



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

COG – Willow 17 State SWD #001 (07/24/2016)
REMEDIATION PLAN, RP # 2RP-3812

COG will excavate the spill area as depicted on the following site diagram. The entire leak area will be excavated to a depth of 1 foot. The entire site will then be backfilled with clean soil.

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



COG Operating LLC

Willow 17 State SWD #001

1' Excavation across
entire leak site

60' x 30'

SP1

Fence

SP2

30' x 45'

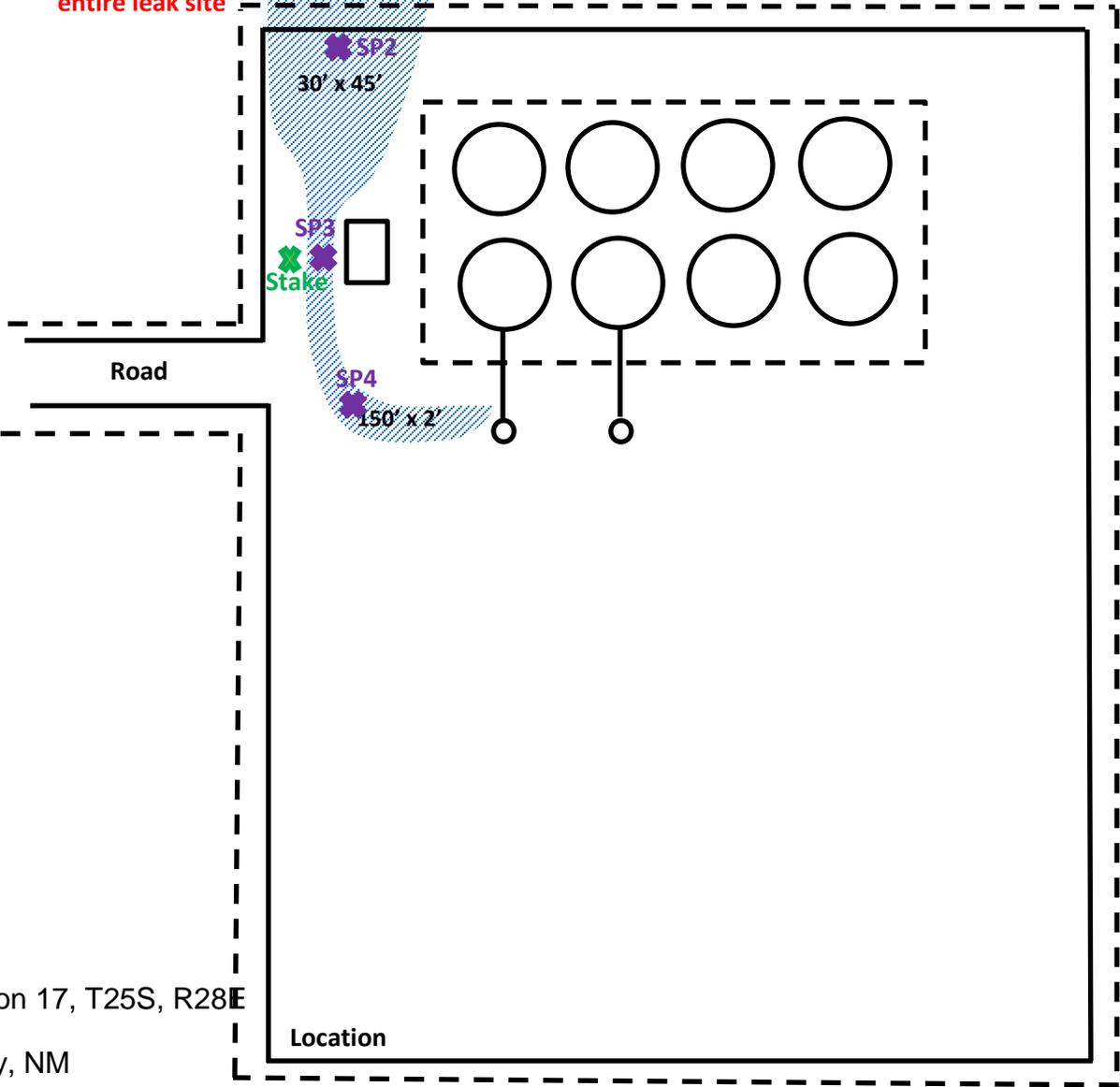
SP3

Stake



SP4

150' x 2'



Road

Location

U/L P, Section 17, T25S, R28E

Eddy County, NM

N 32.12498° W 104.10342°

API# 30-015-41806

BBC International, Inc.

COG

Willow 17 State SWD #001

Date: 08/08/2016

DRWG by: K. Purvis

NOT TO SCALE

File: COG 2016



Groundwater Plot

COG Willow 17 State SWD #001

County
Eddy

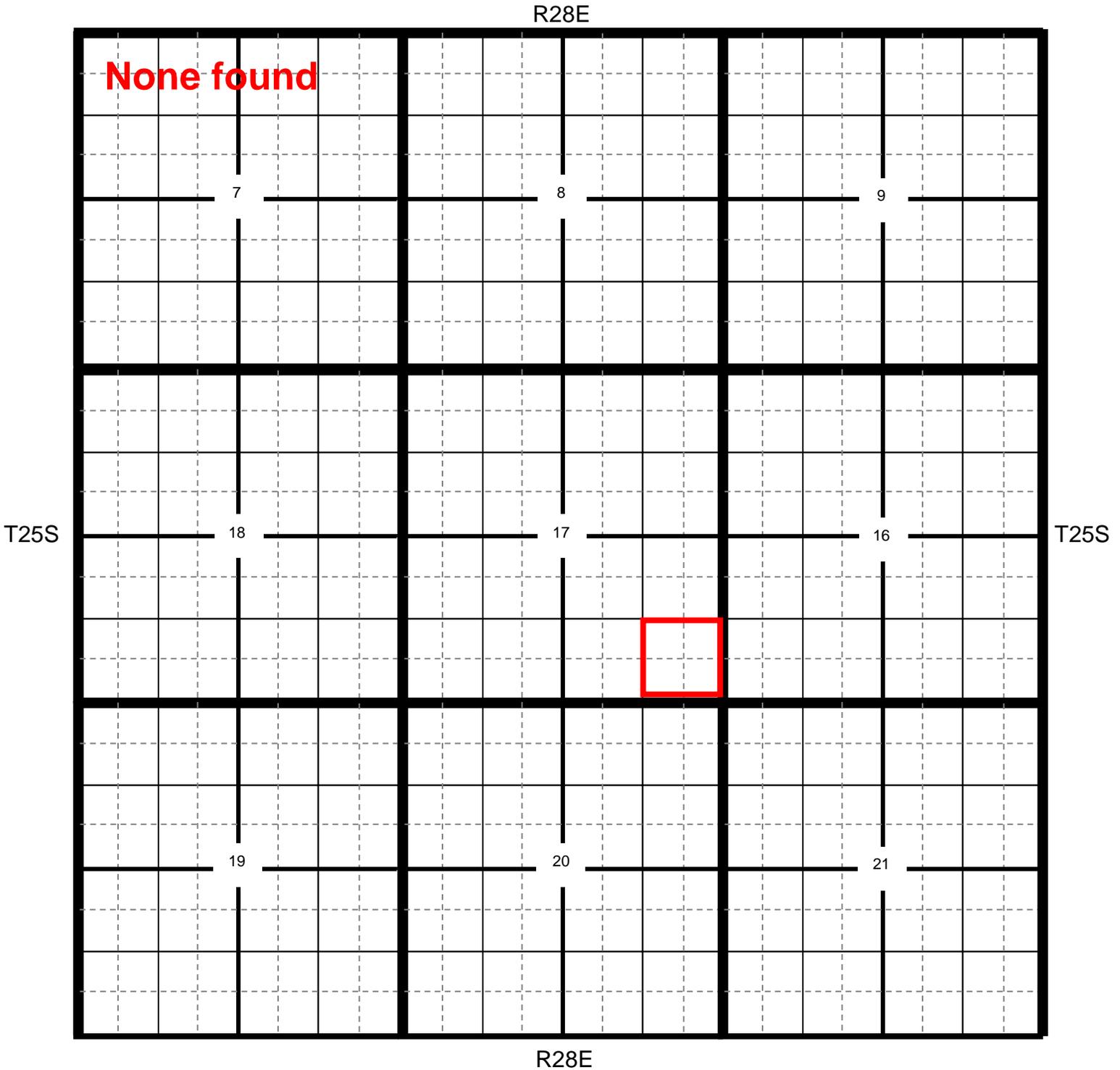
Unit Letter
P

Section
17

Township
T25S

Range
R28E

Trend Map 50'-100'



📍 Location

● OCD

● USGS

● SEO

● All Databases

COG Willow 17 State SWD #001

County Eddy Unit Letter P Section 17 Township 25S Range 28E

Trend Map 50'-100'

1

2

NW/NW None found	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
Willow 17 State SWD #001**

		Sample	SP1 @ SURFACE	SP1 @ 1'
Analyte	Method	Date	8/22/16	8/22/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a
Toluene	BTEX 8021B		<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	n/a
Chloride	SM4500Cl-B		1390	128
GRO	TPH 8015M		<10.0	n/a
DRO	TPH 8015M		<10.0	n/a

		Sample	SP2 @ SURFACE	SP2 @ 1'
Analyte	Method	Date	8/22/16	8/22/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	n/a
Toluene	BTEX 8021B		n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	n/a
Total Xylenes	BTEX 8021B		n/a	n/a
Total BTEX	BTEX 8021B		n/a	n/a
Chloride	SM4500Cl-B		2040	128
GRO	TPH 8015M		n/a	n/a
DRO	TPH 8015M		n/a	n/a

		Sample	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'
Analyte	Method	Date	8/22/16	8/22/16	8/22/16
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		1840	288	144
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a

		Sample	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 2'
Analyte	Method	Date	8/22/16	8/22/16	8/22/16
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	n/a	n/a
Chloride	SM4500Cl-B		7760	256	256
GRO	TPH 8015M		n/a	n/a	n/a
DRO	TPH 8015M		n/a	n/a	n/a



August 30, 2016

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: WILLOW 17 STATE #1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/24/16 15:30.

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

Cardinal Laboratories is 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:	08/24/2016	Sampling Date:	08/22/2016
Reported:	08/30/2016	Sampling Type:	Soil
Project Name:	WILLOW 17 STATE #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	(7-24-16)	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NM		

Sample ID: SP 1 @ SURFACE (H601910-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/29/2016	ND	2.30	115	2.00	2.94	
Toluene*	<0.050	0.050	08/29/2016	ND	2.35	117	2.00	3.10	
Ethylbenzene*	<0.050	0.050	08/29/2016	ND	2.25	113	2.00	3.13	
Total Xylenes*	<0.150	0.150	08/29/2016	ND	6.83	114	6.00	2.99	
Total BTEX	<0.300	0.300	08/29/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/29/2016	ND	400	100	400	3.92	

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	08/25/2016	ND	195	97.5	200	0.460	
DRO >C10-C28	<10.0	10.0	08/25/2016	ND	210	105	200	1.75	

Surrogate: 1-Chlorooctane 87.5 % 35-147
Surrogate: 1-Chlorooctadecane 94.4 % 28-171
Sample ID: SP 1 @ 1' (H601910-02)

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	08/29/2016	ND	400	100	400	3.92	

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: (575) 397-0397

Received:	08/24/2016	Sampling Date:	08/22/2016
Reported:	08/30/2016	Sampling Type:	Soil
Project Name:	WILLOW 17 STATE #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	(7-24-16)	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NM		

Sample ID: SP 2 @ SURFACE (H601910-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	08/29/2016	ND	400	100	400	3.92	

Sample ID: SP 2 @ 1' (H601910-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	08/29/2016	ND	400	100	400	3.92	

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: (575) 397-0397

Received:	08/24/2016	Sampling Date:	08/22/2016
Reported:	08/30/2016	Sampling Type:	Soil
Project Name:	WILLOW 17 STATE #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	(7-24-16)	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NM		

Sample ID: SP 3 @ SURFACE (H601910-05)

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	08/29/2016	ND	2.30	115	2.00	2.94	
Toluene*	<0.050	0.050	08/29/2016	ND	2.35	117	2.00	3.10	
Ethylbenzene*	<0.050	0.050	08/29/2016	ND	2.25	113	2.00	3.13	
Total Xylenes*	<0.150	0.150	08/29/2016	ND	6.83	114	6.00	2.99	
Total BTEX	<0.300	0.300	08/29/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	08/29/2016	ND	400	100	400	3.92	

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	08/25/2016	ND	195	97.5	200	0.460	
DRO >C10-C28	<10.0	10.0	08/25/2016	ND	210	105	200	1.75	

Surrogate: 1-Chlorooctane 70.0 % 35-147

Surrogate: 1-Chlorooctadecane 77.2 % 28-171

Sample ID: SP 3 @ 1' (H601910-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/29/2016	ND	400	100	400	3.92	

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: (575) 397-0397

Received:	08/24/2016	Sampling Date:	08/22/2016
Reported:	08/30/2016	Sampling Type:	Soil
Project Name:	WILLOW 17 STATE #1 SWD	Sampling Condition:	Cool & Intact
Project Number:	(7-24-16)	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NM		

Sample ID: SP 3 @ 2' (H601910-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/29/2016	ND	400	100	400	3.92	

Sample ID: SP 4 @ SURFACE (H601910-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7760	16.0	08/29/2016	ND	400	100	400	3.92	

Sample ID: SP 4 @ 1' (H601910-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/29/2016	ND	400	100	400	3.92	

Sample ID: SP 4 @ 2' (H601910-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	08/29/2016	ND	400	100	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

Notes and Definitions

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



Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc. P.O. #: _____

Project Manager: Cliff Brunson Company: _____

Address: P.O. Box 805 State: NM zip: 88241 Attn: _____

City: Hobbs Phone #: 575-397-6388 Fax #: 575-397-0397 Address: _____

Project #: _____ Project Owner: Concho City: _____

Project Name: Willow 17 State # (54/D) State: _____

Project Location: N7292 Phone #: _____

Sample Name: PH Fax #: _____

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING	DATE	TIME	BTEX	TPH	CI
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:							

400910	SP10SYR	(G)	1	X									8:22	936	X	X	X
	SP20SYR	(C)	1	X										1006	X	X	X
	SP30SYR	(C)	1	X										1020	X	X	X
	SP40SYR	(C)	1	X										1045	X	X	X
	SP40SYR	(C)	1	X										1100	X	X	X
	SP40SYR	(C)	1	X										1125	X	X	X
	SP40SYR	(C)	1	X										1150	X	X	X
	SP40SYR	(C)	1	X										1200	X	X	X
	SP40SYR	(C)	1	X										130	X	X	X
	SP40SYR	(C)	1	X										150	X	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: _____ Date: 8-24-16 Received By: _____ Date: 8-24-16

Relinquished By: _____ Date: 8-24-16 Received By: _____ Date: 8-24-16

Delivered By: (Circle One) _____ Date: 8-24-16 Received By: _____ Date: 8-24-16

Sampler - UPS - Bus - Other: _____ Sample Condition: Intact Yes No

REMARKS: BTEX TPH CI

Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476 #75

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

Form C-14
Revised August 8, 201

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

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:	WILLOW 17 STATE SWD #001	Facility Type:	Tank Battery

Surface Owner:	State	Mineral Owner:	API No.	30-015-41806
----------------	-------	----------------	---------	--------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	17	25S	28E	660'	South	660'	East	Eddy

Latitude 32.1243935 Longitude 104.1029892

NATURE OF RELEASE

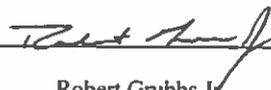
Type of Release:	Produced Water	Volume of Release:	80bbls of Produced Water	Volume Recovered:	0bbls Produced Water
Source of Release:	Hose connecting to the load line	Date and Hour of Occurrence:	07-24-2016 08:00am	Date and Hour of Discovery:	07-24-2016 08:00am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Robert Grubbs Jr.	Date and Hour: 7/25/2016 9:28 AM			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A truck was unloading when his hose disconnected from the load line. Make sure that hose connect is secure before unloading.

Describe Area Affected and Cleanup Action Taken.*
This release occurred when hose connection failed going to a load line on the pad. A 5X5 area went off in the pasture next to the location. 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:		OIL CONSERVATION DIVISION	
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:	July 28, 2016	Phone:	432-683-7443
			Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary