



**APPROVED**

NMOCD approves  
of the delineation  
for 1RP-4643.

October 23, 2017

Reference No. 11135241

Mr. Dean Ericson  
ETC Field Services LLC  
600 N. Marienfeld  
Suite 700  
Midland, TX 79701

Dear Mr. Ericson:

**Re: Assessment Summary Report  
0-6-1 4" (1RP-4643)  
ETC Field Services LLC  
Site Location: Unit J, Sec. 20, T 20-S, R 37-E  
(Lat 32.557054N°, Long -103.27255W°)  
Lea County, New Mexico**

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. The 0-6-1 4" (hereafter referred to as the "Site") is located within Unit J, Section 20, Township 20 South, Range 37 East, in Lea County, New Mexico (see Figure 1). The property is owned by the New Mexico State Land Office (NMSLO).

On March 13, 2017, a release of approximately 150 barrels (bbls) of natural gas/oil was reported to the State of New Mexico Oil Conservation Division (NMOCD) via Form C-141. The NMOCD then notified the NMSLO. External corrosion caused an approximate one-inch hole to develop on a section of pipeline segment of 0-6-1 and was the cause of the release. Approximately 50 bbls of the fluids were recovered. Contaminated soils were excavated and stockpiled on site and the excavation backfilled (see Figure 2). NMOCD release number 1RP-4643 was assigned.

## 1. Recommended Remediation Action Limits

Based on measured data collected from groundwater monitoring well MW-1, installed at the site on August 29, 2017, the depth to groundwater is approximately 23 ft. below ground surface (bgs). Additionally, there are no well head protection areas or surface water bodies within 1,000 feet of the Site. Therefore, the preliminary total ranking score is 20 (see table below).

Based on this score, the applicable NMOCD Site specific Recommended Remediation Action Limits (RRALs) for soil are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 100 mg/kg for total petroleum hydrocarbons (TPH), and 600 mg/kg for chlorides.



| New Mexico Oil Conservation Division Site Assessment                                                                                                                                         |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Ranking Criteria                                                                                                                                                                             | Score      |
| Depth to Ground Water (<50 ft. bgs)                                                                                                                                                          | 20         |
| Wellhead Protection Area (> 1000 ft. from water source, > 200 ft. from domestic source)                                                                                                      | 0          |
| Distance to Surface Body Water (>1000 ft.)                                                                                                                                                   | 0          |
| <b>Ranking Criteria Total Score</b>                                                                                                                                                          | <b>20*</b> |
| *Because the ranking criteria total score is 20, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 100 mg/kg for total TPH and 600 ppm for chlorides <sup>1</sup> . |            |

1. NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993 and recent discussions with Mr. Jim Griswold with the NMOCD.

The New Mexico Water Quality Control Commission (NMWQCC) mandates that groundwater quality in New Mexico be protected. Groundwater quality standards can be found in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). The NMWQCC standards for constituents identified at the Site are as follows:

|                        |            |
|------------------------|------------|
| Benzene                | 10 ug/L    |
| Toluene                | 750 ug/L   |
| Ethylbenzene           | 750 ug/L   |
| Xylenes                | 620 ug/L   |
| Chloride               | 250 mg/L   |
| Total Dissolved Solids | 1,000 mg/L |

- ug/L = micrograms per liter and mg/L = milligrams per liter

## 2. Assessment Activities

### *Soil Boring Advancement and Sampling*

The impacted area had been initially excavated to a depth of approximately 15 ft. bgs and soil samples were collected by ETC Field Services from two locations within the base of the excavation. The samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for BTEX by EPA Method 8260B, TPH by EPA Method 8015B, and chloride by EPA Method 300. The samples contained benzene concentrations ranging from below the laboratory reporting limit (LRL) to 0.084 mg/kg, total BTEX concentrations ranging from 1.956 to 4.248 mg/kg, total TPH concentrations ranging from 132.2 to 213.3 mg/kg, and chloride concentrations ranging from 16 to 32 mg/kg (Table 1). The highest TPH and chloride concentrations were from the sample collected below the release point. The laboratory reports are included in Appendix A.

Assessment activities that included the drilling of six soil borings and the installation of one groundwater monitoring well were performed at the Site on August 29 and 30, 2017 by GHD. The soil boring locations



were marked and a New Mexico One Call utility locate ticket was completed at least 48-hours prior to mobilization.

Vertical and horizontal assessment was performed by collecting soil samples from the six soil borings (BE-1, BE-2, BS, BW, BN-1, BN-2) that were advanced in the four cardinal directions of the release point and one (MW-1) that was advanced near the release point. BN-1 was advanced to the north of the release area and based on elevated field screening readings (Table 1), the boring was terminated at 20 ft. bgs and BN-2 was drilled farther to the north. BE-1 was advanced to the east of the release area and based on elevated field screening readings. BE-2 was drilled farther to the east. BS was drilled to the south of the release area and BW to the west (Figure 2). Field screening of the soil for petroleum hydrocarbons was performed to assess the horizontal and vertical extent of contaminated soil in the release area. Where the field screening indicated the presence of concentrations above the RRAL, additional step-out borings were advanced (BN-2 and BE-2, see Figure 3). Field screening of the soil was performed using the PetroFLAG Hydrocarbon Analysis System and a photoionization detector. Drilling activities were performed by Enviro-Drill, Inc. of Albuquerque, New Mexico, and observed by GHD.

The drilling was performed utilizing a drill rig equipped with hollow stem augers and the depths of the soil borings ranged from 5 ft to approximately 30 ft. bgs. Soil samples were collected every 5 feet utilizing a split spoon sampler. The soil borings that were not converted to a monitoring well were backfilled with the soil cuttings and capped with a minimum of 10 feet of hydrated bentonite chips.

The soils at the Site consisted primarily of very fine to fine-grained sand with varying degrees of silt. The soil boring logs are included in Appendix B.

Select samples collected from the soil borings were submitted to Hall Environmental Analysis Laboratories (HEAL) located in Albuquerque, New Mexico. Either the last two or the last three samples collected from each soil boring were submitted for analysis. The samples were submitted for BTEX by EPA Method 8021B, TPH by EPA Method 8015, and chloride by EPA Method 300.0.

### ***Monitor Well Installation and Sampling***

One groundwater monitoring well (MW-1) was installed at the site during the drilling operations. Prior to well installation, an application for Water Monitoring Easement was submitted to the NMSLO and the application was approved on August 4, 2017. An application to Drill a Well With no Water Right was submitted to the New Mexico Office of the State Engineer on August 11, 2017 and the permit was approved on August 18, 2017. Copies of each are included in Appendix C.

The monitor well (MW-1) was constructed of 2-in. diameter, flush-threaded, Schedule 40 PVC casing and 20 feet of 0.020-in. machine slot well screen. The well screen was placed from the bottom of boring (30 ft. bgs) and extended to approximately 10 ft. below ground surface.

The borehole annulus was backfilled with a 10/20 sand filter pack to approximately 2 ft. above the top of the screen interval. An approximately 2 ft. thick bentonite seal was placed on top of the sand. The



remainder of the well annulus was grouted to ground surface with a 95 percent Portland cement and 5 percent bentonite powder grout. The well was completed with an above ground, lockable well vault that was placed within 24-in. by 24-in. by 4-in. thick concrete pad. The well vault was locked. Monitoring well construction details are included in the soil boring log for MW-1 located in Appendix B.

The depth to groundwater in the well was measured at 24.70 ft. bgs on September 20, 2017 and GHD collected a water sample for laboratory analysis. Prior to collection of the groundwater sample, the well was developed by pumping approximately 35 to 40 gallons of water. Once the well had stabilized, approximately 3.25 gallons of water were purged from the well with a disposable bailer until field parameters, including pH, temperature, oxidation reduction potential, total dissolved solids (TDS), and conductivity stabilized. Following the purging, a groundwater sample was collected utilizing the disposable bailer. Field parameters were monitored using a YSI 556 multi parameter sonde during the sampling event.

The groundwater sample was submitted to HEAL for analysis of BTEX by EPA Method 8021B, total TPH by EPA Method 8015, chloride by EPA Method 300.0, and TDS by SM2540C analysis. A trip blank was also prepared in the field and submitted to HEAL for BTEX analysis by EPA Method 8021B.

### 3. Assessment Results

The soil sample collected from MW-1 from 15 to 17 ft. bgs contained a benzene concentration of 0.032 mg/kg. None of the rest of the submitted samples contained BTEX or TPH constituents above the LRLs. Chloride concentrations ranged from 54 to 1,100 mg/kg. The highest chloride concentration, and the only one exceeding the RRAL, was contained in the sample collected from MW-1 at 15 to 17 ft. bgs. The analytical data is summarized on Figure 3 and in Table 1 and the laboratory analytical data can be found in Appendix A.

The ground water sample collected from MW-1 contained a benzene concentration of 200 ug/L that exceeds the NMWQCC standard of 10 ug/L and a total BTEX concentration of 451 ug/L. Chloride was detected above the NMWQCC standard of 250 mg/L at a concentration of 580 mg/L. The sample also exceeded the NMWQCC standard for TDS (1,000 mg/L), with a concentration of 2,010 mg/L. Total TPH was detected at a concentration of 1.8 mg/L. The analytical data is summarized on Figure 4 and in Table 2 and the laboratory analytical data can be found in Appendix A

### 4. Summary and Recommendations

Based on the results of the soil samples that were collected it appears that the horizontal extent of petroleum hydrocarbon and chloride concentrations has been assessed. Chloride impacted soils exceeding the RRAL at the Site were encountered at a depth ranging 15-17 ft. bgs in one soil boring



(MW-1). The groundwater sample collected from MW-1 contained benzene, chloride, and TDS concentrations exceeding their respective NMWQCC standards.

Based on the laboratory results, GHD recommends the following:

- Re-sampling MW-1 to compare the analytical results to the first sample results after the well has had time to stabilize.
- Install and sample additional groundwater monitoring wells to assess the gradient and horizontal extent of petroleum hydrocarbon and chloride concentrations in the groundwater.
- Assess the use of soil vapor extraction and/or air sparging to remediate petroleum hydrocarbon concentrations in the soil and groundwater.

Following completion of the above activities, the collected data will be evaluated and recommendations made for future work, if required. Should you have any questions or require additional information regarding this submittal please feel free to contact myself, or Bernie Bockisch at (505) 884-0672 or [Bernard.Bockisch@ghd.com](mailto:Bernard.Bockisch@ghd.com).

Sincerely,

GHD

A handwritten signature in black ink that reads "Alan Brandon".

Alan Brandon  
Senior Project Manager

AB/mc/01

A handwritten signature in blue ink that reads "Bernard Bockisch".

Bernard Bockisch  
New Mexico Operations Manager

## Figures



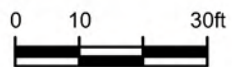






Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.557054° North, 103.27255° West



Coordinate System:  
NAD 1983 (2011) StatePlane-  
New Mexico East (US Feet)



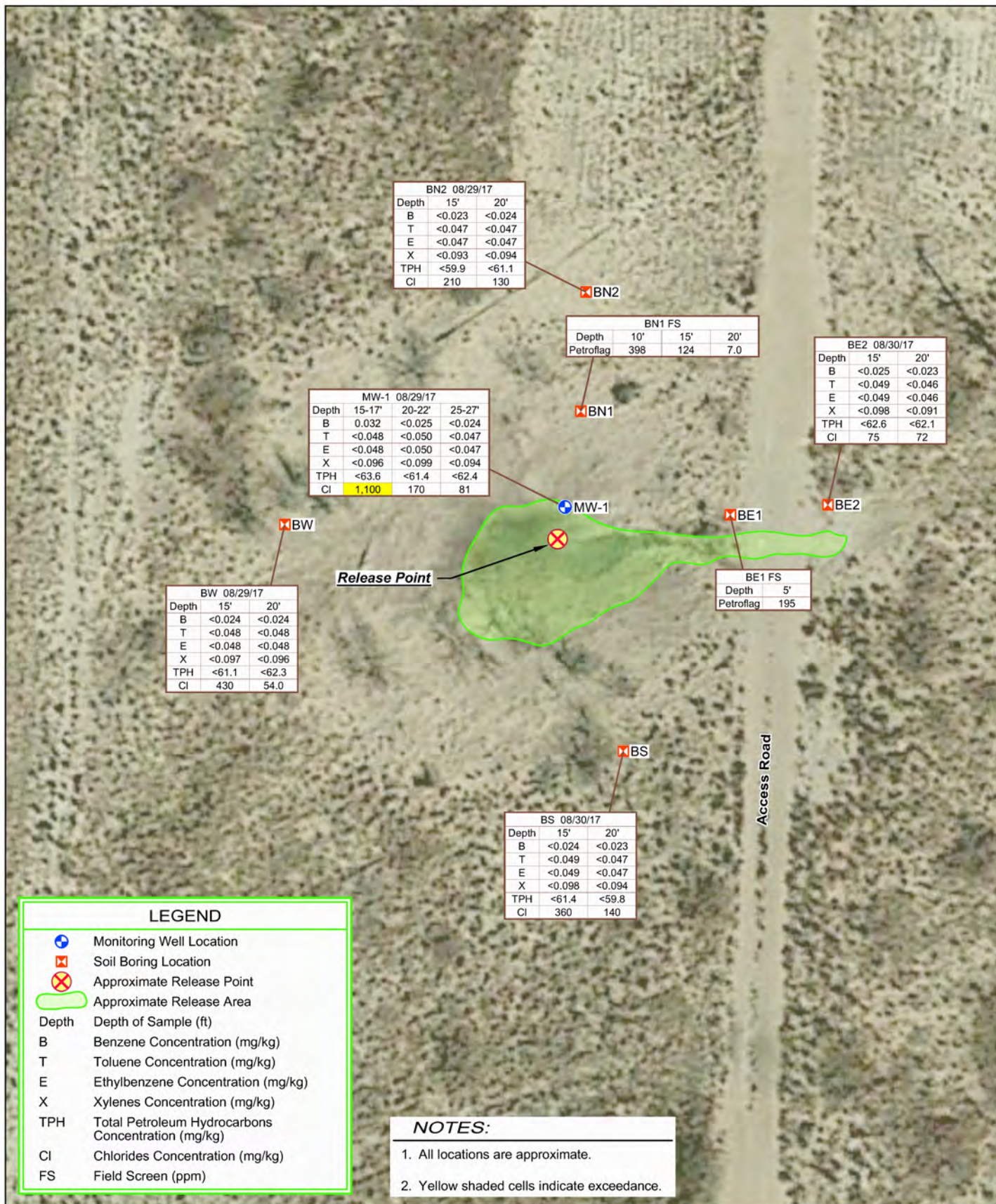
ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
0-6-1 4" LINE RELEASE

**SOIL BORING AND  
MONITORING WELL LOCATIONS**

11135241-00  
Oct 20, 2017

**FIGURE 2**





Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.557054° North, 103.27255° West

0 10 30ft

Coordinate System:  
NAD 1983 (2011) StatePlane-  
New Mexico East (US Feet)



ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
0-6-1 4" LINE RELEASE

SOIL CONCENTRATION MAP

11135241-00

Oct 20, 2017

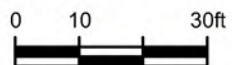
FIGURE 3





Source: Image © 2016 Google - Imagery Date: February 1, 2017

Lat/Long: 32.557054° North, 103.27255° West



Coordinate System:  
NAD 1983 (2011) StatePlane-  
New Mexico East (US Feet)



ETC FIELD SERVICES LLC  
LEA COUNTY, NEW MEXICO  
0-6-1 4" LINE RELEASE  
**GROUNDWATER  
CONCENTRATION MAP**

11135241-00  
Oct 20, 2017

**FIGURE 4**

## Tables



Table 1

ETC Field Services LLC - 0-6-1  
 Section 20, Township 20 South, Range 37 East  
 Lea County, New Mexico  
 Soil Analytical Results Summary

| Sample ID                               | Date       | Sample Depth | Chlorides    | Benzene   | Toluene   | Ethylbenzene | Xylenes   | Total BTEX | TPH          | TPH               | TPH                   | Total TPH  | Field Screen -<br>Hydrocarbons<br>(PetroFlag) |
|-----------------------------------------|------------|--------------|--------------|-----------|-----------|--------------|-----------|------------|--------------|-------------------|-----------------------|------------|-----------------------------------------------|
|                                         |            | (ft.)        | (mg/kg)      | (mg/kg)   | (mg/kg)   | (mg/kg)      | (mg/kg)   | (mg/kg)    | GRO (C6-C10) | DRO (C10-<br>C28) | EXT DRO (C28-<br>C36) | GRO/DRO    | (ppm)                                         |
|                                         |            |              |              |           |           |              |           |            | (mg/kg)      | (mg/kg)           |                       | (mg/kg)    |                                               |
| <b>NMOC Remediation Action Levels</b>   |            |              | <b>600</b>   | <b>10</b> | <b>NE</b> | <b>NE</b>    | <b>NE</b> | <b>50</b>  | <b>NE</b>    | <b>NE</b>         | <b>NE</b>             | <b>100</b> |                                               |
| <b>SUBSURFACE INVESTIGATION SAMPLES</b> |            |              |              |           |           |              |           |            |              |                   |                       |            |                                               |
| Floor 15.5*                             | 03/07/2017 | 15.5         | 32           | 0.084     | 0.570     | 0.974        | 2.62      | 4.248      | 45.6         | 96.2              | 71.5                  | 213.3      | NA                                            |
| Floor Middle Hole 15.5*                 | 03/08/2017 | 15.5         | 16           | <0.050    | 0.076     | 0.21         | 0.692     | 0.978      | 12.1         | 51.7              | 68.4                  | 132.2      | NA                                            |
| MW-1                                    | 08/29/2017 | 5-7          |              |           |           |              |           |            |              |                   |                       |            | 1883                                          |
| MW-1                                    | 08/29/2017 | 10-12        |              |           |           |              |           |            |              |                   |                       |            | 690                                           |
| S-11135241-082917-MG-MW-1-15-17         | 08/29/2017 | 15-17        | <b>1,100</b> | 0.032     | <0.048    | <0.048       | <0.096    | 0.032      | <4.8         | <9.8              | <49                   | <63.6      | 0.0                                           |
| S-11135241-082917-MG-MW-1-20-22         | 08/29/2017 | 20-22        | 170          | <0.025    | <0.050    | <0.050       | <0.099    | <0.224     | <5.0         | <9.4              | <47                   | <61.4      | 111                                           |
| S-11135241-082917-MG-MW-1-25-27         | 08/29/2017 | 25-27        | 81           | <0.024    | <0.047    | <0.047       | <0.094    | <0.212     | <4.7         | <9.7              | <46                   | <62.4      | 19                                            |
| BN-1                                    | 08/29/2017 | 10           |              |           |           |              |           |            |              |                   |                       |            | 398.6                                         |
| BN-1                                    | 08/29/2017 | 15           |              |           |           |              |           |            |              |                   |                       |            | 124.6                                         |
| BN-1                                    | 08/29/2017 | 20           |              |           |           |              |           |            |              |                   |                       |            | 7.0                                           |
| BN-2                                    | 08/29/2017 | 5            |              |           |           |              |           |            |              |                   |                       |            | 0.5                                           |
| BN-2                                    | 08/29/2017 | 10           |              |           |           |              |           |            |              |                   |                       |            | 1.5                                           |
| S-11135241-082917-MG-BN-2-15            | 08/29/2017 | 15           | 210          | <0.023    | <0.047    | <0.047       | <0.093    | <0.210     | <4.7         | <9.2              | <46                   | <59.9      | 1.7                                           |
| S-11135241-082917-MG-BN2-20             | 08/29/2017 | 20           | 130          | <0.024    | <0.047    | <0.047       | <0.094    | <0.212     | <4.7         | <9.4              | <47                   | <61.1      | 2.3                                           |
| BW                                      | 08/29/2017 | 5            |              |           |           |              |           |            |              |                   |                       |            | 0.9                                           |
| BW                                      | 08/29/2017 | 10           |              |           |           |              |           |            |              |                   |                       |            | 2.1                                           |
| S-11135241-082917-MG-BW-15              | 08/29/2017 | 15           | 430          | <0.024    | <0.048    | <0.048       | <0.097    | <0.217     | <4.8         | <9.3              | <47                   | <61.1      | 9.7                                           |
| S-11135241-082917-MG-BW-20              | 08/29/2017 | 20           | 54           | <0.024    | <0.048    | <0.048       | <0.096    | <0.216     | <4.8         | <9.5              | <48                   | <62.3      | 7.4                                           |
| BS                                      | 08/30/2017 | 5            |              |           |           |              |           |            |              |                   |                       |            | 42                                            |
| BS                                      | 08/30/2017 | 10           |              |           |           |              |           |            |              |                   |                       |            | 72                                            |
| S-11135241-083017-MG-BS-15              | 08/30/2017 | 15           | 360          | <0.024    | <0.049    | <0.049       | <0.098    | <0.220     | <4.9         | <9.5              | <47                   | <61.4      | 27                                            |
| S-11135241-083017-MG-BS-20              | 08/30/2017 | 20           | 140          | <0.023    | <0.047    | <0.047       | <0.094    | <0.211     | <4.7         | <9.1              | <46                   | <59.8      | 63                                            |
| BE-1                                    | 08/30/2017 | 5            |              |           |           |              |           |            |              |                   |                       |            | 195                                           |
| BE-2                                    | 08/30/2017 | 5            |              |           |           |              |           |            |              |                   |                       |            | 228                                           |
| BE-2                                    | 08/30/2017 | 10           |              |           |           |              |           |            |              |                   |                       |            | 60                                            |
| S-11135241-083017-MG-BE2-15             | 08/30/2017 | 15           | 75           | <0.025    | <0.049    | <0.049       | <0.098    | <0.221     | <4.9         | <9.7              | <48                   | <62.6      | 72                                            |
| S-11135241-083017-MG-BE2-20             | 08/30/2017 | 20           | 72           | <0.023    | <0.046    | <0.046       | <0.091    | <0.206     | <4.6         | <9.5              | <48                   | <62.1      | 28                                            |

Note: Concentrations that are bold exceed the NMOC Remediation Action Level

\* Sample taken by ETC Field Services

NE = Not Established

mg/Kg = milligrams per Kilogram

-- = Not Applicable

NA = Not Analyzed

Field screening only

Table 2

ETC Field Services LLC - 0-6-1  
 Section 20, Township 20 South, Range 37 East  
 Lea County, New Mexico  
 Groundwater Analytical Results Summary

| Sample ID                  | Date       | Chlorides | Benzene | Toluene | Ethylbenzene | Xylenes | TPH    | TPH    | TPH     | Total TPH   | TDS    |
|----------------------------|------------|-----------|---------|---------|--------------|---------|--------|--------|---------|-------------|--------|
|                            |            | (mg/L)    | (ug/L)  | (ug/L)  | (ug/L)       | (ug/L)  | GRO    | DRO    | EXT MRO | GRO/DRO/MRO | (mg/L) |
|                            |            |           |         |         |              |         | (mg/L) | (mg/L) | (mg/L)  | (mg/L)      |        |
| NMWQCC Standard            |            | 250       | 10      | 750     | 750          | 620     | NE     | NE     | NE      | NE          | 1,000  |
| GW-11135241-092017-MG-MW-1 | 09/20/2017 | 580       | 200     | 77      | 87           | 87      | 1.8    | <1.0   | <5.0    | 1.8         | 2,010  |
| TB-11135241-092017-MG-001  | 09/20/2017 | NA        | <1.0    | <1.0    | <1.0         | <2.0    | NA     | NA     | NA      | NA          | NA     |

## Notes:

TDS = Total dissolved solids

NE = Not established

NMWQCC = New Mexico Water Quality Control Commission

mg/L = Milligrams per liter (parts per million)

ug/L = Micrograms per liter (parts per billion)

NA = Not analyzed

BOLD = Concentrations that exceed the NMWQCC groundwater quality standard

# Appendices



# Appendix A

## Laboratory Analytical Reports

March 08, 2017

DEAN ERICSON

ENERGY TRANSFER

P. O. BOX 1226

JAL, NM 88252

RE: S U -6 LATERAL ( MONUMENT) 4"

Enclosed are the results of analyses for samples received by the laboratory on 03/07/17 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

ENERGY TRANSFER  
DEAN ERICSON  
P. O. BOX 1226  
JAL NM, 88252  
Fax To:

|                   |                               |                     |               |
|-------------------|-------------------------------|---------------------|---------------|
| Received:         | 03/07/2017                    | Sampling Date:      | 03/07/2017    |
| Reported:         | 03/08/2017                    | Sampling Type:      | Soil          |
| Project Name:     | S U -6 LATERAL ( MONUMENT) 4" | Sampling Condition: | Cool & Intact |
| Project Number:   | NONE GIVEN                    | Sample Received By: | Jodi Henson   |
| Project Location: | NOT GIVEN                     |                     |               |

**Sample ID: FLOOR 15.5' (H700581-01)**

| BTX 8021B             |              | mg/kg           |            | Analyzed By: MS |      |            |               |       |           |
|-----------------------|--------------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte               | Result       | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| <b>Benzene*</b>       | <b>0.084</b> | 0.050           | 03/08/2017 | ND              | 1.90 | 94.8       | 2.00          | 1.13  |           |
| <b>Toluene*</b>       | <b>0.570</b> | 0.050           | 03/08/2017 | ND              | 1.77 | 88.5       | 2.00          | 1.22  |           |
| <b>Ethylbenzene*</b>  | <b>0.974</b> | 0.050           | 03/08/2017 | ND              | 1.75 | 87.5       | 2.00          | 1.01  |           |
| <b>Total Xylenes*</b> | <b>2.62</b>  | 0.150           | 03/08/2017 | ND              | 5.04 | 84.0       | 6.00          | 0.643 |           |
| <b>Total BTX</b>      | <b>4.25</b>  | 0.300           | 03/08/2017 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

| Chloride, SM4500Cl-B |             | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>32.0</b> | 16.0            | 03/08/2017 | ND              | 448 | 112        | 400           | 6.90 |           |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>GRO C6-C10</b>          | <b>45.6</b> | 10.0            | 03/07/2017 | ND              | 174 | 87.2       | 200           | 2.78 |           |
| <b>DRO &gt;C10-C28</b>     | <b>96.2</b> | 10.0            | 03/07/2017 | ND              | 188 | 93.9       | 200           | 3.78 |           |
| <b>EXT DRO &gt;C28-C36</b> | <b>71.5</b> | 10.0            | 03/07/2017 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 105 % 25.1-158

Surrogate: 1-Chlorooctadecane 87.6 % 26.8-170

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

|     |                                                                                                                                                                |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ND  | Analyte NOT DETECTED at or above the reporting limit                                                                                                           |
| RPD | Relative Percent Difference                                                                                                                                    |
| **  | Samples not received at proper temperature of 6°C or below.                                                                                                    |
| *** | Insufficient time to reach temperature.                                                                                                                        |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Page 4 of 4

March 09, 2017

DEAN ERICSON

ENERGY TRANSFER

P. O. BOX 1226

JAL, NM 88252

RE: SU -6 4" MILE MARKER 5 (MONUMENT)

Enclosed are the results of analyses for samples received by the laboratory on 03/08/17 13:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

ENERGY TRANSFER  
DEAN ERICSON  
P. O. BOX 1226  
JAL NM, 88252  
Fax To:

|                   |                                   |                     |               |
|-------------------|-----------------------------------|---------------------|---------------|
| Received:         | 03/08/2017                        | Sampling Date:      | 03/08/2017    |
| Reported:         | 03/09/2017                        | Sampling Type:      | Soil          |
| Project Name:     | SU -6 4" MILE MARKER 5 (MONUMENT) | Sampling Condition: | Cool & Intact |
| Project Number:   | NONE GIVEN                        | Sample Received By: | Jodi Henson   |
| Project Location: | NOT GIVEN                         |                     |               |

**Sample ID: FLOOR MIDDLE HOLE 15.5' (H700598-01)**

| BTX 8021B             |              | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|-----------------------|--------------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte               | Result       | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*              | <0.050       | 0.050           | 03/09/2017 | ND              | 1.99 | 99.6       | 2.00          | 2.04 |           |
| <b>Toluene*</b>       | <b>0.076</b> | 0.050           | 03/09/2017 | ND              | 1.87 | 93.3       | 2.00          | 2.12 |           |
| <b>Ethylbenzene*</b>  | <b>0.210</b> | 0.050           | 03/09/2017 | ND              | 1.86 | 93.0       | 2.00          | 2.17 |           |
| <b>Total Xylenes*</b> | <b>0.692</b> | 0.150           | 03/09/2017 | ND              | 5.35 | 89.2       | 6.00          | 2.04 |           |
| <b>Total BTX</b>      | <b>0.978</b> | 0.300           | 03/09/2017 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

| Chloride, SM4500Cl-B |             | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>16.0</b> | 16.0            | 03/09/2017 | ND              | 448 | 112        | 400           | 3.64 |           |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| <b>GRO C6-C10</b>          | <b>12.1</b> | 10.0            | 03/08/2017 | ND              | 193 | 96.6       | 200           | 1.04  |           |
| <b>DRO &gt;C10-C28</b>     | <b>51.7</b> | 10.0            | 03/08/2017 | ND              | 198 | 99.0       | 200           | 0.803 |           |
| <b>EXT DRO &gt;C28-C36</b> | <b>68.4</b> | 10.0            | 03/08/2017 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 102 % 25.1-158

Surrogate: 1-Chlorooctadecane 99.3 % 26.8-170

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |                                                                                                                                                                |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ND  | Analyte NOT DETECTED at or above the reporting limit                                                                                                           |
| RPD | Relative Percent Difference                                                                                                                                    |
| **  | Samples not received at proper temperature of 6°C or below.                                                                                                    |
| *** | Insufficient time to reach temperature.                                                                                                                        |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**(575) 393-2326 FAX (575) 393-2476**

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

September 22, 2017

Bernie Bockish

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110

TEL: (505) 884-0672

FAX

RE: SU-6

OrderNo.: 1709036

Dear Bernie Bockish:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report

Lab Order: 1709036

Date Reported: 9/22/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD  
Project: SU-6

Lab Order: 1709036

Lab ID: 1709036-001

Collection Date: 8/29/2017 10:50:00 AM

Client Sample ID: S-11135241-082917-MG-MW-1-15-17

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 1100   | 30       |      | mg/Kg | 20 | 9/11/2017 3:03:39 PM | 33778        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.8      |      | mg/Kg | 1  | 9/6/2017 11:32:56 AM | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 49       |      | mg/Kg | 1  | 9/6/2017 11:32:56 AM | 33701        |
| Surr: DNOP                                       | 87.4   | 70-130   |      | %Rec  | 1  | 9/6/2017 11:32:56 AM | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.8      |      | mg/Kg | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| Surr: BFB                                        | 93.7   | 54-150   |      | %Rec  | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | 0.032  | 0.024    |      | mg/Kg | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| Toluene                                          | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.096    |      | mg/Kg | 1  | 9/5/2017 4:34:52 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 99.3   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 4:34:52 PM  | 33670        |

Lab ID: 1709036-002

Collection Date: 8/29/2017 10:55:00 AM

Client Sample ID: S-11135241-082917-MG-MW-1-20-22

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 170    | 30       |      | mg/Kg | 20 | 9/11/2017 3:40:53 PM | 33778        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.4      |      | mg/Kg | 1  | 9/6/2017 11:57:29 AM | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 9/6/2017 11:57:29 AM | 33701        |
| Surr: DNOP                                       | 92.4   | 70-130   |      | %Rec  | 1  | 9/6/2017 11:57:29 AM | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 5.0      |      | mg/Kg | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| Surr: BFB                                        | 90.1   | 54-150   |      | %Rec  | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| Toluene                                          | ND     | 0.050    |      | mg/Kg | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.050    |      | mg/Kg | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.099    |      | mg/Kg | 1  | 9/5/2017 6:32:58 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 98.5   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 6:32:58 PM  | 33670        |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order: 1709036

Date Reported: 9/22/2017

**CLIENT:** GHD  
**Project:** SU-6

**Lab Order:** 1709036

**Lab ID:** 1709036-003

**Collection Date:** 8/29/2017 11:00:00 AM

**Client Sample ID:** S-11135241-082917-MG-MW-1-25-27

**Matrix:** SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID            |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|---------------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: <b>MRA</b> |
| Chloride                                         | 81     | 30       |      | mg/Kg | 20 | 9/11/2017 3:53:17 PM | 33778               |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: <b>TOM</b> |
| Diesel Range Organics (DRO)                      | ND     | 9.7      |      | mg/Kg | 1  | 9/6/2017 12:22:16 PM | 33701               |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 9/6/2017 12:22:16 PM | 33701               |
| Surr: DNOP                                       | 100    | 70-130   |      | %Rec  | 1  | 9/6/2017 12:22:16 PM | 33701               |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| Surr: BFB                                        | 89.3   | 54-150   |      | %Rec  | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| Xylenes, Total                                   | ND     | 0.094    |      | mg/Kg | 1  | 9/5/2017 6:56:34 PM  | 33670               |
| Surr: 4-Bromofluorobenzene                       | 98.5   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 6:56:34 PM  | 33670               |

**Lab ID:** 1709036-004

**Collection Date:** 8/29/2017 3:10:00 PM

**Client Sample ID:** S-11135241-082917-MG-BN-2-15

**Matrix:** SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID            |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|---------------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: <b>MRA</b> |
| Chloride                                         | 210    | 30       |      | mg/Kg | 20 | 9/11/2017 4:05:41 PM | 33778               |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: <b>TOM</b> |
| Diesel Range Organics (DRO)                      | ND     | 9.2      |      | mg/Kg | 1  | 9/6/2017 12:47:03 PM | 33701               |
| Motor Oil Range Organics (MRO)                   | ND     | 46       |      | mg/Kg | 1  | 9/6/2017 12:47:03 PM | 33701               |
| Surr: DNOP                                       | 104    | 70-130   |      | %Rec  | 1  | 9/6/2017 12:47:03 PM | 33701               |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| Surr: BFB                                        | 89.4   | 54-150   |      | %Rec  | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Benzene                                          | ND     | 0.023    |      | mg/Kg | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| Xylenes, Total                                   | ND     | 0.093    |      | mg/Kg | 1  | 9/5/2017 7:20:08 PM  | 33670               |
| Surr: 4-Bromofluorobenzene                       | 98.3   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 7:20:08 PM  | 33670               |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |



# Analytical Report

Lab Order: 1709036

Date Reported: 9/22/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD  
Project: SU-6

Lab Order: 1709036

Lab ID: 1709036-005

Collection Date: 8/29/2017 3:15:00 PM

Client Sample ID: S-11135241-082917-MG-BN2-20

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 130    | 30       |      | mg/Kg | 20 | 9/11/2017 4:18:06 PM | 33778        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.4      |      | mg/Kg | 1  | 9/6/2017 1:11:53 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 9/6/2017 1:11:53 PM  | 33701        |
| Surr: DNOP                                       | 96.3   | 70-130   |      | %Rec  | 1  | 9/6/2017 1:11:53 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| Surr: BFB                                        | 89.1   | 54-150   |      | %Rec  | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.094    |      | mg/Kg | 1  | 9/5/2017 7:43:46 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 98.5   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 7:43:46 PM  | 33670        |

Lab ID: 1709036-006

Collection Date: 8/29/2017 4:15:00 PM

Client Sample ID: S-11135241-082917-MG-BW-15

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 430    | 30       |      | mg/Kg | 20 | 9/11/2017 4:30:30 PM | 33778        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.3      |      | mg/Kg | 1  | 9/6/2017 1:36:42 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 9/6/2017 1:36:42 PM  | 33701        |
| Surr: DNOP                                       | 100    | 70-130   |      | %Rec  | 1  | 9/6/2017 1:36:42 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.8      |      | mg/Kg | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| Surr: BFB                                        | 89.1   | 54-150   |      | %Rec  | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| Toluene                                          | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.097    |      | mg/Kg | 1  | 9/5/2017 8:07:21 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 98.2   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 8:07:21 PM  | 33670        |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |

# Analytical Report

Lab Order: 1709036

Date Reported: 9/22/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD  
Project: SU-6

Lab Order: 1709036

Lab ID: 1709036-007

Collection Date: 8/29/2017 4:20:00 PM

Client Sample ID: S-11135241-082917-MG-BW-20

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 54     | 30       |      | mg/Kg | 20 | 9/11/2017 4:42:54 PM | 33778        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.5      |      | mg/Kg | 1  | 9/6/2017 2:01:41 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 9/6/2017 2:01:41 PM  | 33701        |
| Surr: DNOP                                       | 93.4   | 70-130   |      | %Rec  | 1  | 9/6/2017 2:01:41 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.8      |      | mg/Kg | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| Surr: BFB                                        | 89.0   | 54-150   |      | %Rec  | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| Toluene                                          | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.048    |      | mg/Kg | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.096    |      | mg/Kg | 1  | 9/5/2017 8:30:57 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 97.5   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 8:30:57 PM  | 33670        |

Lab ID: 1709036-008

Collection Date: 8/30/2017 9:35:00 AM

Client Sample ID: S-11135241-083017-MG-BS-15

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 360    | 30       |      | mg/Kg | 20 | 9/11/2017 5:44:57 PM | 33808        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.5      |      | mg/Kg | 1  | 9/6/2017 2:26:33 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 47       |      | mg/Kg | 1  | 9/6/2017 2:26:33 PM  | 33701        |
| Surr: DNOP                                       | 92.8   | 70-130   |      | %Rec  | 1  | 9/6/2017 2:26:33 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| Surr: BFB                                        | 89.5   | 54-150   |      | %Rec  | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.024    |      | mg/Kg | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.098    |      | mg/Kg | 1  | 9/5/2017 8:54:44 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 98.4   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 8:54:44 PM  | 33670        |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |

# Analytical Report

Lab Order: 1709036

Date Reported: 9/22/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD  
Project: SU-6

Lab Order: 1709036

Lab ID: 1709036-009

Collection Date: 8/30/2017 9:40:00 AM

Client Sample ID: S-11135241-083017-MG-BS-20

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 140    | 30       |      | mg/Kg | 20 | 9/20/2017 1:21:54 PM | 33808        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.1      |      | mg/Kg | 1  | 9/6/2017 2:51:35 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 46       |      | mg/Kg | 1  | 9/6/2017 2:51:35 PM  | 33701        |
| Surr: DNOP                                       | 87.3   | 70-130   |      | %Rec  | 1  | 9/6/2017 2:51:35 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.7      |      | mg/Kg | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| Surr: BFB                                        | 89.9   | 54-150   |      | %Rec  | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.023    |      | mg/Kg | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| Toluene                                          | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.047    |      | mg/Kg | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.094    |      | mg/Kg | 1  | 9/5/2017 9:18:18 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 97.9   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 9:18:18 PM  | 33670        |

Lab ID: 1709036-010

Collection Date: 8/30/2017 11:00:00 AM

Client Sample ID: S-11135241-083017-MG-BE2-15

Matrix: SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID     |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: MRA |
| Chloride                                         | 75     | 30       |      | mg/Kg | 20 | 9/11/2017 6:22:12 PM | 33808        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: TOM |
| Diesel Range Organics (DRO)                      | ND     | 9.7      |      | mg/Kg | 1  | 9/6/2017 3:16:30 PM  | 33701        |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 9/6/2017 3:16:30 PM  | 33701        |
| Surr: DNOP                                       | 97.2   | 70-130   |      | %Rec  | 1  | 9/6/2017 3:16:30 PM  | 33701        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: NSB |
| Gasoline Range Organics (GRO)                    | ND     | 4.9      |      | mg/Kg | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| Surr: BFB                                        | 88.1   | 54-150   |      | %Rec  | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: NSB |
| Benzene                                          | ND     | 0.025    |      | mg/Kg | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| Toluene                                          | ND     | 0.049    |      | mg/Kg | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| Ethylbenzene                                     | ND     | 0.049    |      | mg/Kg | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| Xylenes, Total                                   | ND     | 0.098    |      | mg/Kg | 1  | 9/5/2017 9:41:52 PM  | 33670        |
| Surr: 4-Bromofluorobenzene                       | 95.6   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 9:41:52 PM  | 33670        |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |

**Analytical Report**Lab Order: **1709036**Date Reported: **9/22/2017****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** GHD  
**Project:** SU-6**Lab Order:** 1709036**Lab ID:** 1709036-011**Collection Date:** 8/30/2017 11:05:00 AM**Client Sample ID:** S-11135241-083017-MG-BE2-20**Matrix:** SOIL

| Analyses                                         | Result | PQL      | Qual | Units | DF | Date Analyzed        | Batch ID            |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|---------------------|
| <b>EPA METHOD 300.0: ANIONS</b>                  |        |          |      |       |    |                      | Analyst: <b>MRA</b> |
| Chloride                                         | 72     | 30       |      | mg/Kg | 20 | 9/11/2017 6:34:36 PM | 33808               |
| <b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b> |        |          |      |       |    |                      | Analyst: <b>TOM</b> |
| Diesel Range Organics (DRO)                      | ND     | 9.5      |      | mg/Kg | 1  | 9/6/2017 3:41:34 PM  | 33701               |
| Motor Oil Range Organics (MRO)                   | ND     | 48       |      | mg/Kg | 1  | 9/6/2017 3:41:34 PM  | 33701               |
| Surr: DNOP                                       | 94.6   | 70-130   |      | %Rec  | 1  | 9/6/2017 3:41:34 PM  | 33701               |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>          |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Gasoline Range Organics (GRO)                    | ND     | 4.6      |      | mg/Kg | 1  | 9/5/2017 10:05:30 PM | 33670               |
| Surr: BFB                                        | 89.2   | 54-150   |      | %Rec  | 1  | 9/5/2017 10:05:30 PM | 33670               |
| <b>EPA METHOD 8021B: VOLATILES</b>               |        |          |      |       |    |                      | Analyst: <b>NSB</b> |
| Benzene                                          | ND     | 0.023    |      | mg/Kg | 1  | 9/5/2017 10:05:30 PM | 33670               |
| Toluene                                          | ND     | 0.046    |      | mg/Kg | 1  | 9/5/2017 10:05:30 PM | 33670               |
| Ethylbenzene                                     | ND     | 0.046    |      | mg/Kg | 1  | 9/5/2017 10:05:30 PM | 33670               |
| Xylenes, Total                                   | ND     | 0.091    |      | mg/Kg | 1  | 9/5/2017 10:05:30 PM | 33670               |
| Surr: 4-Bromofluorobenzene                       | 97.0   | 66.6-132 |      | %Rec  | 1  | 9/5/2017 10:05:30 PM | 33670               |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|                    |     |                                                       |    |                                                           |
|--------------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|
| <b>Qualifiers:</b> | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           |
|                    | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |
|                    | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |
|                    | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |
|                    | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |
|                    | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709036

22-Sep-17

Client: GHD

Project: SU-6

|            |          |     |                          |             |                                    |          |              |      |          |      |
|------------|----------|-----|--------------------------|-------------|------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | MB-33778 |     | SampType: mblk           |             | TestCode: EPA Method 300.0: Anions |          |              |      |          |      |
| Client ID: | PBS      |     | Batch ID: 33778          |             | RunNo: 45542                       |          |              |      |          |      |
| Prep Date: | 9/8/2017 |     | Analysis Date: 9/11/2017 |             | SeqNo: 1443846                     |          | Units: mg/Kg |      |          |      |
| Analyte    | Result   | PQL | SPK value                | SPK Ref Val | %REC                               | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Chloride   | ND       | 1.5 |                          |             |                                    |          |              |      |          |      |

|            |           |     |           |                |           |          |           |                          |          |        |       |
|------------|-----------|-----|-----------|----------------|-----------|----------|-----------|--------------------------|----------|--------|-------|
| Sample ID  | LCS-33778 |     |           | SampType:      | lcs       |          | TestCode: | EPA Method 300.0: Anions |          |        |       |
| Client ID: | LCSS      |     |           | Batch ID:      | 33778     |          | RunNo:    | 45542                    |          |        |       |
| Prep Date: | 9/8/2017  |     |           | Analysis Date: | 9/11/2017 |          | SeqNo:    | 1443847                  |          | Units: | mg/Kg |
| Analyte    | Result    | PQL | SPK value | SPK Ref Val    | %REC      | LowLimit | HighLimit | %RPD                     | RPDLimit | Qual   |       |
| Chloride   | 14        | 1.5 | 15.00     | 0              | 91.1      | 90       | 110       |                          |          |        |       |

|            |           |     |                |             |      |           |                          |      |          |       |  |
|------------|-----------|-----|----------------|-------------|------|-----------|--------------------------|------|----------|-------|--|
| Sample ID  | MB-33808  |     | SampType:      | mblk        |      | TestCode: | EPA Method 300.0: Anions |      |          |       |  |
| Client ID: | PBS       |     | Batch ID:      | 33808       |      | RunNo:    | 45542                    |      |          |       |  |
| Prep Date: | 9/11/2017 |     | Analysis Date: | 9/11/2017   |      | SeqNo:    | 1444864                  |      | Units:   | mg/Kg |  |
| Analyte    | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit | Qual  |  |
| Chloride   | ND        | 1.5 |                |             |      |           |                          |      |          |       |  |

|            |           |     |                          |             |                                    |          |              |      |          |      |
|------------|-----------|-----|--------------------------|-------------|------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | LCS-33808 |     | SampType: lcs            |             | TestCode: EPA Method 300.0: Anions |          |              |      |          |      |
| Client ID: | LCSS      |     | Batch ID: 33808          |             | RunNo: 45542                       |          |              |      |          |      |
| Prep Date: | 9/11/2017 |     | Analysis Date: 9/11/2017 |             | SeqNo: 1444865                     |          | Units: mg/Kg |      |          |      |
| Analyte    | Result    | PQL | SPK value                | SPK Ref Val | %REC                               | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Chloride   | 14        | 1.5 | 15.00                    | 0           | 96.2                               | 90       | 110          |      |          |      |

|            |                    |     |                          |             |                                    |          |              |      |          |      |
|------------|--------------------|-----|--------------------------|-------------|------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | 1709036-009AMS     |     | SampType: ms             |             | TestCode: EPA Method 300.0: Anions |          |              |      |          |      |
| Client ID: | S-11135241-083017- |     | Batch ID: 33808          |             | RunNo: 45542                       |          |              |      |          |      |
| Prep Date: | 9/11/2017          |     | Analysis Date: 9/11/2017 |             | SeqNo: 1444867                     |          | Units: mg/Kg |      |          |      |
| Analyte    | Result             | PQL | SPK value                | SPK Ref Val | %REC                               | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Chloride   | 210                | 30  | 15.00                    | 138.9       | 469                                | 60.8     | 141          |      |          | S    |

|            |                    |     |                          |             |                                    |          |              |      |          |      |
|------------|--------------------|-----|--------------------------|-------------|------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | 1709036-009AMSD    |     | SampType: msd            |             | TestCode: EPA Method 300.0: Anions |          |              |      |          |      |
| Client ID: | S-11135241-083017- |     | Batch ID: 33808          |             | RunNo: 45542                       |          |              |      |          |      |
| Prep Date: | 9/11/2017          |     | Analysis Date: 9/11/2017 |             | SeqNo: 1444868                     |          | Units: mg/Kg |      |          |      |
| Analyte    | Result             | PQL | SPK value                | SPK Ref Val | %REC                               | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Chloride   | 190                | 30  | 15.00                    | 138.9       | 335                                | 60.8     | 141          | 10.1 | 20       | S    |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709036

22-Sep-17

Client: GHD

Project: SU-6

|                                |          |                         |           |             |                                                     |          |              |      |          |      |
|--------------------------------|----------|-------------------------|-----------|-------------|-----------------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                      | MB-33701 | SampType: MBLK          |           |             | TestCode: EPA Method 8015M/D: Diesel Range Organics |          |              |      |          |      |
| Client ID:                     | PBS      | Batch ID: 33701         |           |             | RunNo: 45428                                        |          |              |      |          |      |
| Prep Date:                     | 9/5/2017 | Analysis Date: 9/6/2017 |           |             | SeqNo: 1439205                                      |          | Units: mg/Kg |      |          |      |
| Analyte                        | Result   | PQL                     | SPK value | SPK Ref Val | %REC                                                | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND       | 10                      |           |             |                                                     |          |              |      |          |      |
| Motor Oil Range Organics (MRO) | ND       | 50                      |           |             |                                                     |          |              |      |          |      |
| Surr: DNOP                     | 8.6      |                         | 10.00     |             | 86.4                                                | 70       | 130          |      |          |      |

|                             |           |     |                         |             |                                                     |          |              |      |          |      |
|-----------------------------|-----------|-----|-------------------------|-------------|-----------------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                   | LCS-33701 |     | SampType: LCS           |             | TestCode: EPA Method 8015M/D: Diesel Range Organics |          |              |      |          |      |
| Client ID:                  | LCSS      |     | Batch ID: 33701         |             | RunNo: 45428                                        |          |              |      |          |      |
| Prep Date:                  | 9/5/2017  |     | Analysis Date: 9/6/2017 |             | SeqNo: 1439474                                      |          | Units: mg/Kg |      |          |      |
| Analyte                     | Result    | PQL | SPK value               | SPK Ref Val | %REC                                                | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 44        | 10  | 50.00                   | 0           | 88.6                                                | 73.2     | 114          |      |          |      |
| Surr: DNOP                  | 4.5       |     | 5.000                   |             | 90.3                                                | 70       | 130          |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709036

22-Sep-17

Client: GHD

Project: SU-6

|                               |          |     |                         |             |                                            |          |              |      |          |      |
|-------------------------------|----------|-----|-------------------------|-------------|--------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                     | MB-33670 |     | SampType: MBLK          |             | TestCode: EPA Method 8015D: Gasoline Range |          |              |      |          |      |
| Client ID:                    | PBS      |     | Batch ID: 33670         |             | RunNo: 45409                               |          |              |      |          |      |
| Prep Date:                    | 9/1/2017 |     | Analysis Date: 9/5/2017 |             | SeqNo: 1439100                             |          | Units: mg/Kg |      |          |      |
| Analyte                       | Result   | PQL | SPK value               | SPK Ref Val | %REC                                       | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND       | 5.0 |                         |             |                                            |          |              |      |          |      |
| Surr: BFB                     | 890      |     | 1000                    |             | 89.0                                       | 54       | 150          |      |          |      |

|                               |           |     |                         |             |                                            |          |              |      |          |      |
|-------------------------------|-----------|-----|-------------------------|-------------|--------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                     | LCS-33670 |     | SampType: LCS           |             | TestCode: EPA Method 8015D: Gasoline Range |          |              |      |          |      |
| Client ID:                    | LCSS      |     | Batch ID: 33670         |             | RunNo: 45409                               |          |              |      |          |      |
| Prep Date:                    | 9/1/2017  |     | Analysis Date: 9/5/2017 |             | SeqNo: 1439101                             |          | Units: mg/Kg |      |          |      |
| Analyte                       | Result    | PQL | SPK value               | SPK Ref Val | %REC                                       | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 26        | 5.0 | 25.00                   | 0           | 103                                        | 76.4     | 125          |      |          |      |
| Surr: BFB                     | 990       |     | 1000                    |             | 99.0                                       | 54       | 150          |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709036

22-Sep-17

Client: GHD

Project: SU-6

|                            |                 |       |                |                 |      |           |                                    |        |              |      |
|----------------------------|-----------------|-------|----------------|-----------------|------|-----------|------------------------------------|--------|--------------|------|
| Sample ID                  | <b>MB-33670</b> |       | SampType:      | <b>MBLK</b>     |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |        |              |      |
| Client ID:                 | <b>PBS</b>      |       | Batch ID:      | <b>33670</b>    |      | RunNo:    | <b>45409</b>                       |        |              |      |
| Prep Date:                 | <b>9/1/2017</b> |       | Analysis Date: | <b>9/5/2017</b> |      | SeqNo:    | <b>1439126</b>                     | Units: | <b>mg/Kg</b> |      |
| Analyte                    | Result          | PQL   | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                          | %RPD   | RPDLimit     | Qual |
| Benzene                    | ND              | 0.025 |                |                 |      |           |                                    |        |              |      |
| Toluene                    | ND              | 0.050 |                |                 |      |           |                                    |        |              |      |
| Ethylbenzene               | ND              | 0.050 |                |                 |      |           |                                    |        |              |      |
| Xylenes, Total             | ND              | 0.10  |                |                 |      |           |                                    |        |              |      |
| Surr: 4-Bromofluorobenzene | 0.97            |       | 1.000          |                 | 97.2 | 66.6      | 132                                |        |              |      |

|                            |                  |       |                |                 |      |           |                                    |        |              |      |
|----------------------------|------------------|-------|----------------|-----------------|------|-----------|------------------------------------|--------|--------------|------|
| Sample ID                  | <b>LCS-33670</b> |       | SampType:      | <b>LCS</b>      |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |        |              |      |
| Client ID:                 | <b>LCSS</b>      |       | Batch ID:      | <b>33670</b>    |      | RunNo:    | <b>45409</b>                       |        |              |      |
| Prep Date:                 | <b>9/1/2017</b>  |       | Analysis Date: | <b>9/5/2017</b> |      | SeqNo:    | <b>1439127</b>                     | Units: | <b>mg/Kg</b> |      |
| Analyte                    | Result           | PQL   | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                          | %RPD   | RPDLimit     | Qual |
| Benzene                    | 0.89             | 0.025 | 1.000          | 0               | 88.6 | 80        | 120                                |        |              |      |
| Toluene                    | 0.93             | 0.050 | 1.000          | 0               | 92.6 | 80        | 120                                |        |              |      |
| Ethylbenzene               | 0.95             | 0.050 | 1.000          | 0               | 94.8 | 80        | 120                                |        |              |      |
| Xylenes, Total             | 2.8              | 0.10  | 3.000          | 0               | 94.9 | 80        | 120                                |        |              |      |
| Surr: 4-Bromofluorobenzene | 1.0              |       | 1.000          |                 | 102  | 66.6      | 132                                |        |              |      |

### Qualifiers:

|                                                         |                                                             |
|---------------------------------------------------------|-------------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# Sample Log-In Check List

Client Name: GHD

Work Order Number: 1709036

RcptNo: 1

Received By: Erin Melendrez

9/1/2017 8:45:00 AM

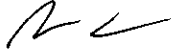


Completed By: Ashley Gallegos

9/1/2017 11:47:33 AM



Reviewed By:



9/1/17

## Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

## Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved bottles checked for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_

By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

## 18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 1.7     | Good      | Yes         |         |           |           |







Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

October 02, 2017

Bernie Bockisch

GHD

6121 Indian School Road, NE #200

Albuquerque, NM 87110

TEL: (505) 884-0672

FAX

RE: SU6

OrderNo.: 1709C18

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/21/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order: 1709C18

Date Reported: 10/2/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD  
Project: SU6

Lab Order: 1709C18

Lab ID: 1709C18-001

Collection Date: 9/20/2017 12:40:00 PM

Client Sample ID: GW-11135241-092017-MG-MW-1

Matrix: AQUEOUS

| Analyses                                   | Result | PQL      | Qual | Units | DF | Date Analyzed         | Batch ID     |
|--------------------------------------------|--------|----------|------|-------|----|-----------------------|--------------|
| <b>EPA METHOD 300.0: ANIONS</b>            |        |          |      |       |    |                       | Analyst: MRA |
| Chloride                                   | 580    | 25       | *    | mg/L  | 50 | 9/28/2017 12:01:40 AM | R45954       |
| <b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b> |        |          |      |       |    |                       | Analyst: KS  |
| Total Dissolved Solids                     | 2010   | 200      | *D   | mg/L  | 1  | 9/29/2017 2:23:00 PM  | 34102        |
| <b>EPA METHOD 8015M/D: DIESEL RANGE</b>    |        |          |      |       |    |                       | Analyst: TOM |
| Diesel Range Organics (DRO)                | ND     | 1.0      |      | mg/L  | 1  | 9/25/2017 6:47:18 PM  | 34023        |
| Motor Oil Range Organics (MRO)             | ND     | 5.0      |      | mg/L  | 1  | 9/25/2017 6:47:18 PM  | 34023        |
| Surr: DNOP                                 | 125    | 72.4-157 |      | %Rec  | 1  | 9/25/2017 6:47:18 PM  | 34023        |
| <b>EPA METHOD 8015D: GASOLINE RANGE</b>    |        |          |      |       |    |                       | Analyst: NSB |
| Gasoline Range Organics (GRO)              | 1.8    | 0.25     |      | mg/L  | 5  | 9/28/2017 11:24:40 AM | G45956       |
| Surr: BFB                                  | 130    | 52.3-138 |      | %Rec  | 5  | 9/28/2017 11:24:40 AM | G45956       |
| <b>EPA METHOD 8021B: VOLATILES</b>         |        |          |      |       |    |                       | Analyst: NSB |
| Benzene                                    | 200    | 5.0      |      | µg/L  | 5  | 9/28/2017 11:24:40 AM | B45956       |
| Toluene                                    | 77     | 5.0      |      | µg/L  | 5  | 9/28/2017 11:24:40 AM | B45956       |
| Ethylbenzene                               | 87     | 5.0      |      | µg/L  | 5  | 9/28/2017 11:24:40 AM | B45956       |
| Xylenes, Total                             | 87     | 10       |      | µg/L  | 5  | 9/28/2017 11:24:40 AM | B45956       |
| Surr: 4-Bromofluorobenzene                 | 127    | 72.5-140 |      | %Rec  | 5  | 9/28/2017 11:24:40 AM | B45956       |

Lab ID: 1709C18-002

Collection Date: 9/20/2017 1:05:00 PM

Client Sample ID: TB-11135241-092017-MG-001

Matrix: AQUEOUS

| Analyses                           | Result | PQL      | Qual | Units | DF | Date Analyzed         | Batch ID     |
|------------------------------------|--------|----------|------|-------|----|-----------------------|--------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |          |      |       |    |                       | Analyst: NSB |
| Benzene                            | ND     | 1.0      |      | µg/L  | 1  | 9/28/2017 12:12:03 PM | B45956       |
| Toluene                            | ND     | 1.0      |      | µg/L  | 1  | 9/28/2017 12:12:03 PM | B45956       |
| Ethylbenzene                       | ND     | 1.0      |      | µg/L  | 1  | 9/28/2017 12:12:03 PM | B45956       |
| Xylenes, Total                     | ND     | 2.0      |      | µg/L  | 1  | 9/28/2017 12:12:03 PM | B45956       |
| Surr: 4-Bromofluorobenzene         | 116    | 72.5-140 |      | %Rec  | 1  | 9/28/2017 12:12:03 PM | B45956       |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

|             |     |                                                       |    |                                                           |             |
|-------------|-----|-------------------------------------------------------|----|-----------------------------------------------------------|-------------|
| Qualifiers: | *   | Value exceeds Maximum Contaminant Level.              | B  | Analyte detected in the associated Method Blank           | Page 1 of 6 |
|             | D   | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                            |             |
|             | H   | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits                |             |
|             | ND  | Not Detected at the Reporting Limit                   | P  | Sample pH Not In Range                                    |             |
|             | PQL | Practical Quantitative Limit                          | RL | Reporting Detection Limit                                 |             |
|             | S   | % Recovery outside of range due to dilution or matrix | W  | Sample container temperature is out of limit as specified |             |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709C18

02-Oct-17

Client: GHD

Project: SU6

|                       |                                 |      |                                           |             |                    |          |           |      |          |      |
|-----------------------|---------------------------------|------|-------------------------------------------|-------------|--------------------|----------|-----------|------|----------|------|
| Sample ID <b>MB</b>   | SampType: <b>mbk</b>            |      | TestCode: <b>EPA Method 300.0: Anions</b> |             |                    |          |           |      |          |      |
| Client ID: <b>PBW</b> | Batch ID: <b>R45954</b>         |      | RunNo: <b>45954</b>                       |             |                    |          |           |      |          |      |
| Prep Date:            | Analysis Date: <b>9/27/2017</b> |      | SeqNo: <b>1460687</b>                     |             | Units: <b>mg/L</b> |          |           |      |          |      |
| Analyte               | Result                          | PQL  | SPK value                                 | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride              | ND                              | 0.50 |                                           |             |                    |          |           |      |          |      |

|                        |                                 |      |                                           |             |                    |          |           |      |          |      |
|------------------------|---------------------------------|------|-------------------------------------------|-------------|--------------------|----------|-----------|------|----------|------|
| Sample ID <b>LCS</b>   | SampType: <b>lcs</b>            |      | TestCode: <b>EPA Method 300.0: Anions</b> |             |                    |          |           |      |          |      |
| Client ID: <b>LCSW</b> | Batch ID: <b>R45954</b>         |      | RunNo: <b>45954</b>                       |             |                    |          |           |      |          |      |
| Prep Date:             | Analysis Date: <b>9/27/2017</b> |      | SeqNo: <b>1460688</b>                     |             | Units: <b>mg/L</b> |          |           |      |          |      |
| Analyte                | Result                          | PQL  | SPK value                                 | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride               | 4.6                             | 0.50 | 5.000                                     | 0           | 92.9               | 90       | 110       |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709C18

02-Oct-17

Client: GHD

Project: SU6

|                             |                  |     |                                 |             |                                                   |          |                    |      |          |      |
|-----------------------------|------------------|-----|---------------------------------|-------------|---------------------------------------------------|----------|--------------------|------|----------|------|
| Sample ID                   | <b>LCS-34023</b> |     | SampType: <b>LCS</b>            |             | TestCode: <b>EPA Method 8015M/D: Diesel Range</b> |          |                    |      |          |      |
| Client ID:                  | <b>LCSW</b>      |     | Batch ID: <b>34023</b>          |             | RunNo: <b>45861</b>                               |          |                    |      |          |      |
| Prep Date:                  | <b>9/22/2017</b> |     | Analysis Date: <b>9/25/2017</b> |             | SeqNo: <b>1457346</b>                             |          | Units: <b>mg/L</b> |      |          |      |
| Analyte                     | Result           | PQL | SPK value                       | SPK Ref Val | %REC                                              | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 5.7              | 1.0 | 5.000                           | 0           | 113                                               | 92.3     | 135                |      |          |      |
| Surr: DNOP                  | 0.61             |     | 0.5000                          |             | 122                                               | 72.4     | 157                |      |          |      |

|                                |                  |     |                                 |             |                                                   |          |                    |      |          |      |
|--------------------------------|------------------|-----|---------------------------------|-------------|---------------------------------------------------|----------|--------------------|------|----------|------|
| Sample ID                      | <b>MB-34023</b>  |     | SampType: <b>MBLK</b>           |             | TestCode: <b>EPA Method 8015M/D: Diesel Range</b> |          |                    |      |          |      |
| Client ID:                     | <b>PBW</b>       |     | Batch ID: <b>34023</b>          |             | RunNo: <b>45861</b>                               |          |                    |      |          |      |
| Prep Date:                     | <b>9/22/2017</b> |     | Analysis Date: <b>9/25/2017</b> |             | SeqNo: <b>1457347</b>                             |          | Units: <b>mg/L</b> |      |          |      |
| Analyte                        | Result           | PQL | SPK value                       | SPK Ref Val | %REC                                              | LowLimit | HighLimit          | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND               | 1.0 |                                 |             |                                                   |          |                    |      |          |      |
| Motor Oil Range Organics (MRO) | ND               | 5.0 |                                 |             |                                                   |          |                    |      |          |      |
| Surr: DNOP                     | 1.3              |     | 1.000                           |             | 127                                               | 72.4     | 157                |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709C18

02-Oct-17

Client: GHD

Project: SU6

|                               |        |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|--------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | RB     | SampType:      | MBLK      | TestCode:   | EPA Method 8015D: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBW    | Batch ID:      | G45959    | RunNo:      | 45959                            |          |           |      |          |      |
| Prep Date:                    |        | Analysis Date: | 9/28/2017 | SeqNo:      | 1461610                          | Units:   | mg/L      |      |          |      |
| Analyte                       | Result | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND     | 0.050          |           |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 23     |                | 20.00     |             | 114                              | 52.3     | 138       |      |          |      |

|                               |               |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|---------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 2.5UG GRO LCS | SampType:      | LCS       | TestCode:   | EPA Method 8015D: Gasoline Range |          |           |      |          |      |
| Client ID:                    | LCSW          | Batch ID:      | G45959    | RunNo:      | 45959                            |          |           |      |          |      |
| Prep Date:                    |               | Analysis Date: | 9/28/2017 | SeqNo:      | 1461611                          | Units:   | mg/L      |      |          |      |
| Analyte                       | Result        | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 0.54          | 0.050          | 0.5000    | 0           | 107                              | 75.8     | 123       |      |          |      |
| Surr: BFB                     | 24            |                | 20.00     |             | 120                              | 52.3     | 138       |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709C18

02-Oct-17

Client: GHD

Project: SU6

|                            |        |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | RB     | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBW    | Batch ID:      | B45959    | RunNo:      | 45959                       |          |           |      |          |      |
| Prep Date:                 |        | Analysis Date: | 9/28/2017 | SeqNo:      | 1461626                     | Units:   | µg/L      |      |          |      |
| Analyte                    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total             | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene | 24     |                | 20.00     |             | 119                         | 72.5     | 140       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100NG BTEX LCS | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSW           | Batch ID:      | B45959    | RunNo:      | 45959                       |          |           |      |          |      |
| Prep Date:                 |                | Analysis Date: | 9/28/2017 | SeqNo:      | 1461627                     | Units:   | µg/L      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 20             | 1.0            | 20.00     | 0           | 101                         | 71.7     | 126       |      |          |      |
| Toluene                    | 20             | 1.0            | 20.00     | 0           | 100                         | 73.3     | 119       |      |          |      |
| Ethylbenzene               | 21             | 1.0            | 20.00     | 0           | 107                         | 80       | 120       |      |          |      |
| Xylenes, Total             | 64             | 2.0            | 60.00     | 0           | 106                         | 80       | 120       |      |          |      |
| Surr: 4-Bromofluorobenzene | 24             |                | 20.00     |             | 118                         | 72.5     | 140       |      |          |      |

|                            |                   |                |           |             |                             |          |           |      |          |      |
|----------------------------|-------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1709C18-001AMS    | SampType:      | MS        | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | GW-11135241-09201 | Batch ID:      | B45959    | RunNo:      | 45959                       |          |           |      |          |      |
| Prep Date:                 |                   | Analysis Date: | 9/28/2017 | SeqNo:      | 1461629                     | Units:   | µg/L      |      |          |      |
| Analyte                    | Result            | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 290               | 5.0            | 100.0     | 200.8       | 90.2                        | 62.3     | 126       |      |          |      |
| Toluene                    | 180               | 5.0            | 100.0     | 76.98       | 102                         | 48.8     | 134       |      |          |      |
| Ethylbenzene               | 190               | 5.0            | 100.0     | 87.38       | 107                         | 44.4     | 142       |      |          |      |
| Xylenes, Total             | 420               | 10             | 300.0     | 87.35       | 112                         | 55.7     | 129       |      |          |      |
| Surr: 4-Bromofluorobenzene | 130               |                | 100.0     |             | 127                         | 72.5     | 140       |      |          |      |

|                            |                   |                |           |             |                             |          |           |       |          |      |
|----------------------------|-------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|-------|----------|------|
| Sample ID                  | 1709C18-001AMSD   | SampType:      | MSD       | TestCode:   | EPA Method 8021B: Volatiles |          |           |       |          |      |
| Client ID:                 | GW-11135241-09201 | Batch ID:      | B45959    | RunNo:      | 45959                       |          |           |       |          |      |
| Prep Date:                 |                   | Analysis Date: | 9/28/2017 | SeqNo:      | 1461630                     | Units:   | µg/L      |       |          |      |
| Analyte                    | Result            | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Benzene                    | 280               | 5.0            | 100.0     | 200.8       | 76.3                        | 62.3     | 126       | 4.88  | 20       |      |
| Toluene                    | 170               | 5.0            | 100.0     | 76.98       | 95.4                        | 48.8     | 134       | 3.84  | 20       |      |
| Ethylbenzene               | 190               | 5.0            | 100.0     | 87.38       | 105                         | 44.4     | 142       | 1.12  | 20       |      |
| Xylenes, Total             | 420               | 10             | 300.0     | 87.35       | 112                         | 55.7     | 129       | 0.117 | 20       |      |
| Surr: 4-Bromofluorobenzene | 130               |                | 100.0     |             | 128                         | 72.5     | 140       | 0     | 0        |      |

### Qualifiers:

|                                                         |                                                             |
|---------------------------------------------------------|-------------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1709C18

02-Oct-17

Client: GHD

Project: SU6

|                        |           |      |                          |             |                                               |          |             |      |          |      |
|------------------------|-----------|------|--------------------------|-------------|-----------------------------------------------|----------|-------------|------|----------|------|
| Sample ID              | MB-34102  |      | SampType: MBLK           |             | TestCode: SM2540C MOD: Total Dissolved Solids |          |             |      |          |      |
| Client ID:             | PBW       |      | Batch ID: 34102          |             | RunNo: 45997                                  |          |             |      |          |      |
| Prep Date:             | 9/27/2017 |      | Analysis Date: 9/29/2017 |             | SeqNo: 1462427                                |          | Units: mg/L |      |          |      |
| Analyte                | Result    | PQL  | SPK value                | SPK Ref Val | %REC                                          | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Total Dissolved Solids | ND        | 20.0 |                          |             |                                               |          |             |      |          |      |

|                        |           |      |                          |             |                                               |          |             |      |          |      |
|------------------------|-----------|------|--------------------------|-------------|-----------------------------------------------|----------|-------------|------|----------|------|
| Sample ID              | LCS-34102 |      | SampType: LCS            |             | TestCode: SM2540C MOD: Total Dissolved Solids |          |             |      |          |      |
| Client ID:             | LCSW      |      | Batch ID: 34102          |             | RunNo: 45997                                  |          |             |      |          |      |
| Prep Date:             | 9/27/2017 |      | Analysis Date: 9/29/2017 |             | SeqNo: 1462428                                |          | Units: mg/L |      |          |      |
| Analyte                | Result    | PQL  | SPK value                | SPK Ref Val | %REC                                          | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Total Dissolved Solids | 1020      | 20.0 | 1000                     | 0           | 102                                           | 80       | 120         |      |          |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

## Sample Log-In Check List

Client Name: GHD

Work Order Number: 1709C18

RcptNo: 1

Received By: Isaiah Ortiz

9/21/2017 9:48:00 AM

IC

Completed By: Ashley Gallegos

9/21/2017 3:29:34 PM

AG

Reviewed By:

RL

9/22/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

|                      |  |       |                                                                                                                               |
|----------------------|--|-------|-------------------------------------------------------------------------------------------------------------------------------|
| Person Notified:     |  | Date: |                                                                                                                               |
| By Whom:             |  | Via:  | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding:           |  |       |                                                                                                                               |
| Client Instructions: |  |       |                                                                                                                               |

17. Additional remarks:

### 18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 2.1     | Good      | Yes         |         |           |           |

Chain-of-Custody Record

Client: GHD Services, Inc.

Turn-Around Time: ☐ Standard ☐ Rush



☐ Standard ☐ Rush

9506  
Project #: 11135241  
Project Manager:

|                       |                                                                     |
|-----------------------|---------------------------------------------------------------------|
| Bernard Backisch      |                                                                     |
| Sampler: Michael Gant |                                                                     |
| On Ice:               | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Sample Temperature:   | 21                                                                  |

| Container Type and # | Preservative Type | HEAL No      |
|----------------------|-------------------|--------------|
| various              | HU/more           | 1709C18 -001 |
| 2 Vials              | HU                | -002         |

[illegible]

| Received by:                                                                         | Date    | Time  |
|--------------------------------------------------------------------------------------|---------|-------|
|   | 9/20/17 | 1500  |
| Received by:                                                                         | Date    | Time  |
|  | 9/21/17 | 09:48 |

contracted to other accredited laboratories. This serves as notice of this



4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107



## Analysis Request

|                                                                                        |
|----------------------------------------------------------------------------------------|
| BTEx + MTBE + TMB's (8021)                                                             |
| BTEx + MTBE + TPH (Gas only)                                                           |
| TPH 8015B (GRO / DRO / MRO)                                                            |
| TPH (Method 418.1)                                                                     |
| EDB (Method 504.1)                                                                     |
| PAH's (8310 or 8270 SIMS)                                                              |
| RCRA 8 Metals                                                                          |
| Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> ) |
| 8081 Pesticides / 8082 PCB's                                                           |
| 8260B (VOA)                                                                            |
| 8270 (Semi-VOA)                                                                        |
| BTEx                                                                                   |
| TPH GRO/DRO/RO                                                                         |
| Chloride & TDS                                                                         |

|                      |                                         |                             |  |
|----------------------|-----------------------------------------|-----------------------------|--|
| Project Manager:     | Bernard Backisch                        |                             |  |
| Sampler:             | Michael Gant                            |                             |  |
| On Ice:              | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |
| Sample Temperature:  | 2.1                                     |                             |  |
| Container Type and # | Preservative Type                       | HEAL No. 1709C18            |  |

|         |         |                             |         |          |      |
|---------|---------|-----------------------------|---------|----------|------|
| 09/2017 | 240CSW  | GM 11135241-092017-116-MW-1 | Various | HCL/more | -001 |
| 2017    | 305 GIW | TR 11135241-092017-116-001  | 2 VOFs  | HCL      | -002 |

[illegible]

|                                                                                                    |         |       |
|----------------------------------------------------------------------------------------------------|---------|-------|
| Received by:    | Date    | Time  |
|                                                                                                    | 9/20/17 | 1500  |
| Received by:  | Date    | Time  |
|                                                                                                    | 9/21/17 | 09:48 |

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



## Appendix B

### Boring Logs



# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BE  
DATE COMPLETED: August 30, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                  | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|----------------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                      |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SAND (SW), some silt, very fine grained, well sorted, white/tan, dry |                 |        |          |         |           |                                   |
| 4               |                                                                      |                 |        |          |         |           |                                   |
| 6               | END OF BOREHOLE @ 5.0ft BGS                                          | 5.00            | 1HSA   |          |         | 7         | 211.3/195                         |
| 8               |                                                                      |                 |        |          |         |           |                                   |
| 10              |                                                                      |                 |        |          |         |           |                                   |
| 12              |                                                                      |                 |        |          |         |           |                                   |
| 14              |                                                                      |                 |        |          |         |           |                                   |
| 16              |                                                                      |                 |        |          |         |           |                                   |
| 18              |                                                                      |                 |        |          |         |           |                                   |
| 20              |                                                                      |                 |        |          |         |           |                                   |
| 22              |                                                                      |                 |        |          |         |           |                                   |
| 24              |                                                                      |                 |        |          |         |           |                                   |
| 26              |                                                                      |                 |        |          |         |           |                                   |
| 28              |                                                                      |                 |        |          |         |           |                                   |
| 30              |                                                                      |                 |        |          |         |           |                                   |
| 32              |                                                                      |                 |        |          |         |           |                                   |
| 34              |                                                                      |                 |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BE2  
DATE COMPLETED: August 30, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                                              | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|--------------------------------------------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                                                  |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SAND/SILT (SW/ML), fine grained, well sorted, white/light tan, dry                               |                 | 1HSA   |          |         | 18        | 0.6/228                           |
| 4               |                                                                                                  | 5.00            |        |          |         |           |                                   |
| 6               | SAND (SW), few silt, fine to very fine grained, well sorted, light tan, some yellow banding, dry |                 | 2HSA   |          |         | 10        | 2.1/60                            |
| 8               |                                                                                                  |                 |        |          |         |           |                                   |
| 10              | - tan, no banding at 10.0ft BGS                                                                  |                 |        |          |         |           |                                   |
| 12              |                                                                                                  |                 | 3HSA   |          |         | 17        | 3.6/72                            |
| 14              |                                                                                                  | 15.00           |        |          |         |           |                                   |
| 16              | SAND (SW), fine grained, well sorted, tan, wet                                                   |                 | 4HSA   |          |         | 30        | 1.7/28                            |
| 18              |                                                                                                  |                 |        |          |         |           |                                   |
| 20              | END OF BOREHOLE @ 20.0ft BGS                                                                     | 20.00           |        |          |         |           |                                   |
| 22              |                                                                                                  |                 |        |          |         |           |                                   |
| 24              |                                                                                                  |                 |        |          |         |           |                                   |
| 26              |                                                                                                  |                 |        |          |         |           |                                   |
| 28              |                                                                                                  |                 |        |          |         |           |                                   |
| 30              |                                                                                                  |                 |        |          |         |           |                                   |
| 32              |                                                                                                  |                 |        |          |         |           |                                   |
| 34              |                                                                                                  |                 |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BN  
DATE COMPLETED: August 29, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                                                 | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|-----------------------------------------------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                                                     |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SILT (ML), trace very fine sand, white/tan, dry to slightly moist                                   |                 | 1HSA   |          |         | 12        | 54.1/231                          |
| 4               |                                                                                                     |                 |        |          |         |           |                                   |
| 6               |                                                                                                     |                 |        |          |         |           |                                   |
| 8               |                                                                                                     |                 |        |          |         |           |                                   |
| 10              | SAND (SP), fine grained, tan/light gray, moist, slight odor                                         | 10.00           | 2HSA   |          |         | 14        | 398.6/152                         |
| 12              |                                                                                                     |                 |        |          |         |           |                                   |
| 14              |                                                                                                     |                 |        |          |         |           |                                   |
| 16              |                                                                                                     |                 |        |          |         |           |                                   |
| 18              | - secondary cementation, gray staining at 20.5ft BGS<br>- moist to wet, odor observed at 21.5ft BGS |                 | 3HSA   |          |         | 80        | 7.0/0                             |
| 20              |                                                                                                     |                 |        |          |         |           |                                   |
| 22              |                                                                                                     |                 |        |          |         |           |                                   |
| 24              |                                                                                                     |                 |        |          |         |           |                                   |
| 26              | END OF BOREHOLE @ 22.0ft BGS                                                                        | 22.00           | 4HSA   |          |         |           |                                   |
| 28              |                                                                                                     |                 |        |          |         |           |                                   |
| 30              |                                                                                                     |                 |        |          |         |           |                                   |
| 32              |                                                                                                     |                 |        |          |         |           |                                   |
| 34              |                                                                                                     |                 |        |          |         |           |                                   |

**NOTES:** MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BN2  
DATE COMPLETED: August 29, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                         | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|-------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                             |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SILTY SAND (SM), fine grained, well sorted, white/light tan |                 | 1HSA   |          |         | 11        | 0.5/220                           |
| 4               |                                                             |                 |        |          |         |           |                                   |
| 6               | SAND (SW), fine grained, well sorted, tan                   | 5.00            | 2HSA   |          |         | 14        | 1.5/87                            |
| 8               |                                                             |                 |        |          |         |           |                                   |
| 10              | - light brown/tan at 10.0ft BGS                             |                 |        |          |         |           |                                   |
| 12              |                                                             |                 | 3HSA   |          |         | 13        | 1.7/32                            |
| 14              |                                                             |                 |        |          |         |           |                                   |
| 16              | SAND (SW), some silt, fine grained, well sorted, tan        | 15.00           | 4HSA   |          |         | 14        | 2.3/26                            |
| 18              |                                                             |                 |        |          |         |           |                                   |
| 20              | END OF BOREHOLE @ 20.0ft BGS                                | 20.00           |        |          |         |           |                                   |
| 22              |                                                             |                 |        |          |         |           |                                   |
| 24              |                                                             |                 |        |          |         |           |                                   |
| 26              |                                                             |                 |        |          |         |           |                                   |
| 28              |                                                             |                 |        |          |         |           |                                   |
| 30              |                                                             |                 |        |          |         |           |                                   |
| 32              |                                                             |                 |        |          |         |           |                                   |
| 34              |                                                             |                 |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BS  
DATE COMPLETED: August 30, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                    | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|------------------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                        |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SAND (SW), fine grained, well sorted, white/tan, dry                   | 5.00            | 1HSA   |          |         | 5         | 2.4/42                            |
| 4               |                                                                        |                 |        |          |         |           |                                   |
| 6               | SAND (SW), some silt, fine to very fine grained, well sorted, tan, dry |                 | 2HSA   |          |         | 8         | 6.4/72                            |
| 8               |                                                                        |                 |        |          |         |           |                                   |
| 10              | - few silt, some yellow banding at 10.0ft BGS                          | 20.00           | 3HSA   |          |         | 16        | 42.9/27                           |
| 12              |                                                                        |                 |        |          |         |           |                                   |
| 14              |                                                                        |                 |        |          |         |           |                                   |
| 16              | - very fine grained, tan/light brown, wet at 15.0ft BGS                |                 | 4HSA   |          |         | 32        | 5.3/63                            |
| 18              |                                                                        |                 |        |          |         |           |                                   |
| 20              | END OF BOREHOLE @ 20.0ft BGS                                           |                 |        |          |         |           |                                   |
| 22              |                                                                        |                 |        |          |         |           |                                   |
| 24              |                                                                        |                 |        |          |         |           |                                   |
| 26              |                                                                        |                 |        |          |         |           |                                   |
| 28              |                                                                        |                 |        |          |         |           |                                   |
| 30              |                                                                        |                 |        |          |         |           |                                   |
| 32              |                                                                        |                 |        |          |         |           |                                   |
| 34              |                                                                        |                 |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17





# STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: O-6-1 4" ASSESSMENT  
PROJECT NUMBER: 11135241  
CLIENT: ETC FIELD SERVICES  
LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: BW  
DATE COMPLETED: August 29, 2017  
DRILLING METHOD: HSA  
FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                               | DEPTH<br>ft BGS | SAMPLE |          |         |           |                                   |
|-----------------|-----------------------------------------------------------------------------------|-----------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                                   |                 | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 2               | SAND (SW), fine grained, well sorted, white/tan, dry                              |                 | 1HSA   |          |         | 17        | 0.9/26                            |
| 4               |                                                                                   |                 |        |          |         |           |                                   |
| 6               | - fine to very fine grained, tan/light gray at 5.0ft BGS                          |                 | 2HSA   |          |         | 16        | 2.1/13                            |
| 8               |                                                                                   |                 |        |          |         |           |                                   |
| 10              | SAND (SW), some silt, fine to very fine grained, well sorted, light gray/tan, dry | 10.00           | 3HSA   |          |         | 13        | 9.7/32                            |
| 12              |                                                                                   |                 |        |          |         |           |                                   |
| 14              |                                                                                   |                 |        |          |         |           |                                   |
| 16              | SAND/SILT (SM/ML), fine grained, well sorted, gray/brown, wet                     | 15.00           | 4HSA   |          |         | 78        | 7.4/0                             |
| 18              |                                                                                   |                 |        |          |         |           |                                   |
| 20              | END OF BOREHOLE @ 20.0ft BGS                                                      | 20.00           |        |          |         |           |                                   |
| 22              |                                                                                   |                 |        |          |         |           |                                   |
| 24              |                                                                                   |                 |        |          |         |           |                                   |
| 26              |                                                                                   |                 |        |          |         |           |                                   |
| 28              |                                                                                   |                 |        |          |         |           |                                   |
| 30              |                                                                                   |                 |        |          |         |           |                                   |
| 32              |                                                                                   |                 |        |          |         |           |                                   |
| 34              |                                                                                   |                 |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: O-6-1 4" ASSESSMENT

PROJECT NUMBER: 11135241

CLIENT: ETC FIELD SERVICES

LOCATION: MONUMENT, NEW MEXICO

HOLE DESIGNATION: MW-1

DATE COMPLETED: August 29, 2017

DRILLING METHOD: HSA

FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS                                                                                | DEPTH<br>ft BGS | MONITORING WELL          | SAMPLE |          |         |           |                                   |
|-----------------|--------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                                                                                                    |                 |                          | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 0               | FILL                                                                                                               | 0.67            | CONCRETE                 |        |          |         |           |                                   |
| 2               | SANDY SILT/SAND (ML/SP), fine grained, white/gray, slightly moist, odor                                            |                 | CEMENT / BENTONITE GROUT |        |          |         |           |                                   |
| 4               |                                                                                                                    |                 | 2" PVC WELL CASING       | 1HSA   | X        |         | 8         | 4138,1883                         |
| 6               |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 8               |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 10              |                                                                                                                    |                 |                          | 2HSA   | X        |         | 11        | >15000,690                        |
| 12              | - slight staining, slight odor at 11.5ft BGS                                                                       |                 | 2" PVC WELL SCREEN       |        |          |         |           |                                   |
| 14              |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 16              | SAND (SW), some silt, fine to very fine grained, well sorted, low plasticity, light gray/brown, dry to moist, odor | 15.00           | SAND PACK                | 3HSA   | X        |         | 19        | 707                               |
| 18              |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 20              | SAND (SP), trace to little silt, some secondary cementation, fine grained, gray, dry to moist                      | 20.00           |                          | 4HSA   | X        |         | 73        | 178.5,111                         |
| 22              |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 24              | - very soft, saturated at 23.0ft BGS                                                                               |                 |                          |        |          |         |           |                                   |
| 26              | SAND (SP), fine grained, tan/light brown, wet to saturated                                                         | 25.00           |                          | 5HSA   | X        |         | 51        | 1.6,19                            |
| 28              | END OF BOREHOLE @ 27.0ft BGS                                                                                       | 27.00           |                          |        |          |         |           |                                   |
| 30              |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 32              |                                                                                                                    |                 |                          |        |          |         |           |                                   |
| 34              |                                                                                                                    |                 |                          |        |          |         |           |                                   |

## WELL DETAILS

Screened interval:  
10.00 to 30.00ft BGS

Length: 20ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17



# STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 2 of 2

PROJECT NAME: O-6-1 4" ASSESSMENT

HOLE DESIGNATION: MW-1

PROJECT NUMBER: 11135241

DATE COMPLETED: August 29, 2017

CLIENT: ETC FIELD SERVICES

DRILLING METHOD: HSA

LOCATION: MONUMENT, NEW MEXICO

FIELD PERSONNEL: M. GANT/C. MATTHEWS

| DEPTH<br>ft BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | DEPTH<br>ft BGS | MONITORING WELL                                                                                        | SAMPLE |          |         |           |                                   |
|-----------------|-------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------|--------|----------|---------|-----------|-----------------------------------|
|                 |                                     |                 |                                                                                                        | NUMBER | INTERVAL | REC (%) | 'N' VALUE | PID (ppm)<br>/PETRO<br>FLAG (ppm) |
| 36              |                                     |                 | 6.00 to 9.00ft BGS<br>Material: BENTONITE CHIPS<br>Sand Pack:<br>9.00 to 30.00ft BGS<br>Material: SAND |        |          |         |           |                                   |
| 38              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 40              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 42              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 44              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 46              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 48              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 50              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 52              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 54              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 56              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 58              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 60              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 62              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 64              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 66              |                                     |                 |                                                                                                        |        |          |         |           |                                   |
| 68              |                                     |                 |                                                                                                        |        |          |         |           |                                   |

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 11135241-WI.GPJ CRA\_CORP.GDT 10/19/17

# Appendix C

## Water Monitoring Easement and Approved Permit

Tom Blaine, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 612111  
File Nbr: L 14330

Aug. 18, 2017

CHRISTINE MATHEWS  
GHD SERVICES INC  
6121 INDIAN SCHOOL ROAD NE  
ALBUQUERQUE, NM 87110

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/31/2018, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 08/31/2018.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us) or will be mailed upon request.

Sincerely,

A handwritten signature in cursive script, appearing to read "Deborah Dunaway".

Deborah Dunaway  
(575) 622-6521

Enclosure

explore

File No.

L-14330

## NEW MEXICO OFFICE OF THE STATE ENGINEER



## WR-07 APPLICATION FOR PERMIT TO DRILL

## A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

2-38517

|                                                       |                                                                    |                                                  |
|-------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------|
| Purpose:                                              | <input type="checkbox"/> Pollution Control And/Or Recovery         | <input type="checkbox"/> Ground Source Heat Pump |
| <input type="checkbox"/> Exploratory Well (Pump test) | <input type="checkbox"/> Construction Site/Public Works Dewatering | <input type="checkbox"/> Other(Describe):        |
| <input checked="" type="checkbox"/> Monitoring Well   | <input type="checkbox"/> Mine Dewatering                           |                                                  |

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

|                                                                                                            |                         |
|------------------------------------------------------------------------------------------------------------|-------------------------|
| <input checked="" type="checkbox"/> Temporary Request - Requested Start Date: 8/28/2017                    | Requested End Date: TBD |
| Plugging Plan of Operations Submitted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |                         |

## 1. APPLICANT(S)

|                                                                 |                                                       |
|-----------------------------------------------------------------|-------------------------------------------------------|
| Name:<br>GHD Services Inc. on behalf of ETC Field Services, LLC | Name:<br>ETC Field Services, LLC                      |
| Contact or Agent:<br>Christine Mathews                          | Contact or Agent:<br>Dean Ericson                     |
| Mailing Address:<br>6121 Indian School Rd NE                    | Mailing Address:<br>600 N. Marienfeld Ste. 700        |
| City:<br>Albuquerque                                            | City:<br>Midland                                      |
| State:<br>New Mexico                                            | State:<br>Texas                                       |
| Zip Code:<br>87110                                              | Zip Code:<br>79701                                    |
| Phone: 505-269-0088<br>Phone (Work):                            | Phone: 432-238-2142<br>Phone (Work):                  |
| E-mail (optional):<br>chrstine.mathews@ghd.com                  | E-mail (optional):<br>Dean.Ericson@energyTransfer.com |

FOR OSE INTERNAL USE

Application for Permit, Form WR-07, Rev 11/17/16

|                                                 |                           |                      |
|-------------------------------------------------|---------------------------|----------------------|
| File No.: L-14330                               | Trn. No.: 612111          | Receipt No.: 2-38517 |
| Trans Description (optional): EXPL-PODI-monitor |                           |                      |
| Sub-Basin: L                                    | PCW/LOG Due Date: 8-31-18 |                      |



2. WELL(S) Describe the well(s) applicable to this application.

| <b>Location Required:</b> Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).<br>District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above. |                            |                                                                                                                         |                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> NM State Plane (NAD83) (Feet)<br><input type="checkbox"/> NM West Zone<br><input type="checkbox"/> NM East Zone<br><input type="checkbox"/> NM Central Zone                                                                             |                            | <input type="checkbox"/> UTM (NAD83) (Meters)<br><input type="checkbox"/> Zone 12N<br><input type="checkbox"/> Zone 13N |                                                                                                                                                                                                           |
| <input checked="" type="checkbox"/> Lat/Long (WGS84) (to the nearest 1/10 <sup>th</sup> of second)                                                                                                                                                               |                            |                                                                                                                         |                                                                                                                                                                                                           |
| Well Number (if known):                                                                                                                                                                                                                                          | X or Easting or Longitude: | Y or Northing or Latitude:                                                                                              | Provide if known:<br>-Public Land Survey System (PLSS) (Quarters or Halves , Section, Township, Range) OR<br>- Hydrographic Survey Map & Tract; OR<br>- Lot, Block & Subdivision; OR<br>- Land Grant Name |
| MW-1                                                                                                                                                                                                                                                             | 103°16'21.15"W             | 32°33'25.43"N                                                                                                           | NW1/4 SE1/4 of S20 T20S R37E                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                  |                            |                                                                                                                         |                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                  |                            |                                                                                                                         |                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                  |                            |                                                                                                                         |                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                  |                            |                                                                                                                         |                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                  |                            |                                                                                                                         |                                                                                                                                                                                                           |
| <b>NOTE:</b> If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)<br><b>Additional well descriptions are attached:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how many _____  |                            |                                                                                                                         |                                                                                                                                                                                                           |
| Other description relating well to common landmarks, streets, or other:                                                                                                                                                                                          |                            |                                                                                                                         |                                                                                                                                                                                                           |
| Well is on land owned by: New Mexico State Land Office. See attached water easement.                                                                                                                                                                             |                            |                                                                                                                         |                                                                                                                                                                                                           |
| <b>Well Information:</b> NOTE: If more than one (1) well needs to be described, provide attachment. Attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>If yes, how many _____                                                      |                            |                                                                                                                         |                                                                                                                                                                                                           |
| Approximate depth of well (feet): 35                                                                                                                                                                                                                             |                            | Outside diameter of well casing (inches): 2                                                                             |                                                                                                                                                                                                           |
| Driller Name: EnviroDrill Inc                                                                                                                                                                                                                                    |                            | Driller License Number: WD 1186                                                                                         |                                                                                                                                                                                                           |

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Well construction is 2-in. dia. PVC casing with 15 ft. length 0.010-in. slotted screen. A 10/20 grade silica sand pack will be placed in annulus around screen to 2 ft. above top of screen elevation. A 2 ft. thick hydrated bentonite chip plug will be placed on top of sand pack followed by cement/bentonite grout to surface.

Monitoring wells are being installed at the request of NMOCD to assess groundwater quality.

The duration of planned monitoring will continue until NMOCD grants remedial Site closure.

2017 AUG 14 PM 3:30



FOR OSE INTERNAL USE

Application for Permit, Form WR-07

|                   |                 |
|-------------------|-----------------|
| File No.: L-14330 | Trn No.: 612111 |
|-------------------|-----------------|

**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

|                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exploratory:</b><br><input type="checkbox"/> Include a description of any proposed pump test, if applicable.                                                                           | <b>Pollution Control and/or Recovery:</b><br><input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:<br><input type="checkbox"/> A description of the need for the pollution control or recovery operation.<br><input type="checkbox"/> The estimated maximum period of time for completion of the operation.<br><input type="checkbox"/> The annual diversion amount.<br><input type="checkbox"/> The annual consumptive use amount.<br><input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation.<br><input type="checkbox"/> The method and place of discharge.                                                   | <b>Construction De-Watering:</b><br><input type="checkbox"/> Include a description of the proposed dewatering operation,<br><input type="checkbox"/> The estimated duration of the operation,<br><input type="checkbox"/> The maximum amount of water to be diverted,<br><input type="checkbox"/> A description of the need for the dewatering operation, and,<br><input type="checkbox"/> A description of how the diverted water will be disposed of.                                                                                                          | <b>Mine De-Watering:</b><br><input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following:<br><input type="checkbox"/> A description of the need for mine dewatering.<br><input type="checkbox"/> The estimated maximum period of time for completion of the operation.<br><input type="checkbox"/> The source(s) of the water to be diverted.<br><input type="checkbox"/> The geohydrologic characteristics of the aquifer(s).<br><input type="checkbox"/> The maximum amount of water to be diverted per annum.<br><input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation.<br><input type="checkbox"/> The quality of the water.<br><input type="checkbox"/> The method of measurement of water diverted. |
| <b>Monitoring:</b><br><input checked="" type="checkbox"/> Include the reason for the monitoring well, and,<br><input checked="" type="checkbox"/> The duration of the planned monitoring. | <input type="checkbox"/> The method of measurement of water produced and discharged.<br><input type="checkbox"/> The source of water to be injected.<br><input type="checkbox"/> The method of measurement of water injected.<br><input type="checkbox"/> The characteristics of the aquifer.<br><input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system.<br><input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department.<br><input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located. | <b>Ground Source Heat Pump:</b><br><input type="checkbox"/> Include a description of the geothermal heat exchange project,<br><input type="checkbox"/> The number of boreholes for the completed project and required depths.<br><input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and,<br><input type="checkbox"/> The duration of the project.<br><input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request. | <input type="checkbox"/> The recharge of water to the aquifer.<br><input type="checkbox"/> Description of the estimated area of hydrologic effect of the project.<br><input type="checkbox"/> The method and place of discharge.<br><input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project.<br><input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights.<br><input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.                                                                                                                                      |

#### ACKNOWLEDGEMENT

I, We (name of applicant(s)),

Christine Mathews on behalf of ETC Field Services, LLC  
 Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

[Signature]  
 Applicant Signature

\_\_\_\_\_  
 Applicant Signature

#### ACTION OF THE STATE ENGINEER

This application is:

☒ approved

☐ partially approved

☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this

August

20

17

, for the State Engineer,

Tom Blaine, P.E.

\_\_\_\_\_, State Engineer

By: \_\_\_\_\_  
 Signature

Juan Hernandez

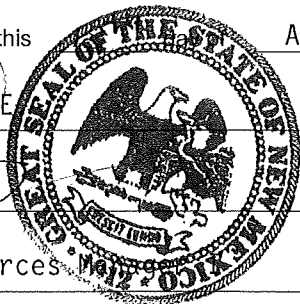
\_\_\_\_\_  
 Print

Title:

Water Resources

Print

06:00 PM 14 AUG 2017



FOR USE INTERNAL USE

Application for Permit, Form WR-07

File No.:

L-14330

Trn No.:

612111

**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

- 17-1B Depth of the well shall not exceed the thickness of the Ogallala formation.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.  
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.

# OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 38517 DATE: 8-14-17 FILE NO.: L

TOTAL: 5.00 RECEIVED: Just DOLLARS CHECK NO.: 1130 CASH:

PAYOR: Christine Matthews ADDRESS: 8810 Cottonwood Rd NW CITY: ATBQ STATE: NM

ZIP: 88711 RECEIVED BY: pm

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

## A. Ground Water Filing Fees

1. Change of Ownership of Water Right \$ 2.00
2. Application to Appropriate or Supplement Domestic 72-12-1 Well \$ 125.00
3. Application to Repair or Deepen 72-12-1 Well \$ 75.00
4. Application for Replacement 72-12-1 Well \$ 75.00
5. Application to Change Purpose of Use 72-12-1 Well \$ 75.00
6. Application for Stock Well/Temp. Use \$ 5.00

## B. Surface Water Filing Fees

1. Change of Ownership of a Water Right \$ 5.00
2. Declaration of Water Right \$ 10.00
3. Amended Declaration \$ 25.00
4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water \$ 200.00
5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water \$ 200.00
6. Application to Change Point of Diversion \$ 100.00
7. Application to Change Place and/or Purpose of Use \$ 100.00
8. Application to Appropriate Notice of Intent to Appropriate \$ 25.00
9. Notice of Intent to Appropriate \$ 25.00
10. Application for Extension of Time \$ 50.00
11. Supplemental Well to a Surface Right \$ 100.00
12. Return Flow Credit \$ 100.00
13. Proof of Completion of Works \$ 25.00
14. Proof of Application of Water to Beneficial Use \$ 25.00
15. Water Development Plan \$ 100.00
16. Declaration of Livestock Water Impoundment \$ 10.00
17. Application for Livestock Water Impoundment \$ 10.00

## C. Well Driller Fees

1. Application for Well Driller's License \$ 50.00
2. Application for Renewal of Well Driller's License \$ 50.00
3. Application to Amend Well Driller's License \$ 50.00

## D. Reproduction of Documents

1. @ 0.25¢ \$
2. Map(s) \$

## E. Certification

1. \$

## F. Other

1. \$

## G. Comments:

*Maui*

7. Application to Appropriate Irrigation, Municipal, or Commercial Use \$ 25.00
8. Declaration of Water Right \$ 1.00
9. Application for Supplemental Non 72-12-1 Well \$ 25.00
10. Application to Change Place or Purpose of Use Non 72-12-1 Well \$ 25.00
11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water \$ 50.00
12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water \$ 50.00
13. Application to Change Point of Diversion of Non 72-12-1 Well \$ 25.00
14. Application to Repair or Deepen Non 72-12-1 Well \$ 5.00
15. Application for Test, Expl. Observ. Well \$ 5.00
16. Application for Extension of Time \$ 25.00
17. Proof of Application to Beneficial Use \$ 25.00
18. Notice of Intent to Appropriate \$ 25.00

All fees are non-refundable.



## NEW MEXICO STATE LAND OFFICE WATER MONITORING EASEMENT

NO. WM-662

**THIS AGREEMENT**, dated this 5<sup>th</sup> day of May, 2017, made and entered into between the State of New Mexico Commissioner of Public Lands, acting trustee pursuant to the Act of June 21, 1910, 36 Stat. 557, ch. 310, § 10, (Commissioner), and ETC Field Services, LLC, whose address is 600 N. Marienfield, Suite 700, Midland, TX 79702 (Grantee). This Water Monitoring Easement is not effective until signed by the Commissioner.

### 1. Grant of Easement

For consideration, including the covenants herein, the Commissioner grants to Grantee a Water Easement for one (1) well-site to be located within the following described area (Easement Land) in Lea County:

| <i>Quarter-Quarter</i> | <i>Section</i> | <i>Township</i> | <i>Range</i> | <i>Number of Acres</i> |
|------------------------|----------------|-----------------|--------------|------------------------|
| NW4SE4                 | 20             | 20S             | 37E          | 2.50                   |

The water shall be diverted from the following described well:

| <i>SLO Well-Site</i> | <i>OSE Well Number or<br/>Lat/Long</i> | <i>Date Well<br/>Completed</i> | <i>Well<br/>Capacity</i> | <i>Volume of Use</i> |
|----------------------|----------------------------------------|--------------------------------|--------------------------|----------------------|
| WM-1                 | 32.557065, -103.272541                 | 2017                           | <10 gpm                  | <50 gallons/year     |

A well-site is one half (.5) acre with the denominated well in the center. Depending on their proximity, well-sites may overlap.

### 2. Term of Easement

#### A. Term

This Water Easement is for a term of five (5) years, commencing on May 22, 2017, and expiring on May 21, 2022 unless terminated earlier as provided herein.

#### B. Renewal

Upon Grantee's written request submitted to the Commissioner at least sixty (60) days prior to the expiration of this Easement, the parties may renew this Easement if the Commissioner, in his sole discretion, determines such renewal to be in the best interests of the trust.

### C. Reversion to Commissioner

At such time that this Water Easement expires, is not renewed, or is otherwise terminated, or if Grantee has failed to use the Easement Land for the permitted purposes for a period of one (1) year, the Easement Land and Water Rights developed or appropriated on this Water Easement shall *ipso facto* revert to the Commissioner who may, in his sole discretion, thereafter make this Water Easement, with improvements, if any, available for further use. The Commissioner shall give Grantee notice of this by registered mail and no further notice or action on the Commissioner's part shall be required. Any loss of any kind, arising from the non-renewal of this Easement is acknowledged and accepted by the Grantee as a business risk and the Grantee's acknowledgement and acceptance shall be considered an inducement by Grantee to the Commissioner to enter into this Water Easement, shall not be considered a "taking" of any rights or property of Grantee, and shall not be the basis of any action at law or in equity to recover damages of any kind.

### 3. **Purpose**

This grant of easement is for the purpose of allowing Grantee's placement of a monitoring well for the benefit of the trust and for the following specific purpose: for Corrective Action 1RP-4643 issued by NMOCD on 03/15/2017 in order to monitor groundwater impact of an underground oil pipeline SU6 spill on 03/07/2017. This grant of Water Monitoring Easement entitles Grantee to the exclusive use of any Water Rights developed or obtained in connection herewith for the term of this easement. The Commissioner may permit other uses on or within this Water Easement to the extent that they do not impair Grantee's permitted purposes.

### 4. **Water Rights**

#### A. Water Rights Agreement

It is a condition precedent to the grant of this Water Easement that Grantee shall have executed a standard State Land Office Water Rights Agreement, which agreement is incorporated herein. Grantee has executed WRA-WM-662 effective May 22, 2017 which Grantee hereby reaffirms. Breach of any term of that Water Rights Agreement shall be deemed a material breach of this Water Easement.

#### B. Ownership of Water Rights

On lands where the surface is owned by the Commissioner, any and all Water Rights developed on the Easement Land by Grantee shall be developed in the name of the Commissioner. Grantee, at its own expense, shall comply with all regulations of, and obtain all necessary permits and other documents from and required by the New Mexico Office of the State Engineer. Grantee shall have the use of such Water Rights solely for approved easement operations and activities during the term of the Water Easement. All water appropriated shall be pursuant to state law and regulations. Upon expiration or termination of the Water Easement, such Water Rights shall be retained by the Commissioner, unless the Commissioner grants prior written approval. Grantee shall not develop, move, sever, or transfer any Water Rights onto or from the Easement Land without the express, written approval of the Commissioner, nor shall Grantee change the purpose or place of use of any Water Rights covered by this Water Easement without the express, written approval of the Commissioner.

#### C. Filing and Copies

Grantee shall file all necessary documents regarding declarations of, drilling permits, or applications for appropriation of water with the State Engineer's Office. Grantee shall diligently

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pursue all such filings in order that Water Rights are perfected in a timely and efficient manner and pursuant to the standard Water Rights Agreement entered into previously by the parties and incorporated herein. Grantee shall send the Commissioner a copy of all such filings contemporaneously with any OSE filing. Grantee shall send to the Commissioner a copy of any and all OSE response(s) or other communication(s) regarding the Water Rights filing within ten (10) days of receipt.

**D. Notice of Changes to Water Rights**

Grantee shall provide direct notice (not by publication) to the Commissioner of any OSE filing seeking to change the point of diversion, place of use, purpose of use, or to transfer any Water Rights off or onto this Water Easement. Grantee shall not pursue such change or transfer without the express written approval of the Commissioner.

**E. Commissioner Participation in Filing**

The Commissioner, in his discretion, may assist Grantee in any such filings or proceedings before the State Engineer. However, the Commissioner may withhold approval of any filings with the State Engineer's Office, may withdraw participation or approval of any joint filing with the State Engineer's Office, and may contest or challenge any filing (even if the Commissioner was previously a joint applicant or party to the filing), if the Commissioner determines that a filing is not or is no longer in the best interest of the trust. At the written request of the Commissioner, Grantee shall withdraw any Water Rights declaration or filing with the State Engineer's Office.

**F. Protection of Water Rights**

Grantee shall additionally act promptly and diligently to preserve, protect and defend any Water Rights from impairment, forfeiture or abandonment. Grantee shall notify the Commissioner of any actions before or filings with the State Engineer, whether by Grantee or others, which affect water underlying state trust lands within this Water Easement or any related Water Rights.

**5. Grantee Standard of Care**

Grantee shall act prudently in drilling, developing, appropriating, transporting and using water and Water Rights from state trust lands. "Prudent" within the context of this provision means that standard of care of a reasonable water user acting pursuant to provisions of New Mexico water law and other applicable laws, rules and regulations.

**6. Metering**

**A. Installation and Maintenance of Meter**

☐ If box is checked, Grantee shall install a water flow meter within thirty (30) days of the effective date of this Water Easement for any existing well (if not already installed), or prior to production for any wells installed after the effective date of this Water Easement, to measure the quantity of water diverted pursuant to this Water Easement. The water flow meter shall be calibrated in the field within thirty (30) days of installation and documentation of the initial field calibration shall be submitted to the Commissioner. The water flow meter shall be maintained in good working order at all times. The Commissioner shall have the right at any time to enter the Easement Land to inspect the water flow meter. At all time during the life of this Water Easement, Grantee shall maintain quarterly metering records that document with reasonable accuracy the quantity of water diverted pursuant to this Water Easement.

B. Meter Reporting

☐ If box is checked, Grantee shall submit to the Commissioner copies of quarterly metering records with the reports required in Paragraph 12.

**7. Documentation**

As soon as practicable, Grantee shall furnish to the Commissioner copies of records, reports and plats of its operation, produced during the term of this Water Easement, including but not limited to water quality tests, well logs, drill cores, meter readings, and any data relating to hydrology and geological formations.

**8. Amendment**

This Water Easement shall not be altered, changed, or amended except by a written instrument executed by both the Commissioner and Grantee. An amendment is required to add wells to this Water Easement to appropriate the full amount of water set forth in Paragraph 3 herein, as well as to add replacement or supplement wells necessary to maintain such full amount. Each such amendment application shall be accompanied by the filing fee set forth in the Commissioner's current schedule of fees, and an annual rental payment per well, to be calculated and due as described in Paragraph 12. If any proposed amendment involves a change in the approved use of this Water Easement, Grantee shall provide (at a minimum) all information requested in the Commissioner's Water Easement application and any additional information requested by the Commissioner.

**9. Rights-of-way**

Grantee shall have the right, without further consideration, upon reasonable notice to the Commissioner, to define and establish rights-of-way, upon the Easement Land, to install or maintain any necessary equipment or facilities on the Water Easement. It is Grantee's sole responsibility to notify and obtain in advance the approval of any surface lessee for any right-of-way. Grantee must accurately plat and define such rights-of-way and provide such plats to the Commissioner as soon as practicable. The Commissioner reserves the right to require such rights-of-way to be moved when the development or other use of the surrounding trust lands require this. Rights of way outside the Easement Land will be granted by the Commissioner in his discretion. No right-of-way, or other access across, or use of any lands other than those expressly granted in this Water Easement is implied or expressed.

**10. Surveys**

Grantee shall survey each well site as soon as practicable after drilling, and submit a copy of the survey plat when completed to the Commissioner.

**11. Improvements**

A. Authorized Improvements

Grantee may make or place such improvements and equipment upon or under the Easement Lands as are reasonably necessary to the purpose of the Easement, subject to the requirements for removal of improvements and equipment set forth in Paragraph C below. All Grantee improvements such as well housing, piping, casing, and related equipment installed or obtained by Grantee on the granted Easement shall remain Grantee's sole property and liability. All such improvements shall be subject to the lien described in NMSA 1978 § 19-7-34. Grantee shall submit a written request for approval from the Commissioner prior to making any changes

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or additions to Authorized Improvements on the Easement Land. At the request of the Commissioner, Grantee shall submit updated survey plats showing such changes or additions.

**B. Unauthorized Improvements**

In the event that improvements not authorized by the Commissioner are placed on or under the Easement Land, at the Commissioner's discretion, such improvements may thereafter be deemed forfeited to the Commissioner and for purposes of Sections 19-7-14 and 19-10-28 NMSA 1978, no payments shall be due pursuant to those sections for such remaining improvements, or the Commissioner may order the removal, at Grantee's expense, of such improvements and the restoration of the Easement Land to its condition existing prior to the placement of said improvements.

**C. Removal of Improvements or Equipment**

Upon the termination, expiration or assignment of Grantee's interest in this Water Easement, Grantee may remove all such improvements, but only to the extent that such removal will not cause material injury to the Easement Land, and provided that all sums due to the Commissioner have been paid and that such removal is accomplished within sixty (60) days of the date of termination, expiration or assignment; or, Grantee may sell its interest in such physical improvements to a subsequent grantee or assignee. Any such sale or removal shall be subject to the Commissioner's paramount statutory lien. The Commissioner may, in writing, consent to the Grantee leaving designated improvements upon the Easement Land, and such improvements shall thereafter be deemed forfeited to the Commissioner, and no payments for such remaining improvements shall be due under Sections 19-7-14 and 19-10-28 NMSA 1978. Any other improvements not removed or sold by Grantee shall continue to be Grantee's sole property and liability, shall be deemed in trespass, and shall give rise to such remedies for trespass and waste as may be available to the Commissioner at law or in equity. The Commissioner may extend the 60-day period upon good cause shown.

**12. Payment of Rental**

**A. Annual Rental**

Grantee shall pay annual rental in the amount of \$500.00 to be due on or before May 22<sup>nd</sup> of each year. If this Water Easement is relinquished, cancelled or otherwise terminated prior to the end of the term set forth above, the annual rental shall not be prorated, reduce or refunded for any part of any year during which the Water Easement is in effect.

**B. Percent Rental**

☐ In addition, if box is checked, then Grantee shall pay to the Commissioner a quarterly sum equal to thirty-five percent ( 35 %) of Grantee's gross water sales from this Water Easement due within thirty (30) days of the end of each quarter and as determined by Grantee's sworn report of quarterly metering, sales records and receipts. This shall comprise percent rental for this Water Easement.

**C. Payment Submittal**

Payment of all sums due hereunder shall be made payable to "Commissioner of Public Lands" and shall include the State Land Office Water Easement number WM-662, and shall be submitted to the Director of Oil Gas Minerals Division, New Mexico State Land Office, 310 Old Santa Fe Trail, P.O. Box 1148, Santa Fe, New Mexico 87504-1148.

### **13. Receipt of Monies:**

#### **A. Receipt of Monies**

No receipt of monies, including rental, by the Commissioner from Grantee, or any other person acting for or on Grantee's behalf, after termination or expiration of this Water Easement shall reinstate, continue, or extend the Term; affect any notice previously given to Grantee; operate as a waiver of the Commissioner's right to enforce payment of any rent or other monies due or thereafter falling due; or, operate as waiver of the right of the Commissioner to recover possession of the Easement Land by legal action.

#### **B. Acceptance of Payment**

Grantee understands that the Commissioner's receipt of any monies is governed by the New Mexico State Land Office Rules. Grantee agrees that the Commissioner's negotiation of Grantee's check or other means of payment, and crediting the proceeds of such instrument to a suspense account, does not constitute acceptance of Grantee's payment.

#### **C. Application of Payments**

The Commissioner shall have the right to apply any payments made by Grantee to satisfy Grantee's obligations to the Commissioner in any order at the Commissioner's sole discretion, and without regard to Grantee's instructions as to the application of any such payment or part thereof, whether such instructions are endorsed on Grantee's check or otherwise, unless the Commissioner and Grantee otherwise agree, in writing, before the Commissioner accepts such payment. The Commissioner's acceptance of a check or payment by Grantee or others on Grantee's behalf shall not, in any way, affect Grantee's obligations hereunder nor shall it be deemed an approval of any assignment or subletting of this Water Easement.

### **14. Signage**

Grantee shall post on each well a sign with the Grantee's name, Water Easement number, State Land Office well number, State Engineer Office permit number and location by legal description.

### **15. Site Security and Fencing**

Any and all site security of any kind for Grantee, Grantee's agents, employees or invitees, the Easement Land, or any personal property thereon shall be the sole responsibility and obligation of Grantee, and shall be provided by Grantee at Grantee's sole cost and expense. Grantee agrees to provide reasonable security for the Easement Land and all construction areas within the Easement Land consistent with standard industry practices and in conformity with Grantee's duty to prevent waste and trespass. If the Commissioner requires or approves in advance in writing, Grantee will furnish proof to the Commissioner that required or approved fencing is completed and in good repair.

### **16. Reclamation**

Grantee agrees to reclaim by grading, levelling or terracing all areas disturbed by its activities on the Easement Land, and to landscape such areas at its own cost and expense. A Reclamation Plan must be submitted to and approved by Grantor prior to implementation. Grantor will not release Grantee from its responsibility for reclamation and revegetation until all work described in the Reclamation Plan has been completed and Grantor has performed an inspection on the Easement Land. The goal of the Reclamation Plan shall be to achieve native



plant cover and diversity levels equal to or exceeding the natural potential levels in undisturbed soils adjacent to the project area. The Reclamation Plan shall include the following:

A. Narrative

The Reclamation Plan shall include a narrative describing all reclamation activities including removal of debris and equipment.

B. Re-Vegetation Requirements

A detailed description of the seed mix (native seed only), seeding rate/acre, method of dispersal, timing of dispersal, follow up monitoring plan, a re-seeding plan if initial efforts are unsuccessful, and a plan for addressing noxious weeds shall all be included in the Reclamation Plan. All seed mixtures submitted for approval shall specify pounds of pure live seed per acre. The seed shall contain no primary or secondary noxious weeds. Commercially sold seed shall be either certified or registered seed. The Noxious Weed component of the Reclamation Plan should include identification of the species of concern and the methods used to eradicate those species from the site. Eradication techniques may include mechanical treatment, chemical treatment, follow-up and monitoring. A Final Report is required on implementation and completion of the Reclamation that includes a brief narrative of the seeding and monitoring efforts and photos of the reclaimed area. Once Grantee has submitted the Final Report and the Grantor has approved the work, Grantor will provide acknowledgment that reclamation requirements have been met.

## **17. Compliance With State Land Office Rules and Other Laws**

Grantee shall comply with all applicable laws pertaining to, and with all rules and regulations and procedures of, the New Mexico Office of the State Engineer where the State Engineer has jurisdiction over the water. Grantee shall fully comply with all federal, state and local laws, rules, regulations, ordinances and requirements applicable to the Easement Land or to Grantee's operations thereon, including but not limited to all applicable laws governing water; endangered or threatened species; hazardous materials; environmental protection; land use; health and safety; cultural, historic or archeological / paleontological properties; waste; trespass, and the New Mexico Cultural Properties Act, NMSA 1978, 18-6-1 et seq. Such agencies are not to be deemed third party beneficiaries hereunder; however, this clause is enforceable by the Commissioner as herein provided or as otherwise permitted by law. Grantee shall comply with all New Mexico State Land Office Rules and Regulations, 19.2 NMAC, including those that may be hereafter promulgated. Grantee's obligations under this paragraph include but are not limited to compliance with NMSA 1978 Section 19-6-5, requiring a lessee of State Trust Land to protect the Easement Land from waste or trespass. Grantee's compliance with all laws, regulations and policy shall be at its own expense.

## **18. Relinquishment**

A. Relinquishment

Grantee may, with the Commissioner's approval, relinquish this Easement provided that Grantee is in compliance with all terms of this Easement, including the payment of all rentals due, and if all improvements made pursuant to the Easement on, for, or appurtenant to the Easement Land have been approved by the Commissioner and arrangements satisfactory to the Commissioner have been made for either their removal or retention. Grantee may request relinquishment of all or any part of the Easement Land by filing relinquishment forms prescribed

by the Commissioner and paying the relinquishment fee in the Commissioner's schedule of fees. Granting the request is at the discretion of the Commissioner.

**B. No Release of Liability or Obligations**

Grantee shall not, by relinquishment, avoid or be released from any liability for known or unknown waste or damage to the Easement Land, including environmental damage arising from, or in connection with, Grantee's use or occupancy thereof. Likewise, by relinquishment Grantee shall not be relieved of or discharged of obligations accrued by Grantee as of the date of relinquishment, including the obligation to reclaim the surface, revegetate the surface, pay the rentals required under Paragraph 12 and indemnify the Commissioner in accordance with the terms of this Easement.

**C. No Refunds for Relinquishment**

Upon any relinquishment, Grantee shall not be entitled to the refund of any rental previously paid.

**19. Assignment or Sublease**

Grantee shall not assign or sublease any rights granted hereunder, any part thereof, any portion of the Easement Land or any improvements located on the Easement Land without the prior amendment of this Water Easement pursuant to Paragraph 8 to permit such sublease or assignment, payment of the fee provided in the Commissioner's schedule of fees, and completion of required forms indicating the Commissioner's consent. Grantee may assign this Water Easement in whole only. The assignee shall succeed to all of the rights and privileges of the Grantee hereunder and shall be held to have assumed all of the duties and obligations of the Grantee to the Commissioner (including payments of rentals up to and after the date of the assignment), except that the Commissioner reserves the right to increase the annual rental and percent rental to be payable by the assigned under Paragraph 12. No such assignment or sublease shall attempt to convey any permanent interest in Water Rights. Any sublease or assignment without Water Easement amendment shall be null and void.

**20. Collateral Assignment**

Grantee shall obtain approval of the Commissioner before making any collateral assignment or mortgage of its interest in this Water Easement or its improvements or Water Rights, and any such collateral assignment or mortgage shall be subject to the conditions, limitations and requirements set forth in the State Land Office rules. The Commissioner's approval of a collateral assignment or mortgage shall not release Grantee from any of its obligations under this Water Easement, except as agreed to in writing by the Commissioner. If the Commissioner gives Grantee a notice of default, the Commissioner shall simultaneously provide a copy of the notice to an approved collateral assignee or mortgagee, which shall have the right to cure the default within the time provided, subject to the requirements of State Land Office rules. An approved collateral assignee or mortgagee may succeed to the rights and duties of Grantee, and it may assign the Water Easement in accordance with Paragraph 19, and State Land Office Rules governing assignments.

**21. Grantee Breach and Cancellation**

The Commissioner may terminate this Water Easement for breach of any term or covenant of this Water Easement. Any substantial deviation in water quantity or water quality, if reasonably attributable to Grantee, or any change in place of use or purpose of use from that



stated herein, shall constitute grounds for the Commissioner, in his sole discretion, to terminate, amend, modify, renegotiate, cancel or otherwise change this Water Easement; provided, however, that the Commissioner shall mail to the Grantee, by certified mail, addressed to the mailing address of Grantee shown in the Commissioner's current records, a thirty (30) day notice of intention to alter or terminate, specifying the reasons for which the notice is given. Proof of mailing, but no proof of receipt of notice, shall be necessary, and thirty (30) days after such mailing this Water Easement shall terminate *ipso facto* without further notice or proceeding required of the Commissioner; provided, however, there shall be no termination and reversion if Grantee has previously made arrangements satisfactory to the Commissioner to discharge or resolve the breach.

## **22. Holding Over**

Upon termination or expiration of this Water Easement, any act or conduct of Grantee, including, but not limited to, the unapproved entry upon, occupancy, or use, whether continuous or not, of all or any part of the Easement Land by Grantee, the Grantee's agents, or by any unauthorized improvements or other improvements required or ordered to be removed upon termination or expiration shall constitute Holding Over. At the termination or expiration of this Water Easement, Grantee immediately shall deliver possession to the Commissioner. In the event of Grantee's Holding Over, Grantee shall pay the Commissioner from time to time, upon demand, as rental for the period of any hold over, to be due for each day of such hold over, an amount equal to two hundred percent (200%) of the annual rent. Nothing contained herein shall be construed as a grant to Grantee of the right to hold over or otherwise enter the Easement Land for any purpose after the expiration or termination of this Water Easement without the prior written approval of the Commissioner. At any time that Grantee is holding over, the Commissioner shall, without requirement of further notice or grace period, have any and all rights to evict or otherwise remove Grantee by force or otherwise, with all costs and fees incurred in such action to be due and payable by Grantee. This Section shall survive the termination or expiration of this Water Easement.

## **23. Bond**

Prior to commencement of operations under this Water Easement. Grantee shall obtain the Commissioner's approval of and file a surety bond with the Commissioner in the amount of **five thousand dollars (\$5,000.00)** to secure payment to the Commissioner of such damage as may occur to livestock, range, water, crops or tangible improvements on the subject lands as may result from Grantee's use and occupation under this Water Easement. Such bond shall be payable for the term of this Water Easement, and may be utilized for reclamation of disturbed lands following the operations of Grantee under this Water Easement. Payment under this paragraph is to be made to the Commissioner and not to any other party. Grantee's bond shall not be liquidated damages, and the Commissioner reserves the right to pursue any other remedy for damages available at law or in equity.

## **24. Indemnification**

Grantee shall hold harmless, indemnify and defend the State of New Mexico, the Commissioner and the Commissioner's employees, agents, and contractors, and beneficiaries, in both their official and individual capacities, from any and all liabilities, claims, losses, damages, or expenses, including but not limited to reasonable attorneys' fees, loss of land value, third party claims, penalties or removal, remedial or restoration costs arising out of, alleged to arise out of or

indirectly connected with a) the operations hereunder of Grantee or Grantee's employees, agents, contractors, or invitees, b) any hazardous materials located in, under, or upon or otherwise affecting the Easement Land or adjacent property, or c) the activities of third parties on the Easement Land, whether with or without Grantee's knowledge or consent. In the event that any action, suit or proceeding is brought against Grantee, Grantee shall, as soon as practicable but no later than two (2) days after it receives notice thereof, notify the legal counsel of the Commissioner and the Risk Management Division of the New Mexico General Services Department by certified mail. This paragraph shall survive the termination, cancellation or relinquishment of this Water Easement, and any cause of action of the Commissioner to enforce this provision shall not be deemed to accrue until the Commissioner's actual discovery of said liability, claim, loss, damage, or expense.

## **25. Insurance**

During the Term of this Water Easement, Grantee shall, at Grantee's cost and expense and at no cost to the Commissioner, insure all improvements against liability to third parties and for construction risks, in accordance with industry standards for the estimate probable loss. Grantee's insurance carriers shall be in good standing, adequately underwritten, and duly licensed to issue insurance policies in New Mexico. Grantee shall provide the Commissioner with proof of insurance upon the Commissioner's request. In addition, Grantee shall obtain at its own expense, insurance coverage adequate to protect its operations, property, employees and agents in amounts Grantee finds sufficient. Grantee shall be solely responsible for obtaining insurance policies that provide coverage for losses of Grantee-owned property, including improvements. The Commissioner shall not be required to provide such insurance coverage or be responsible for payment of Grantee's costs for such insurance.

## **26. No Waiver by Commissioner**

No employee or agent of the Commissioner has the power, right, or authority to orally waive any of the conditions, covenants, or agreements of this Water Easement; and no waiver by the Commissioner of any of the conditions, covenants, or agreements of this Water Easement shall be effective unless in writing and executed by the Commissioner. The Commissioner's waiver of Grantee's breach or default of any of the conditions, covenants, or agreements hereof shall not constitute or be construed as a waiver of any other or subsequent breach or default by Grantee. The failure of the Commissioner to enforce at any time any of the conditions, covenants, or agreements of this Water Easement, or to exercise any option herein provided, or to require at any time performance by Grantee of any of the conditions, covenants, or agreements of this Water Easement shall not constitute or be construed to be a waiver of such conditions, covenants, or agreements, nor shall it affect the validity of this Water Easement or any part thereof, or the Commissioner's right to thereafter enforce each and every such condition, covenant, or agreement.

## **27. Scope of Agreement**

This Water Easement incorporates all the agreements, covenants, and understandings between the Commissioner and Grantee concerning the subject matter hereof and all such agreements, covenants, and understandings are merged into this Water Easement. In addition, this Water Easement incorporates the terms of Grantee's contemporaneous standard Water Rights Agreement as though set out fully herein. No prior agreement or understanding between

the Commissioner and Grantee shall be valid or enforceable unless expressly embodied in this Water Easement.

### **28. Non-impairment**

Nothing in this Water Easement is to be construed to allow the impairment of the rights of any lawful holder, present or future, of any geothermal resources, or any mineral, grazing, commercial, easement, or Water Rights on the subject or any other state trust lands.

### **29. Severability**

In the event that any provision of this Water Easement is held invalid or unenforceable under applicable law, this Water Easement shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

### **30. Successors In Interest**

All terms, conditions, and covenants of this Water Easement and all amendments thereto shall extend to and bind the permitted heirs, successors, and assigns of Grantee and the Commissioner. There are no third party beneficiaries of this Water Easement.

### **31. Dispute Resolution, Applicable Law and Venue**

Any disputes arising under or in connection with this Water Easement shall be first resolved by mandatory contest pursuant to 19.2.15 NMAC. Subsequent appeal, if any, shall be in the First Judicial District Court of Santa Fe. In all instances, the law of New Mexico shall apply. The laws of the State of New Mexico shall govern this Water Easement, without giving effect to the conflict of law provisions of the State of New Mexico. Grantee consents to venue and jurisdiction in the District Court in and for the County of Santa Fe, State of New Mexico for purposes of any appeal pursuant to 19.2.15 NMAC, and to service of process under the laws of the State of New Mexico in any action relating to this Water Easement or its subject matter.

### **32. Time**

Time is of the essence in the performance of each and every provision of this Water Easement. Grantee's failure to perform any or all of its obligations under this Water Easement in a timely manner shall be a breach of this Water Easement.

### **33. Singular And Plural; Use Of Genders**

Whenever the singular is used herein, the same shall include the plural; whenever a particular gender is used herein, the same shall include the other gender and no gender.

### **34. Headings And Titles**

The use of section or paragraph headings and titles herein is for descriptive purposes only and is independent of the covenants, conditions, and agreements contained herein.

### **35. No Joint Venture**

The Commissioner is not and will not be construed or held to be a partner, joint venturer or associate of Grantee in the conduct of the business of Grantee. The Commissioner will not be liable for any debts incurred by Grantee in the conduct of the business of Grantee. The relationship between the Commissioner and Grantee is, and will remain, solely that of the Commissioner and Grantee.

**36. No Commissioner Personal Liability**

In the event of a court action, Grantee shall not seek damages from the Commissioner or any employee of SLO or the State of New Mexico in their individual capacity. This Section shall survive termination of this Water Easement.

**37. Notices**

Written notice by registered or certified U.S. Postal Service, return receipt requested, or delivered by reputable overnight courier, return receipt of tracking system, to the addresses of the party hereunder shall constitute sufficient notice to comply with the terms of this Water Easement. Notice will be deemed effective upon delivery. Either the Commissioner or Grantee may change its respective address as provided in this Section effective three (3) business days after giving written notice of the change to the other. The addresses for notice are:

**Notice to the Commissioner:**

New Mexico Commissioner of Public Lands  
Attn: Oil Gas Minerals Division  
P.O. Box 1148  
Santa Fe, New Mexico 87504-1148  
FAX: (505) 827-4739

With copy to:

New Mexico State Land Office  
General Counsel  
P.O. Box 1148  
Santa Fe, NM 87504-1148  
FAX: (505) 827-4262

**Notice to Grantee:**

ETC Field Services  
600 N. Marienfield, Suite 700  
Midland, TX 79702

Attn: Dean Ericson

With Copy to:

GHD  
6121 Indian School Rd.NE  
Albuquerque, NM 87110

Attn: Bernie Bockisch, PMP



IN WITNESS WHEREOF, the Commissioner of Public Lands and the Grantee have signed this Easement to be effective on the date signed by the Commissioner.

**GRANTEE:**

ETC FIELD SERVICES, LLC

By: Dean D. Ericson

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

Name: Dean D. Ericson

Title: Sr. Environmental Specialist

ACKNOWLEDGMENT IN AN INDIVIDUAL CAPACITY

State of Texas

County of Midland

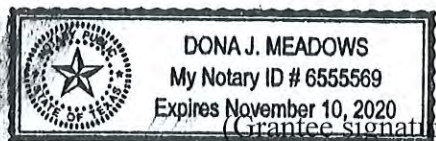
This instrument was acknowledged before me on July 20, 2017 (date) by

Dean D. Ericson (name).

Dona J. Meadows  
(Signature of notarial officer)

(seal)

My commission expires: 11.10.20



- OR -

(Grantee signature must be notarized on the following page)

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**ACKNOWLEDGMENT IN A REPRESENTATIVE CAPACITY**

State of \_\_\_\_\_

County of \_\_\_\_\_

This instrument was acknowledged before me on \_\_\_\_\_ (date) by

\_\_\_\_\_ (name) as

\_\_\_\_\_ (title) of

\_\_\_\_\_ (name of party on behalf of whom instrument  
is executed).

\_\_\_\_\_  
(Signature of notarial officer)

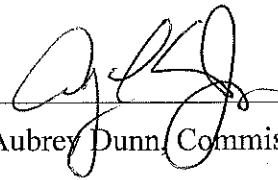
(seal)

My commission expires: \_\_\_\_\_

**GRANTOR**

NEW MEXICO COMMISSIONER OF PUBLIC LANDS

S  
E  
A  
L

  
Aubrey Dunn, Commissioner of Public Lands

dated: August 9, 2007