



DELINEATION WORKPLAN

**COG – PYGMY 27 STATE #3H
(Leak Date: 06/09/17)**

**RP # 1RP-4728
API # 30-025-42068**

APPROVED

By Olivia Yu at 12:00 pm, Dec 19, 2017

NMOCD will consider delineation as completed for 1RP-4728. See email for remediation requirements.

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4728.

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 covering SP1 and SP2 (pink shade on diagram) will be excavated to a depth of 2 feet. The area (blue shade on diagram) covering SP3-SP5 will require no remediation activities, however samples will be collected to a depth of 1.5 feet to verify per the landowner's request. The area (green shade on diagram) covering SP6 – SP9 will be tilled to enhance natural attenuation. Confirmation samples will be collected as depicted on the diagram to confirm remediation limits have been achieved. The off location area will be seeded to the private surface owner's specifications.

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 #3H

Leak date: 06/09/2017

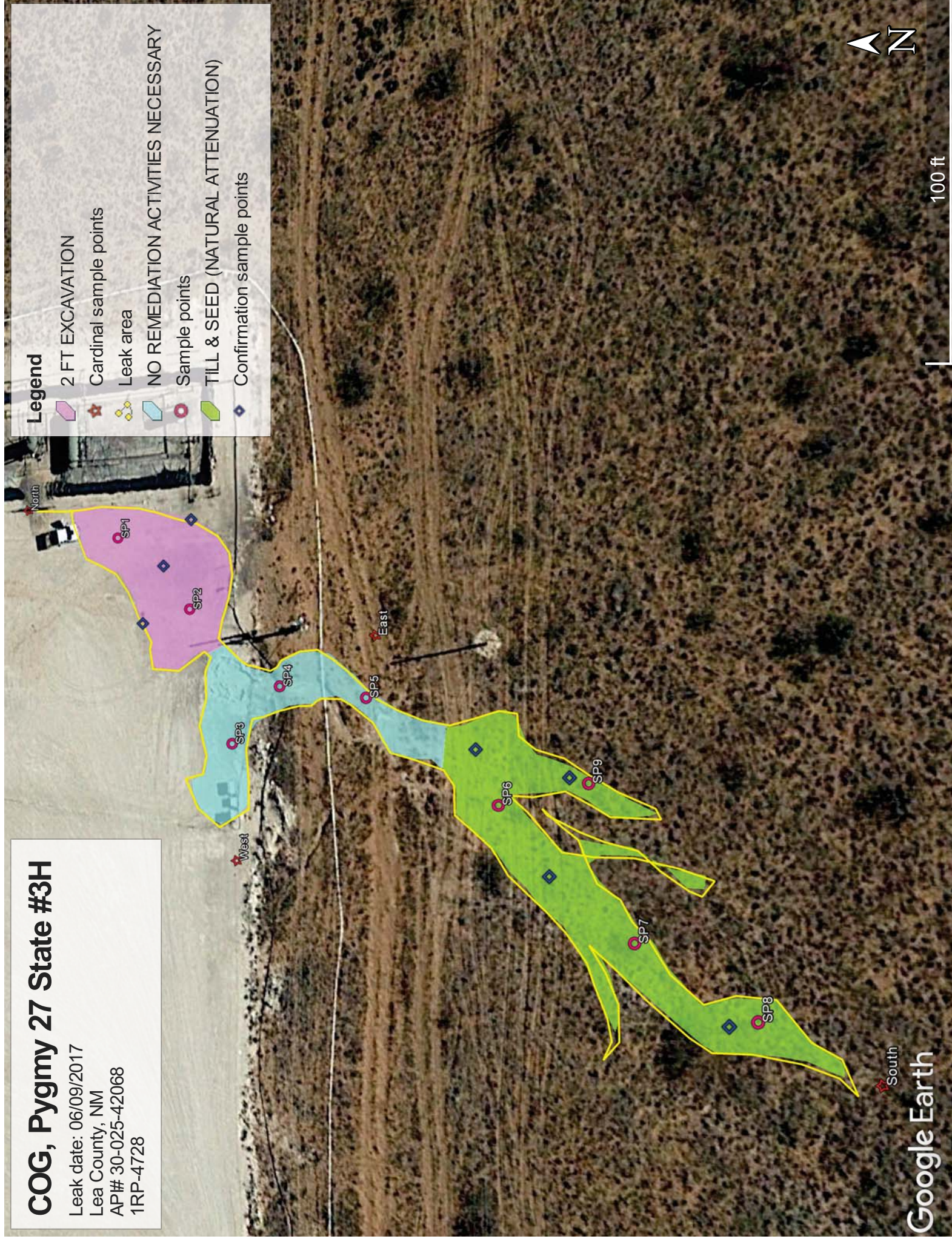
Lea County, NM

API# 30-025-42068

1RP-4728

Legend

- 2 FT EXCAVATION
- Cardinal sample points
- Leak area
- NO REMEDIATION ACTIVITIES NECESSARY
- Sample points
- TILL & SEED (NATURAL ATTENUATION)
- Confirmation sample points



COG, Pygmy 27 State #3H

Sample points, hand auger

SP1, N 32.45617 W-103.55789

SP2, N 32.45607 W-103.55798

SP3, N 32.45601 W-103.55814

SP4, N 32.45595 W-103.55807

SP5, N 32.45585 W-103.55808

SP6, N 32.45571 W-103.55819

SP7, N 32.45558 W-103.55832

SP8, N 32.45547 W-103.55838

SP9, N 32.45562 W-103.55816

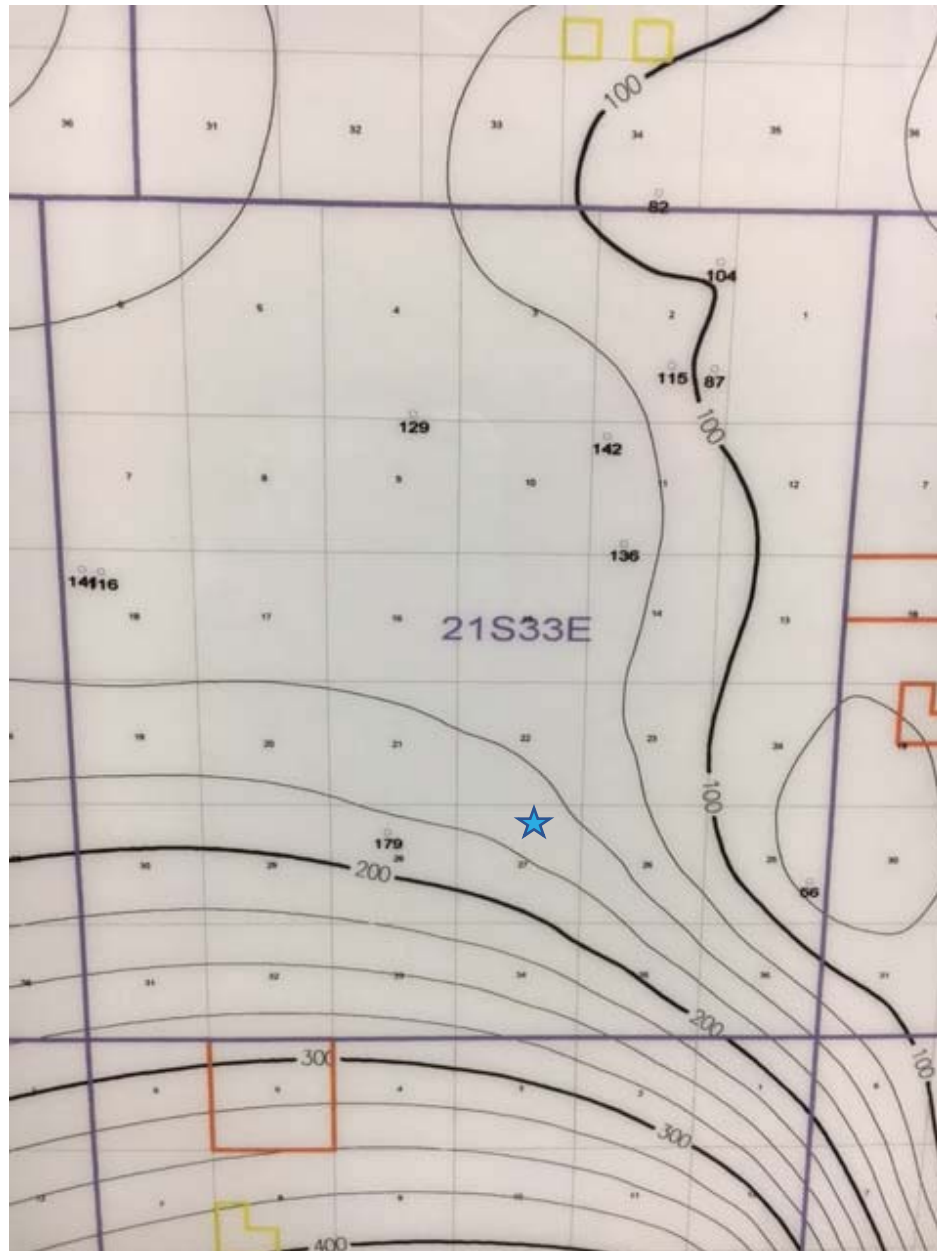
NORTH, N 32.45630 W-103.55785

SOUTH, N 32.45537 W-103.55842

EAST, N 32.45584 W-103.55801

WEST, N 32.45601 W-103.55828

COG, Pygmy 27 State #003H
U/L B, Section 27, T21S, R33E
Groundwater: 150'-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	DepthWell	DepthWater	Water Column
CP 01349 POD1		CP	LE	2	3	1	27	21S	33E	635304	3591576	<input type="text"/>	317	1188	572 616
CP 01357 POD1		CP	LE	4	3	1	27	21S	33E	634782	3591347	<input type="text"/>	868	1286	578 708
CP 01355 POD1		CP	LE	2	1	3	27	21S	33E	634773	3591061	<input type="text"/>	1056	1192	582 610
CP 01411 POD2		CP	LE		1	2	34	21S	33E	635534	3590380	<input type="text"/>	1433	1125	
CP 01411 POD1		CP	LE	2	2	34	21S	33E	635968	3590386	<input type="text"/>	1498	1149		

Average Depth to Water: **577 feet**

Minimum Depth: **572 feet**

Maximum Depth: **582 feet**

Record Count: 5

UTMNAD83 Radius Search (in meters):

Easting (X): 635515

Northing (Y): 3591814

Radius: 1700

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

8/2/17 9:13 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Public Land Survey System (PLSS)

☐

Q64:

Q16:

NW

Q4:

NE

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):

635515.0

mtrs

Northing (Y):

3591814.0

mtrs

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

http://nmwrrs.ose.state.nm.us/nmwrrs/ConvertUTMDispatcher[8/2/2017 9:14:54 AM]

Laboratory Analytical Results Summary
PYGMY 27 STATE #3H

Analyte	Method	Sample Date	SP1 @ 1' 7/17/17	SP1 @ 2' 7/17/17	SP1 @ 3' 7/17/17	SP1 @ 8' 7/17/17	SP1 @ 10' 7/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		1360	96	160	64	80
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		92.9	<10.0	<10.0	<10.0	<10.0

Analyte	Method	Sample Date	SP2 @ 1' 7/17/17	SP2 @ 2' 7/17/17	SP2 @ 3' 7/17/17	SP2 @ 8' 7/17/17	SP2 @ 10' 7/17/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		1280	64	32	16	16
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		139	<10.0	<10.0	<10.0	<10.0

Analyte	Method	Sample Date	SP3 @ SURFACE 7/17/17
			mg/Kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		28.9

Analyte	Method	Sample Date	SP4 @ SURFACE 7/17/17
			mg/Kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		64
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0

Analyte	Method	Sample Date	SP5 @ SURFACE 7/18/17
			mg/Kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500Cl-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0

Analyte	Method	Sample Date	SP6 @ SURFACE 7/18/17	SP6 @ 1' 7/18/17	SP6 @ 6' 7/18/17	SP6 @ 7' 7/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		144	32	16	48
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		12100	<10.0	<10.0	<10.0

Analyte	Method	Sample Date	SP7 @ SURFACE 7/18/17	SP7 @ 1' 7/18/17	SP7 @ 6' 7/18/17	SP7 @ 7' 7/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		96	16	<16.0	32
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		6290	<10.0	<10.0	<10.0

Analyte	Method	Sample Date	SP8 @ SURFACE 7/18/17	SP8 @ 1' 7/18/17	SP8 @ 6' 7/18/17	SP8 @ 7' 7/18/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		96	32	48	48
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		3710	12.4	<10.0	42.1

Laboratory Analytical Results Summary
PYGMY 27 STATE #3H

Analyte	Method	Sample		SP9 @ SURFACE	SP9 @ 1'	SP9 @ 6'	SP9 @ 7'
		Date		mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B			<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B			<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B			<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B			<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B			<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B			112	48	48	32
GRO	TPH 8015M			<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M			4090	<10.0	<10.0	<10.0

Analyte	Method	Sample		SOUTH @ SURFACE
		Date		mg/Kg
Benzene	BTEX 8021B			<0.050
Toluene	BTEX 8021B			<0.050
Ethylbenzene	BTEX 8021B			<0.050
Total Xylenes	BTEX 8021B			<0.150
Total BTEX	BTEX 8021B			<0.300
Chloride	SM4500Cl-B			16
GRO	TPH 8015M			<10.0
DRO	TPH 8015M			<10.0

Analyte	Method	Sample		NORTH @ SURFACE
		Date		mg/Kg
Benzene	BTEX 8021B			<0.050
Toluene	BTEX 8021B			<0.050
Ethylbenzene	BTEX 8021B			<0.050
Total Xylenes	BTEX 8021B			<0.150
Total BTEX	BTEX 8021B			<0.300
Chloride	SM4500Cl-B			48
GRO	TPH 8015M			<10.0
DRO	TPH 8015M			<10.0

Analyte	Method	Sample		EAST @ SURFACE
		Date		mg/Kg
Benzene	BTEX 8021B			<0.050
Toluene	BTEX 8021B			<0.050
Ethylbenzene	BTEX 8021B			<0.050
Total Xylenes	BTEX 8021B			<0.150
Total BTEX	BTEX 8021B			<0.300
Chloride	SM4500Cl-B			32
GRO	TPH 8015M			<10.0
DRO	TPH 8015M			<10.0

Analyte	Method	Sample		WEST @ SURFACE
		Date		mg/Kg
Benzene	BTEX 8021B			<0.050
Toluene	BTEX 8021B			<0.050
Ethylbenzene	BTEX 8021B			<0.050
Total Xylenes	BTEX 8021B			<0.150
Total BTEX	BTEX 8021B			<0.300
Chloride	SM4500Cl-B			32
GRO	TPH 8015M			<10.0
DRO	TPH 8015M			<10.0

August 01, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: PYGMY 27 STATE #3H

Enclosed are the results of analyses for samples received by the laboratory on 07/25/17 10:40.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 1' (H701927-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.15	107	2.00	0.414	
Toluene*	<0.050	0.050	07/26/2017	ND	2.01	101	2.00	1.38	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	2.07	103	2.00	0.170	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	6.23	104	6.00	0.372	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	1360	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	92.9	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 94.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 112 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 Received: 07/25/2017
 Reported: 08/01/2017
 Project Name: PYGMY 27 STATE #3H
 Project Number: NOT GIVEN
 Project Location: LEA COUNTY, NM

 Sampling Date: 07/17/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 2' (H701927-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 105 % 28.3-164

Surrogate: 1-Chlorooctadecane 115 % 34.7-157

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 Received: 07/25/2017
 Reported: 08/01/2017
 Project Name: PYGMY 27 STATE #3H
 Project Number: NOT GIVEN
 Project Location: LEA COUNTY, NM

 Sampling Date: 07/17/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 3' (H701927-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 98.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 111 % 34.7-157

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Fax To: (575) 397-0397

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 8' (H701927-04)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89		
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95		
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82		
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97		
Total BTX	<0.300	0.300	07/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 114 % 28.3-164

Surrogate: 1-Chlorooctadecane 124 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 10' (H701927-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 108 % 28.3-164

Surrogate: 1-Chlorooctadecane 118 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 1' (H701927-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	07/25/2017	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	07/26/2017	ND	206	103	200	6.49	
DRO >C10-C28	139	10.0	07/26/2017	ND	213	107	200	8.22	

Surrogate: 1-Chlorooctane 106 % 28.3-164

Surrogate: 1-Chlorooctadecane 123 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 2' (H701927-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/25/2017	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	07/25/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/25/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 90.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.4 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 3' (H701927-08)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/25/2017	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	07/25/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/25/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 95.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.3 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 8' (H701927-09)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/26/2017	ND	2.02	101	2.00	3.89	
Toluene*	<0.050	0.050	07/26/2017	ND	1.87	93.4	2.00	3.95	
Ethylbenzene*	<0.050	0.050	07/26/2017	ND	1.97	98.3	2.00	3.82	
Total Xylenes*	<0.150	0.150	07/26/2017	ND	5.90	98.3	6.00	3.97	
Total BTX	<0.300	0.300	07/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/25/2017	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	07/25/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/25/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 2 @ 10' (H701927-10)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/25/2017	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	07/25/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/25/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 94.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.5 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 3 @ SURFACE (H701927-11)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48		
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23		
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627		
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23		
Total BTX	<0.300	0.300	07/27/2017	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/25/2017	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	07/25/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	28.9	10.0	07/25/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 78.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.0 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/17/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 4 @ SURFACE (H701927-12)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/25/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 89.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.3 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 5 @ SURFACE (H701927-13)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 92.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 6 @ SURFACE (H701927-14)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/26/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	12100	50.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 90.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 549 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 6 @ 1' (H701927-15)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 88.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.6 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 6 @ 6' (H701927-16)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTEx	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 86.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.5 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 6 @ 7' (H701927-17)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.5 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 7 @ SURFACE (H701927-18)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48		
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23		
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627		
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23		
Total BTX	<0.300	0.300	07/27/2017	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/26/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	6290	50.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 96.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 313 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 7 @ 1' (H701927-19)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 89.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.6 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 7 @ 6' (H701927-20)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 92.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.0 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 7 @ 7' (H701927-21)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	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	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 91.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 8 @ SURFACE (H701927-22)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48		
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23		
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627		
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23		
Total BTX	<0.300	0.300	07/27/2017	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	3710	50.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 98.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 189 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 8 @ 1' (H701927-23)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTEx	<0.300	0.300	07/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	12.4	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.6 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 8 @ 6' (H701927-24)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 95.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 8 @ 7' (H701927-25)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48	
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23	
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627	
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23	
Total BTX	<0.300	0.300	07/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	42.1	10.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 83.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.8 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 9 @ SURFACE (H701927-26)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/27/2017	ND	2.11	106	2.00	1.48		
Toluene*	<0.050	0.050	07/27/2017	ND	1.97	98.3	2.00	1.23		
Ethylbenzene*	<0.050	0.050	07/27/2017	ND	2.03	102	2.00	0.627		
Total Xylenes*	<0.150	0.150	07/27/2017	ND	6.09	101	6.00	1.23		
Total BTX	<0.300	0.300	07/27/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	07/26/2017	ND	187	93.3	200	2.85	
DRO >C10-C28	4090	50.0	07/26/2017	ND	195	97.5	200	2.00	

Surrogate: 1-Chlorooctane 97.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 196 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 9 @ 1' (H701927-27)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/28/2017	ND	2.01	100	2.00	1.62	
Toluene*	<0.050	0.050	07/28/2017	ND	1.88	94.1	2.00	2.75	
Ethylbenzene*	<0.050	0.050	07/28/2017	ND	1.94	97.2	2.00	2.14	
Total Xylenes*	<0.150	0.150	07/28/2017	ND	5.82	96.9	6.00	1.56	
Total BTX	<0.300	0.300	07/28/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 88.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.1 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 9 @ 6' (H701927-28)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 97.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 9 @ 7' (H701927-29)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 89.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.9 % 34.7-157

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: NORTH @ SURFACE (H701927-30)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 83.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.6 % 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: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: EAST @ SURFACE (H701927-31)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 88.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.0 % 34.7-157

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WEST @ SURFACE (H701927-32)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 88.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 07/25/2017
Reported: 08/01/2017
Project Name: PYGMY 27 STATE #3H
Project Number: NOT GIVEN
Project Location: LEA COUNTY, NM

Sampling Date: 07/18/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SOUTH @ SURFACE (H701927-33)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/31/2017	ND	2.06	103	2.00	0.728	
Toluene*	<0.050	0.050	07/31/2017	ND	1.90	95.2	2.00	2.14	
Ethylbenzene*	<0.050	0.050	07/31/2017	ND	1.99	99.6	2.00	0.790	
Total Xylenes*	<0.150	0.150	07/31/2017	ND	6.01	100	6.00	1.04	
Total BTX	<0.300	0.300	07/31/2017	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/26/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/26/2017	ND	190	94.8	200	1.18	
DRO >C10-C28	<10.0	10.0	07/26/2017	ND	207	103	200	2.16	

Surrogate: 1-Chlorooctane 92.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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.		P.O. #:		BILL TO												ANALYSIS REQUEST											
Project Manager: Cliff Brunson		Company: COG																									
Address: P.O. Box 805		Attn: Haskell																									
City: Hobbs		Address:																									
Phone #: 575-397-6388		City:																									
Project #:		State: NM Zip: 88241																									
Project Name: Pymmy 27 State #3H		Fax #: 575-397-0397																									
Project Location: Lea County, NM		Project Owner: COG																									
Sample Name: Jeff Ornelas		State: Zip:																									
FOR LAB USE ONLY		Phone #:																									
Lab I.D.		Fax #:																									
Sample I.D.		(G)RAB OR (C)OMP.																									
		# CONTAINERS																									
		GROUNDWATER																									
		WASTEWATER																									
		SOIL																									
		OIL																									
		SLUDGE																									
		OTHER :																									
		ACID/BASE:																									
		ICE / COOL																									
		OTHER :																									
		DATE																									
		TIME																									
1 SP1 @ 1'		7/17/17																									
2 SP1 @ 2'		7/17/17																									
3 SP1 @ 3'		7/17/17																									
4 SP1 @ 8'		7/17/17																									
5 SP1 @ 10'		7/17/17																									
6 SP2 @ 1'		7/17/17																									
7 SP2 @ 2'		7/17/17																									
8 SP2 @ 3'		7/17/17																									
9 SP2 @ 8'		7/17/17																									
10 SP2 @ 10'		7/17/17																									
Relinquished By: Jeff Ornelas		Date: 7/18/17																									
Relinquished By: Jeff Ornelas		Time: 5:00pm																									
Relinquished By: Jeff Ornelas		Date: 7/25/17																									
Relinquished By: Jeff Ornelas		Time: 10:40																									
Delivered By: (Circle One) -9.18		Sample Condition																									
Cool <input checked="" type="checkbox"/> Yes		Intact <input checked="" type="checkbox"/> Yes																									
Sampler - UPS - Bus - Other: Connected - 9.48		CHECKED BY: (Initials)																									
Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476		7/20/17																									
REMARKS:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No																									
		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No																									
		Add'l Phone #:																									
		Add'l Fax #:																									
		Some have head space																									

ARDINAL LABORATORIES

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

Source: BBC International, Inc.

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc.		P.O. #:	
Project Manager: Cliff Brunson		Company: <i>COG</i>	
Address: P.O. Box 805		Attn: <i>Haskell</i>	
City: Hobbs		State: NM Zip: 88241	
Phone #: 575-397-6388		Fax #: 575-397-0397	
Project #:		Project Owner: <i>COG</i>	
Project Name: Pysmy 27 State #3H		State: Zip:	
Project Location: Lea County, NM		Phone #:	
Sample Name: Jeff Ornelas		Fax #:	
FOR LAB USE ONLY		MATRIX	
PRESERV		SAMPLING	

[illegible]

PLEASE NOTE: Liability and claims exclusion remedy for any claims arising without cause is based on the date of the incident. 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 analyses. All claims, including those for negligence and any other cause whatsoever, including without limitation, business interruption, loss of use, or loss of profits incurred by its subsidiaries, affiliates, or any related to the performance of services furnished by Cardinal, shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. No event shall constitute a claim for purposes of this section.

Relinquished By: <i>[Signature]</i>		Date: <i>7/8/07</i>	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No
Time: <i>5:00 PM</i>		Date: <i>7-25-17</i>	Time: <i>10:40</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No
Delivered By: (Circle One) <i>9-12</i>		Sample Condition		Adm'l Fax #:
Cool <input type="checkbox"/> Yes <input type="checkbox"/> No		Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		
Sampler - UPS - Bus - Other: <i>Converted - 8:55SE</i>		CHECKED BY: <i>[Signature]</i> (Initials) <i>TJ. THS</i>		REMARKS:
<i>Some more head space</i>				

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

204



ARDINAL LABORATORIES

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

384

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc.
Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: Pygmy 27 State #3H

Project Location: Lea County, NM

Sampler Name: Jeff Ornelas

P.O. #:

Company: CDB

Attn: Haskell

Address:

City:

State:

Zip:

Phone #:

Fax #:

Lab I.D.

Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :												
H101921	SP7 @ 7'	G	1							7/18/17	11:17 AM	✓	✓	✓							
21	SP8 @ SURFACE	G	1							7/18/17	11:25 AM	✓	✓	✓							
22	SP8 @ 1'	G	1							7/18/17	11:33 AM	✓	✓	✓							
23	SP8 @ 6'	G	1							7/18/17	11:48 AM	✓	✓	✓							
24	SP8 @ 7'	G	1							7/18/17	12:12 PM	✓	✓	✓							
25	SP9 @ SURFACE	G	1							7/18/17	12:55 PM	✓	✓	✓							
26	SP9 @ 1'	G	1							7/18/17	1:11 PM	✓	✓	✓							
27	SP9 @ 6'	G	1							7/18/17	1:29 PM	✓	✓	✓							
28	SP9 @ 7'	G	1							7/18/17	1:45 PM	✓	✓	✓							
29	SP9 @ SURFACE	G	1							7/18/17	1:46 PM	✓	✓	✓							
30	NORTH @ SURFACE	G	1							7/18/17	1:46 PM	✓	✓	✓							

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Relinquished By: *Jeff Ornelas* Date: *7/18/17* Time: *3:00 PM* Received By: *James C. Haskell*

Relinquished By: *Jeff Ornelas* Date: *7-25-17* Time: *10:40* Received By: *James C. Haskell*

Delivered By: (Circle One) *-9.12* Sample Condition: ☒ Cool ☒ Intact ☒ Yes ☒ No

Sampler - UPS - Bus - Other: *Corrected - 8.856* CHECKED BY: (Initials) *70.475*

REMARKS: *Some flow head space*

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: Pygmy 27 State #3H

Project Location: Lea County, NM

Sampler Name: Jeff Ornelas

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

#101921

31 EAST @ SURFACE

32 WEST @ SURFACE

33 SOUTH @ SURFACE

101921

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

7/18/17 1:50 PM

7/18/17 1:55 PM

7/18/17 2:01 PM

TPH
BTEX
CI

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Relinquished By:

Date: 7/18/17

Time: 8:00 AM

Received By:

Date: 7/25/17

Time: 10:40

Received By:

Date: 7/25/17

Time: 10:40

Received By:

Date: 7/25/17

Time: 10:40

Relinquished By:

Date: 7/25/17

Time: 10:40

Received By:

Date: 7/25/17

Time: 10:40

Received By:

Date: 7/25/17

Time: 10:40

Received By:

Date: 7/25/17

Time: 10:40

Delivered By: (Circle One) - 9.18

Corrected - 8.858

Sample Condition

Cool Intact

Yes Yes

No No

CHECKED BY:

(Initials)

TP: #75

Some more head space

Phone Result:

Yes Yes

No No

Add'l Phone #:

Add'l Fax #:

† 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 #003H	Facility Type: Tank Battery

Surface Owner: Private	Mineral Owner: State	API No. 30-025-42068
------------------------	----------------------	----------------------

LOCATION OF RELEASE

Unit Letter B	Section 27	Township 21S	Range 33E	Feet from the 190	North/South Line North	Feet from the 1980	East/West Line East	County Lea
------------------	---------------	-----------------	--------------	----------------------	---------------------------	-----------------------	------------------------	---------------

Latitude 32.4565239 Longitude -103.5581741

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 80 bbls Oil & 105 bbls PW	Volume Recovered: 75 bbls Oil & 100 bbls PW
Source of Release: Dump Valve	Date and Hour of Occurrence: June 9, 2017 5:30 am	Date and Hour of Discovery: June 9, 2017 5:30 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Ms. Yu - NMOCD / Ms. Groves - SLO	
By Whom? Aaron Lieb	Date and Hour: June 9, 2017 10:31 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED

By Olivia Yu at 3:57 pm, Jun 15, 2017

Describe Cause of Problem and Remedial Action Taken.*

The release was due to a FWKO dump valve failure. The dump valve was replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was within a lined facility, on location, and on the adjacent 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: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Senior HSE Coordinator	Approval Date: 6/15/2017	Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: June 12, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

1RP-4728

nOY1716657762

pOY1716658084

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/12/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4728 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 7/15/2017. 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; C₆ thru C₃₆), 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; C₆ thru C₃₆), 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