



received 09/09/2016  
REM 9419  
Spill 442687  
Document 2526893

July 26, 2016

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

**RE: Groundwater Monitoring Report and No Further Action Recommendation  
Bernhardt #18-32  
Produced Water Release  
40.306653 / -104.829028  
NW¼ SW¼ SEC.18 T4N R66W 6PM  
Weld County, Colorado  
API # 05-123-20081  
Remediation # 9419**

Dear Mr. Evans,

Eagle Environmental Consulting, Inc. (EAGLE) is pleased to present this Groundwater Monitoring Report and No Further Action Recommendation for the above referenced site.

## **1.0 SITE BACKGROUND**

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 6<sup>th</sup> 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.

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 sample SS-02@2.5 and groundwater sample GW-01 following removal of the associated water vault.

Based on laboratory analytical results, soil sample SS-02@2.5' did not contain concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, or total petroleum hydrocarbons (TPH) exceeding applicable Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 regulatory limits. The groundwater sample collected from the base of the water vault removal excavation contained concentrations of benzene (599 micrograms per liter (µg/L)) and toluene (864 µg/L) exceeding applicable COGCC Table 910-1 regulatory limits (5 µg/L and 560 µg/L, respectively), requiring additional assessment at the site.

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, a total of nine soil borings (SB-01 through SB-03, and MW-01 through MW-06) were advanced around the produced water release area and water vault removal excavation. Based on laboratory analytical results, the soil samples collected from SB-01 through SB-03, as well as SS-02@2.5', indicate the assumed source area was removed during decommissioning/excavation activities. Soil analytical results are summarized in Table 1 and presented in Figure 3.

On August 6, 2015, six soil borings (MW-01 through MW-06) were advanced around the produced water release area. Each soil boring was completed as a 1-inch, groundwater monitoring well to define the extents of dissolved petroleum hydrocarbon impacts beneath the site. Soil boring advancement/monitoring well installation activities were completed by EAGLE using a 7822DT Series Geoprobe track rig. Monitoring well locations are presented in Figure 4. EAGLE began quarterly groundwater monitoring activities at the site in August 2015.

## **1.1 Site Hydrogeology**

The soil lithology observed beneath the release location consists of 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.

## **2.0 GROUNDWATER MONITORING ACTIVITIES**

### **2.1 Groundwater Sampling Procedures**

EAGLE developed newly installed monitoring wells the day of the installation. Prior to groundwater sample collection, MW-01 through MW-06 were purged six well volumes with a disposable poly vinyl chloride (PVC) bailer. Following recharge, groundwater samples were collected in 40 milliliter (mL) amber vials. Prior to groundwater sample collection, initial depth to groundwater was recorded to aid in groundwater flow elevation and direction calculations/determinations.

Groundwater samples were submitted to Origins Laboratory, Inc. (Origins) located in Denver, Colorado, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) following Environmental Protection Agency (EPA) Method 8260C. The groundwater samples were delivered to Origins under proposed chain-of-custody procedures for shipment to the laboratory, and the samples were received within quality assurance/quality control (QA/QC) parameters.

### **2.2 Summary of Groundwater Sampling Activities**

Quarterly groundwater sampling activities began on the site in August 2015 and continued for four consecutive quarters, through May 2016. Dissolved BTEX concentrations have been observed below COGCC Table 910-1 regulatory limits in all monitoring wells (MW-01 thorough MW-06) since monitoring well installation.

### **2.3 2<sup>nd</sup> Quarter 2016 Groundwater Sampling Activities**

On May 17, 2016, EAGLE completed quarterly groundwater sampling activities at the site. Groundwater samples were collected from monitoring wells MW-01 through MW-06. 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 97.37 feet (MW-02) to 97.44 feet (MW-05 & MW-06). Groundwater flow direction beneath the site during the May 2016 sampling

event was predominantly to the northwest with an average hydraulic gradient of 0.0013 feet per foot across the site (measured from MW-05 to MW-02). Groundwater elevations across the site increased an average of 2.36 feet compared to February 2016 groundwater elevations.

## **2.4 2<sup>nd</sup> Quarter 2016 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 or laboratory reporting limits. Dissolved BTEX concentrations have not been observed exceeding COGCC Table 910-1 regulatory limits since monitoring well installation (3<sup>rd</sup> quarter 2015 to 2<sup>nd</sup> quarter 2016).

Groundwater analytical results for the May 17, 2016 groundwater sampling event are presented in Figure 5 and summarized in Table 2. Groundwater elevation data is summarized in Table 3, and groundwater elevations and flow direction is included in Figure 6. Laboratory analytical results from the last four quarters of groundwater sampling activities are included in Attachment B.

## **3.0 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 applicable 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 have not contained concentrations of BTEX exceeding applicable COGCC Table 910-1 regulatory limits or laboratory reporting limits for four (4) consecutive quarters (3<sup>rd</sup> quarter 2015 through 2<sup>nd</sup> quarter 2016).

#### **4.0 RECOMMENDATIONS**

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

- No further action appears warranted for the Bernhardt #18-32 produced water release at this time.

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

Sincerely,

***EAGLE ENVIRONMENTAL CONSULTING, INC.***

A handwritten signature in blue ink, appearing to read "Andrew Newberry".

Andrew Newberry  
Project Geologist

A handwritten signature in blue ink, appearing to read "Robin Lockwood".

Robin Lockwood  
Project Scientist



## **FIGURES**

**Figure 1: Topographic Site Location Map**

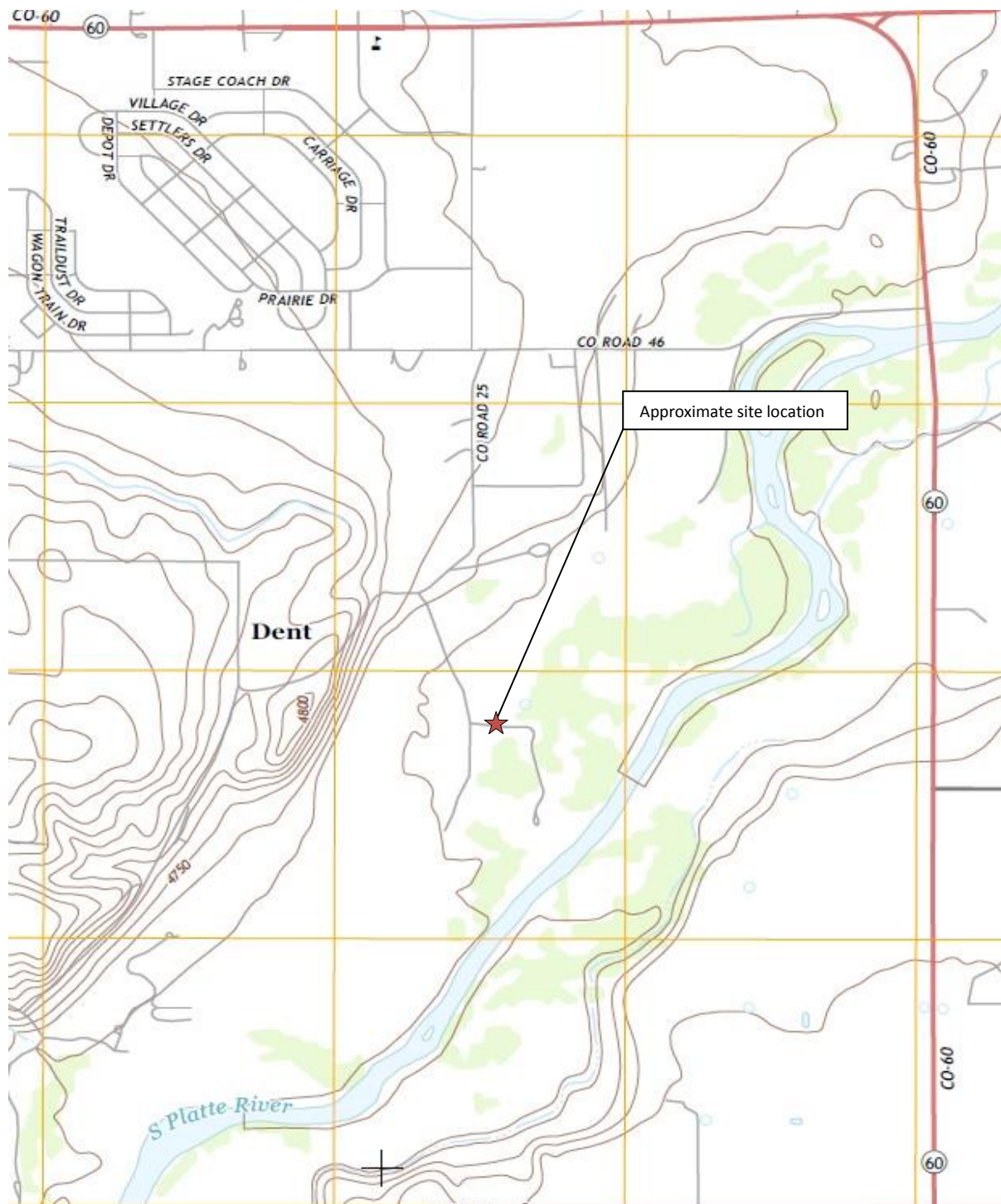
**Figure 2: Aerial Site Location Map**

**Figure 3: Soil Sample Analytical Map**

**Figure 4: Monitoring Well Soil Sample Analytical Map**

**Figure 5: Groundwater Analytical Map**

**Figure 6: Groundwater Elevation 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

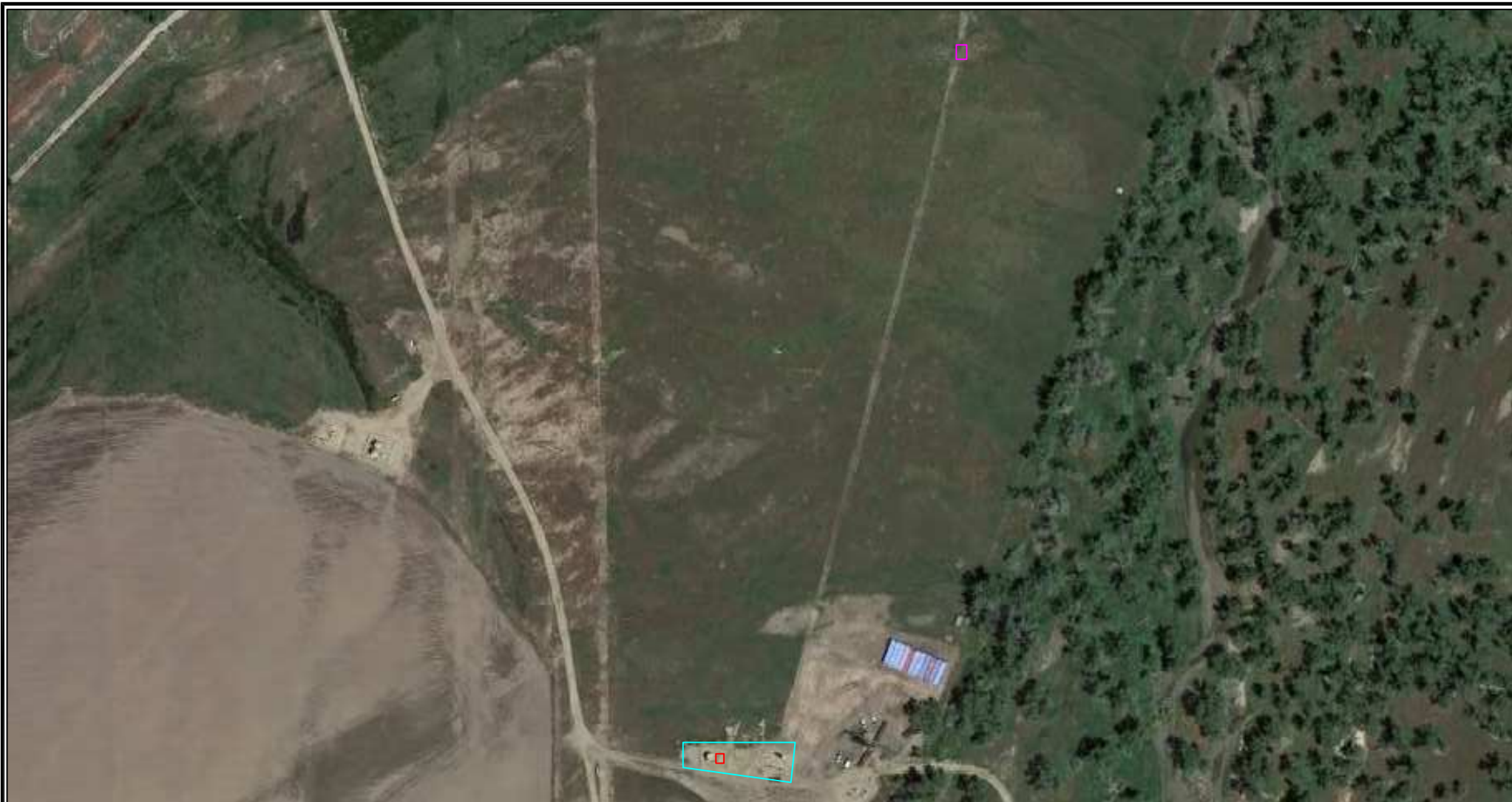


Source: USGS 7.5 Minute Topographic Map, Milliken, CO Quadrangle 2013

**Figure 1**

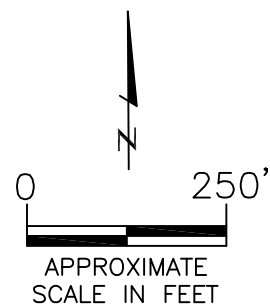


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 CONSULTING, INC.



# **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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#### 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)

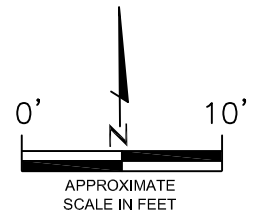
mg/kg = MILLIGRAMS PER KILOGRAM

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

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MW-02@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-02

MW-06@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-06

MW-01@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-01

MW-03@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-03

MW-05@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-05

MW-04@2.5-5'  
08/06/15  
2.5-5'  
B = <0.002  
T = <0.002  
E = <0.002  
X = <0.002  
N = <0.007  
G = <0.200  
D = <50.0

MW-04

**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.

0' 10'

N

APPROXIMATE SCALE IN FEET

**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:	07/13/16
FIG. NO.	4
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# LEGEND

- APPROXIMATE EXCAVATION BOUNDARIES
- ⊕ APPROXIMATE MONITORING WELL LOCATION
- **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)

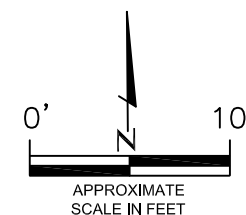
ug/l = MICROGRAMS PER LITER  
TPH-GRO = TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE ORGANICS

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.

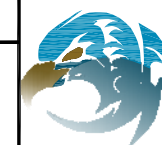


GROUNDWATER ANALYTICAL MAP  
BERNHARDT #18-32  
PRODUCED WATER RELEASE  
40.306653/-104.829028  
NW1/4 SW1/4 SEC.18 T4N R66W 6PM  
WELD COUNTY, COLORADO  
API # 05-123-20081

DATE: 07/13/16

FIG. NO. 5

DRAWN BY: amn



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# LEGEND

— — — APPROXIMATE EXCAVATION BOUNDARIES

⊕ APPROXIMATE MONITORING WELL LOCATION

(4748.25) GROUNDWATER ELEVATION (FT.)

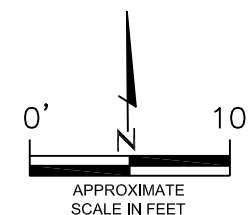
— — — INFERRED GROUNDWATER ELEVATION CONTOUR (FT.)

➔ APPROXIMATE GROUNDWATER FLOW DIRECTION

FT. = FEET

NOTE: GROUNDWATER ELEVATION DATA COLLECTED ON MAY 17, 2016 FROM ALL MONITORING WELLS.

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

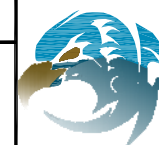
DATE: 07/13/16

FIG. NO.

6

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amn



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## **TABLES**

**Table 1:     Soil Analytical Results Summary**

**Table 2:     Groundwater Analytical Results Summary**

**Table 3:     Groundwater Elevation Summary**



**TABLE 1**  
**SOIL ANALYTICAL RESULTS SUMMARY**  
**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
<b>COGCC Table 910-1 Regulatory Limits (mg/kg)</b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>23</b>	<b>500</b>		<b>&lt;4</b>	<b>6 to 9</b>	<b>&lt;12<sup>^</sup>5</b>
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)
<b>COGCC Table 910-1 Regulatory Limits (µg/L)</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1400</b>
GW-01 (40.306651 / -104.829027)	07/29/15	<b>599</b>	<b>864</b>	25.3	500
MW-01 (40.306650 / -104.829028)	08/13/15	<1.0	<1.0	<1.0	<1.0
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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
	11/02/15	<1.0	<1.0	<1.0	<1.0
	02/09/16	<1.0	<1.0	<1.0	<1.0
	05/17/16	<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 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**

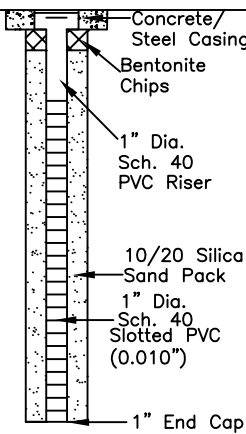
Sample Location (Latitude/Longitude)	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-01 (40.306650 / -104.829028)	08/13/15	100.00	5.06	94.94
	11/02/15		5.10	94.90
	02/09/16		4.74	95.26
	05/17/17		2.60	97.40
MW-02 (40.306719 / -104.829030)	08/13/15	99.75	4.63	95.12
	11/02/15		4.87	94.88
	02/09/16		4.70	95.05
	05/17/16		2.38	97.37
MW-03 (40.306647 / -104.828922)	08/13/15	99.67	4.60	95.07
	11/02/15		4.80	94.87
	02/09/16		4.63	95.04
	05/17/16		2.29	97.38
MW-04 (40.306586 / -104.828960)	08/13/15	99.93	4.11	95.82
	11/02/15		5.02	94.91
	02/09/16		4.84	95.09
	05/17/16		2.52	97.41
MW-05 (40.306589 / -104.829109)	08/13/15	99.73	4.67	95.06
	11/02/15		4.79	94.94
	02/09/16		4.63	95.10
	05/17/16		2.29	97.44
MW-06 (40.306663 / -104.829133)	08/13/15	99.70	4.56	95.14
	11/02/15		4.77	94.93
	02/09/16		4.95	94.75
	05/17/16		2.26	97.44
NOTES:				

## **ATTACHMENT A**

### **Boring Logs and Monitoring Well Completion Diagrams**

# Boring Log/Well Completion Diagram: MW-01

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-4') 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	N/A	5		
10	BoB @ 10'					0.4	N/A	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

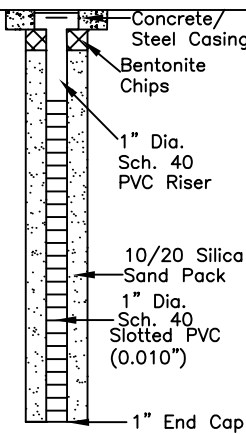


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# Boring Log/Well Completion Diagram: MW-02

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3') 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			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	N/A	5		
10	BoB @ 10'					1.0	N/A	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: 1105/1140

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5/1120

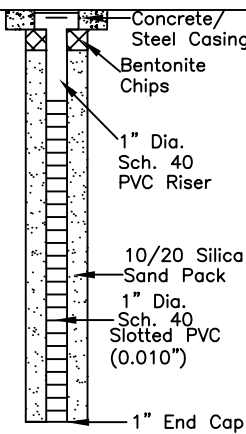


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# Boring Log/Well Completion Diagram: MW-03

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3.5') 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			Wet @ 5'  5-10' - Limited recovery
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	1.4	N/A	5		
10	BoB @ 10'					0.8	N/A	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: 1200/1240

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1215

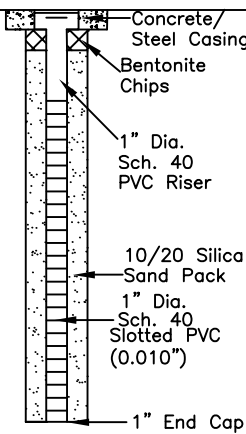


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# Boring Log/Well Completion Diagram: MW-04

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3.5') 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			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	1.4	N/A	5		
10	BoB @ 10'					1.1	N/A	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: 1245/1320

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1300



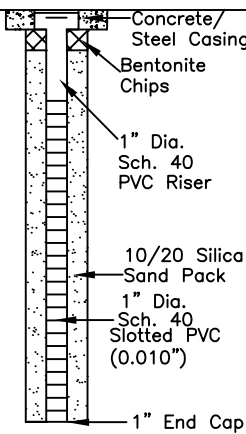
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# Boring Log/Well Completion Diagram: MW-05

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3') 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			Wet @ 5-5.5'  5-10' - Limited recovery
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	N/A	5		
10	BoB @ 10'					0.8	N/A	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: 940/1015

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/955

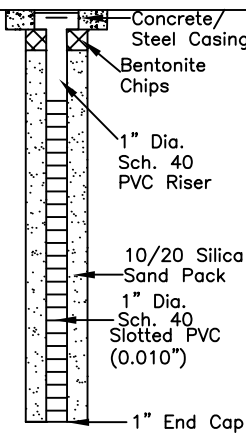


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# Boring Log/Well Completion Diagram: MW-06

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3.5') 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			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	N/A	5		
10	BoB @ 10'					1.8	N/A	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: 1020/1100

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-5'/1040



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# Boring Log/Well Completion Diagram: SB-01

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3') 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'							5		
10								10		
15								15		
20								20		
25								25		
30										

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

START/COMPLETION DATE: 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

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3.5') 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		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: 1420/1425

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-3'/1425



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# Boring Log/Well Completion Diagram: SB-03

PAGE 1 OF 1

DEPTH (FT)	LITHOLOGY	SAMPLE				OVM/OVA (PPM)	BLOW COUNT (per 0.5 FT)	DEPTH (FT)	WELL CONSTRUCTION DETAIL	COMMENTS
	DESCRIPTION	GRAPHIC LOG	TYPE	NUMBER	RECOVERY %					
0	(0-3') 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				
	(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'							5		
10								10		
15								15		
20								20		
25								25		
30										

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

START/COMPLETION DATE: 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: 1410/1420

SAMPLE COLLECTION DEPTH (FEET)/TIME: 2.5-3'/1415



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## **ATTACHMENT B**

### **Laboratory Analytical Reports**



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.



*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.*



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4101 Inca Street  
Denver CO 80211

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

www.originslaboratory.com

X508164

page 1 of 1

**ORIGINS**  
LABORATORY, INC

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: J5  
Samples Collected By:

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #		
MW-01	8/13/15	1615	3	X				X			8260 C	1
MW-02		1530										2
MW-03		1520										3
MW-04		1505										4
MW-05		1600										5
MW-06		1545										6
												7
												8
												9
												10

Relinquished By: [Signature] Date: 8/13/15 Time: 1750  
Relinquished By: [Signature] Date: 8/13/15 Time: 1750

Received By: [Signature] Date: 8/13/15 Time: 1750  
Received By: [Signature] Date: 8/13/15 Time: 1750

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

Bill to Jacob

Date Results Needed

Temp Received- 4.4

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

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.

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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

Shipped Via: HD

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

Date/time completed: 8.13.15 1755

Airbill #: NA

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

Cooler Number/Temperature: 1 44 °C 1 °C 1 °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCC
Additional Comments (if any):				

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

Joe Smith  
Reviewed by (Project Manager)

8/14/15  
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

**MW-01**

**8/13/2015 4:15:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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**

**8/13/2015 3:30:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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**

**8/13/2015 3:20:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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**

**8/13/2015 3:05:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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-05**

**8/13/2015 4:00:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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-06**

**8/13/2015 3:45:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**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.



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 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.



*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

**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)**

**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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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

**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.



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 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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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



November 06, 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. November 02, 2015. This project is associated with Origins project number X511035-01.

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	X511035-01	Water	November 2, 2015 12:45	11/02/2015 14:00
MW-02	X511035-02	Water	November 2, 2015 11:55	11/02/2015 14:00
MW-03	X511035-03	Water	November 2, 2015 12:05	11/02/2015 14:00
MW-04	X511035-04	Water	November 2, 2015 12:15	11/02/2015 14:00
MW-05	X511035-05	Water	November 2, 2015 12:25	11/02/2015 14:00
MW-06	X511035-06	Water	November 2, 2015 12:35	11/02/2015 14:00

Origins Laboratory, Inc.



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





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: XS11035

Client: Eagle Env.

Client Project ID: Noble - Bernhardt

Checklist Completed by: Joe Henderson

Shipped Via: HIP

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

Date/time completed: 11/3/15 1448

Airbill #: N/A

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

Cooler Number/Temperature: 1 18.1 °C 1 °C 1 °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?		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 <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		X		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	X			HCL
Additional Comments (if any):				

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

Reviewed by (Project Manager)

Date/Time Reviewed

Origins Laboratory, Inc.

*Joe 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

MW-01

11/2/2015 12:45:00PM

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

X511035-01 (Water)

## BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	99.2 %	84-121			"	"	"
Surrogate: Toluene-d8	103 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	84-114			"	"	"

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-02**

**11/2/2015 11:55:00AM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**Origins Laboratory, Inc.**

**X511035-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.0 %	84-121			"	"	"
Surrogate: Toluene-d8	100 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	84-114			"	"	"

Origins Laboratory, Inc.



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

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

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

## MW-03

11/2/2015 12:05:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. X511035-03 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	84-121			"	"	"
Surrogate: Toluene-d8	101 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	105 %	84-114			"	"	"

Origins Laboratory, Inc.



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

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

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

## MW-04

11/2/2015 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. X511035-04 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	97.3 %	84-121			"	"	"
Surrogate: Toluene-d8	102 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	84-114			"	"	"

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-05**

**11/2/2015 12:25:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**Origins Laboratory, Inc.**

**X511035-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	98.8 %	84-121			"	"	"
Surrogate: Toluene-d8	102 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	99.8 %	84-114			"	"	"

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-06**

**11/2/2015 12:35:00PM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**Origins Laboratory, Inc.**

**X511035-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B5K0303	11/03/2015	11/03/2015
Toluene	ND	1.0	"	"	"	"	"
Ethylbenzene	ND	1.0	"	"	"	"	"
Xylenes, total	ND	1.0	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	100 %	84-121		"	"	"
Surrogate: Toluene-d8	103 %	85-115		"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	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

**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 B5K0303 - EPA 5030B (Water)**

**Blank (B5K0303-BLK1)**

Prepared: 11/03/2015 Analyzed: 11/03/2015

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	97.3		84-121			
Surrogate: Toluene-d8	64		"	62.5	102		85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5	102		84-114			

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President



Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B5K0303 - EPA 5030B (Water)

**LCS (B5K0303-BS1)**

Prepared: 11/03/2015 Analyzed: 11/03/2015

Benzene	48.6	1.0	ug/L	50.0		97.3	75-126			
Toluene	49.6	1.0	"	50.0		99.3	78.7-126			
Ethylbenzene	53.5	1.0	"	50.0		107	80-130			
m,p-Xylene	107	2.0	"	100		107	77.2-133			
o-Xylene	50.2	1.0	"	50.0		100	77.9-126			
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		95.4	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	66		"	62.5		106	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - 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 B5K0303 - EPA 5030B (Water)**

Matrix Spike (B5K0303-MS1)		Source: X511028-01			Prepared: 11/03/2015 Analyzed: 11/03/2015					
Benzene	32.1	1.0	ug/L	50.0	ND	64.3	74-130			QM-07
Toluene	32.4	1.0	"	50.0	ND	64.8	73-131			QM-07
Ethylbenzene	35.1	1.0	"	50.0	ND	70.3	76-132			QM-07
m,p-Xylene	67.9	2.0	"	100	ND	67.9	69-139			QM-07
o-Xylene	33.2	1.0	"	50.0	ND	66.5	74-131			QM-07
Surrogate: 1,2-Dichloroethane-d4	62		"	62.5		99.5	84-121			
Surrogate: Toluene-d8	65		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	64		"	62.5		103	84-114			

Origins Laboratory, Inc.



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

Martin C Eckert III  
Project Number: [none]  
Project: Noble - 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 B5K0303 - EPA 5030B (Water)**

Matrix Spike Dup (B5K0303-MSD1)		Source: X511028-01			Prepared: 11/03/2015 Analyzed: 11/03/2015					
Benzene	36.3	1.0	ug/L	50.0	ND	72.7	74-130	12.3	20	QM-07
Toluene	36.1	1.0	"	50.0	ND	72.3	73-131	10.8	20	QM-07
Ethylbenzene	38.1	1.0	"	50.0	ND	76.2	76-132	8.06	20	
m,p-Xylene	72.4	2.0	"	100	ND	72.4	69-139	6.40	20	
o-Xylene	36.2	1.0	"	50.0	ND	72.4	74-131	8.50	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	60		"	62.5		96.4	84-121			
Surrogate: Toluene-d8	66		"	62.5		105	85-115			
Surrogate: 4-Bromofluorobenzene	65		"	62.5		104	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

### Notes and Definitions

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President



February 16, 2016

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. February 11, 2016. This project is associated with Origins project number X602103-01.

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	X602103-01	Water	February 9, 2016 12:00	02/11/2016 08:45
MW-02	X602103-02	Water	February 9, 2016 11:20	02/11/2016 08:45
MW-03	X602103-03	Water	February 9, 2016 11:40	02/11/2016 08:45
MW-04	X602103-04	Water	February 9, 2016 11:55	02/11/2016 08:45
MW-05	X602103-05	Water	February 9, 2016 10:55	02/11/2016 08:45
MW-06	X602103-06	Water	February 9, 2016 11:05	02/11/2016 08:45

Origins Laboratory, Inc.



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

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

ORIGINS  
LABORATORY, INC

X602103

www.originslaboratory.com

page 1 of 1

Client: Eagle Environmental Consulting, Inc. Project Manager: Martin Eckert III  
Address: 4101 Inca St Project Name: Bernhardt #18-32  
Denver, CO 80211 Project Number: JS  
Telephone Number: 303 433 0419 Samples Collected By:  
Email Address: mce3@eagle-enviro.com

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summa Canister #			
MW-01	2/9/16	1200	3		X			X					1
MW-02		1120	1										2
MW-03		1140	1										3
MW-04		1155	1										4
MW-05		1055	1										5
MW-06		1105	1										6
													7
													8
													9
													10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
[Signature]	2/11/16	0845	[Signature]	2/11/16	0845	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Temp Received- 2.3

Date Results Needed

Bill to Jacob  
(Noble Standard)

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

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X602103

Client: Eagle

Client Project ID: Bernhardt #18-32

Checklist Completed by: Jose Smith

Shipped Via: HL

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

Date/time completed: 2/11/12

Airbill #: NA

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

Cooler Number/Temperature: 1 12 3 °C 1 °C 1 °C (Describe) 1 °C

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	X			
Is there ice present (document if blue ice is used)	X			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		X		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		X		
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		X		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	X			HCL
Additional Comments (if any):				

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

Reviewed by: [Signature] (Project Manager)

Date/Time Reviewed: 02/11/12

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**

**2/9/2016 12:00:00PM**

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

**X602103-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

113 % 84-121

"

"

"

Surrogate: Toluene-d8

97.9 % 85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

98.8 % 84-114

"

"

"

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-02**

**2/9/2016 11:20:00AM**

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

**X602103-02 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

114 %

84-121

"

"

"

Surrogate: Toluene-d8

97.6 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

99.6 %

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**

**2/9/2016 11:40:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X602103-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4  
Surrogate: Toluene-d8  
Surrogate: 4-Bromofluorobenzene

112 % 84-121  
98.3 % 85-115  
100 % 84-114

" " "  
" " "  
" " "

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-04**

**2/9/2016 11:55:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X602103-04 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4  
Surrogate: Toluene-d8  
Surrogate: 4-Bromofluorobenzene

114 % 84-121  
97.0 % 85-115  
101 % 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**

**2/9/2016 10:55:00AM**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Notes
		Limit							

**Origins Laboratory, Inc.**

**X602103-05 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	112 %	84-121			"	"	"
Surrogate: Toluene-d8	97.3 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	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**

**2/9/2016 11:05:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X602103-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6B1101	02/11/2016	02/12/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

112 %

84-121

"

"

"

Surrogate: Toluene-d8

98.5 %

85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

99.5 %

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

**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 B6B1101 - EPA 5030B (Water)**

**Blank (B6B1101-BLK1)**

Prepared: 02/11/2016 Analyzed: 02/12/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5	108		84-121			
Surrogate: Toluene-d8	61		"	62.5	97.6		85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5	100		84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6B1101 - EPA 5030B (Water)**

**Blank (B6B1101-BLK2)**

Prepared: 02/11/2016 Analyzed: 02/12/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5	107		84-121			
Surrogate: Toluene-d8	62		"	62.5	99.3		85-115			
Surrogate: 4-Bromofluorobenzene	59		"	62.5	95.1		84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President



Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6B1101 - EPA 5030B (Water)

LCS (B6B1101-BS1)

Prepared: 02/11/2016 Analyzed: 02/12/2016

Benzene	50.2	1.0	ug/L	50.0		100	73.3-129			
Toluene	48.1	1.0	"	50.0		96.1	76.2-123			
Ethylbenzene	48.0	1.0	"	50.0		96.0	73.6-130			
m,p-Xylene	97.4	2.0	"	100		97.4	76.1-126			
o-Xylene	49.8	1.0	"	50.0		99.6	76.6-124			
Surrogate: 1,2-Dichloroethane-d4	68		"	62.5		108	84-121			
Surrogate: Toluene-d8	61		"	62.5		97.6	85-115			
Surrogate: 4-Bromofluorobenzene	63		"	62.5		100	84-114			

Origins Laboratory, Inc.



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

Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6B1101 - EPA 5030B (Water)**

**LCS (B6B1101-BS2)**

Prepared: 02/11/2016 Analyzed: 02/12/2016

Benzene	42.4	1.0	ug/L	50.0		84.8	73.3-129
Toluene	42.2	1.0	"	50.0		84.5	76.2-123
Ethylbenzene	42.4	1.0	"	50.0		84.9	73.6-130
m,p-Xylene	84.2	2.0	"	100		84.2	76.1-126
o-Xylene	42.6	1.0	"	50.0		85.3	76.6-124
Surrogate: 1,2-Dichloroethane-d4	65		"	62.5		105	84-121
Surrogate: Toluene-d8	62		"	62.5		99.9	85-115
Surrogate: 4-Bromofluorobenzene	61		"	62.5		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

**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 B6B1101 - EPA 5030B (Water)**

Matrix Spike (B6B1101-MS1)		Source: X602081-01			Prepared: 02/11/2016 Analyzed: 02/12/2016					
Benzene	46.3	1.0	ug/L	50.0	ND	92.7	74-130			
Toluene	45.8	1.0	"	50.0	ND	91.6	73-131			
Ethylbenzene	46.5	1.0	"	50.0	ND	93.0	76-132			
m,p-Xylene	94.8	2.0	"	100	ND	94.8	69-139			
o-Xylene	48.2	1.0	"	50.0	ND	96.4	74-131			
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	62		"	62.5		98.9	85-115			
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.4	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6B1101 - EPA 5030B (Water)**

Matrix Spike (B6B1101-MS2)		Source: X602081-02			Prepared: 02/11/2016 Analyzed: 02/12/2016					
Benzene	41.5	1.0	ug/L	50.0	ND	83.1	74-130			
Toluene	40.3	1.0	"	50.0	ND	80.5	73-131			
Ethylbenzene	40.0	1.0	"	50.0	ND	80.0	76-132			
m,p-Xylene	80.5	2.0	"	100	ND	80.5	69-139			
o-Xylene	41.4	1.0	"	50.0	ND	82.7	74-131			
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		108	84-121			
Surrogate: Toluene-d8	63		"	62.5		101	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		97.3	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6B1101 - EPA 5030B (Water)

Matrix Spike Dup (B6B1101-MSD1)		Source: X602081-01			Prepared: 02/11/2016 Analyzed: 02/12/2016					
Benzene	43.2	1.0	ug/L	50.0	ND	86.5	74-130	6.92	20	
Toluene	41.9	1.0	"	50.0	ND	83.7	73-131	9.01	20	
Ethylbenzene	40.9	1.0	"	50.0	ND	81.8	76-132	12.8	20	
m,p-Xylene	83.7	2.0	"	100	ND	83.7	69-139	12.4	20	
o-Xylene	45.0	1.0	"	50.0	ND	90.0	74-131	6.87	20	
Surrogate: 1,2-Dichloroethane-d4	64		"	62.5		102	84-121			
Surrogate: Toluene-d8	61		"	62.5		98.2	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	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

## 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 B6B1101 - EPA 5030B (Water)

Matrix Spike Dup (B6B1101-MSD2)		Source: X602081-02			Prepared: 02/11/2016 Analyzed: 02/12/2016					
Benzene	48.0	1.0	ug/L	50.0	ND	96.0	74-130	14.4	20	
Toluene	46.4	1.0	"	50.0	ND	92.8	73-131	14.1	20	
Ethylbenzene	46.9	1.0	"	50.0	ND	93.9	76-132	16.0	20	
m,p-Xylene	92.6	2.0	"	100	ND	92.6	69-139	14.0	20	
o-Xylene	47.9	1.0	"	50.0	ND	95.8	74-131	14.7	20	
Surrogate: 1,2-Dichloroethane-d4	67		"	62.5		107	84-121			
Surrogate: Toluene-d8	64		"	62.5		103	85-115			
Surrogate: 4-Bromofluorobenzene	60		"	62.5		96.1	84-114			

Origins Laboratory, Inc.



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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

### Notes and Definitions

U Sample is Non-Detect.

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



May 23, 2016

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. May 17, 2016. This project is associated with Origins project number X605212-01.

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	X605212-01	Water	May 17, 2016 11:00	05/17/2016 15:35
MW-02	X605212-02	Water	May 17, 2016 11:15	05/17/2016 15:35
MW-03	X605212-03	Water	May 17, 2016 11:30	05/17/2016 15:35
MW-04	X605212-04	Water	May 17, 2016 11:45	05/17/2016 15:35
MW-05	X605212-05	Water	May 17, 2016 12:00	05/17/2016 15:35
MW-06	X605212-06	Water	May 17, 2016 12:15	05/17/2016 15:35

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

page 1 of 1

**ORIGINS** LABORATORY, INC

Client: EAGLE ENV CONSULTING

Address: 4101 Inca St

Telephone Number: 303 433 0479

Email Address: MCE@eagle-enviro.com

Project Manager: MARTIN ECKERT III

Project Name: BERNHARDT #18-32

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

Samples Collected By: A PANTASY

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions
				Unpreserved	HCl	HNO <sub>3</sub>	Other	Groundwater	Soil	Air Summary #		
MU-01	5/17/16	1100	3	X				X			Other	1
MU-02		1115										2
MU-03		1130										3
MU-04		1145										4
MU-05		1200										5
MU-06		1215										6
												7
												8
												9
												10

Relinquished By: *[Signature]*

Relinquished By: \_\_\_\_\_

Date: 5/17/16

Date: \_\_\_\_\_

Time: 1535

Time: \_\_\_\_\_

Received By: *[Signature]*

Received By: \_\_\_\_\_

Date: 5/17/16

Date: \_\_\_\_\_

Time: 1535

Time: \_\_\_\_\_

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

1725 Elk Place

Denver, CO 80211

Phone: 303.433.1322

Fax: 303.265.9645

Temp Received: 58°

Date Results Needed: *[Signature]*

Bill to: JDOBS

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

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: X605212

Client: Eagle

Client Project ID: Bernhardt #18-32

Checklist Completed by: Jeff Smith

Shipped Via: 4x0  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 5/17/16

Airbill #: NA

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

Cooler Number/Temperature: 1 / 5.8 °C 1 / 1 °C 1 / 1 °C (Describe)

Thermometer ID: T003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water — is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			HCL
Additional Comments (if any):				

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

Reviewed by (Project Manager) [Signature]

Date/Time Reviewed 5/18/16

Origins Laboratory, Inc.

Jeff 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

**MW-01**

**5/17/2016 11:00:00AM**

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

**X605212-01 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	82.2 %	84-121			"	"	"	S-04
Surrogate: Toluene-d8	105 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	98.1 %	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

5/17/2016 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. X605212-02 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	84.1 %	84-121			"	"	"	
Surrogate: Toluene-d8	105 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	84-114			"	"	"	

Origins Laboratory, Inc.



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Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - Bernhardt #18-32

**MW-03**

**5/17/2016 11:30:00AM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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**Origins Laboratory, Inc.**  
**X605212-03 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	84.5 %	84-121			"	"	"
Surrogate: Toluene-d8	103 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	98.9 %	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

## MW-04

5/17/2016 11:45:00AM

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

X605212-04 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4

86.9 % 84-121

"

"

"

Surrogate: Toluene-d8

108 % 85-115

"

"

"

Surrogate: 4-Bromofluorobenzene

96.3 % 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

5/17/2016 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. X605212-05 (Water)

### BTEX by EPA 8260C

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	87.4 %	84-121			"	"	"	
Surrogate: Toluene-d8	104 %	85-115			"	"	"	
Surrogate: 4-Bromofluorobenzene	97.9 %	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**

**5/17/2016 12:15:00PM**

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

**X605212-06 (Water)**

**BTEX by EPA 8260C**

Benzene	ND	1.0	ug/L	1	B6E1805	05/18/2016	05/19/2016	U
Toluene	ND	1.0	"	"	"	"	"	U
Ethylbenzene	ND	1.0	"	"	"	"	"	U
Xylenes, total	ND	1.0	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	88.3 %	84-121			"	"	"
Surrogate: Toluene-d8	103 %	85-115			"	"	"
Surrogate: 4-Bromofluorobenzene	97.2 %	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

**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 B6E1805 - EPA 5030B (Water)**

**Blank (B6E1805-BLK1)**

Prepared: 05/18/2016 Analyzed: 05/19/2016

Benzene	ND	1.0	ug/L							U
Toluene	ND	1.0	"							U
Ethylbenzene	ND	1.0	"							U
Xylenes, total	ND	1.0	"							U
Surrogate: 1,2-Dichloroethane-d4	51		"	62.5	82.4		84-121			
Surrogate: Toluene-d8	72		"	62.5	115		85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5	97.3		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

**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 B6E1805 - EPA 5030B (Water)**

**LCS (B6E1805-BS1)**

Prepared: 05/18/2016 Analyzed: 05/19/2016

Benzene	40.4	1.0	ug/L	50.0		80.8	73.3-129
Toluene	46.8	1.0	"	50.0		93.7	76.2-123
Ethylbenzene	46.6	1.0	"	50.0		93.3	73.6-130
m,p-Xylene	91.2	2.0	"	100		91.2	76.1-126
o-Xylene	46.0	1.0	"	50.0		92.0	76.6-124
Surrogate: 1,2-Dichloroethane-d4	50		"	62.5		80.5	84-121
Surrogate: Toluene-d8	69		"	62.5		110	85-115
Surrogate: 4-Bromofluorobenzene	62		"	62.5		98.4	84-114

Origins Laboratory, Inc.



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

Eagle Environmental Consulting, Inc.

4101 Inca Street

Denver CO 80211

Martin C Eckert III

Project Number: [none]

Project: Noble - 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 B6E1805 - EPA 5030B (Water)

Matrix Spike (B6E1805-MS1)		Source: X605212-06			Prepared: 05/18/2016 Analyzed: 05/19/2016					
Benzene	40.4	1.0	ug/L	50.0	ND	80.9	74-130			
Toluene	44.9	1.0	"	50.0	ND	89.9	73-131			
Ethylbenzene	44.1	1.0	"	50.0	ND	88.3	76-132			
m,p-Xylene	85.9	2.0	"	100	ND	85.9	69-139			
o-Xylene	43.6	1.0	"	50.0	ND	87.2	74-131			
Surrogate: 1,2-Dichloroethane-d4	53		"	62.5		84.8	84-121			
Surrogate: Toluene-d8	67		"	62.5		107	85-115			
Surrogate: 4-Bromofluorobenzene	57		"	62.5		91.9	84-114			

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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

**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 B6E1805 - EPA 5030B (Water)**

Matrix Spike Dup (B6E1805-MSD1)		Source: X605212-06			Prepared: 05/18/2016 Analyzed: 05/19/2016					
Benzene	54.2	1.0	ug/L	50.0	ND	108	74-130	29.0	20	QR-03
Toluene	58.9	1.0	"	50.0	ND	118	73-131	26.8	20	QR-03
Ethylbenzene	58.7	1.0	"	50.0	ND	117	76-132	28.3	20	QR-03
m,p-Xylene	115	2.0	"	100	ND	115	69-139	28.7	20	QR-03
o-Xylene	57.1	1.0	"	50.0	ND	114	74-131	26.9	20	QR-03
Surrogate: 1,2-Dichloroethane-d4	51		"	62.5		81.9	84-121			
Surrogate: Toluene-d8	66		"	62.5		106	85-115			
Surrogate: 4-Bromofluorobenzene	61		"	62.5		98.3	84-114			

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## Notes and Definitions

U Sample is Non-Detect.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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.

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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