

# *Basin Environmental Service Technologies, LLC*

3100 Plains Highway  
P. O. Box 301  
Lovington, New Mexico 88260  
**Rrunnels@basinenv.com**  
Office: (575) 396-2378 Fax: (575) 396-1429



**NOT APPROVED**

## **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>st</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 1 WW, 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, non-noxious 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.

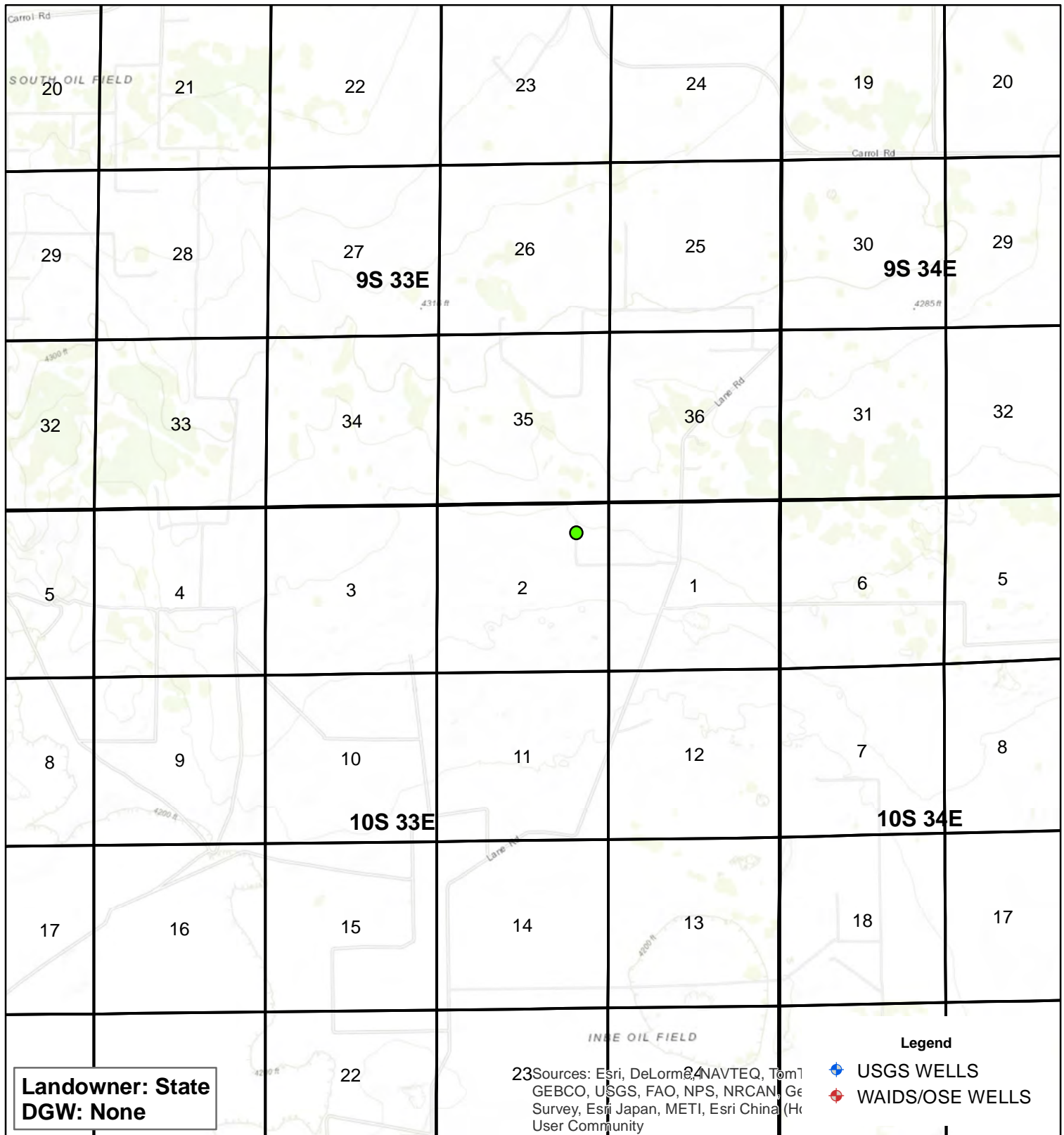
This report has been prepared for the benefit of Black Mountain Operating. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Black Mountain Operating.

## **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



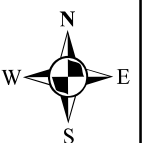
## **BLACK MOUNTAIN RESOURCES STATE K #2**

**UL A & H SECTION 2  
T-10-S R-33-E  
LEA COUNTY, NM**

**GPS: 33.481374 -103.532198**

0 0.5 1  
Miles

GPS date: 4/24/17 TG  
Drawing date: 3/22/18  
Drafted by: T. Grieco



# 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	FINAL SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	4500 CI-B CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)		
Floor 1 @3'	3'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	77	<10.0	77	48
Floor 1 NW	1.5'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	59	1,220	244.0	1,523	208.0
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 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 @ 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 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 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	0.349	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	<0.050	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
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@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
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	0.1940	<0.050	0.1750	0.3690	<10.0	<10.0	13.4	13	96.0
Floor 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 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	0.0680	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
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
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	0.1510	<0.050	0.1660	0.3170	<10.0	<10.0	<10.0	<10.0	<16.0
Floor 7@3'	3'	Various	In-Situ	<0.050	<0.050	<0.050	<0.050	<0.300	<10.0	479	83.4	562	96.0
Floor 7 EW	1.5'	Various	In-Situ	<0.050	0.0620	<0.050	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
Floor 7 WW	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

SAMPLE LOCATION	FINAL SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	4500 CI-B CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (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 Recommended Remediation Action Level				10				50				5,000	1,000

- = Not analyzed.

# APPENDICES



APPENDIX – A

C-141

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

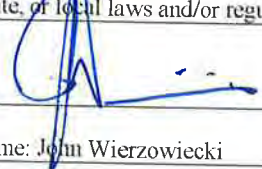
OPERATOR		<input type="checkbox"/> Initial Report	<input checked="" type="checkbox"/> Final Report
Name of Company	Black Mountain Operating	Contact	John Wierzowiecki
Address	500 Main St., Suite 500, Fort Worth, TX, 76102	Telephone No.	817-529-9488
Facility Name	State K #2	Facility Type	Oil Production Battery
Surface Owner State	Mineral Owner State	API No. 30-025-00977	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	2	10 S	33 E	660		660		Lea

Latitude 33.48127 Longitude -103.53265 NAD83

**NATURE OF RELEASE**

Type of Release	Crude oil and Produced Water	Volume of Release	170 bbls	Volume Recovered	20 bbls
Source of Release	Circulation Pump Seals	Date and Hour of Occurrence	4/8/17, unknown	Date and Hour of Discovery	4/8/17, 11:30 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Maxey Brown of NMOCD		
By Whom?	John Wierzowiecki	Date and Hour	4/8/17, 12:00 p.m.		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.*	N/A				
Describe Cause of Problem and Remedial Action Taken.*	A circulating pump was being used to work bottoms from oil tank. At some point it is believed that solids in the fluids caused the seals to fail allowing fluid to be released from the pump.				
Describe Area Affected and Cleanup Action Taken.*	Area around the separators was affected by the release. This area is about 20' x 20'. Some fluid then flowed ~500 yards down the ruts in the lease road to a nearby location and pooled there. This area is about 10' x 20'. The impacted area was delineated horizontally and vertically for all constituents of interest. Impacted soils were removed and disposed of at an NMOCD approved facility. The remediated area was backfilled with clean, non-impacted soils and contoured to the surrounding area.				
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Signature:					
Printed Name:	John Wierzowiecki	Approved by Environmental Specialist:			
Title:	Operations Manager	Approval Date:	Expiration Date:		
E-mail Address:	john.wierzowiecki@blackmtm.com	Conditions of Approval:			Attached <input type="checkbox"/>
Date:	4/5/2018	Phone: 817-529-9488			

\* Attach Additional Sheets If Necessary

# APPENDIX – B

## Photo Documentation



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Point of Release, facing south

4/24/17



Excavated area, facing south

4/24/17



Excavated area, facing south

4/24/17



Excavated area, facing northwest

4/24/17



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Source of leak

4/8/17



Source of leak

4/8/17



Initial release area, facing northeast

4/8/17



Initial release, facing north

4/8/17



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



Excavated Area

2/9/18



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



Backfilling Area

2/15/18



Backfilled Area

2/27/18



Backfilled Area

2/27/18



Backfilled Area

2/27/18



# Black Mountain Operating, LLC – State K #2

Unit Letter A, Section 2, T10S, R33E



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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>352</b>	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
<b>GRO C6-C10</b>	<b>274</b>	50.0	04/26/2017	ND	217	108	200	3.51	
<b>DRO &gt;C10-C28</b>	<b>5340</b>	50.0	04/26/2017	ND	233	117	200	4.68	
<b>EXT DRO &gt;C28-C36</b>	<b>933</b>	50.0	04/26/2017	ND					
<hr/>									
Surrogate: 1-Chlorooctane	123 %	28.3-164							
Surrogate: 1-Chlorooctadecane	138 %	34.7-157							

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>976</b>	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
<b>GRO C6-C10</b>	<b>1190</b>	50.0	04/26/2017	ND	217	108	200	3.51	
<b>DRO &gt;C10-C28</b>	<b>23600</b>	50.0	04/26/2017	ND	233	117	200	4.68	
<b>EXT DRO &gt;C28-C36</b>	<b>4690</b>	50.0	04/26/2017	ND					
<hr/>									
Surrogate: 1-Chlorooctane	191 %	28.3-164							
Surrogate: 1-Chlorooctadecane	530 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	102 %	34.7-157							

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

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						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 %	28.3-164								
Surrogate: 1-Chlorooctadecane										
	374 %	34.7-157								

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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		Analyzed 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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	106 %	34.7-157							

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

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	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	04/27/2017	ND	217	108	200	3.51	
DRO >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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	87.7 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/25/2017  
 Reported: 06/29/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 04/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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 %	28.3-164								
Surrogate: 1-Chlorooctadecane	169 %	34.7-157								

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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 3 @ 3' (H701098-08)**

BTX 8021B		mg/kg		Analyzed 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 BTX	3.63	0.300	04/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 131 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 3 EW (H701098-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	81.8 %	34.7-157							

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

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	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	04/27/2017	ND	217	108	200	3.51		
DRO >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 %	28.3-164								
Surrogate: 1-Chlorooctadecane										
	96.8 %	34.7-157								

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 04/25/2017  
Reported: 06/29/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 04/24/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	134 %	34.7-157							

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

Chloride, SM4500CI-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 %	28.3-164							
Surrogate: 1-Chlorooctadecane									
	106 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 04/25/2017  
Reported: 06/29/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 04/24/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	82.3 %	34.7-157							

**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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	93.0 %	34.7-157							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 04/25/2017  
Reported: 06/29/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 04/24/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	114 %	34.7-157							

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

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		Analyzed 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		
DRO >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 %	28.3-164								
Surrogate: 1-Chlorooctadecane										
	83.5 %	34.7-157								

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**Analytical Results For:**

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 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		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	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	85.0 %	34.7-157							

**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		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	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	91.5 %	34.7-157							

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**Analytical Results For:**

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 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		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	91.0 %	28.3-164							
Surrogate: 1-Chlorooctadecane	92.4 %	34.7-157							

**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		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	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane									
	92.3 %	34.7-157							

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**Analytical Results For:**

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 7 EW (H701098-21)**

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		Analyzed 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					
<hr/>									
Surrogate: 1-Chlorooctane	232 %	28.3-164							
Surrogate: 1-Chlorooctadecane	83.4 %	34.7-157							

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 %	28.3-164								
Surrogate: 1-Chlorooctadecane	99.0 %	34.7-157								

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**Analytical Results For:**

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

 Received: 04/25/2017  
 Reported: 06/29/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 04/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	87.4 %	34.7-157							

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

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	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 %	28.3-164								
Surrogate: 1-Chlorooctadecane	81.8 %	34.7-157								

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**Analytical Results For:**

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

 Received: 04/25/2017  
 Reported: 06/29/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 04/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane		114 %	34.7-157							

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**Analytical Results For:**

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

 Received: 04/25/2017  
 Reported: 06/29/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 04/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed 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 BTX	0.686	0.300	04/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 135 % 72-148

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		Analyzed 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 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.5 % 34.7-157

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 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 9 WW (H701098-27)**

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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	87.2 %	34.7-157							

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

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		Analyzed 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	
DRO >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 %	28.3-164							
Surrogate: 1-Chlorooctadecane									
	106 %	34.7-157							

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**Analytical Results For:**

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 10 EW (H701098-29)**

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		Analyzed 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 %	28.3-164								
Surrogate: 1-Chlorooctadecane	158 %	34.7-157								

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

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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	98.0 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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 10 SW (H701098-31)**

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		Analyzed 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						
<hr/>										
Surrogate: 1-Chlorooctane	177 %	28.3-164								
Surrogate: 1-Chlorooctadecane	254 %	34.7-157								

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

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	416	104	400	7.41		
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	04/27/2017	ND	192	95.9	200	7.61		
DRO >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 %	28.3-164								
Surrogate: 1-Chlorooctadecane	133 %	34.7-157								

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 04/25/2017  
Reported: 06/29/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 04/24/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	103 %	34.7-157							

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

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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	93.3 %	34.7-157							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 04/25/2017  
 Reported: 06/29/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 04/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/27/2017	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	67.6 %	34.7-157							

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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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Celey D. Keene, Lab Director/Quality Manager

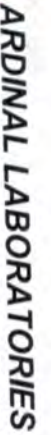


101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

**BILL TO**

[illegible]





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

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

Company Name:						Basin Environmental Service Technologies, LLC													
Project Manager:						Robbie Runnels													
Address:						P.O. Box 301													
City:						Lovington													
Phone #:						(575)396-2378													
Fax #:						(575)396-1429													
Project #:																			
Project Name:						State K #2													
Project Location:						Lea													
Sampler Name:						Robbie Runnels													
MATRIX						PRESERV.							SAMPLING						
Chloride																			
TPH (8015M)																			
BTEX (8021B)																			

FOR LAB USE ONLY					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER
				SOIL	OIL
				SLUDGE	OTHER :
				ACID/BASE:	ICE / COOL
				OTHER :	
		DATE	TIME		
#701098	Floor 4 @ 4'	g	1	X	
11	Floor 4 WW	g	1	X	
12	Floor 4 EW	g	1	X	
13	Floor 5 @ 3'	g	1	X	
14	Floor 5 WW	g	1	X	
15	Floor 5 EW	g	1	X	
16	Floor 6 @ 3'	g	1	X	
17	Floor 6 WW	g	1	X	
18	Floor 6 EW	g	1	X	
19	Floor 7 @ 3'	g	1	X	
20					

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Relinquished By: _____		Date: _____		Received By: _____	
Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #: _____		REMARKS: _____	

Relinquished By:	Date: 4-25-17 Time: 3:15	Received By: <i>Janet Clark</i>	Checked By: <i>Janet Clark</i>
Please email results to pm@basinenv.com			

Delivered By: (Circle One)	Sampler - UPS - Bus - Other:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
----------------------------	------------------------------	---	---	---





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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	ANALYSIS REQUEST
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[illegible][illegible]

		ANALYSIS REQUEST									
	TIME	Chloride	TPH (8015M)	BTEX (8021B)							
10:50	X	X									
10:55	X	X									
11:00	X	X									
11:10	X	X									
11:15	X	X									
11:20	X	X	X								
11:26	X	X									
11:30	X	X									
11:40	X	X									
11:45	X	X									
11:45	X	X									

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<p><b>Relinquished By:</b></p>		<p><b>Received By:</b></p>	
<p>Date:</p>		<p>Date:</p>	
<p>Time:</p>		<p>Time:</p>	
<p><b>Relinquished By:</b></p>		<p><b>Received By:</b></p>	
<p>Date:</p>		<p>Date:</p>	
<p>Time:</p>		<p>Time:</p>	
<p><b>Delivered By: (Circle One)</b></p>		<p><b>Sample Condition</b></p>	
<p>Sampler - UPS - Bus - Other:</p>		<p>Cool <input type="checkbox"/> Intact <input type="checkbox"/></p>	
<p>0.9e</p>		<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
<p>3.15</p>		<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
<p>4:25-17</p>		<p>CHECKED BY:</p>	
<p>Time:</p>		<p>(Initials)</p>	
<p>3.15</p>		<p>7.0.475</p>	
<p>Please email results to pm@basinenvy.com</p>			
<p>REMARKS:</p>			
<p>Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:</p>			
<p>Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #:</p>			





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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	74.6 %	34.7-157							

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	76.5 %	34.7-157							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 06/09/2017  
Reported: 06/29/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 06/08/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

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

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	06/12/2017	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	79.1 %	34.7-157							

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

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	06/12/2017	ND	448	112	400	3.64	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	74.7 %	34.7-157							

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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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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 06/13/2017

Reported: 06/29/2017

Project Name: STATE K

Project Number: #2

Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 06/12/2017

Sampling Type: Soil

Sampling Condition: \*\* (See Notes)

Sample Received By: Tamara Oldaker

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

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	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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	82.4 %	34.7-157							

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

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	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					
<hr/>									
Surrogate: 1-Chlorooctane	108 %	28.3-164							
Surrogate: 1-Chlorooctadecane	91.1 %	34.7-157							

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	87.3 %	34.7-157							

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

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 %	28.3-164							
Surrogate: 1-Chlorooctadecane	99.1 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

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\*=Accredited Analyte

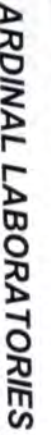
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Celey D. Keene, Lab Director/Quality Manager





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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

 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		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	1.89	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)**

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	1.89	94.3	2.00	2.20		
<b>Toluene*</b>	<b>0.097</b>	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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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		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	1.89	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

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

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	1.89	94.3	2.00	2.20		
<b>Toluene*</b>	<b>0.055</b>	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

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 07/14/2017  
 Reported: 07/27/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 07/13/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

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

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	1.89	94.3	2.00	2.20	
<b>Toluene*</b>	<b>0.128</b>	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 % 72-148

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

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	1.89	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

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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		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	1.89	94.3	2.00	2.20		
<b>Toluene*</b>	<b>0.082</b>	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 10 @ 2' (H701831-08)**

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	1.89	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

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Celey D. Keene, Lab Director/Quality Manager

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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  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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*	0.141	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		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) 104 % 72-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 07/14/2017  
 Reported: 07/27/2017  
 Project Name: STATE K  
 Project Number: #2  
 Project Location: BLACK MOUNTAIN - LEA CO

 Sampling Date: 07/13/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

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

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	
<b>Toluene*</b>	<b>0.090</b>	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		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) 104 % 72-148

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 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		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		
<b>Toluene*</b>	<b>0.050</b>	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		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*	0.246	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						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 72-148

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**Analytical Results For:**

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)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<0.300	0.300	07/19/2017	ND						

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

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

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	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 BTX	<0.300	0.300	07/19/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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*	0.194	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		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	
<b>Toluene*</b>	<b>0.060</b>	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

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**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		
<b>Toluene*</b>	<b>0.068</b>	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		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

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**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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*	0.151	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		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	
<b>Toluene*</b>	<b>0.137</b>	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

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**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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*	0.062	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	
<b>Toluene*</b>	<b>0.094</b>	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

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**Analytical Results For:**

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/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		
<b>Toluene*</b>	<b>0.139</b>	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						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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) 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					

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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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

**Sample ID: SP11 WW (H701831-32)**

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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

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		
<b>Toluene*</b>	<b>0.100</b>	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

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	<0.300	0.300	07/20/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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	
<b>DRO &gt;C10-C28</b>	<b>152</b>	10.0	07/18/2017	ND	214	107	200	3.63	

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 07/14/2017  
Reported: 07/27/2017  
Project Name: STATE K  
Project Number: #2  
Project Location: BLACK MOUNTAIN - LEA CO

Sampling Date: 07/13/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

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

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	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 BTX	0.613	0.300	07/20/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed 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		Analyzed 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 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.3 % 34.7-157

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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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Cardinal Laboratories

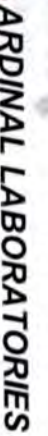
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

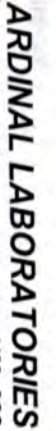


101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

7

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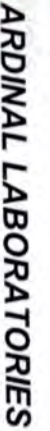
101 East Marland, Hobbs, NM 88240

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

## 2

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101 East Marland, Hobbs, NM 88240  
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## 3

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**ORDINAL LABORATORIES**

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Basin Environmental Service Technologies, LLC										P.O. #:		BILL TO										ANALYSIS REQUEST																									
Project Manager: Robbie Runnels										Company:		Black Mountain																																			
Address: P.O. Box 301										Attn:																																					
City: Lovington										State: NM		Zip: 88260																																			
Phone #: (575)396-2378										Fax #: (575)396-1429		Address:																																			
Project #:										Project Owner: XTO Energy		City:																																			
Project Name: State K #2										State: NM		Zip: 88260																																			
Project Location: Lea										Phone #:																																					
Sample Name: Karanja Lewis										Fax #:																																					
FOR LAB USE ONLY										MATRIX		PRESERV		SAMPLING																																	
Lab I.D. Sample I.D.										(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H7D1831																																															
31 SP11 EW										9		1		X																																	
32 SP11 WW										9		1		X																																	
33 SP11 SW										9		1		X																																	
34 Pile North										C		1		X																																	
35 Pile South										C		1		X																																	



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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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		Analyzed 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		Analyzed 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		Analyzed 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 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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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



---

Celey D. Keene, Lab Director/Quality Manager



# ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Basin Environmental Service Technologies, LLC

Project Manager: Robbie Runnels

Address: P.O. Box 301

City: Lovington

Phone #: (575)396-2378

Project #:

Project Name: State K #2

Project Location: Lea

Sampler Name: Leslie Noack

FOR LAB USE ONLY

Lab I.D. Sample I.D.

H800431

Caliche Stockpile

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

2/8/18

13:45

X

X

X

Chloride

TPH (8015M)

BTEX (8021B)

### BILL TO

P.O. #:

Company:

Black Mountain

Attn:

Address:

City:

State:

Phone #:

Fax #:

### ANALYSIS REQUEST

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 the client for the analysis. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within 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 services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Leslie Noack

Date: 2/9/2018

Time: 6:00

Received By:

Robbie Runnels

Relinquished By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Date: 2-9-18

Time: 7:10

Received By:

Sample Condition

Cool Intact

Yes Yes

No No

CHECKED BY:

(Initials)

Please email results to pm@basinenr.com

REMARKS:

Phone Result:

Yes

No

Yes

No

Add'l Phone #:

Add'l Fax #:

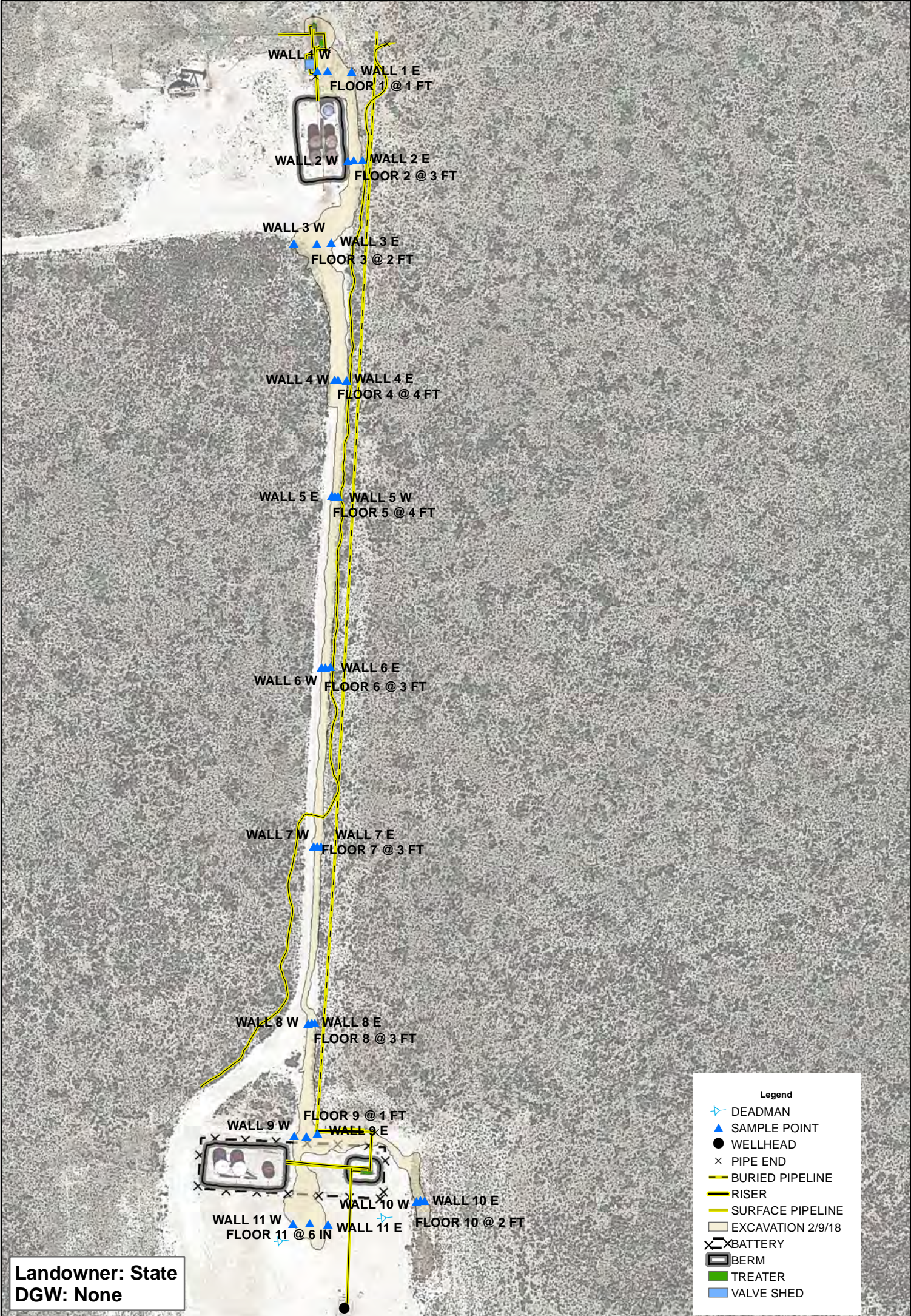
FORM-006

Revision 1.0

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



# Initial Sampling



## BLACK MOUNTAIN RESOURCES STATE K #2

UL A & H SECTION 2  
T-10-S R-33-E  
LEA COUNTY, NM

**Underground facilities are  
spatially projected  
and need to be field verified.**

GPS: 33.481374 -103.532198

0 50 100  
Feet

GPS date: 2/9/18 TG  
Drawing date: 2/9/18  
Drafted by: T. Grieco