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## **REMEDIATION SUMMARY** &

## **RISK-BASED SITE CLOSURE REQUEST**

### BLACK MOUNTAIN OPERATING STATE K #2 Lea County, New Mexico Unit Letter "A" (NE/NE), Section 2, Township 10 South, Range 33 East Latitude 33.48127 North, Longitude -103.53265 West NMOCD Reference #: 1RP-4675

Prepared For:

Black Mountain Operating 500 Main Street, Suite 500 Fort Worth, Texas 76102

Prepared By:

Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, New Mexico 88260

### April 2018

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Robbie Runnels Project Manager

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### **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Black Mountain Operating (BMO), has prepared this *Risk Based Remediation Summary & Site Closure Request* for the release site known as State K #2. The legal description of the release site is Unit Letter "A" (NE/NE), Section 2, Township 10 South, Range 33 East, in Lea County, New Mexico. The geographic coordinates of the release site are 33.48127° North latitude and -103.53265° West longitude. The property affected by the release is owned by the state of New Mexico. A "Site Location Map" is provided as Figure 1.

Around April 8<sup>th</sup>, 2017, Black Mountain discovered a release of approximately one-hundred seventy (170) barrels (bbls) of crude oil and produced water when a seal failed and allowed the liquid to escape from the pump. Approximately twenty (20) bbls were recovered. It is estimated that twelve-thousand two-hundred forty-four square feet (12,244 ft<sup>2</sup>) of battery pad, pasture, road, and an additional battery pad was impacted. New Mexico Oil Conservation Division (NMOCD) was notified of the release on April 8<sup>th</sup>, 2017, and a "Release Notification and Corrective Action" (Form C-141) was submitted to NMOCD on April 10<sup>th</sup>, 2017, for approval. The final Form C-141 is provided as Appendix A.

Between April 10<sup>th</sup>, 2017 and April 24<sup>th</sup>, 2017, a non-Basin remediation company began excavation. Basin personnel were on site beginning April 24<sup>th</sup>, 2017, to begin delineation and sampling activities. At the time of the sampling event, the site had been excavated to various depths. Eleven (11) soil sample points within the release area were established on the floor of the excavation. The soil sample points, (Floor 1, Floor 2, Floor 3, Floor 4, Floor 5, Floor 6, Floor 7, Floor 8, Floor 9, Floor 10, Floor 11) from the release area were discretely collected and submitted to a NMOCD approved and certified laboratory (Cardinal Laboratories in Hobbs, NM). Chloride, using Standard Method 4500-CL- B, gasoline Range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) were analyzed for total concentrations using Environmental Protection Agency (EPA) Method SW 846-8015M. In addition, soil sample points Floor 3 and Floor 9 were analyzed for the concentration of Benzene, Toluene, Ethyl-benzene, and xylenes (BTEX) using method BTEX 8021B. Also, adjacent to the floor soil sample locations, soil wall samples were discretely sampled and submitted to the laboratory for total petroleum hydrocarbons ([TPH] GRO, DRO, ORO) as well as chloride concentration.

Laboratory analytical results indicated elevated TPH concentrations of 6,547 mg/kg in soil sample Floor 1 @ 1', 20,880 in Floor 1 WW, 29,480 mg/kg in Floor 1 NW, 10,220 mg/kg in Floor 2 WW, 6,147 mg/kg in Floor 4 @ 4', 11,810 mg/kg in Floor 5 EW, 13,880 in Floor 7 EW, 11,961 in Floor 8 EW, and 14,830 mg/kg in Floor 10 SW. Elevated chloride concentration of 976 mg/kg was found in soil sample Floor 1 NW. BTEX concentrations were 3.68 in Floor 3 @ 3' with <0.050 mg/kg benzene and Floor 9 @ 1' had a BTEX concentration of 0.686 mg/kg with <0.050 mg/kg benzene.

Review of laboratory analytical documentation indicated additional vertical and horizontal delineation of the release was required in select locations.

General photographs of the release site and remediation activities are provided as Appendix B. Locations of the soil sampling are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix C.

General photographs of the release site and remediation activities are provided as Appendix B. Locations of the soil sampling are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Laboratory analytical reports are provided in Appendix C.

On June 1<sup>rst</sup>, 2017, a Corrective Action Plan (CAP) was submitted to the New Mexico State Land Office (NMSLO) and NMOCD outlining a strategy to advance the site to an approved closure. The NMOCD representative requested additional sampling which was performed on June 6<sup>th</sup>, 2017 and June 12<sup>th</sup>, 2017. The CAP was resubmitted with the additional sampling results. NMOCD required further sampling for BTEX which was performed on July 13<sup>th</sup>, 2017. The NMSLO requested additional verbiage clarifying that no noxious or invasive species would be introduced during the seeding of the location. The CAP was resubmitted on August 2<sup>nd</sup>, 2017. The CAP was never approved by the NMOCD or NMSLO. However, a "Request to Backfill" was approved by a representative of the NMOCD on February 7<sup>th</sup>, 2018 with the NMSLO approving the request on February 9<sup>th</sup>, 2018.

## 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 2, Township 10 South, Range 33 East. A depth-to-groundwater (DGW) reference map utilized by the NMOCD does not indicate groundwater could be encountered at any depth. Utilizing gradient patterns and the Water Incident Database (WAID), DGW coincides with the groundwater reference map. Based on the NMOCD ranking system, zero (0) points were assigned to the site as a result of this criterion. A DGW map is provided as Figure 2.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the State K #2 release site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/kg (ppm)
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) 50 mg/kg (ppm)
- Total petroleum hydrocarbons (TPH) 5,000 mg/kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis and have been presumed to be 1,000 mg/kg for a site with a ranking score of zero (0).

### 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On April 24<sup>th</sup>, 2017, Basin personnel were on the location to perform sampling activities. The entire release area had been excavated to various depths ranging from six inches (6") to an approximate depth of four feet (4') bgs. Discrete soil samples were retrieved from the floor of the excavation (Floor 1 - Floor 10) to be analyzed at a commercial laboratory for concentrations of TPH and chloride. In addition, soil samples Floor 3 @ 3' and Floor 9 @ 1' were analyzed for the concentration of BTEX. At corresponding locations of the floor samples, wall samples were also retrieved and submitted for concentrations of TPH and chloride. Laboratory analyses for Floor 1 @ 1', Floor 1 NW, Floor 2 WW, Floor 4 @ 4', Floor 5 EW, Floor 7 EW, Floor 8 EW, and Floor 10 SW indicated that TPH concentrations were elevated above the remediation recommended action levels (RRAL). Chloride concentration were found to be below the RRAL for all soil samples. BTEX concentration was found to be below the RRAL for soil samples Floor 3 @ 3' and Floor 9 @ 1'.

In an attempt to complete delineation for TPH, (presumed to be 250 mg/kg for this site), Basin personnel began excavation on June 8<sup>th</sup>, 2017 where elevated TPH concentrations were present. Excavation was advanced vertically by two feet in the area where soil sample Floor 1 @ 1' was taken. Excavation was advanced vertically by one foot in the area where soil sample Floor 4 @ 4' was retrieved. Excavation was advanced by one foot horizontally in the areas where soil samples Floor 1 NW, Floor 5 EW, Floor 7 EW, Floor 8 EW, and Floor 10 SW were retrieved. Laboratory analyses confirm that delineation and remediation of TPH was complete and below the RRAL. Soil samples Floor 1 WW and Floor 2 WW were not advanced in that the soil samples were retrieved along the secondary containment of the battery. This area will be fully remediated at the time of battery abandonment.

At the request of NMOCD, Basin sampled the entire location for the presence of BTEX on July 13<sup>th</sup>, 2017. Laboratory analyses confirm that BTEX concentrations for every soil sample taken were below the RRAL.

With the exception of Floor 1 WW and Floor 2 WW, all sampling locations were confirmed to be below the RRAL for the site for concentrations of BTEX, TPH, and chlorides.

Basin personnel began backfilling activities the week of February 12<sup>th</sup>, 2018. The excavated area was backfilled with clean, non-impacted soils and contoured to the surrounding area.

At a time conducive for germination, the location will be seeded with a blend of native, nonnoxious or invasive vegetation approved by the NMSLO. The seed will be applied with either a drill or broadcast method to ensure complete coverage of affected area. If the seeds are sown utilizing the broadcast method, they will be incorporated into the soil with a disc, rake or a harrow as determined by soil conditions.

## 4.0 QA/QC PROCEDURES

## 4.1 Soil Sampling

Soil Samples were delivered to Cardinal Laboratories, Inc., in Hobbs, New Mexico, for analysis of BTEX, TPH, and/or chloride concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, and/or chloride concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

## 4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

### 4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

### 5.0 SITE CLOSURE REQUEST

The State K #2 release site was excavated to the point where no constituent of interest was found to have a concentration above the established RRAL for the site. Soil samples collected from the floor, and sidewalls of the excavation were analyzed by an NMOCD-approved laboratory. The concentrations of BTEX, chloride, and TPH were below the RRALs established for the site.

Basin Environmental recommends Black Mountain Operating provide the NMOCD's Hobbs District Office and the NMSLO a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the State K #2 release site.

### 6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Risk-Based Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Black Mountain Operating. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Black Mountain Operating.

### 7.0 **DISTRIBUTION:**

- Copy 1: Olivia Yu New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 1) 1625 N French Drive Hobbs, NM 88240
- Copy 2: Mark Naranjo New Mexico State Land Office 1001 S. Atkinson Roswell, NM 88203
- Copy 3: John Wierzowiecki Black Mountain Operating 500 Main Street, Suite 200 Fort Worth, Texas 76102
- Copy 4: Basin Environmental Service Technologies, LLC P.O. Box 301 Lovington, New Mexico 88260

## FIGURES

## Depth to Groundwater



## TABLES

#### TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL Summary of all Samples BLACK MOUNTAIN OPERATING STATE K #2 LEA COUNTY, NEW MEXICO UL A, SEC. 2, T 10 S, R 33 E NMOCD REFERENCE #: 1RP-4675

SAMPLE LOCATION         SAMPLE DeTH         SOIL DETH         SOIL STAUS         BENZENE (mg/Kg)         TOLUENE (mg/Kg)         ETHYL- (mg/Kg)         TOTAL BENZENE (mg/Kg)         GRO (mg/Kg)         DRO (mg/Kg)         DRO (mg/Kg)         Cr- (mg/Kg)		FINAL				METHOD: E	PA SW 846	6-8021B, 503	0	ME	THOD: 801	5M	7011	4500 CI-B
Floor 1 NW         1.5'         Various         In-Situ         <0.050		SAMPLE DEPTH					BENZENE	XYLENES	BTEX	<b>C</b> <sub>6</sub> -C <sub>12</sub>	<b>C</b> <sub>12</sub> -C <sub>28</sub>	<b>C</b> <sub>28</sub> -C <sub>35</sub>	(mg/Kg)	E
Floor 1 EW         1.5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.030         61         2.270         564.0         2.885         80.0           Floor 1 WW         1.5'         Various         In-Situ         <0.050			Various	In-Situ	<0.050	<0.050		<0.050	<0.300	<10.0			77	
Floor 1 WW         1.5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.0300         1,620         16,400         2860.0         20,880         96.0           Floor 2 @ 2'         2'         Various         In-Situ         <0.050	Floor 1 NW	1.5'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300		1,220	244.0	1,523	208.0
Floor 2 @ 2'         2'         Various         In-Situ         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.050         <0.	Floor 1 EW	1.5'	Various	In-Situ	<0.050	0.0900	<0.050	<0.050	<0.300	61	2,270	564.0	2,895	80.0
Floor 2 EW         1'         Various         In-Situ         <0.050         <0.050         <0.050         <0.030         <10.0         271         42.9         314         32.00           Floor 2 WW         1'         Various         In-Situ         <0.050	Floor 1 WW	1.5'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	1,620	16,400	2860.0	20,880	96.0
Floor 2 WW       1'       Various       In-Situ       <0.050       0.2460       0.103       0.7620       1.1100       1,510.0       7,570       1140.0       10,220       528.0         Floor 3 @3'       3'       Various       In-Situ       <0.050       <0.049       0.575       2.71       3.63       <50.0       2,170.0       464.0       2,634       224.0         Floor 3 WW       1.5'       Various       In-Situ       <0.050       <0.050       <0.050       <0.050       <0.050       <0.050       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0 <td>Floor 2 @ 2'</td> <td>2'</td> <td>Various</td> <td>In-Situ</td> <td>&lt;0.050</td> <td>0.0970</td> <td>&lt;0.050</td> <td>&lt;0.050</td> <td>&lt;0.300</td> <td>220</td> <td>2,400</td> <td>505.0</td> <td>3,125</td> <td>144.0</td>	Floor 2 @ 2'	2'	Various	In-Situ	<0.050	0.0970	<0.050	<0.050	<0.300	220	2,400	505.0	3,125	144.0
Floor 3@3'         3'         Various         In-Situ         <0.050         0.349         0.575         2.71         3.63         <50.0         2,170.0         464.0         2,634         224.0           Floor 3 EW         1.5'         Various         In-Situ         <0.050	Floor 2 EW	1'	Various	In-Situ	<0.050	0.0500	<0.050	<0.050	<0.300	<10.0	271	42.9	314	32.00
Floor 3 EW       1.5'       Various       In-Situ       <0.050       <0.050       <0.050       <0.050       <0.050       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0 </td <td>Floor 2 WW</td> <td>1'</td> <td>Various</td> <td>In-Situ</td> <td>&lt;0.050</td> <td>0.2460</td> <td>0.103</td> <td>0.7620</td> <td>1.1100</td> <td>1,510.0</td> <td>7,570</td> <td>1140.0</td> <td>10,220</td> <td>528.0</td>	Floor 2 WW	1'	Various	In-Situ	<0.050	0.2460	0.103	0.7620	1.1100	1,510.0	7,570	1140.0	10,220	528.0
Floor 3 EW       1.5'       Various       In-Situ       <0.050       <0.050       <0.050       <0.050       <0.050       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0       <10.0 </td <td></td> <td>01</td> <td></td> <td></td> <td>.0.050</td> <td>0.040</td> <td>0.575</td> <td>0.74</td> <td>0.00</td> <td>.50.0</td> <td>0.470.0</td> <td>101.0</td> <td>0.004</td> <td>001.0</td>		01			.0.050	0.040	0.575	0.74	0.00	.50.0	0.470.0	101.0	0.004	001.0
Floor 3 WW         1.5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.0300         <10.0         110         17.8         128         32.0           Floor 4@5'         5'         Various         In-Situ         <0.050											· ·			
Floor 4@5'         5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.050         <0.0300         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0														
Floor 4 WW         2.5'         Various         In-Situ         <0.050         0.0600         <0.050         <0.050         <0.300         17         1,520         237.0         1,774         16.0           Floor 4 EW         2.5'         Various         In-Situ         <0.050	Floor 3 WW	1.5	Various	In-Situ	<0.050	< 0.050	<0.050	<0.050	<0.300	<10.0	110	17.8	128	32.0
Floor 4 WW         2.5'         Various         In-Situ         <0.050         0.0600         <0.050         <0.050         <0.0300         17         1,520         237.0         1,774         16.0           Floor 4 EW         2.5'         Various         In-Situ         <0.050	Floor 4@5'	5'	Various	In-Situ	<0.050	< 0.050	<0.050	< 0.050	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
Image: Second		2.5'	Various	In-Situ	< 0.050	0.0600	< 0.050	<0.050	< 0.300	17	1,520	237.0	1,774	16.0
Floor 5 WW         1.5'         Various         In-Situ         <0.050         0.1830         <0.050         0.1600         0.3430         66         1,870         261.0         2,197         32.0           Floor 5 EW         1.5'         Various         In-Situ         <0.050	Floor 4 EW	2.5'	Various	In-Situ	<0.050	0.1940	<0.050	0.1750	0.3690	<10.0	<10.0	13.4	13	96.0
Floor 5 WW         1.5'         Various         In-Situ         <0.050         0.1830         <0.050         0.1600         0.3430         66         1,870         261.0         2,197         32.0           Floor 5 EW         1.5'         Various         In-Situ         <0.050	Eloor 5@3'	3'	Various	In-Situ	<0.050	0.0550	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
Floor 5 EW         1.5'         Various         In-Situ         <0.050         0.0680         <0.050         <0.050         <0.300         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0 <td></td>														
Floor 6 WW         1.5'         Various         In-Situ         <0.050         0.1370         <0.050         <0.050         <0.300         <10.0         83         17.2         100         32.0           Floor 6 EW         1.5'         Various         In-Situ         <0.050														
Floor 6 WW         1.5'         Various         In-Situ         <0.050         0.1370         <0.050         <0.050         <0.300         <10.0         83         17.2         100         32.0           Floor 6 EW         1.5'         Various         In-Situ         <0.050														
Floor 6 EW         1.5'         Various         In-Situ         <0.050         0.1510         <0.050         0.1660         0.3170         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0         <10.0 <td>Floor 6@3'</td> <td>3'</td> <td>Various</td> <td>In-Situ</td> <td>&lt;0.050</td> <td>0.1280</td> <td>&lt;0.050</td> <td>&lt;0.050</td> <td>&lt;0.300</td> <td>&lt;10.0</td> <td>16</td> <td>24.8</td> <td>41</td> <td>112.0</td>	Floor 6@3'	3'	Various	In-Situ	<0.050	0.1280	<0.050	<0.050	<0.300	<10.0	16	24.8	41	112.0
Image: Second	Floor 6 WW	1.5'	Various	In-Situ	<0.050	0.1370	<0.050	<0.050	<0.300	<10.0	83	17.2	100	32.0
Floor 7 EW         1.5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.300         <10.0         <10.0         <10.0         16.0	Floor 6 EW	1.5'	Various	In-Situ	<0.050	0.1510	<0.050	0.1660	0.3170	<10.0	<10.0	<10.0	<10.0	<16.0
Floor 7 EW         1.5'         Various         In-Situ         <0.050         <0.050         <0.050         <0.300         <10.0         <10.0         <10.0         16.0		01	Maniaur		10.050	10.050	10.050	10.050	10,000	110.0	470	00.4	500	00.0
FIGOR 7 VV VV 1.5 VARIOUS IN-SITU <0.050 0.0940 <0.050 <0.050 <0.050 <0.300 <50.0 1,290 302.0 1,592 64.0														
		1.5	various	in-Situ	<0.050	0.0940	<0.050	<0.050	<0.300	<50.0	1,290	302.0	1,592	64.0

#### TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL Summary of all Samples BLACK MOUNTAIN OPERATING STATE K #2 LEA COUNTY, NEW MEXICO UL A, SEC. 2, T 10 S, R 33 E NMOCD REFERENCE #: 1RP-4675

	FINAL			l 1	METHOD: E	PA SW 846	-8021B, 503	0	MET	THOD: 801	5M	TOU	4500 CI-B
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	<b>GRO</b> <b>C</b> <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	<b>ORO</b> <b>C</b> <sub>28</sub> -C <sub>35</sub> (mg/Kg)	<b>TPH</b> <b>C</b> <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORID E (mg/Kg)
Floor 8@3'	3'	Various	In-Situ	<0.050	0.0820	<0.050	<0.050	<0.300	841	<10.0	100.0	676	64.0
Floor 8 EW	1.5'	Various	In-Situ	<0.050	0.1390	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
Floor 8 WW	1.5'	Various	In-Situ	<0.050	0.0740	<0.050	<0.050	<0.300	88	2,560	429.0	3,077	32.0
Floor 9@1'	1'	Various	In-Situ	<0.050	<0.050	0.116	0.571	0.686	14	393	101.0	508	16.0
Floor 9 WW	0.5'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	<10.0	11.1	11	32.0
Floor 10@2'	2'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	116	976.0	145.0	1,237	32.0
Floor 10 EW	1'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<50.0	4,130.0	814.0	4,944	32.0
Floor 10 WW	1'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
Floor 10 SW	1'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
Floor 11@0.5'	0.5'	Various	In-Situ	<0.050	0.1410	<0.050	<0.050	<0.300	<10.0	1,320.0	259.0	1,579	48.0
Floor 11 EW	0.25'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	1,210.0	226.0	1,336	32.0
Floor 11 WW	0.25'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	<10.0	15.6	16	16.0
Floor 11 SW	0.25'	Various	In-Situ	<0.050	0.1000	<0.050	<0.050	<0.300	<10.0	28.6	12.0	41	224.0
NMOCD Recom	mended Rer	mediation Act	ion Level	10				50				5,000	1,000

- = Not analyzed.

## APPENDICES

# APPENDIX – A C-141

## State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

			Rel	ease Notific		n and Co		ction						
No.	0.22.2 m =	1 1 1 -				OPERA			] Initi	al Report	$\boxtimes$	Final Repor		
Name of C	ompany B	lack Mounta	in Opera	ting		Contact John Wierzowiecki								
Address 50	10 Main St	., Suite 500,	Fort Woi	th, TX, 76102		Telephone No. 817-529-9488								
Facility Na	me State K	#2				Facility Typ	e Oil Productio	on Battery						
Surface Ov	vner State			Mineral O	wner	State			API No	. 30-025-0	0977			
				LOCA	TIO	N OF RE	LEASE							
Unit Letter A	Section 2	Township	Range	Feet from the		/South Line	Feet from the	East/We	st Line	County				
A	2	10 S	33 E	660			660			Lea				
			L	atitude_33.4812	7 Lo	ngitude -1(	)3.53265 NAT	783						
						OF REL		200						
Type of Rele	ase Crude o	il and Produc	ed Water		CILL		Release 170 bbls	0 1	Ioluma D	1.0	0.111			
Source of Re	lease Circui	lation Pump S	eals				lour of Occurrence		Date and	Recovered 2 Hour of Disc	0 bbls	1/0/17		
117 T 1						4/8/17, unk			1:30 a.m		covery	4/8/17,		
Was Immedi	ate Notice (					If YES, To								
Dr. When 9 I	-1. 117'		Yes	No 🗌 Not Rec	luired		wn of NMOCD							
By Whom? J Was a Water	ohn Wierzo	wiecki				Date and H	our 4/8/17, 12:00	p.m.						
was a water	course Reac		Yes 🛛	No		If YES, Vo N/A	lume Impacting t	he Waterco	ourse					
If a Watercon	rse was Im	pacted, Descri	he Fully *							_				
Describe Area Area around t a nearby locat	pump was b eased from a Affected a he separator ion and poo	being used to withe pump. Ind Cleanup A T's was affected led there. This	work botto ction Tak I by the re	en.* en.* lease. This area is	about 2	20° x 20° Son	ne fluid then flow	/ed ~500 yz	ards dow	n the ruts in	the lea	se road to		
and contoured	to the surro	ounding area.	na aispos		D appi	oved facility.	The remediated a	area was ba	ackfilled	with clean, 1	1011-imj	pacted soils		
public health of should their of	or the environment in ad	ve failed to ad dition. NMOC	lequately i	is true and complet l/or file certain rele c of a C-141 report nvestigate and rem ance of a C-141 rep	by the	NMOCD ma	t perform correct	ive actions port" does	for releanot relie	uses which m ve the opera	nay end tor of li	anger iability		
Signature:	h						OIL CONS	ERVAT	TON I	DIVISION	N			
Printed Name:	John Wierz	owiecki			A	pproved by E	nvironmental Spe	ecialist:						
Fitle: Operatio	ns Manager				A	pproval Date:		Expi	ration Da	ate:				
E-mail Address	10-1	zowiecki@bla 18		m 17-529-9488	C	onditions of A	pproval			Attached [				

\* Attach Additional Sheets If Necessary

# APPENDIX – B Photo Documentation



Point of Release, facing south

4/24/17



Excavated area, facing south



Excavated area, facing south

4/24/17



Excavated area, facing northwest

4/24/17



Source of leak

4/8/17



Initial release area, facing northeast



Source of leak

4/8/17



Initial release, facing north

4/8/17



**Excavated Area** 

2/9/18



**Excavated Area** 

2/9/18



Excavated Area

2/9/18



**Excavated Area** 



**Excavated Area** 

2/9/18



**Excavated Area** 



**Excavated Area** 

2/9/18



**Excavated Area** 

2/9/18



**Excavated Area** 

2/9/18



**Excavated Area** 



**Excavated Area** 

2/9/18



**Excavated Area** 

2/9/18



**Backfilling Area** 

2/15/18



**Backfilled** Area

2/27/18



**Backfilled Area** 

2/27/18



**Backfilled Area** 

2/27/18



**Backfilled Area** 

2/27/18



**Backfilled Area** 

2/27/18



**Backfilled Area** 

2/27/18



**Backfilled Area** 

2/27/18

# APPENDIX – C Analytical Reports



June 29, 2017

ROBBIE RUNNELS Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: STATE K

Enclosed are the results of analyses for samples received by the laboratory on 04/25/17 15:15.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 1 @ 1' (H701098-01)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	274	50.0	04/26/2017	ND	217	108	200	3.51	
DRO >C10-C28	5340	50.0	04/26/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	933	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	123	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	138	% 34.7-15	7						

#### Sample ID: FLOOR 1 NW (H701098-02)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1190	50.0	04/26/2017	ND	217	108	200	3.51	
DRO >C10-C28	23600	50.0	04/26/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	4690	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	191	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	530	% 34.7-15	7						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celeg D. Keine



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 1 EW (H701098-03)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	61.2	50.0	04/26/2017	ND	217	108	200	3.51	
DRO >C10-C28	2270	50.0	04/26/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	564	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	75.7	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	102	% 34.7-15	7						

#### Sample ID: FLOOR 1 WW (H701098-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1620	50.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	16400	50.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	2860	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	175	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	374	% 34.7-15	7						

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 2 @ 2' (H701098-05)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	220	50.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	2400	50.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	505	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	99.0	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	106	% 34.7-15	7						

#### Sample ID: FLOOR 2 EW (H701098-06)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	217	108	200	3.51	
DR0 >C10-C28	271	10.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	42.9	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	85.7	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	87.7	% 34.7-15	7						

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 2 WW (H701098-07)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1510	50.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	7570	50.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	1140	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	160	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	169	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 3 @ 3' (H701098-08)

BTEX 8021B	mg/	/kg	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2017	ND	1.87	93.4	2.00	0.114	
Toluene*	0.349	0.050	04/29/2017	ND	1.93	96.5	2.00	0.819	
Ethylbenzene*	0.575	0.050	04/29/2017	ND	1.94	97.1	2.00	0.802	
Total Xylenes*	2.71	0.150	04/29/2017	ND	5.79	96.5	6.00	0.883	
Total BTEX	3.63	0.300	04/29/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	131	% 72-148	}						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	2170	50.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	464	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	83.4	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	104	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 3 EW (H701098-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	<10.0	10.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	<10.0	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	82.6	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	81.8	% 34.7-15	7						

#### Sample ID: FLOOR 3 WW (H701098-10)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	217	108	200	3.51	
DR0 >C10-C28	110	10.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	17.8	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	94.5	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	96.8	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 4 @ 4' (H701098-11)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	107	50.0	04/27/2017	ND	217	108	200	3.51	
DRO >C10-C28	5120	50.0	04/27/2017	ND	233	117	200	4.68	
EXT DRO >C28-C36	920	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	103	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	134	% 34.7-15	7						

#### Sample ID: FLOOR 4 WW (H701098-12)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	16.8	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	1520	10.0	04/26/2017	ND	225	112	200	0.492	QM-07
EXT DRO >C28-C36	237	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	96.9	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	106	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: FLOOR 4 EW (H701098-13)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	<10.0	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	13.4	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	82.2	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	82.3	% 34.7-15	7						

#### Sample ID: FLOOR 5 @ 3' (H701098-14)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/27/2017	ND	448	112	400	11.3	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	<10.0	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	<10.0	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	91.2	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	93.0	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 5 WW (H701098-15)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	66.1	50.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	1870	50.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	261	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	108	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	114	% 34.7-15	7						

# Sample ID: FLOOR 5 EW (H701098-16)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg/	′kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1290	50.0	04/26/2017	ND	222	111	200	0.615	
DR0 >C10-C28	9160	50.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	1360	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	220 9	28.3-16	4						
Surrogate: 1-Chlorooctadecane	83.5	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 6 @ 3' (H701098-17)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	16.0	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	24.8	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	84.9	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	85.0	% 34.7-15	7						

# Sample ID: FLOOR 6 WW (H701098-18)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DR0 >C10-C28	82.8	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	17.2	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	88.4	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	91.5	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 6 EW (H701098-19)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	<10.0	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	<10.0	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	91.0	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	92.4	% 34.7-15	7						

# Sample ID: FLOOR 7 @ 3' (H701098-20)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DR0 >C10-C28	479	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	83.4	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	86.3	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	92.3	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 7 EW (H701098-21)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1130	50.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	11000	50.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	1750	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	232	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	83.4	% 34.7-15	7						

# Sample ID: FLOOR 7 WW (H701098-22)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	1290	50.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	302	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	102	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	99.0	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 8 @ 3' (H701098-23)

Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	576	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	100	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	91.1	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	87.4	% 34.7-15	7						

# Sample ID: FLOOR 8 EW (H701098-24)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg/kg		Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	841	50.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	9720	50.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	1400	50.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	215	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	81.8	% 34.7-15	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 8 WW (H701098-25)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	88.2	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	2560	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	429	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	102 %	28.3-16	4						
Surrogate: 1-Chlorooctadecane	114 %	34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 9 @ 1' (H701098-26)

BTEX 8021B	mg,	/kg	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/29/2017	ND	1.87	93.4	2.00	0.114	
Toluene*	<0.050	0.050	04/29/2017	ND	1.93	96.5	2.00	0.819	
Ethylbenzene*	0.116	0.050	04/29/2017	ND	1.94	97.1	2.00	0.802	
Total Xylenes*	0.571	0.150	04/29/2017	ND	5.79	96.5	6.00	0.883	
Total BTEX	0.686	0.300	04/29/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	135	% 72-148	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	14.2	10.0	04/26/2017	ND	222	111	200	0.615	
DRO >C10-C28	393	10.0	04/26/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	101	10.0	04/26/2017	ND					
Surrogate: 1-Chlorooctane	86.2	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	86.5	% 34.7-15	7						

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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 9 WW (H701098-27)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	222	111	200	0.615	
DRO >C10-C28	<10.0	10.0	04/27/2017	ND	225	112	200	0.492	
EXT DRO >C28-C36	11.1	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	92.3	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	87.2	% 34.7-15	7						

# Sample ID: FLOOR 10 @ 2' (H701098-28)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	116	10.0	04/27/2017	ND	192	95.9	200	7.61	
DR0 >C10-C28	976	10.0	04/27/2017	ND	207	103	200	11.0	QM-07
EXT DRO >C28-C36	145	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	101	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	106	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 10 EW (H701098-29)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	4130	50.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	814	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	88.3	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	158	% 34.7-15	7						

# Sample ID: FLOOR 10 WW (H701098-30)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	<10.0	10.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	<10.0	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	86.5	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	98.0	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: FLOOR 10 SW (H701098-31)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1710	50.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	11200	50.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	1920	50.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	177	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	254	% 34.7-15	7						

# Sample ID: FLOOR 11 @ 0.5' (H701098-32)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	192	95.9	200	7.61	
DR0 >C10-C28	1320	10.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	259	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	103	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	133	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 11 EW (H701098-33)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	1210	10.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	226	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	88.2	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	103	% 34.7-15	7						

# Sample ID: FLOOR 11 WW (H701098-34)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/27/2017	ND	416	104	400	7.41	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	<10.0	10.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	15.6	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	77.8	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	93.3	% 34.7-15	7						

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Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	04/25/2017	Sampling Date:	04/24/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 11 SW (H701098-35)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	04/27/2017	ND	400	100	400	7.69	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	ND	192	95.9	200	7.61	
DRO >C10-C28	28.6	10.0	04/27/2017	ND	207	103	200	11.0	
EXT DRO >C28-C36	12.0	10.0	04/27/2017	ND					
Surrogate: 1-Chlorooctane	62.1	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	67.6	% 34.7-15	7						

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Celey D. Keene, Lab Director/Quality Manager



## **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	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

Samples reported on an as received basis (wet) unless otherwise noted on report

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## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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(575) 393-23	(575) 393-2326 FAX (575) 393-2476	BILL TO					E	ANALYSIS REQUEST	-
Company Name: Basin Enviro	Basin Environmental Service Levilliongroup	P.O. #:		_	_	_	_		
Project Manager: Robbie Runnels	neis	Black Mountain	Auntain	-	_	_	_		_
Address: P.O. Box 301		pany:	Outhant		_				
City: Lovington	State: NM Zip: 88260	Attn:				_			
e #	Fax #: (575)396-1429	Address:		_	_	-			
	Project Owner: Black Mountain	City:		-		1B)	_		
		State: NM Zip:		ide	)15	02	_		
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2 Floor 1 NW		× 4/24/17	9:40	×	×				
3 Floor 1 EW		-	1	×	×				
4 Floor 1 WW			1	×	×				
5 Floor 2 @ 2'	-	_	9:55	×	×				
/ Floor 2 EW		_	10:00	×	×				
7 Floor 2 WW	2 9	× 4/24/17		×	×	×			
6 Floor 3 @ 3'	9	-	10:10	×	×				
9 Floor 3 EW	-	-	-	×	×				
10 Floor 3 WW	ahility and client's exclusive remedy for any o	ir tort, shall be limited to the amount paid by the client for the	tion of the applicable						
PLEASE WOLE: Learning and unmargent analyses. All datins including those for negligance and any other cause whatsoever shall be dee service. In no event shall Cardinal be liable for incidental or consequential damages, including wi service.	2 4 3	real valved unless made in wrang and receivery or thesi of profits incurred by client, its subsidiaries, rout imitation, basiness interruptions, bass of user, or bass of profits incurred by client, its subsidiaries, final, regardless of whether such claim is based upon any of the above stated reasons or otherwise.	or otherwise.	t.			No	Add'l Phone #:	
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Page 23 of 26

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Project Manager:	Robbie Runnels			F.O. #:				_		
Address: P.O. Box 301	x 301			Company:	Black Mountain	ain				
8		State: NM Z	Zip: 88260	Attn:				_		
D #		Fax #: (575)396-1429	1429	Address:				_		
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_			MATRIX	PRESERV.	SAMPLING			E		
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19	Floor 6 @ 3'		g 1 ×	×	+	-	×	Г		
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	Eloor & EW		g 1 ×	×	4/24/17	2.7.1 X	*			
9	Floor 7 @ 3'		1		-	× 154: P	×	-		
ability	ability and cl	usive remedy for any cla atsoever shall be deeme	based in contra ade in writing as	in contract or tort, shall be limited to the an in writing and received by Cardinal within 30 d	led to the amount paid by the cents I) within 30 days after completion of	the applicable liaries.				
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(5	(575) 393-2326 FAX (575) 393-24/6	10	<b>5111</b>			ANALYSIS REQUEST
Company Name:	Basin Environmental Service Technologies, LCC	ogies, LLV			_	
Project Manager:	Robbie Runnels				_	
Address: P.O. Box 301	x 301		Company: Black Mountain	lountain		
S.	State: NM	Zip: 88260	Attn:			
e #	6-2378 Fax #: (575)396-1429	96-1429	Address:			
•		: Black Mountain	City:		-	
ame:	State K #2		State: NM Zip:	-	021	
3	Lea		Phone #:	lor	-	
Project Location:	Loo		1	-	-	
Sampler Name: Rot	Robbie Runnels		Fax #:	c	_	
FOR LAB USE ONLY		S ER				
Lab I.D.	Sample I.D.	G)RAB OR (C)ON # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER : ACID/BASE: ICE / COOL OTHER :	TIME		
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)		a 1 ×	X 4/24/17	//.w	×	
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r L	Floor 8 WW	g 1 x	4 4/24/17	+	+	
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1 m	Floor 10 EW 9 11 X 9 11 X 9 11 X	g T X	limited to the amount paid by	er ue		
PLEASE NOTE: Laberry and usineges, converse and any other analyses. All claims including those for negligence and any other service. In no event shall Cardinal be liable for incidental or con-	8 1	rance whatsoever shall be deened waked unless made in writing and received by Cartakal writin 3 or apps arms or universe quertal damages, including without invation, business interruptions, loss of use, or loss of profile incurred by deet. It is subdivide quertal damages, including without invation, business interruptions, loss of use, or loss of profile incurred by deet. It is subdivide the overlated analysis in the overlate such dama such a based usen any of the above stated reasons or otherwise.	rdinal within 30 days arter com as of profits incurred by client, any of the above stated reason	subsidiaries, sr otherwise.		
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Relinquished By:	Date: S-1	Received By:	Nol 11			
	Time:	Munara	C	Please email results to pm@basinenv.com	sults to pm@t	vasinenv.com
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ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240	

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Basin Environmental Service Technologies, LLC		BILLIO						-
Robbie Runnels	P.O. #:		1		-			_
	Company:	Black Mountain	5					_
State: NM Zip: 1	88260 Attn:		_		-			
Fax #: (575)396-1429	Address:							
Project Owner: B	Black Mountain City:		_	N)	B)			
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PLEASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive remedy for any claim arising whether based in contract or lon, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deened waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deened waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for negligence and any other cause whatsoever shall be deened waived unless indentifiers, loss of use, or loss of profits incurred by client, its subadiaries,	y whether based in contract or lort, shall be limited to t unless made in writing and received by Cardinal within on business internations, loss of use, or loss of profite	he amount paid by the client for a 30 days after completion of the s incurred by client, its subsidiari	the applicable es,					
ervice. In no event shall cardinal be laber for inconstant or oursevorum unsurgers . If finales or successors artsing out of or related to the performance of services hereunder by Cardinal, regain finales or successors artsing out of or related to the performance of services hereunder by Cardinal, regain finales of services hereunder by Cardinal, regain fin	nce of yen/ces hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated rea Date: Received By:	bove stated reasons or otherwore Ph	Phone Result: Fax Result:	00	Yes I No Yes I No	Add'l Phone #: Add'l Fax #:		
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	Sample Condition Cool Intact	(Initials)						
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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Sampler - UPS - Bus - Other:

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Cool Intact Yes Yes No No No

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FORM-006 Revision 1.0

Page 26 of 26



June 29, 2017

ROBBIE RUNNELS Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: STATE K

Enclosed are the results of analyses for samples received by the laboratory on 06/09/17 14:50.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	06/09/2017	Sampling Date:	06/08/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP 10 S WALL (H701525-01)

TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/12/2017	ND	199	99.5	200	1.37	
DRO >C10-C28	<10.0	10.0	06/12/2017	ND	204	102	200	2.33	
EXT DRO >C28-C36	<10.0	10.0	06/12/2017	ND					
Surrogate: 1-Chlorooctane	82.2	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	74.6	% 34.7-15	7						

## Sample ID: STOCK PILE (H701525-02)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/12/2017	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/12/2017	ND	199	99.5	200	1.37	
DRO >C10-C28	<10.0	10.0	06/12/2017	ND	204	102	200	2.33	
EXT DRO >C28-C36	<10.0	10.0	06/12/2017	ND					
Surrogate: 1-Chlorooctane	85.7	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	76.5	% 34.7-15	7						

## **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	06/09/2017	Sampling Date:	06/08/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	Cool & Intact
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: FLOOR 1 @ 3' (H701525-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/12/2017	ND	448	112	400	3.64	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/12/2017	ND	199	99.5	200	1.37	
DRO >C10-C28	76.7	10.0	06/12/2017	ND	204	102	200	2.33	
EXT DRO >C28-C36	<10.0	10.0	06/12/2017	ND					
Surrogate: 1-Chlorooctane	88.4	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	79.1	% 34.7-15	7						

# Sample ID: FLOOR 4 @ 5' (H701525-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/12/2017	ND	448	112	400	3.64	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/12/2017	ND	199	99.5	200	1.37	
DRO >C10-C28	<10.0	10.0	06/12/2017	ND	204	102	200	2.33	
EXT DRO >C28-C36	<10.0	10.0	06/12/2017	ND					
Surrogate: 1-Chlorooctane	86.4	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	74.7	% 34.7-15	7						

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

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 Samples reported on an as received basis (wet) unless otherwise noted on report

#### 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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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4RDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Basin Environmental Service Technologies, LLC	P Technologies, LLC		3				
Project Manager: Robbie Runnels		P.O. #:					ANALYSIS REQUEST
Address: P.O. Box 301							
City: Lovington State	State: NM Zip: 88260		DIACK MOUTIN	_			
Phone #: (575)396-2378 Fax #:	Fax #: (575)396-1429	Address.					
Project #: Projec	Project Owner: Black Mountain	nuci 000.		_			
Project Name: State K #2					)	3)	
Project   oration ·   pa		State: NM Zip:		le	5M	218	
-		Phone #:		rid	01	302	
Sampler Name: Robbie Runnels				olo	(8)	(8)	
-		Fax #:		Ch	H	EX	
FOR LAB USE ONLY	MATRIX	PRESERV. SA	SAMPLING	(	TP	BTE	
Lab I.D. Sample I.D.	(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER : ACID/BASE: ICE / COOL OTHER :	TE TIME				
/ SP 10 S Wall	×	×	-	+	-	+	
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analyses. All claims including those for negligence and any other cause whatboower shall be deemed waived unless made in writing and received by Candrali within 30 days after completion of the another based in the another based on the anoth	ly for any claim arising whether based in contract or tort, s all be deemed waived unless made in writing and received	shall be limited to the amount paid by by Cardinal within 30 days after com	the client for the roletion of the applicable	+	+	$\left  \right $	
service. In no event shall Cardinal be lable for incidental or correspondental damages, including without imation, business made in writing and received by Cardinal within 30 days after completion of the a affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasone or otherwise. Relinquished BV:	for incidental or corresponding and uses or users or users on a start of the second by Cardinal within 30 days after ted to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated re-	by Cardinal within 30 days after com a, or loss of profits incurred by client, upon any of the above stated reason	mpletion of the applicable , its subsidiaries, ins or otherwise.				
	Received By:		Phone Result: Fax Result:	00	Yes	O No	Add'I Phone #: Add'I Fax #:
Relinquished By:	Received By:	MILL					
Delivered By: (Circle One)	Sample Condition	CHECKED BY.	Please email		ts to p	m@bas	results to pm@basinenv.com

Sampler - UPS - Bus - Other:

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FORM-006 Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

P. A.IS (Initials)

Page 5 of 5



June 29, 2017

ROBBIE RUNNELS Basin Environmental Service P.O. Box 301 Lovington, NM 88260

RE: STATE K

Enclosed are the results of analyses for samples received by the laboratory on 06/13/17 14:45.

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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	06/13/2017	Sampling Date:	06/12/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP 5 EW (H701547-01)

TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					
Surrogate: 1-Chlorooctane	98.5	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	82.4	% 34.7-15	7						

## Sample ID: SP 7 EW (H701547-02)

TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					
Surrogate: 1-Chlorooctane	108 %	6 28.3-16	4						
Surrogate: 1-Chlorooctadecane	91.1 9	34.7-15	7						

## **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	06/13/2017	Sampling Date:	06/12/2017
Reported:	06/29/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP 8 EW (H701547-03)

TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					
Surrogate: 1-Chlorooctane	105 9	28.3-16	4						
Surrogate: 1-Chlorooctadecane	87.3	% 34.7-15	7						

## Sample ID: SP 1 NW (H701547-04)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/14/2017	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	59.0	50.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	1220	50.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	244	50.0	06/14/2017	ND					
Surrogate: 1-Chlorooctane	91.0 9	28.3-16	4						
Surrogate: 1-Chlorooctadecane	99.1 9	34.7-15	7						

## Cardinal Laboratories

## \*=Accredited Analyte

Celeg D. Keine

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 Samples reported on an as received basis (wet) unless otherwise noted on report

#### 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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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	Runnels		P.O. #:		_					_	_
Address: P.O. Box 301			Company: Bia	Black Mountain						_	_
2	State: NM Zij	Zip: 88260	Attn:		_	-				_	_
Phone #: (575)396-2378	Fax #: (575)396-1429		Address:		_	-					
	Project Owner:	Black Mountain	City:		-	-	IB)	-			
Project Name: State K #2			State: NM Zip:		ride	015	02				
Project Location: Lea			Phone #:		-	-	~ (0		_		
Roh	nels		1		_	-		_	_		
Sampler Name: Nousie Nois		MATRIX	PRESERV. SA	SAMPLING	_	-	в		_	_	_
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1											
			what he limited to the amount paid	by the client for the		4	$\vdash$	-			
PLEASE NOTE: Liability and Damages. Cardir analyses. All claims including those for negliger	PLEASE NOTE: Lability and Damages. Cardina's lability and clern's exclusive memory for any clean active wretter cause in incrusion. In the second sec	n ansing whether based in conservice or one waived unless made in writing and receive limitation, business interruptions, loss of u	ed by Cardinal within 30 days after se, or loss of profits incurred by cl	completion of the applicable ent, its subsidiaries.							
serve. In one went shall carutate or ance or atfinite or successors atting out of or related Relinquished By:	to the performance of services hereunder by Cardinal regardless of whether Date: 6/13/2017 Time:	Received By:	ed upon any or the above series of	Phone Result: Fax Result: REMARKS:	t sult	□ Yes	No No	Add'l Phone #: Add'l Fax #:	***		
Relinquished By: Delivered By: (Circle One)	Date: Time:	45 Autuatia ( 45 Sample Condition Cool Intact Cool Intact	tion CHECKED BY: (Initials)	1.0	mail re	sults to	pm@ba	Please email results to pm@basinenv.com	2		

Revision 1.0



July 27, 2017

ROBBIE RUNNELS Basin Environmental Service P.O. Box 301 Lovington, NM 88260

**RE: STATE K** 

Enclosed are the results of analyses for samples received by the laboratory on 07/14/17 15:30.

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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: FLOOR 1 @ 3' (H701831-01)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	<0.050	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 % 72-148

# Sample ID: FLOOR 2 @ 2' (H701831-02)

mg/	/kg	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
0.097	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
<0.300	0.300	07/19/2017	ND					
	Result <0.050 <b>0.097</b> <0.050 <0.150	<0.050 0.050 0.097 0.050 <0.050 0.050 <0.150 0.150	Result         Reporting Limit         Analyzed           <0.050	Result         Reporting Limit         Analyzed         Method Blank           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           <0.050	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           <0.050

Surrogate: 4-Bromofluorobenzene (PID 105 % 7.

72-148

## **Cardinal Laboratories**

### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 4 @ 4' (H701831-03)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	<0.050	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 106 %

## Sample ID: FLOOR 5 @ 3' (H701831-04)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	0.055	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

106 % Surrogate: 4-Bromofluorobenzene (PID

### 72-148

72-148

### **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 6 @ 3' (H701831-05)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	0.128	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 104 %

## Sample ID: FLOOR 7 @ 3' (H701831-06)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	<0.050	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

106 % Surrogate: 4-Bromofluorobenzene (PID

72-148

72-148

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 8 @ 3' (H701831-07)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	0.082	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 %

# Sample ID: FLOOR 10 @ 2' (H701831-08)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.89	94.3	2.00	2.20	
Toluene*	<0.050	0.050	07/19/2017	ND	1.88	94.0	2.00	1.21	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	2.05	102	2.00	1.07	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	6.09	102	6.00	0.563	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 106 %

## 72-148

72-148

### **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

### Sample ID: FLOOR 11 @ 0.5' (H701831-09)

BTEX 8021B	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.141	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 103 % 72-148

## Sample ID: SP1 NW (H701831-10)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	<0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

104 % Surrogate: 4-Bromofluorobenzene (PID

72-148

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP1 EW (H701831-11)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.090	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

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

## Sample ID: SP1 WW (H701831-12)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	<0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

104 % Surrogate: 4-Bromofluorobenzene (PID

72-148

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



**Basin Environmental Service ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP2 EW (H701831-13)

BTEX 8021B	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 106 % 72-148

## Sample ID: SP2 WW (H701831-14)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.246	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	0.103	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	0.762	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	1.11	0.300	07/19/2017	ND					

115 % Surrogate: 4-Bromofluorobenzene (PID

72-148

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



**Basin Environmental Service ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

## Sample ID: SP3 EW (H701831-15)

BTEX 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	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	<0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 %72-148

## Sample ID: SP3 WW (H701831-16)

BTEX 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	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	<0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

107 % Surrogate: 4-Bromofluorobenzene (PID

72-148

## **Cardinal Laboratories**

## \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager


Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP4 EW (H701831-17)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.194	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	0.175	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	0.369	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 111 % 72-148

# Sample ID: SP4 WW (H701831-18)

BTEX 8021B	mg/	'kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.060	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 110 %

72-148

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP5 EW (H701831-19)

BTEX 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	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.068	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 112 % 72-148

# Sample ID: SP5 WW (H701831-20)

BTEX 8021B	mg/	′kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.183	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	0.160	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	0.343	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 111 %

72-148

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP6 EW (H701831-21)

BTEX 8021B	mg/	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.151	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	0.166	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	0.317	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 110 %72-148

# Sample ID: SP6 WW (H701831-22)

BTEX 8021B	mg/	'kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.137	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

107 % Surrogate: 4-Bromofluorobenzene (PID

72-148

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Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP7 EW (H701831-23)

BTEX 8021B	mg,	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.062	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

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

# Sample ID: SP7 WW (H701831-24)

BTEX 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	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.094	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

106 % Surrogate: 4-Bromofluorobenzene (PID

72-148

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Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP8 EW (H701831-25)

BTEX 8021B	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.139	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 106 %72-148

# Sample ID: SP8 WW (H701831-26)

BTEX 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	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	0.074	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

106 % Surrogate: 4-Bromofluorobenzene (PID

#### 72-148

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Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP9 WW (H701831-27)

BTEX 8021B	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2017	ND	1.78	89.1	2.00	0.408	
Toluene*	<0.050	0.050	07/19/2017	ND	1.80	89.9	2.00	1.11	
Ethylbenzene*	<0.050	0.050	07/19/2017	ND	1.95	97.3	2.00	1.62	
Total Xylenes*	<0.150	0.150	07/19/2017	ND	5.82	97.0	6.00	1.74	
Total BTEX	<0.300	0.300	07/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 % 72-148

# Sample ID: SP10 EW (H701831-28)

BTEX 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	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	<0.050	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 % 72-148

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Celey D. Keene, Lab Director/Quality Manager



Basin Environmental Service **ROBBIE RUNNELS** P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP10 WW (H701831-29)

BTEX 8021B	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	<0.050	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 106 %72-148

# Sample ID: SP10 SW (H701831-30)

BTEX 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	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	<0.050	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

105 % Surrogate: 4-Bromofluorobenzene (PID

72-148

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP11 EW (H701831-31)

BTEX 8021B	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	<0.050	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID 105 %72-148

# Sample ID: SP11 WW (H701831-32)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	<0.050	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

105 % Surrogate: 4-Bromofluorobenzene (PID

72-148

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: SP11 SW (H701831-33)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	0.100	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					

72-148

Surrogate: 4-Bromofluorobenzene (PID 105 %

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: PILE NORTH (H701831-34)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	0.105	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	<0.050	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	<0.150	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	<0.300	0.300	07/20/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 72-148	2						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/17/2017	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/18/2017	ND	199	99.5	200	4.26	
DRO >C10-C28	152	10.0	07/18/2017	ND	214	107	200	3.63	
Surrogate: 1-Chlorooctane	83.1	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	93.2	% 34.7-15	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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Received:	07/14/2017	Sampling Date:	07/13/2017
Reported:	07/27/2017	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: PILE SOUTH (H701831-35)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2017	ND	1.93	96.5	2.00	0.942	
Toluene*	0.249	0.050	07/20/2017	ND	1.95	97.6	2.00	1.07	
Ethylbenzene*	0.055	0.050	07/20/2017	ND	2.12	106	2.00	1.32	
Total Xylenes*	0.309	0.150	07/20/2017	ND	6.30	105	6.00	1.08	
Total BTEX	0.613	0.300	07/20/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 72-148							
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/17/2017	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/18/2017	ND	199	99.5	200	4.26	
DRO >C10-C28	158	10.0	07/18/2017	ND	214	107	200	3.63	
Surrogate: 1-Chlorooctane	85.4	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	95.3	% 34.7-15	7						

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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 Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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and			NV.	Black Mountain	-			
City: Lovington	State: NM	Zip: 88260						
#	(575)396-2378 Fax #: (575)396-1429	96-1429	Address:		-			
	Project Owner:	r: XTO Energy	City:		0	-		
ame:	State K #2	Black Mountain	State: NM Zip:	88260	15N	0211		
Project Location:	Lea		Phone #:		/80	-		
Sampler Name: Ka	Karanja Lewis		1		_			
		MATRIX	PRESERV. SAM	SAMPLING	- T	-		
Lab I.D.	Sample I.D.	G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	E				
0	SD1 EW	1 ( ) X	×	-	_	×		-
-		-	-			×		
	SP3 EW	-	x 7/13/17	17 10:50	-	×		
-	SP2 WW	-	x 7/13/17	17 10:55		×		
1	SP3 EW	g 1 ×	x 7/13/17	17 11:00	-	×		
-	SP3 WW	g 1 ×	x 7/13/17	17 11:05	-	×		
_	SP4 EW	g 1 x	x 7/13/17	+	+	×		
5	SP4 WW	g 1 x	x 7/13/17	17 11:15	-	< ×		
-	SP5 EW	-	~ 7/13/17	+	-	×		
LEASE NOTE: Liability and D	LEASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive remedy for any cla DEASE NOTE: Lability and Damages.	9 claim arising whether based in contract or tort, shall be imited to the amount pad by the cleim for the served walved unless made in writing and monitored by Candinal within 30 days after completion of the applicable served walved.	tort, shall be limited to the amount paid by the seived by Candinal within 30 days after complete	y the client for the mpletion of the applicable				
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Relinquished By:	ad By: Date: 144/17 Time: 1:00	Rece		Phone Result: Fax Result: REMARKS:		Yes I No	Add'l Phone #: Add'l Fax #:	
Relinquished By: M Delivered By: (Circle One) Sampler - UPS - Bus - Other:	(Circle One) 5.92 Bus - Other: 1944	Received By:	Altion CHECKED BY: ct (Initials) No. T. T. T. T.		ail resu	ults to pm@ba	Please email results to pm@basinenv.com, amy_Ruth@xtoenergy.com	argy.com

	(575) 393-2326 FAX (575) 393-2470	-ino	=	2									00		BILL TO					Þ	ANALYSIS	N	ŝ		Ĩ	REQUEST	ES	-								1	
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City: Lovington	State: NM	Zip		Zip: 88260	60	16				Attn:	ä		10							_						_								-			_
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Sampler Name:	Karanja Lewis									F	Fax #:			1			Ch	PH	TE)			_		-		-											-
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Revision 1.0 FORM-006

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

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Company Namo	(575) 393-2326 FAX (575) 393-2479 Basin Environmental Service Technologies, LLC	Hogies, LLC	BILL TO					ANALYSIS REQUEST
Company Mane.			P.O. #:		_			
Address: P.O.	Bo		Company: Blac	Black Mountain			_	
N.	n State: NM	<b>Zip:</b> 88260	Attn:					
e#	396-2378 Fax #:	(575)396-1429	Address:			_		
	Project Owner:	r: XTO Energy	City:		_	)	3)	
ame:	State K #2	Black Mountan	State: NM Zip:	88260	ide	15N	0211	
Project Location:	: Lea		Phone #:		lori	(80	K (8	
Sampler Name:	Karania Lewis		Fax #:		Ch	PH	TE)	
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8		C 1 ×	x 7/13/17	17 12:35	X	>	×	
PLEASE NOTE: Liability at analyses. All claims includin	PLEASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive remody for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoewer shall be deerined waiwed unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. All claims including those for incidental or consequential damages, including without limitation, basivess interruptions, loss of use, or loss of profits incurned by client. Its subsidiaries, analyses.	y claim arising whether based in contract or semed waived unless made in writing and r without limitation, business interruptions, log	s exclusive remedy for any claim ansing whether based in contract or tort, shall be limited to the amount paid by the client for th se whatsoewer shall be deemed waived unless made in writing and received by Candrail within 30 days after completion of the a real damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subscitiaries real damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subscitiaries	/ the client for the mpletion of the applicable , its subsidiaries,				
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February 16, 2018

ROBBIE RUNNELS Basin Environmental Service P.O. Box 301 Lovington, NM 88260

**RE: STATE K** 

Enclosed are the results of analyses for samples received by the laboratory on 02/09/18 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



Basin Environmental Service ROBBIE RUNNELS P.O. Box 301 Lovington NM, 88260 Fax To: (575) 396-1429

Received:	02/09/2018	Sampling Date:	02/08/2018
Reported:	02/16/2018	Sampling Type:	Soil
Project Name:	STATE K	Sampling Condition:	** (See Notes)
Project Number:	#2	Sample Received By:	Tamara Oldaker
Project Location:	BLACK MOUNTAIN - LEA CO		

#### Sample ID: CALICHE STOCK PILE (H800431-01)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/12/2018	ND	2.16	108	2.00	16.4	
Toluene*	<0.050	0.050	02/12/2018	ND	2.12	106	2.00	16.6	
Ethylbenzene*	<0.050	0.050	02/12/2018	ND	2.09	105	2.00	15.9	
Total Xylenes*	<0.150	0.150	02/12/2018	ND	6.35	106	6.00	15.9	
Total BTEX	<0.300	0.300	02/12/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 72-148							
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	02/12/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/14/2018	ND	212	106	200	1.83	
DRO >C10-C28*	<10.0	10.0	02/14/2018	ND	215	108	200	2.66	
EXT DRO >C28-C36	<10.0	10.0	02/14/2018	ND					
Surrogate: 1-Chlorooctane	77.9	% 41-142							
Surrogate: 1-Chlorooctadecane	78.6	% 37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



### **Notes and Definitions**

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	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
	Samples reported on an as received basis (wet) unless otherwise noted on report

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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Tompany Name:	(575) 393-2326 FAX (575) 393-2476 Basin Environmental Service Technologies, LLC	476 logies, LLC	BILL TO		1	-	ANALYSIS REQUEST
Company Name:	Robbie Runnels		P.O. #:				
Address: P.O. I	P.O. Box 301		Company: Black Mountain	ountain		_	
8	State: NM	Zip: 88260	Attn:				
e #:	(575)396-2378 Fax #: (575)396-1429	396-1429	Address:			1	
Project #:	Project Owner:	er: Black Mountain		03688	5M)	21B)	
ame:	State K #2		VM Zip:	oride		(802	
Project Location:	Lea		Phone #:	hlo		X (	
			Fax #:		_	TE	
Sampler Name:	Leslie Noack	MATRIX	1	NG	т	в	
Lab I.D.	Sample I.D.		SLUDGE DTHER : ACID/BASE: ICE / COOL OTHER :	TIME			
124008H	-	-1 # G W X S C		13:45 >	×	×	
	Caliche Stockpile						
PLEASE NOTE: Liability a	PLEASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy and the applicable remedy and the applicable remedy and the applicable remedy and received by claim arising the client for the applicable remedy for any claim arising whether based in contrad or tort, shall be limited to the amount paid by the client for the applicable remedy and the ap	any claim arising whether based in contrad c deemod whether based in contrad c	or tort, shall be limited to the amount paid by the received by Cardinal within 30 days after complete so of use, or toss of profits incurred by client, its	client for the subsidiaries,			
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FORM-006 Revision 1.0

# **Initial Sampling**

