	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	57		"	62.5		91.6	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	84-114			

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 - Coleman #22-714

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 B6C0309 - EPA 5030B (Water)

Matrix Spike (B6C0309-MS1)		Source: X603033-03			Prepared: 03/03/2016 Analyzed: 03/04/2016					
Benzene	66.6	1.0	ug/L	50.0	ND	133	74-130			QM-07
Toluene	65.7	1.0	"	50.0	ND	131	73-131			
Ethylbenzene	66.5	1.0	"	50.0	ND	133	76-132			QM-07
m,p-Xylene	135	2.0	"	100	ND	135	69-139			
o-Xylene	67.2	1.0	"	50.0	ND	134	74-131			QM-07
Surrogate: 1,2-Dichloroethane-d4	55		"	62.5		88.1	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.9	85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	84-114			

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 - Coleman #22-714

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 B6C0309 - EPA 5030B (Water)

Matrix Spike Dup (B6C0309-MSD1)		Source: X603033-03			Prepared: 03/03/2016 Analyzed: 03/04/2016					
Benzene	61.6	1.0	ug/L	50.0	ND	123	74-130	7.66	20	
Toluene	60.9	1.0	"	50.0	ND	122	73-131	7.57	20	
Ethylbenzene	60.1	1.0	"	50.0	ND	120	76-132	10.1	20	
m,p-Xylene	124	2.0	"	100	ND	124	69-139	8.10	20	
o-Xylene	62.8	1.0	"	50.0	ND	126	74-131	6.72	20	
Surrogate: 1,2-Dichloroethane-d4	55		"	62.5		88.3	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	84-114			

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4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Coleman #22-714

Notes and Definitions

U Sample is Non-Detect.

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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