

# SITE INFORMATION

## Report Type: Closure Report

<b>General Site Information:</b>				
<b>Site:</b>	Big George State #3 Battery			
<b>Company:</b>	COG Operating LLC			
<b>Section, Township, and Range:</b>	12	17S	28E	
<b>Lease Number:</b>	API# 30-015-28759			
<b>County:</b>	Eddy County, NM			
<b>GPS:</b>	N 32 50.869		W 104 07.595	
<b>Surface Owner:</b>	State			
<b>Mineral Owner:</b>				
<b>Directions:</b>	In Loco Hills, from the intersection of Hwy 217 and Hwy 82, go West on Hwy 82 for 7.7 miles to lease road on right, turn right on lease road and go North on main road for 2.8 miles, turn left and go West for 0.3 mile, turn right and go North 0.1 mile to TB on right.			

<b>Release Data:</b>	
<b>Date Released:</b>	7/27/2011 and 03/12/2012
<b>Type of Release:</b>	Produced water
<b>Source of Contamination:</b>	Water tank (07/27/2011) and Water pump (03/12/2012)
<b>Fluid Released:</b>	50 bbls (07/27/2011) and 8 bbls (03/12/2012)
<b>Fluids Recovered:</b>	45 bbls (07/27/2011) and 7 bbls (03/12/2012)

<b>Official Communication:</b>		
<b>Name:</b>	Pat Ellis	Cliff Brunson
<b>Company:</b>	COG Operating LLC	BBC International, Inc.
<b>Address:</b>	550 W. Texas Ave., Ste. 1300	1324 W. Marland
<b>PO Box:</b>		PO Box 805
<b>City, State, Zip Code:</b>	Midland, TX 79701	Hobbs, NM 88241
<b>Phone Number:</b>	(432) 686-3023	(575) 397-6388
<b>Fax:</b>	(432) 684-7137	(575) 397-0397
<b>Email:</b>	pellis@conchoresources.com	cbrunson@bbcinternational.com

Ranking Criteria:		
Depth to Groundwater:	Ranking Score	Site Data
<50 ft.	20	
50-99 ft.	10	10
>100 ft.	0	

Well Head Protection:		
	Ranking Score	Site Data
Water Source <1,000 ft., Private <200	20	
Water Source >1,000 ft., Private >200	0	0

Surface Body of Water:		
	Ranking Score	Site Data
<200 ft.	20	
200 ft. - 1,000 ft.	10	
>1,000 ft.	0	0

<b>Total Ranking Score:</b>	10
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Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5000





## **COG Operating LLC**

### **Big George State #3 Battery**

(Release Dates 07/27/2011 and 03/12/2012)

**Unit J, Section 12, Township 17 South, Range 28 East**

**Eddy County, New Mexico**

**GPS: N 32 50.869 W 104 07.595**

#### **ENVIRONMENTAL SITE INVESTIGATION**

#### **CLOSURE REPORT**

PERFORMED BY:

**BBC INTERNATIONAL, INC.**  
WORLD-WIDE ENVIRONMENTAL SPECIALISTS  
1324 W. MARLAND BLVD.  
P. O. BOX 805  
HOBBS, NEW MEXICO 88240  
(575) 397-6388 • FAX (575) 397-0397

**October 18, 2012**

PREPARED FOR:

**MR. PAT ELLIS**  
**MANAGER, HSE**  
**COG OPERATING LLC**  
**FASKEN CENTER TOWER II**  
**550 WEST TEXAS AVENUE, SUITE 100**  
**MIDLAND, TEXAS 79701**

Mr. Mike Bratcher  
Compliance Officer  
Oil Conservation Division, District 2  
811 South First  
Artesia, NM 88210

Re: Closure plan for COG Operating LLC, Big George State #3 Battery,  
Unit J, Section 12, Township 17 South, Range 28 East, Eddy County, NM

## **1.0 SITE CHARACTERIZATION**

The subject site is located East of Artesia, in Section 12, Township 17 South, and Range 28 East, Eddy County, New Mexico. The GPS coordinates are: N 32 50.869 W 104 07.595. The site consists of undeveloped rangeland and petroleum production facilities. On July 27, 2011, a sudden rush of production caused a tank overflow due to an alarm system failure. The spill measured roughly 30' x 30' inside the facility walls. Approximately 50 bbls of water were released with approximately 45 bbls being recovered by a vacuum truck. On March 12, 2012, an additional leak was discovered resulting from the failure of a 1/4" nipple on the discharge side of the water pump. The spill area measured roughly 10' x 60' inside the tank battery and an area of overspray measuring roughly 30' x 50' outside the tank battery. Approximately 8 bbls of produced water were release with 7 bbls recovered via vacuum truck.

A diagram of the location including the sample points can be reviewed in Appendix I of this report. The surface soil is tan to brown fine sand and sandy caliche. There is no water source within 1,000 feet of this site. Based on the data from the Eddy County Groundwater Trend Map, the depth to groundwater in Section 12, Township 17 South, and Range 28 East is 50' to 75'. The initial C-141s for both leaks are at the end of this report in Appendix III.

## **2.0 SITE INVESTIGATION ACTIVITIES**

On August 15, 2011, BBC personnel conducted a delineation of the site. The site delineation occurred after initial spill response activities had been conducted by COG. Six sample points were advanced in the leak area using a hand auger to a total depth of 8 feet. Three samples were taken from SP1 at depths of 1 foot, 4 feet and 8 feet. Two samples were taken from SP2 at depths of 1 foot and 4 feet. Three samples were taken from SP3 at depths of 1 foot, 3 feet, and 5 feet. Three samples were taken from SP4 at depths of 1 foot, 4 feet, and 6 feet. Three samples were taken from SP5 at depths of 1 foot, 3 feet, and 7 feet. And, two samples were taken from SP6 at depths of 1 foot and 3 feet. The samples were taken to Cardinal Laboratories for chloride analysis. Laboratory analysis for SP1 was 5,280 ppm at 1 foot, 13,600 ppm at 4 feet, and 9,500 ppm at 8 feet. Laboratory analysis for SP2 was 20,000 ppm at 1 foot, and 1,260 ppm at 4 feet. Laboratory analysis for SP3 was 9,400 ppm at 1 foot, 8,600 ppm at 3

feet, and 272 ppm at 5 feet. Laboratory analysis for SP4 was 3,680 ppm at 1 foot, 10,200 ppm at 4 feet, and 4,720 ppm at 6 feet. Laboratory analysis for SP5 was 5,600 ppm at 1 foot, 12,800 ppm at 3 feet, and 1,960 ppm at 7 feet. Laboratory analysis for SP6 was 4,240 ppm at 1 foot and 2,200 at 3 feet. After further discussion with the NMOCD, all parties involved agreed that additional sampling was warranted. Therefore, additional samples were taken at the agreed upon locations of SP1, SP4, and SP7. Five samples were taken from SP1(A) at depths of 2 feet, 4 feet, 7 feet, 12 feet, and 17 feet. Three samples were taken from SP1(B) at depths of 1 foot, 4 feet, and 7 feet. Three samples were taken from SP4(A) at 7 feet, 12 feet, and 17 feet. And, three samples were taken from SP7 at 1 foot, 3 feet, and 6 feet. These samples were also taken to Cardinal Laboratories for chloride analysis. Laboratory analysis for SP1(A) is 14,200 ppm at 2 foot, 2,560 ppm at 4 foot, 2,920 ppm at 7 foot, 11,400 ppm at 12 feet, and 4,720 ppm at 17 feet. Laboratory analysis for SP1(B) is 6,480 ppm at 1 foot, 8,260 ppm at 4 feet, and 6,720 ppm at 7 feet. Laboratory analysis for SP4(A) is 6,800 ppm at 7 feet, 3,520 ppm at 12 feet, and 2,120 ppm at 17 feet. Laboratory analysis for SP7 is 1,800 ppm at 1 foot, 1,500 ppm at 3 feet, and 368 ppm at 6 feet. The results of the analysis are located in Appendix II of this report. The sample point locations can be viewed on the site diagram in Appendix I of this report.

### **3.0 CONCLUSION AND RECOMMENDATION**

During the second sampling event, the former reserve drilling pit was discovered in the areas of SP1(A) and SP1(B). The pit area exists inside the north-eastern side of the tank battery and then further east. Remnants of the pit contents were discovered as depicted in the pictures located in Appendix IV of this report. The pit contents are a large contributing factor to the high chloride content found in the samples in the SP1(A) and SP1(B) areas.

On December 13, 2011, BBC personnel met with Mike Bratcher of the NMOCD to discuss the laboratory results of the second sampling event. After discussing the findings, the NMOCD agreed to a remediation plan.

Prior to the start of the NMOCD-approved remediation plan, a second release occurred at the site on March 12, 2012. This release was similar to the first one, releasing fluid in the same area as before. The NMOCD agreed to allow the previously approved remediation plan to include the remediation of the leak that occurred on March 12, 2012.

In accordance with the approved remediation plan, excavation of approximately two feet of impacted soil inside the battery firewall down to the southern side of the SP4(A) sample area was completed. The excavation area was then backfilled with an impermeable liner consisting of one foot of compacted clay. The remaining backfill was completed with material similar to the rest of the battery.

Upon completion of the approved remediation plan, the NMOCD agreed that no further action was required and permission was granted to close this site. The site remediation was started on July 9, 2012 and completed on July 20, 2012. Photos of the remediation activities are located in Appendix V of this report.

The final C-141s are located in Appendix III of this report.

# APPENDIX I

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**Site Diagram**  
*September 2011*

## **Big George State #3 Battery (07/27/2011 and 03/12/2012)**

Unit J, Section 12, Township 17 South, Range 28 East  
Eddy County, NM  
GPS: N 32 50.869 W 104 07.595

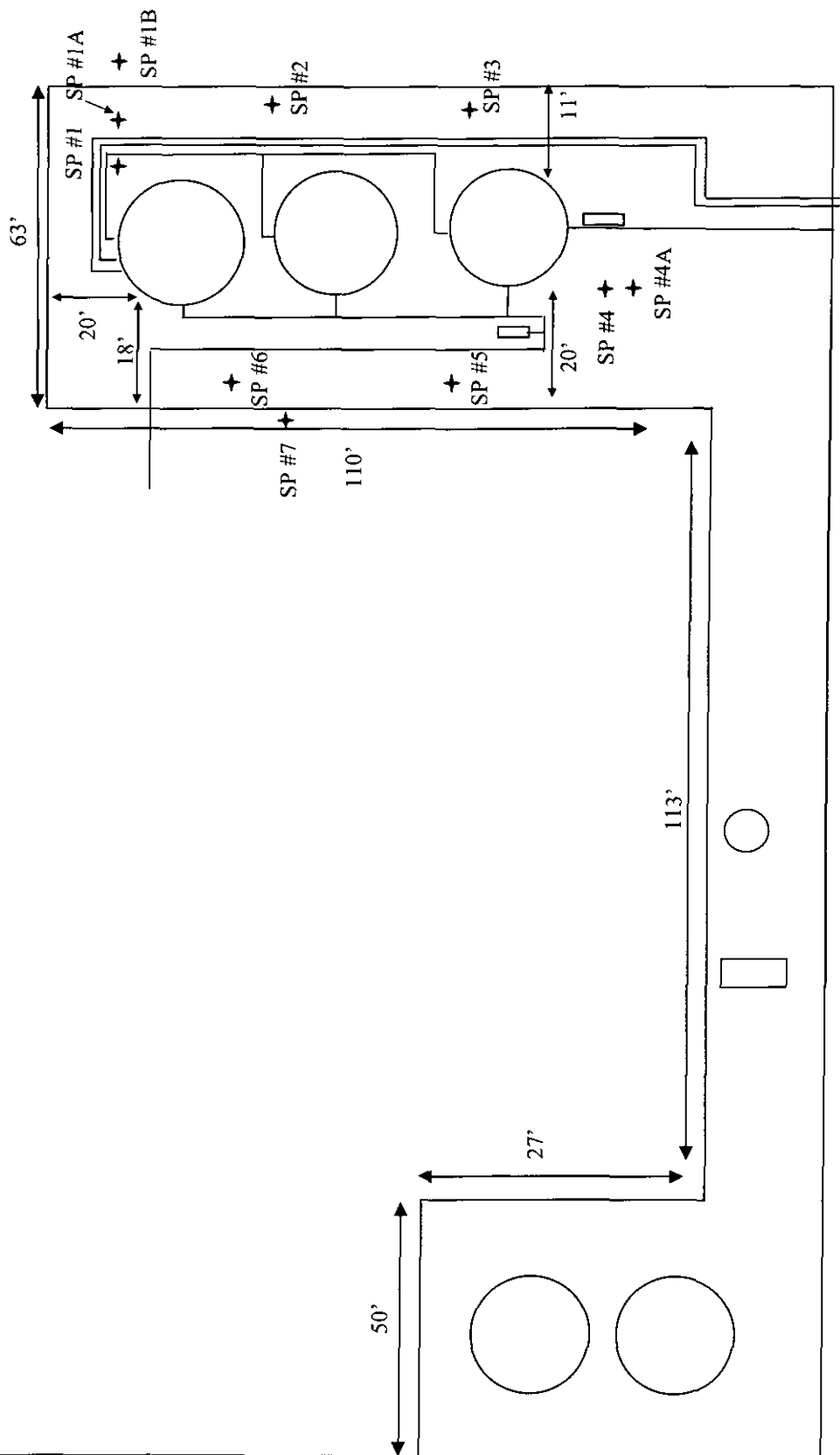
**Prepared for:**  
COG Operating LLC  
Midland, Texas

**Prepared by:**  
BBC International, Inc.

# CONCHO BIG GEORGE STATE #3



Road



Sample Point Distance from Tanks

- SP#1 - 5'
- SP#2 - 8'
- SP#3 - 7'
- SP#4 - 10'
- SP#5 - 14'
- SP#6 - 15'

BBC INTERNATIONAL, INC.

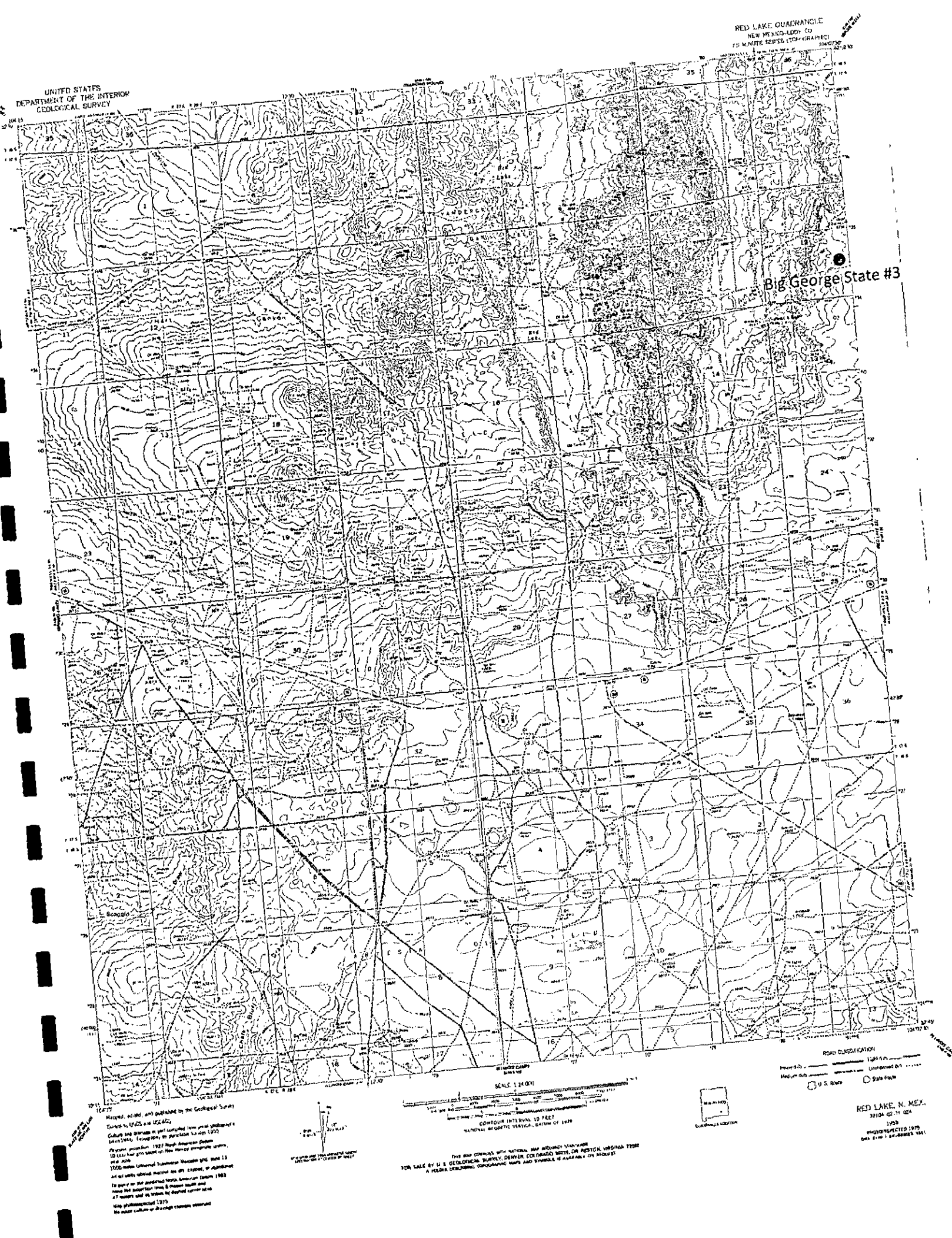
CONCHO  
BIG GEORGE STATE #3

Date: 8-16-11 Drawn By: JG

Disk: Sheet 1 of 1 Sheets

Scale: Not to Scale File Name

Big George State #3



Marques, edited, and published by the Geological Survey  
 of Canada in 1925 and 1926.  
 Culture and domestic life portrayed from first settlement to  
 1924. (Language of publication is English)  
 Personal journal from 1827 through American Revolution,  
 10 letters from 1828 on from American settlement, 1828  
 and 1829  
 1825-1826 written by Thomas Mackenzie and 1827-1828  
 and 1829 written by Mackenzie and 1829, 1830, 1831  
 and 1832 written by Mackenzie and 1833, 1834, 1835  
 and 1836 written by Mackenzie and 1837, 1838, 1839  
 and 1840 written by Mackenzie and 1841, 1842, 1843  
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 and 1860 written by Mackenzie and 1861, 1862, 1863  
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 and 2312 written by Mackenzie and 2313, 2314, 2315  
 and 2316 written by Mackenzie and 2317, 2318, 2319  
 and 2320 written by Mackenzie and 23

THIS MAP CONFORMS WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 20192  
A POLAR PROJECTION TOPOGRAPHIC MAP AND SYMBOLS IS AVAILABLE ON REQUEST

RED LAKE, N. MEX.  
32104 02-11 024  
1955  
PHOTOGRAPHED 1979  
ON 11-20-79 BY JAMES H. H.

Big George State #3 Battery

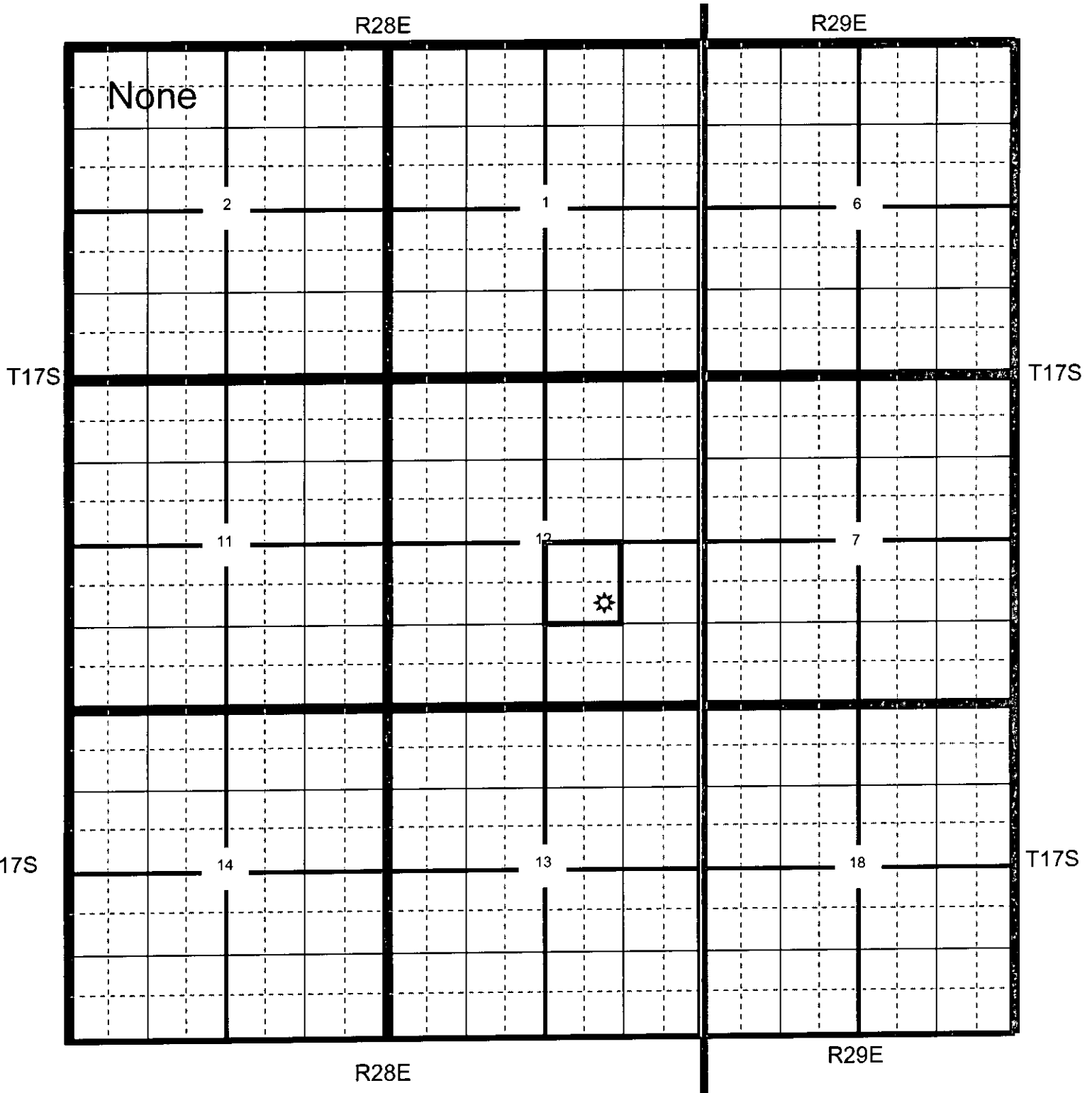


# Groundwater Plot

Oil/Gas Well Name: Big George State #3 Battery

County: Eddy UL J Sec 12 T 17S R 28E

Trend Map: 50'-75'



★ Location

● OCD

● USGS

● SEO


● All Databases

# Section Quarters

Section 12

1

2






NW/NW None	NE/NW	NW/NE	NE/NE
Unit Letter D	Unit Letter C	Unit Letter B	Unit Letter A
SW/NW	SE/NW	SW/NE	SE/NE
Unit Letter E	Unit Letter F	Unit Letter G	Unit Letter H
NW/SW	NE/SW	NE/NW Big George State #3 Battery 	NE/SE
Unit Letter L	Unit Letter K	Unit Letter J	Unit Letter I
SW/SW	SE/SW	SW/SE	SE/SE
Unit Letter M	Unit Letter N	Unit Letter O	Unit Letter P

3

4

## Big George State #3 Battery

UL J  
Sec 12  
T 17 S  
R 28 E

-  Location
-  OCD
-  USGS
-  SEO
-  All

# APPENDIX II

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## Laboratory Analytical Results

*September 2011*

### **Big George State #3 Battery (07/27/2011 and 03/12/2012)**

Unit J, Section 12, Township 17 South, Range 28 East  
Eddy County, NM  
GPS: N 32 50.869 W 104 07.595

**Prepared for:**  
COG Operating LLC  
Midland, Texas

**Prepared by:**  
BBC International, Inc.

Laboratory Analytical Results Summary  
COG, Big George State #3

	Sample	SP1 @ 1'	SP1 @ 4'	SP1 @ 8'
Analyte	Date	8/15/11	8/15/11	8/15/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	5280	13600	9500

	Sample	SP2 @ 1'	SP2 @ 4'
Analyte	Date	8/15/11	8/15/11
		mg/Kg	mg/Kg
Chloride	SM4500Cl-B	20000	1260

	Sample	SP3 @ 1'	SP3 @ 3'	SP3 @ 5'
Analyte	Date	8/15/11	8/15/11	8/15/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	9400	8600	272

	Sample	SP4 @ 1'	SP4 @ 4'	SP4 @ 6'
Analyte	Date	8/15/11	8/15/11	8/15/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	3680	10200	4720

	Sample	SP5 @ 1'	SP5 @ 3'	SP5 @ 7'
Analyte	Date	8/15/11	8/15/11	8/15/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	5600	12800	1960

	Sample	SP6 @ 1'	SP6 @ 3'
Analyte	Date	8/16/11	8/16/11
		mg/Kg	mg/Kg
Chloride	SM4500Cl-B	4240	2200

	Sample	SP1A @ 2'	SP1A @ 4'	SP1A @ 7'	SP1A @ 12'	SP1A @ 17'
Analyte	Date	9/21/11	9/21/11	9/21/11	9/21/11	9/21/11
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	14200	2560	2920	11400	4720

	Sample	SP1B @ 1'	SP1B @ 4'	SP1B @ 7'
Analyte	Date	9/21/11	9/21/11	9/21/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	6480	8260	6720

	Sample	SP4A @ 7'	SP4A @ 12'	SP4A @ 17'
Analyte	Date	9/21/11	9/21/11	9/21/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	6800	3520	2120

	Sample	SP7 @ 1'	SP7 @ 3'	SP7 @ 6'
Analyte	Date	9/21/11	9/21/11	9/21/11
		mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B	1800	1500	368



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

September 02, 2011

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: BIG GEORGE STATE #3

Enclosed are the results of analyses for samples received by the laboratory on 08/31/11 10:15.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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".

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 BBC International, Inc.  
 Cliff Brunson  
 P.O. Box 805  
 Hobbs NM, 88241  
 Fax To: (505) 397-0397

 Received: 08/31/2011  
 Reported: 09/02/2011  
 Project Name: BIG GEORGE STATE #3  
 Project Number: NONE GIVEN  
 Project Location: COG

 Sampling Date: 08/15/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 1' (H101850-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 1 @ 4' (H101850-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13600	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 1 @ 8' (H101850-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9500	16.0	09/01/2011	ND	448	112	400	0.00		

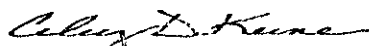
**Sample ID: SP 2 @ 1' (H101850-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	20000	16.0	09/01/2011	ND	448	112	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (505) 397-0397

Received: 08/31/2011  
Reported: 09/02/2011  
Project Name: BIG GEORGE STATE #3  
Project Number: NONE GIVEN  
Project Location: COG

Sampling Date: 08/15/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 4' (H101850-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 3 @ 1' (H101850-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9400	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 3 @ 3' (H101850-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8600	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 3 @ 5' (H101850-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/01/2011	ND	448	112	400	0.00	

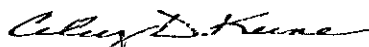
**Sample ID: SP 4 @ 1' (H101850-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3680	16.0	09/01/2011	ND	448	112	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (505) 397-0397

Received: 08/31/2011  
Reported: 09/02/2011  
Project Name: BIG GEORGE STATE #3  
Project Number: NONE GIVEN  
Project Location: COG

Sampling Date: 08/15/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 4 @ 4' (H101850-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10200	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 4 @ 6' (H101850-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 5 @ 1' (H101850-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 5 @ 3' (H101850-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12800	16.0	09/01/2011	ND	448	112	400	0.00	

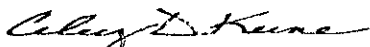
**Sample ID: SP 5 @ 7' (H101850-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	09/01/2011	ND	448	112	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (505) 397-0397

Received:	08/31/2011	Sampling Date:	08/16/2011
Reported:	09/02/2011	Sampling Type:	Soil
Project Name:	BIG GEORGE STATE #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG		

**Sample ID: SP 6 @ 1' (H101850-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4240	16.0	09/01/2011	ND	448	112	400	0.00	

**Sample ID: SP 6 @ 3' (H101850-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	09/01/2011	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

~ Chloride by SM4500Cl-B does not require samples be received at or below 6°C

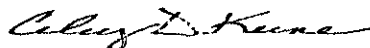
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

1 of 2

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: BBC International, Inc.		<b>BILL TO</b>		ANALYSIS REQUEST																					
Project Manager: Cliff Brunson		P.O. #:																							
Address: P.O. Box 805		Company:																							
City: Hobbs		Attn:																							
Phone #: 575-397-6388		Address: SAME																							
Project #:		City:																							
Project Name: Big George State #3		State:																							
Project Location:		Phone #:																							
Sampler Name: JUDAN WOODFIN		Fax #:																							
FOR LAB USE ONLY																									
Lab I.D.	Sample I.D.			MATRIX		PRESERV		SAMPLING		DATE		TIME													
1. SPICEL	SPICEL			GROUNDWATER		ACID/BASE		OTHER:		8/15/11		9:22													
2. SPICEL	SPICEL			WASTEWATER		ICE/COOL		OTHER:		8/15/11		10:10													
3. SPICEL	SPICEL			SLUDGE						8/15/11		11:00													
4. SPICEL	SPICEL			OIL						8/15/11		11:29													
5. SPICEL	SPICEL			SOIL						8/15/11		12:01													
6. SPICEL	SPICEL									8/15/11		12:11													
7. SPICEL	SPICEL									8/15/11		12:49													
8. SPICEL	SPICEL									8/15/11		2:16													
9. SPICEL	SPICEL									8/15/11		2:43													
10. SPICEL	SPICEL									8/15/11		2:47													
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Relinquished By: J. Woodfin		Date: 8/22/11		Time: 5:00		Received By: J. Woodfin		Date: 8/22/11		Time: 5:00		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:		REMARKS:					
Delivered By: (Circle One)		Cool - Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Sample Condition		Checked By: J. Woodfin		Date: 8/22/11		Time: 5:00		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:		REMARKS:					
Sampler - UPS - Bus - Other:		Cool - Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Sample Condition		Checked By: J. Woodfin		Date: 8/22/11		Time: 5:00		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:		REMARKS:					

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

# 26

202

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

BILL TO										ANALYSIS REQUEST									
Company Name: BBC International, Inc.										P.O. #:									
Project Manager: Cliff Brunson										Company:									
Address: P.O. Box 805										Attn:									
City: Hobbs										Address: SAME									
Phone #: 575-397-6388										City:									
Project #:										State:									
Project Name: Big George #3										Phone #:									
Project Location:										Fax #:									
Sampler Name: VIDAR VALDES JR																			
FOR LAB USE ONLY																			
Lab I.D.		Sample I.D.		# CONTAINERS		MATRIX		PRESERV		SAMPLING		DATE		TIME					
				(G) RAB OR (C)OMP.		GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:		ACID/BASE ICE/COOL OTHER:											
H101450		37461		1		X		X		X		6.5.11		340					
13		33561		1		X		X		X		8.16.11		920					
14		33563		1		X		X		X		9.4.11		945					
15		33563		1		X		X		X		10.19		1049					
16		33661		1		X		X		X		17.34		1734					
17		33663		1		X		X		X		16.7		167					

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Relinquished By:	Date: 2/20/11	Time: 5:00 PM	Received By:	Date: 2/20/11	Time: 5:00 PM
Relinquished By:	Date: 2/20/11	Time: 5:00 PM	Received By:	Date: 2/20/11	Time: 5:00 PM
Delivered By: (Circle One)	Sample Condition				
Sampler - UPS - Bus - Other:	Cool	Intact	Yes	No	Initials
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	20

REMARKS:

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

#26



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

September 28, 2011

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: BIG GEORGE STATE #3

Enclosed are the results of analyses for samples received by the laboratory on 09/27/11 10:17.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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, reading "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 BBC International, Inc.  
 Cliff Brunson  
 P.O. Box 805  
 Hobbs NM, 88241  
 Fax To: (505) 397-0397

 Received: 09/27/2011  
 Reported: 09/28/2011  
 Project Name: BIG GEORGE STATE #3  
 Project Number: NONE GIVEN  
 Project Location: LOCO HILLS, NM

 Sampling Date: 09/21/2011  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 1A @ 2 FT (H102056-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14200	16.0	09/28/2011	ND	416	104	400	3.77	

**Sample ID: SP 1A @ 4 FT (H102056-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	09/28/2011	ND	416	104	400	3.77		

**Sample ID: SP 1A @ 7 FT (H102056-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	09/28/2011	ND	448	112	400	0.00	

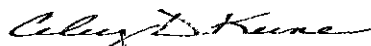
**Sample ID: SP 1A @ 12 FT (H102056-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11400	16.0	09/28/2011	ND	448	112	400	0.00	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (505) 397-0397

Received: 09/27/2011  
Reported: 09/28/2011  
Project Name: BIG GEORGE STATE #3  
Project Number: NONE GIVEN  
Project Location: LOCO HILLS, NM

Sampling Date: 09/21/2011  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1A @ 17 FT (H102056-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	09/28/2011	ND	448	112	400	0.00	

**Sample ID: SP 1B @ 1 FT (H102056-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6480	16.0	09/28/2011	ND	448	112	400	0.00	

**Sample ID: SP 1B @ 4 FT (H102056-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8260	16.0	09/28/2011	ND	448	112	400	0.00		

**Sample ID: SP 1B @ 7 FT (H102056-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6720	16.0	09/28/2011	ND	448	112	400	0.00	

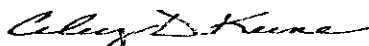
**Sample ID: SP 4A @ 7 FT (H102056-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	09/28/2011	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 BBC International, Inc.  
 Cliff Brunson  
 P.O. Box 805  
 Hobbs NM, 88241  
 Fax To: (505) 397-0397

Received:	09/27/2011	Sampling Date:	09/21/2011
Reported:	09/28/2011	Sampling Type:	Soil
Project Name:	BIG GEORGE STATE #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LOCO HILLS, NM		

**Sample ID: SP 4A @ 12 FT (H102056-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	09/28/2011	ND	448	112	400	0.00	

**Sample ID: SP 4A @ 17 FT (H102056-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	09/28/2011	ND	448	112	400	0.00	

**Sample ID: SP 7 @ 1 FT (H102056-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	09/28/2011	ND	448	112	400	0.00	

**Sample ID: SP 7 @ 3 FT (H102056-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	09/28/2011	ND	448	112	400	0.00	

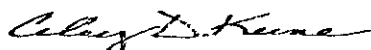
**Sample ID: SP 7 @ 6 FT (H102056-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	09/28/2011	ND	448	112	400	0.00	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

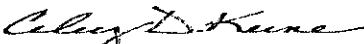
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received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

---

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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Celey D. Keene, Lab Director/Quality Manager

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

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

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-6476

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

Cardinal cannot accept verbal changes. Please fax written changes to 505-393-6476

# APPENDIX III

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**C-141**  
*July 2012*

## **Big George State #3 Battery (07/27/2011 and 03/12/2012)**

Unit J, Section 12, Township 17 South, Range 28 East  
Eddy County, NM  
GPS: N 32 50.869 W 104 07.595

**Prepared for:**  
COG Operating LLC  
Midland, Texas

**Prepared by:**  
BBC International, Inc.

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Big George	Facility Type	Tank Battery

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-28759
---------------------	---------------	-------------------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	12	17S	28E					Eddy

Latitude 32 50.869 Longitude 104 07.595

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	50bbls	Volume Recovered	45bbls
Source of Release	Water tank	Date and Hour of Occurrence	07/27/2011	Date and Hour of Discovery	07/27/2011 10:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher - OCD		
By Whom?	Josh Russo	Date and Hour	07/28/2011 9:35 a.m.		
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.\*


A sudden rush of production caused a tank overflow due to an alarm system failure. The alarm has been repaired.

Describe Area Affected and Cleanup Action Taken.\*

Initially 50bbls was released from the tank inside the facility walls of the Big George State Tank Battery. We were able to recover 45bbls with a vacuum truck. The spill area measure roughly 30' x 30' inside the facility walls. All free fluid has been picked up and contaminated gravel has been removed. BBC will sample the spill site area to delineate any possible contamination from the release and we will present a 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.

**OIL CONSERVATION DIVISION**

Signature: 	Approved by District Supervisor:		
Printed Name: Josh Russo			
Title: HSE Coordinator	Approval Date:	Expiration Date:	
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 08/02/2011 Phone: 432-212-2399			

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Big George State Tank Battery	Facility Type	Tank Battery

Surface Owner	State	Mineral Owner		Lease No. (API#)	30-015-28759
---------------	-------	---------------	--	------------------	--------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	12	17S	28E					Eddy County, NM

Latitude N 32 50.869 Longitude W 104 07.595

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	50 bbls	Volume Recovered	45 bbls
Source of Release	Water tank	Date and Hour of Occurrence	07/27/2011	Date and Hour of Discovery	07/27/2011 @ 10:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher-OCD		
By Whom?	Josh Russo	Date and Hour	07/28/2011 @ 9:35 a.m.		
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.\*

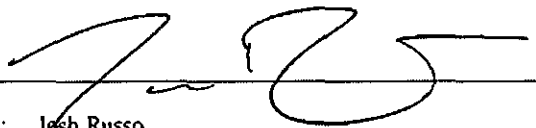
Describe Cause of Problem and Remedial Action Taken.\*

A sudden rush of production caused a tank overflow due to an alarm system failure. The alarm has been repaired. Free-standing fluids were recovered via vacuum truck.

Describe Area Affected and Cleanup Action Taken.\*

Initially 50 bbls of water were released from the tank inside the facility walls of the Big George State Tank Battery. We were able to recover 45 bbls with a vacuum truck. The spill area measured approximately 30' x 30' inside the facility walls. All free fluid was picked up and the impacted soil has been removed and disposed at a NMOCD-approved facility. Remediation was completed in accordance with a NMOCD approved remediation plan. A clay liner was installed and the site was backfilled.

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: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Josh Russo		Approved by District Supervisor:	
Title: HSE Coordinator		Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com		Conditions of Approval:	
Date: 07-26-2012 Phone: 432-212-2399		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Big George State Tank Battery	Facility Type	Tank Battery

Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-26340
---------------	-------	---------------	-------------------------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	12	17S	28E					Eddy

Latitude 32 50.852 Longitude 104 07.600

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	8bbls	Volume Recovered	7bbls
Source of Release	1/4" nipple on discharge side of water pump	Date and Hour of Occurrence	03/12/2012	Date and Hour of Discovery	03/12/2012 6:30 a.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
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.\*

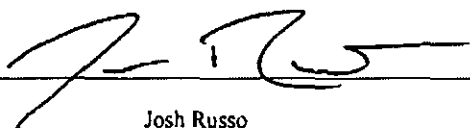
Describe Cause of Problem and Remedial Action Taken.\*

The 1/4" nipple on the discharge side of the water pump failed do to vibration and corrosion. The 1/4" nipple has been replaced.

Describe Area Affected and Cleanup Action Taken.\*

Initially 8bbls of produced water were released from the water pump and we were able to recover 7bbls with a vacuum truck. The spill area measured roughly 10' x 60' inside the tank battery with an area of overspray measuring roughly 30' x 50' on location outside of the tank battery. All free fluids have been picked up and the overspray area has been scraped with a backhoe. This spill area is identical to the spill from 07/27/2011. BBC will handle the remediation and closure of this release as well as the 07/27/2011 spill event.

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: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Josh Russo		Approved by District Supervisor:	
Title: HSE Coordinator		Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com		Conditions of Approval:	
Date: 03/26/2012 Phone: 432-212-2399		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Big George State Tank Battery	Facility Type	Tank Battery

Surface Owner	State	Mineral Owner		Lease No. (API#)	30-015-26340
---------------	-------	---------------	--	------------------	--------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	12	17S	28E					Eddy County, NM

Latitude N 32 50.852 Longitude W 104 07.600

**NATURE OF RELEASE**

Type of Release	Produced water	Volume of Release	8 bbls	Volume Recovered	7 bbls
Source of Release	1/4" nipple on discharge side of water pump	Date and Hour of Occurrence	03/12/2012	Date and Hour of Discovery	03/12/2012@ 6:30 a.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
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.\*

The 1/4" nipple on the discharge side of the water pump failed due to vibration and corrosion. The 1/4" nipple has been replaced.

Describe Area Affected and Cleanup Action Taken.\*

Initially 8 bbls of produced water were released from the water pump and we were able to recover 7 bbls with a vacuum truck. The spill area measured roughly 10' x 60' inside the tank battery with an area of overspray measuring roughly 30' x 50' on location outside of the tank battery. All free liquids were picked up and the overspray area was scraped with a backhoe. The spill area was identical to the spill from 07/27/2011. The NMOCD agreed to allow the approved remediation plan for the spill of 07/27/2011 to handle this spill as well. The impacted soil was removed, a clay liner installed, and the site backfilled.

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.

**OIL CONSERVATION DIVISION**

Signature:

Printed Name: Josh Russo

Title: HSE Coordinator

E-mail Address: jrusso@conchoresources.com

Date: 07/26/2012 Phone: 432-212-2399

Approved by District Supervisor:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

\* Attach Additional Sheets If Necessary

## Kathy Purvis

---

**From:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>  
**Sent:** Thursday, August 16, 2012 10:42 AM  
**To:** Kathy Purvis  
**Cc:** cbrunson@bbcinternational.com  
**Subject:** RE: Final C-141s for COG, Big George State Tank Battery

Form C-141's received.

Thank you,

Mike Bratcher  
NMOCD District 2  
811 S. First Street  
Artesia, NM 88210  
O: 575-748-1283 X108  
C: 575-626-0857  
F: 575-748-9720

---

**From:** Kathy Purvis [<mailto:kathy@bbcinternational.com>]  
**Sent:** Thursday, August 16, 2012 10:22 AM  
**To:** Bratcher, Mike, EMNRD  
**Cc:** [cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)  
**Subject:** Final C-141s for COG, Big George State Tank Battery  
**Importance:** High

The final C-141s for the two leaks at the Big George State Tank Battery are attached. Please respond via email upon receipt.

*Kathy Purvis*  
BBC International, Inc.  
1324 W. Marland  
Hobbs, NM 88240  
Phone: (575) 397-6388  
Fax: (575) 397-0397  
Email: [kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)

# APPENDIX IV

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## **Pictures of Pit Remnants**

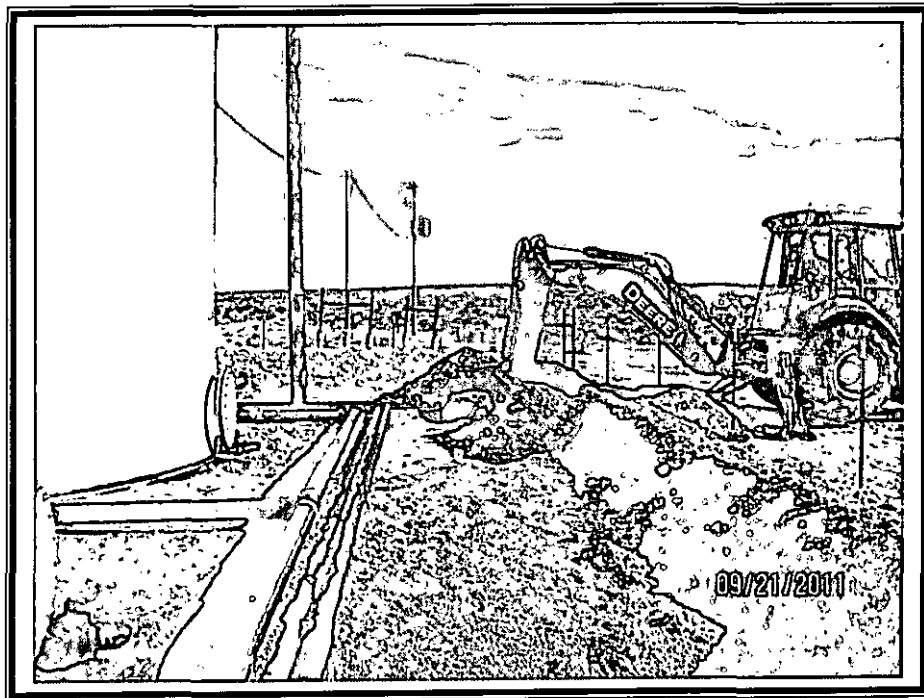
*September 2011*

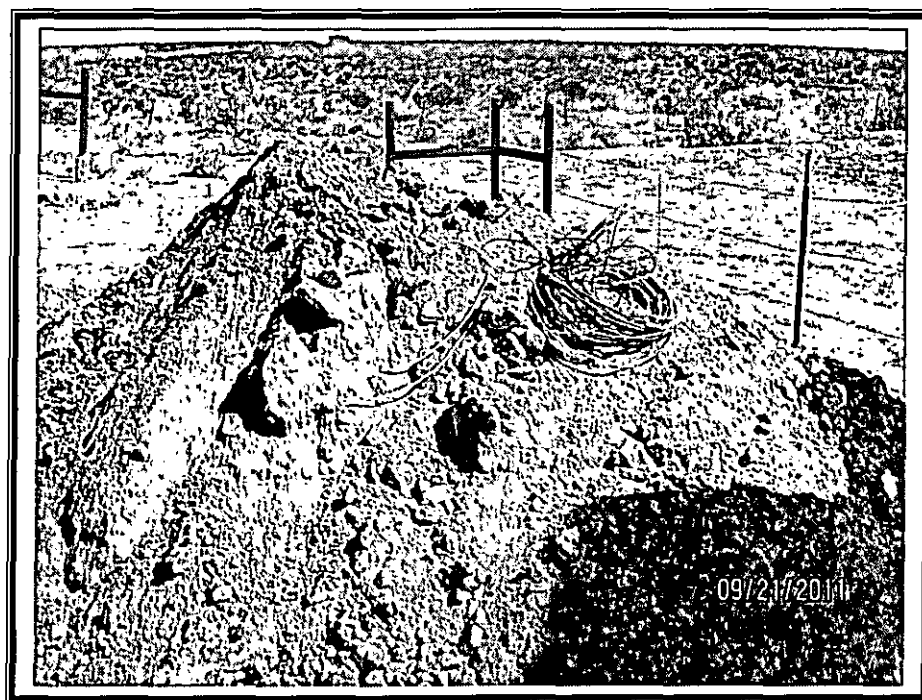
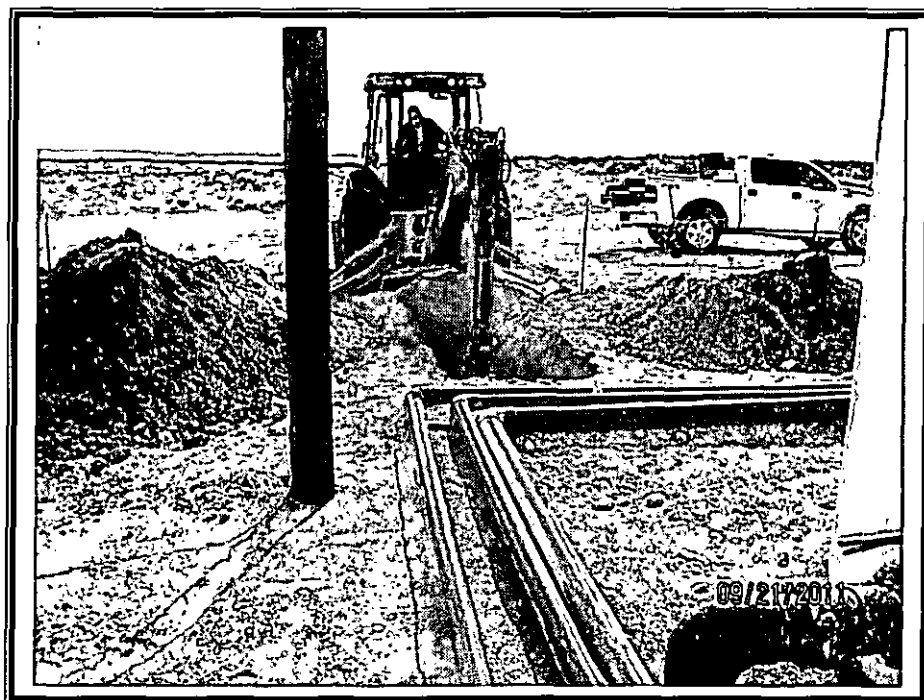
### **Big George State #3 Battery (07/27/2011 and 03/12/2012)**

Unit J, Section 12, Township 17 South, Range 28 East  
Eddy County, NM  
GPS: N 32 50.869 W 104 07.595

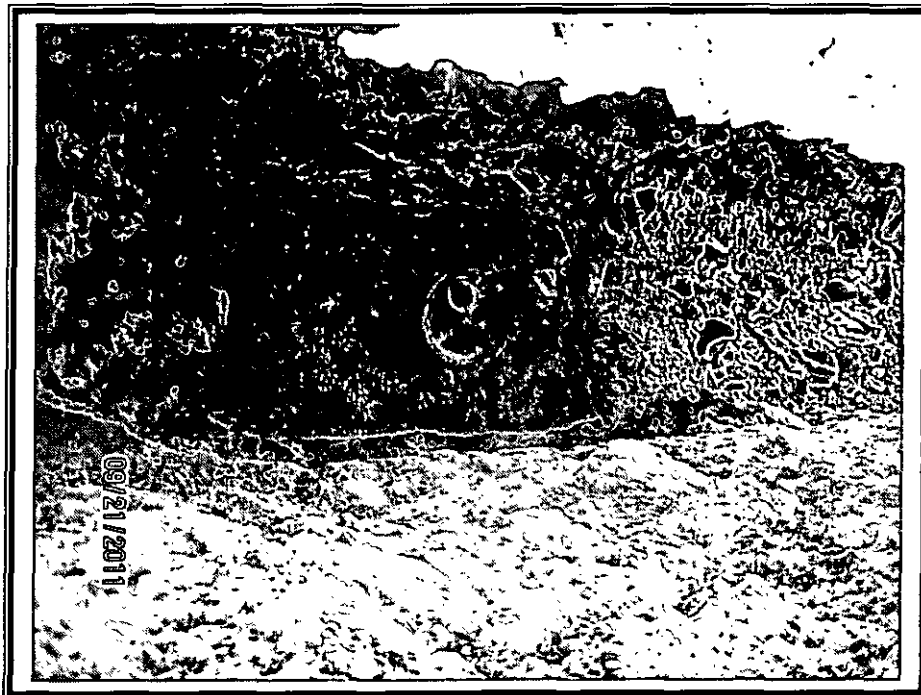
**Prepared for:**  
COG Operating LLC  
Midland, Texas

**Prepared by:**  
BBC International, Inc.









# APPENDIX V

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## **Pictures of Remediation Activities**

*July 2012*

### **Big George State #3 Battery (07/27/2011 and 03/12/2012)**

Unit J, Section 12, Township 17 South, Range 28 East  
Eddy County, NM  
GPS: N 32 50.869 W 104 07.595

**Prepared for:**  
COG Operating LLC  
Midland, Texas

**Prepared by:**  
BBC International, Inc.



