WORLD-WIDE ENVIRONMENTAL SPECIALISTS

BBC INTERNATIONAL INCORPORATED

PHONE (575) 397-6388 • FAX (575) 397- 0397 • 1324 W. MARLAND • P.O. BOX 805 • HOBBS, NM 88241-0805
E-MAIL: cbrunson@bbcinternational.com

NMOCD approves of the proposed remediation for 1RP-4694. See email documentation for clarification.

DELINEATION WORKPLAN

COG – PYGMY 27 STATE #002H
(Leak Date: 5/6/17)

APPROVED
By Olivia Yu at 4:25 pm, Nov 28, 2017

RP # 1RP-4694
API # 30-025-42062

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4694.

The following information includes:

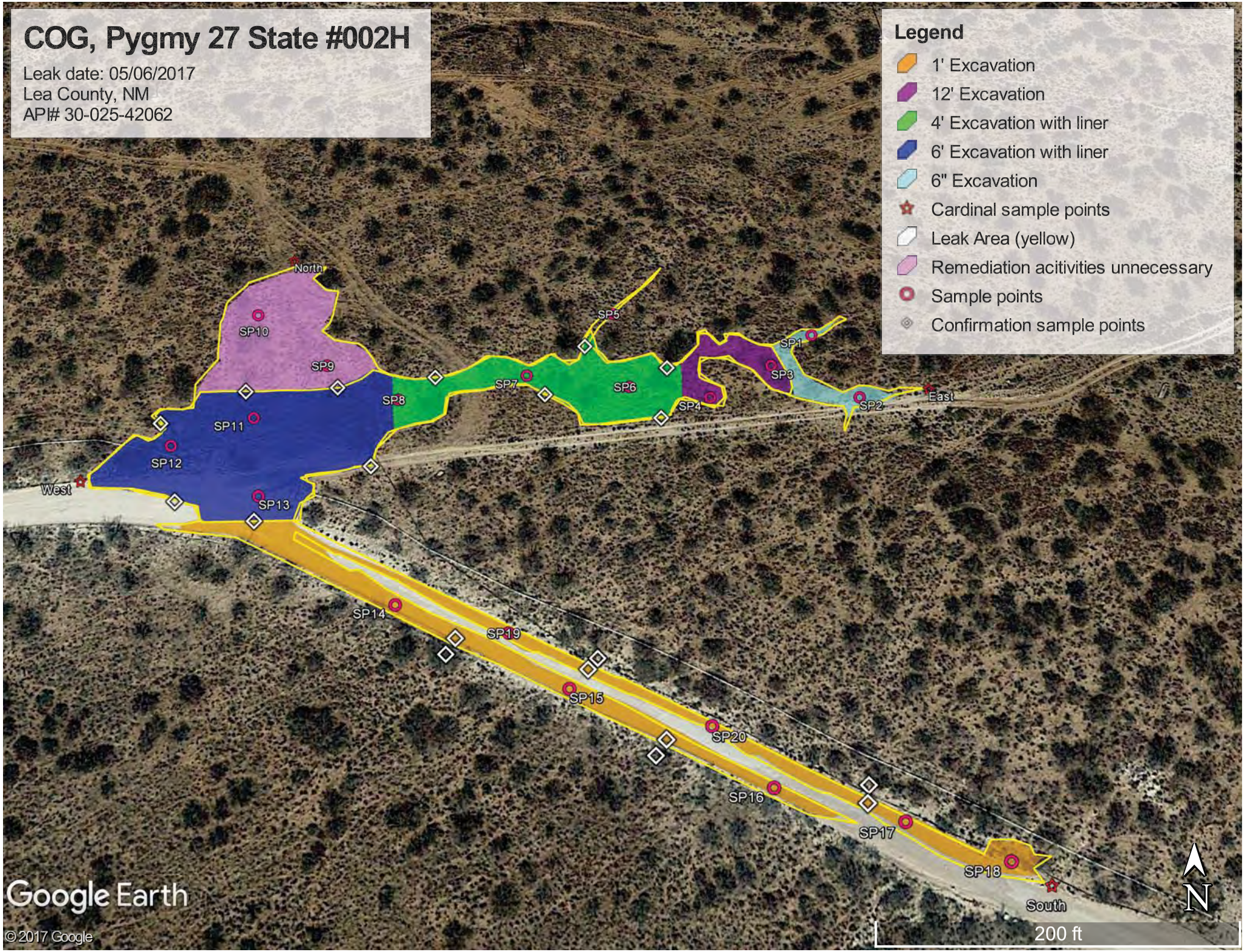
1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy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

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

COG will excavate the spill area as depicted on the following site diagram. The leak area near SP1 and SP2 (blue shade on diagram) will be excavated to a depth of 6 inches. The leak area near SP3 and SP4 (purple shade on diagram) will be excavated to a depth of 12 feet. The leak area near SP5 - SP8 will be excavated to a depth of 4 feet then an impermeable liner will be placed in the bottom of the excavation. The leak area near SP9 and SP10 (pink shade on diagram) will require zero remediation. The leak area near SP11 - SP13 (dark blue shade on diagram) will be excavated to a depth of 6 feet then an impermeable liner will be placed in the bottom of the excavation. The leak area near SP14 – SP20 (orange shade on diagram) will be excavated to a depth of 1 foot. Confirmation samples denoted on the diagram will be taken to confirm vertical and bottom remediation limits.

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

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


COG, Pygmy 27 State #002H
Leak date: 05/06/2017
Lea County, NM
API# 30-025-42062
Legend
1' Excavation
12' Excavation
4' Excavation with liner
6' Excavation with liner
6" Excavation
Cardinal sample points
Leak Area (yellow)
Remediation acitivities unnecessary
Sample points
Confirmation sample points
North
East
South
West
SP1
SP2
SP3
SP4
SP5
SP6
SP7
SP8
SP9
SP10
SP11
SP12
SP13
SP14
SP15
SP16
SP17
SP18
SP19
SP20
Google Earth
© 2017 Google
200 ft
N

COG, Pygmy 27 State #002H

Sample points, hand auger

SP1, N 32.45284 W-103.58088

SP2, N 32.45270 W-103.58078

SP3, N 32.45276 W-103.58097

SP4, N 32.45269 W-103.58111

SP5, N 32.45288 W-103.58132

SP6, N 32.45271 W-103.58128

SP7, N 32.45274 W-103.58151

SP8, N 32.45268 W-103.58179

SP9, N 32.45276 W-103.58195

SP10, N 32.45288 W-103.58212

SP11, N 32.45264 W-103.58209

SP12, N 32.45258 W-103.58226

SP13, N 32.45248 W-103.58206

SP14, N 32.45227 W-103.58175

SP15, N 32.45212 W-103.58140

SP16, N 32.45196 W-103.58102

SP17, N 32.45190 W-103.58078

SP18, N 32.45184 W-103.58059

NORTH, N 32.45301 W-103.58206

SOUTH, N 32.45181 W-103.58053

EAST, N 32.45272 W-103.58063

WEST, N 32.45250 W-103.58246

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New Mexico State Land Office
Revegetation and Noxious Weed Management Plan

COG – PYGMY 27 STATE #002H

Revegetation Plan

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

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

Gramma grass – 40% - 1.5 lbs. PLS
Buffalo grass – 40% - 1.5 lbs. PLS
Side oats – 10% - 0.5% lbs. PLS
Four wing Salt bush – 10% - 1.5 lbs. PLS

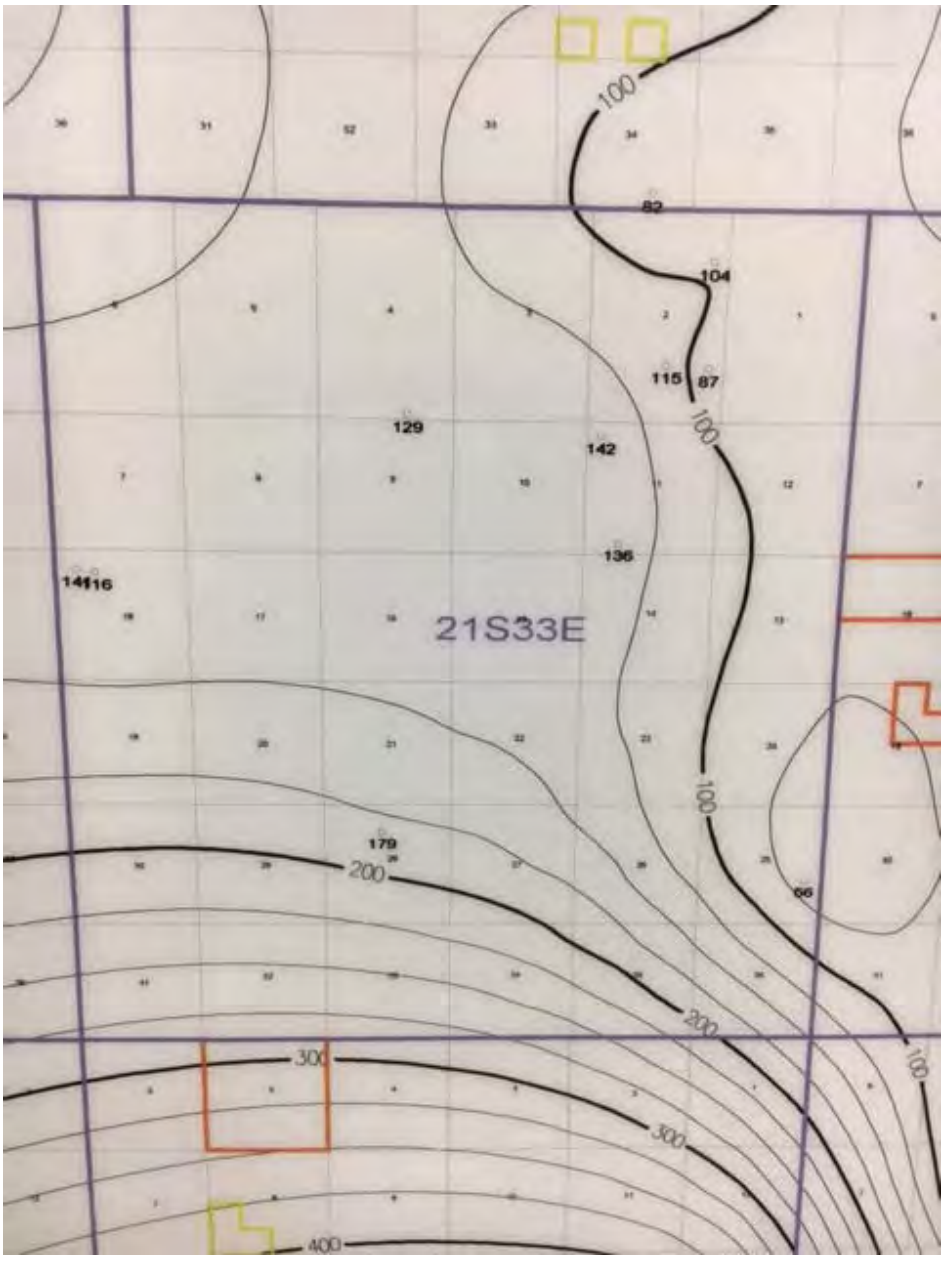
Noxious Weed Management Plan

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

COG, Pygmy 27 State #002H

U/L C, Section 27, T21S, R33E

Groundwater: 175’



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01349 POD1		CP	LE	2	3	1	27	21S	33E	635304	3591576	302	1188	572	616
CP 01357 POD1		CP	LE	4	3	1	27	21S	33E	634782	3591347	566	1286	578	708
CP 01355 POD1		CP	LE	2	1	3	27	21S	33E	634773	3591061	820	1192	582	610
CP 01411 POD2		CP	LE		1	2	34	21S	33E	635534	3590380	1490	1125		
CP 00601 POD1		CP	LE		2	1	28	21S	33E	633502	3591791*	1609	223		
CP 01411 POD1		CP	LE		2	2	34	21S	33E	635968	3590386	1661	1149		

Average Depth to Water: **577 feet**

Minimum Depth: **572 feet**

Maximum Depth: **582 feet**

Record Count: 6

UTMNAD83 Radius Search (in meters):

Easting (X): 635111 **Northing (Y):** 3591809 **Radius:** 1700

***UTM location was derived from PLSS - see Help**

Public Land Survey System (PLSS)

Q64: Q16: NE Q4: NW Sec: 27 Tws: 21S Rng: 33E

State Plane Coordinate System - NAD27

X: 0 ft Y: 0 ft Zone:

State Plane Coordinate System - NAD83

X: 0 ft Y: 0 ft Zone:

Degrees/Minutes/Seconds

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

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

UTM - NAD27

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

SUBMIT

All Conversion Results are displayed as NAD 1983 UTM Zone 13

Easting (X): **635111.0** mtrs Northing (Y): **3591809.0** mtrs

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

Laboratory Analytical Results Summary
Pygmy 27 State #002H

		Sample	SP1 @ 1'	SP1 @ 6'	SP1 @ 10'
Analyte	Method	Date	5/30/17	5/30/17	5/30/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		**48**	**160**	**240**
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

		Sample	SP2 @ 1'	SP2 @ 6'	SP2 @ 10'
Analyte	Method	Date	5/30/17	5/30/17	5/30/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		**64**	**160**	**144**
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

		Sample	SP3 @ 1'	SP3 @ 3'	SP3 @ 6'	SP3 @ 8'	SP3 @ 10'	SP3 @ 12'	SP3 @ 14'	SP3 @ 19'
Analyte	Method	Date	5/30/17	5/30/17	5/30/17	5/30/17	5/30/17	8/17/17	817/17	8/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**3960**	**5520**	**15800**	**4560**	**8660**	**6000**	**96**	**96**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP4 @ 1'	SP4 @ 3'	SP4 @ 6'	SP4 @ 8'	SP4 @ 10'	SP4 @ 12'	SP4 @ 14'	SP4 @ 19'	SP4 @ 20'
Analyte	Method	Date	5/30/17	5/30/17	5/30/17	5/30/17	5/31/17	8/17/17	817/17	8/17/17	8/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**4400**	**8400**	**6880**	**7360**	**8660**	**10400**	**1760**	**96**	**80**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP5 @ 1'	SP5 @ 3'	SP5 @ 6'	SP5 @ 8'	SP5 @ 10'	SP5 @ 15'	SP5 @ 18'
Analyte	Method	Date	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**3840**	**6400**	**5440**	**4960**	**128**	**96**	**112**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	**14.3**	n/a	n/a	n/a	n/a	n/a

		Sample	SP6 @ 1'	SP6 @ 3'	SP6 @ 6'	SP6 @ 8'	SP6 @ 10'	SP6 @ 11'	SP6 @ 16'	SP6 @ 18'
Analyte	Method	Date	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17	5/31/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**7360**	**5600**	**7200**	**3200**	**496**	**112**	**80**	**64**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP7 @ 1'	SP7 @ 3'	SP7 @ 6'	SP7 @ 8'	SP7 @ 10'	SP7 @ 15'	SP7 @ 18'
Analyte	Method	Date	5/31/17	6/1/17	6/1/17	6/1/17	6/1/17	6/1/17	6/1/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**320**	**4800**	**12100**	**560**	**160**	**208**	**80**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	SP8 @ 1'	SP8 @ 3'	SP8 @ 6'	SP8 @ 8'	SP8 @ 9'	SP8 @ 14'	SP8 @ 18'
Analyte	Method	Date	6/1/17	6/1/17	6/1/17	6/1/17	6/1/17	6/1/17	6/1/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**416**	**13400**	**5200**	**640**	<16.0	**32**	**32**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a

Laboratory Analytical Results Summary
Pygmy 27 State #002H

		Sample	SP9 @ SURFACE
Analyte	Method	Date	6/1/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**32**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

		Sample	SP10 @ SURFACE
Analyte	Method	Date	6/1/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**16**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

		Sample	SP11 @ 1'	SP11 @ 3'	SP11 @ 6'	SP11 @ 8'	SP11 @ 9'	SP11 @ 10'	SP11 @ 15'	SP11 @ 17'	SP11 @ 18'	SP11 @ 19'	SP11 @ 22'
Analyte	Method	Date	6/1/17	6/1/17	6/1/17	6/8/17	6/8/17	6/8/17	6/8/17	6/8/17	8/17/17	817/17	8/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**688**	**9060**	**10700**	**7040**	**208**	**192**	**288**	**704**	**352**	**128**	**80**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP12 @ 1'	SP12 @ 3'	SP12 @ 5'	SP12 @ 7'	SP12 @ 9'	SP12 @ 11'	SP12 @ 16'
Analyte	Method	Date	6/8/17	6/8/17	6/8/17	6/8/17	8/17/17	817/17	8/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**1420**	**7760**	**12700**	**8660**	**528**	**48**	**80**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	SP13 @ 1'	SP13 @ 3'	SP13 @ 5'	SP13 @ 7'	SP13 @ 9'	SP13 @ 10'	SP13 @ 15'
Analyte	Method	Date	6/8/17	6/8/17	6/8/17	6/8/17	8/17/17	817/17	8/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**2160**	**11800**	**12300**	**2560**	**2960**	**176**	**128**
GRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	SP14 @ 1'	SP14 @ 6'	SP14 @ 7'	SP14 @ 9'	SP14 @ 10'	SP14 @ 15'
Analyte	Method	Date	6/8/17	6/8/17	6/8/17	8/18/17	8/18/17	8/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**160**	**128**	**592**	**528**	**48**	**64**
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	SP15 @ 1'	SP15 @ 2'	SP15 @ 7'	SP15 @ 8'	SP15 @ 13'
Analyte	Method	Date	6/9/17	6/9/17	6/9/17	8/18/17	8/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**1440**	**112**	**544**	**112**	**128**
GRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a

		Sample	SP16 @ 1'	SP16 @ 2'	SP16 @ 7'
Analyte	Method	Date	6/9/17	6/9/17	6/9/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		**1380**	**16**	**144**
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

Laboratory Analytical Results Summary
Pygmy 27 State #002H

Analyte	Method	Sample Date	SP17 @ 1' 6/9/17	SP17 @ 2' 6/9/17	SP17 @ 7' 6/9/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		**2240**	**160**	**208**
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

Analyte	Method	Sample Date	North Sample 6/11/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**400**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

Analyte	Method	Sample Date	SP18 @ 1' 6/9/17	SP18 @ 2' 6/9/17	SP18 @ 7' 6/9/17	SP18 @ 8' 8/18/17	SP18 @ 9' 8/18/17	SP18 @ 14' 8/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**1420**	**144**	**512**	**240**	**144**	**128**
GRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		n/a	n/a	n/a	n/a	n/a	n/a

Analyte	Method	Sample Date	South Sample 6/11/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**400**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

Analyte	Method	Sample Date	SP19 @ 1' 6/9/17	SP19 @ 2' 6/9/17	SP19 @ 7' 6/9/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		**1760**	**160**	**144**
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

Analyte	Method	Sample Date	East Sample 6/11/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**512**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

Analyte	Method	Sample Date	SP20 @ 1' 6/11/17	SP20 @ 2' 6/11/17	SP20 @ 7' 6/11/17	SP20 @ 8' 8/18/17	SP20 @ 13' 8/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**1380**	**80**	**432**	**192**	**176**
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a

Analyte	Method	Sample Date	West Sample 6/11/17
			mg/Kg
Benzene	BTEX 8021B		n/a
Toluene	BTEX 8021B		n/a
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		n/a
Total BTEX	BTEX 8021B		n/a
Chloride	SM4500Cl-B		**304**
GRO	TPH 8015M		n/a
DRO	TPH 8015M		n/a
EXT DRO	TPH 8015M		n/a

CARDINAL Laboratories

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

June 13, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE #002H

Enclosed are the results of analyses for samples received by the laboratory on 06/07/17 9:30.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ 1' (H701490-01)

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	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	06/08/2017	ND	464	116	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *98.2 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *103 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ 6' (H701490-02)

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	06/08/2017	ND	464	116	400	14.8	

Sample ID: SP 1 @ 10' (H701490-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	06/08/2017	ND	464	116	400	14.8	

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 1' (H701490-04)

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	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.8 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	06/08/2017	ND	464	116	400	14.8	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *101 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *103 %* *34.7-157*

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 6' (H701490-05)

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	06/08/2017	ND	464	116	400	14.8	

Sample ID: SP 2 @ 10' (H701490-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	06/08/2017	ND	464	116	400	14.8	

Sample ID: SP 3 @ 1' (H701490-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3960**	16.0	06/08/2017	ND	464	116	400	14.8	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 3' (H701490-08)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.3 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5520**	16.0	06/08/2017	ND	464	116	400	14.8	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *102 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *103 %* *34.7-157*

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 6' (H701490-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**15800**	16.0	06/08/2017	ND	464	116	400	14.8	

Sample ID: SP 3 @ 8' (H701490-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4560**	16.0	06/08/2017	ND	432	108	400	3.64	QM-07

Sample ID: SP 3 @ 10' (H701490-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8660**	16.0	06/08/2017	ND	432	108	400	3.64	

Sample ID: SP 4 @ 1' (H701490-12)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4400**	16.0	06/08/2017	ND	432	108	400	3.64	

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*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 4 @ 3' (H701490-13)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8400**	16.0	06/09/2017	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *99.8 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *102 %* *34.7-157*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/30/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 4 @ 6' (H701490-14)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6880**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 4 @ 8' (H701490-15)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7360**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 4 @ 10' (H701490-16)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8660**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 5 @ 1' (H701490-17)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3840**	16.0	06/09/2017	ND	432	108	400	3.64	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 5 @ 3' (H701490-18)

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	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.5 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6400**	16.0	06/09/2017	ND	432	108	400	3.64	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	**14.3**	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *99.3 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *97.2 %* *34.7-157*

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 5 @ 6' (H701490-19)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5440**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 5 @ 8' (H701490-20)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4960**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 5 @ 10' (H701490-21)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 5 @ 15' (H701490-22)

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	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 5 @ 18' (H701490-23)

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	06/09/2017	ND	432	108	400	3.64	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ 1' (H701490-24)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7360**	16.0	06/09/2017	ND	432	108	400	3.64	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ 3' (H701490-25)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5600**	16.0	06/09/2017	ND	432	108	400	3.64	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *94.4 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *98.5 %* *34.7-157*

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ 6' (H701490-26)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7200**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 6 @ 8' (H701490-27)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3200**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 6 @ 10' (H701490-28)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 6 @ 11' (H701490-29)

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	06/09/2017	ND	432	108	400	3.64	

Sample ID: SP 6 @ 16' (H701490-30)

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	06/09/2017	ND	448	112	400	3.64	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	05/31/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ 18' (H701490-31)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 7 @ 1' (H701490-32)

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	06/09/2017	ND	448	112	400	3.64	

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 7 @ 3' (H701490-33)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4800**	16.0	06/09/2017	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *97.7 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *96.6 %* *34.7-157*

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Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 7 @ 6' (H701490-34)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**12100**	16.0	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 7 @ 8' (H701490-35)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 7 @ 10' (H701490-36)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 7 @ 15' (H701490-37)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 7 @ 18' (H701490-38)

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	06/09/2017	ND	448	112	400	3.64	

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 8 @ 1' (H701490-39)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	06/09/2017	ND	448	112	400	3.64	

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 8 @ 3' (H701490-40)

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	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**13400**	16.0	06/09/2017	ND	448	112	400	3.64	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *103 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *107 %* *34.7-157*

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Celey D. Keene, Lab Director/Quality Manager

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

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 8 @ 6' (H701490-41)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5200**	16.0	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 8 @ 8' (H701490-42)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 8 @ 9' (H701490-43)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 8 @ 14' (H701490-44)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 8 @ 18' (H701490-45)

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	06/09/2017	ND	448	112	400	3.64	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 9 @ SURFACE (H701490-46)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 10 @ SURFACE (H701490-47)

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	06/09/2017	ND	448	112	400	3.64	

Sample ID: SP 11 @ 1' (H701490-48)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**688**	16.0	06/09/2017	ND	448	112	400	3.64	

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CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 11 @ 3' (H701490-49)

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	06/09/2017	ND	1.97	98.7	2.00	0.663	
Toluene*	<0.050	0.050	06/09/2017	ND	1.97	98.5	2.00	0.305	
Ethylbenzene*	<0.050	0.050	06/09/2017	ND	2.12	106	2.00	0.756	
Total Xylenes*	<0.150	0.150	06/09/2017	ND	5.75	95.9	6.00	0.766	
Total BTEX	<0.300	0.300	06/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *72-148*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**9060**	16.0	06/09/2017	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/09/2017	ND	218	109	200	5.54	
DRO >C10-C28	<10.0	10.0	06/09/2017	ND	237	119	200	6.66	
EXT DRO >C28-C36	<10.0	10.0	06/09/2017	ND					

Surrogate: 1-Chlorooctane *94.2 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *98.3 %* *34.7-157*

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CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/07/2017	Sampling Date:	06/01/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 11 @ 6' (H701490-50)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10700**	16.0	06/09/2017	ND	448	112	400	0.00	QM-07

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CARDINAL Laboratories

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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

Celey D. Keene, Lab Director/Quality Manager

1 of 5

CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.
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:** COG
Project Name:	PYGMY 27 STATE #002H
Project Location:	LEA COUNTY, NM
Sampler Name:	JEFF ORNELAS

BILL TO

P.O. #:	
Company:	COG
Attn:	Rebecca Haskell
Address:	
City:	
State:	**Zip:**
Phone #:	
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Cl	BTEX	TPH
H701490																	
1	SP1 @ 1'	G	1			✓					✓		5/30/17	9:40 AM	✓	✓	✓
2	SP1 @ 6'	G	1			✓					✓		5/30/17	9:50 AM	✓		
3	SP1 @ 10'	G	1			✓					✓		5/30/17	10:05 AM	✓		
4	SP2 @ 1'	G	1			✓					✓		5/30/17	10:33 AM	✓	✓	✓
5	SP2 @ 6'	G	1			✓					✓		5/30/17	10:45 AM	✓		
6	SP2 @ 10'	G	1			✓					✓		5/30/17	11:00 AM	✓		
7	SP3 @ 1'	G	1			✓					✓		5/30/17	11:11 AM	✓		
8	SP3 @ 3'	G	1			✓					✓		5/30/17	11:31 AM	✓	✓	✓
9	SP3 @ 6'	G	1			✓					✓		5/30/17	12:44 PM	✓		
10	SP3 @ 8'	G	1			✓					✓		5/30/17	1:01 PM	✓		

Relinquished By:	Date: 6/1/17	**Received By:**	
Jeff Ornelas	Time: 5:30pm		
Relinquished By:	Date: 6.7.17	**Received By:**	
	Time: 9:30		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: #75 - 10.1°C

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☐ Yes ☐ No	☑ Yes ☐ No	

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

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CARDINAL LABORATORIES

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 5

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	COG
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	Rebecca Haskell
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:** COG	**City:**	
Project Name:	PYGMY 27 STATE #002H	**State:** **Zip:**	
Project Location:	LEA COUNTY, NM	**Phone #:**	
Sampler Name:	JEFF ORNELAS	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
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	Cl	BTEX	TPH								
H701490																									
11	SP3 @ 10'	G	1			✓					✓		5/30/17	1:38 PM	✓										
12	SP4 @ 1'	G	1			✓					✓		5/30/17	2:15 PM	✓										
13	SP4 @ 3'	G	1			✓					✓		5/30/17	2:33 PM	✓	✓	✓								
14	SP4 @ 6'	G	1			✓					✓		5/30/17	2:58 PM	✓										
15	SP4 @ 8'	G	1			✓					✓		5/30/17	3:11 PM	✓										
16	SP4 @ 10'	G	1			✓					✓		5/31/17	8:30 AM	✓										
17	SP5 @ 1'	G	1			✓					✓		5/31/17	9:40 AM	✓										
18	SP5 @ 3'	G	1			✓					✓		5/31/17	10:15 AM	✓	✓	✓								
19	SP5 @ 6'	G	1			✓					✓		5/31/17	11:08 AM	✓										
20	SP5 @ 8'	G	1			✓					✓		5/31/17	12:01 PM	✓										

Relinquished By:	**Date:** 6/1/17	**Received By:**	
Jeff Ornelas	**Time:** 5:30pm	Rosalinda Garcia	
Relinquished By:	**Date:** 6-7-17	**Received By:**	
Rosalinda Garcia	**Time:** 9:30	Jodi Henson	

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: #75 -10.1°

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☑ Yes ☐ No	☑ Yes ☐ No	

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

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CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	COG
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	Rebecca Haskell
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:** COG	**City:**	
Project Name:	PYGMY 27 STATE #002H	**State:** **Zip:**	
Project Location:	LEA COUNTY, NM	**Phone #:**	
Sampler Name:	JEFF ORNELAS	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
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**	Cl	BTEX	TPH								
H701490																									
21	SP5 @ 10'	G	1			✓					✓		5/31/17	1:03 PM	✓										
22	SP5 @ 15'	G	1			✓					✓		5/31/17	1:19 PM	✓										
23	SP5 @ 18'	G	1			✓					✓		5/31/17	1:33 PM	✓										
24	SP6 @ 1'	G	1			✓					✓		5/31/17	1:41 PM	✓										
25	SP6 @ 3'	G	1			✓					✓		5/31/17	2:02 PM	✓	✓	✓								
26	SP6 @ 6'	G	1			✓					✓		5/31/17	2:32 PM	✓										
27	SP6 @ 8'	G	1			✓					✓		5/31/17	3:03 PM	✓										
28	SP6 @ 10'	G	1			✓					✓		5/31/17	3:11 PM	✓										
29	SP6 @ 11'	G	1			✓					✓		5/31/17	3:13 PM	✓										
30	SP6 @ 16'	G	1			✓					✓		5/31/17	3:25 PM	✓										

Relinquished By:	Date: 6/1/17	**Received By:**		**Phone Result:** ☐ Yes ☐ No	**Add'l Phone #:**
Jeff Ornelas	Time: 5:30pm			**Fax Result:** ☐ Yes ☐ No	**Add'l Fax #:**
Relinquished By:	Date: 6.7.17	**Received By:**		**REMARKS:**	
	Time: 9:30	Jodi Henson			
Delivered By: (Circle One)		**Sample Condition**	**CHECKED BY:**		
Sampler - UPS - Bus - Other:	#75 -10.1°C	**Cool** ☐ Yes ☐ No / **Intact** ☑ Yes ☐ No	(Initials)		

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	COG
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	Rebecca Haskell
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:** COG	**City:**	
Project Name:	PYGMY 27 STATE #002H	**State:** **Zip:**	
Project Location:	LEA COUNTY, NM	**Phone #:**	
Sampler Name:	JEFF ORNELAS	**Fax #:**	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST											
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	Cl	BTEX	TAT										
H701490																											
31	SP6 @ 18'	G	1			✓					✓		5/31/17	3:45 PM	✓												
32	SP7 @ 1'	G	1			✓					✓		5/31/17	3:47 PM	✓												
33	SP7 @ 3'	G	1			✓					✓		6/1/17	9:11 AM	✓	✓	✓										
34	SP7 @ 6'	G	1			✓					✓		6/1/17	9:59 AM	✓												
35	SP7 @ 8'	G	1			✓					✓		6/1/17	10:30 AM	✓												
36	SP7 @ 10'	G	1			✓					✓		6/1/17	11:01 AM	✓												
37	SP7 @ 15'	G	1			✓					✓		6/1/17	11:22 AM	✓												
38	SP7 @ 18'	G	1			✓					✓		6/1/17	11:30 AM	✓												
39	SP8 @ 1'	G	1			✓					✓		6/1/17	11:33 AM	✓												
40	SP8 @ 3'	G	1			✓					✓		6/1/17	11:41 AM	✓	✓	✓										

Relinquished By:	Jeff Ornelas	**Date:** 6/1/17	**Received By:**	Lucy Arrie	
		Time: 5:30pm			
Relinquished By:	Rosalva Ramos	**Date:** 6.7.17	**Received By:**	Jodi Henson	
		Time: 9:30			
Delivered By: (Circle One)	Sampler - UPS - Bus - Other: #75 - 10.1°C	**Sample Condition** Cool: ☐ Yes ☐ No / Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	JH	

Phone Result:	☐ Yes ☐ No	**Add'l Phone #:**	
Fax Result:	☐ Yes ☐ No	**Add'l Fax #:**	
REMARKS:			

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CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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:	
Project Name:	PYGMY 27 STATE #002H
Project Location:	LEA COUNTY, NM
Sampler Name:	JEFF ORNELAS

BILL TO

P.O. #:	
Company:	COG
Attn:	Rebecca Haskell
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Cl	BTEX	TPH
H701490																	
41	SP8 @ 6'	G	1			✓					✓		6/1/17	12:11 PM	✓		
42	SP8 @ 8'	G	1			✓					✓		6/1/17	1:05 PM	✓		
43	SP8 @ 9'	G	1			✓					✓		6/1/17	1:11 PM	✓		
44	SP8 @ 14'	G	1			✓					✓		6/1/17	1:22 PM	✓		
45	SP8 @ 18'	G	1			✓					✓		6/1/17	1:33 PM	✓		
46	SP9 @ SURFACE	G	1			✓					✓		6/1/17	1:48 PM	✓		
47	SP10 @ SURFACE	G	1			✓					✓		6/1/17	1:55 PM	✓		
48	SP11 @ 1'	G	1			✓					✓		6/1/17	2:10 PM	✓		
49	SP11 @ 3'	G	1			✓					✓		6/1/17	2:22 PM	✓	✓	✓
50	SP11 @ 6'	G	1			✓					✓		6/1/17	3:01 PM	✓		

Relinquished By:	Date: 6/1/17	Received By:	
	Time: 5:30pm		
Relinquished By:	Date: 6.2.17	Received By:	
	Time: 9:30		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: #75 -10.1	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	

Phone Result:	☐ Yes ☐ No	Add'l Phone #:	
Fax Result:	☐ Yes ☐ No	Add'l Fax #:	
REMARKS:			

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CARDINAL Laboratories

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

June 19, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE #002H

Enclosed are the results of analyses for samples received by the laboratory on 06/13/17 11:55.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 11 @ 8' (H701546-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7040**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 11 @ 9' (H701546-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 11 @ 10' (H701546-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 11 @ 15' (H701546-04)

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	06/14/2017	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 11 @ 17' (H701546-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**704**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 12 @ 1' (H701546-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1420**	16.0	06/14/2017	ND	432	108	400	0.00	

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

Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 12 @ 3' (H701546-07)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7760**	16.0	06/14/2017	ND	432	108	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *99.9 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *88.6 %* *34.7-157*

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 12 @ 5' (H701546-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**12700**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 12 @ 7' (H701546-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8660**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 13 @ 1' (H701546-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2160**	16.0	06/14/2017	ND	432	108	400	0.00	

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 13 @ 3' (H701546-11)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**11800**	16.0	06/14/2017	ND	432	108	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *101 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *85.1 %* *34.7-157*

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 13 @ 5' (H701546-12)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**12300**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 13 @ 7' (H701546-13)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2560**	16.0	06/14/2017	ND	432	108	400	0.00	

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 14 @ 1' (H701546-14)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	06/14/2017	ND	432	108	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *100 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *82.0 %* *34.7-157*

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

Received:	06/13/2017	Sampling Date:	06/08/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 14 @ 6' (H701546-15)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 14 @ 7' (H701546-16)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**592**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 15 @ 1' (H701546-17)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1440**	16.0	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 15 @ 2' (H701546-18)

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	06/14/2017	ND	432	108	400	0.00	

Sample ID: SP 15 @ 7' (H701546-19)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	06/14/2017	ND	416	104	400	3.77	

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 16 @ 1' (H701546-20)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1380**	16.0	06/14/2017	ND	416	104	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	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *107 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *89.4 %* *34.7-157*

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Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 16 @ 2' (H701546-21)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 16 @ 7' (H701546-22)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	06/14/2017	ND	416	104	400	3.77	

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 17 @ 1' (H701546-23)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2240**	16.0	06/14/2017	ND	416	104	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	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *97.8 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *82.0 %* *34.7-157*

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 17 @ 2' (H701546-24)

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	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 17 @ 7' (H701546-25)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 18 @ 1' (H701546-26)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1420**	16.0	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 18 @ 2' (H701546-27)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 18 @ 7' (H701546-28)

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	06/14/2017	ND	416	104	400	3.77	

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 19 @ 1' (H701546-29)

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	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.9 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1760**	16.0	06/14/2017	ND	416	104	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	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *102 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *86.4 %* *34.7-157*

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

Received:	06/13/2017	Sampling Date:	06/09/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 19 @ 2' (H701546-30)

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	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 19 @ 7' (H701546-31)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	06/14/2017	ND	416	104	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/11/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 20 @ 1' (H701546-32)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	0.885	
Toluene*	<0.050	0.050	06/14/2017	ND	2.32	116	2.00	0.422	
Ethylbenzene*	<0.050	0.050	06/14/2017	ND	2.38	119	2.00	1.03	
Total Xylenes*	<0.150	0.150	06/14/2017	ND	6.39	107	6.00	1.37	
Total BTEX	<0.300	0.300	06/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1380**	16.0	06/14/2017	ND	416	104	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	06/14/2017	ND	187	93.6	200	0.233	
DRO >C10-C28	<10.0	10.0	06/14/2017	ND	191	95.5	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	06/14/2017	ND					

Surrogate: 1-Chlorooctane *101 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *83.3 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/11/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 20 @ 2' (H701546-33)

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	06/14/2017	ND	416	104	400	3.77	

Sample ID: SP 20 @ 7' (H701546-34)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**432**	16.0	06/14/2017	ND	416	104	400	3.77	

Sample ID: NORTH (H701546-35)

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	06/14/2017	ND	416	104	400	3.77	

Sample ID: SOUTH (H701546-36)

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	06/14/2017	ND	416	104	400	3.77	

Sample ID: EAST (H701546-37)

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	06/14/2017	ND	416	104	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/13/2017	Sampling Date:	06/11/2017
Reported:	06/19/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: WEST (H701546-38)

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	06/14/2017	ND	416	104	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 4

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

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:	C.O.G.
Project Name:	PYGMY 27 ST. # 002H
Project Location:	
Sampler Name:	ROGER HERNANDEZ

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	TIME	TPH EXTENDED	BTEX	CHLORIDE
H701546-1	SP 11 @ 8'	G	1			✓					✓		6.8.17	910			✓
2	@ 9'	G	1			✓					✓		6.8.17	922			✓
3	@ 10'	G	1			✓					✓		6.8.17	935			✓
4	@ 15'	G	1			✓					✓		6.8.17	950			✓
5	@ 17'	G	1			✓					✓		6.8.17	1020			✓
6	SP 12 @ 1'	G	1			✓					✓		6.8.17	1100			✓
7	@ 3'	G	1			✓					✓		6.8.17	1135	✓	✓	✓
8	@ 5'	G	1			✓					✓		6.8.17	1208			✓
9	@ 7'	G	1			✓					✓		6.8.17	115			✓
10	SP 13 @ 1'	G	1			✓					✓		6.8.17	148			✓

Relinquished By:	Roger Hernandez	Date:	
		Time:	
Received By:			
Relinquished By:		Date:	6-13-17
		Time:	11:55
Received By:	Tamara Oldaker		
Delivered By: (Circle One)	Sampler - UPS - Bus - Other:	Sample Condition: Cool: Yes / No; Intact: Yes / No	1.9°C
CHECKED BY: (Initials)	T.O. HS		

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Headspace on some. T.O.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 4

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

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:	C.O.G.
Project Name:	PYGMY 27 ST # 002H
Project Location:	
Sampler Name:	ROGER HERNANDEZ

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	TPH - EXTENDED	BTEX	CHLORIDE
H701546																	
11	SP13 @ 3'	G	1			✓					✓		6.8.17	215	✓	✓	✓
12	@ 5'	G	1			✓					✓		6.8.17	247			✓
13	@ 7'	G	1			✓					✓		6.8.17	320			✓
14	SP14 @ 1'	G	1			✓					✓		6.8.17	530	✓	✓	✓
15	@ 5'	G	1			✓					✓		6.8.17	400			✓
16	@ 7'	G	1			✓					✓		6.8.17	415			✓
17	SP15 @ 1	G	1			✓					✓		6.9.17	935			✓
18	2	G	1			✓					✓		6.9.17	956			✓
19	7	G	1			✓					✓		6.9.17	1020			✓
20	SP16 @ 1	G	1			✓					✓		6.9.17	1055	✓	✓	✓

Relinquished By:	Roger Hernandez	Date:	
		Time:	
Received By:			
Relinquished By:		Date:	6-13-17
		Time:	11:55
Received By:	Tamara Oldaker		
Delivered By: (Circle One)		Sample Condition: Cool ☑ Yes ☐ No	Intact ☑ Yes ☐ No
Sampler - UPS - Bus - Other:	1.9°C	CHECKED BY: (Initials)	T.O. #75

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: Head space on some T.O.

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 4

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

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:** C.O.G
Project Name:	PYGMY 27 ST #002H
Project Location:	
Sampler Name:	Roger Hernandez

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	**Zip:**
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH - EXTENDED	BTEX	CHLORIDE
H701546																	
21	SP16 @ 2'	G	1			✓					✓		6.9.17	1125			✓
22	@ 7'	C	1			✓					✓		6.9.17	1130			✓
23	SP17 @ 1'	G	1			✓					✓		6.9.17	100	✓	✓	✓
24	@ 2'	G	1			✓					✓		6.9.17	115			✓
25	@ 7'	C	1			✓					✓		6.9.17	127			✓
26	SP18 @ 1'	G	1			✓					✓		6.9.17	154			✓
27	@ 2'	G	1			✓					✓		6.9.17	904			✓
28	@ 7'	C	1			✓					✓		6.9.17	912			✓
29	SP19 @ 1'	G	1			✓					✓		6.9.17	235	✓	✓	✓
30	@ 2'	G	1			✓					✓		6.9.17	244			✓

Relinquished By:	Roger Hernandez	**Date:**	
		Time:	
Received By:			
Relinquished By:		**Date:**	6-13-17
		Time:	11:55
Received By:	Tamara Oldaker		
Delivered By: (Circle One)	Sampler - UPS - Bus - Other:	**Sample Condition** Cool: ☑ Yes ☐ No; Intact: ☑ Yes ☐ No	1.9°C
CHECKED BY: (Initials)	TO-#75		

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:	Head space on some TO.		

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

4 of 4

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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:** C.O.G
Project Name:	PYGMY 27 ST # 002H
Project Location:	
Sampler Name:	ROGER Hernandez

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	**Zip:**
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH - EXTENDED	BTEX	CHLORIDE
H105546													6-9-17	300			✓
31	SP 19 @ 7'	C	1			✓					✓		6-11-17	1045	✓	✓	✓
32	SP 20 @ 1'	C	1			✓					✓		6-11-17	1058			✓
33	@ 2'	C	1			✓					✓		6-11-17	1108			✓
34	@ 7'	C	1			✓					✓		6-11-17	1120			✓
35	NORTH	C	1			✓					✓		6-11-17	1140			✓
36	SOUTH	C	1			✓					✓		6-11-17	1200			✓
37	EAST	C	1			✓					✓		6-11-17	1230			✓
38	WEST																

Relinquished By:	**Date:**	**Received By:**	
	Time:		
Relinquished By:	**Date:** 6-13-17	**Received By:** Tamara Oldaker	
	Time: 11:55		
Delivered By: (Circle One)	**Sample Condition** Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	**CHECKED BY: (Initials)** T.O. #15	
Sampler - UPS - Bus - Other:	1.9°C		

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS: Head space on some T.O.

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CARDINAL Laboratories

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

August 28, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE #2H

Enclosed are the results of analyses for samples received by the laboratory on 08/21/17 14:43.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/17/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 12' (H702223-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6000**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 3 @ 14' (H702223-02)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 3 @ 19' (H702223-03)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 4 @ 12' (H702223-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10400**	16.0	08/24/2017	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/17/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 4 @ 14' (H702223-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1760**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 4 @ 19' (H702223-06)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 4 @ 20' (H702223-07)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 11 @ 18' (H702223-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 11 @ 19' (H702223-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	08/24/2017	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/17/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 11 @ 22' (H702223-10)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 12 @ 9' (H702223-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 12 @ 11' (H702223-12)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 12 @ 16' (H702223-13)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 13 @ 9' (H702223-14)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2960**	16.0	08/24/2017	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/17/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 13 @ 10' (H702223-15)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 13 @ 15' (H702223-16)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 14 @ 9' (H702223-17)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 14 @ 10' (H702223-18)

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	08/24/2017	ND	416	104	400	0.00	

Sample ID: SP 14 @ 15' (H702223-19)

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	08/24/2017	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/18/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 15 @ 8' (H702223-20)

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	08/24/2017	ND	448	112	400	7.41	

Sample ID: SP 15 @ 13' (H702223-21)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	08/24/2017	ND	448	112	400	7.41	

Sample ID: SP 18 @ 8' (H702223-22)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	08/24/2017	ND	448	112	400	7.41	

Sample ID: SP 18 @ 9' (H702223-23)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	08/24/2017	ND	448	112	400	7.41	

Sample ID: SP 18 @ 14' (H702223-24)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	08/24/2017	ND	448	112	400	7.41	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/21/2017	Sampling Date:	08/18/2017
Reported:	08/28/2017	Sampling Type:	Soil
Project Name:	PYGMY 27 STATE #2H	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: SP 20 @ 8' (H702223-25)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	08/24/2017	ND	448	112	400	7.41	

Sample ID: SP 20 @ 13' (H702223-26)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	08/24/2017	ND	448	112	400	7.41	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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:	COG
Project Name:	Pygmy 27 State #2H
Project Location:	Lea County
Sampler Name:	Jeff Ornelas

BILL TO

P.O. #:	
Company:	COG
Attn:	Haskell
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl
H702223															
1	SP3@12	G	1			✓					✓		8.17.17	9:22am	✓
2	SP3@14	G	1			✓					✓			9:40am	✓
3	SP3@19	G	1			✓					✓			9:45am	✓
4	SP4@12	G	1			✓					✓			10:22am	✓
5	SP4@14	G	1			✓					✓			10:40am	✓
6	SP4@19	G	1			✓					✓			10:55am	✓
7	SP4@20	G	1			✓					✓			11:11am	✓
8	SP11@18	G	1			✓					✓			11:15am	✓
9	SP11@14	G	1			✓					✓			11:30am	✓
10	SP11@22	G	1			✓					✓		↓	11:45am	✓

Relinquished By:	Date: 8/18/17	Received By:	
	Time: 5:30pm		
Relinquished By:	Date: 8-21-17	Received By:	
	Time: 2:43		
Delivered By: (Circle One)		Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	12.3° Corrected 12.5°C		T.O. AT

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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:	COG
Project Name:	Pygmy 27 State #2H
Project Location:	Lea County
Sampler Name:	Jeff Ornelas

BILL TO

P.O. #:	
Company:	COG
Attn:	Haskell
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl
H702223-11	SP12 @ 9	G	1			✓					✓		8.17.17	12:51pm	✓
12	SP12 @ 11	G	1			✓					✓			1:20pm	✓
13	SP12 @ 16	G	1			✓					✓			1:45pm	✓
14	SP13 @ 9	G	1			✓					✓			2:22pm	✓
15	SP13 @ 10	G	1			✓					✓			2:30pm	✓
16	SP13 @ 15	G	1			✓					✓			2:55pm	✓
17	SP14 @ 9	G	1			✓					✓			3:15pm	✓
18	SP14 @ 10	G	1			✓					✓			3:22pm	✓
19	SP14 @ 15	G	1			✓					✓			3:45pm	✓
20	SP15 @ 8	G	1			✓					✓		8.18.17	8:59am	✓

Relinquished By:	Date: 8/18/17	Received By:	
	Time: 5:30pm		
Relinquished By:	Date: 8-21-17	Received By:	
	Time: 2:43		
Delivered By: (Circle One)		Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	12.3°c Corrected 12.5°c		TC #25

Phone Result:	☐ Yes	☐ No	Add'l Phone #:
Fax Result:	☐ Yes	☐ No	Add'l Fax #:
REMARKS:			

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	BBC International, Inc.
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Phone #:	575-397-6388
Fax #:	575-397-0397
Project #:	
Project Owner:	COG
Project Name:	Pygmy 27 State Com #2H
Project Location:	Lea County
Sampler Name:	Jeff Ornelas

BILL TO

P.O. #:	
Company:	COG
Attn:	Haskell
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl
H702223-21	SP15 @ 13	G				✓					✓		8.18.17	9:40am	✓
22	SP18 @ 8	G				✓					✓			10:30am	✓
23	SP18 @ 9	G				✓					✓			10:55am	✓
24	SP18 @ 14	G				✓					✓			11:33am	✓
25	SP20 @ 8	G				✓					✓			1:11pm	✓
26	SP20 @ 13	G				✓					✓		↓	1:55pm	✓

8/21/17 Combo 2

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: 8/18/17	Received By:	
	Time: 5:30pm		
Relinquished By:	Date: 8-21-17	Received By:	
	Time: 2:43		
Delivered By: (Circle One)	12.3°	Sample Condition: Cool ☐ Yes ☑ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) T.O. #15
Sampler - UPS - Bus - Other:	Corrected 12.5°C		

Phone Result:	☐ Yes	☐ No	Add'l Phone #:
Fax Result:	☐ Yes	☐ No	Add'l Fax #:
REMARKS:			

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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID # 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: Pygmy 27 State #002H	Facility Type: Flowline

Surface Owner: State & Private	Mineral Owner:	API No. 30-025-42062

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	28	21S	33E	190	North	1980	West	Lea

Latitude 32.452631 Longitude -103.581967

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 1,000 bbls	Volume Recovered: 40 bbls
Source of Release: Flowline	Date and Hour of Occurrence: May 6, 2017 9:00 am	Date and Hour of Discovery: May 6, 2017 9:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Yu – NMOCD / Ms. Groves - SLO	
By Whom? Dakota Neel	Date and Hour: May 6, 2017 9:34 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 10:14 am, May 10, 2017

Describe Cause of Problem and Remedial Action Taken.*

The release was due to a damaged flowline. It appears that a vehicle ran over the line. The old flowline was repaired.

Describe Area Affected and Cleanup Action Taken.*

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Rebecca Haskell	OIL CONSERVATION DIVISION
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: DJF
Title: Senior HSE Coordinator	Approval Date: 5/10/2017 Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached directive Attached ☑
Date: May 9, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

1RP-4694 nOY1713037518 pOY1713039747

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _5/9/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-_4694__ has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _6/10/2017_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

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