



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

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## **COG – HARPER STATE TANK BATTERY**

### **REMEDIATION PLAN**

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COG will excavate the spill area as depicted on the following site diagram. The entire spill area will be excavated to a depth of 1.5 feet or as practicable. The entire site will be backfilled with clean soil.

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



# Harper State Tank Battery

## Legend

-  Release Area
-  Sample Points



Google earth

100 ft







# Groundwater Plot

Concho Harper State #001 TB

County  
Eddy

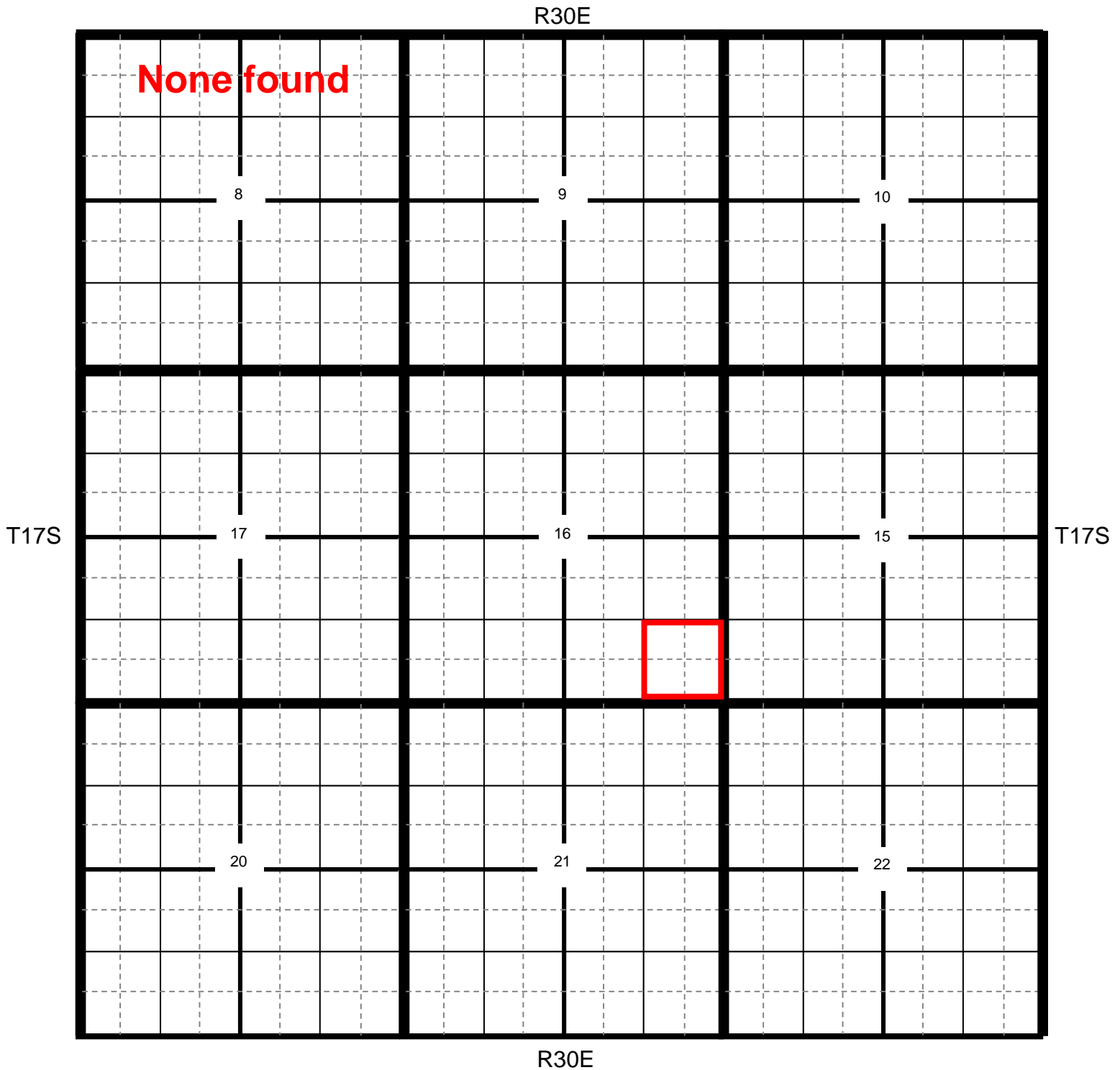
Unit Letter  
P

Section  
16

Township  
17S

Range  
30E

Trend Map 300'



📍 Location

● OCD

● USGS

● SEO

● All Databases

## Concho Harper State #001 TB

<b>County</b> Eddy	<b>Unit Letter</b> P	<b>Section</b> 16	<b>Township</b> 17S	<b>Range</b> 30E
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Trend Map 300'

1

2

NW/NW <b>None found</b>	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	NW/SE	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

**Laboratory Analytical Results Summary  
Harper State #001 Tank Battery**

		SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'
Analyte	Method	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B	<0.050	<0.050	n/a	n/a	n/a
<b>Toluene</b>	BTEX 8021B	<0.050	<0.050	n/a	n/a	n/a
<b>Ethylbenzene</b>	BTEX 8021B	<0.050	<0.050	n/a	n/a	n/a
<b>Total Xylenes</b>	BTEX 8021B	<0.150	<0.150	n/a	n/a	n/a
<b>Total BTEX</b>	BTEX 8021B	<0.300	<0.300	n/a	n/a	n/a
<b>Chloride</b>	SM4500Cl-B	<b>2840</b>	<b>416</b>	<b>32</b>	<b>256</b>	<16.0
<b>GRO</b>	TPH 8015M	<10.0	<10.0	n/a	n/a	n/a
<b>DRO</b>	TPH 8015M	<10.0	<10.0	n/a	n/a	n/a

June 06, 2016

LUPE CARRASCO

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: HARPER STATE #001

Enclosed are the results of analyses for samples received by the laboratory on 06/01/16 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 06/01/2016  
Reported: 06/06/2016  
Project Name: HARPER STATE #001  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 05/25/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S1 - 1' (H601196-01)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2016	ND	1.90	94.8	2.00	0.348	
Toluene*	<0.050	0.050	06/02/2016	ND	1.96	98.0	2.00	0.426	
Ethylbenzene*	<0.050	0.050	06/02/2016	ND	1.81	90.3	2.00	0.271	
Total Xylenes*	<0.150	0.150	06/02/2016	ND	5.60	93.3	6.00	0.347	
Total BTEX	<0.300	0.300	06/02/2016	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	06/06/2016	ND	416	104	400	3.92	

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	06/03/2016	ND	197	98.7	200	5.73	
DRO >C10-C28	<10.0	10.0	06/03/2016	ND	209	104	200	6.78	

Surrogate: 1-Chlorooctane 79.7 % 35-147

Surrogate: 1-Chlorooctadecane 97.9 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 06/01/2016  
Reported: 06/06/2016  
Project Name: HARPER STATE #001  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 05/25/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: S1 - 2' (H601196-02)**

BTEx 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/02/2016	ND	1.90	94.8	2.00	0.348		
Toluene*	<0.050	0.050	06/02/2016	ND	1.96	98.0	2.00	0.426		
Ethylbenzene*	<0.050	0.050	06/02/2016	ND	1.81	90.3	2.00	0.271		
Total Xylenes*	<0.150	0.150	06/02/2016	ND	5.60	93.3	6.00	0.347		
Total BTEx	<0.300	0.300	06/02/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	06/06/2016	ND	416	104	400	3.92	

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	06/03/2016	ND	197	98.7	200	5.73	
DRO >C10-C28	<10.0	10.0	06/03/2016	ND	209	104	200	6.78	

Surrogate: 1-Chlorooctane 61.6 % 35-147

Surrogate: 1-Chlorooctadecane 81.6 % 28-171

**Sample ID: S1 - 3' (H601196-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2016	ND	416	104	400	3.92	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONEReceived: 06/01/2016  
Reported: 06/06/2016  
Project Name: HARPER STATE #001  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 05/25/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: S1 - 4' (H601196-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	06/06/2016	ND	416	104	400	3.92		

**Sample ID: S1 - 5' (H601196-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.92		

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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



**CARDINAL**  
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: COG Operating LLC

Project Manager: Lupe Carrasco

Address: 2208 West Main

City: Artesia

Phone #: (575) 748-6940

Project #:

Project Name: Harper State #001

Project Location:

Sampler Name: Lupe Carrasco

**BILL TO**

**ANALYSIS REQUEST**

P.O. #:

Company: COG Operating LLC

Attn: Robert McNeill

Address: 600 W Illinois

City: Midland

State: TX Zip: 79701

Phone #: (432) 221-0388

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H100196

1 S1-1'  
2 S1-2'  
3 S1-3'  
4 S1-4'  
5 S1-5'

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

BTEX

TPH

Chloride

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Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

FORM-006 R 2.0

Sample Condition

CHECKED BY:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

Phone Result:

Fax Result:

REMARKS:

atrujillo@concho.com

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

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

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: HARPER STATE #001	Facility Type: Battery

Surface Owner: State	Mineral Owner: State	API No. 30-015-30831
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### LOCATION OF RELEASE

Unit Letter P	Section 16	Township 17S	Range 30E	Feet from the 430'	North/South Line South	Feet from the 330'	East/West Line East	County Eddy
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Latitude 32.8285027 Longitude -103.9695053

### NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 13 bbls	Volume Recovered: 11 bbls
Source of Release: Heater treater	Date and Hour of Occurrence: 4/6/2016 12:00pm	Date and Hour of Discovery: 4/6/2016 12:00pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input 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.\*

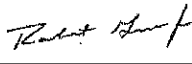
Describe Cause of Problem and Remedial Action Taken.\*

This release was caused by a hole in the firetube. A vacuum truck was dispatched to recover standing fluid.

Describe Area Affected and Cleanup Action Taken.\*

This release occurred within the bermed facility. 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: 		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Robert Grubbs Jr.		Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator		Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com		Conditions of Approval:	
Date: April 21, 2016 Phone: 432-683-7443		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary.