

# Closure Report

## Site Description

Site Name:	Pygmy 27 State #001H
Company:	COG Operating, LLC
Legal Description:	U/L P, Section 28, T21S, R33E
County:	Lea County, NM
GPS Coordinates:	N 32.44498 W-103.57245

## Release Data

Date of Release:	4/24/19
Type of Release:	Produced water
Source of Release:	Ruptured flow line
Volume of Release:	145 bbls
Volume Recovered:	120 bbls

## Remediation Specifications

Remediation Parameters:	Excavated the areas of SP1-SP3 to a depth of 5 ft. Excavated the area of SP4 to a depth of 4 ft. Excavated the areas of SP5 and SP10 to a depth of 3 ft. Excavated the areas of SP6 to a depth of 2 ft. COG asks that the areas of SP7-SP9 be deferred at the request of the landowner due to high traffic volume. Confirmation samples were obtained and the site was backfilled with clean soil.	
Remediation Activities:	7/1/19 to 8/28/19	
Plan Sent to OCD:	n/a	Risk based remediation
OCD Approval of Plan:	n/a	n/a
Plan Sent to BLM:	n/a	Risk Based remediation
BLM Approval of Plan:	n/a	n/a

## Supporting Documentation

Initial C-141	Signed 5/30/19
C-141, page 6	Signed and included
Site Diagram	May 2019
Pictures	Remediation photos prior to backfill

## Request for Closure

Based on the completion of the remediation plan, BBC International, Inc. requests closure approval from NMOCD.

Cliff Brunson, President, BBC International, Inc.

09/23/2019



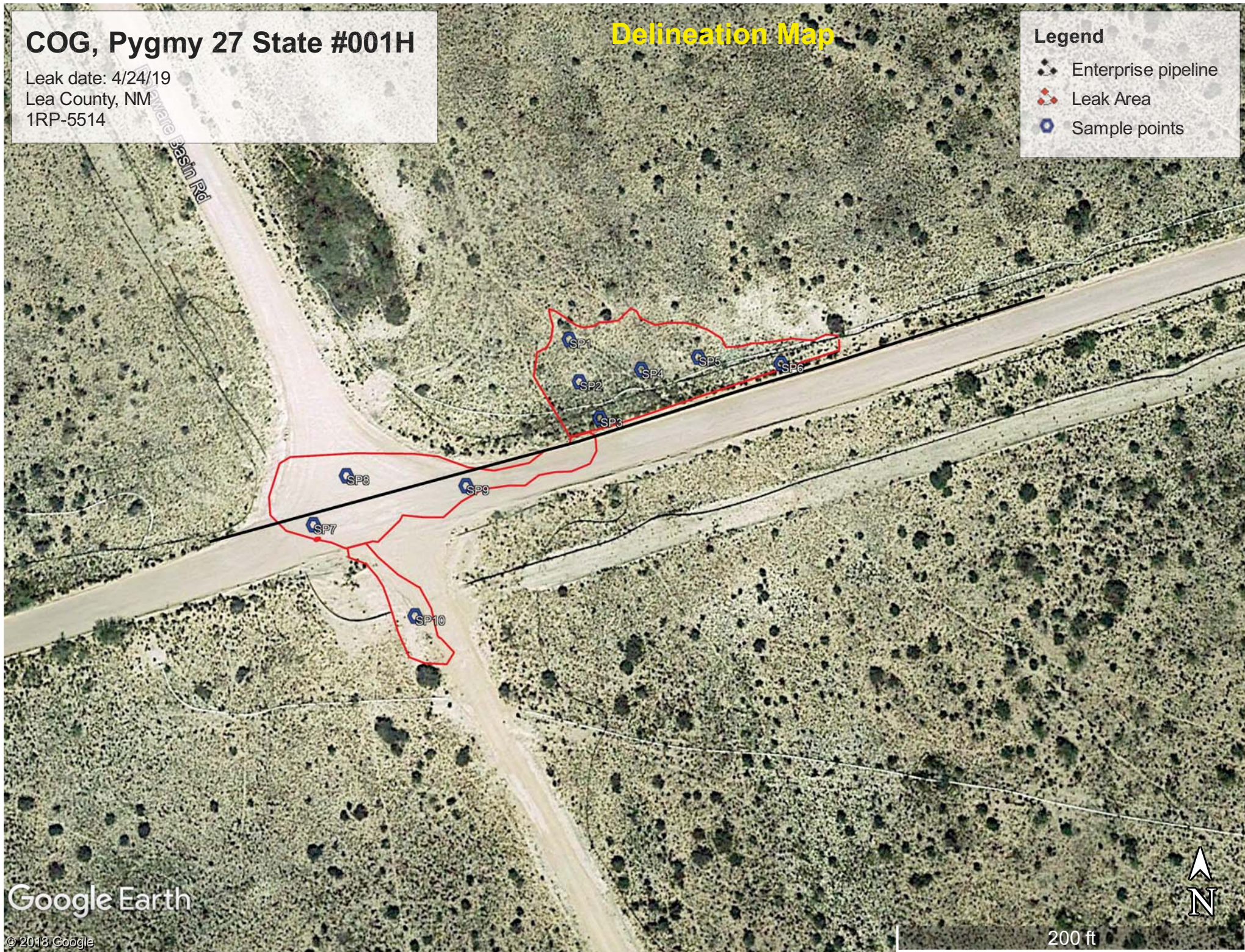
# COG, Pygmy 27 State #001H

Leak date: 4/24/19  
Lea County, NM  
1RP-5514

## Delineation Map

### Legend

- Enterprise pipeline
- Leak Area
- Sample points





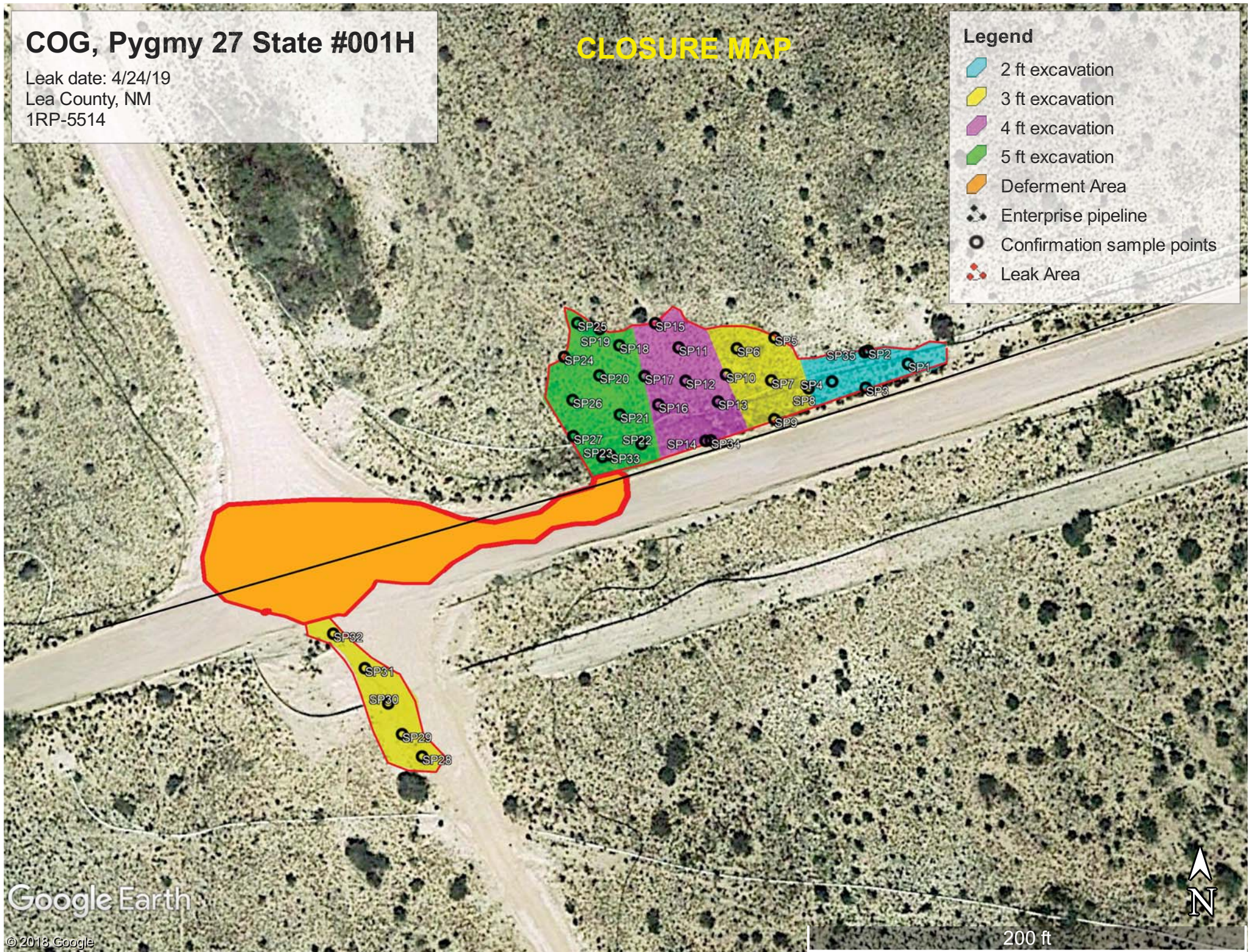
# COG, Pygmy 27 State #001H

Leak date: 4/24/19  
Lea County, NM  
1RP-5514

## CLOSURE MAP

### Legend

- 2 ft excavation
- 3 ft excavation
- 4 ft excavation
- 5 ft excavation
- Deferment Area
- Enterprise pipeline
- Confirmation sample points
- Leak Area





## COG, Pygmy 27 State #001H

### Delineation sample points

SP1, N 32.44509 W-103.57243

SP2, N 32.44502 W-103.57241

SP3, N 32.44496 W-103.57237

SP4, N 32.44504 W-103.57229

SP5, N 32.44506 W-103.57218

SP6, N 32.44505 W-103.57202

SP7, N 32.44478 W-103.57291

SP8, N 32.44486 W-103.57285

SP9, N 32.44484 W-103.57262

SP10, N 32.44464 W-103.57272

SP14, N 32.44497 W-103.57226

SP15, N 32.44512 W-103.57233

SP16, N 32.44502 W-103.57233

SP17, N 32.44505 W-103.57235

SP18, N 32.44509 W-103.57238

SP19, N 32.44511 W-103.57241

SP20, N 32.44505 W-103.57241

SP21, N 32.44500 W-103.57238

SP22, N 32.44497 W-103.57235

SP23, N 32.44495 W-103.57241

SP24, N 32.44508 W-103.57247

SP25, N 32.44512 W-103.57245

SP26, N 32.44502 W-103.57245

SP27, N 32.44498 W-103.57245

SP28, N 32.44458 W-103.57268

SP29, N 32.44461 W-103.57270

SP30, N 32.44471 W-103.57278

SP31, N 32.44469 W-103.57276

SP32, N 32.44473 W-103.57281

SP33, N 32.44495 W-103.57240

SP34, N 32.44497 W-103.57225

SP35, N 32.44508 W-103.57203

### Confirmation sample points

SP1, N 32.44507 W-103.57196

SP2, N 32.44508 W-103.57202

SP3, N 32.44504 W-103.57202

SP4, N 32.44505 W-103.57207

SP5, N 32.44510 W-103.57216

SP6, N 32.44509 W-103.57221

SP7, N 32.44505 W-103.57216

SP8, N 32.44504 W-103.57211

SP9, N 32.44500 W-103.57216

SP10, N 32.44505 W-103.57223

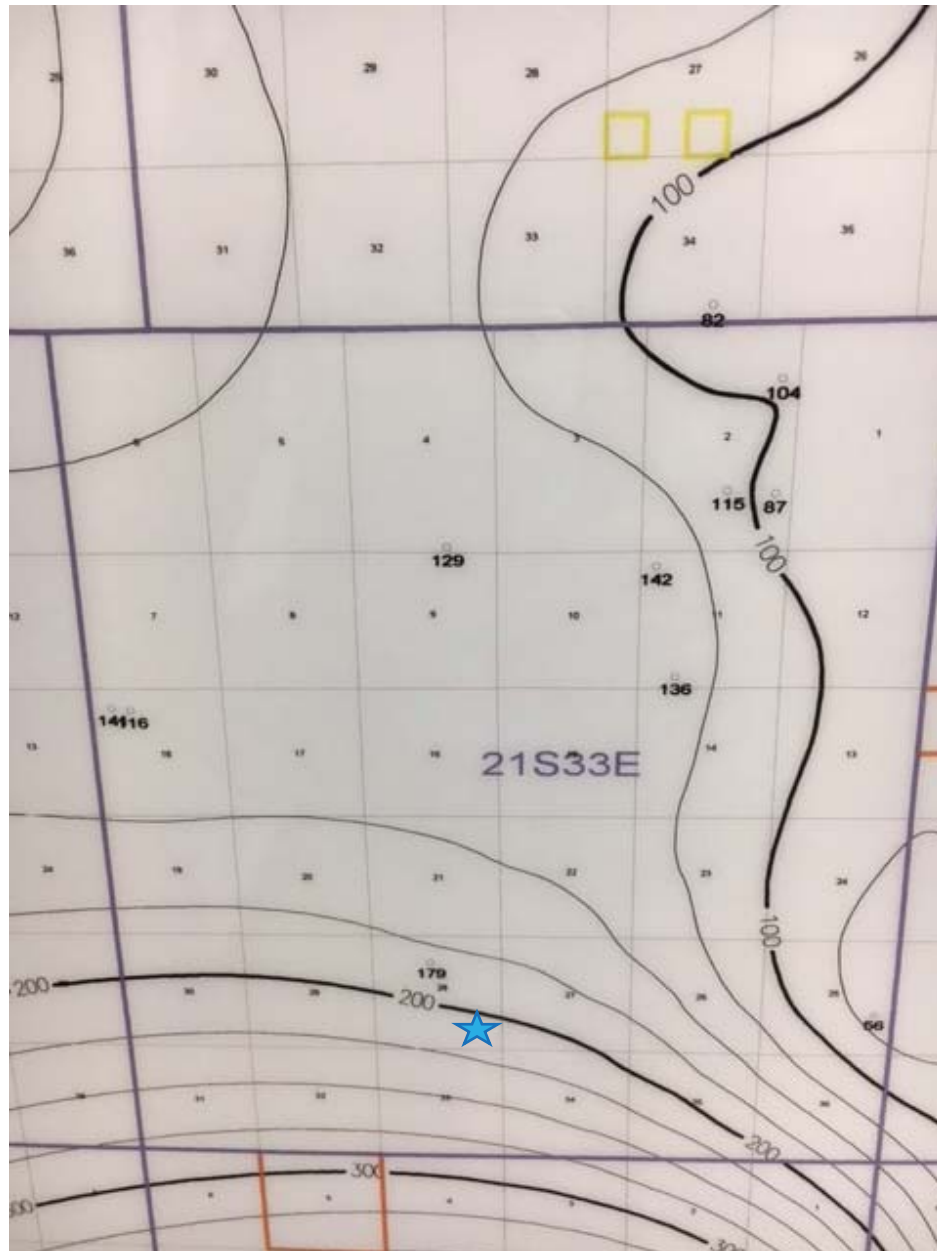
SP11, N 32.44509 W-103.57230

SP12, N 32.44505 W-103.57229

SP13, N 32.44502 W-103.57224



**COG, Pygmy 27 State #001H**  
**U/L P, Section 28, T21S, R33E**  
**Groundwater: 200'**







USGS Home  
Contact USGS  
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## National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:

Groundwater

Geographic Area:

New Mexico

GO

Click to hide News Bulletins

- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#)

Groundwater levels for New Mexico

Click to hide state-specific text

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 322702103344001

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 322702103344001 21S.33E.28.12443

Lea County, New Mexico

Latitude 32°27'13", Longitude 103°34'42" NAD27

Land-surface elevation 3,688.00 feet above NGVD29

The depth of the well is 224 feet below land surface.

This well is completed in the Chinle Formation (231CHNL) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1971-02-04		D	178.62				2		U	
1972-09-22		D	178.60				2		U	
1976-12-16		D	178.86				2		U	
1981-03-10		D	184.67				2		U	
1986-03-20		D	179.24				2		U	
1991-04-19		D	179.10				2		U	
1996-02-21		D	178.85				2		S	

#### Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.



Section	Code	Description
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)  
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**Title: Groundwater for New Mexico: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>**

Page Contact Information: [New Mexico Water Data Maintainer](#)

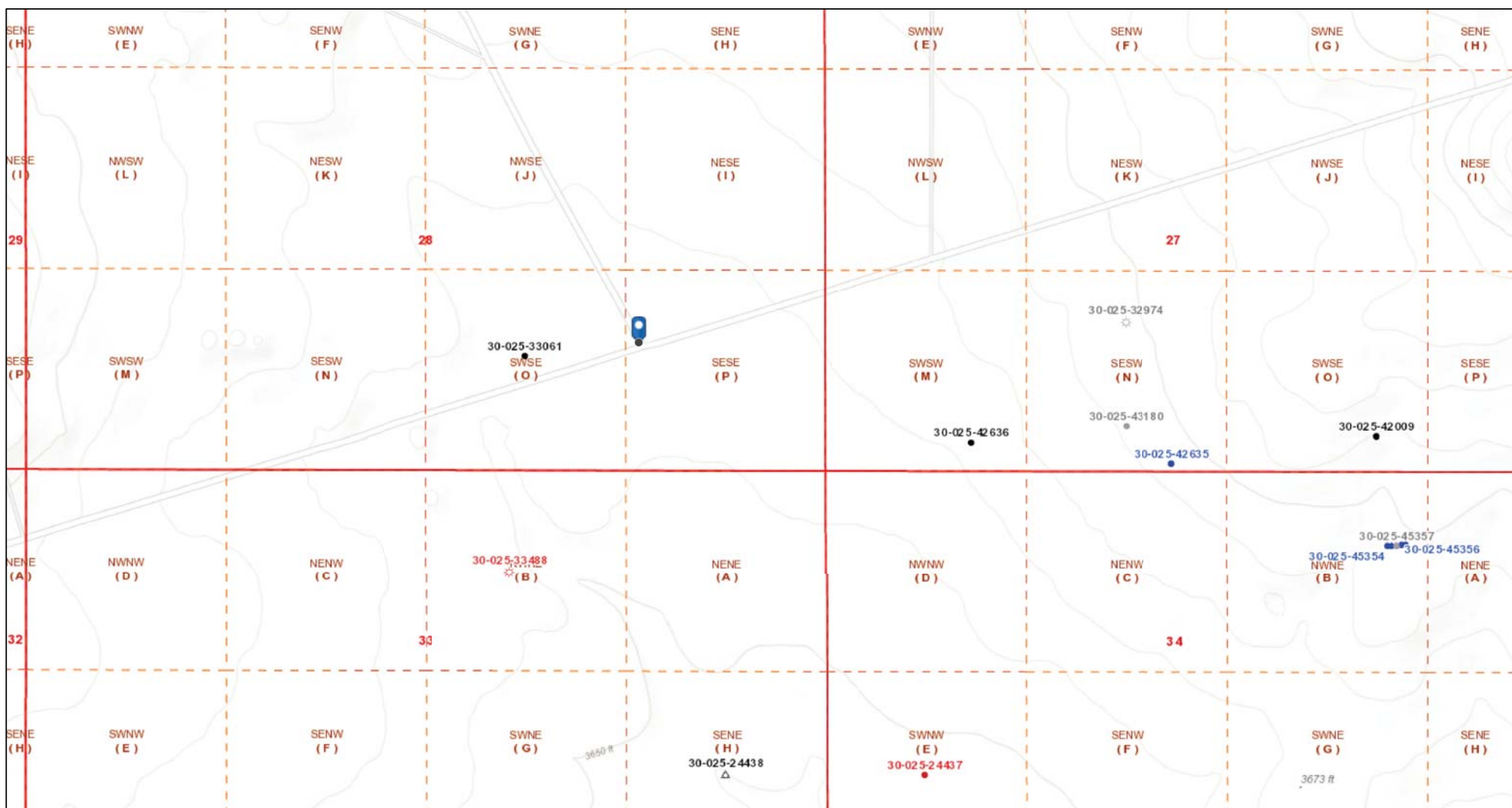
Page Last Modified: 2019-06-03 11:49:13 EDT

0.48   0.42 nadww01





# COG, Pygmy 27 State #001H



6/3/2019 9:51:58 AM

Well Locations - Small Scale

- Active
- New
- Plugged
- Cancelled
- Temporarily Abandoned

Well Locations - Large Scale

- Miscellaneous
- CO2 Active
- CO2 Cancelled
- CO2 New
- CO2 Plugged
- CO2 Temporarily Abandoned

Gas Active

- Gas, Cancelled, Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active

Injection, Cancelled

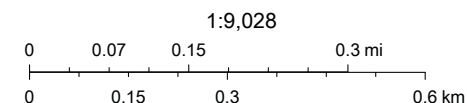
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned

Oil, New

- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New

Salt Water Injection, Plugged

- Salt Water Injection Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New
- Water, Plugged





Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, OCD, BLM

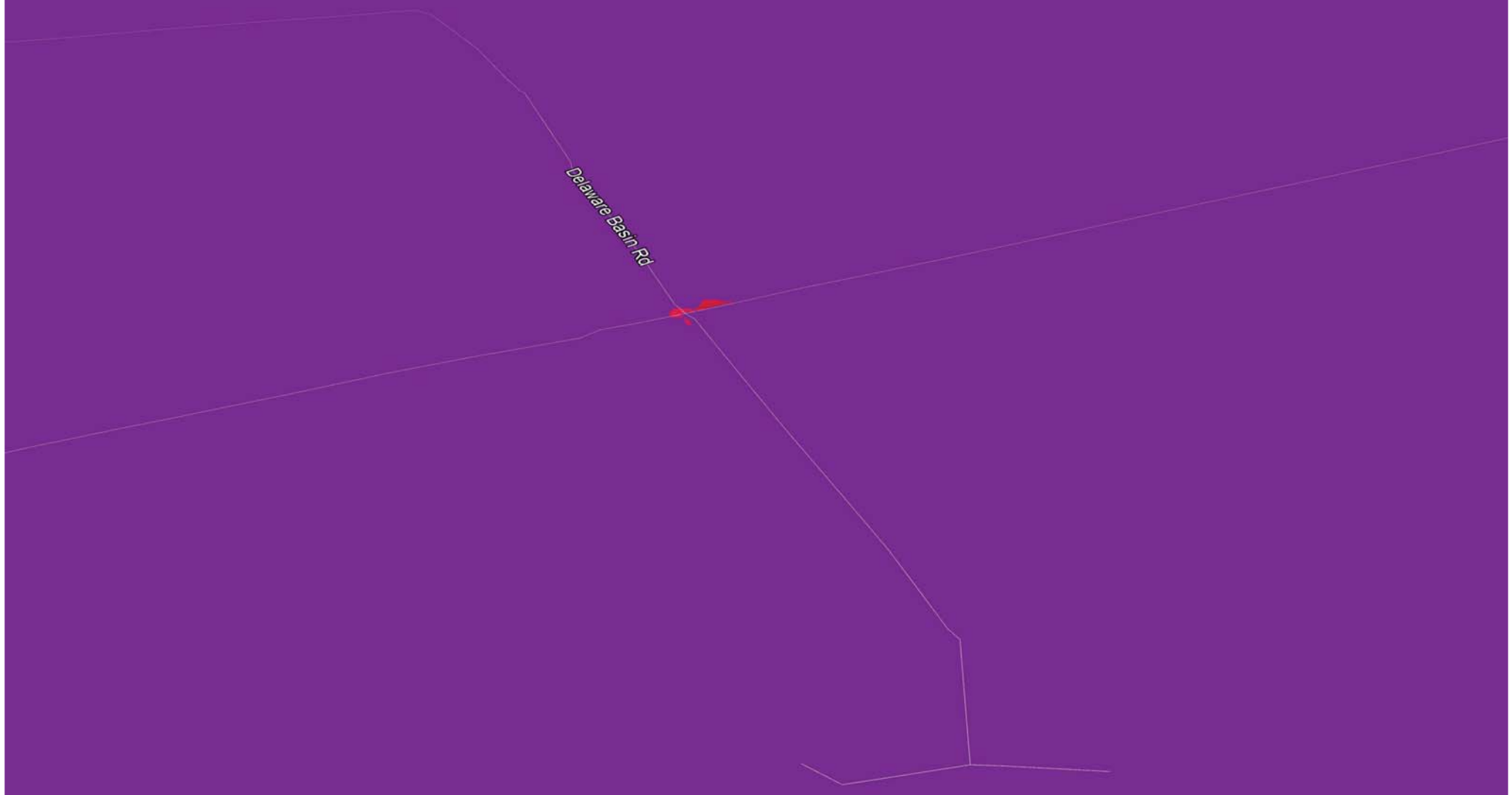


# COG, Pygmy 27 State #001H

Leak date: 4/24/19  
Lea County, NM  
1RP-5514

## BLM CAVE KARST MAP

- Legend**
-  Leak area
  -  Low potential



Google Earth

© 2018 Google



2000 ft

# National Flood Hazard Layer FIRMette



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



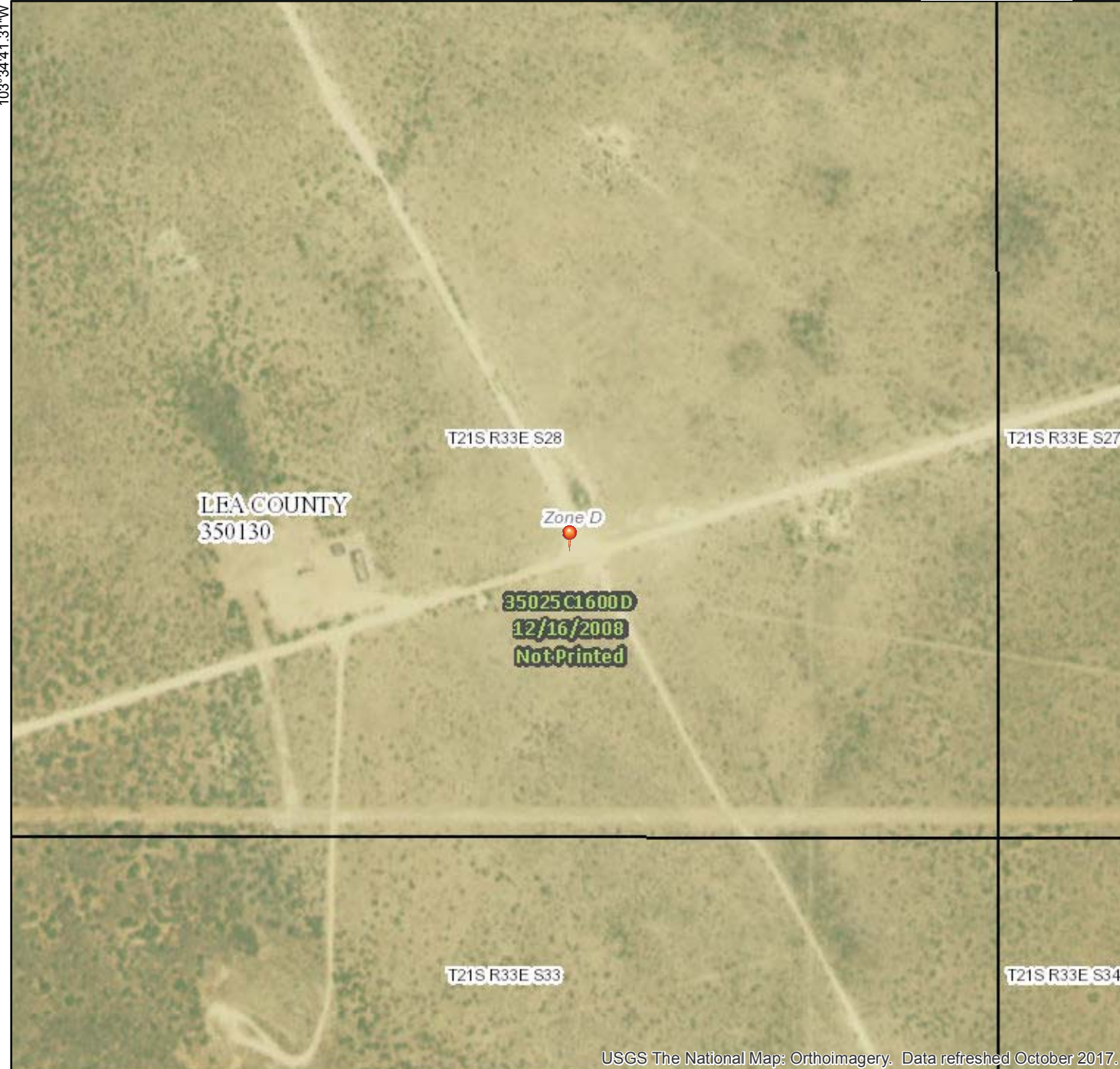
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/3/2019 at 11:59:29 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

32°26'56.86"N



USGS The National Map: Orthoimagery. Data refreshed October 2017.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

32°26'26.49"N

103°34'3.86"W





























Laboratory Analytical Results Summary  
Pygmy 27 State Com #1H (4/24/19)

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'	SP1 @ 6'	SP1 @ 7'
Analyte	Method	Date	5/16/19	5/16/19	5/16/19	5/16/19	5/16/19	5/16/19	5/17/19	5/17/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		31600	14400	7200	3160	4080	2440	576	640
GRO	TPH 8015M		<50.0	<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		10500	17.2	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		2820	<10.0	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'	SP2 @ 6'
Analyte	Method	Date	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		50800	10400	10000	4000	3200	496	240
GRO	TPH 8015M		>50.0	<10.0	<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		5940	<10.0	<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		2330	<10.0	<10.0	n/a	n/a	n/a	n/a

		Sample ID	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 5'	SP3 @ 6'
Analyte	Method	Date	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		41600	12000	11400	3840	1980	224	128
GRO	TPH 8015M		<50.0	<10.0	<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		11800	<10.0	<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		3480	<10.0	<10.0	n/a	n/a	n/a	n/a

		Sample ID	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'	SP4 @ 5'
Analyte	Method	Date	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19	5/17/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	n/a
Chloride	SM4500Cl-B		46000	9200	10000	3240	256	208
GRO	TPH 8015M		<50.0	<10.0	<10.0	n/a	n/a	n/a
DRO	TPH 8015M		7300	<10.0	<10.0	n/a	n/a	n/a
EXT DRO	TPH 8015M		2350	<10.0	<10.0	n/a	n/a	n/a



Laboratory Analytical Results Summary  
Pygmy 27 State Com #1H (4/24/19)

		Sample ID	SP5 @ SURFACE	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'	SP5 @ 4'
Analyte	Method	Date	5/17/19	5/17/19	5/20/19	5/20/19	5/20/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		60000	11300	400	128	112
GRO	TPH 8015M		<50.0	<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		9260	77.8	<10.0	n/a	n/a
EXT DRO	TPH 8015M		3550	<10.0	<10.0	n/a	n/a

		Sample ID	SP6 @ SURFACE	SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'
Analyte	Method	Date	5/20/19	5/20/19	5/20/19	5/20/19	5/20/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		55200	40800	432	128	128
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		2830	824	<10.0	n/a	n/a
EXT DRO	TPH 8015M		1220	357	<10.0	n/a	n/a

		Sample ID	SP7 @ SURFACE	SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'
Analyte	Method	Date	5/20/19	5/20/19	5/20/19	5/20/19	5/20/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		9730	2400	560	128	112
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a

		Sample ID	SP8 @ SURFACE	SP8 @ 1'	SP8 @ 2'	SP8 @ 3'
Analyte	Method	Date	5/20/19	5/20/19	5/20/19	5/20/19
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a
Chloride	SM4500Cl-B		8660	2560	624	96
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a

Laboratory Analytical Results Summary  
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		Sample ID	SP9 @ SURFACE	SP9 @ 1'	SP9 @ 2'	SP9 @ 3'
Analyte	Method	Date	5/21/19	5/21/19	5/21/19	5/21/19
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a
Chloride	SM4500Cl-B		9330	8660	608	112
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a

		Sample ID	SP10 @ SURFACE	SP10 @ 1'	SP10 @ 2'	SP10 @ 3'
Analyte	Method	Date	5/21/19	5/21/19	5/21/19	5/21/19
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		50400	1780	656	80
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		1650	<10.0	n/a	n/a
EXT DRO	TPH 8015M		668	<10.0	n/a	n/a

		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	5/21/19	5/21/19	5/21/19	5/21/19
			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		64	176	144	80
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



Laboratory Analytical Results Summary  
Pygmy 27 State #001H (4/24/19)

Confirmation		Sample ID	SP1 @ BOTTOM
Analyte	Method	Date	7/21/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP2 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		10800
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		17.6
EXT DRO	TPH 8015M		10.8

Confirmation		Sample ID	SP3 @ SIDEWALL
Analyte	Method	Date	7/21/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		16
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP4 @ BOTTOM
Analyte	Method	Date	7/21/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP5 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		224
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP6 @ BOTTOM
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		320
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP7 @ BOTTOM
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		512
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP8 @ SIDEWALL
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		96
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP9 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		3280
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP10 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		64
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP11 @ BOTTOM
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP12 @ BOTTOM	SP12 @ BOTTOM
Analyte	Method	Date	7/23/19	7/25/19
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.050
Toluene	BTEX 8021B		<0.025	<0.050
Ethylbenzene	BTEX 8021B		<0.025	<0.050
Total Xylenes	BTEX 8021B		<0.075	<0.150
Total BTEX	BTEX 8021B		<0.150	<0.300
Chloride	SM4500Cl-B		784	112
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 #001H (4/24/19)

Confirmation		Sample ID	SP13 @ BOTTOM	SP13 @ BOTTOM
Analyte	Method	Date	7/23/19	7/25/19
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.050
Toluene	BTEX 8021B		<0.025	<0.050
Ethylbenzene	BTEX 8021B		<0.025	<0.050
Total Xylenes	BTEX 8021B		<0.075	<0.150
Total BTEX	BTEX 8021B		<0.150	<0.300
Chloride	SM4500Cl-B		912	160
GRO	TPH 8015M		<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0

Confirmation		Sample ID	SP17 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP21 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		272
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP14 @ SIDEWALL
Analyte	Method	Date	7/23/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		5680
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP18 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		160
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP22 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		304
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP15 @ SIDEWALL	SP15 @ SIDEWALL
Analyte	Method	Date	7/23/16	7/25/19
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.050
Toluene	BTEX 8021B		<0.025	<0.050
Ethylbenzene	BTEX 8021B		<0.025	<0.050
Total Xylenes	BTEX 8021B		<0.075	<0.150
Total BTEX	BTEX 8021B		<0.150	<0.300
Chloride	SM4500Cl-B		608	80
GRO	TPH 8015M		<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0

Confirmation		Sample ID	SP19 @ SIDEWALL
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		16
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP23 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		13600
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP16 @ BOTTOM	SP16 @ BOTTOM
Analyte	Method	Date	7/23/16	7/25/19
			mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.050
Toluene	BTEX 8021B		<0.025	<0.050
Ethylbenzene	BTEX 8021B		<0.025	<0.050
Total Xylenes	BTEX 8021B		<0.075	<0.150
Total BTEX	BTEX 8021B		<0.150	<0.300
Chloride	SM4500Cl-B		640	160
GRO	TPH 8015M		<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0

Confirmation		Sample ID	SP20 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		288
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP24 @ SIDEWALL
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Laboratory Analytical Results Summary  
Pygmy 27 State #001H (4/24/19)

Confirmation		Sample ID	SP25 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		400
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP26 @ BOTTOM
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		400
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP27 @ SIDEWALL
Analyte	Method	Date	7/24/19
			mg/kg
Benzene	BTEX 8021B		<0.025
Toluene	BTEX 8021B		<0.025
Ethylbenzene	BTEX 8021B		<0.025
Total Xylenes	BTEX 8021B		<0.075
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		368
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP28 @ BOTTOM
Analyte	Method	Date	7/25/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		96
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP29 @ BOTTOM
Analyte	Method	Date	7/21/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP30 @ BOTTOM
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		64
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP31 @ BOTTOM
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		48
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP32 @ BOTTOM
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		64
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP33 @ BOTTOM
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP34 @ SIDEWALL
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Confirmation		Sample ID	SP35 @ SIDEWALL
Analyte	Method	Date	7/29/19
			mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		64
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0



May 31, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 05/24/19 14:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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:	05/24/2019	Sampling Date:	05/16/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 1 @ SURFACE (H901867-01)**

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	05/30/2019	ND	1.98	98.8	2.00	4.49	
Toluene*	<0.050	0.050	05/30/2019	ND	2.14	107	2.00	4.44	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	2.00	100	2.00	3.13	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	6.10	102	6.00	3.57	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	31600	16.0	05/31/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<50.0	50.0	05/25/2019	ND	172	86.1	200	9.91		
DRO >C10-C28*	10500	50.0	05/25/2019	ND	202	101	200	7.41		
EXT DRO >C28-C36	2820	50.0	05/25/2019	ND						

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 577 % 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:	05/24/2019	Sampling Date:	05/16/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 1 @ 1' (H901867-02)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49	
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44	
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13	
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57	
Total BTX	<0.300	0.300	05/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14400	16.0	05/31/2019	ND	400	100	400	3.92	

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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	17.2	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 97.6 % 41-142

Surrogate: 1-Chlorooctadecane 99.2 % 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: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 1 @ 2' (H901867-03)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7200	16.0	05/31/2019	ND	400	100	400	3.92		

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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 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:	05/24/2019	Sampling Date:	05/16/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 1 @ 3' (H901867-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3160	16.0	05/31/2019	ND	400	100	400	0.00	QM-07	

**Sample ID: SP 1 @ 4' (H901867-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 1 @ 5' (H901867-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2440	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 1 @ 6' (H901867-07)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 1 @ 7' (H901867-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	05/31/2019	ND	400	100	400	0.00	

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**Analytical Results For:**

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

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 2 @ SURFACE (H901867-09)**

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	05/30/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/30/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/30/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/30/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	50800	16.0	05/31/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	5940	50.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	2330	50.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 468 % 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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 2 @ 1' (H901867-10)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTEX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10400	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 99.4 % 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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 2 @ 2' (H901867-11)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10000	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 2 @ 3' (H901867-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4000	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 2 @ 4' (H901867-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 2 @ 5' (H901867-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 2 @ 6' (H901867-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/31/2019	ND	400	100	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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 3 @ SURFACE (H901867-16)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTEX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	41600	16.0	05/31/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	11800	50.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	3480	50.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 95.1 % 41-142

Surrogate: 1-Chlorooctadecane 636 % 37.6-147

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Fax To: (575) 397-0397

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 3 @ 1' (H901867-17)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12000	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 3 @ 2' (H901867-18)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/29/2019	ND	1.98	98.8	2.00	4.49	
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44	
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13	
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57	
Total BTEX	<0.300	0.300	05/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11400	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 96.0 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 3 @ 3' (H901867-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 3 @ 4' (H901867-20)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1980	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 3 @ 5' (H901867-21)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 3 @ 6' (H901867-22)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/31/2019	ND	400	100	400	0.00	

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

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 4 @ SURFACE (H901867-23)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	46000	16.0	05/31/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	7300	50.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	2350	50.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 469 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 4 @ 1' (H901867-24)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTEX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9200	16.0	05/31/2019	ND	400	100	400	0.00	QM-07	

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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 99.1 % 41-142

Surrogate: 1-Chlorooctadecane 99.1 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 4 @ 2' (H901867-25)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10000	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 4 @ 3' (H901867-26)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3240	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 4 @ 4' (H901867-27)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 4 @ 5' (H901867-28)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/31/2019	ND	400	100	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:	05/24/2019	Sampling Date:	05/17/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 5 @ SURFACE (H901867-29)**

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	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTEX	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	60000	16.0	05/31/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	9260	50.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	3550	50.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 626 % 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: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/17/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 5 @ 1' (H901867-30)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/29/2019	ND	1.98	98.8	2.00	4.49		
Toluene*	<0.050	0.050	05/29/2019	ND	2.14	107	2.00	4.44		
Ethylbenzene*	<0.050	0.050	05/29/2019	ND	2.00	100	2.00	3.13		
Total Xylenes*	<0.150	0.150	05/29/2019	ND	6.10	102	6.00	3.57		
Total BTEx	<0.300	0.300	05/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	11300	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	77.8	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 5 @ 2' (H901867-31)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	QR-03
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	172	86.1	200	9.91	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	202	101	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142

Surrogate: 1-Chlorooctadecane 91.5 % 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:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 5 @ 3' (H901867-32)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 5 @ 4' (H901867-33)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/31/2019	ND	400	100	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:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 6 @ SURFACE (H901867-34)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTEX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	55200	16.0	05/31/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/28/2019	ND	172	86.1	200	9.91		
DRO >C10-C28*	2830	10.0	05/28/2019	ND	202	101	200	7.41		
EXT DRO >C28-C36	1220	10.0	05/28/2019	ND						

Surrogate: 1-Chlorooctane 94.5 % 41-142

Surrogate: 1-Chlorooctadecane 260 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 6 @ 1' (H901867-35)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	40800	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	824	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	337	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 95.9 % 41-142

Surrogate: 1-Chlorooctadecane 145 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 6 @ 2' (H901867-36)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 6 @ 3' (H901867-37)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 6 @ 4' (H901867-38)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/31/2019	ND	400	100	400	0.00		

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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:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 7 @ SURFACE (H901867-39)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9730	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 88.0 % 41-142

Surrogate: 1-Chlorooctadecane 88.1 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 7 @ 1' (H901867-40)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.2 % 37.6-147

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

Received: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/20/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 7 @ 2' (H901867-41)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	05/31/2019	ND	400	100	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	05/25/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/25/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/25/2019	ND					

Surrogate: 1-Chlorooctane 91.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.7 % 37.6-147

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 7 @ 3' (H901867-42)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/31/2019	ND	400	100	400	0.00		

**Sample ID: SP 7 @ 4' (H901867-43)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/31/2019	ND	400	100	400	0.00		

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

Received:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 8 @ SURFACE (H901867-44)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTEX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8660	16.0	05/31/2019	ND	400	100	400	0.00	QM-07

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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 96.5 % 41-142

Surrogate: 1-Chlorooctadecane 99.8 % 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:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 8 @ 1' (H901867-45)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184		
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178		
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213		
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278		
Total BTEX	<0.300	0.300	05/30/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	05/31/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/28/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/28/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/28/2019	ND					

Surrogate: 1-Chlorooctane 37.4 % 41-142

Surrogate: 1-Chlorooctadecane 40.5 % 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:	05/24/2019	Sampling Date:	05/20/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 8 @ 2' (H901867-46)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.0 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.8 % 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: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/20/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 8 @ 3' (H901867-47)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>96.0</b>	16.0	05/31/2019	ND	400	100	400	0.00	

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

Received:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 9 @ SURFACE (H901867-48)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTEX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9330	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 90.7 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 9 @ 1' (H901867-49)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8660	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.9 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 9 @ 2' (H901867-50)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 94.8 % 41-142

Surrogate: 1-Chlorooctadecane 96.0 % 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: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 9 @ 3' (H901867-51)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>112</b>	16.0	05/31/2019	ND	400	100	400	0.00	

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

Received:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 10 @ SURFACE (H901867-52)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	50400	16.0	05/31/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/26/2019	ND	181	90.5	200	7.25		
DRO >C10-C28*	1650	10.0	05/26/2019	ND	190	95.0	200	1.96		
EXT DRO >C28-C36	668	10.0	05/26/2019	ND						

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 187 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 10 @ 1' (H901867-53)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1780	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 86.0 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: SP 10 @ 2' (H901867-54)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	05/31/2019	ND	400	100	400	0.00	

**Sample ID: SP 10 @ 3' (H901867-55)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/31/2019	ND	400	100	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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: NORTH @ SURFACE (H901867-56)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 88.1 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: EAST @ SURFACE (H901867-57)**

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	05/30/2019	ND	1.84	92.1	2.00	0.0184	
Toluene*	<0.050	0.050	05/30/2019	ND	1.99	99.4	2.00	0.178	
Ethylbenzene*	<0.050	0.050	05/30/2019	ND	1.89	94.5	2.00	0.213	
Total Xylenes*	<0.150	0.150	05/30/2019	ND	5.72	95.3	6.00	0.0278	
Total BTX	<0.300	0.300	05/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 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:	05/24/2019	Sampling Date:	05/21/2019
Reported:	05/31/2019	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE COM #1H	Sampling Condition:	Cool & Intact
Project Number:	( 4/24/19 )	Sample Received By:	Tamara Oldaker
Project Location:	COG- LEA CO NM		

**Sample ID: WEST @ SURFACE (H901867-58)**

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	05/31/2019	ND	1.87	93.4	2.00	1.31		
Toluene*	<0.050	0.050	05/31/2019	ND	1.99	99.3	2.00	0.659		
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.90	94.9	2.00	0.274		
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.77	96.1	6.00	0.640		
Total BTEx	<0.300	0.300	05/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 70.6 % 41-142

Surrogate: 1-Chlorooctadecane 72.1 % 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: 05/24/2019  
Reported: 05/31/2019  
Project Name: PYGMY 27 STATE COM #1H  
Project Number: ( 4/24/19 )  
Project Location: COG- LEA CO NM

Sampling Date: 05/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SOUTH @ SURFACE (H901867-59)**

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	05/31/2019	ND	1.87	93.4	2.00	1.31		
Toluene*	<0.050	0.050	05/31/2019	ND	1.99	99.3	2.00	0.659		
Ethylbenzene*	<0.050	0.050	05/31/2019	ND	1.90	94.9	2.00	0.274		
Total Xylenes*	<0.150	0.150	05/31/2019	ND	5.77	96.1	6.00	0.640		
Total BTX	<0.300	0.300	05/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	05/31/2019	ND	400	100	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	05/26/2019	ND	181	90.5	200	7.25	
DRO >C10-C28*	<10.0	10.0	05/26/2019	ND	190	95.0	200	1.96	
EXT DRO >C28-C36	<10.0	10.0	05/26/2019	ND					

Surrogate: 1-Chlorooctane 71.5 % 41-142

Surrogate: 1-Chlorooctadecane 73.6 % 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.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

101 East Marland, Hobbs, NM 88240  
(505) 393-2326 FAX (505) 393-2476

**V**

[illegible]

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Relinquished By: <i>V. H. Ornelas</i>		Date: <i>5/21/19</i>	Received By: <i>Isaac Pena</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
		Time: <i>5:30pm</i>			Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>Isaac Pena</i>		Date: <i>5-24-19</i>	Received By: <i>Isaac Pena</i>		REMARKS:	
		Time: <i>2:15pm</i>				
Delivered By: (Circle One)		Sample Condition	CHECKED BY:			
Sampler - UPS - Bus - Other:		Cool Intact	(Initials)			
<i>5.1c #97</i>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>TO</i>			
		<input type="checkbox"/> Yes <input type="checkbox"/> No				

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## 2

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Relinquished By: <i>Veff Ormlas</i> Date: <i>5/24/19</i> Time: <i>5:30pm</i>		Received By: <i>Graci Pena</i> Date: <i>5/24/19</i> Time: <i>2:15pm</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: REMARKS:	
Relinquished By: <i>Graci Pena</i> Date: <i>5/24/19</i> Time: <i>2:15pm</i>		Received By: <i>Jamara P. [Signature]</i> Date: <i>5/24/19</i> Time: <i>2:15pm</i>		REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>5.1c #97</i>		CHECKED BY: (Initials) <i>T.O.</i>	

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**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

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

3

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;"> <div style="text-align: center;"> <b>CI</b> BTX TPH EXT         </div> </div>											
Address: P.O. Box 805				Company: <b>COG</b>													
City: Hobbs		State: NM		Zip: 88241													
Phone #: 575-397-6388		Fax #: 575-397-0397		Attn: <b>Haskell</b>													
Project #:		Project Owner: <b>COG</b>		Address:													
Project Name: PYGMY 27 STATE COM #1H (4/24/19)				City:													
Project Location: LEA COUNTY, NM				State:      Zip:													
Sampler Name: JEFF ORNELAS				Phone #:													
Fax #:																	

FOR LAB USE ONLY		Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME	CI	BTX	TPH	EXT
GROUNDWATER	WASTEWATER					SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :								
		<b>H901867</b>																		
		21	SP3 @ 5'	G	1			✓				✓		5/17/19	10:52 AM	✓				
		22	SP3 @ 6'											5/17/19	11:09 AM	✓				
		23	SP4 @ SURFACE											5/17/19	11:19 AM	✓	✓	✓		
		24	SP4 @ 1'											5/17/19	11:33 AM	✓	✓	✓		
		25	SP4 @ 2'											5/17/19	11:51 AM	✓	✓	✓		
		26	SP4 @ 3'											5/17/19	11:55 AM	✓				
		27	SP4 @ 4'											5/17/19	12:01 PM	✓				
		28	SP4 @ 5'											5/17/19	12:12 PM	✓				
		29	SP5 @ SURFACE											5/17/19	12:55 PM	✓	✓	✓		
		30	SP5 @ 1'											5/17/19	1:11 PM	✓	✓	✓		

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Relinquished By: <b>Jeff Ornelas</b>	Date: <b>5/21/19</b>	Received By: <b>Isabel Pena</b>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <b>5:30pm</b>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <b>Isabel Pena</b>	Date: <b>5/24/19</b>	Received By: <b>Isabel Pena</b>	REMARKS:	
	Time: <b>2:15pm</b>			
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool Intact	(Initials)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>TO</b>		

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

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4

Company Name: BBC International, Inc.						<b>BILL TO</b>								<b>ANALYSIS REQUEST</b>																		
Project Manager: Cliff Brunson						P.O. #:																										
Address: P.O. Box 805						Company: COG																										
City: Hobbs		State: NM		Zip: 88241		Attn: Haskell																										
Phone #: 575-397-6388		Fax #: 575-397-0397				Address:																										
Project #:		Project Owner: COG				City:																										
Project Name: PYGMY 27 STATE COM #1H (4/24/19)						State:		Zip:																								
Project Location: LEA COUNTY, NM						Phone #:																										
Sampler Name: JEFF ORNELAS						Fax #:																										
FOR LAB USE ONLY						MATRIX				PRESERV.		SAMPLING																				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	C1	BTEX	TPH/XCT															
H901867		G	1			✓					✓		5/20/19	8:45 AM	✓	✓	✓															
31	SP5 @ 2'												5/20/19	9:11 AM	✓																	
32	SP5 @ 3'												5/20/19	9:29 AM	✓																	
33	SP5 @ 4'												5/20/19	9:45 AM	✓	✓	✓															
34	SP6 @ SURFACE												5/20/19	9:55 AM	✓	✓	✓															
35	SP6 @ 1'												5/20/19	10:20 AM	✓	✓	✓															
36	SP6 @ 2'												5/20/19	10:30 AM	✓																	
37	SP6 @ 3'												5/20/19	10:45 AM	✓																	
38	SP6 @ 4'												5/20/19	10:56 AM	✓	✓	✓															
39	SP7 @ SURFACE												5/20/19	11:11 AM	✓	✓	✓															
40	SP7 @ 1'												5/20/19		✓	✓	✓															

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>Veff Ormlas</i>		Date: <i>5/21/19</i>	Received By: <i>Israel Pena</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: <i>5:30pm</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>Israel Pena</i>		Date: <i>5-24-19</i>	Received By: <i>Ismael Aldrete</i>	REMARKS:	
Time: <i>2:15pm</i>					
Delivered By: (Circle One)		Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	(Initials)		
<i>5.1c #97</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>TO</i>		
		<input type="checkbox"/> Yes <input type="checkbox"/> No			

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



**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

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

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

5

Company Name: BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																	
Project Manager: Cliff Brunson				P.O. #:																					
Address: P.O. Box 805				Company: <i>COG</i>																					
City: Hobbs State: NM Zip: 88241				Attn: <i>Haskell</i>																					
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																					
Project #: Project Owner: <i>COG</i>				City:																					
Project Name: PYGMY 27 STATE COM #1H (4/24/19)				State: Zip:																					
Project Location: LEA COUNTY, NM				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		<i>CI</i>	<i>BTEX</i>	<i>TPHEXT</i>												
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:												ICE / COOL	OTHER :	DATE	TIME
<i>H901867</i>																									
<i>41</i>	SP7 @ 2'	<i>G</i>	<i>1</i>			<input checked="" type="checkbox"/>																<input checked="" type="checkbox"/>		5/20/19	11:30 AM
<i>42</i>	SP7 @ 3'																							5/20/19	11:49 AM
<i>43</i>	SP7 @ 4'																							5/20/19	12:15 PM
<i>44</i>	SP8 @ SURFACE																							5/20/19	12:19 PM
<i>45</i>	SP8 @ 1'																							5/20/19	12:33 PM
<i>46</i>	SP8 @ 2'																							5/20/19	12:49 PM
<i>47</i>	SP8 @ 3'																							5/20/19	1:11 PM
<i>48</i>	SP9 @ SURFACE												5/21/19	8:49 AM											
<i>49</i>	SP9 @ 1'												5/21/19	9:11 AM											
<i>50</i>	SP9 @ 2'												5/21/19	9:29 AM											

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Relinquished By: <i>Jeff Ornelas</i>	Date: <i>5/21/19</i> Time: <i>5:30pm</i>	Received By: <i>Isaac Pena</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By: <i>Isaac Pena</i>	Date: <i>5-24-19</i> Time: <i>2:15pm</i>	Received By: <i>Samara Aldrete</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	<i>5.1i H97</i>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>T.O.</i>	REMARKS:

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

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

6

[illegible]

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>Vefformas</i>		Date: <i>5/11/19</i>	Received By: <i>Israel Kena</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: <i>5:30</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>Israel Kena</i>		Date: <i>5-24-19</i>	Received By: <i>Jamara Olday</i>	REMARKS:	
Time: <i>2:15pm</i>					
Delivered By: (Circle One)		Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	(Initials)		
<i>5.1c #97</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>TS</i>		
		<input type="checkbox"/> Yes <input type="checkbox"/> No			

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

July 30, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 - 1H

Enclosed are the results of analyses for samples received by the laboratory on 07/29/19 11:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: 07/29/2019  
Reported: 07/30/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 1 (H902579-01)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/29/2019	ND	2.00	100	2.00	3.10	
Toluene*	<0.050	0.050	07/29/2019	ND	2.06	103	2.00	2.40	
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.99	99.5	2.00	3.85	
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.02	100	6.00	3.56	
Total BTEX	<0.300	0.300	07/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

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	07/29/2019	ND	432	108	400	3.77		

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 97.1 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 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: 07/29/2019  
Reported: 07/30/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 3 (H902579-02)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/29/2019	ND	2.00	100	2.00	3.10	
Toluene*	<0.050	0.050	07/29/2019	ND	2.06	103	2.00	2.40	
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.99	99.5	2.00	3.85	
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.02	100	6.00	3.56	
Total BTEx	<0.300	0.300	07/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

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	07/29/2019	ND	432	108	400	3.77	

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 86.0 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 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: 07/29/2019  
Reported: 07/30/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 4 (H902579-03)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/29/2019	ND	2.00	100	2.00	3.10	
Toluene*	<0.050	0.050	07/29/2019	ND	2.06	103	2.00	2.40	
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.99	99.5	2.00	3.85	
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.02	100	6.00	3.56	
Total BTEx	<0.300	0.300	07/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-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	07/29/2019	ND	432	108	400	3.77		

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 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: 07/29/2019  
Reported: 07/30/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/21/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 29 (H902579-04)**

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	07/29/2019	ND	2.00	100	2.00	3.10	
Toluene*	<0.050	0.050	07/29/2019	ND	2.06	103	2.00	2.40	
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.99	99.5	2.00	3.85	
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.02	100	6.00	3.56	
Total BTEx	<0.300	0.300	07/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-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	07/29/2019	ND	432	108	400	3.77		

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 91.4 % 41-142

Surrogate: 1-Chlorooctadecane 98.8 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



### Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager

**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="writing-mode: vertical-rl; transform: rotate(180deg);"> TPH Extended BTEX C1- </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: <b>COG</b>				City:																						
Project Name: <b>Pygmy 27-1H 4-29-19</b>				State: Zip:																						
Project Location: <b>176</b>				Phone #:																						
Sampler Name: <b>✓</b>				Fax #:																						
FOR LAB USE ONLY						MATRIX		PRESERV.		SAMPLING																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME												
<b>H962579</b>																										
1	SP 1	C	1			X				X			7-21	111	<div style="writing-mode: vertical-rl; transform: rotate(180deg);"> TPH Extended BTEX C1- </div>											
2	SP 3	C	1			X				X				133												
3	SP 4	C	1			X				X				158												
4	SP 29	C	1			X				X				222												

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: <b>7-21-19</b>	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: <b>5:00</b>			Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: <b>7-29-19</b>	Received By:	REMARKS:	
Time: <b>11:25</b>				
Delivered By: (Circle One) <b>-13.6°</b>	<b>#97</b>	Sample Condition		
Sampler - UPS - Bus - Other: <b>Corrected -13.2°</b>		Cool Intact		
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		CHECKED BY:		

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

July 24, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 - 1H

Enclosed are the results of analyses for samples received by the laboratory on 07/23/19 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 (H902538-01)**

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26		
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462		
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48		
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44		
Total BTEX	<0.150	0.150	07/24/2019	ND						

Surrogate: Dibromofluoromethane 94.4 % 90.4-111

Surrogate: Toluene-d8 106 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.0 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	10800	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	17.6	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	10.8	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 74.7 % 41-142

Surrogate: 1-Chlorooctadecane 80.0 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 5 (H902538-02)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26		
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462		
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48		
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44		
Total BTEX	<0.150	0.150	07/24/2019	ND						

Surrogate: Dibromofluoromethane 94.0 % 90.4-111  
Surrogate: Toluene-d8 105 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 91.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 67.5 % 41-142  
Surrogate: 1-Chlorooctadecane 69.8 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 6 (H902538-03)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.8 % 90.4-111  
Surrogate: Toluene-d8 105 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 89.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 68.2 % 41-142  
Surrogate: 1-Chlorooctadecane 71.1 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 7 (H902538-04)**

BTEx 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26		
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462		
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48		
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44		
Total BTEx	<0.150	0.150	07/24/2019	ND						

Surrogate: Dibromofluoromethane 94.2 % 90.4-111  
Surrogate: Toluene-d8 106 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 88.3 % 80.1-121

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	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 67.7 % 41-142  
Surrogate: 1-Chlorooctadecane 72.0 % 37.6-147

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

Received: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 9 (H902538-05)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 93.1 % 90.4-111

Surrogate: Toluene-d8 105 % 85.3-114

Surrogate: 4-Bromofluorobenzene 88.6 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3280	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 68.6 % 41-142

Surrogate: 1-Chlorooctadecane 71.5 % 37.6-147

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P.O. Box 805  
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Fax To: (575) 397-0397

Received: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 10 (H902538-06)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.3 % 90.4-111  
Surrogate: Toluene-d8 104 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 88.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 70.2 % 41-142  
Surrogate: 1-Chlorooctadecane 73.2 % 37.6-147

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

Received: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 11 (H902538-07)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 96.6 % 90.4-111

Surrogate: Toluene-d8 105 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.2 % 37.6-147

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

Received: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 12 (H902538-08)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 95.0 % 90.4-111

Surrogate: Toluene-d8 103 % 85.3-114

Surrogate: 4-Bromofluorobenzene 87.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 85.9 % 41-142

Surrogate: 1-Chlorooctadecane 87.9 % 37.6-147

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Fax To: (575) 397-0397

Received: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 13 (H902538-09)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 93.7 % 90.4-111

Surrogate: Toluene-d8 105 % 85.3-114

Surrogate: 4-Bromofluorobenzene 88.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	07/24/2019	ND	432	108	400	3.77	

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 82.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 14 (H902538-10)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 93.4 % 90.4-111  
Surrogate: Toluene-d8 105 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 88.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5680	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142  
Surrogate: 1-Chlorooctadecane 94.2 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 15 (H902538-11)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 95.2 % 90.4-111

Surrogate: Toluene-d8 105 % 85.3-114

Surrogate: 4-Bromofluorobenzene 85.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 89.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 16 (H902538-12)**

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.5 % 90.4-111

Surrogate: Toluene-d8 105 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 88.8 % 41-142

Surrogate: 1-Chlorooctadecane 91.3 % 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: 07/23/2019  
Reported: 07/24/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/23/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 17 (H902538-13)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.99	99.4	2.00	3.26	
Toluene*	<0.025	0.025	07/24/2019	ND	2.30	115	2.00	0.462	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.27	114	2.00	1.48	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	7.20	120	6.00	1.44	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 94.7 % 90.4-111

Surrogate: Toluene-d8 106 % 85.3-114

Surrogate: 4-Bromofluorobenzene 87.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/24/2019	ND	432	108	400	3.77		

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	07/24/2019	ND	193	96.3	200	1.33	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	184	91.8	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 $\frac{1}{2}$ 

Company Name: BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																					
Project Manager: Cliff Brunson				P.O. #:				<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-family: cursive; font-size: 2em; margin-right: 10px;">TPH Extended</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-family: cursive; font-size: 2em; margin-right: 10px;">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-family: cursive; font-size: 2em;">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: COG				City:																									
Project Name: Pygmy 27-1H 9-24-19				State: Zip:																									
Project Location: 176				Phone #:																									
Sampler Name: ✓				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														
H902538		1	SP 2	C			X				X		7-23	901	X	X	X												
2		SP 5	C	1			X				X			1001	X	X	X												
3		SP 6	C	1			X				X			1020	X	X	X												
4		SP 7	C	1			X				X			1049	X	X	X												
5		SP 9	C	1			X				X			1130	X	X	X												
6		SP 10	C	1			X				X			1144	X	X	X												
7		SP 11	C	1			X				X			1205	X	X	X												
8		SP 12	C	1			X				X			1255	X	X	X												
9		SP 13	C	1			X				X			111	X	X	X												
10		SP 14	C	1			X				X			130	X	X	X												

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Relinquished By: <i>[Signature]</i>		Date: <i>2-23-15</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
Time: <i>16:50</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
Relinquished By: _____		Date: _____	Received By: _____	REMARKS: <i>RUSH!!</i>	
Time: _____					
Delivered By: (Circle One) <i>12.02 P. #97</i>		Sample Condition	CHECKED BY: <i>[Signature]</i>		
Sampler - UPS - Bus - Other: <i>Corrected 12.4 P.</i>		Cool <input type="checkbox"/> Intact <input checked="" type="checkbox"/>	(Initials)		
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<i>Brought to lab from field</i>					

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



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: <i>ALDS</i>		Date: <i>7-23-19</i>		Received By: <i>Jodi Johnson</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
		Time: <i>10:50</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:  <i>Rush!</i>	
		Time:					
Delivered By: (Circle One) <i>R.O.E. #97</i>		Sample Condition		CHECKED BY: (Initials) <i>JS</i>		<i>Brought to Lab from field.</i>	
Sampler - UPS - Bus - Other: <i>Corrected R.O.E.</i>		<input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No					

† Cardinal cannot accept verbal changes. Please fax written changes to 505-663-3175.

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



July 25, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 - 1H

Enclosed are the results of analyses for samples received by the laboratory on 07/24/19 16:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 8 (H902545-01)**

BTEX 8260B		mg/kg		Analyzed By: ms				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 90.3 % 90.4-111

Surrogate: Toluene-d8 104 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	07/25/2019	ND	416	104	400	3.92		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 78.1 % 41-142

Surrogate: 1-Chlorooctadecane 80.4 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 18 (H902545-02)**

BTEX 8260B		mg/kg		Analyzed By: ms				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 89.7 % 90.4-111

Surrogate: Toluene-d8 104 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 71.3 % 41-142

Surrogate: 1-Chlorooctadecane 75.8 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 19 (H902545-03)**

BTEx 8260B		mg/kg		Analyzed By: ms				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52		
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800		
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447		
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54		
Total BTEx	<0.150	0.150	07/24/2019	ND						

Surrogate: Dibromofluoromethane 90.3 % 90.4-111  
Surrogate: Toluene-d8 106 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 97.9 % 80.1-121

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	07/25/2019	ND	416	104	400	3.92		

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 77.0 % 41-142  
Surrogate: 1-Chlorooctadecane 81.3 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 20 (H902545-04)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 91.6 % 90.4-111

Surrogate: Toluene-d8 104 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/24/2019	ND	187	93.3	200	2.77	
DRO >C10-C28*	<10.0	10.0	07/24/2019	ND	188	94.1	200	1.57	
EXT DRO >C28-C36	<10.0	10.0	07/24/2019	ND					

Surrogate: 1-Chlorooctane 68.2 % 41-142

Surrogate: 1-Chlorooctadecane 74.9 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 21 (H902545-05)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 91.4 % 90.4-111

Surrogate: Toluene-d8 103 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	194	97.1	200	4.87	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	189	94.7	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 68.5 % 41-142

Surrogate: 1-Chlorooctadecane 70.9 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 22 (H902545-06)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 90.5 % 90.4-111  
Surrogate: Toluene-d8 103 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 93.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	194	97.1	200	4.87	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	189	94.7	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 65.3 % 41-142  
Surrogate: 1-Chlorooctadecane 67.9 % 37.6-147

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

Received: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 23 (H902545-07)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.9 % 90.4-111

Surrogate: Toluene-d8 104 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13600	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	194	97.1	200	4.87	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	189	94.7	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 73.1 % 41-142

Surrogate: 1-Chlorooctadecane 74.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 24 (H902545-08)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.0 % 90.4-111

Surrogate: Toluene-d8 104 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.3 % 80.1-121

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	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	194	97.1	200	4.87	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	189	94.7	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 66.9 % 41-142

Surrogate: 1-Chlorooctadecane 73.5 % 37.6-147

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Fax To: (575) 397-0397

Received: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 25 (H902545-09)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEX	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 93.1 % 90.4-111  
Surrogate: Toluene-d8 105 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 93.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	187	93.7	200	2.27	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	176	87.9	200	3.10	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 88.4 % 41-142  
Surrogate: 1-Chlorooctadecane 97.1 % 37.6-147

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Fax To: (575) 397-0397

Received: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 26 (H902545-10)**

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/24/2019	ND	1.90	95.0	2.00	1.52	
Toluene*	<0.025	0.025	07/24/2019	ND	2.11	105	2.00	0.800	
Ethylbenzene*	<0.025	0.025	07/24/2019	ND	2.14	107	2.00	0.447	
Total Xylenes*	<0.075	0.075	07/24/2019	ND	6.86	114	6.00	1.54	
Total BTEx	<0.150	0.150	07/24/2019	ND					

Surrogate: Dibromofluoromethane 92.9 % 90.4-111  
Surrogate: Toluene-d8 104 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 90.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	187	93.7	200	2.27	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	176	87.9	200	3.10	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 82.8 % 41-142  
Surrogate: 1-Chlorooctadecane 91.1 % 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: 07/24/2019  
Reported: 07/25/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/24/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 27 (H902545-11)**

BTEx 8260B		mg/kg		Analyzed By: ms				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/25/2019	ND	1.90	95.0	2.00	1.52		
Toluene*	<0.025	0.025	07/25/2019	ND	2.11	105	2.00	0.800		
Ethylbenzene*	<0.025	0.025	07/25/2019	ND	2.14	107	2.00	0.447		
Total Xylenes*	<0.075	0.075	07/25/2019	ND	6.86	114	6.00	1.54		
Total BTEx	<0.150	0.150	07/25/2019	ND						

Surrogate: Dibromofluoromethane 89.8 % 90.4-111  
Surrogate: Toluene-d8 101 % 85.3-114  
Surrogate: 4-Bromofluorobenzene 127 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	07/25/2019	ND	416	104	400	3.92	

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	07/25/2019	ND	187	93.7	200	2.27	
DRO >C10-C28*	<10.0	10.0	07/25/2019	ND	176	87.9	200	3.10	
EXT DRO >C28-C36	<10.0	10.0	07/25/2019	ND					

Surrogate: 1-Chlorooctane 67.2 % 41-142  
Surrogate: 1-Chlorooctadecane 73.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

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

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

<b>Company Name:</b> BBC International, Inc. <b>Project Manager:</b> Cliff Brunson <b>Address:</b> P.O. Box 805 <b>City:</b> Hobbs <b>State:</b> NM <b>Zip:</b> 88241 <b>Phone #:</b> 575-397-6388 <b>Fax #:</b> 575-397-0397 <b>Project #:</b> <b>Project Owner:</b> COG <b>Project Name:</b> Pygmy 27-1H (4-29-19) <b>Project Location:</b> 176 <b>Sampler Name:</b> ✓				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
				<b>P.O. #:</b> <b>Company:</b> <b>Attn:</b> <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>				TPH Extended BTEX C1-											

FOR LAB USE ONLY		(GRAB OR COMPOUND)	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME	
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :			
H902545															
1	SP 00	C	1			X				X			7-24	1030	X
2	SP 18	C	1			X				X			1111	1111	X
3	SP 19	C	1			X				X			1146	1146	X
4	SP 20	C	1			X				X			1212	1212	X
5	SP 21	C	1			X				X			1255	1255	X
6	SP 22	C	1			X				X			115	115	X
7	SP 23	C	1			X				X			130	130	X
8	SP 24	C	1			X				X			145	145	X
9	SP 25	C	1			X				X			157	157	X
10	SP 26	C	1			X				X			213	213	X

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<b>Relinquished By:</b> <i>[Signature]</i> <b>Relinquished By:</b> <i>[Signature]</i>		<b>Date:</b> 7-29-19 <b>Time:</b> 16:55 <b>Date:</b> <b>Time:</b>		<b>Received By:</b> <i>[Signature]</i> <b>Received By:</b> <i>[Signature]</i>		<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Phone #:</b> <b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Add'l Fax #:</b> <b>REMARKS:</b> <div style="font-size: 2em; text-align: center;">RUSH!!</div>	
<b>Delivered By: (Circle One)</b> 5.1 <i>#97</i> <b>Sampler - UPS - Bus - Other:</b> <i>Corrected 5.5%</i>		<b>Sample Condition</b> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		<b>CHECKED BY:</b> (Initials) <i>TS</i>			

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



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

(505) 555-2520 FAX (505) 555-2470 Company Name: BBC International, Inc. Project Manager: Cliff Brunson Address: P.O. Box 805 City: Hobbs State: NM Zip: 88241 Phone #: 575-397-6388 Fax #: 575-397-0397 Project #: Project Owner: COL Project Name: Pygmy 27-1H (A-24-19) Project Location: 176 Sampler Name: ✓				<b>BILL TO</b> P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:				<b>ANALYSIS REQUEST</b>																			
FOR LAB USE ONLY Lab I.D. H902545 Sample I.D. Sp 27				(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:				MATRIX ACID/BASE: ICE / COOL OTHER:				PRESERV. SAMPLING DATE TIME				TPH Extended BTEX CL											
C 1				X				X				724 224				X X X											

**PLEASE NOTE:** Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>[Signature]</i>		Date: <i>7-24-19</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:		Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
		Time: <i>16:55</i>		REMARKS:	
Delivered By: (Circle One) <i>5.1</i>		# <i>97</i>	Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other: <i>Corrected 5.5</i>			Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>TS</i>	
			Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		

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

July 31, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 - 1H

Enclosed are the results of analyses for samples received by the laboratory on 07/26/19 10:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: 07/26/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/25/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 12 (H902569-01)**

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/29/2019	ND	1.98	99.2	2.00	1.56		
Toluene*	<0.050	0.050	07/29/2019	ND	2.07	104	2.00	0.363		
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.98	98.9	2.00	0.632		
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.18	103	6.00	0.412		
Total BTEX	<0.300	0.300	07/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	07/29/2019	ND	432	108	400	0.00	QR-03	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/26/2019	ND	193	96.7	200	9.45	
DRO >C10-C28*	<10.0	10.0	07/26/2019	ND	197	98.5	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	07/26/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 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: 07/26/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/25/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 13 (H902569-02)**

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	07/29/2019	ND	1.98	99.2	2.00	1.56	
Toluene*	<0.050	0.050	07/29/2019	ND	2.07	104	2.00	0.363	
Ethylbenzene*	<0.050	0.050	07/29/2019	ND	1.98	98.9	2.00	0.632	
Total Xylenes*	<0.150	0.150	07/29/2019	ND	6.18	103	6.00	0.412	
Total BTX	<0.300	0.300	07/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/29/2019	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	07/26/2019	ND	193	96.7	200	9.45	
DRO >C10-C28*	<10.0	10.0	07/26/2019	ND	197	98.5	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	07/26/2019	ND					

Surrogate: 1-Chlorooctane 98.9 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 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: 07/26/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/25/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 15 (H902569-03)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/30/2019	ND	2.03	102	2.00	3.03	
Toluene*	<0.050	0.050	07/30/2019	ND	2.08	104	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.99	99.6	2.00	3.38	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.99	99.9	6.00	3.17	
Total BTEx	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/29/2019	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	07/26/2019	ND	193	96.7	200	9.45	
DRO >C10-C28*	<10.0	10.0	07/26/2019	ND	197	98.5	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	07/26/2019	ND					

Surrogate: 1-Chlorooctane 98.1 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 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: 07/26/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/25/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 16 (H902569-04)**

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	07/30/2019	ND	2.03	102	2.00	3.03	
Toluene*	<0.050	0.050	07/30/2019	ND	2.08	104	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.99	99.6	2.00	3.38	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.99	99.9	6.00	3.17	
Total BTEx	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/29/2019	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	07/26/2019	ND	193	96.7	200	9.45	
DRO >C10-C28*	<10.0	10.0	07/26/2019	ND	197	98.5	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	07/26/2019	ND					

Surrogate: 1-Chlorooctane 92.4 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 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: 07/26/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/25/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 28 (H902569-05)**

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	07/30/2019	ND	2.03	102	2.00	3.03	
Toluene*	<0.050	0.050	07/30/2019	ND	2.08	104	2.00	2.58	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.99	99.6	2.00	3.38	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.99	99.9	6.00	3.17	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/29/2019	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	07/26/2019	ND	193	96.7	200	9.45	
DRO >C10-C28*	<10.0	10.0	07/26/2019	ND	197	98.5	200	12.1	
EXT DRO >C28-C36	<10.0	10.0	07/26/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 116 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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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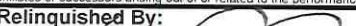
Celey D. Keene, Lab Director/Quality Manager

101 East Marland, Hobbs, NM 88240

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

[illegible]

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Relinquished By: 		Date: 7-25-19		Received By: Jennifer Guckler		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	
Time: 5:00		Time: 5:00		Time: 10:55		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #:	
Relinquished By: J. Guckler		Date: 7-26-19		Received By: Januara Oldak		REMARKS:	
Time: 10:55		Time: 10:55		Time: 10:55			
Delivered By: (Circle One) 4.62		#97		Sample Condition		CHECKED BY: (Initials)	
Cool		Intact		Cool		Intact	
<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other: Corrected 502		TO.					

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

July 31, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 - 1H

Enclosed are the results of analyses for samples received by the laboratory on 07/30/19 8:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 30 (H902591-01)**

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	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	07/30/2019	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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 115 % 41-142

Surrogate: 1-Chlorooctadecane 122 % 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 31 (H902591-02)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTEX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

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	07/30/2019	ND	432	108	400	3.77	

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 107 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 32 (H902591-03)**

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	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	07/30/2019	ND	432	108	400	3.77		

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 95.8 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 33 (H902591-04)**

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	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/30/2019	ND	432	108	400	3.77	

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 99.5 % 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 34 (H902591-05)**

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	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/30/2019	ND	432	108	400	3.77	

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 96.9 % 41-142

Surrogate: 1-Chlorooctadecane 99.8 % 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: 07/30/2019  
Reported: 07/31/2019  
Project Name: PYGMY 27 - 1H  
Project Number: 4-24-19  
Project Location: COG - 176

Sampling Date: 07/29/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP 35 (H902591-06)**

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	07/30/2019	ND	1.99	99.5	2.00	3.57	
Toluene*	<0.050	0.050	07/30/2019	ND	2.06	103	2.00	1.91	
Ethylbenzene*	<0.050	0.050	07/30/2019	ND	1.97	98.4	2.00	1.50	
Total Xylenes*	<0.150	0.150	07/30/2019	ND	5.93	98.8	6.00	1.41	
Total BTX	<0.300	0.300	07/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	07/30/2019	ND	432	108	400	3.77		

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	07/30/2019	ND	206	103	200	2.76	
DRO >C10-C28*	<10.0	10.0	07/30/2019	ND	228	114	200	12.5	
EXT DRO >C28-C36	<10.0	10.0	07/30/2019	ND					

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(505) 393-2326 FAX (505) 393-2476

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Relinquished By: <i>[Signature]</i>		Date: <i>7-29-19</i>	Received By: <i>Jennifer Gilkey</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____
Time: <i>5:00</i>			Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: _____	REMARKS:  <i>Rush !!</i>
Relinquished By: <i>Jennifer Gilkey</i>		Date: <i>7-30-19</i>	Received By: <i>Jamara Oldaker</i>	
Time: <i>8:40</i>				
Delivered By: (Circle One) <i>-8.9°C</i>		Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other: <i>Corrected -8.5°C</i>		Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

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

Incident ID	
District RP	1RP-5514
Facility ID	
Application ID	

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	179' (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

### **Characterization Report Checklist:** *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	1RP-5514
Facility ID	
Application ID	

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: Rebecca HaskellTitle: Senior HSE CoordinatorSignature: Date: 9/20/19email: rhaskell@concho.comTelephone: (432) 683-7443**OCD Only**

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

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

Incident ID	
District RP	1RP-5514
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: Rebecca Haskell Title: Senior HSE Coordinator  
Signature: Rebecca Haskell Date: 9/20/19  
email: rhaskell@concho.com Telephone: (432) 683-7443

**OCD Only**

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

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

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

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	1RP-5514
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of 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 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Rebecca Haskell Title: Senior HSE Coordinator  
 Signature: Rebecca Haskell Date: 7/20/19  
 email: rhaskell@concho.com Telephone: (432) 683-7443

**OCD Only**

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

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_