



NMOCD approves of the delineation completed and proposed delineation for **1RP-5051** with these conditions: Confirmation bottom and sidewall samples are required. At least one of the sidewall/ edge samples is to be at the border between the different depths of excavation areas. Please extend the excavation areas to include the proposed white zone areas as no samples were taken in these areas to show non-impact. Dated photo documentation of the remedial activities. Scaled map with the confirmation sample locations in relation to the delineation sample points. Please also identify the release point.

## **DELINEATION WORKPLAN**

### **COG – PYGMY 27 STATE #003H**

**(Leak Date: 5/6/18)**

### **RP # 1RP-5051**

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-5051.

The following information includes:

1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
4. Laboratory analysis results summary table and original laboratory analysis reports
5. A copy of the initial C-141
6. Potentially other pertinent information as necessary for site specific purposes.

***Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:***

***COG will excavate the spill area as depicted on the following site diagram. The leak area near SP1 – SP6, SP11 and SP12 (GREEN shade on diagram) will be excavated to a depth of 1.5 feet. The leak area near SP8 – SP10 and SP13 – SP15 (PURPLE shade on diagram) will be excavated to a depth of 6 inches.***

***Bottom and sidewall confirmation samples will be collected at no greater than 50 ft. intervals. Estimated volume of material to be removed is 900 cubic yards. The remediation will be completed within 90 days of plan approval.***

The entire site will then be backfilled with clean soil and revegetated (if warranted) to the standards of the appropriate regulatory agency or private surface owner.

All excavated materials will be disposed of at an NMOCD-approved disposal facility.



# COG, Pygmy 27 State #003H

Leak date: 05/06/2018

Lea County, NM

API# 30-025-42068

## Legend

- 1.5 ft Excavation
- Cardinal sample points
- 6 in Excavation
- Sample points
- Unimpacted area, no remediation activities



Google Earth

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400 ft



COG, Pygmy 27 State #003H

Sample points

SP1, N 32.44298 W-103.57163

SP2, N 32.44313 W-103.57173

SP3, N 32.44334 W-103.57188

SP4, N 32.44366 W-103.57207

SP5, N 32.44394 W-103.57224

SP6, N 32.44435 W-103.57251

SP7, N 32.44454 W-103.57260

SP8, N 32.44464 W-103.57271

SP9, N 32.44483 W-103.57268

SP10, N 32.44476 W-103.57296

SP11, N 32.44493 W-103.57295

SP12, N 32.44519 W-103.57310

SP13, N 32.44538 W-103.57301

SP14, N 32.44522 W-103.57284

SP15, N 32.44492 W-103.57281

NORTH, N 32.44545 W-103.57307

SOUTH, N 32.44289 W-103.57158

EAST, N 32.44484 W-103.57250

WEST, N 32.44471 W-103.57305

Incident ID	
District RP	1RP-5051
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Cliff P. Brunson for COG Title: President-BBC International, Inc.  
 Signature: Cliff P. Brunson Date: 9/13/18  
 email: cbrunson@bbcinternational.com Telephone: 575-397-6388

**OCD Only**

**RECEIVED**

**By CHernandez at 10:48 am, Oct 22, 2018**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: CH Date: 10/22/2018





## New Mexico State Land Office

### Revegetation and Noxious Weed Management Plan

### COG – Pygmy 27 State #003H

#### Revegetation Plan

Disturbed areas associated with the remediation efforts will be reseeded. If after one growing season, the vegetation has not taken hold, seeding may need to be repeated until revegetation is successful, as determined by the State Land Office. The seed will be spread by either using a hand-held broadcaster or tractor-mounted broadcaster and the area will be raked or dragged to cover the seed. If the seed will be broadcast, the pounds per acre will be double over the amount used by drill planting.

The seed mixture will be the appropriate mixture for the specific site and planted in the required amounts of pounds pure live seed (PLS) per acre. Commercially sold seed will be either certified or registered and will not contain primary or secondary noxious weeds.

#### Grasses:

Sideoats grama	Vaughn, El Reno	4.0	F
Blue grama	Lovington, Hachita	3.0	D
Little bluestem	Pastura, Cimmaron	1.5	F
Green sprangletop	VNS, Southern	1.0	D
Plains bristlegrass	VNS, Southern	1.0	D

#### Forbs:

Firewheel ( <i>Gaillardia</i> )	VNS, Southern	1.0	D
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#### Shrubs:

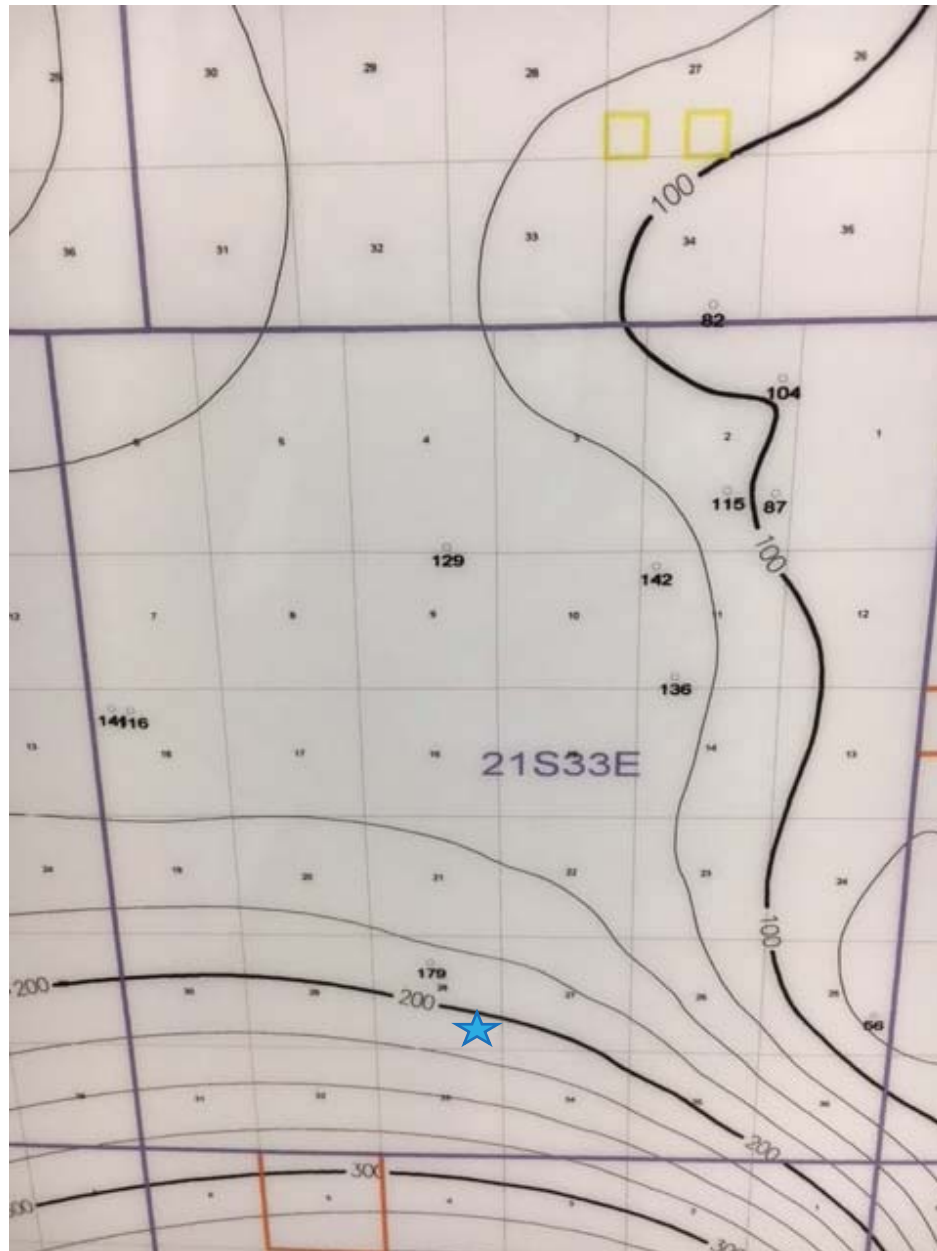
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F

Total PLS/acre    13.0

#### Noxious Weed Management Plan

The site will be visited to assess the establishment of vegetative growth. Personnel performing the site visit will also look for the presence of noxious weeds at the site as indicated on the New Mexico Noxious Weeds List specified on the United States Department of Agriculture website. If a noxious weed is observed at the site, the NMSLO will be contacted to determine the most effective manner to eradicate it.

**COG, Pygmy 27 State #003H**  
**U/L P, Section 28, T21S, R33E**  
**Groundwater: 200'**







# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">CP 00854 POD1</a>	CP	LE		1	1	2	33	21S	33E	633879	3590223	577	950	600	350
<a href="#">CP 01356 POD1</a>	CP	LE		4	2	2	33	21S	33E	634560	3590014	625	1098	555	543
<a href="#">CP 01355 POD1</a>	CP	LE		2	1	3	27	21S	33E	634773	3591061	649	1192	582	610
<a href="#">CP 01357 POD1</a>	CP	LE		4	3	1	27	21S	33E	634782	3591347	883	1286	578	708
<a href="#">CP 01411 POD2</a>	CP	LE			1	2	34	21S	33E	635534	3590380	1230	1125		
<a href="#">CP 01349 POD1</a>	CP	LE		2	3	1	27	21S	33E	635304	3591576	1389	1188	572	616
<a href="#">CP 00601 POD1</a>	CP	LE			2	1	28	21S	33E	633502	3591791*	1452	223		
<a href="#">CP 01411 POD1</a>	CP	LE			2	2	34	21S	33E	635968	3590386	1658	1149		

Average Depth to Water: **577 feet**

Minimum Depth: **555 feet**

Maximum Depth: **600 feet**

**Record Count: 8**

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 634323

**Northing (Y):** 3590593

**Radius:** 1700

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

**Public Land Survey System (PLSS)**

☒ Q64:  Q16:  SE Q4:  SE Sec:  28 Tws:  21S Rng:  33E

**State Plane Coordinate System - NAD27**

☐ X:  0 ft Y:  0 ft Zone:

**State Plane Coordinate System - NAD83**

☐ X:  0 ft Y:  0 ft Zone:

**Degrees/Minutes/Seconds**

☐ Longitude (X): Degrees:  0 ° Minutes:  0 ' Seconds:  0 "

Latitude (Y): Degrees:  0 ° Minutes:  0 ' Seconds:  0 "

**UTM - NAD27**

☐ Easting (X):  0 mtrs Northing (Y):  0 mtrs Zone:

**SUBMIT****All Conversion Results are displayed as NAD 1983 UTM Zone 13**

Easting (X):  634323.0 mtrs Northing (Y):  3590593.0 mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~



Laboratory Analytical Results Summary  
Pygmy 27 State #3H

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		128	2000	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		128	2000	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		144	2040	16
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		480	3160	16
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP5 @ SURFACE	SP5 @ 1'	SP5 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		400	2760	16
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP6 @ SURFACE	SP6 @ 1'	SP6 @ 2'
Analyte	Method	Date	6/21/18	6/21/18	6/21/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		464	2200	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP7 @ SURFACE	SP7 @ 1'
Analyte	Method	Date	6/22/18	6/22/18
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300
Chloride	SM4500Cl-B		10200	48
GRO	TPH 8015M		<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0

		Sample ID	SP8 @ SURFACE	SP8 @ 1'
Analyte	Method	Date	6/22/18	6/22/18
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300
Chloride	SM4500Cl-B		8800	48
GRO	TPH 8015M		<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0

Laboratory Analytical Results Summary  
Pygmy 27 State #3H

		Sample ID	SP9 @ SURFACE	SP9 @ 1'	SP9 @ 2'
Analyte	Method	Date	6/22/18	6/22/18	6/22/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		8700	512	64
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP10 @ SURFACE	SP10 @ 1'	SP10 @ 2'
Analyte	Method	Date	6/22/18	6/22/18	6/22/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		8600	448	48
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP11 @ SURFACE	SP11 @ 1'	SP11 @ 2'
Analyte	Method	Date	6/22/18	6/22/18	6/22/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		32	2640	48
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		110	<10.0	n/a
EXT DRO	TPH 8015M		15.8	<10.0	n/a

		Sample ID	SP12 @ SURFACE	SP12 @ 1'	SP12 @ 2'
Analyte	Method	Date	6/22/18	6/22/18	6/22/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		32	2760	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		79.4	<10.0	n/a
EXT DRO	TPH 8015M		11.1	<10.0	n/a

		Sample ID	SP13 @ SURFACE	SP13 @ 1'	SP13 @ 2'
Analyte	Method	Date	6/25/18	6/25/18	6/25/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.100	<0.050	n/a
Toluene	BTEX 8021B		0.276	<0.050	n/a
Ethylbenzene	BTEX 8021B		0.317	<0.050	n/a
Total Xylenes	BTEX 8021B		1.88	<0.150	n/a
Total BTEX	BTEX 8021B		2.47	<0.300	n/a
Chloride	SM4500Cl-B		9000	48	32
GRO	TPH 8015M		213	<10.0	n/a
DRO	TPH 8015M		52100	<10.0	n/a
EXT DRO	TPH 8015M		11900	<10.0	n/a

		Sample ID	SP14 @ SURFACE	SP14 @ 1'
Analyte	Method	Date	6/25/18	6/25/18
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.100	<0.050
Toluene	BTEX 8021B		0.259	<0.050
Ethylbenzene	BTEX 8021B		0.306	<0.050
Total Xylenes	BTEX 8021B		1.83	<0.150
Total BTEX	BTEX 8021B		2.39	<0.300
Chloride	SM4500Cl-B		21200	48
GRO	TPH 8015M		205	<10.0
DRO	TPH 8015M		51700	<10.0
EXT DRO	TPH 8015M		10500	<10.0

		Sample ID	SP15 @ SURFACE	SP15 @ 1'
Analyte	Method	Date	6/25/18	6/25/18
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.100	<0.050
Toluene	BTEX 8021B		0.367	<0.050
Ethylbenzene	BTEX 8021B		0.341	<0.050
Total Xylenes	BTEX 8021B		1.79	<0.150
Total BTEX	BTEX 8021B		2.5	<0.300
Chloride	SM4500Cl-B		14600	32
GRO	TPH 8015M		235	<10.0
DRO	TPH 8015M		49700	<10.0
EXT DRO	TPH 8015M		10100	<10.0

Cardinal		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	6/25/18	6/25/18	6/25/18	6/25/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		<16.0	<16.0	<16.0	<16.0
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0



July 05, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE #3H

Enclosed are the results of analyses for samples received by the laboratory on 06/29/18 16:55.

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:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ SURFACE (H801790-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/03/2018	ND	1.60	79.8	2.00	6.67	
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/03/2018	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	07/03/2018	ND	181	90.5	200	4.29	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	205	103	200	4.51	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.9 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ 1' (H801790-02)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67	
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	07/03/2018	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	07/03/2018	ND	181	90.5	200	4.29	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	205	103	200	4.51	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 87.0 % 41-142

Surrogate: 1-Chlorooctadecane 93.5 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ 2' (H801790-03)**

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	07/03/2018	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ SURFACE (H801790-04)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67		
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/03/2018	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	07/03/2018	ND	181	90.5	200	4.29	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	205	103	200	4.51	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 1' (H801790-05)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67	
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	07/03/2018	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	07/03/2018	ND	181	90.5	200	4.29	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	205	103	200	4.51	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 94.4 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
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P.O. Box 805  
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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 2 @ 2' (H801790-06)**

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	07/03/2018	ND	416	104	400	0.00		

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**Analytical Results For:**

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ SURFACE (H801790-07)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67		
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 81.7 % 41-142

Surrogate: 1-Chlorooctadecane 72.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ 1' (H801790-08)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67	
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 93.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 3 @ 2' (H801790-09)**

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	07/03/2018	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 4 @ SURFACE (H801790-10)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67	
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 86.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
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P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 4 @ 1' (H801790-11)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67		
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91		
Total BTX	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3160	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 4 @ 2' (H801790-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/03/2018	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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P.O. Box 805  
Hobbs NM, 88241  
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Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 5 @ SURFACE (H801790-13)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67		
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 84.9 % 37.6-147

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**Analytical Results For:**

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 5 @ 1' (H801790-14)**

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	07/03/2018	ND	1.60	79.8	2.00	6.67		
Toluene*	<0.050	0.050	07/03/2018	ND	1.65	82.4	2.00	6.86		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.67	83.6	2.00	6.82		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.92	82.1	6.00	6.91		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 90.1 % 37.6-147

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**Analytical Results For:**

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 5 @ 2' (H801790-15)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>16.0</b>	16.0	07/03/2018	ND	432	108	400	0.00	

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 6 @ SURFACE (H801790-16)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/03/2018	ND	1.60	80.1	2.00	1.05		
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 6 @ 1' (H801790-17)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/21/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 6 @ 2' (H801790-18)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	07/03/2018	ND	432	108	400	0.00	

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 7 @ SURFACE (H801790-19)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10200	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 107 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 7 @ 1' (H801790-20)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 99.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.7 % 37.6-147

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Cliff Brunson  
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Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 8 @ SURFACE (H801790-21)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05		
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8800	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 82.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 8 @ 1' (H801790-22)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05		
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 82.5 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 9 @ SURFACE (H801790-23)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05		
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8700	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.1 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 9 @ 1' (H801790-24)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTEX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 98.7 % 41-142

Surrogate: 1-Chlorooctadecane 87.0 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 9 @ 2' (H801790-25)****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>64.0</b>	16.0	07/03/2018	ND	432	108	400	0.00	

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Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 10 @ SURFACE (H801790-26)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05		
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53		
Total BTX	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8600	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 88.7 % 41-142

Surrogate: 1-Chlorooctadecane 78.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 10 @ 1' (H801790-27)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 10 @ 2' (H801790-28)**

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	07/03/2018	ND	432	108	400	0.00	

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 11 @ SURFACE (H801790-29)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTEx	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	110	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	15.8	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 37.6-147

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**Analytical Results For:**

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Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 11 @ 1' (H801790-30)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2640	16.0	07/03/2018	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	07/03/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 99.4 % 41-142

Surrogate: 1-Chlorooctadecane 87.9 % 37.6-147

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Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 11 @ 2' (H801790-31)**

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	07/03/2018	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 12 @ SURFACE (H801790-32)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.8-142

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	07/03/2018	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	07/04/2018	ND	207	104	200	2.03	
DRO >C10-C28*	79.4	10.0	07/04/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	11.1	10.0	07/04/2018	ND					

Surrogate: 1-Chlorooctane 108 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	06/29/2018	Sampling Date:	06/22/2018
Reported:	07/05/2018	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #3H	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY		

**Sample ID: SP 12 @ 1' (H801790-33)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTEX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.5 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	07/03/2018	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	07/04/2018	ND	207	104	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/04/2018	ND	207	104	200	12.3	
EXT DRO >C28-C36	<10.0	10.0	07/04/2018	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 88.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/22/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 12 @ 2' (H801790-34)**

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	07/03/2018	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 13 @ SURFACE (H801790-35)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/05/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	0.276	0.100	07/05/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	0.317	0.100	07/05/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	1.88	0.300	07/05/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	2.47	0.600	07/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9000	16.0	07/03/2018	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*	213	50.0	07/03/2018	ND	190	95.1	200	7.19	S-06
DRO >C10-C28*	52100	50.0	07/03/2018	ND	204	102	200	7.81	1-07, QR-03, S-
EXT DRO >C28-C36	11900	50.0	07/03/2018	ND					S-06

Surrogate: 1-Chlorooctane 151 % 41-142

Surrogate: 1-Chlorooctadecane 4300 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 13 @ 1' (H801790-36)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.1 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 96.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 13 @ 2' (H801790-37)**

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	07/03/2018	ND	432	108	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 14 @ SURFACE (H801790-38)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/05/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	0.259	0.100	07/05/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	0.306	0.100	07/05/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	1.83	0.300	07/05/2018	ND	4.98	83.1	6.00	1.53	
Total BTEx	2.39	0.600	07/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	21200	16.0	07/03/2018	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*	205	50.0	07/03/2018	ND	190	95.1	200	7.19	S-06
DRO >C10-C28*	51700	50.0	07/03/2018	ND	204	102	200	7.81	S-06
EXT DRO >C28-C36	10500	50.0	07/03/2018	ND					S-06

Surrogate: 1-Chlorooctane 166 % 41-142

Surrogate: 1-Chlorooctadecane 3870 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 14 @ 1' (H801790-39)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.3 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 15 @ SURFACE (H801790-40)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/05/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	0.367	0.100	07/05/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	0.341	0.100	07/05/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	1.79	0.300	07/05/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	2.50	0.600	07/05/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14600	16.0	07/03/2018	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*	235	50.0	07/03/2018	ND	190	95.1	200	7.19	S-06
DRO >C10-C28*	49700	50.0	07/03/2018	ND	204	102	200	7.81	S-06
EXT DRO >C28-C36	10100	50.0	07/03/2018	ND					S-06

Surrogate: 1-Chlorooctane 171 % 41-142

Surrogate: 1-Chlorooctadecane 3740 % 37.6-147

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**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 15 @ 1' (H801790-41)**

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	07/03/2018	ND	1.60	80.1	2.00	1.05	
Toluene*	<0.050	0.050	07/03/2018	ND	1.66	83.2	2.00	0.836	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.68	84.1	2.00	1.95	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	4.98	83.1	6.00	1.53	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: N @ SURFACE (H801790-42)**

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	07/03/2018	ND	1.80	90.0	2.00	2.37	
Toluene*	<0.050	0.050	07/03/2018	ND	1.79	89.6	2.00	2.92	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.79	89.3	2.00	1.59	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	5.52	92.0	6.00	1.70	
Total BTEx	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 128 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 94.0 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: E @ SURFACE (H801790-43)**

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	07/03/2018	ND	1.80	90.0	2.00	2.37	
Toluene*	<0.050	0.050	07/03/2018	ND	1.79	89.6	2.00	2.92	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.79	89.3	2.00	1.59	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	5.52	92.0	6.00	1.70	
Total BTEx	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 99.6 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: W @ SURFACE (H801790-44)**

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	07/03/2018	ND	1.80	90.0	2.00	2.37		
Toluene*	<0.050	0.050	07/03/2018	ND	1.79	89.6	2.00	2.92		
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.79	89.3	2.00	1.59		
Total Xylenes*	<0.150	0.150	07/03/2018	ND	5.52	92.0	6.00	1.70		
Total BTEx	<0.300	0.300	07/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 99.4 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 06/29/2018  
Reported: 07/05/2018  
Project Name: PYGMY 27 STATE #3H  
Project Number: NOT GIVEN  
Project Location: LEA COUNTY

Sampling Date: 06/25/2018  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S @ SURFACE (H801790-45)**

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	07/03/2018	ND	1.80	90.0	2.00	2.37	
Toluene*	<0.050	0.050	07/03/2018	ND	1.79	89.6	2.00	2.92	
Ethylbenzene*	<0.050	0.050	07/03/2018	ND	1.79	89.3	2.00	1.59	
Total Xylenes*	<0.150	0.150	07/03/2018	ND	5.52	92.0	6.00	1.70	
Total BTX	<0.300	0.300	07/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.8-142

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	07/03/2018	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	07/03/2018	ND	190	95.1	200	7.19	
DRO >C10-C28*	<10.0	10.0	07/03/2018	ND	204	102	200	7.81	
EXT DRO >C28-C36	<10.0	10.0	07/03/2018	ND					

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

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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.
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

1 of 5

**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>												
Project Manager: Cliff Brunson				P.O. #:				<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH Ext.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chloride</div> </div>												
Address: P.O. Box 805				Company:																
City: Hobbs State: NM Zip: 88241				Attn:																
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																
Project #: Project Owner:				City:																
Project Name: Pygmy 27 State #3H				State: Zip:																
Project Location:				Phone #:																
Sampler Name: Jeff Ornelas				Fax #:																
FOR LAB USE ONLY																				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.		SAMPLING										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME						
H801790																				
1	SP1 @ Surface												6-21-18	9:39 am	✓	✓	✓			
2	SP1 @ 1'												6-21-18	10:15 am	✓	✓	✓			
3	SP1 @ 2'												6-21-18	10:33 am			✓			
4	SP2 @ Surface												6-21-18	10:45 am	✓	✓	✓			
5	SP2 @ 1'												6-21-18	10:57 am	✓	✓	✓			
6	SP2 @ 2'												6-21-18	11:11 am			✓			
7	SP3 @ Surface												6-21-18	11:22 am	✓	✓	✓			
8	SP3 @ 1'												6-21-18	11:33 am	✓	✓	✓			
9	SP3 @ 2'												6-21-18	11:44 am			✓			
10	SP4 @ Surface												6-21-18	12:01 pm	✓	✓	✓			

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Relinquished By:	Date: 6-29-18	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 4:55	<i>Samara Olden</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:			
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool Intact	(Initials)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>to #15</i>		
	<i>0.60</i>			
	<i>Corrected 0.55</i>			
	<input type="checkbox"/> No <input type="checkbox"/> No			
			<i>Some have head space!</i>	

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**ARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: BBC International, Inc.				<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																									
Project Manager: Cliff Brunson				P.O. #:		<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEx</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH Ext</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CL</div> </div>																									
Address: P.O. Box 805				Company:																											
City: Hobbs		State: NM Zip: 88241		Attn:																											
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																											
Project #:		Project Owner:		City:																											
Project Name: Pygmy 27 State #3H				State: Zip:																											
Project Location:				Phone #:																											
Sampler Name: Jeff Ornelas				Fax #:																											
FOR LAB USE ONLY																															
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.		SAMPLING																					
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME																	
4801 790																															
11	SP4 @ 1'												6-21-18	12:50 pm	✓	✓	✓														
12	SP4 @ 2'												6-21-18	1:11 pm			✓														
13	SP5 @ Surface												6-21-18	1:30 pm	✓	✓	✓														
14	SP5 @ 1'												6-21-18	1:40 pm	✓	✓	✓														
15	SP5 @ 2'												6-21-18	1:50 pm			✓														
16	SP6 @ Surface												6-21-18	2:11 pm	✓	✓	✓														
17	SP6 @ 1'												6-21-18	2:30 pm	✓	✓	✓														
18	SP6 @ 2'												6-21-18	2:59 pm			✓														
19	SP7 @ Surface												6-22-18	8:55 am	✓	✓	✓														
20	SP7 @ 1'												6-22-18	9:11 am	✓	✓	✓														

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Relinquished By:	Date: 6-29-18	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 4:55		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:			
Delivered By: (Circle One)	0.62	Sample Condition	CHECKED BY:	
Sampler - UPS - Bus - Other:	Corrected 0.55c	Cool Intact	(Initials)	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	T.O. #75	
		<input type="checkbox"/> No <input type="checkbox"/> No	Some have head space	

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**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: BBC International, Inc.				<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																													
Project Manager: Cliff Brunson				P.O. #:		<div style="display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH Ext</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CL</div> </div>																													
Address: P.O. Box 805				Company:																															
City: Hobbs		State: NM		Zip: 88241																															
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																															
Project #:		Project Owner:		City:																															
Project Name: Pygmy 27 State #3H				State:														Zip:																	
Project Location:				Phone #:																															
Sampler Name: Jeff Ornelas				Fax #:																															
FOR LAB USE ONLY																																			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING																									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME																					
<u>H801790</u>																																			
<u>21</u>	SP8 @ Surface												6-22-18	9:45 am	✓	✓	✓																		
<u>22</u>	SP8 @ 1'												6-22-18	10:19 am	✓	✓	✓																		
<u>23</u>	SP9 @ Surface												6-22-18	10:59 am	✓	✓	✓																		
<u>24</u>	SP9 @ 1'												6-22-18	11:11 pm	✓	✓	✓																		
<u>25</u>	SP9 @ 2'												6-22-18	11:51 am			✓																		
<u>26</u>	SP10 @ Surface												6-22-18	12:45 pm	✓	✓	✓																		
<u>27</u>	SP10 @ 1'												6-22-18	1:11 pm	✓	✓	✓																		
<u>28</u>	SP10 @ 2'												6-22-18	1:30 pm			✓																		
<u>29</u>	SP11 @ Surface												6-22-18	1:49 pm	✓	✓	✓																		
<u>30</u>	SP11 @ 1'												6-22-18	2:15 pm	✓	✓	✓																		

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Relinquished By:	Date: <u>6-29-18</u>	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <u>4:55</u>	<i>Janera D. Dela Cruz</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:	
	Time:			
Delivered By: (Circle One)	<u>0.6i</u>	Sample Condition	CHECKED BY:	
Sampler - UPS - Bus - Other:	<u>Corrected 0.55i</u>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	(Initials) <u>LO. #75</u>	
			<i>Some have head space</i>	




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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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Relinquished By: 		Date: 6-29-16 Time: 4:55	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No REMARKS:
Relinquished By: 		Date: Time:	Received By:	Add'l Phone #: Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 0.66 Corrupted 0.55		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) TO-#15	Some have head space

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476





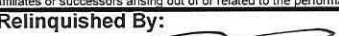
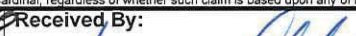

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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Relinquished By: 		Date: 6/7/06	Received By: 	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
		Time: 4:55		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
Relinquished By: 		Date: _____	Received By: _____	REMARKS: _____	
		Time: _____			
Delivered By: (Circle One) <u>D.62</u>		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other: <u>Corrected 0.55</u>		Cool <input type="checkbox"/> Yes <input type="checkbox"/> No    Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		<u>TO #15</u>	
<u>Some have head space</u>					

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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

☒ Initial Report ☐ Final Report

Name of Company: COG Operating, LLC (OGRID #229137)	Contact: Robert McNeill	
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443	
Facility Name: <b>Pygmy 27 State #003H</b>	Facility Type: Flowline	
Surface Owner: State	Mineral Owner: State	API No. 30-025-42068

### LOCATION OF RELEASE

Unit Letter P	Section 28	Township 21S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32.44483 Longitude -103.57282 NAD83

### NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 150 bbl.	Volume Recovered: 25 bbl.
Source of Release: Hole in Flex Pipe	Date and Hour of Occurrence: May 6, 2018 4:20pm	Date and Hour of Discovery May 6, 2018 4:20pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu- NMOCD Ryan Mann - SLO	
By Whom? Sheldon Hitchcock	Date and Hour: May 7, 2018 8:09am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

**RECEIVED**

**By Olivia Yu at 10:06 am, May 09, 2018**

Describe Cause of Problem and Remedial Action Taken.\*

The release was due to a hole in the flex pipe. The flex pipe is being repaired.

Describe Area Affected and Cleanup Action Taken.\*

The release occurred in the pasture and on the lease road. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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: <i>DeAnn Grant</i>		OIL CONSERVATION DIVISION	
Printed Name: DeAnn Grant		Approved by Environmental Specialist: <i>of</i>	
Title: HSE Administrative Assistant	Approval Date: 5/9/2018	Expiration Date:	
E-mail Address: agrant@concho.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>	
Date: May 9, 2018	Phone: 432-253-4513		

\* Attach Additional Sheets If Necessary

1RP-5051

nOY1812938015

pOY1812938207

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/9/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-5051 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 6/9/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505  
505-476-3465  
jim.griswold@state.nm.us

**From:** Sheldon Hitchcock  
**To:** [Yu, Olivia, EMNRD](#); [Mann, Ryan](#)  
**Cc:** [Robert McNeill](#); [Rebecca Haskell](#); [Dakota Neel](#); [Christopher Gray](#); [DeAnn Grant](#)  
**Subject:** (Notification) Pygmy 27 State #003H (30-025-42068) 5/6/2018  
**Date:** Monday, May 7, 2018 8:08:43 AM

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Ms. Yu/Mr. Mann,

COG Operating, LLC (OGRID# 229137) is reporting a release on a flowline associated with the Pygmy 27 State #003H.

Release Location:  
ULSTR: P-28-21S-33E

Lat/Long: 32.4565239 -103.5581741

Release Volume: >25bbbls

Recovery Volume: On going

COG will have the release evaluated and will submit an initial C-141. If you have any questions or concerns please do not hesitate to contact me.

Thank you,

Sheldon L. Hitchcock  
HSE Coordinator  
COG Operating LLC  
2407 Pecos Avenue | Artesia, NM 88210  
Cell: 575-703-6475 | Office: 575-746-2010  
[slhitchcock@concho.com](mailto:slhitchcock@concho.com)



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subject to management's final approval as memorialized in a separate written instrument, excluding electronic correspondence, executed by an authorized representative of COG Operating LLC or its affiliates.

**From:** [Hernandez, Christina, EMNRD](#)  
**To:** "Mann, Ryan"; "Cliff Brunson"; Yu, Olivia, EMNRD  
**Cc:** "Becky Haskell"; DeAnn Grant; "Dakota Neel"; "Sheldon Hitchcock"; "Ken Swinney"; "Jennifer Gilkey"; "Kathy Purvis"  
**Subject:** RE: COG Pygmy 27 State #003H (1RP-5051) - Delineation Workplan  
**Date:** Monday, October 22, 2018 11:03:00 AM  
**Attachments:** [Approved5051Delineation Workplan Pygmy 27 State #003H.pdf](#)

Dear Mr. Brunson:

NMOCD approves of the delineation completed and proposed delineation for **1RP-5051** with these conditions:

- Confirmation bottom and sidewall samples are required. At least one of the sidewall/edge samples is to be at the border between the different depths of excavation areas.
- Please extend the excavation areas to include the proposed white zone areas as no laboratory data was provided within this area to show non-impact.
- Dated photo documentation of the remedial activities.
- Scaled map with the confirmation sample locations in relation to the delineation sample points. Please also identify the release point.

Thanks,  
Christina Hernandez  
EMNRD-OC  
Environmental Specialist  
1625 N. French Drive  
Hobbs, NM 88240  
575-393-6161 x111  
[Christina.Hernandez@state.nm.us](mailto:Christina.Hernandez@state.nm.us)

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

**From:** Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>  
**Sent:** Friday, October 19, 2018 4:01 PM  
**To:** 'Cliff Brunson' <[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)>; Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>  
**Cc:** 'Hernandez, Christina, EMNRD' <[Christina.Hernandez@state.nm.us](mailto:Christina.Hernandez@state.nm.us)>; 'Becky Haskell' <[rhaskell@concho.com](mailto:rhaskell@concho.com)>; DeAnn Grant <[agrant@concho.com](mailto:agrant@concho.com)>; 'Dakota Neel' <[DNeel2@concho.com](mailto:DNeel2@concho.com)>; 'Sheldon Hitchcock' <[SHHitchcock@concho.com](mailto:SHHitchcock@concho.com)>; 'Ken Swinney' <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; 'Jennifer Gilkey' <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; 'Kathy Purvis' <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** [EXT] RE: COG Pygmy 27 State #003H (1RP-5051) - Delineation Workplan

NMSLO approves of the plan as written. As stated in the proposal, anything the is not part of the caliche road must be reclaimed to the prior condition, this includes vegetation. Additionally, NMSLO will not issue closure until revegetation achieved, this results in conflict with the 90 day turn around stipulation because the site shouldn't be seeded until next year. Let me know if you have any questions.

Ryan Mann  
Remediation Specialist  
Field Operation Division  
(575) 392-3697  
(505) 699-1989  
New Mexico State Land Office  
2827 N. Dal Paso Suite 117  
Hobbs, NM 88240

**From:** Cliff Brunson [<mailto:cbrunson@bbcinternational.com>]  
**Sent:** Thursday, September 13, 2018 6:10 PM  
**To:** 'Olivia Yu' <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>  
**Cc:** 'Hernandez, Christina, EMNRD' <[Christina.Hernandez@state.nm.us](mailto:Christina.Hernandez@state.nm.us)>; 'Becky Haskell' <[rhaskell@concho.com](mailto:rhaskell@concho.com)>; DeAnn Grant <[agrant@concho.com](mailto:agrant@concho.com)>; 'Dakota Neel' <[DNeel2@concho.com](mailto:DNeel2@concho.com)>; 'Sheldon Hitchcock' <[SHHitchcock@concho.com](mailto:SHHitchcock@concho.com)>; 'Ken Swinney' <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; 'Jennifer Gilkey' <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; 'Kathy Purvis' <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** COG Pygmy 27 State #003H (1RP-5051) - Delineation Workplan

Olivia and Ryan,

Please find the attached Delineation Workplan and remediation proposal for the COG Pygmy 27 State #003H (1RP-5051). Page 5 (Remediation) of the C-141 is attached in the submitted plan. COG is requesting that you review this plan and is looking forward to the OCD's and SLO's approval.

If you have any questions, please let me know.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS  
President  
BBC International, Inc.  
World-Wide Environmental Specialists  
Mailing Address:  
P. O. Box 805  
Hobbs, NM 88241-0805 USA  
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1324 W. Marland St.  
Hobbs, NM 88240 USA  
Phone: (575) 397-6388  
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