

# Closure Report

NMOCD grants  
closure to 1RP-4520.

## Site Description

Site Name:	Macho Nacho State #002H
Company:	COG Operating LLC
Legal Description:	U/L H, Section 7, T24S, R33E
County:	Lea County, NM
GPS Coordinates:	N 32.23388° W 103.60349°

## Release Data

Date of Release:	11/18/2016
Type of Release:	Oil
Source of Release:	Well head
Volume of Release:	50 bbls
Volume Recovered:	45 bbls

## Remediation Specifications

Remediation Parameters:	Excavate the areas around SP1-SP4, SP8, SP9, & SP12 to a depth of 6 inches. Obtain sidewall confirmation samples for TPH and CI for SP1-SP4. If permissible levels are exceeded, excavate to 1 foot and go additional confirmation sampling. The overspray areas of SP5-SP7, SP10, SP11, OS #1 & #2, will be raked or mowed. Backfill with clean soil.	
Remediation Activities:	09/25/2017 to 10/04/2017	
Plan Sent to OCD:	03/24/2017	Email from Cliff Brunson to Olivia Yu
OCD Approval of Plan:	06/30/2017	Email from Olivia Yu to Cliff Brunson
Plan Sent to SLO:	03/24/2017	Email from Cliff Brunson to Amber Groves
SLO Approval of Plan:	07/06/2017	Email from Amber Groves to Cliff Brunson

## Supporting Documentation

Initial C-141	Signed 11/21/2016
Final C-141	Upon completion
Site Diagram	March 2017
Groundwater Plot	150'
TOPO Maps	March 2017
Lab Summary	01/18/2017, 05/02/2017, and 09/28/2017
Lab Analysis	01/18/2017, 05/02/2017, and 09/28/2017
Correspondence	Request and approval of remediation plan via email

## Request for Closure

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

Cliff Brunson, President of BBC International Inc.

10/12/2017

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	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	MACHO NACHO STATE #002H	Facility Type:	Well
Surface Owner:	State	Mineral Owner:	API No. 30-025-39883

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	07	24S	33E	1870'	North	330'	East	Lea

Latitude 32.2343559 Longitude 103.6039429

**NATURE OF RELEASE**

Type of Release:	Oil	Volume of Release:	50bbls	Volume Recovered:	45bbls
Source of Release:	Wellhead	Date and Hour of Occurrence:	11-18-2016 06:30 am	Date and Hour of Discovery:	11-18-2016 06:30 am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Ms. Lynch -NMOCD / Ms. Groves - SLO		
By Whom?	Rebecca Haskell	Date and Hour:	Fri 11/18/2016 2:18 PM		
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.\*

Describe Cause of Problem and Remedial Action Taken.\*

Polish rods broke causing the stuffing box to blowout. Replace polish rods and packing on the well.

Describe Area Affected and Cleanup Action Taken.\*

This release occurred on the pad and over sprayed into the pasture. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:			
Printed Name:	Robert Grubbs Jr.	Approved by Environmental Specialist: 	
Title:	Senior HSE Coordinator	Approval Date:	11/23/2016
E-mail Address:	rgrubbs@concho.com	Expiration Date:	1/23/2017
Date:	November 21, 2016	Phone:	432-683-7443
		Conditions of Approval:	Attached <input type="checkbox"/> IRP 4520
		Please see attached directive	

\* Attach Additional Sheets If Necessary

nKL1632835278  
pKL1632835544

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District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
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Form C-141  
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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	Contact: Robert McNeill	
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443	
Facility Name: Macho Nacho State #002H	Facility Type: Well	
Surface Owner: State	Mineral Owner:	API No. 30-025-39883

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	07	24S	33E	1870	North	330	East	Lea County, NM

Latitude N 32.23388° Longitude W 103.60349°

**NATURE OF RELEASE**

Type of Release: Oil	Volume of Release: 50 bbls	Volume Recovered: 45 bbls
Source of Release: Well head	Date and Hour of Occurrence 11/18/2016 @ 6:30 am	Date and Hour of Discovery 11/18/2016 @ 6:30 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Kristen Lynch, NMOCD; Amber Groves, NMSLO	
By Whom? Rebecca Haskell	Date and Hour: 11/18/2016 @ 2:18 pm	
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.*		
<div><b>APPROVED</b> By Olivia Yu at 9:59 am, Oct 25, 2018</div>		

Describe Cause of Problem and Remedial Action Taken.\*

Polish rods broke causing the stuffing box to blow out. Replaced polish rods and packing on the well head.

Describe Area Affected and Cleanup Action Taken.\*

The release occurred on the well pad and over sprayed into the pasture. A vacuum truck was dispatched to remove all freestanding fluids.. The site was delineated according to OCD standards and a remediation plan was created. Remediation was completed in accordance with the remediation plan approved by Olivia Yu of NMOCD via email on 06/30/2017 and approved by Amber Groves of the SLO via email on 07/06/2017.

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>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Rebecca Haskell		Approved by Environmental Specialist:	
Title: Senior HSE Coordinator		Approval Date: 10/25/2018	Expiration Date: xx/xx/xxxx
E-mail Address: rhaskell@concho.com		Conditions of Approval: NMSLO approval	Attached <input type="checkbox"/>
Date: October 15, 2017	Phone: (432) 683-7443		

\* Attach Additional Sheets If Necessary

1RP-4520

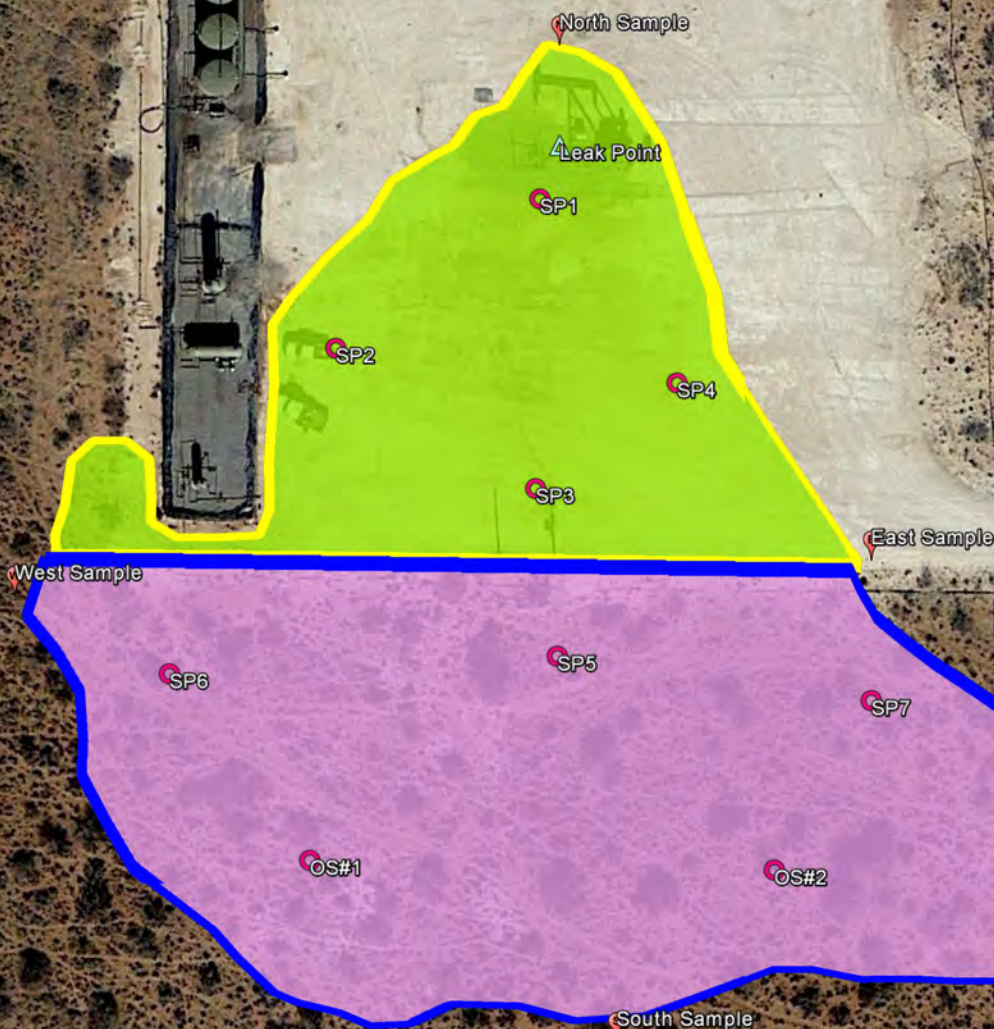


# COG, Macho Nacho State #002H

Leak Date: 11/18/2016  
Lea County, NM  
API# 30-025-39883  
RP# 1RP-4520

## Legend

-  East Sample
-  Sample Points, Hand Auger
-  Leak Point
-  North Sample
-  Overspray, Rake or Mow
-  South Sample
-  Spill Area, 6 Inch
-  Excavation West Sample



Google Earth

© 2016 Google

200 ft





COG, Macho Nacho State #002H

**Spill Area Samples, Hand Auger**

SP1, GPS point: N 32.23427° W-103.60396°

SP2, GPS point: N 32.23410° W-103.60424°

SP3, GPS point: N 32.23394° W-103.60397°

SP4, GPS point: N 32.23406° W-103.60378°

SP8, GPS point: N 32.23407° W-103.60399°

SP9, GPS point: N 32.23390° W-103.60454°

SP12, GPS point: N 32.23389° W-103.60366°

**Heavy Overspray Area Samples, Hand Auger**

SP5, GPS point: N 32.23375° W-103.60394°

SP6, GPS point: N 32.23373° W-103.60446°

SP7, GPS point: N 32.23370° W-103.60352°

SP10, GPS point: N 32.23379° W-103.60417°

SP11, GPS point: N 32.23379° W-103.60377°

**Light Overspray Area Samples, Hand Auger**

OS #1, GPS point: N 32.23352° W-103.60427°

OS #2, GPS point: N 32.23351° W-103.60365°

**Cardinal Samples, Hand Auger**

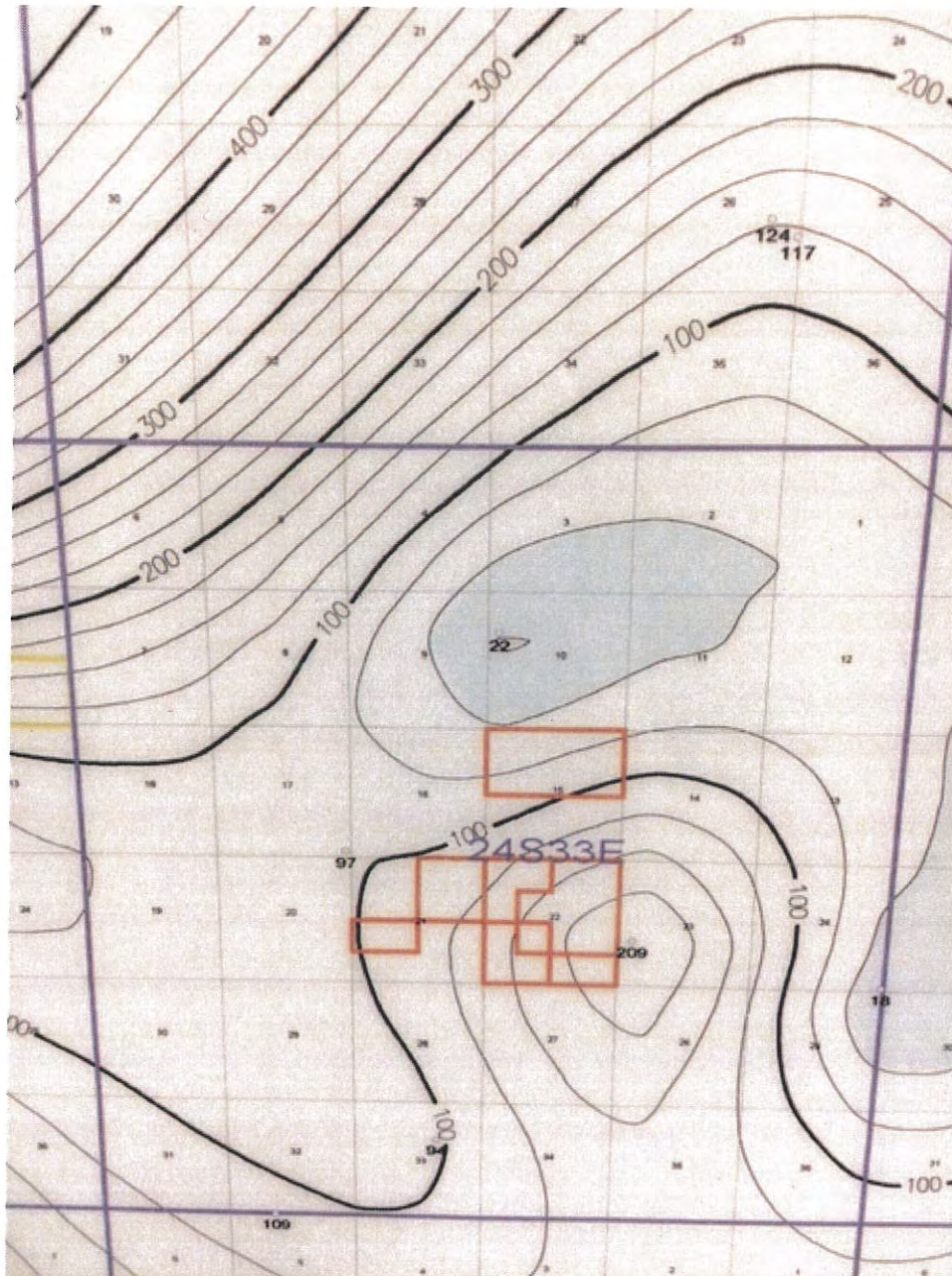
North Sample, GPS point: N 32.23445° W-103.60394°

South Sample, GPS point: N 32.23332° W-103.60386°

East Sample, GPS point: N 32.23386° W-103.60352°

West Sample, GPS point: N 32.23382° W-103.60467°

**COG, Macho Nacho State #002H**  
**U/L H, Section 07, T24S, R33E**  
**Groundwater: 150'**





# 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 Column
<a href="#">C 03565 POD3</a>			LE	3	4	08	24S	33E		632763	3566546	1493				1533

Average Depth to Water: 1533 feet

Minimum Depth: 1533 feet

Maximum Depth: 1533 feet

**Record Count:** 1

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 631432

**Northing (Y):** 3567224

**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.

2/27/17 3:02 PM

WATER COLUMN/ AVERAGE DEPTH TO  
WATER



**Public Land Survey System (PLSS)**

☒ Q64:  Q16:  Q4:  Sec:  Tws:  Rng:

**State Plane Coordinate System - NAD27**

☐ X:  ft Y:  ft Zone:

**State Plane Coordinate System - NAD83**

☐ X:  ft Y:  ft Zone:

**Degrees/Minutes/Seconds**

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

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

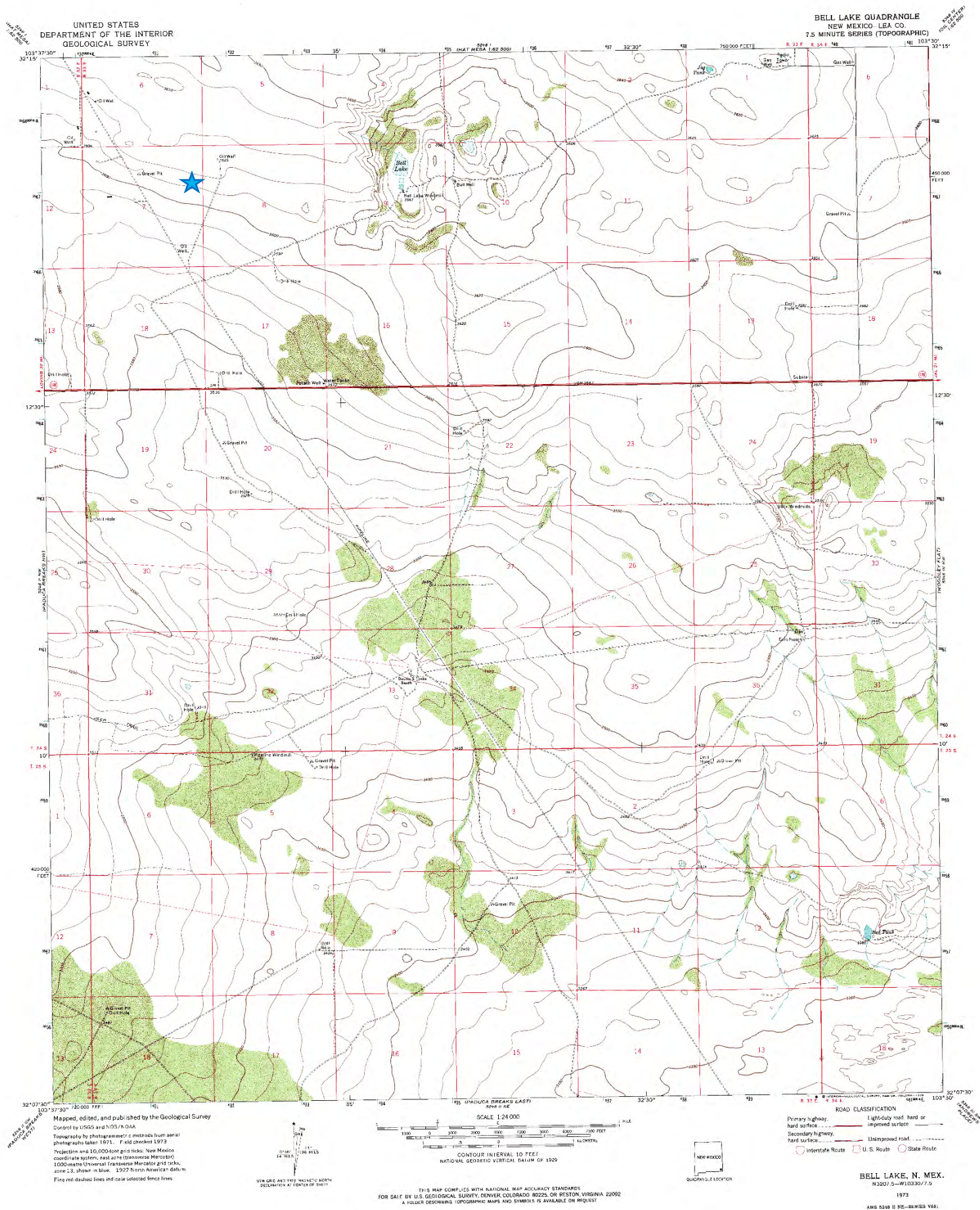
**UTM - NAD27**

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

**SUBMIT****All Conversion Results are displayed as NAD 1983 UTM Zone 13**Easting (X):  mtrsNorthing (Y):  mtrs**~~ Please keep screen open to copy UTM values for Reports. ~~**

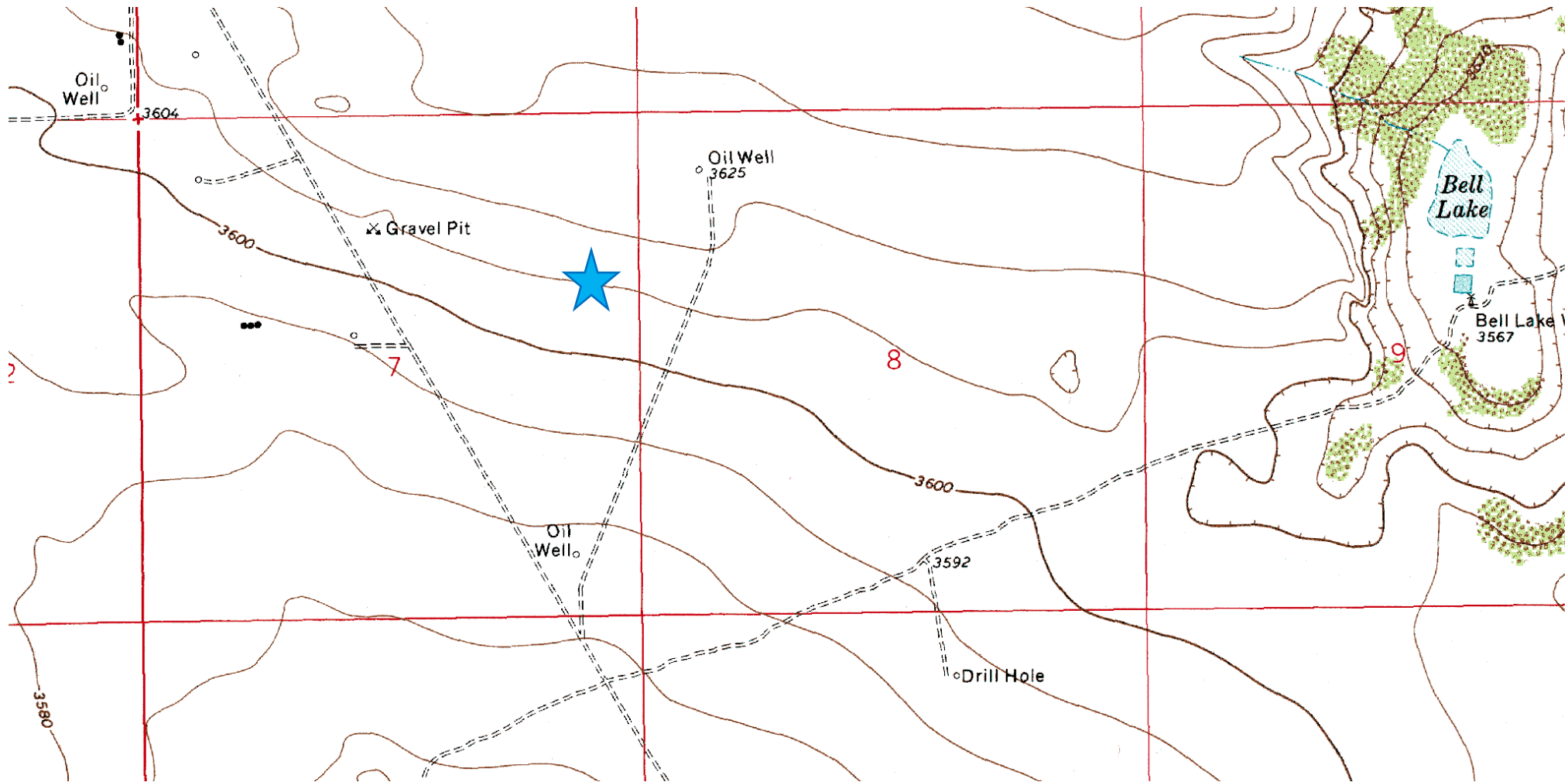


## Macho Nacho State #002H



# COG

## Macho Nacho State #002H





**Laboratory Analytical Results Summary**  
**Macho Nacho State #002H**

		Sample	SP1 @ SURFACE	SP1 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<b>0.13</b>	<0.050
<b>Toluene</b>	BTEX 8021B		<b>1.94</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<b>1.48</b>	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>6.93</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<b>10.5</b>	<0.300
<b>GRO</b>	TPH 8015M		<b>145</b>	<10.0
<b>DRO</b>	TPH 8015M		<b>18600</b>	<10.0

		Sample	SP2 @ SURFACE	SP2 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.100	<0.050
<b>Toluene</b>	BTEX 8021B		<b>1.49</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<b>1.58</b>	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>7.64</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<b>10.7</b>	<0.300
<b>GRO</b>	TPH 8015M		<b>186</b>	<10.0
<b>DRO</b>	TPH 8015M		<b>13300</b>	<10.0

		Sample	SP3 @ SURFACE	SP3 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.100	<0.050
<b>Toluene</b>	BTEX 8021B		<b>1.52</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<b>1.54</b>	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>7.39</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<b>10.4</b>	<0.300
<b>GRO</b>	TPH 8015M		<b>215</b>	<10.0
<b>DRO</b>	TPH 8015M		<b>15600</b>	<10.0

		Sample	SP4 @ SURFACE	SP4 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.100	<0.050
<b>Toluene</b>	BTEX 8021B		<b>1.86</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<b>1.53</b>	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>7.29</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<b>10.7</b>	<0.300
<b>GRO</b>	TPH 8015M		<b>176</b>	<10.0
<b>DRO</b>	TPH 8015M		<b>17000</b>	<b>11.3</b>

		Sample	SP5 @ SURFACE	SP5 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>103</b>	<10.0

		Sample	SP6 @ SURFACE	SP6 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<b>0.051</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>154</b>	<10.0

		Sample	SP7 @ SURFACE	SP7 @ 1'
Analyte	Method	Date	1/18/17	1/18/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>15.2</b>	<10.0

		Sample	OVERSPRAY #1 @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

		Sample	OVERSPRAY #2 @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

		Sample	NORTH SAMPLE @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

		Sample	SOUTH SAMPLE @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

		Sample	EAST SAMPLE @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

		Sample	WEST SAMPLE @ SURFACE
Analyte	Method	Date	1/18/17
			mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050
<b>Toluene</b>	BTEX 8021B		<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300
<b>GRO</b>	TPH 8015M		<10.0
<b>DRO</b>	TPH 8015M		<10.0

**Laboratory Analytical Results Summary**  
**Macho Nacho State #002H**

		Sample	SP8 @ SURFACE	SP8 @ 1'
Analyte	Method	Date	5/2/17	5/2/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<b>0.076</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>0.161</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		<b>144</b>	<b>64</b>
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>1500</b>	<b>37.6</b>

		Sample	SP12 @ SURFACE	SP12 @ 1'
Analyte	Method	Date	5/2/17	5/2/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<b>0.094</b>	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<b>0.193</b>	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		<b>128</b>	<b>32</b>
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>1420</b>	<b>18.4</b>

		Sample	SP9 @ SURFACE	SP9 @ 1'
Analyte	Method	Date	5/2/17	5/2/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		<b>48</b>	<b>32</b>
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<b>10.9</b>	<10.0

		Sample	SP10 @ SURFACE	SP10 @ 1'
Analyte	Method	Date	5/2/17	5/2/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		<b>48</b>	<b>32</b>
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<10.0	<10.0

		Sample	SP11 @ SURFACE	SP11 @ 1'
Analyte	Method	Date	5/2/17	5/2/17
			mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		<b>80</b>	<b>32</b>
<b>GRO</b>	TPH 8015M		<10.0	<10.0
<b>DRO</b>	TPH 8015M		<10.0	<10.0



Laboratory Analytical Results Summary  
Macho Nacho State #002H

Bottom Confirmation Samples		Sample ID	SP1 @ BOTTOM	SP2 @ BOTTOM	SP3 @ BOTTOM	SP4 @ BOTTOM
Analyte	Method	Date	9/28/17	9/28/17	9/28/17	9/28/17
			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		<16.0	<16.0	<16.0	<16.0
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0

Sidewall Confirmation Samples		Sample ID	SIDEWALL 1	SIDEWALL 2	SIDEWALL 3	SIDEWALL 4
Analyte	Method	Date	9/28/17	9/28/17	9/28/17	9/28/17
			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		<16.0	16	<16.0	<16.0
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0



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

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January 27, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MACHO NACHO STATE #002H

Enclosed are the results of analyses for samples received by the laboratory on 01/23/17 11:50.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 1 @ SURFACE (H700144-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.130</b>	0.100	01/26/2017	ND	2.14	107	2.00	0.290	
<b>Toluene*</b>	<b>1.94</b>	0.100	01/26/2017	ND	2.11	106	2.00	0.0300	
<b>Ethylbenzene*</b>	<b>1.48</b>	0.100	01/26/2017	ND	2.16	108	2.00	0.0284	
<b>Total Xylenes*</b>	<b>6.93</b>	0.300	01/26/2017	ND	6.14	102	6.00	0.0495	
<b>Total BTEX</b>	<b>10.5</b>	0.600	01/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	145	50.0	01/24/2017	ND	194	97.0	200	1.79	
DRO >C10-C28	18600	50.0	01/24/2017	ND	185	92.7	200	7.85	

Surrogate: 1-Chlorooctane 102 % 35-147

Surrogate: 1-Chlorooctadecane 245 % 28-171

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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 1 @ 1' (H700144-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79	
DRO >C10-C28	<10.0	10.0	01/24/2017	ND	185	92.7	200	7.85	

Surrogate: 1-Chlorooctane 92.7 % 35-147

Surrogate: 1-Chlorooctadecane 89.4 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 2 @ SURFACE (H700144-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/26/2017	ND	2.14	107	2.00	0.290	
<b>Toluene*</b>	<b>1.49</b>	0.100	01/26/2017	ND	2.11	106	2.00	0.0300	
<b>Ethylbenzene*</b>	<b>1.58</b>	0.100	01/26/2017	ND	2.16	108	2.00	0.0284	
<b>Total Xylenes*</b>	<b>7.64</b>	0.300	01/26/2017	ND	6.14	102	6.00	0.0495	
<b>Total BTEX</b>	<b>10.7</b>	0.600	01/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>186</b>	50.0	01/24/2017	ND	194	97.0	200	1.79		
<b>DRO &gt;C10-C28</b>	<b>13300</b>	50.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 113 % 35-147

Surrogate: 1-Chlorooctadecane 196 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 2 @ 1' (H700144-04)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M			mg/kg							
			Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79		
DRO >C10-C28	<10.0	10.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 86.5 % 35-147

Surrogate: 1-Chlorooctadecane 92.3 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 3 @ SURFACE (H700144-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/26/2017	ND	2.14	107	2.00	0.290	
<b>Toluene*</b>	<b>1.52</b>	0.100	01/26/2017	ND	2.11	106	2.00	0.0300	
<b>Ethylbenzene*</b>	<b>1.54</b>	0.100	01/26/2017	ND	2.16	108	2.00	0.0284	
<b>Total Xylenes*</b>	<b>7.39</b>	0.300	01/26/2017	ND	6.14	102	6.00	0.0495	
<b>Total BTX</b>	<b>10.4</b>	0.600	01/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>215</b>	50.0	01/24/2017	ND	194	97.0	200	1.79		
<b>DRO &gt;C10-C28</b>	<b>15600</b>	50.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 130 % 35-147

Surrogate: 1-Chlorooctadecane 212 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 3 @ 1' (H700144-06)**

BTEx 8021B			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M			mg/kg							
			Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79		
DRO >C10-C28	<10.0	10.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 87.2 % 35-147

Surrogate: 1-Chlorooctadecane 84.0 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 4 @ SURFACE (H700144-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/26/2017	ND	2.14	107	2.00	0.290	
<b>Toluene*</b>	<b>1.86</b>	0.100	01/26/2017	ND	2.11	106	2.00	0.0300	
<b>Ethylbenzene*</b>	<b>1.53</b>	0.100	01/26/2017	ND	2.16	108	2.00	0.0284	
<b>Total Xylenes*</b>	<b>7.29</b>	0.300	01/26/2017	ND	6.14	102	6.00	0.0495	
<b>Total BTX</b>	<b>10.7</b>	0.600	01/26/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>176</b>	50.0	01/24/2017	ND	194	97.0	200	1.79		
<b>DRO &gt;C10-C28</b>	<b>17000</b>	50.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 116 % 35-147

Surrogate: 1-Chlorooctadecane 247 % 28-171

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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 4 @ 1' (H700144-08)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.6-140

TPH 8015M			mg/kg							
			Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79		
<b>DRO &gt;C10-C28</b>	<b>11.3</b>	10.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 91.7 % 35-147

Surrogate: 1-Chlorooctadecane 87.0 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 5 @ SURFACE (H700144-09)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79		
<b>DRO &gt;C10-C28</b>	<b>103</b>	10.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 76.4 % 35-147

Surrogate: 1-Chlorooctadecane 75.0 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 5 @ 1' (H700144-10)**

BTEx 8021B			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.6-140

TPH 8015M			mg/kg							
			Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/24/2017	ND	194	97.0	200	1.79		
DRO >C10-C28	<10.0	10.0	01/24/2017	ND	185	92.7	200	7.85		

Surrogate: 1-Chlorooctane 81.0 % 35-147

Surrogate: 1-Chlorooctadecane 78.4 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 6 @ SURFACE (H700144-11)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
<b>Toluene*</b>	<b>0.051</b>	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
<b>DRO &gt;C10-C28</b>	<b>154</b>	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 78.1 % 35-147

Surrogate: 1-Chlorooctadecane 72.9 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 6 @ 1' (H700144-12)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98	
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22	

Surrogate: 1-Chlorooctane 93.5 % 35-147

Surrogate: 1-Chlorooctadecane 92.0 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 7 @ SURFACE (H700144-13)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEx	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
<b>DRO &gt;C10-C28</b>	<b>15.2</b>	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 73.2 % 35-147

Surrogate: 1-Chlorooctadecane 73.7 % 28-171

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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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 7 @ 1' (H700144-14)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M			mg/kg							
			Analyzed By: CK							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 86.4 % 35-147

Surrogate: 1-Chlorooctadecane 85.9 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: OVERSPRAY #1 @ SURFACE (H700144-15)**

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	01/26/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/26/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/26/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/26/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/26/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 96.0 % 35-147

Surrogate: 1-Chlorooctadecane 94.2 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: OVERSPRAY #2 @ SURFACE (H700144-16)**

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	01/27/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/27/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/27/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/27/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/27/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 94.5 % 35-147

Surrogate: 1-Chlorooctadecane 97.5 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: NORTH SAMPLE @ SURFACE (H700144-17)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/27/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/27/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/27/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/27/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/27/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 83.4 % 35-147

Surrogate: 1-Chlorooctadecane 76.7 % 28-171

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

Received:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SOUTH SAMPLE @ SURFACE (H700144-18)**

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	01/27/2017	ND	2.14	107	2.00	0.290		
Toluene*	<0.050	0.050	01/27/2017	ND	2.11	106	2.00	0.0300		
Ethylbenzene*	<0.050	0.050	01/27/2017	ND	2.16	108	2.00	0.0284		
Total Xylenes*	<0.150	0.150	01/27/2017	ND	6.14	102	6.00	0.0495		
Total BTEX	<0.300	0.300	01/27/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98		
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22		

Surrogate: 1-Chlorooctane 79.6 % 35-147

Surrogate: 1-Chlorooctadecane 80.2 % 28-171

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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: EAST SAMPLE @ SURFACE (H700144-19)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/27/2017	ND	2.14	107	2.00	0.290	
Toluene*	<0.050	0.050	01/27/2017	ND	2.11	106	2.00	0.0300	
Ethylbenzene*	<0.050	0.050	01/27/2017	ND	2.16	108	2.00	0.0284	
Total Xylenes*	<0.150	0.150	01/27/2017	ND	6.14	102	6.00	0.0495	
Total BTEX	<0.300	0.300	01/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98	
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22	

Surrogate: 1-Chlorooctane 86.9 % 35-147

Surrogate: 1-Chlorooctadecane 84.5 % 28-171

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:	01/23/2017	Sampling Date:	01/18/2017
Reported:	01/27/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: WEST SAMPLE @ SURFACE (H700144-20)**

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	01/27/2017	ND	2.13	107	2.00	0.189	
Toluene*	<0.050	0.050	01/27/2017	ND	2.11	106	2.00	0.288	
Ethylbenzene*	<0.050	0.050	01/27/2017	ND	2.16	108	2.00	0.00954	
Total Xylenes*	<0.150	0.150	01/27/2017	ND	6.14	102	6.00	0.0936	
Total BTEx	<0.300	0.300	01/27/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/25/2017	ND	188	94.1	200	1.98	
DRO >C10-C28	<10.0	10.0	01/25/2017	ND	185	92.7	200	4.22	

Surrogate: 1-Chlorooctane 84.2 % 35-147

Surrogate: 1-Chlorooctadecane 81.4 % 28-171

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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# ORDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]





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

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

282

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: CDB

Project Name: MACHO NACHO STATE #002H

Project Location: LEA COUNTY, NM

Sampler Name: ROGER HERNANDEZ

**BILL TO**

**ANALYSIS REQUEST**

P.O. #:

Company: CDB

Attn: Grubbs

Address:

City:

State: Zip:

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H700144

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	TPH	BTEX										
11	SP6 @ SURFACE		1	GROUNDWATER			1/18/17	1:40 PM	✓	✓										
12	SP6 @ 1'		1	WASTEWATER			1/18/17	1:55 PM	✓	✓										
13	SP7 @ SURFACE		1	SOIL			1/18/17	2:25 PM	✓	✓										
14	SP7 @ 1'		1	OIL			1/18/17	2:40 PM	✓	✓										
15	OVERSPRAY #1 @ SURFACE		1	SLUDGE			1/18/17	3:00 PM	✓	✓										
16	OVERSPRAY #2 @ SURFACE		1	OTHER :			1/18/17	3:10 PM	✓	✓										
17	NORTH SAMPLE @ SURFACE		1	ACID/BASE:			1/18/17	3:15 PM	✓	✓										
18	SOUTH SAMPLE @ SURFACE		1	ICE / COOL			1/18/17	3:230 PM	✓	✓										
19	EAST SAMPLE @ SURFACE		1	OTHER :			1/18/17	3:28 PM	✓	✓										
20	WEST SAMPLE @ SURFACE		1				1/18/17	3:40 PM	✓	✓										

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Relinquished By:

Date: 1/18/17

Received By:

Phone Result:

Fax Result:

REMARKS:

Relinquished By:

Date: 1/23/17

Received By:

Phone Result:

Fax Result:

REMARKS:

Delivered By: (Circle One)

Time: 11:50

Sample Condition

Cool Intact

CHECKED BY:

Sampler - UPS - Bus - Other:

#75

2.40

No

No

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



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

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May 12, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MACHO NACHO STATE #002H

Enclosed are the results of analyses for samples received by the laboratory on 05/04/17 16:55.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP8 @ SURFACE (H701210-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.12	106	2.00	1.77	
<b>Toluene*</b>	<b>0.076</b>	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70	
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62	
<b>Total Xylenes*</b>	<b>0.161</b>	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89	
Total BTX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>144</b>	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
<b>DRO &gt;C10-C28</b>	<b>1500</b>	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 60.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.7 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP8 @ 1' (H701210-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.12	106	2.00	1.77	
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70	
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 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	64.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	37.6	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 76.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.3 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP9 @ SURFACE (H701210-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.12	106	2.00	1.77	
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70	
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 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	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	10.9	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 88.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.2 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP9 @ 1' (H701210-04)**

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	05/09/2017	ND	2.12	106	2.00	1.77	
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70	
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 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	32.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	<10.0	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 84.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.7 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP10 @ SURFACE (H701210-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2017	ND	2.12	106	2.00	1.77		
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70		
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62		
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89		
Total BTEx	<0.300	0.300	05/09/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.5 % 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	48.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	<10.0	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 80.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.5 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP10 @ 1' (H701210-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/09/2017	ND	2.12	106	2.00	1.77	
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70	
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62	
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89	
Total BTEX	<0.300	0.300	05/09/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 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	32.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	<10.0	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.3 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP11 @ SURFACE (H701210-07)**

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	05/09/2017	ND	2.12	106	2.00	1.77		
Toluene*	<0.050	0.050	05/09/2017	ND	1.95	97.4	2.00	1.70		
Ethylbenzene*	<0.050	0.050	05/09/2017	ND	1.91	95.6	2.00	1.62		
Total Xylenes*	<0.150	0.150	05/09/2017	ND	5.39	89.8	6.00	1.89		
Total BTEX	<0.300	0.300	05/09/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	80.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	<10.0	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 81.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.0 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP11 @ 1' (H701210-08)**

BTEx 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2017	ND	2.11	106	2.00	0.434	
Toluene*	<0.050	0.050	05/11/2017	ND	2.11	105	2.00	0.179	
Ethylbenzene*	<0.050	0.050	05/11/2017	ND	2.08	104	2.00	0.0550	
Total Xylenes*	<0.150	0.150	05/11/2017	ND	6.21	103	6.00	0.209	
Total BTEx	<0.300	0.300	05/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	32.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	<10.0	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 82.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.6 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP12 @ SURFACE (H701210-09)**

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/11/2017	ND	2.11	106	2.00	0.434		
Toluene*	0.094	0.050	05/11/2017	ND	2.11	105	2.00	0.179		
Ethylbenzene*	<0.050	0.050	05/11/2017	ND	2.08	104	2.00	0.0550		
Total Xylenes*	0.193	0.150	05/11/2017	ND	6.21	103	6.00	0.209		
Total BTEx	<0.300	0.300	05/11/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 126 % 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	128	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	1420	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 63.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 153 % 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:	05/04/2017	Sampling Date:	05/02/2017
Reported:	05/12/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP12 @ 1' (H701210-10)**

BTEx 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2017	ND	2.11	106	2.00	0.434	
Toluene*	<0.050	0.050	05/11/2017	ND	2.11	105	2.00	0.179	
Ethylbenzene*	<0.050	0.050	05/11/2017	ND	2.08	104	2.00	0.0550	
Total Xylenes*	<0.150	0.150	05/11/2017	ND	6.21	103	6.00	0.209	
Total BTEX	<0.300	0.300	05/11/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	32.0	16.0	05/09/2017	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	05/08/2017	ND	175	87.7	200	2.62	
DRO >C10-C28	18.4	10.0	05/08/2017	ND	181	90.6	200	4.90	

Surrogate: 1-Chlorooctane 81.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

### 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:

Project Location:

Sample Name:

FOR LAB USE ONLY

P.O. #:

Company:

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

PRESERV

SAMPLING

Lab I.D.

Sample I.D.

#101310

SP8 @ SURFACE

SP9 @ SURFACE

SP10 @ SURFACE

SP11 @ SURFACE

SP12 @ SURFACE

SP13 @ SURFACE

SP14 @ SURFACE

SP15 @ SURFACE

SP16 @ SURFACE

SP17 @ SURFACE

SP18 @ SURFACE

SP19 @ SURFACE

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SP277 @ SURFACE



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

---

October 02, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MACHO NACHO STATE #002H

Enclosed are the results of analyses for samples received by the laboratory on 09/29/17 9:45.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP 1 @ BOTTOM (H702644-01)**

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	09/29/2017	ND	1.90	94.9	2.00	1.10	
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365	
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283	
Total BTX	<0.300	0.300	09/29/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/29/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 79.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP 2 @ BOTTOM (H702644-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/29/2017	ND	1.90	94.9	2.00	1.10		
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365		
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283		
Total BTEX	<0.300	0.300	09/29/2017	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/29/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 83.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP 3 @ BOTTOM (H702644-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/29/2017	ND	1.90	94.9	2.00	1.10		
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365		
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283		
Total BTEx	<0.300	0.300	09/29/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/29/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 87.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.1 % 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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SP 4 @ BOTTOM (H702644-04)**

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	09/29/2017	ND	1.90	94.9	2.00	1.10		
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365		
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283		
Total BTEx	<0.300	0.300	09/29/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/29/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 85.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.9 % 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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SIDEWALL 1 (H702644-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/29/2017	ND	1.90	94.9	2.00	1.10	
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365	
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283	
Total BTEx	<0.300	0.300	09/29/2017	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	<16.0	16.0	09/29/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 80.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.6 % 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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SIDEWALL 2 (H702644-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/29/2017	ND	1.90	94.9	2.00	1.10		
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365		
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283		
Total BTEx	<0.300	0.300	09/29/2017	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/29/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 80.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.0 % 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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SIDEWALL 3 (H702644-07)**

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	09/29/2017	ND	1.90	94.9	2.00	1.10	
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365	
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283	
Total BTEx	<0.300	0.300	09/29/2017	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	<16.0	16.0	09/29/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 86.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.4 % 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:	09/29/2017	Sampling Date:	09/28/2017
Reported:	10/02/2017	Sampling Type:	Soil
Project Name:	MACHO NACHO STATE #002H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

**Sample ID: SIDEWALL 4 (H702644-08)**

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	09/29/2017	ND	1.90	94.9	2.00	1.10		
Toluene*	<0.050	0.050	09/29/2017	ND	1.72	86.2	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/29/2017	ND	1.75	87.7	2.00	0.365		
Total Xylenes*	<0.150	0.150	09/29/2017	ND	5.36	89.4	6.00	0.0283		
Total BTEx	<0.300	0.300	09/29/2017	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	<16.0	16.0	09/29/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/30/2017	ND	212	106	200	7.01	
DRO >C10-C28	<10.0	10.0	09/30/2017	ND	213	106	200	11.2	
EXT DRO >C28-C36	<10.0	10.0	09/30/2017	ND					

Surrogate: 1-Chlorooctane 91.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report



---

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>									
<b>Project Manager:</b> Cliff Brunson				<b>P.O. #:</b>													
<b>Address:</b> P.O. Box 805				<b>Company:</b> CCG													
<b>City:</b> Hobbs				<b>Attn:</b> Haspel													
<b>State:</b> NM <b>Zip:</b> 88241				<b>Address:</b>													
<b>Phone #:</b> 575-397-6388 <b>Fax #:</b> 575-397-0397				<b>City:</b>													
<b>Project #:</b>				<b>State:</b>				<b>Zip:</b>									
<b>Project Owner:</b> C.O.G.				<b>Phone #:</b>													
<b>Project Location:</b> Marbo Marbo ST # 002H				<b>Fax #:</b>													
<b>Sample Name:</b> Kaya Hernandez				<b>PRESERV:</b>				<b>SAMPLING</b>									
<small>FOR LAB USE ONLY</small>																	
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	BTEX	TPH EXT	CHLORIDE
H702644	SP1 @ Bottom	G	1			<input checked="" type="checkbox"/>							8.28.17	1:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	SP2 @ Bottom	G	1			<input checked="" type="checkbox"/>							8.28.17	1:10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	SP3 @ Bottom	G	1			<input checked="" type="checkbox"/>							8.28.17	1:20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	SP4 @ Bottom	G	1			<input checked="" type="checkbox"/>							8.28.17	1:30	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Side wall 1	G	1			<input checked="" type="checkbox"/>							8.28.17	1:40	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Side wall 2	G	1			<input checked="" type="checkbox"/>							8.28.17	1:45	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Side wall 3	G	1			<input checked="" type="checkbox"/>							8.28.17	1:48	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Side wall 4	G	1			<input checked="" type="checkbox"/>							8.28.17	2:05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<small>PLEASE NOTE: Liability and Damages. Cardholder'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.</small>																	
<b>Relinquished By:</b> Karen Hernandez				<b>Date:</b> 8.28.17				<b>Received By:</b> [Signature]									
<b>Delivered By:</b> (Circle One)				<b>Type:</b> 30pc				<b>Received By:</b> [Signature]									
<b>Sampler - UPS - Bus - Other:</b> 2.65¢ / 2.4¢				<b>Date:</b> 8.28.17				<b>Time:</b> 8:45									
<b>Sample Condition:</b> Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>				<b>CHECKED BY:</b> [Signature]				<b>REMARKS:</b>									
				<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No				<b>Add'l Phone #:</b>									
				<b>Fax Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No				<b>Add'l Fax #:</b>									

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

#75 corrected +.250

**From:** Yu, Olivia, EMNRD  
**To:** [Cliff Brunson](#); "[Amber Groves](#)"  
**Cc:** [Becky Haskell](#); [Dakota Neel](#); [Aaron Lieb](#); [Ken Swinney](#); [Jennifer Gilkey](#); [Kathy Purvis](#)  
**Subject:** RE: COG - Macho Nacho State #002H (1RP-4520) - Delineation Workplan  
**Date:** Friday, June 30, 2017 10:38:27 AM

---

Dear Mr. Brunson:

NMOCD approves of the delineation and proposed remediation for 1RP-4520 with one condition:

- For the areas encompassing SP1-4, bottom and sidewall confirmation samples for TPH and chlorides at 6" depth of excavation. If permissible levels are exceeded, excavate to 1 ft. bgs. with confirmation samples. Please confirm.

Like approval from SLO is required.

Thanks,  
Olivia

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**From:** Cliff Brunson [mailto:[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)]  
**Sent:** Monday, June 12, 2017 2:50 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; 'Amber Groves' <[agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)>  
**Cc:** Becky Haskell <[rhaskell@concho.com](mailto:rhaskell@concho.com)>; Dakota Neel <[DNeel2@concho.com](mailto:DNeel2@concho.com)>; Aaron Lieb <[ALieb@concho.com](mailto:ALieb@concho.com)>; Ken Swinney <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; Jennifer Gilkey <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; Kathy Purvis <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** RE: COG - Macho Nacho State #002H (1RP-4520) - Delineation Workplan

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Thanks, Cliff

Cliff P. Brunson, CEI, CRS  
President  
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World-Wide Environmental Specialists  
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1324 W. Marland St.  
Hobbs, NM 88240 USA  
Phone: (575) 397-6388  
Fax: (575) 397-0397  
E-Mail: [cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)





\*\*\*\*\*

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\*\*\*\*\*

---

**From:** Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

**Sent:** Thursday, April 13, 2017 3:20 PM

**To:** Cliff Brunson <[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)>; Amber Groves <[agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)>

**Cc:** Robert Grubbs <[RGrubbs@concho.com](mailto:RGrubbs@concho.com)>; Ken Swinney <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; Jennifer Gilkey <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; Kathy Purvis <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>

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  - b. 2 in the spray area: closer to the pad, southwest and southeast of SP3 (between SP5 & SP6 and between SP5 & SP7).
3. In addition to Benzene, BTEX, and TPH, laboratory analyses for all sample points need to include chlorides. The production log for this well notes that 473 bbls of produced water was recorded for 17 days of production in November 2016.
4. Like approval from SLO is needed for the delineation workplan as well as a revegetation plan.

Olivia Yu  
Environmental Specialist  
NMOCD, District I  
[Olivia.yu@state.nm.us](mailto:Olivia.yu@state.nm.us)  
575-393-6161 x113

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responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Cliff Brunson [<mailto:cbrunson@bbcinternational.com>]  
**Sent:** Friday, March 24, 2017 2:05 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; Amber Groves <[agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)>  
**Cc:** Robert Grubbs <[RGrubbs@concho.com](mailto:RGrubbs@concho.com)>; Ken Swinney <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>;  
Jennifer Gilkey <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; Kathy Purvis <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** COG - Macho Nacho State #002H (1RP-4520) - Delineation Workplan

Olivia and Amber,

Please find the attached Delineation Workplan and remediation proposal for the COG Macho Nacho State #002H (1RP-4520). COG is requesting that you review this plan and is looking forward to the OCD's and SLO's approval.

If you have any questions, please let me know.

Thanks, Cliff

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\*\*\*\*\*

**From:** Groves, Amber  
**To:** [Cliff Brunson](#); "[Yu, Olivia, EMNRD](#)"  
**Cc:** "[Becky Haskell](#)"; "[Dakota Neel](#)"; "[Aaron Lieb](#)"; "[Ken Swinney](#)"; "[Jennifer Gilkey](#)"; "[Kathy Purvis](#)"  
**Subject:** RE: COG - Macho Nacho State #002H (1RP-4520) - Delineation Workplan  
**Date:** Thursday, July 6, 2017 3:02:19 PM  
**Attachments:** [image002.png](#)  
[image001.png](#)

---

Cliff,

NMSLO is in agreement with NMOCD on work plan approval and conditions of approval.

Please advise once remediation is complete whether the area in the pasture was disturbed and seeded.

Thank you,

**Amber Groves**

*Remediation Specialist*  
*Field Operations Division*  
(575)392-3697  
(575)263-3209 cell  
New Mexico State Land Office  
2827 N. Dal Paso Suite 117  
Hobbs, NM 88260

.....  
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---

**From:** Cliff Brunson [mailto:[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)]  
**Sent:** Friday, June 30, 2017 12:09 PM  
**To:** 'Yu, Olivia, EMNRD' <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; Groves, Amber <[agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)>  
**Cc:** 'Becky Haskell' <[rhaskell@concho.com](mailto:rhaskell@concho.com)>; 'Dakota Neel' <[DNeel2@concho.com](mailto:DNeel2@concho.com)>; 'Aaron Lieb' <[ALieb@concho.com](mailto:ALieb@concho.com)>; 'Ken Swinney' <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; 'Jennifer Gilkey' <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; 'Kathy Purvis' <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** RE: COG - Macho Nacho State #002H (1RP-4520) - Delineation Workplan

Olivia,

Thank you for your approval and this message is to confirm that COG accepts the condition for this approval.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS  
President  
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World-Wide Environmental Specialists  
Mailing Address:  
P. O. Box 805  
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Shipping Address:  
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## **New Mexico State Land Office Revegetation and Noxious Weed Management Plan**

### **COG – MACHO NACHO 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.

Gamma 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.































