



November 10, 2015

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

**RE: Soil and Groundwater Assessment Report
 Bernhardt #18-32
 Produced Water Release
 40.306653 / -104.829028
 NW¼ SW¼ SEC.18 T4N R66W 6PM
 Weld County, Colorado
 API # 05-123-20081**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present this Soil 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 a water vault removal at the Bernhardt #18-32 tank battery (site). On July 29, 2015, EAGLE collected soil samples SS-01 through SS-04 and groundwater sample GW-01 following removal of the associated water vault. Based on laboratory analytical results, additional assessment was required. The following narrative details assessment activities completed at the site.

2.0 SITE DESCRIPTION

The Bernhardt #18-32 site is located within the northwest quarter of the southwest quarter of Section 18, Township 4 north, Range 66 west of the 6th Prime Meridian. The removed water vault was located at latitude: 40.306653 and longitude: -104.829028. A topographic site location map is presented as Figure 1. An aerial site location map is presented in Figure 2.

2.1 Site Hydrogeology

The soil lithology observed beneath the release location consists of a soft, sandy clay from the surface to approximately 3 feet below ground surface (bgs), underlain by a loose, gravelly sand from approximately 3 feet bgs to 10 feet bgs. Depth to groundwater was observed during initial assessment activities at 4.5 feet bgs. Depth to groundwater was observed during groundwater sampling activities ranging from approximately four to five feet bgs. A detailed description of the subsurface lithology beneath the site is presented within the boring logs included in Attachment A.

3.0 WATER VAULT ASSESSMENT

Following removal of the water vault associated with the Bernhardt #18-32 well on July 29, 2015, EAGLE collected soil samples, SS-01 through SS-04, to determine if adsorbed petroleum hydrocarbon impacts exceeded Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 regulatory limits. A portion of each soil sample was placed in a sealable plastic bag for volatile organic compound (VOC) headspace analysis utilizing a field calibrated photoionization detector (PID). Another portion of the soil sample was placed in a 4-ounce glass jar and packed in an iced cooler for laboratory analysis. Groundwater was observed at approximately 4.5 feet bgs during assessment activities. A grab groundwater sample (GW-01) was collected from the excavation. Based on PID readings, EAGLE submitted soil sample SS-02@2.5' from the south wall of the excavation, and groundwater sample GW-01 to Origins Laboratory, Inc. (Origins) under standard chain of custody procedures. The samples were received within the required holding time for each laboratory analysis.

Soil sample SS-02@2.5' was analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, total petroleum hydrocarbons – gasoline range organics (TPH-GRO), and total petroleum hydrocarbons – diesel range organics (TPH-DRO) following modified Environmental Protection Agency (EPA) Methods 8260c and 8015. In addition, soil sample SS-02@2.5' was analyzed for Sodium Adsorption Ratio (SAR) following United States Department of Agriculture (USDA) Method 20B, Specific Conductance (EC) following USDA method 3, and pH following EPA method 9045D. Grab groundwater sample GW-01 was submitted for laboratory analysis of BTEX.

Based on laboratory analytical results, soil sample SS-02@2.5' did not contain concentrations of BTEX, naphthalene, or total petroleum hydrocarbons (TPH) exceeding applicable COGCC Table 910-1. Groundwater sample GW-01 contained concentrations of benzene (599 micrograms per liter (ug/L)) and toluene (864 ug/L) exceeding applicable COGCC Table 910-1 regulatory limits of 5 ug/L and 560 ug/L, respectively.

Soil analytical results are summarized in Table 1 and included in Figure 3. Groundwater analytical results are summarized in Table 2 and included in Figure 4. Laboratory reports are included in Attachment B.

4.0 SOIL BORING ADVANCEMENT/MONITORING WELL INSTALLATION ACTIVITIES

To confirm soil impacts were not present on the remaining walls of the removed water vault location, and to assess dissolved BTEX impacts associated with the produced water release, EAGLE submitted a site map with proposed soil boring and monitoring well locations to Noble on July 31, 2015. Three (3) soil borings (SB-01 through SB-03) and six (6) initial monitoring wells (MW-01 through MW-06) were proposed for advancement/installation. Following approval, EAGLE scheduled soil boring advancement and monitoring well installation activities.

4.1 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.

4.2 Soil Boring Advancement/Monitoring Well Completion Activities

On August 6, 2015, EAGLE advanced soil borings SB-01 through SB-03 adjacent to the three remaining sides of the removed water vault location (north, east, and west). Monitoring wells MW-01 through MW-06 were advanced in the area surrounding the water vault release. Following advancement activities, monitoring wells MW-01 through MW-06 were completed as 1-inch, groundwater monitoring wells to define the extents of dissolved petroleum hydrocarbon impacts beneath the site. Soil boring advancement and 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-06, were each completed with 1-inch, schedule 40, poly vinyl chloride (PVC) pipe to a total depth of approximately 10 feet bgs. Eight feet of 0.010 slot, 1-inch, PVC screen was placed at the bottom of the boring followed by two feet of PVC riser. The well annulus was backfilled with 10/20 silica sand to the top of the screened section followed by a hydrated bentonite seal to the surface. All monitoring wells (MW-01 through MW-06) were completed at the surface with 8-inch traffic rated steel flush mounts. EAGLE also recorded spatial locations of each soil boring and monitoring well using a Trimble GeoXT 6000 series instrument.

Soil boring logs/monitoring well completion diagrams are included in Attachment A. Soil boring locations are presented in Figure 3, and monitoring well locations are presented in Figure 5. A geological cross section is included as Figure 6.

4.3 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 (SB-01 through SB-03, and MW-01 through MW-06) was submitted to Origins, 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 laboratory received the soil samples within the required holding time for each laboratory analysis.

4.4 Groundwater Sampling Procedures

Groundwater samples were collected from monitoring wells MW-01 through MW-06 on August 13, 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.

Relative groundwater elevations within each monitoring well ranged from 94.94 feet (MW-01) to 95.82 feet (MW-04). The groundwater flow direction beneath the site during the August 2015 sampling event was predominantly to the northwest with an average hydraulic gradient of 0.012 feet per foot across the

site (measured from MW-04 to MW-06). Groundwater elevation data is summarized in Table 3 and presented in Figure 7.

Prior to sample collection, each monitoring well was developed through purging each location a minimum of ten well volumes using disposable PVC bailers. Following recharge, groundwater samples were collected from each monitoring well in 40 milliliter (mL) amber vials. The groundwater samples were submitted for laboratory analysis for BTEX following EPA Method 8260C. The samples were transported in an iced cooler under standard chain-of-custody procedures to Origins Laboratory, Inc. located in Denver, Colorado, and were received within Quality Assurance/Quality Control (QA/QC) parameters.

4.5 Laboratory Analytical Results

4.5.1 Soil Analytical Results

Based on laboratory analytical results, soil samples collected from monitoring wells MW-01 through MW-06 and soil borings SB-01 through SB-03 did not contain concentrations of BTEX, naphthalene, TPH-GRO, and TPH-DRO exceeding applicable COGCC Table 910-1 regulatory limits and/or laboratory reporting limits. Soil analytical results are summarized in Table 1. Soil analytical results from soil boring advancement activities are presented in Figure 3. Soil analytical results from monitoring well installation activities are presented in Figure 5. Soil sample laboratory analytical reports are included in Attachment B.

4.5.2 Groundwater Analytical Results

Based on laboratory analytical results, the groundwater samples collected from monitoring wells MW-01 through MW-06 did not contain concentrations of BTEX exceeding applicable COGCC Table 910-1 regulatory limits. EAGLE will return to the site in November 2015 to complete 4th quarter 2015 groundwater sampling activities.

Groundwater analytical results are summarized in Table 2 and presented in Figure 8. Groundwater laboratory analytical reports are included in Attachment B.

5.0 CONCLUSIONS

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

- Soil sample SS-02@2.5', collected following removal of the water vault associated with the Bernhardt #18-32 well on July 29, 2015, did not contain concentrations of BTEX, naphthalene, or TPH exceeding their respective COGCC Table 910-1 regulatory limits and/or laboratory reporting limits.
- Grab groundwater sample, GW-01, collected from the base of the water vault excavation on July 29, 2015, contained concentrations of benzene and toluene exceeding applicable COGCC Table 910-1 regulatory limits.
- Confirmation soil samples collected from soil borings SB-01 through SB-03 on August 6, 2015 adjacent to the Bernhardt #18-32 excavation, did not contain concentrations of BTEX, naphthalene, or TPH exceeding their respective COGCC Table 910-1 regulatory limits and/or laboratory reporting limits.

- On August 6, 2015, EAGLE installed six (6) groundwater monitoring wells (MW-01 through MW-06) at the site.
- Groundwater samples collected from monitoring wells MW-01 through MW-06 did not contain concentrations of BTEX exceeding their respective COGCC Table 910-1 regulatory limits.
- The groundwater flow direction beneath the site during the August 2015 sampling event was predominantly to the northwest with an average hydraulic gradient of 0.012 feet per foot across the site (measured from MW-04 to MW-06).

6.0 RECOMMENDATIONS

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

- Complete groundwater sampling activities in November 2015 to confirm BTEX concentrations in monitoring wells remain below COGCC Table 910-1 regulatory limits.

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

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.



Andrew Newberry
Staff Geologist



Robin Lockwood
Project Scientist

FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Aerial Site Location Map

Figure 3: Soil Sample Analytical Map

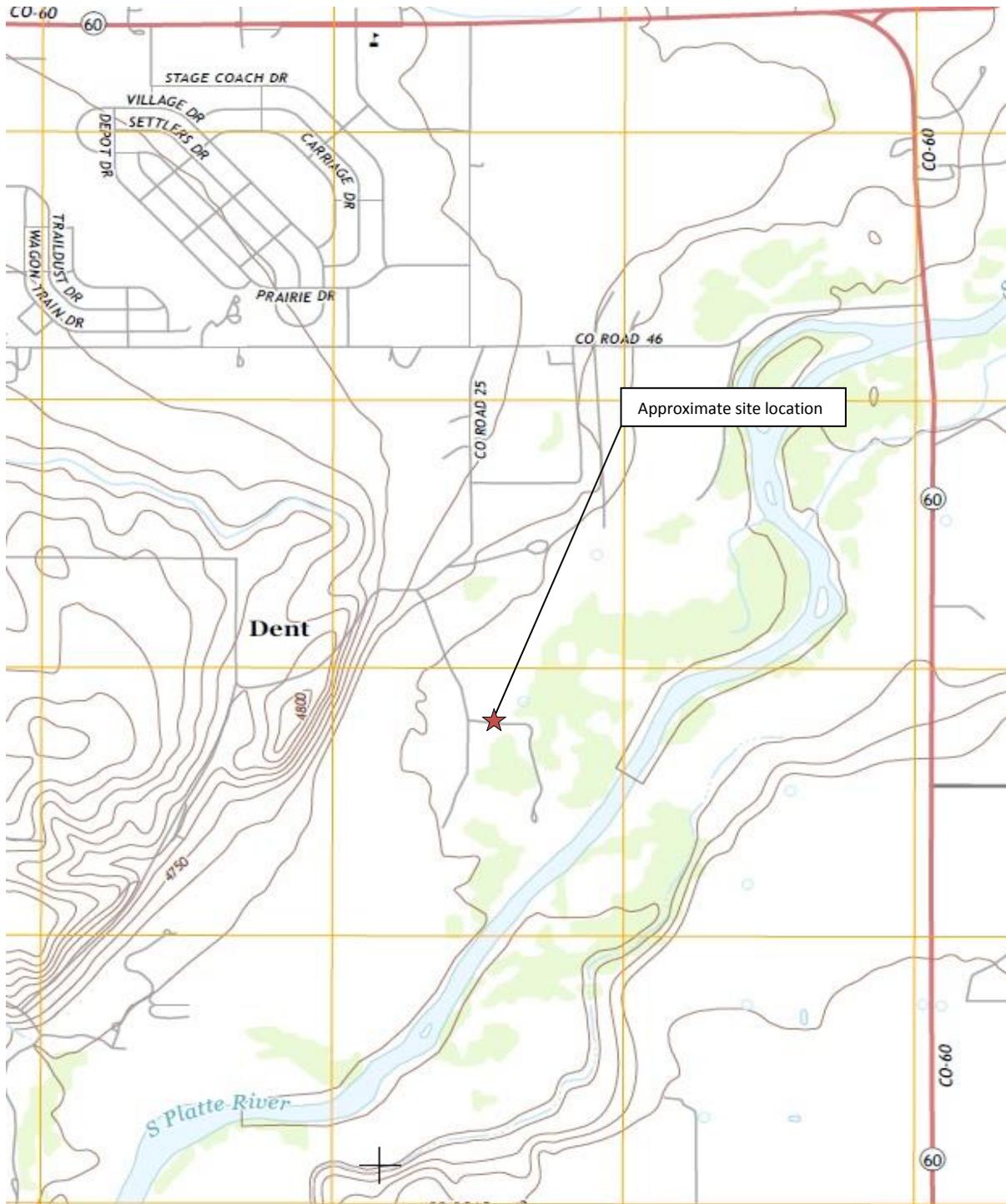
Figure 4: Excavation Groundwater Analytical Map

Figure 5: Monitoring Well Soil Sample Analytical Map

Figure 6: Geologic Cross Section (A-A')

Figure 7: Groundwater Elevation Map

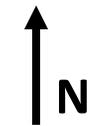
Figure 8: Monitoring Well Groundwater Analytical Map



Topographic Site Location Map
 Bernhardt #18-32
 Produced Water Release
 40.306653/-104.829028
 NW¼ SW¼ SEC.18 T4N R66W 6PM
 Weld County, Colorado
 API # 05-123-20081

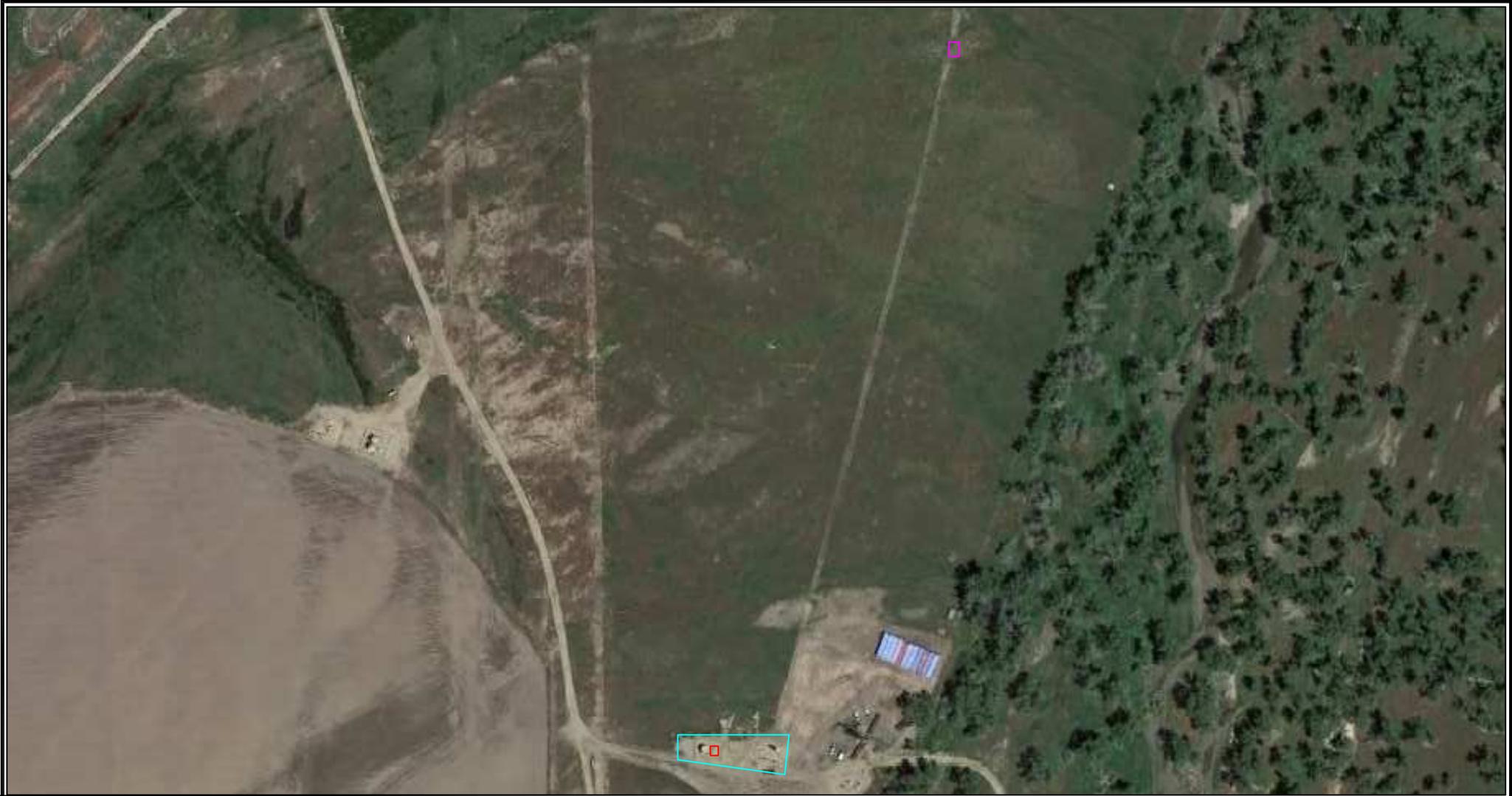


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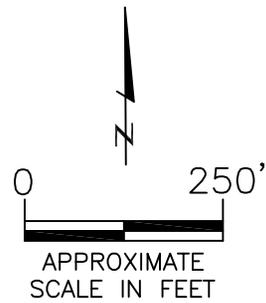
Source: USGS 7.5 Minute Topographic Map, Milliken, CO Quadrangle 2013

Figure 1



LEGEND

- BERNHARDT #18-32 TANK BATTERY
- BERNHARDT #18-32 WELL PAD (40.310156 / -104.8274)
- APPROXIMATE LOCATION OF WATER VAULT REMOVAL/EXCAVATION



AERIAL SITE LOCATION MAP
 BERNHARDT #18-32
 PRODUCED WATER RELEASE
 40.306653 / -104.829028
 NW1/4 SW1/4 SEC.18 T4N R66W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-20081

DATE:
07/29/15

FIG. NO. 2	DRAWN BY: AMN
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EAGLE

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CONSULTING, INC.

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SB-01@2.5-3'
08/06/15
2.5-3'
B = <0.002
T = <0.002
E = <0.002
X = <0.002
N = <0.007
G = <0.200
D = <50.0

SB-02@2.5-3'
08/06/15
2.5-3'
B = <0.002
T = <0.002
E = <0.002
X = <0.002
N = <0.007
G = <0.200
D = <50.0

SB-03@2.5-3'
08/06/15
2.5-3'
B = <0.002
T = <0.002
E = <0.002
X = <0.002
N = <0.007
G = <0.200
D = <50.0

SS-02@2.5'
07/29/15
2.5'
B = <0.002
T = <0.002
E = <0.002
X = <0.002
N = <0.007
G = <0.200
D = <50.0

LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- SS-02 APPROXIMATE LOCATION OF SOIL SAMPLES SUBMITTED FOR LABORATORY ANALYSIS
- SB-01 APPROXIMATE SOIL BORING LOCATION

PARAMETERS

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)

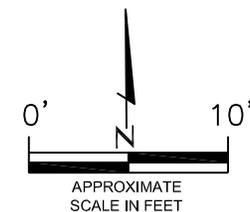
mg/kg = MILLIGRAMS PER KILOGRAM

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

NOTE: AERIAL IS NOT REPRESENTATIVE OF CURRENT INFRASTRUCTURE AND TOPOGRAPHY. SITE WAS UNDER DECOMMISSIONING DURING TIME OF ASSESSMENT.



SOIL SAMPLE ANALYTICAL MAP
BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653/-104.829028
NW1/4 SW1/4 SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081

DATE:	08/18/15
FIG. NO.	3
DRAWN BY:	arn

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GW-01
 07/29/15
 B = **599**
 T = **864**
 E = 25.3
 X = 500

LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- **GW-01** APPROXIMATE LOCATION OF GROUNDWATER SAMPLE SUBMITTED FOR LABORATORY ANALYSIS

PARAMETERS

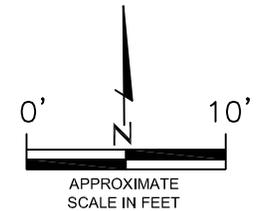
SAMPLE LOCATION
 DATE
 B = BENZENE (ug/l)
 T = TOLUENE (ug/l)
 E = ETHYLBENZENE (ug/l)
 X = TOTAL XYLENES (ug/l)

ug/l = MICROGRAMS PER LITER
 TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS
 TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

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

COGCC = COLORADO OIL AND GAS CONSERVATION COMMISSION

NOTE: AERIAL IS NOT REPRESENTATIVE OF CURRENT INFRASTRUCTURE AND TOPOGRAPHY. SITE WAS UNDER DECOMMISSIONING DURING TIME OF ASSESSMENT.



EXCAVATION GROUNDWATER ANALYTICAL MAP
 BERNHARDT #18-32
 PRODUCED WATER RELEASE
 40.306653/-104.829028
 NW1/4 SW1/4 SEC.18 T4N R66W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-20081

DATE:	08/18/15
FIG. NO.	DRAWN BY:
4	arn

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LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- APPROXIMATE MONITORING WELL LOCATION

PARAMETERS

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)

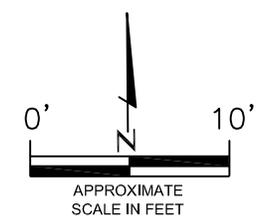
mg/kg = MILLIGRAMS PER KILOGRAM

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

NOTE: AERIAL IS NOT REPRESENTATIVE OF CURRENT INFRASTRUCTURE AND TOPOGRAPHY. SITE WAS UNDER DECOMMISSIONING DURING TIME OF ASSESSMENT.



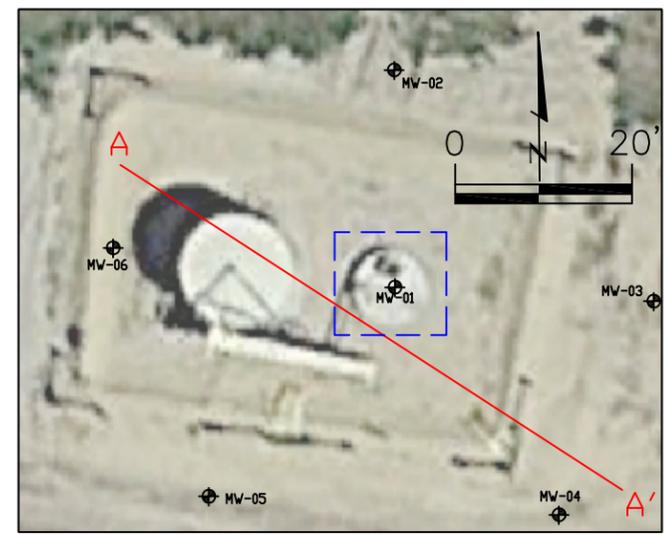
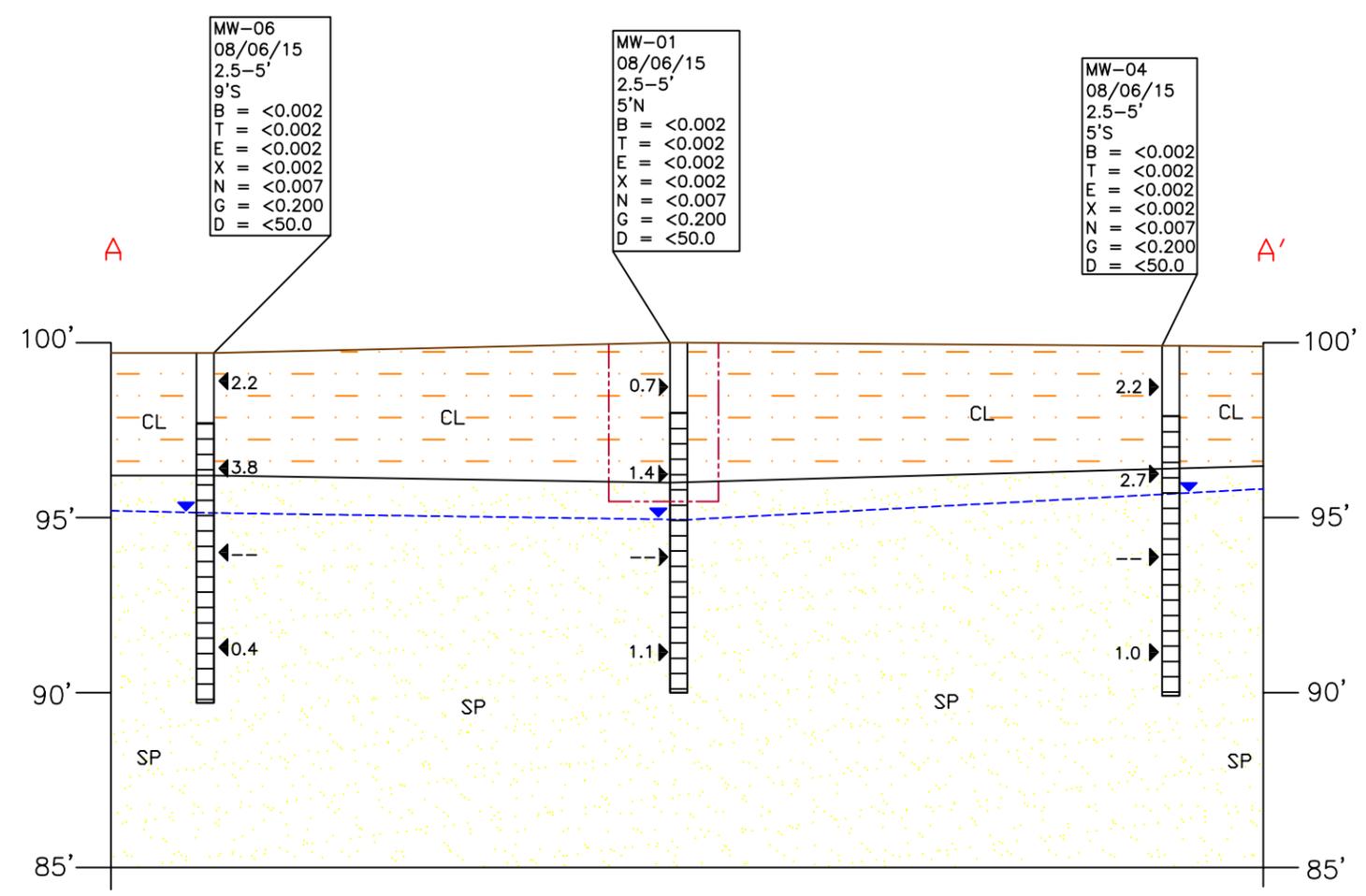
MONITORING WELL SOIL ANALYTICAL MAP

BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653/-104.829028
NW1/4 SW1/4 SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081

DATE:	08/18/15
FIG. NO.	5
DRAWN BY:	amn

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GEOLOGIC CROSS SECTION (A-A')



LEGEND		PARAMETERS	
	SANDY CLAY	SAMPLE LOCATION	
	GRAVELLY SAND	DATE	
	GROUND SURFACE	DEPTH (FEET)	
	ASSESSMENT EXCAVATION BOUNDARIES	OFFSET FROM A-A' (FEET-DIRECTION)	
	OBSERVED CONTACT	B = BENZENE (mg/kg)	
	INFERRED CONTACT	T = TOLUENE (mg/kg)	
	OBSERVED GROUNDWATER (08/13/15)	E = ETHYLBENZENE (mg/kg)	
	A — A' LINE OF CROSS SECTION	X = TOTAL XYLENES (mg/kg)	
		G = TPH-GRO (mg/kg)	
		D = TPH-DRO (mg/kg)	
		N = NAPHTHALENE (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 THE LABORATORY REPORTING LIMIT	

0 10'
APPROXIMATE HORIZONTAL SCALE IN FEET
2X VERTICAL EXAGGERATION

GEOLOGIC CROSS SECTION (A-A')
BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653 / -104.829028
NW1/4 SW1/4 SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081

EAGLE ENVIRONMENTAL CONSULTING, INC.
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FIG. NO. 6 DATE: 08/18/15 DRAWN BY: AMN



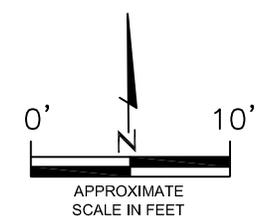
LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- APPROXIMATE MONITORING WELL LOCATION
- (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-01 WAS NOT USED IN CONSTRUCTION OF INFERRED GROUNDWATER WATER ELEVATION CONTOURS.

NOTE: AERIAL IS NOT REPRESENTATIVE OF CURRENT INFRASTRUCTURE AND TOPOGRAPHY. SITE WAS UNDER DECOMMISSIONING DURING TIME OF ASSESSMENT.



GROUNDWATER ELEVATION MAP
 BERNHARDT #18-32
 PRODUCED WATER RELEASE
 40.306653/-104.829028
 NW1/4 SW1/4 SEC.18 T4N R66W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-20081

DATE:	08/18/15
FIG. NO.	7
DRAWN BY:	amn

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LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- APPROXIMATE MONITORING WELL LOCATION

PARAMETERS

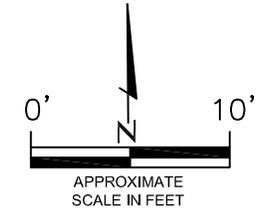
SAMPLE LOCATION	
DATE	
B	= BENZENE (ug/l)
T	= TOLUENE (ug/l)
E	= ETHYLBENZENE (ug/l)
X	= TOTAL XYLENES (ug/l)

ug/l = MICROGRAMS PER LITER
 TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

TPH-DRO = TOTAL PETROLEUM HYDROCARBONS - DIESEL RANGE ORGANICS

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

NOTE: AERIAL IS NOT REPRESENTATIVE OF CURRENT INFRASTRUCTURE AND TOPOGRAPHY. SITE WAS UNDER DECOMMISSIONING DURING TIME OF ASSESSMENT.



MONITORING WELL GROUNDWATER ANALYTICAL MAP

BERNHARDT #18-32
 PRODUCED WATER RELEASE
 40.306653/-104.829028
 NW1/4 SW1/4 SEC.18 T4N R66W 6PM
 WELD COUNTY, COLORADO
 API # 05-123-20081

DATE:	08/18/15
FIG. NO.	8
DRAWN BY:	amn

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TABLES

Table 1: Soil Analytical Results Summary

Table 2: Groundwater Analytical Results Summary

Table 3: Groundwater Elevation and Parameters Summary

TABLE 1
SOIL ANALYTICAL RESULTS SUMMARY
BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653 / -104.829028
NW¼ SW¼ SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081

Sample Location (Latitude/Longitude)	Date	Approximate Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Specific Conductance (mmhos/cm)	pH (pH units)	SAR
COGCC Table 910-1 Regulatory Limits (mg/kg)			0.17	85	100	175	23	500		<4	6 to 9	<12[^]5
SS-02 @ 2.5' (40.306639 / -104.829032)	07/29/15	2.5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	0.0435	8.52	0.04
SB-01 @ 2.5-3' (40.306655 / -104.829050)	08/06/15	2.5-3	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
SB-02 @ 2.5-3' (40.306664 / -104.829025)	08/06/15	2.5-3	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
SB-03 @ 2.5-3' (40.306647 / -104.829011)	08/06/15	2.5-3	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-01 @ 2.5-5' (40.306650 / -104.829028)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-02 @ 2.5-5' (40.306719 / -104.829030)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-03 @ 2.5-5' (40.306647 / -104.828922)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-04 @ 2.5-5' (40.306586 / -104.828960)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-05 @ 2.5-5' (40.306589 / -104.829109)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA
MW-06 @ 2.5-5' (40.306663 / -104.829133)	08/06/15	2.5-5	<0.002	<0.002	<0.002	<0.002	<0.007	<0.200	<50.0	NA	NA	NA

COGCC = Colorado Oil and Gas Conservation Commission

mg/kg = milligrams per kilogram

mmhos/cm = millimhos per centimeter

NA = Not Analyzed

TPH-GRO = Total Petroleum Hydrocarbons - Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

SAR = Sodium Adsorption Ratio

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



TABLE 2
GROUNDWATER ANALYTICAL RESULTS SUMMARY
BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653 / -104.829028
NW¼ SW¼ SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081

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
GW-01 (40.306651 / -104.829027)	07/29/15	599	864	25.3	500
MW-01 (40.306650 / -104.829028)	08/13/15	<1.0	<1.0	<1.0	<1.0
MW-02 (40.306719 / -104.829030)	08/13/15	<1.0	<1.0	<1.0	<1.0
MW-03 (40.306647 / -104.828922)	08/13/15	<1.0	<1.0	<1.0	<1.0
MW-04 (40.306586 / -104.828960)	08/13/15	<1.0	<1.0	<1.0	<1.0
MW-05 (40.306589 / -104.829109)	08/13/15	<1.0	<1.0	<1.0	<1.0
MW-06 (40.306663 / -104.829133)	08/13/15	<1.0	<1.0	<1.0	<1.0
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 AND PARAMETERS SUMMARY
BERNHARDT #18-32
PRODUCED WATER RELEASE
40.306653 / -104.829028
NW¼ SW¼ SEC.18 T4N R66W 6PM
WELD COUNTY, COLORADO
API # 05-123-20081**

Sample Location (Latitude/Longitude)	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Dissolved Oxygen (mg/L)	Temperature (°C)	pH	Specific Conductivity (µS/cm)	Oxidation Reduction Potential (mV)
MW-01 (40.306650 / -104.829028)	08/13/15	100.00	5.06	94.94	3.86	21.11	7.26	1616	165.4
MW-02 (40.306719 / -104.829030)	08/13/15	99.75	4.63	95.12	3.42	22.31	7.14	1533	164.0
MW-03 (40.306647 / -104.828922)	08/13/15	99.67	4.60	95.07	10.57	22.42	7.14	1550	150.1
MW-04 (40.306586 / -104.828960)	08/13/15	99.93	4.11	95.82	4.54	25.89	7.38	1623	149.8
MW-05 (40.306589 / -104.829109)	08/13/15	99.73	4.67	95.06	NM	NM	NM	NM	NM
MW-06 (40.306663 / -104.829133)	08/13/15	99.70	4.56	95.14	4.38	21.26	7.17	1633	155.7

NOTES:

NM - Not Measured
 °C = degrees Celsius
 mg/L = milligrams per liter
 µS/cm = microsiemens per centimeter
 mV = millivolts



ATTACHMENT A

Boring Logs and Monitoring Well Completion Diagrams

Boring Log/Well Completion Diagram: MW-01

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') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 15-20% medium to coarse grained sand N/O N/S	CL	GP	1	60	2.2	N/A		Wet @ 5'	
5	(4-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 20% gravel N/O N/S	SP	GP	2	20	3.8				5
10	BoB @ 10'						10			
15							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: 08/06/2015	SAND PACK INTERVAL (FEET): 1-10
PROJECT: BERNHARDT #18-32	BENTONITE/GROUT INTERVAL (FEET): 0.5-1
LOGGED BY: A. ROMANSKY	WELL SCREEN INTERVAL (FEET): 2-10
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE	WELL DIAMETER (INCHES): 1
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10
PID INSTRUMENT: MiniRAE 2000 - PID #5	
TIME STARTED/COMPLETED: 1325/1400	
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5/1340	



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Boring Log/Well Completion Diagram: MW-02

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 20% medium to coarse grained sand N/O N/S	CL	GP 1	70	1.5	N/A	5		Wet @ 5'	
5	(3-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 15% gravel N/O N/S	SP	GP 2	30	2.3					5-10' - Limited recovery
10	BoB @ 10'									
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: 08/06/2015		SAND PACK INTERVAL (FEET): 1-10	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): 2-10	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10	<p>EAGLE ENVIRONMENTAL CONSULTING, INC.</p> 4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 1105/1140			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5/1120			

Boring Log/Well Completion Diagram: MW-03

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3.5') sandy CLAY - dark brown, moist, soft, high plasticity, poorly graded with 10% medium to coarse grained sand N/O N/S	CL	GP 1	70	1.0	N/A	5		Wet @ 5'	
5	(3.5-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 20% gravel N/O N/S	SP	GP 2	30	0.8					N/A
10	BoB @ 10'									
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: 08/06/2015		SAND PACK INTERVAL (FEET): 1-10	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): 2-10	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10	<p>EAGLE ENVIRONMENTAL CONSULTING, INC. 4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 1200/1240			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1215			

Boring Log/Well Completion Diagram: MW-04

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3.5') gravelly sandy CLAY - dark brown, moist, moderately stiff, moderate plasticity, poorly graded with 20% medium to coarse grained sand N/O N/S	CL	GP 1	75	0.7	N/A	5		Wet @ 5'	
5	(3.5-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 15-20% gravel N/O N/S	SP	GP 2	30	1.1					N/A
10	BoB @ 10'									
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: 08/06/2015		SAND PACK INTERVAL (FEET): 1-10	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): 2-10	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10	<p>EAGLE ENVIRONMENTAL CONSULTING, INC.</p> <p>4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 1245/1320			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1300			

Boring Log/Well Completion Diagram: MW-05

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3') gravelly sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 25% medium to coarse grained sand and 15% gravel N/O N/S	CL	GP 1	75	8.2	N/A	5		Wet @ 5-5.5'	
5	(3-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 20% gravel N/O N/S	SP	GP 2	30	10.1					
10	BoB @ 10'				0.8	N/A	10		5-10' - Limited recovery	
15							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: 08/06/2015		SAND PACK INTERVAL (FEET): 1-10	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): 0.5-1	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): 2-10	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): 1	
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10	<p>EAGLE ENVIRONMENTAL CONSULTING, INC.</p> <p>4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 940/1015			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/955			

Boring Log/Well Completion Diagram: MW-06

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3.5') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 20% medium to coarse grained sand N/O N/S	CL	GP 1	75	2.2	N/A	5		Wet @ 5'	
5	(3.5-10') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 20% gravel N/O N/S	SP	GP 2	30	2.7					5-10' - Limited recovery
10	BoB @ 10'									
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: 08/06/2015	SAND PACK INTERVAL (FEET): 1-10
PROJECT: BERNHARDT #18-32	BENTONITE/GROUT INTERVAL (FEET): 0.5-1
LOGGED BY: A. ROMANSKY	WELL SCREEN INTERVAL (FEET): 2-10
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE	WELL DIAMETER (INCHES): 1
BORING DEPTH (FEET): 10	WELL DEPTH (FEET): 10
PID INSTRUMENT: MiniRAE 2000 - PID #5	<p>EAGLE ENVIRONMENTAL CONSULTING, INC.</p> <p>4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>
TIME STARTED/COMPLETED: 1020/1100	
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1040	

Boring Log/Well Completion Diagram: SB-01

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 15% medium to coarse grained sand N/O N/S	CL	GP	1	60	1.4	N/A			
						1.8				
	(3-5') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 20% gravel, N/O N/S	SP			0.4					
5	BoB @ 5'									
10										
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: 08/06/2015		SAND PACK INTERVAL (FEET): N/A
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): N/A
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): N/A
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): N/A
BORING DEPTH (FEET): 5	WELL DEPTH (FEET): N/A	
PID INSTRUMENT: MiniRAE 2000 - PID #5		
TIME STARTED/COMPLETED: 1425/1435		
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-3'/1430		



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Boring Log/Well Completion Diagram: SB-02

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3.5') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 20% medium to coarse grained sand N/O N/S	CL	GP	1	50	0.1	N/A			
					0.6					
5	(3.5-5') gravelly SAND - light brown, moist to wet, loose, medium to coarse grained, poorly graded with 15-20% gravel, N/O N/S	SP			0.4					
	BoB @ 5'									

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

START/COMPLETION DATE: 08/06/2015		SAND PACK INTERVAL (FEET): N/A	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): N/A	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): N/A	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): N/A	
BORING DEPTH (FEET): 5	WELL DEPTH (FEET): N/A	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 1420/1425			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-3'/1425			

Boring Log/Well Completion Diagram: SB-03

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG TYPE	NUMBER	RECOVERY %						
0	(0-3') sandy CLAY - dark brown, moist, soft, moderate to high plasticity, poorly graded with 20% medium to coarse grained sand N/O N/S	CL	GP	1	60	2.4	N/A			
						2.1				
5	(3-5') gravelly SAND - light brown, moist-wet, loose, medium to coarse grained, poorly graded with 15-20% gravel, N/O N/S	SP				1.6				
5	BoB @ 5'									
10										
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: 08/06/2015		SAND PACK INTERVAL (FEET): N/A	
PROJECT: BERNHARDT #18-32		BENTONITE/GROUT INTERVAL (FEET): N/A	
LOGGED BY: A. ROMANSKY		WELL SCREEN INTERVAL (FEET): N/A	
DRILLING COMPANY/EQUIPMENT: EAGLE/GEOPROBE		WELL DIAMETER (INCHES): N/A	
BORING DEPTH (FEET): 5	WELL DEPTH (FEET): N/A	 <p>EAGLE ENVIRONMENTAL CONSULTING, INC. 4101 INCA STREET, DENVER, CO 80211 Ph: 303-433-0479 • F: 303-325-5449</p>	
PID INSTRUMENT: MiniRAE 2000 - PID #5			
TIME STARTED/COMPLETED: 1410/1420			
SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-3'/1415			

ATTACHMENT B

Laboratory Analytical Reports



July 31, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Bernhardt #18-32

Project Number - [none]

Attached are your analytical results for Noble - Bernhardt #18-32 received by Origins Laboratory, Inc. July 29, 2015. This project is associated with Origins project number X507391-01.

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 - Bernhardt #18-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-02 @ 2.5'	X507391-01	Soil	July 29, 2015 11:00	07/29/2015 12:16

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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order XS07391

Client: Eagle

Client Project ID: Bernhardt #18-32

Checklist Completed by: Jeff Smith

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

Date/time completed: 7/29/15

Airbill #: N/A

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

Cooler Number/Temperature: 1 / 6.3 °C / _____ °C / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		X		Sampled Same Day
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			PH
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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.

[Signature]
 Reviewed by (Project Manager)

7/29/15
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

SS-02 @ 2.5'
7/29/2015 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507391-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5G29002	07/29/2015	07/29/2015	
<i>Surrogate: o-Terphenyl</i>	80.9 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5G29001	07/29/2015	07/29/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97.2 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	98.2 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	113 %	70-130			"	"	"	

Metals by 6010B

Calcium, Total Recoverable	6480	4	mg/Kg	1	241456	07/30/2015	07/30/2015	
Magnesium, Total Recoverable	4310	4	"	"	"	"	"	
Sodium, Total Recoverable	100	20	"	"	"	"	"	

pH in Soil by EPA 9045D

Origins Laboratory, Inc.



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

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Bernhardt #18-32

SS-02 @ 2.5'
7/29/2015 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507391-01 (Soil)

pH in Soil by EPA 9045D

pH	8.52		pH Units	1	5G29003	07/29/2015	07/29/2015	
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Sodium Absorption Ratio

Sodium Absorption Ratio	0.04	0.001		1	241456	07/30/2015	07/30/2015	U
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Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0435		mmhos/cm	1	5G29004	07/29/2015	07/29/2015	
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Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G29001 - EPA 5030 (soil)

Blank (5G29001-BLK1)

Prepared: 07/29/2015 Analyzed: 07/29/2015

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	54		ug/kg	62.5		85.7	70-130			
Surrogate: Toluene-d8	61		"	62.5		97.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G29001 - EPA 5030 (soil)

LCS (5G29001-BS1)

Prepared: 07/29/2015 Analyzed: 07/29/2015

Benzene	0.092	0.002	mg/kg	0.100		91.8	70-130			
Toluene	0.091	0.002	"	0.100		90.8	70-130			
Ethylbenzene	0.093	0.002	"	0.100		93.0	70-130			
m,p-Xylene	0.185	0.004	"	0.200		92.3	70-130			
o-Xylene	0.095	0.002	"	0.100		94.7	70-130			
Naphthalene	0.094	0.007	"	0.100		93.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	51		ug/kg	62.5		81.2	70-130			
Surrogate: Toluene-d8	61		"	62.5		98.3	70-130			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.5	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G29001 - EPA 5030 (soil)

Matrix Spike (5G29001-MS1)	Source: X507372-01			Prepared: 07/29/2015 Analyzed: 07/29/2015						
Benzene	0.088	0.002	mg/kg	0.100	ND	88.0	70-130			
Toluene	0.084	0.002	"	0.100	ND	83.5	70-130			
Ethylbenzene	0.083	0.002	"	0.100	ND	83.3	70-130			
m,p-Xylene	0.168	0.004	"	0.200	ND	84.2	70-130			
o-Xylene	0.088	0.002	"	0.100	ND	87.6	70-130			
Naphthalene	0.089	0.007	"	0.100	ND	89.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		90.4	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G29001 - EPA 5030 (soil)

Matrix Spike Dup (5G29001-MSD1)	Source: X507372-01			Prepared: 07/29/2015 Analyzed: 07/29/2015						
Benzene	0.090	0.002	mg/kg	0.100	ND	89.7	70-130	1.96	20	
Toluene	0.084	0.002	"	0.100	ND	84.2	70-130	0.811	20	
Ethylbenzene	0.083	0.002	"	0.100	ND	82.6	70-130	0.868	20	
m,p-Xylene	0.165	0.004	"	0.200	ND	82.5	70-130	2.03	20	
o-Xylene	0.086	0.002	"	0.100	ND	86.4	70-130	1.38	20	
Naphthalene	0.087	0.007	"	0.100	ND	86.5	70-130	2.96	20	
Surrogate: 1,2-Dichloroethane-d4	56		ug/kg	62.5		89.4	70-130			
Surrogate: Toluene-d8	60		"	62.5		96.3	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G29002 - EPA 3580

Blank (5G29002-BLK1)

Prepared: 07/29/2015 Analyzed: 07/29/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	80		"	100		79.9	59-131			

LCS (5G29002-BS1)

Prepared: 07/29/2015 Analyzed: 07/29/2015

Diesel (C10-C28)	816	50.0	mg/kg	1000		81.6	64-121			
Surrogate: o-Terphenyl	48		"	50.0		95.7	59-131			

Matrix Spike (5G29002-MS1)

Source: X507372-01

Prepared: 07/29/2015 Analyzed: 07/29/2015

Diesel (C10-C28)	827	50.0	mg/kg	1000	53.4	77.4	53-125			
Surrogate: o-Terphenyl	43		"	50.0		86.9	59-131			

Matrix Spike Dup (5G29002-MSD1)

Source: X507372-01

Prepared: 07/29/2015 Analyzed: 07/29/2015

Diesel (C10-C28)	850	50.0	mg/kg	1000	53.4	79.7	53-125	2.73	20	
Surrogate: o-Terphenyl	44		"	50.0		88.8	59-131			

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 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5G29003 - NO PREP										
Duplicate (5G29003-DUP1)		Source: X507372-01			Prepared: 07/29/2015 Analyzed: 07/29/2015					
pH	7.98		pH Units		8.06			0.998	25	
Batch 5G29004 - NO PREP										
Blank (5G29004-BLK1)		Prepared: 07/29/2015 Analyzed: 07/29/2015								
Specific Conductance (EC)	0.00440		mmhos/cm							
Duplicate (5G29004-DUP1)		Source: X507372-01			Prepared: 07/29/2015 Analyzed: 07/29/2015					
Specific Conductance (EC)	0.156		mmhos/cm		0.174			10.5	25	

Origins Laboratory, Inc.



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 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

Metals by 6010B - Quality Control
ALG-J

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 241456 - EPA 3050B										
Blank (2414561-BLK)		Source: 2414561-BLK			Prepared: 07/30/2015 Analyzed: 07/30/2015					
Calcium, Total Recoverable	2.8	5	mg/Kg				-			J
Magnesium, Total Recoverable	ND	5	"				-			U
Sodium, Total Recoverable	3	25	"				-			J
LCS (2414561-LCS)		Source: 2414561-LCS			Prepared: 07/30/2015 Analyzed: 07/30/2015					
Calcium, Total Recoverable	262	5	mg/Kg	250	105		80-120			
Magnesium, Total Recoverable	258	5	"	250	103		80-120			
Sodium, Total Recoverable	1280	25	"	1250	102		80-120			
LCSD (2414561-LCSD)		Source: 2414561-LCSD			Prepared: 07/30/2015 Analyzed: 07/30/2015					
Sodium, Total Recoverable	1275	25	mg/Kg	1250	100		80-120	2		
Calcium, Total Recoverable	258	5	"	250	104		80-120	1		
Magnesium, Total Recoverable	258	5	"	250	103		80-120			

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 - Bernhardt #18-32

Notes and Definitions

U The compound was analyzed for, but was not detected (Non-detect) at or above the MRL/MDL.

J The MRL/MDL has been elevated due to matrix interference.

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



July 30, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Bernhardt #18-32

Project Number - [none]

Attached are your analytical results for Noble - Bernhardt #18-32 received by Origins Laboratory, Inc. July 29, 2015. This project is associated with Origins project number X507392-01.

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 - Bernhardt #18-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW-01	X507392-01	Water	July 29, 2015 11:10	07/29/2015 12:16

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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XS07392

Client: Eagle

Client Project ID: Bernhardt #18-32

Checklist Completed by: Jeff Smith

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

Date/time completed: 7/29/15

Airbill #: NA

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

Cooler Number/Temperature: 1 / 6.3 °C 1 / _____ °C 1 / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		X		Sampled Same Day
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)	X			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.

[Signature]
 Reviewed by (Project Manager)

7/29/15
 Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

GW-01
7/29/2015 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X507392-01 (Water)

BTEX by EPA 8260C

Benzene	599	4.0	ug/L	4	5G28003	07/29/2015	07/29/2015	
Toluene	864	50.0	"	50	"	"	07/29/2015	
Ethylbenzene	25.3	4.0	"	4	"	"	07/29/2015	
Xylenes, total	500	4.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	111 %	87.3-113			"	"	"	
Surrogate: Toluene-d8	101 %	90.9-108			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.2 %	88.6-111			"	"	"	

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 - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Blank (5G28003-BLK1)

Prepared: 07/28/2015 Analyzed: 07/29/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5	107		87.3-113			
Surrogate: Toluene-d8	63		"	62.5	101		90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	98.0		88.6-111			

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 - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Blank (5G28003-BLK2)

Prepared: 07/28/2015 Analyzed: 07/29/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5	114		87.3-113			
Surrogate: Toluene-d8	61		"	62.5	97.8		90.9-108			
Surrogate: 4-Bromofluorobenzene	60		"	62.5	96.0		88.6-111			

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.
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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

LCS (5G28003-BS1)

Prepared: 07/28/2015 Analyzed: 07/29/2015

Benzene	58.2	1.0	ug/L	50.0		116	75-126			
Toluene	55.8	1.0	"	50.0		112	78.7-126			
Ethylbenzene	58.3	1.0	"	50.0		117	80-130			
m,p-Xylene	115	2.0	"	100		115	77.2-133			
o-Xylene	55.9	1.0	"	50.0		112	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		106	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		102	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.1	88.6-111			

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 - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

LCS (5G28003-BS2)

Prepared: 07/28/2015 Analyzed: 07/29/2015

Benzene	53.3	1.0	ug/L	50.0		107	75-126			
Toluene	51.3	1.0	"	50.0		103	78.7-126			
Ethylbenzene	50.4	1.0	"	50.0		101	80-130			
m,p-Xylene	101	2.0	"	100		101	77.2-133			
o-Xylene	51.8	1.0	"	50.0		104	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		113	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		102	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	88.6-111			

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 - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Matrix Spike (5G28003-MS1)	Source: X507336-02			Prepared: 07/28/2015 Analyzed: 07/29/2015						
Benzene	52.8	1.0	ug/L	50.0	ND	106	74-130			
Toluene	49.1	1.0	"	50.0	ND	98.1	73-131			
Ethylbenzene	48.0	1.0	"	50.0	ND	96.0	76-132			
m,p-Xylene	94.6	2.0	"	100	ND	94.6	69-139			
o-Xylene	48.3	1.0	"	50.0	ND	96.6	74-131			
Surrogate: 1,2-Dichloroethane-d4	69		"	62.5		110	87.3-113			
Surrogate: Toluene-d8	63		"	62.5		101	90.9-108			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.6	88.6-111			

Origins Laboratory, Inc.



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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Matrix Spike (5G28003-MS2)	Source: X507342-02			Prepared: 07/28/2015 Analyzed: 07/29/2015						
Benzene	51.7	1.0	ug/L	50.0	ND	103	74-130			
Toluene	48.8	1.0	"	50.0	ND	97.6	73-131			
Ethylbenzene	47.7	1.0	"	50.0	ND	95.5	76-132			
m,p-Xylene	96.4	2.0	"	100	ND	96.4	69-139			
o-Xylene	48.3	1.0	"	50.0	ND	96.6	74-131			
Surrogate: 1,2-Dichloroethane-d4	71		"	62.5		113	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		102	90.9-108			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.4	88.6-111			

Origins Laboratory, Inc.



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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Matrix Spike Dup (5G28003-MSD1)	Source: X507336-02			Prepared: 07/28/2015 Analyzed: 07/29/2015						
Benzene	56.5	1.0	ug/L	50.0	ND	113	74-130	6.75	20	
Toluene	51.9	1.0	"	50.0	ND	104	73-131	5.65	20	
Ethylbenzene	52.8	1.0	"	50.0	ND	106	76-132	9.41	20	
m,p-Xylene	103	2.0	"	100	ND	103	69-139	8.92	20	
o-Xylene	52.5	1.0	"	50.0	ND	105	74-131	8.39	20	
Surrogate: 1,2-Dichloroethane-d4	74		"	62.5		118	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		102	90.9-108			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.7	88.6-111			

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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5G28003 - EPA 5030B (Water)

Matrix Spike Dup (5G28003-MSD2)	Source: X507342-02			Prepared: 07/28/2015 Analyzed: 07/29/2015						
Benzene	53.0	1.0	ug/L	50.0	ND	106	74-130	2.43	20	
Toluene	50.3	1.0	"	50.0	ND	101	73-131	3.05	20	
Ethylbenzene	51.4	1.0	"	50.0	ND	103	76-132	7.34	20	
m,p-Xylene	103	2.0	"	100	ND	103	69-139	6.82	20	
o-Xylene	52.1	1.0	"	50.0	ND	104	74-131	7.55	20	
Surrogate: 1,2-Dichloroethane-d4	70		"	62.5		113	87.3-113			
Surrogate: Toluene-d8	64		"	62.5		103	90.9-108			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	88.6-111			

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Bernhardt #18-32

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



August 11, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Bernhardt #18-32

Project Number - [none]

Attached are your analytical results for Noble - Bernhardt #18-32 received by Origins Laboratory, Inc. August 06, 2015. This project is associated with Origins project number X508064-01.

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 - Bernhardt #18-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-01 @ 2.5-3'	X508064-01	Soil	August 6, 2015 14:30	08/06/2015 17:17
SB-02 @ 2.5-3'	X508064-02	Soil	August 6, 2015 14:25	08/06/2015 17:17
SB-03 @ 2.5-3'	X508064-03	Soil	August 6, 2015 14:15	08/06/2015 17:17

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 - Bernhardt #18-32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 508064

Client: Eagle Env Consulting
 Client Project ID: Noble-Bernhardt #18-32

Checklist Completed by: Sellenderson

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

Date/time completed: 8/15/16

Airbill #: NA

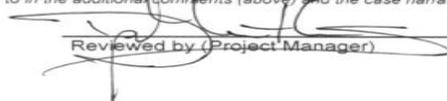
Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____

Cooler Number/Temperature: 1 / 10 °c _____ / _____ °c _____ / _____ °c (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ^{(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 HNO3, HCL, H2SO4) / (pH > 10 for samples preserved with NaAsO2+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)
 08.15.16M Date/Time Reviewed

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

SB-01 @ 2.5-3'
8/6/2015 2:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508064-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
<i>Surrogate: o-Terphenyl</i>	81.0 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	98.8 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	92.1 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

SB-02 @ 2.5-3'
8/6/2015 2:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508064-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/11/2015	
Surrogate: <i>o</i> -Terphenyl	88.8 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.1 %	70-130			"	"	"	
Surrogate: Toluene-d8	91.5 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

SB-03 @ 2.5-3'
8/6/2015 2:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508064-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
Surrogate: <i>o</i> -Terphenyl	63.3 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"	
Surrogate: Toluene-d8	92.9 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	106 %	70-130			"	"	"	

Origins Laboratory, Inc.



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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

Blank (5H10008-BLK1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

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	61		ug/kg	62.5		97.6	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.0	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

LCS (5H10008-BS1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Benzene	0.096	0.002	mg/kg	0.100		96.2	70-130			
Toluene	0.088	0.002	"	0.100		87.5	70-130			
Ethylbenzene	0.084	0.002	"	0.100		84.3	70-130			
m,p-Xylene	0.164	0.004	"	0.200		82.0	70-130			
o-Xylene	0.084	0.002	"	0.100		84.0	70-130			
Naphthalene	0.096	0.007	"	0.100		96.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	62.5		90.8	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.1	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.3	70-130			

Origins Laboratory, Inc.



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Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

Matrix Spike (5H10008-MS1)	Source: X508062-01			Prepared: 08/10/2015 Analyzed: 08/10/2015						
Benzene	0.070	0.002	mg/kg	0.100	ND	70.1	70-130			
Toluene	0.061	0.002	"	0.100	ND	61.0	70-130			QM-07
Ethylbenzene	0.058	0.002	"	0.100	ND	57.9	70-130			QM-07
m,p-Xylene	0.112	0.004	"	0.200	ND	56.1	70-130			QM-07
o-Xylene	0.057	0.002	"	0.100	ND	56.8	70-130			QM-07
Naphthalene	0.044	0.007	"	0.100	ND	44.4	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.7	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.4	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

Matrix Spike Dup (5H10008-MSD1)	Source: X508062-01			Prepared: 08/10/2015 Analyzed: 08/10/2015						
Benzene	0.087	0.002	mg/kg	0.100	ND	87.0	70-130	21.5	20	QR-03
Toluene	0.077	0.002	"	0.100	ND	76.7	70-130	22.7	20	QR-03
Ethylbenzene	0.073	0.002	"	0.100	ND	73.2	70-130	23.3	20	QR-03
m,p-Xylene	0.141	0.004	"	0.200	ND	70.6	70-130	22.9	20	QR-03
o-Xylene	0.072	0.002	"	0.100	ND	71.6	70-130	23.1	20	QR-03
Naphthalene	0.052	0.007	"	0.100	ND	51.7	70-130	15.1	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.5	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.3	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		102	70-130			

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10006 - EPA 3580

Blank (5H10006-BLK1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	45		"	50.0		89.1	59-131			

LCS (5H10006-BS1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	774	50.0	mg/kg	1000		77.4	64-121			
Surrogate: o-Terphenyl	43		"	50.0		86.0	59-131			

Matrix Spike (5H10006-MS1)

Source: X508077-01

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	700	50.0	mg/kg	1000	33.1	66.7	53-125			
Surrogate: o-Terphenyl	32		"	50.0		64.7	59-131			

Matrix Spike Dup (5H10006-MSD1)

Source: X508077-01

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	811	50.0	mg/kg	1000	33.1	77.8	53-125	14.6	20	
Surrogate: o-Terphenyl	26		"	50.0		52.9	59-131			S-MS

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 - Bernhardt #18-32

Notes and Definitions

- S-MS Surrogate recovery outside of acceptance window confirmed as matrix effect by analysis of MS/MSD on this sample.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.



August 11, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Bernhardt #18-32

Project Number - [none]

Attached are your analytical results for Noble - Bernhardt #18-32 received by Origins Laboratory, Inc. August 06, 2015. This project is associated with Origins project number X508065-01.

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 - Bernhardt #18-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01 @ 2.5-5'	X508065-01	Soil	August 6, 2015 13:50	08/06/2015 17:15
MW-02 @ 2.5-5'	X508065-02	Soil	August 6, 2015 11:20	08/06/2015 17:15
MW-03 @ 2.5-5'	X508065-03	Soil	August 6, 2015 12:15	08/06/2015 17:15
MW-04 @ 2.5-5'	X508065-04	Soil	August 6, 2015 13:00	08/06/2015 17:15
MW-05 @ 2.5-5'	X508065-05	Soil	August 6, 2015 9:55	08/06/2015 17:15
MW-06 @ 2.5-5'	X508065-06	Soil	August 6, 2015 10:20	08/06/2015 17:15

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 - Bernhardt #18-32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1508065

Client: Eagle Environmental
 Client Project ID: Bernhardt #18-32

Checklist Completed by: Joe Hernandez
 Date/time completed: 8/2/15 10:59

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

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

Cooler Number/Temperature: 1 / 1.0 °C _____ / _____ °C _____ / _____ °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽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)		7		
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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+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)

8/2/15 15:14
 Date/Time Reviewed

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 - Bernhardt #18-32

MW-01 @ 2.5-5'
8/6/2015 1:50:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-01 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
<i>Surrogate: o-Terphenyl</i>	74.8 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	103 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	107 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98.5 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

MW-02 @ 2.5-5'
8/6/2015 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-02 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
<i>Surrogate: o-Terphenyl</i>	85.0 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	104 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	101 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	99.6 %	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 - Bernhardt #18-32

MW-03 @ 2.5-5'
8/6/2015 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-03 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
<i>Surrogate: o-Terphenyl</i>	82.7 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.9 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	104 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	98.6 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

MW-04 @ 2.5-5'
8/6/2015 1:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-04 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
Surrogate: <i>o</i> -Terphenyl	84.0 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	97.9 %	70-130			"	"	"	
Surrogate: Toluene-d8	92.7 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	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 - Bernhardt #18-32

MW-05 @ 2.5-5'
8/6/2015 9:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-05 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
<i>Surrogate: o-Terphenyl</i>	73.8 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.0 %	70-130			"	"	"	
<i>Surrogate: Toluene-d8</i>	93.9 %	70-130			"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	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 - Bernhardt #18-32

MW-06 @ 2.5-5'
8/6/2015 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508065-06 (Soil)

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

Diesel (C10-C28)	ND	50.0	mg/kg	1	5H10006	08/10/2015	08/10/2015	
Surrogate: <i>o</i> -Terphenyl	68.4 %	59-131			"	"	"	

GBTEX + Napthalene by 8260C

Gasoline Range Hydrocarbons	ND	0.200	mg/kg	1	5H10008	08/10/2015	08/10/2015	
Benzene	ND	0.002	"	"	"	"	"	
Toluene	ND	0.002	"	"	"	"	"	
Ethylbenzene	ND	0.002	"	"	"	"	"	
Xylenes, total	ND	0.002	"	"	"	"	"	
Napthalene	ND	0.007	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	98.3 %	70-130			"	"	"	
Surrogate: Toluene-d8	93.0 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	

Origins Laboratory, Inc.



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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

Blank (5H10008-BLK1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

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	61		ug/kg	62.5		97.6	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.2	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.0	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 - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

LCS (5H10008-BS1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Benzene	0.096	0.002	mg/kg	0.100		96.2	70-130			
Toluene	0.088	0.002	"	0.100		87.5	70-130			
Ethylbenzene	0.084	0.002	"	0.100		84.3	70-130			
m,p-Xylene	0.164	0.004	"	0.200		82.0	70-130			
o-Xylene	0.084	0.002	"	0.100		84.0	70-130			
Naphthalene	0.096	0.007	"	0.100		96.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	57		ug/kg	62.5		90.8	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.1	70-130			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.3	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 - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)

Matrix Spike (5H10008-MS1)	Source: X508062-01			Prepared: 08/10/2015 Analyzed: 08/10/2015						
Benzene	0.070	0.002	mg/kg	0.100	ND	70.1	70-130			
Toluene	0.061	0.002	"	0.100	ND	61.0	70-130			QM-07
Ethylbenzene	0.058	0.002	"	0.100	ND	57.9	70-130			QM-07
m,p-Xylene	0.112	0.004	"	0.200	ND	56.1	70-130			QM-07
o-Xylene	0.057	0.002	"	0.100	ND	56.8	70-130			QM-07
Naphthalene	0.044	0.007	"	0.100	ND	44.4	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.7	70-130			
Surrogate: Toluene-d8	58		"	62.5		92.4	70-130			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		101	70-130			

Origins Laboratory, Inc.



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

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H10008 - EPA 5030 (soil)										
Matrix Spike Dup (5H10008-MSD1)			Source: X508062-01			Prepared: 08/10/2015 Analyzed: 08/10/2015				
Benzene	0.087	0.002	mg/kg	0.100	ND	87.0	70-130	21.5	20	QR-03
Toluene	0.077	0.002	"	0.100	ND	76.7	70-130	22.7	20	QR-03
Ethylbenzene	0.073	0.002	"	0.100	ND	73.2	70-130	23.3	20	QR-03
m,p-Xylene	0.141	0.004	"	0.200	ND	70.6	70-130	22.9	20	QR-03
o-Xylene	0.072	0.002	"	0.100	ND	71.6	70-130	23.1	20	QR-03
Naphthalene	0.052	0.007	"	0.100	ND	51.7	70-130	15.1	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	60		ug/kg	62.5		95.5	70-130			
Surrogate: Toluene-d8	58		"	62.5		93.3	70-130			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		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 - Bernhardt #18-32

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 5H10006 - EPA 3580

Blank (5H10006-BLK1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	ND	50.0	mg/kg							
Surrogate: o-Terphenyl	45		"	50.0		89.1	59-131			

LCS (5H10006-BS1)

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	774	50.0	mg/kg	1000		77.4	64-121			
Surrogate: o-Terphenyl	43		"	50.0		86.0	59-131			

Matrix Spike (5H10006-MS1)

Source: X508077-01

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	700	50.0	mg/kg	1000	33.1	66.7	53-125			
Surrogate: o-Terphenyl	32		"	50.0		64.7	59-131			

Matrix Spike Dup (5H10006-MSD1)

Source: X508077-01

Prepared: 08/10/2015 Analyzed: 08/10/2015

Diesel (C10-C28)	811	50.0	mg/kg	1000	33.1	77.8	53-125	14.6	20	
Surrogate: o-Terphenyl	26		"	50.0		52.9	59-131			S-MS

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 - Bernhardt #18-32

Notes and Definitions

- S-MS Surrogate recovery outside of acceptance window confirmed as matrix effect by analysis of MS/MSD on this sample.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.



August 17, 2015

Eagle Environmental Consulting, Inc.

Martin C Eckert III

4101 Inca Street

Denver

CO 80211

Project Name - Noble - Bernhardt #18-32

Project Number - [none]

Attached are your analytical results for Noble - Bernhardt #18-32 received by Origins Laboratory, Inc. August 13, 2015. This project is associated with Origins project number X508164-01.

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 - Bernhardt #18-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	X508164-01	Water	August 13, 2015 16:15	08/13/2015 17:50
MW-02	X508164-02	Water	August 13, 2015 15:30	08/13/2015 17:50
MW-03	X508164-03	Water	August 13, 2015 15:20	08/13/2015 17:50
MW-04	X508164-04	Water	August 13, 2015 15:05	08/13/2015 17:50
MW-05	X508164-05	Water	August 13, 2015 16:00	08/13/2015 17:50
MW-06	X508164-06	Water	August 13, 2015 15:45	08/13/2015 17:50

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 - Bernhardt #18-32

www.originslaboratory.com

XS08164

ORIGINS
 LABORATORY, INC

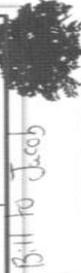
page 1 of 1

Client: Eagle Environmental Consulting
 Address: 4101 Inca St
 Telephone Number: Denver, CO 80211
 Email Address: mce3@eagle-enviro.com

Project Manager: Martin Eckert
 Project Name: Bernhardt #18-32
 Project Number: _____
 Samples Collected By: JS

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions				
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other	BTEX		8260 C			
MW-01	8/13/15	1615	3	X				X									
MW-02		1530															
MW-03		1520															
MW-04		1505															
MW-05		1600															
MW-06		1545															
Relinquished By: <i>[Signature]</i>	Date: 8/13/15	Time: 1750	Received By: <i>[Signature]</i>	Date: 8/13/15	Time: 1750	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard											
Relinquished By: <i>[Signature]</i>	Date: 8/13/15	Time: 1750	Received By: <i>[Signature]</i>	Date: 8/13/15	Time: 1750	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input checked="" type="checkbox"/> Standard											



Bill To Jacob

Date Results Needed

Temp Received: 4.4

Origins Laboratory, Inc.

Jefe Pellegrini

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

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: XSC8164

Client: Eagle
 Client Project ID: Bernhardt 18-32

Checklist Completed by: KRUSH
 Date/time completed: 8.13.15 @ 1755

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

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

Cooler Number/Temperature: 1 / 4.4 °C _____ °C _____ °C (Describe) _____ °C

Thermometer ID: T003

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

[Signature]
 Reviewed by (Project Manager)

8/14/15
 Date/Time Reviewed

Origins Laboratory, Inc.

[Signature]

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

Martin C Eckert III
Project Number: [none]
Project: Noble - Bernhardt #18-32

MW-01
8/13/2015 4:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-01 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/14/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	95.7 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.7 %	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 - Bernhardt #18-32

MW-02
8/13/2015 3:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-02 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/14/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	94.4 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.7 %	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 - Bernhardt #18-32

MW-03
8/13/2015 3:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-03 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/14/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	94.9 %	84-121			"	"	"	
Surrogate: Toluene-d8	102 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.4 %	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 - Bernhardt #18-32

MW-04
8/13/2015 3:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-04 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/14/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	95.5 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.2 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	96.0 %	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 - Bernhardt #18-32

MW-05
8/13/2015 4:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-05 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/15/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	96.1 %	84-121			"	"	"	
Surrogate: Toluene-d8	101 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.5 %	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 - Bernhardt #18-32

MW-06
8/13/2015 3:45:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
X508164-06 (Water)

BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	5H14008	08/14/2015	08/15/2015	
Toluene	ND	1.0	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	
Xylenes, total	ND	1.0	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	94.0 %	84-121			"	"	"	
Surrogate: Toluene-d8	99.3 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	95.7 %	84-114			"	"	"	

Origins Laboratory, Inc.



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 4101 Inca Street
 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H14008 - EPA 5030B (Water)

Blank (5H14008-BLK1)

Prepared: 08/14/2015 Analyzed: 08/14/2015

Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes, total	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		97.9	84-121			
Surrogate: Toluene-d8	64		"	62.5		102	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.0	84-114			

Origins Laboratory, Inc.



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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H14008 - EPA 5030B (Water)

LCS (5H14008-BS1)

Prepared: 08/14/2015 Analyzed: 08/14/2015

Benzene	47.2	1.0	ug/L	50.0		94.5	75-126			
Toluene	48.1	1.0	"	50.0		96.3	78.7-126			
Ethylbenzene	46.3	1.0	"	50.0		92.7	80-130			
m,p-Xylene	91.4	2.0	"	100		91.4	77.2-133			
o-Xylene	45.8	1.0	"	50.0		91.6	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	59		"	62.5		94.6	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.9	84-114			

Origins Laboratory, Inc.



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 Denver CO 80211

Martin C Eckert III
 Project Number: [none]
 Project: Noble - Bernhardt #18-32

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 5H14008 - EPA 5030B (Water)

Matrix Spike (5H14008-MS1)	Source: X508160-01			Prepared: 08/14/2015 Analyzed: 08/14/2015						
Benzene	51.0	1.0	ug/L	50.0	ND	102	74-130			
Toluene	52.2	1.0	"	50.0	ND	104	73-131			
Ethylbenzene	50.0	1.0	"	50.0	ND	100	76-132			
m,p-Xylene	96.4	2.0	"	100	ND	96.4	69-139			
o-Xylene	48.2	1.0	"	50.0	ND	96.5	74-131			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.7	84-121			
Surrogate: Toluene-d8	62		"	62.5		99.7	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.7	84-114			

Origins Laboratory, Inc.



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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 5H14008 - EPA 5030B (Water)

Matrix Spike Dup (5H14008-MSD1)	Source: X508160-01			Prepared: 08/14/2015 Analyzed: 08/14/2015						
Benzene	51.1	1.0	ug/L	50.0	ND	102	74-130	0.0783	20	
Toluene	52.9	1.0	"	50.0	ND	106	73-131	1.45	20	
Ethylbenzene	51.1	1.0	"	50.0	ND	102	76-132	2.08	20	
m,p-Xylene	98.6	2.0	"	100	ND	98.6	69-139	2.22	20	
o-Xylene	49.7	1.0	"	50.0	ND	99.3	74-131	2.90	20	
Surrogate: 1,2-Dichloroethane-d4	61		"	62.5		96.9	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		99.6	84-114			

Origins Laboratory, Inc.



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4101 Inca Street
Denver CO 80211

Martin C Eckert III
Project Number: [none]
Project: Noble - Bernhardt #18-32

Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President