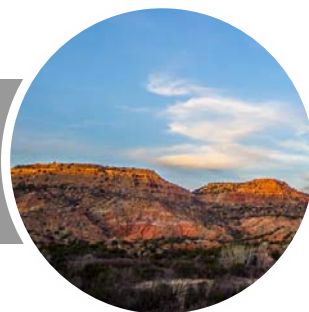


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Monitoring Well Installation Report Terrace Pit

September 7, 2017

Prepared By:

Talon/LPE
1811 East Mulberry Street
Fort Collins, CO 80524

Prepared For:

Whiting Petroleum Corporation

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1 Introduction

Talon/LPE (Talon) was contracted by Whiting Petroleum Corporation (Whiting) to conduct site investigation assessment activities associated with a former pit identified west of the Terrace Gas Plant (Site) in Weld County, Colorado. The site is located at the northwest quarter of the northeast quarter of Section 18, Township 10 North, Range 58 West, 6th Principal Meridian. The Terrace Compressor tin horn pit (COGCC facility #100035 - Remediation #7392) is located approximately one-eighth (1/8) of a mile to the west of the Terrace Gas Plant. The site is located at 40°50'44.22"N and 103°54'48.34"W. The Site Plan is shown on Figure 1 and the general site location is shown on Figure 3.

The following document is an assessment of site investigation activities including the installation of monitoring wells, and groundwater monitoring.

2 Objective

The primary objective of the Terrace investigation is to determine the nature and extent of soil and/or groundwater impacts resulting from the former Compressor pit.

3 Regulatory Framework

The COGCC has regulatory jurisdiction over oil and natural gas industry operations in the State of Colorado. Section 900 of the COGCC Rules is for Exploration and Production Waste Management. More specifically, Section 910 details the Concentrations and Sampling for Soil and Groundwater rules. The regulatory limits for specific analytes in soil and groundwater are detailed in Table 910-1 and are summarized below.

| Compound | COGCC Table 910-1 Soil Concentrations | COGCC Table 910-1 Groundwater Concentrations |
|---|---------------------------------------|--|
| Benzene | 0.17 mg/kg | 0.005 mg/L |
| Toluene | 85 mg/kg | 1.0 mg/L |
| Ethylbenzene | 100 mg/kg | 0.7 mg/L |
| Xylenes (total) | 175 mg/kg | 10 mg/L |
| Naphthalene | 23 mg/kg | Not Applicable |
| TPH (total volatile and extractable petroleum hydrocarbons) | 500 mg/kg | Not Applicable |

4 Site Characteristics

4.1 Geography

The site is located in the Pawnee Grasslands in Weld County, which is the northeastern part of Colorado. The Grasslands are part of the Colorado Eastern Plains and are relatively flat with the exception of the Pawnee Creek which drains into the South Platte River.

4.2 Geologic Summary

Surficial geology surrounding the area consists of Tertiary age fluvial deposits of the lower Ogallala Formation. More specifically, these deposits are Miocene in age and are composed of gray to brown and semi-consolidated, ashy sands and silt beds with volcanic ash beds. Deposited material hardened into sandstone and siltstone which are grouped into three formations: White River, Arikaree, and Ogallala.

4.3 Groundwater

According to the Colorado Division of Water Resources Website, there are no water wells within 1,000-foot radius of the Site.

Depth to groundwater levels as measured on June 29, 2017, in the three (3) groundwater monitoring wells range

from 46.31 to 55.77 feet below top of casing (Table 4), which are above-ground by approximately three (3) feet (ft). No wells had measurable amounts of phase-separated hydrocarbons (PSH) during the gauging and sampling activities.

5 Field Investigation Activities

5.1 Monitoring Well Installation

On June 26 and 28, 2017, Talon personnel oversaw Drilling Engineers advance three (3) monitoring wells (MW-1 through MW-3). MW-1 was drilled to approximately 74 feet below ground surface (bgs). MW-2 and MW-3 were drilled to 65 and 60 ft bgs, respectively. The depths of the monitoring wells were determined in the field based on observed lithology, hydrocarbon odors, and PID values; the goal was to drill until no further odors or elevated PIDs were observed and a confining lithologic layer was observed. Boring logs detailing observed lithology, and PID values are included in Attachment 3.

Multiple soil samples were collected from each of the borings during drilling efforts from depths ranging from 9-74 ft bgs. Sample locations were determined based on elevated PID values. Additionally, soil samples were collected from the bottom of each boring and above the assumed groundwater interface to provide additional vertical delineation of any impacts. The sample locations and depths are listed in Table 2. The collected soil samples were submitted to Summit Scientific (Summit) in Golden, Colorado for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX), gasoline range organics (GRO), and naphthalene via method SW8260B and diesel range organics (DRO) via method SW8015. The remaining soils were stockpiled on-site on a plastic liner pending laboratory analytical results.

All three (3) monitoring wells were constructed using 4-inch diameter Schedule 40 PVC casing and 10-slot screen. Each well was completed with 10/20 silica sand pack to two (2) ft above the top of the screen interval, sealed with bentonite chips to near-surface, and included an above-ground well mount in a concrete pad. Well completion details are included in Attachment 3.

All monitoring wells were gauged on June 29, 2017. The wells were purged until three (3) casing volumes were removed or the well became dry. Following the well purging, the groundwater was allowed to recover within the wells and groundwater samples were collected from each well. The collected samples were submitted to Summit for analysis of BTEX.

Depth to water values are summarized in Table 4. Purge water generated during development and sampling was placed in 55-gallon drums pending off-site disposal.

5.1.1 Discussion of Results

Table 1 in Attachment 2 summarizes the well completion and survey information, and Table 2 summarizes the soil sample laboratory analytical results. Table 3 summarizes the groundwater laboratory analytical results, and Table 4 includes well gauging data. A copy of the laboratory reports and chain of custody documentation is included in Attachment 4.

Analytical results for TPH from soil samples collected from MW-1 at 14-19 ft bgs (2765 mg/kg) and 19-24 ft bgs (2254 mg/kg) were above COGCC Table 910-1 concentration levels. All remaining soil analytical results were below COGCC Table 910-1 concentration levels or laboratory detection limits (Figure 2).

Analytical results for benzene in groundwater (0.03 to 0.99 mg/L) were above COGCC Table 910-1 concentration levels in all three monitoring wells (Table 3 and Figure 3). The analytical result for toluene in monitoring well MW-1 (5.1 mg/L) was above COGCC Table 910-1 concentration level. All remaining groundwater analytical results were below COGCC Table 910-1 concentration levels. Talon will continue to monitor the wells during quarterly monitoring events.

6 Conclusions & Recommendations

The objective of this report was to document the nature and extent of the impacts at the former Terrace Compressor station tin horn pit location. Talon has installed three (3) monitoring wells to assess soil or groundwater impacts at the site. Analytical results for benzene in soil samples MW-1@14-19 ft bgs and MW-1@19-24 ft bgs were above COGCC Table 910-1 concentration levels. Analytical results for benzene in groundwater were above COGCC Table 910-1 concentration levels in all three (3) monitoring wells. Analytical results for toluene in groundwater in MW-1 was above COGCC Table 910-1 concentration level. All remaining sample results were below COGCC Table 910-1 concentration levels or laboratory detection limits.

The vertical extent of impacts in soil are defined at the site. However, the extent of groundwater impacts and the horizontal extent of soil impacts remains unknown. Talon recommends installing more soil borings and groundwater monitoring wells to further define the extent of impacts at the site.

Talon will continue to monitor all the wells on site during quarterly monitoring events.

Attachment 1
Figures

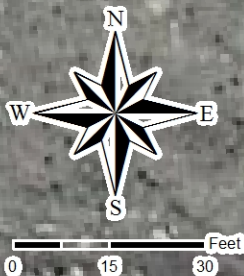


COUNTY RD 118

MW - 2

MW - 1

MW - 3



Legend



Monitor Wells

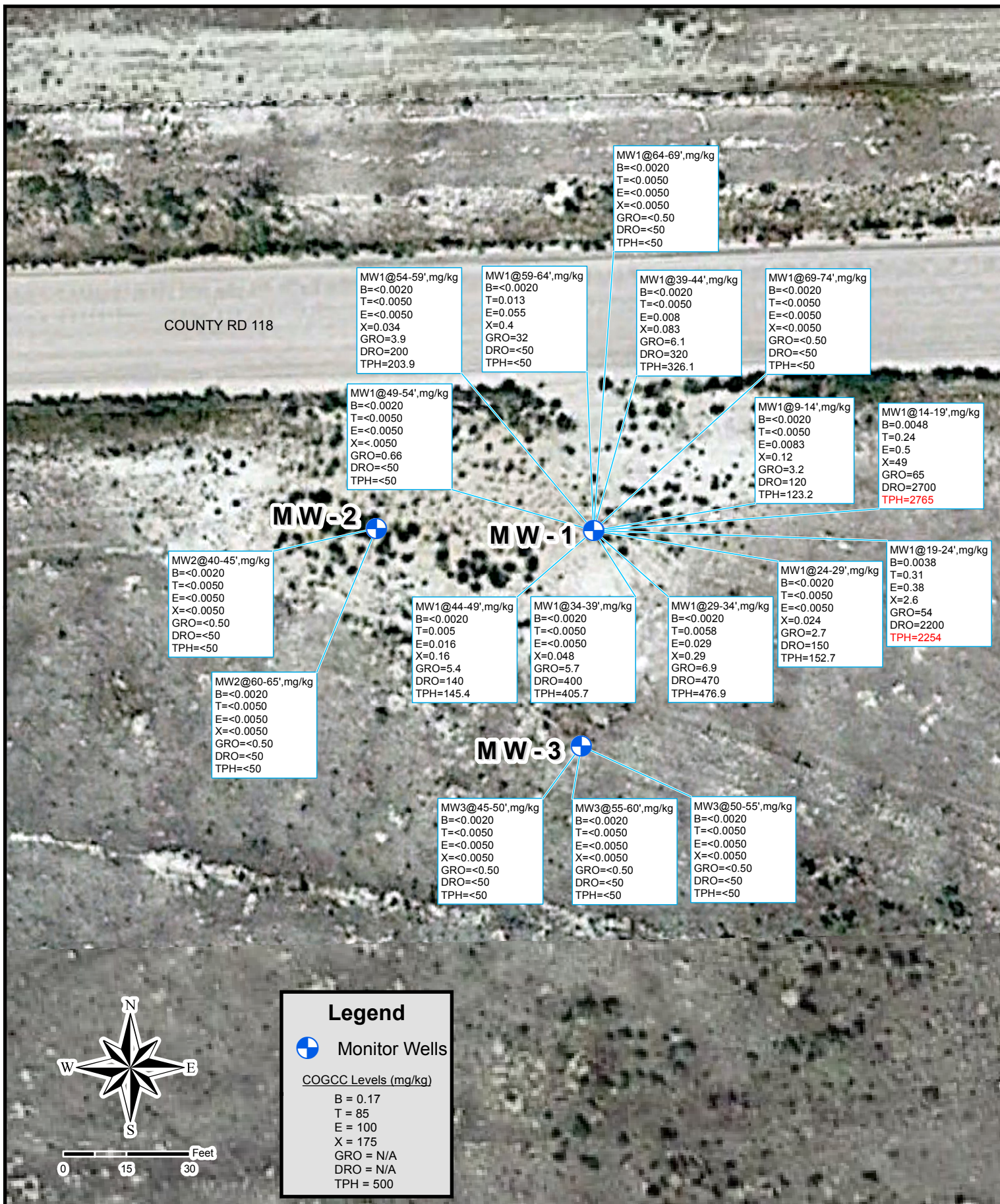


Drafted: 8/2/2017

1 in = 30 ft

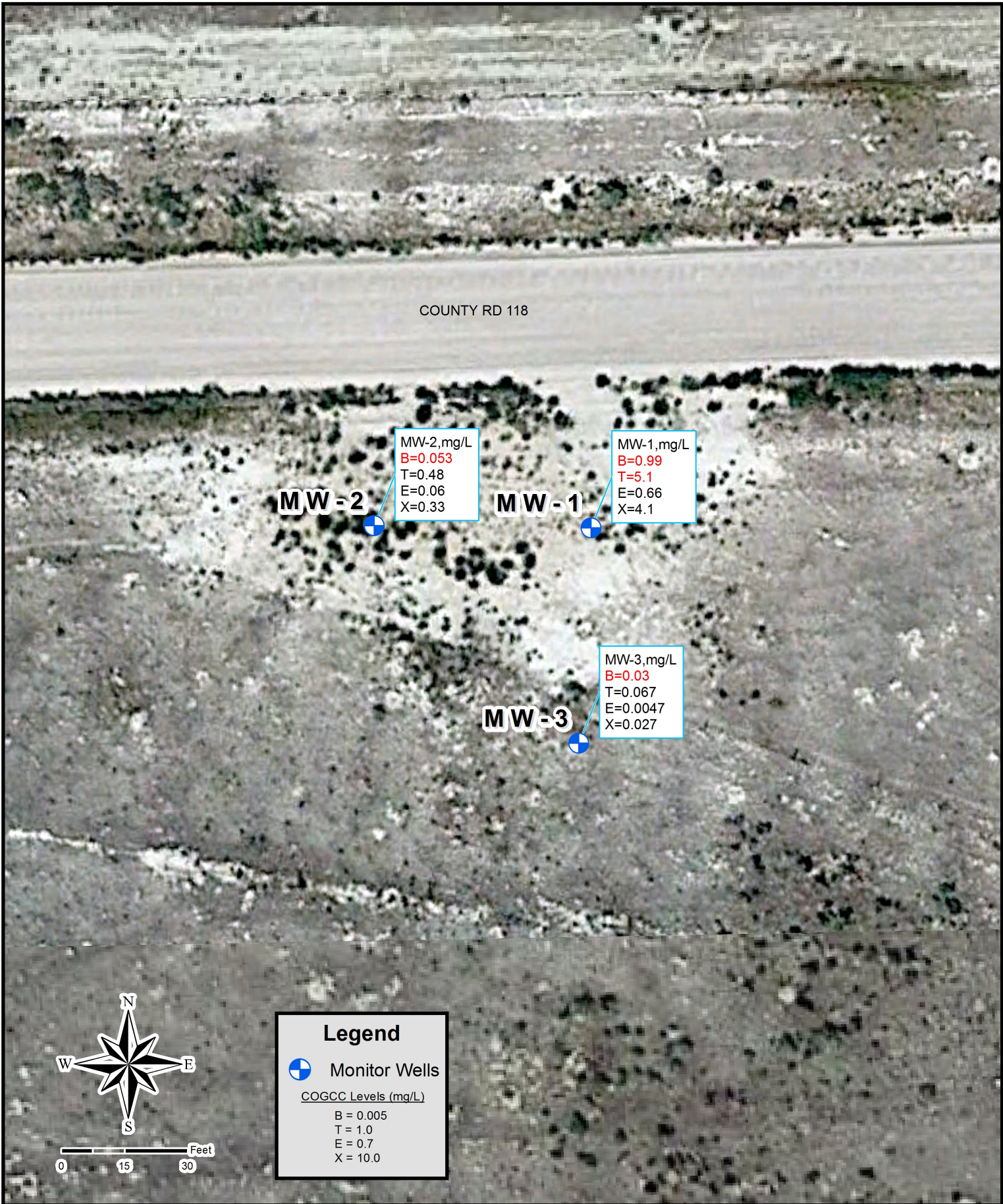
Drafted By: IJM

Whiting Oil and Gas Corporation
Terrace Pit
Weld County, CO
Figure 1 - Site Map



Drafted: 8/2/2017
1 in = 30 ft
Drafted By: IJM

Whiting Oil and Gas Corporation
Terrace Pit
Weld County, CO
Figure 2 - Soil Concentration Map (06/26/2017)



Drafted: 8/2/2017

1 in = 30 ft

Drafted By: IJM

Whiting Oil and Gas Corporation

Terrace Pit

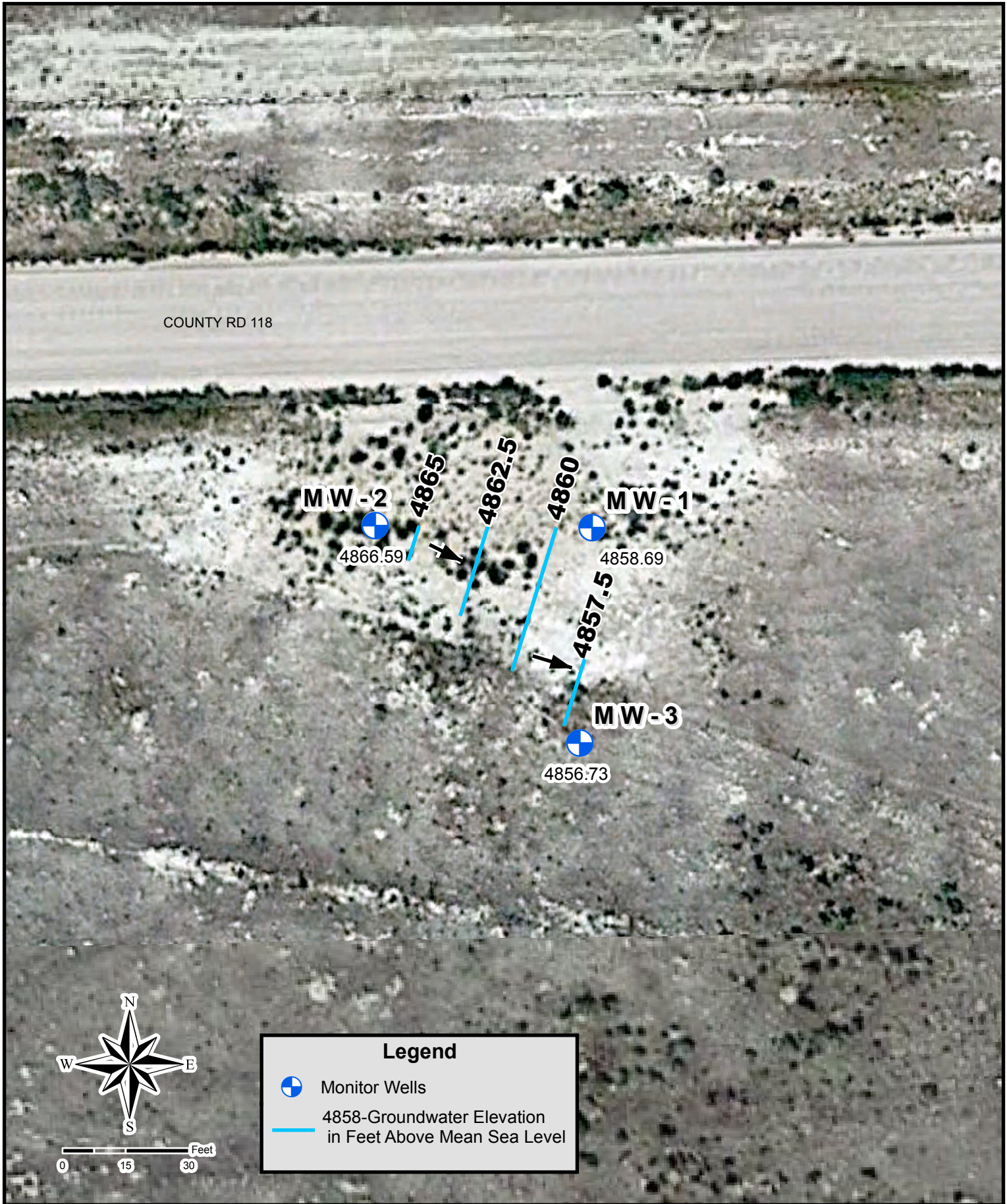
Weld County, CO

Figure 3 - Groundwater Concentration Map (06/29/2017)



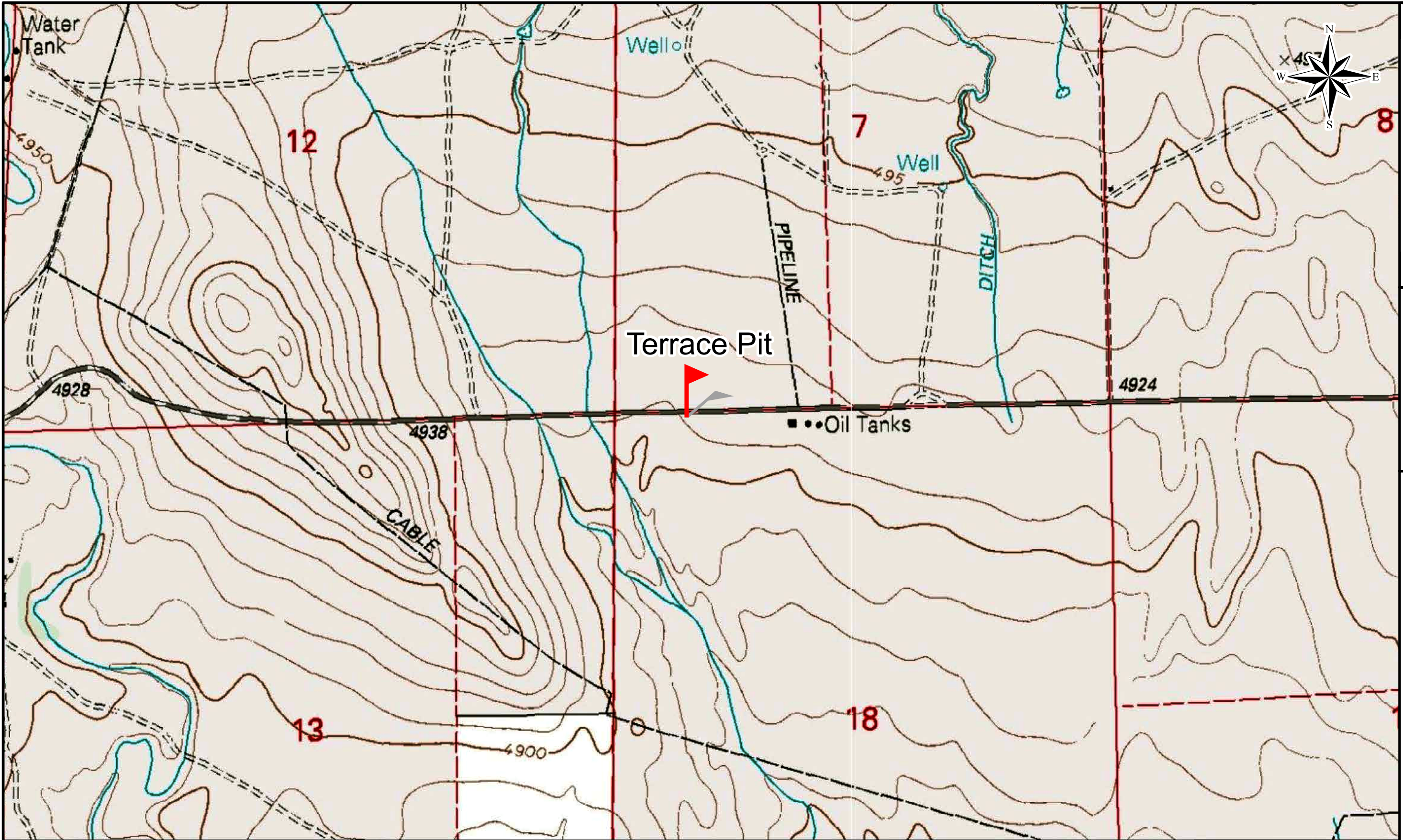
Drafted: 9/6/2017
1 in = 30 ft
Drafted By: IJM

Whiting Oil and Gas Corporation
Terrace Pit
Weld County, CO
Figure 4 - Benzene Isoconcentration Map (06/29/2017)



Drafted: 8/2/2017
1 in = 30 ft
Drafted By: IJM

Whiting Oil and Gas Corporation
Terrace Pit
Weld County, CO
Figure 5 - Groundwater Gradient Map (06/29/2017)



Universal Transverse Mercator (UTM) Projection Zone 13
North American Datum of 1983

1:10000 scale
0 200 400 600 800 1000 Feet
0 100 200 300 Meters

Magnetic declination of 7°E at center of map
on March 17, 2011

Whiting Oil and Gas Corporation
Terrace Pit
Weld County, CO
Figure 6 - Topographic Map

Drafted: 8/1/2017
Map Scale 1:10,000
Drafted By: IJM

TAI-ON
LPE

Attachment 2 Tables



Table 1 - Well Information

**Whiting Oil and Gas Corporation
Terrace Pit
Weld County, Colorado**

| Well ID | Latitude | Longitude | Ground Surface Elevation (ft amsl) | TOC Elevation (ft amsl) | Screen Interval (ft bgs) | Total Depth (ft) |
|---------|-----------|-------------|------------------------------------|-------------------------|--------------------------|------------------|
| MW-1 | 40.845630 | -103.913390 | 4909.7 | 4912.9 | 44-74 | 77.25 |
| MW-2 | 40.845634 | -103.913576 | 4909.9 | 4912.9 | 45-65 | 67.07 |
| MW-3 | 40.845490 | -103.913404 | 4909.6 | 4912.5 | 40-60 | 59.97 |

TOC - Top of Casing
ft bgs - Feet Below Ground Surface
ft amsl - Feet Above Mean Sea Level



Table 2 - Soil Analytical Data

**Whiting Oil and Gas Corporation
Terrace Pit
Weld County, Colorado**

| Sample ID | Lab ID | Date Sampled | Concentration (mg/kg) | | | | | | | |
|---|------------|--------------|-----------------------|---------|---------------|---------|----------------|-------|------|-------|
| | | | Benzene | Toluene | Ethyl-Benzene | Xylenes | Benzo(a)pyrene | GRO | DRO | TPH |
| COGCC Table 910-1 Concentration Levels | | | 0.17 | 85 | 100 | 175 | 0.022 | NA | NA | 500 |
| Soil Samples Collected by Olsson Associates | | | | | | | | | | |
| SS1 - 13' | R212037-01 | 12/6/2012 | <0.005 | <0.005 | <<0.005 | 0.016 | NS | 13 | 1500 | 1513 |
| SS2 - 13' | R212037-02 | 12/6/2012 | 0.012 | 0.046 | 1.5 | 11 | NS | 700 | 730 | 1430 |
| SS3 - 12' | R212037-03 | 12/6/2012 | <0.0044 | <0.0044 | <0.0044 | <0.0044 | NS | 1.2 | <50 | <50 |
| SS4 - 11' | R212037-04 | 12/6/2012 | <0.0043 | <0.0043 | <0.0043 | <0.0043 | NS | <0.43 | <50 | <50 |
| SS5 - 17' | R212037-05 | 12/6/2012 | 0.73 | 17 | 10 | 69 | 0.0116 | 1900 | 2100 | 4000 |
| SS6 - 24' | R212037-06 | 12/7/2012 | <0.45 | 12 | 7.1 | 48 | 0.111 | 1500 | 1800 | 3300 |
| Soil Samples Collected by Talon/LPE | | | | | | | | | | |
| SB-1 - 20-25' | 1504198-1 | 04/07/15 | <1.2 | 7 | 5.9 | 43 | 0.0027 | 640 | 490 | 1130 |
| SB-1 - 25-30' | 1504198-2 | 04/07/15 | <0.65 | 2.7 | 3.6 | 33 | <0.0044 | 500 | 1000 | 1500 |
| SB-1 - 30-35' | 1504198-3 | 04/07/15 | <3.3 | 36 | 21 | 140 | 0.0033 | 2500 | 2200 | 4700 |
| SB-1 - 35-40' | 1504198-4 | 04/07/15 | <0.006 | <0.006 | <0.006 | <0.005 | <0.0045 | <0.6 | <6.7 | <6.7 |
| SB-2 - 20-25' | 1504198-5 | 04/08/15 | <0.0062 | <0.0062 | <0.0062 | <0.005 | <0.0044 | <0.57 | <6.5 | <6.5 |
| SB-2 - 30-35' | 1504198-6 | 04/08/15 | <0.0063 | <0.0063 | <0.0063 | <0.005 | <0.0044 | <0.58 | <6.6 | <6.6 |
| SB-3 - 20-25' | 1504198-7 | 04/08/15 | <0.0054 | <0.0054 | 0.0016 | 0.023 | <0.0039 | 40 | 89 | 129 |
| SB-3 - 35-40' | 1504198-8 | 04/09/15 | <0.66 | 1 | 1.3 | 9.6 | <0.0046 | 200 | 400 | 600 |
| SB-3 - 45-50' | 1504198-9 | 04/09/15 | <0.35 | 1 | 0.51 | 3.4 | <0.0046 | 110 | 170 | 280 |
| SB-3 - 55-60' | 1504198-10 | 04/09/15 | 0.011 | 0.062 | 0.017 | 0.14 | <0.0046 | 0.88 | 36 | 36.88 |
| SB-3 - 60-65' | 1504198-11 | 04/09/15 | <0.0065 | <0.0065 | <0.0065 | <0.005 | <0.0045 | <0.47 | <6.7 | <6.7 |
| SB-3 - 65-70' | 1504198-12 | 04/09/15 | <0.0065 | <0.0065 | <0.0065 | <0.005 | <0.0047 | <0.58 | <6.8 | <6.8 |
| SB-4 - 20-25' | 1504426-1 | 04/16/15 | <0.0059 | <0.0059 | <0.0059 | <0.005 | <0.0042 | <0.59 | <6.3 | <6.3 |
| SB-4 - 35-40' | 1504426-2 | 04/16/15 | <0.0065 | <0.0065 | <0.0065 | <0.005 | <0.0045 | <0.65 | <6.7 | <6.7 |
| SB-4 - 45-50' | 1504426-3 | 04/16/15 | 0.029 | 0.036 | <0.0075 | 0.025 | <0.0053 | <0.77 | <7.7 | <7.7 |
| SB-4 - 50-55' | 1504426-4 | 04/16/15 | <0.0069 | <0.0069 | <0.0069 | <0.005 | <0.005 | <0.72 | <7.1 | <7.1 |
| SB-4 - 55-60' | 1504426-5 | 04/16/15 | <0.0064 | <0.0064 | <0.0064 | <0.005 | <0.0047 | <0.56 | 66 | 66 |
| SB-4 - 65-70' | 1504426-6 | 04/16/15 | <0.0072 | <0.0072 | <0.0072 | <0.005 | <0.0051 | <0.69 | <7.5 | <7.5 |
| SB-5 - 30-35' | 1506112-1 | 06/03/15 | <0.0064 | <0.0064 | <0.0064 | <0.005 | <0.0043 | <0.48 | <6.4 | <6.4 |
| SB-5 - 35-40' | 1506112-2 | 06/03/15 | <0.0064 | <0.0064 | <0.0064 | <0.005 | <0.0045 | <0.47 | <6.7 | <6.7 |
| SB-6 - 30-35' | 1506112-3 | 06/03/15 | <0.0064 | <0.0064 | <0.0064 | <0.005 | <0.0043 | <0.6 | <6.2 | <6.2 |
| SB-6 - 35-40' | 1506112-4 | 06/03/15 | <0.0061 | <0.0061 | <0.0061 | <0.005 | <0.0045 | <0.65 | <6.6 | <6.6 |
| MW-1 @9-14' | 1706319-01 | 06/26/17 | <0.0020 | <0.0050 | 0.0083 | 0.12 | NA | 3.2 | 120 | 123.2 |
| MW-1 @14-19' | 1706319-02 | 06/26/17 | 0.0048 | 0.24 | 0.5 | 49 | NA | 65 | 2700 | 2765 |
| MW-1 @19-24' | 1706319-03 | 06/26/17 | 0.0038 | 0.31 | 0.38 | 2.6 | NA | 54 | 2200 | 2254 |



Table 2 - Soil Analytical Data

**Whiting Oil and Gas Corporation
Terrace Pit
Weld County, Colorado**

| Sample ID | Lab ID | Date Sampled | Concentration (mg/kg) | | | | | | | |
|--|------------|--------------|-----------------------|---------|---------------|---------|----------------|-------|-----|-------|
| | | | Benzene | Toluene | Ethyl-Benzene | Xylenes | Benzo(a)pyrene | GRO | DRO | TPH |
| COGCC Table 910-1 Concentration Levels | | | 0.17 | 85 | 100 | 175 | 0.022 | NA | NA | 500 |
| MW-1 @24-29' | 1706319-04 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | 0.024 | NA | 2.7 | 150 | 152.7 |
| MW-1 @29-34' | 1706319-05 | 06/26/17 | <0.0020 | 0.0058 | 0.029 | 0.29 | NA | 6.9 | 470 | 476.9 |
| MW-1 @34-39' | 1706319-06 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | 0.048 | NA | 5.7 | 400 | 405.7 |
| MW-1 @39-44' | 1706319-07 | 06/26/17 | <0.0020 | <0.0050 | 0.008 | 0.083 | NA | 6.1 | 320 | 326.1 |
| MW-1 @44-49' | 1706319-08 | 06/26/17 | <0.0020 | 0.005 | 0.016 | 0.16 | NA | 5.4 | 140 | 145.4 |
| MW-1 @49-54' | 1706319-09 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | <.0050 | NA | 0.66 | <50 | <50 |
| MW-1 @54-59' | 1706319-10 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | 0.034 | NA | 3.9 | 200 | 203.9 |
| MW-1 @59-64' | 1706319-11 | 06/26/17 | <0.0020 | 0.013 | 0.055 | 0.4 | NA | 32 | <50 | <50 |
| MW-1 @64-69' | 1706319-12 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-1 @69-74' | 1706319-13 | 06/26/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-2 @40-45' | 1706319-14 | 06/28/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-2 @60-65' | 1706319-15 | 06/28/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-3 @45-50' | 1706319-16 | 06/28/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-3 @50-55' | 1706319-17 | 06/28/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |
| MW-3 @55-60' | 1706319-18 | 06/28/17 | <0.0020 | <0.0050 | <0.0050 | <0.0050 | NA | <0.50 | <50 | <50 |

mg/kg - milligrams per kilogram

< - Analytical result is less than the reporting limit

COGCC - Colorado Oil and Gas Conservation Commission

GRO - Gasoline Range Organics

DRO - Diesel Range Organics

TPH - Total Petroleum Hydrocarbons (Combined GRO/DRO)



Table 3 - Groundwater Analytical Data

**Whiting Oil and Gas Corporation
Terrace Pit
Weld County, Colorado**

| Sample ID | Lab ID | Date | Concentration (mg/L) | | | |
|--|------------|----------|----------------------|---------|---------------|---------|
| | | | Benzene | Toluene | Ethyl-Benzene | Xylenes |
| COGCC Table 910-1 Concentration Levels | | | 0.005 | 1 | 0.7 | 10 |
| MW-1 | 1706314-01 | 06/29/17 | 0.99 | 5.1 | 0.66 | 4.1 |
| MW-2 | 1706314-02 | 06/29/17 | 0.053 | 0.48 | 0.06 | 0.33 |
| MW-3 | 1706314-03 | 06/29/17 | 0.03 | 0.067 | 0.0047 | 0.027 |

mg/L -milligrams per liter

< - Analytical result is less than the reporting limit

COGCC - Colorado Oil and Gas Conservation Commission

NS - Not Sampled

PSH - Phase-Separated Hydrocarbons



Table 4 - Gauging Data

**Whiting Oil and Gas Corporation
Terrace Pit
Weld County, Colorado**

| Well ID | Top of Casing Elevation (ft amsl) | Total Depth of Well (ft) | Date Gauged | Depth to Product (ft btoc) | DTW (ft btoc) | Product Thickness (ft) | Potentiometric Surface Elevation (ft) |
|---------|--------------------------------------|-----------------------------|----------------|----------------------------------|------------------|------------------------------|---|
| MW-1 | 4912.9 | 77.03 | 6/29/2017 | NA | 54.21 | 0.00 | 4858.69 |
| MW-2 | 4912.9 | 67.06 | 6/29/2017 | NA | 46.31 | 0.00 | 4866.59 |
| MW-3 | 4912.5 | 60.02 | 6/29/2017 | NA | 55.77 | 0.00 | 4856.73 |

NA - Not Applicable

DTW - Depth to Water

ft btoc - Feet Below Top of Casing

ft amsl - Feet Above Mean Sea Level

Attachment 3
Boring Logs

SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-1
 TOTAL DEPTH: 74
 SURFACE ELEVATION: 4909.7
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845630

DRILLING COMPANY: DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 8' 7/3"
 SCREEN: Diam. 4" Length 30' Slot Size 0.010
 CASING: Diam. 4" Length 47' Type SCH 40
 DATE DRILLED: 06/26/2017
 LONGITUDE: -103.913390

PAGE 1 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-------|---------|-----------------|----------------------|---|-------------|
| 0 | | | | | | | | 0 |
| 5 | | | 0.0 | | | | 10 YR 5/6 Yellowish Brown, Fine to Med Grain Sand, Non-Plastic, Some Gravel, Dry, Loose, No Odor | 5 |
| 10 | | | 1.5 | | 9'-14' | 9' | 10 YR 4/4 Dark Brown, Yellow @ 9', Fine Grained Sand, Some Clay Nodules, Dry, Loose | 10 |
| 15 | | | 352.3 | | | 15' | 10 YR 5/4 Yellowish Brown, Fine Grained Sand, Silt, Non-Plastic, Black @ 15', Dry, Loose, Moderate Odor | 15 |
| 20 | | | 2658 | | 14'-19' | 19' | 10 YR 6/4 Light Yellowish Brown, Silt, Some Clay, Siltstone, Dense, Dry, Very Strong Odor @ 20' | 20 |
| 25 | | | 2440 | | | 21' | 10 YR 5/4 Yellowish Brown, Silt, Predominantly Siltstone @ 21', Dry, Dense, Moderate Odor | 25 |
| 30 | | | 6772 | | 19'-24' | | 10 YR 5/4 Yellowish Brown, Silt, Mainly Siltstone, Some Black Mineral Flakes, Dry, Non-Plastic, Strong Odor | 30 |
| | | | 3711 | | 24'-29' | | | |
| | | | 3133 | | | | 10 YR 5/4 Yellowish Brown, Silt, Mainly Siltstone, Some Black Mineral Flakes, Dry, Non-Plastic, Strong Odor | |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-1
 TOTAL DEPTH: 74
 SURFACE ELEVATION: 4909.7
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845630

DRILLING COMPANY: DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 8' 7/3"
 SCREEN: Diam. 4" Length 30' Slot Size 0.010
 CASING: Diam. 4" Length 47' Type SCH 40
 DATE DRILLED: 06/26/2017
 LONGITUDE: -103.913390

PAGE 2 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-------|---------|-----------------|----------------------|---|-------------|
| 35 | | | 9357 | 29'-34' | | | 10 YR 6/4 Siltstone, Black Speckling Throughout, Non-Plastic, Dense, Some Gray Modeling @ 34' /10 YR 7/4 Very Pale Brown, Strong Odor | 35 |
| 40 | | | 9658 | 34'-39' | | | 10 YR 5/4 Yellowish Brown, Silt & Siltstone, Non-Plastic, Dense, Black Staining @ 39', Moderate Odor | 40 |
| 45 | | | 2455 | 39'-44' | | | 10 YR 5/6 Yellowish Brown, Density Increasing, Platy, Sub-Angular, Silt & Siltstone, Some Black Staining, Dry, Non-Plastic, Moderate Odor | 45 |
| 50 | | | 2375 | 44'-49' | | | 10 YR 5/6 Yellowish Brown, Density Increasing, Platy, Sub-Angular, Silt & Siltstone, Some Black Staining, Dry, Non-Plastic, Moderate Odor | 50 |
| 55 | | | 2375 | 49'-54' | | | 10 YR 5/6 Yellowish Brown, Siltstone, Black Staining, Non-Plastic, Sub-Angular, Platy, Dry, Moderate Odor | 55 |
| 60 | | | 1899 | 54'-59' | | | 10 YR 6/2 Light Brownish Gray, Siltstone, Sub-Angular, Dense, Non Plastic, Moist @ 59', Moderate Odor | 60 |
| | | | 602.4 | | | 59' | 10 YR 5/2 Grayish Brown, Siltstone and Silty Clay, Slightly Plastic @ 59'-60', Wet, Dense, Moderate Odor | 60 |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-1
 TOTAL DEPTH: 74
 SURFACE ELEVATION: 4909.7
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845630

DRILLING COMPANY: DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 8' 7/3"
 SCREEN: Diam. 4" Length 30' Slot Size 0.010
 CASING: Diam. 4" Length 47' Type SCH 40
 DATE DRILLED: 06/26/2017
 LONGITUDE: -103.913390

PAGE 3 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-------|---------|-----------------|----------------------|--|-------------|
| 65 | | | 846.0 | 59'-64' | | | 10 YR 5/2 Grayish Brown, Siltstone and Silty Clay, Slightly Plastic @ 59'-60', Wet, Dense, Slight Odor | 65 |
| 70 | | | 24.9 | 64'-69' | | 69' | 10 YR 6/1 Gray, Saturated, Silt & Siltstone, Iron Deposits, Some Black Deposits, Slight Odor | 70 |
| 75 | | | 9.2 | 69'-74' | | 74' | Bottom of Hole | 75 |
| 80 | | | | | | | | 80 |
| 85 | | | | | | | | 85 |
| 90 | | | | | | | | 90 |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-2
 TOTAL DEPTH: 65
 SURFACE ELEVATION: 4909.9
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845634

DRILLING COMPANY: Shawn/DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 7' 7/8"
 SCREEN: Diam. 4" Length 20' Slot Size 0.010"
 CASING: Diam. 4" Length 48' Type SCH 40
 DATE DRILLED: 06/28/2017
 LONGITUDE: -103.913576

PAGE 1 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-----|---------|-----------------|----------------------|---|-------------|
| 0 | | | | | | | | 0 |
| | | | | | | 2' | | |
| | | | 0.0 | | | | 10 YR 5/4 Yellowish Brown, Loose/Gravel, Sandy Silt, No Odor | |
| 5 | | | | | | | 10 YR 7/4 Very Pale Brown, Loose, Some Gravel, Fine Grained Sand, Dry, No Odor | 5 |
| | | | 0.0 | | | | | |
| 10 | | | | | | 10' | | 10 |
| | | | | | | | 10 YR 7/4 Very Pale Brown, Silt/Siltstone, Dense Sub-Angular Blocky, Dry, Few Black Deposits @ 14', No Odor | |
| | | | 0.2 | | | | | |
| 15 | | | | | | | 10 YR 7/4 Very Pale Brown, Silt/Siltstone, Sub-Angular Blocky and Platy, Dry, No Odor | 15 |
| | | | 1.0 | | | | | |
| 20 | | | | | | | 10 YR 6/4 Light Yellowish Brown, Silt/Siltstone-Platy, Dry, Purple Deposits/Staining, No Odor | 20 |
| | | | 1.1 | | | | | |
| 25 | | | | | | | 10 YR 6/4 Light Yellowish Brown, Siltstone, Sub-Angular Blocky, Dry, Dense, No Odor | 25 |
| | | | 4.0 | | | | | |
| 30 | | | | | | | 10 YR 6/5 Pale Brown, Siltstone, Sub-Angular Blocky, Dry, Dense, | 30 |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-2
 TOTAL DEPTH: 65
 SURFACE ELEVATION: 4909.9
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845634

DRILLING COMPANY: Shawn/DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 7' 7/8"
 SCREEN: Diam. 4" Length 20' Slot Size 0.010"
 CASING: Diam. 4" Length 48' Type SCH 40
 DATE DRILLED: 06/28/2017
 LONGITUDE: -103.913576

PAGE 2 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-----|---------|-----------------|----------------------|--|-------------|
| 35 | | | 4.0 | | | | Black Deposits, No Odor | 35 |
| 40 | | | 1.4 | | | | 10 YR 5/6 Yellowish Brown, Siltstone, Sub-Angular Blocky, Dry, Dense (Very), Black deposits, No Odor | 40 |
| 45 | | | 1.6 | | 40'-45' | | 10 YR 5/4 Yellowish Brown, Siltstone, Sub-Angular Blocky, Dry, Dense, Black deposits, No Odor | 45 |
| 50 | | | 7.6 | | | | 10 YR 5/6 Yellowish Brown, Siltstone, Sub-Angular Blocky, Dry, Dense, Black and Iron deposits, No Odor | 50 |
| 55 | | | 1.2 | | | | 10 YR 7/2 Light Gray, Siltstone, Sub-Angular Blocky, Dense, Moist, Brown Staining, No Odor | 55 |
| 60 | | | 0.5 | | | | 10 YR 6/2 Light Brown Gray, Siltstone, Dense, Saturated, Brown Staining, No Odor | 60 |

REMARKS:

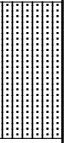
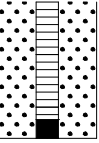

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

| | |
|--------------------------------------|---|
| PROJECT: <u>Terrace Pit</u> | DRILLING COMPANY: <u>Shawn/DE</u> |
| PROJECT NUMBER: <u>701530.022.04</u> | DRILLER: <u>Ken Rogowski/Jason Leverton</u> |
| CLIENT: <u>Whiting Oil & Gas</u> | DRILLING METHOD: <u>HSA</u> |
| BORING / WELL NUMBER: <u>MW-2</u> | BORE HOLE DIAMETER: <u>7' 7/8"</u> |
| TOTAL DEPTH: <u>65</u> | SCREEN: Diam. <u>4"</u> Length <u>20'</u> Slot Size <u>0.010"</u> |
| SURFACE ELEVATION: <u>4909.9</u> | CASING: Diam. <u>4"</u> Length <u>48'</u> Type <u>SCH 40</u> |
| GEOLOGIST: <u>Ken Rogowski</u> | DATE DRILLED: <u>06/28/2017</u> |
| LATITUDE: <u>40.845634</u> | LONGITUDE: <u>-103.913576</u> |

PAGE 3 of 3

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|---|---|------------|---|-----------------|----------------------|------------------------|-------------|
| 65 |  |  | |  | 60'-65' | 65' | | 65 |
| 70 | | | 0.6 1.1 | | | | Bottom of Hole | 70 |
| 75 | | | | | | | | 75 |
| 80 | | | | | | | | 80 |
| 85 | | | | | | | | 85 |
| 90 | | | | | | | | 90 |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-3
 TOTAL DEPTH: 60
 SURFACE ELEVATION: 4909.6
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845490

DRILLING COMPANY: Shawn/DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 7' 7/8"
 SCREEN: Diam. 4" Length 20' Slot Size 0.010"
 CASING: Diam. 4" Length 43' Type SCH 40
 DATE DRILLED: 06/28/2017
 LONGITUDE: -103.913404

PAGE 1 of 2

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|-----|---------|-----------------|----------------------|--|-------------|
| 0 | | | | | | | | 0 |
| 5 | | | 0.0 | | 2'-7' | | 10 YR 6/4 Light Yellowish Brown, Silt, Loose, Dry, Gravel Fragments, No Odor | 5 |
| 10 | | | 0.0 | | 5'-10' | | 10 YR 6/4 Light Yellowish Brown, Silt, Loose, Dry, Gravel Fragments, No Odor | 10 |
| 15 | | | 0.0 | | 10'-15' | | 10 YR 7/3 Very Pale Brown, Very Fine Silt, Dry, Loose, 14-15' Dense, No Odor | 15 |
| 20 | | | 0.0 | | 15'-20' | | 10 YR 7/4 Very Pale Brown, Dense, Dry Silt/Silt Stone, Sub-Angular Blocky, Brown/Black Deposits, No Odor | 20 |
| 25 | | | 0.5 | | 20'-25' | | 10 YR 7/4 Very Pale Brown, Dense, Dry Silt/Silt Stone, Sub-Angular Blocky, Purple Deposits, No Odor | 25 |
| 30 | | | 0.6 | | 25'-30' | | 10 YR 6/4 Light Yellowish Brown, Silt Stone, Some Silt, Sub-Angular Blocky, More Purple Deposits and Some Black Deposits, Dense, No Odor | 30 |
| | | | | | | | 10 YR 6/4 Light Yellowish Brown, Silt Stone, Some Silt, Sub-Angular, | |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



SOIL BORING / MONITORING WELL LOG

PROJECT: Terrace Pit
 PROJECT NUMBER: 701530.022.04
 CLIENT: Whiting Oil & Gas
 BORING / WELL NUMBER: MW-3
 TOTAL DEPTH: 60
 SURFACE ELEVATION: 4909.6
 GEOLOGIST: Ken Rogowski
 LATITUDE: 40.845490

DRILLING COMPANY: Shawn/DE
 DRILLER: Ken Rogowski/Jason Leverton
 DRILLING METHOD: HSA
 BORE HOLE DIAMETER: 7' 7/8"
 SCREEN: Diam. 4" Length 20' Slot Size 0.010"
 CASING: Diam. 4" Length 43' Type SCH 40
 DATE DRILLED: 06/28/2017
 LONGITUDE: -103.913404

PAGE 2 of 2

| DEPTH (FT.) | Soil Symbol | WELL CONSTRUCTION | PID | SAMPLES | SAMPLE INTERVAL | DESCRIPTION INTERVAL | DESCRIPTION OF STRATUM | DEPTH (FT.) |
|-------------|-------------|-------------------|------|---------|-----------------|----------------------|--|-------------|
| 35 | | | 0.6 | | 30'-35' | | Black Deposits, hite Deposits (Non- Calcareous), Dense, No Odor | 35 |
| 40 | | | 1.9 | | | | | 40 |
| 45 | | | 2.5 | | | | | 45 |
| 50 | | | 19.0 | | 45'-50' | | 10 YR 5/4 Yellowish Brown, Silt Stone, Some Silt, Sub-Angular, Black Deposits, White Deposits (Non- Calcareous), Dense No Odor, | 50 |
| 55 | | | 3.7 | | 50'-55' | | | 55 |
| 60 | | | 1.1 | | 55'-60' | | 10 YR 5/6 Yellowish Brown, Silt Stone, Some Silt, Sub-Angular, Blocky, Black Deposits, White Deposits (Non- Calcareous), Dense, With Less Purple Deposits, No Odor | 55 |
| | | | | | | 60' | Same as above, except, 10 YR 6/2 Light Brown Gray. | 60 |
| | | | 3.7 | | | | Bottom of Hole | |

REMARKS:

THIS BORING LOG AND WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT.



KEY TO SYMBOLS

Symbol Description

Symbol Description

Strata symbols



Poorly graded sand



Clayey sand/
Low plasticity clay



Silty sand



Low plasticity
clay



Silt



Clayey gravel

Soil Samplers



Auger

Monitor Well Details



capped riser with locking
cover



bentonite pellets



silica sand, blank PVC



slotted pipe w/ sand



endcap on pipe
packed in sand

Notes:

1. Exploratory borings were drilled on 06/28/2017 using a 4-inch diameter continuous flight power auger.
2. No free water was encountered at the time of drilling or when re-checked the following day.
3. Boring locations were taped from existing features and elevations extrapolated from the final design schematic plan.
4. These logs are subject to the limitations, conclusions, and recommendations in this report.
5. Results of tests conducted on samples recovered are reported on the logs.

Attachment 4
Analytical Reports

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 10, 2017

Jennifer Galles
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Terrace Pit

Enclosed are the results of analyses for samples received by Summit Scientific on 06/30/17 15:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ben Shrewsbury', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury
Laboratory Manager



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-------------|---------------|--------|----------------|----------------|
| MW-1@9-14' | 1706319-01 | Soil | 06/26/17 09:00 | 06/30/17 15:50 |
| MW-1@14-19' | 1706319-02 | Soil | 06/26/17 09:05 | 06/30/17 15:50 |
| MW-1@19-24' | 1706319-03 | Soil | 06/26/17 09:15 | 06/30/17 15:50 |
| MW-1@24-29' | 1706319-04 | Soil | 06/26/17 09:30 | 06/30/17 15:50 |
| MW-1@29-34' | 1706319-05 | Soil | 06/26/17 09:38 | 06/30/17 15:50 |
| MW-1@34-39' | 1706319-06 | Soil | 06/26/17 09:47 | 06/30/17 15:50 |
| MW-1@39-44' | 1706319-07 | Soil | 06/26/17 09:54 | 06/30/17 15:50 |
| MW-1@44-49' | 1706319-08 | Soil | 06/26/17 10:18 | 06/30/17 15:50 |
| MW-1@49-54' | 1706319-09 | Soil | 06/26/17 10:30 | 06/30/17 15:50 |
| MW-1@54-59' | 1706319-10 | Soil | 06/26/17 10:46 | 06/30/17 15:50 |
| MW-1@59-64' | 1706319-11 | Soil | 06/26/17 11:10 | 06/30/17 15:50 |
| MW-1@64-69' | 1706319-12 | Soil | 06/26/17 11:22 | 06/30/17 15:50 |
| MW-1@69-74' | 1706319-13 | Soil | 06/26/17 11:57 | 06/30/17 15:50 |
| MW-2@40-45' | 1706319-14 | Soil | 06/28/17 09:13 | 06/30/17 15:50 |
| MW-2@60-65' | 1706319-15 | Soil | 06/28/17 09:57 | 06/30/17 15:50 |
| MW-3@45-50' | 1706319-16 | Soil | 06/28/17 13:04 | 06/30/17 15:50 |
| MW-3@50-55' | 1706319-17 | Soil | 06/28/17 13:12 | 06/30/17 15:50 |
| MW-3@55-60' | 1706319-18 | Soil | 06/28/17 13:22 | 06/30/17 15:50 |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Summit Scientific 1706319.1

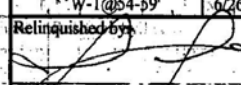
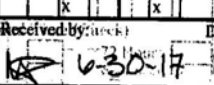
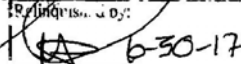
741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 2

Client: Talon/LPE - Bill Whiting Petroleum
Address: 1811 East Mulberry
City/State/Zip: Fort Collins, CO 80524
Phone: 970-818-5330 Fax:
Sampler Name: Ken Rogowski/Jason Leverton

Project Manager: Jennifer Galles
E-Mail: jgalles@talonlpe.com
Project Name: Terrace Pit
Project Number: 701530.022.04

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | Analyze For: | | | | Special Instructions |
|--------------------|--------------|--------------|----------------------|--------------|------------------|------|-----------------|-------------|------|-------------------------|-----------------|------|-----|-----|----------------------|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | BTEX | GRO | DRO | |
| MW-1@9-14' | 6/26/2017 | 9:00 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@14-19' | 6/26/2017 | 9:05 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@19-24' | 6/26/2017 | 9:15 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@24-29' | 6/26/2017 | 9:30 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@29-34' | 6/26/2017 | 9:38 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@34-39' | 6/26/2017 | 9:47 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@39-44' | 6/26/2017 | 9:54 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@44-49' | 6/26/2017 | 10:18 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@49-54' | 6/26/2017 | 10:30 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@54-59' | 6/26/2017 | 10:46 | 1 | | x | | | x | | | | x | x | x | |

| | | | | |
|--|--------------------------|--|--------------------------|--|
| Relinquished by:  | Date/Time: 6-30-17 15:50 | Received by:  | Date/Time: 6-30-17 15:50 | Turn Around Time (Check) |
| Relinquished by:  | Date/Time: 6-30-17 18:15 | Received by: | Date/Time: | Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> |
| | | | | 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> |
| | | | | 48 Hours <input type="checkbox"/> |
| Relinquished by: | Date/Time: | Received in Lab by: | Date/Time: | Sample Integrity: |
| | | | | Temperature Upon Receipt: 13.8 |
| | | | | Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

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Summit Scientific

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.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

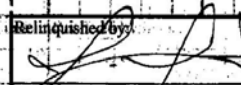
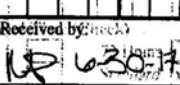
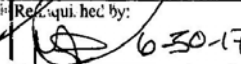
Summit Scientific 1706319.2

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Page 2 of 2

| | |
|--|----------------------------------|
| Client: Talon/LPE - Bill Whiting Petroleum | Project Manager: Jennifer Galles |
| Address: 1811 East Mulberry | E-Mail: jgalles@talonlpe.com |
| City/State/Zip: Fort Collins, CO 80524 | Project Name: Terrace Pit |
| Phone: 970-818-5330 Fax: | Project Number: 701530.022.04 |
| Sampler Name: Ken Rogowski/Jason Leverton | |

| Sample Description | Date Sampled | Time Sampled | Number of Containers | Preservative | | | | Matrix | | | Analyze For: | | | | Special Instructions |
|--------------------|--------------|--------------|----------------------|--------------|------------------|------|-----------------|-------------|------|-------------------------|-----------------|------|-----|-----|----------------------|
| | | | | HCl | HNO ₃ | None | Other (Specify) | Groundwater | Soil | Air - Canister Serial # | Other (Specify) | BTEX | GRO | DRO | |
| MW-1@59-64' | 6/26/2017 | 11:10 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@64-69' | 6/26/2017 | 11:22 | 1 | | x | | | x | | | | x | x | x | |
| MW-1@69-74' | 6/26/2017 | 11:57 | 1 | | x | | | x | | | | x | x | x | |
| MW-2@40-45' | 6/28/2017 | 9:13 | 1 | | x | | | x | | | | x | x | x | |
| MW-2@45-50' | 6/28/2017 | 9:57 | 1 | | x | | | x | | | | x | x | x | |
| MW-3@45-50' | 6/28/2017 | 13:04 | 1 | | x | | | x | | | | x | x | x | |
| MW-3@50-55' | 6/28/2017 | 13:12 | 1 | | x | | | x | | | | x | x | x | |
| MW-3@55-60' | 6/28/2017 | 13:22 | 1 | | x | | | x | | | | x | x | x | |

| | | | | |
|--|--------------------------|--|--------------------------|---|
| Relinquished by:  | Date/Time: 6-30-17 15:50 | Received by:  | Date/Time: 6-30-17 15:50 | Turn Around Time (Check) Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/> |
| Relinquished by:  | Date/Time: 6-30-17 18:15 | Received by: | Date/Time: | |
| Relinquished by: | Date/Time: | Received in Lab by: | Date/Time: | |

| | |
|---|------|
| Sample Integrity: Temperature Upon Receipt: 13.8 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | 0114 |
|---|------|

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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.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Sample Receipt Checklist

S2 Work Order: 1706319

Client: Talon Client Project ID: Terrace Pit

Shipped Via: P.U. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

| | | | | | |
|-----------|-------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>13.8</u> | | | | |

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|--|-------------------------------------|----|-------------------------------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? | | | | |
| NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | <input checked="" type="checkbox"/> | | | <u>on ice</u> |
| Were all samples received intact ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Are short holding time analytes or samples with HTs due within 48 hours present? | | | <input checked="" type="checkbox"/> | |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <input checked="" type="checkbox"/> | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | | <input checked="" type="checkbox"/> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect | | | <input checked="" type="checkbox"/> | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | <input checked="" type="checkbox"/> | |
| Record the pH in Comments. | | | <input checked="" type="checkbox"/> | |
| If dissolved metals are requested, were samples field filtered? | | | <input checked="" type="checkbox"/> | |
| Additional Comments (if any): | | | | |
| ⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative. | | | | |

Murid
Custodian Printed Name

VP 630-FT
Signature or Initials of Custodian

18:15
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@9-14'
1706319-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|------------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 120 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|--------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: <i>o</i> -Terphenyl | | 87.3 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|---------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.0083 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.12 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 3.2 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 111 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 121 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@14-19'
1706319-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|-------------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 2700 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 265 % | 30-150 | | " | " | " | " | S-02 |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 0.0048 | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | 0.24 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.50 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 49 | 0.50 | " | 100 | " | " | 07/04/17 | " | |
| Gasoline Range Hydrocarbons | 65 | 0.50 | " | 1 | " | " | 07/04/17 | " | |

Date Sampled: **06/26/17 09:05**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 129 % | 23-173 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 101 % | 20-170 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 296 % | 21-167 | | " | " | " | " | S-02 |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@19-24'
1706319-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|--------------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 2200 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 204 % | 30-150 | | " | " | " | " | S-02 |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 0.0038 | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | 0.31 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.38 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 2.6 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 54 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 126 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 100 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 247 % | 21-167 | | " | " | " | " | S-02 |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@24-29'
1706319-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 150 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 111 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.024 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 2.7 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 112 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 115 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@29-34'
1706319-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:38**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 470 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:38**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 118 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:38**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | 0.0058 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.029 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.29 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 6.9 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:38**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 109 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 98.5 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 134 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@34-39'
1706319-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:47**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 400 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:47**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 115 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:47**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.048 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 5.7 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:47**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 111 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.4 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 126 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@39-44'
1706319-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 09:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 320 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 09:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 115 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 09:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.0080 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.083 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 6.1 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 09:54**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 108 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.0 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 132 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@44-49'
1706319-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 10:18**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------|------------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 140 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 10:18**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: o-Terphenyl</i> | | 111 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 10:18**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------------------|---------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | 0.0050 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.016 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.16 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 5.4 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 10:18**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 108 % | 23-173 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 102 % | 20-170 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 122 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@49-54'
1706319-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 10:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/03/17 | 8015M | |

Date Sampled: **06/26/17 10:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 110 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 10:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 0.66 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 10:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 106 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 112 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@54-59'
1706319-10 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 10:46**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | 200 | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/26/17 10:46**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 111 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 10:46**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.034 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 3.9 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 10:46**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 109 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 121 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@59-64'
1706319-11 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/26/17 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 108 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | 0.013 | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | 0.055 | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | 0.40 | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | 32 | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 11:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 150 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 201 % | 21-167 | | " | " | " | " | S-02 |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@64-69'
1706319-12 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 11:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/26/17 11:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 109 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 11:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 11:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 107 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 110 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-1@69-74'
1706319-13 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/26/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 115 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/26/17 11:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 107 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 99.9 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 109 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-2@40-45'
1706319-14 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/17 09:13**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/28/17 09:13**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 109 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/17 09:13**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/17 09:13**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 104 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 103 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 105 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-2@60-65'
1706319-15 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/17 09:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/28/17 09:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 107 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/17 09:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/17 09:57**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 104 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 107 % | 21-167 | | " | " | " | " | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-3@45-50'
1706319-16 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/17 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/28/17 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 108 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/17 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/17 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 102 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 107 % | 21-167 | | " | " | " | " | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-3@50-55'
1706319-17 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/17 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/28/17 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 108 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/17 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/17 13:12**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 102 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 105 % | 21-167 | | " | " | " | " | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

MW-3@55-60'
1706319-18 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/17 13:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---------------|--------|-----------------|-------|----------|---------|----------|----------|--------|-------|
| C10-C28 (DRO) | ND | 50 | mg/kg | 1 | 1707009 | 07/03/17 | 07/04/17 | 8015M | |

Date Sampled: **06/28/17 13:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: o-Terphenyl | | 106 % | 30-150 | | " | " | " | " | |

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/17 13:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------------------|--------|-----------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 0.0020 | mg/kg | 1 | 1707011 | 07/03/17 | 07/04/17 | EPA 8260B | |
| Toluene | ND | 0.0050 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.0050 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 0.0050 | " | " | " | " | " | " | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | " | " | " | " | " | |

Date Sampled: **06/28/17 13:22**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 100 % | 23-173 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 101 % | 20-170 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 105 % | 21-167 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1707009 - EPA 3550A

Blank (1707009-BLK1)

Prepared & Analyzed: 07/03/17

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 13.2 " 12.5 106 30-150

LCS (1707009-BS1)

Prepared & Analyzed: 07/03/17

C10-C28 (DRO) 503 50 mg/kg 499 101 73-134

Surrogate: o-Terphenyl 13.8 " 12.5 110 30-150

Matrix Spike (1707009-MS1)

Source: 1706319-01

Prepared & Analyzed: 07/03/17

C10-C28 (DRO) 546 50 mg/kg 499 122 84.9 50-148

Surrogate: o-Terphenyl 14.5 " 12.5 116 30-150

Matrix Spike Dup (1707009-MSD1)

Source: 1706319-01

Prepared & Analyzed: 07/03/17

C10-C28 (DRO) 663 50 mg/kg 499 122 109 50-148 19.5 20

Surrogate: o-Terphenyl 14.5 " 12.5 116 30-150

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1707011 - EPA 5030 Soil MS

Blank (1707011-BLK1)

Prepared: 07/03/17 Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|-----|--------|--|--|--|
| Benzene | ND | 0.0020 | mg/kg | | | | | | | |
| Toluene | ND | 0.0050 | " | | | | | | | |
| Ethylbenzene | ND | 0.0050 | " | | | | | | | |
| Xylenes (total) | ND | 0.0050 | " | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 0.50 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0451 | | " | 0.0400 | | 113 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0414 | | " | 0.0400 | | 104 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0428 | | " | 0.0400 | | 107 | 21-167 | | | |

LCS (1707011-BS1)

Prepared: 07/03/17 Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|--|------|--------|--|--|--|
| Benzene | 0.0879 | 0.0020 | mg/kg | 0.100 | | 87.9 | 58-130 | | | |
| Toluene | 0.0947 | 0.0050 | " | 0.100 | | 94.7 | 61-134 | | | |
| Ethylbenzene | 0.0927 | 0.0050 | " | 0.0992 | | 93.4 | 74-139 | | | |
| m,p-Xylene | 0.181 | 0.010 | " | 0.200 | | 90.8 | 73-137 | | | |
| o-Xylene | 0.0952 | 0.0050 | " | 0.0980 | | 97.2 | 73-141 | | | |
| Xylenes (total) | 0.276 | 0.0050 | " | | | | 30-150 | | | |
| Gasoline Range Hydrocarbons | 0.358 | 0.50 | " | | | | 30-150 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0449 | | " | 0.0400 | | 112 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0409 | | " | 0.0400 | | 102 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0427 | | " | 0.0400 | | 107 | 21-167 | | | |

Matrix Spike (1707011-MS1)

Source: 1706319-01

Prepared: 07/03/17 Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|--------|--------|-------|--------|---------|------|--------|--|--|--|
| Benzene | 0.0735 | 0.0020 | mg/kg | 0.100 | ND | 73.5 | 30-131 | | | |
| Toluene | 0.0718 | 0.0050 | " | 0.100 | ND | 71.8 | 30-134 | | | |
| Ethylbenzene | 0.0770 | 0.0050 | " | 0.0992 | 0.00831 | 69.2 | 22-153 | | | |
| m,p-Xylene | 0.194 | 0.010 | " | 0.200 | 0.0430 | 75.7 | 10-159 | | | |
| o-Xylene | 0.163 | 0.0050 | " | 0.0980 | 0.0807 | 84.5 | 31-151 | | | |
| Xylenes (total) | 0.358 | 0.0050 | " | | 0.124 | | 30-150 | | | |
| Gasoline Range Hydrocarbons | 4.57 | 0.50 | " | | 3.15 | | 30-150 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0446 | | " | 0.0400 | | 111 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0412 | | " | 0.0400 | | 103 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0488 | | " | 0.0400 | | 122 | 21-167 | | | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1707011 - EPA 5030 Soil MS

| Matrix Spike Dup (1707011-MSD1) | | Source: 1706319-01 | | | Prepared: 07/03/17 | | Analyzed: 07/04/17 | | | |
|----------------------------------|--------|--------------------|-------|--------|--------------------|------|--------------------|------|----|-------|
| Benzene | 0.0673 | 0.0020 | mg/kg | 0.100 | ND | 67.3 | 30-131 | 8.86 | 34 | |
| Toluene | 0.0618 | 0.0050 | " | 0.100 | ND | 61.8 | 30-134 | 15.0 | 30 | |
| Ethylbenzene | 0.0636 | 0.0050 | " | 0.0992 | 0.00831 | 55.8 | 22-153 | 19.0 | 24 | |
| m,p-Xylene | 0.145 | 0.010 | " | 0.200 | 0.0430 | 50.9 | 10-159 | 29.3 | 68 | |
| o-Xylene | 0.145 | 0.0050 | " | 0.0980 | 0.0807 | 66.1 | 31-151 | 11.7 | 38 | |
| Xylenes (total) | 0.290 | 0.0050 | " | | 0.124 | | 30-150 | 20.9 | 20 | QM-07 |
| Gasoline Range Hydrocarbons | 3.76 | 0.50 | " | | 3.15 | | 30-150 | 19.3 | 20 | |
| Surrogate: 1,2-Dichloroethane-d4 | 0.0470 | | " | 0.0400 | | 117 | 23-173 | | | |
| Surrogate: Toluene-d8 | 0.0404 | | " | 0.0400 | | 101 | 20-170 | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0471 | | " | 0.0400 | | 118 | 21-167 | | | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/10/17 15:11

Notes and Definitions

| | |
|-------|--|
| S-02 | The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 07, 2017

Jennifer Galles
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Terrace Pit

Enclosed are the results of analyses for samples received by Summit Scientific on 06/29/17 15:47. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'Ben Shrewsbury', with a long, sweeping horizontal stroke extending to the right.

Ben Shrewsbury
Laboratory Manager



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| MW-1 | 1706314-01 | Water | 06/29/17 12:52 | 06/29/17 15:47 |
| MW-2 | 1706314-02 | Water | 06/29/17 13:10 | 06/29/17 15:47 |
| MW-3 | 1706314-03 | Water | 06/29/17 12:45 | 06/29/17 15:47 |

Summit Scientific

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A handwritten signature in black ink, appearing to be 'J. Galles', is written over a horizontal line.

Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit

Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

1706314

| | |
|-----------------|------------------------------------|
| Client: | Talon/LPE - Bill Whiting Petroleum |
| Address: | 1811 East Mulberry |
| City/State/Zip: | Fort Collins, CO 80524 |
| Phone: | 970-818-5330 |
| Fax: | |
| Sampler Name: | Ken Rogowski |

Page 1 of 1

Project Manager: Jennifer Galles
E-Mail: jgalles@talonlpe.com
Project Name: Terrace Pit
Project Number: 701530.022.04

[illegible]

www.s2scientific.com

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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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

Sample Receipt Checklist

S2 Work Order: 1706314

Client: Talon

Client Project ID: Terrace Pit

Shipped Via: P.U.

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

Airbill #: _____

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

| | | | | | |
|-----------|-------------|--|--|--|--|
| Cooler ID | | | | | |
| Temp (°C) | <u>11.7</u> | | | | |

Thermometer ID: 61857155-K

| | Yes | No | N/A | Comments (if any) |
|--|----------|----------|------------|-------------------|
| If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? | | | | |
| NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun. | <u>X</u> | | | <u>on ice</u> |
| Were all samples received intact ⁽¹⁾ ? | <u>X</u> | | | |
| Was adequate sample volume provided ⁽¹⁾ ? | <u>X</u> | | | |
| If custody seals are present, are they intact ⁽¹⁾ ? | | | <u>X</u> | |
| Are short holding time analytes or samples with HTs due within 48 hours present? | | | <u>X</u> | |
| Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ? | <u>X</u> | | | |
| Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ? | <u>X</u> | | | |
| Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ? | <u>X</u> | | | |
| Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ? | <u>X</u> | | | |
| For volatiles in water – is there headspace present? If yes, contact client and note in narrative. | | <u>X</u> | <u>eps</u> | |
| Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? | <u>X</u> | | <u>eps</u> | <u>HCL</u> |
| Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect | | | | |
| If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? | | | <u>X</u> | |
| Record the pH in Comments. | | | | |
| If dissolved metals are requested, were samples field filtered? | | | <u>X</u> | |
| Additional Comments (if any): | | | | |

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Murphy
Custodian Printed Name

BA 6-29-17
Signature or Initials of Custodian

18:20
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

MW-1
1706314-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/29/17 12:52**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|-------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 990 | 100 | ug/l | 100 | 1707016 | 07/05/17 | 07/05/17 | EPA 8260B | |
| Toluene | 5100 | 100 | " | " | " | " | " | " | |
| Ethylbenzene | 660 | 100 | " | " | " | " | " | " | |
| Xylenes (total) | 4100 | 200 | " | " | " | " | " | " | |

Date Sampled: **06/29/17 12:52**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 90.4 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 102 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 98.7 % | 45-146 | | " | " | " | " | |

Summit Scientific

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.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

MW-2
1706314-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/29/17 13:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 53 | 10 | ug/l | 10 | 1707016 | 07/05/17 | 07/05/17 | EPA 8260B | |
| Toluene | 480 | 10 | " | " | " | " | " | " | |
| Ethylbenzene | 60 | 10 | " | " | " | " | " | " | |
| Xylenes (total) | 330 | 20 | " | " | " | " | " | " | |

Date Sampled: **06/29/17 13:10**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 95.9 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 100 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 102 % | 45-146 | | " | " | " | " | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

MW-3
1706314-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/29/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 30 | 1.0 | ug/l | 1 | 1707016 | 07/05/17 | 07/05/17 | EPA 8260B | |
| Toluene | 67 | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 4.7 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 27 | 2.0 | " | " | " | " | " | " | |

Date Sampled: **06/29/17 12:45**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 98.8 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 101 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 95.9 % | 45-146 | | " | " | " | " | |

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1707016 - EPA 5030 Water MS

Blank (1707016-BLK1)

Prepared & Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 2.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.2 | | " | 13.3 | | 107 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.5 | | " | 13.3 | | 101 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.0 | | " | 13.3 | | 97.7 | 45-146 | | | |

LCS (1707016-BS1)

Prepared & Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene | 42.0 | 1.0 | ug/l | 50.0 | | 84.0 | 51-132 | | | |
| Toluene | 40.4 | 1.0 | " | 50.0 | | 80.7 | 51-138 | | | |
| Ethylbenzene | 44.3 | 1.0 | " | 50.0 | | 88.7 | 58-146 | | | |
| m,p-Xylene | 88.0 | 2.0 | " | 100 | | 88.0 | 57-144 | | | |
| o-Xylene | 45.6 | 1.0 | " | 50.0 | | 91.2 | 53-146 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.1 | | " | 13.3 | | 106 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.3 | | " | 13.3 | | 99.6 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.6 | | " | 13.3 | | 102 | 45-146 | | | |

Matrix Spike (1707016-MS1)

Source: 1706320-05

Prepared & Analyzed: 07/04/17

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|----|------|--------|--|--|--|
| Benzene | 46.7 | 1.0 | ug/l | 50.0 | ND | 93.5 | 34-141 | | | |
| Toluene | 45.1 | 1.0 | " | 50.0 | ND | 90.2 | 27-151 | | | |
| Ethylbenzene | 51.1 | 1.0 | " | 50.0 | ND | 102 | 29-160 | | | |
| m,p-Xylene | 100 | 2.0 | " | 100 | ND | 100 | 20-166 | | | |
| o-Xylene | 50.7 | 1.0 | " | 50.0 | ND | 101 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.2 | | " | 13.3 | | 91.6 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.4 | | " | 13.3 | | 101 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.4 | | " | 13.3 | | 101 | 45-146 | | | |

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1707016 - EPA 5030 Water MS

| Matrix Spike Dup (1707016-MSD1) | Source: 1706320-05 | | | Prepared & Analyzed: 07/04/17 | | | | | | |
|----------------------------------|--------------------|-----|------|-------------------------------|----|------|--------|-------|----|--|
| Benzene | 46.1 | 1.0 | ug/l | 50.0 | ND | 92.3 | 34-141 | 1.29 | 32 | |
| Toluene | 44.7 | 1.0 | " | 50.0 | ND | 89.4 | 27-151 | 0.802 | 25 | |
| Ethylbenzene | 50.9 | 1.0 | " | 50.0 | ND | 102 | 29-160 | 0.314 | 50 | |
| m,p-Xylene | 99.4 | 2.0 | " | 100 | ND | 99.4 | 20-166 | 1.01 | 36 | |
| o-Xylene | 51.7 | 1.0 | " | 50.0 | ND | 103 | 33-159 | 1.80 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 12.5 | | " | 13.3 | | 94.1 | 37-154 | | | |
| Surrogate: Toluene-d8 | 13.2 | | " | 13.3 | | 98.9 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.3 | | " | 13.3 | | 100 | 45-146 | | | |

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Terrace Pit
Project Number: 701530.02204
Project Manager: Jennifer Galles

Reported:
07/07/17 16:20

Notes and Definitions

| | |
|-----|--|
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |