



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 (5/27/16)

REMEDIATION PLAN

COG will excavate the spill area as depicted on the following site diagram. The entire leak are 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 (5/27/16)

Leak Area

1' Excavation
across entire leak area

Poly lines

SP1
65' x 65'

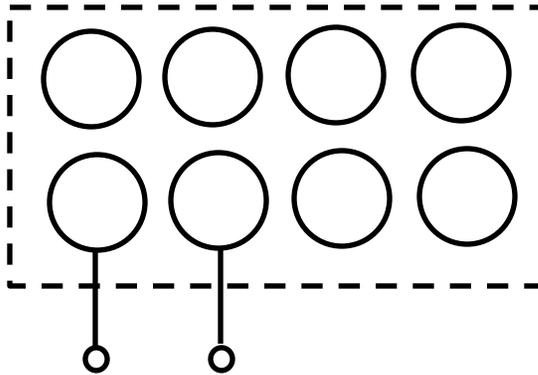
65' x 18'

SP2

SP3

Fence

Road



U/L P, Section 17, T25S, R28E

Eddy County, NM

N 32.12498° W 104.10342°

API# 30-015-41806

Location

BBC International, Inc.

COG

Willow 17 State SWD #001

Date: 10/12/2016

DRWG by: K. Purvis

NOT TO SCALE

File: COG 2016



Groundwater Plot

COG Willow 17 State SWD #001

County
Eddy

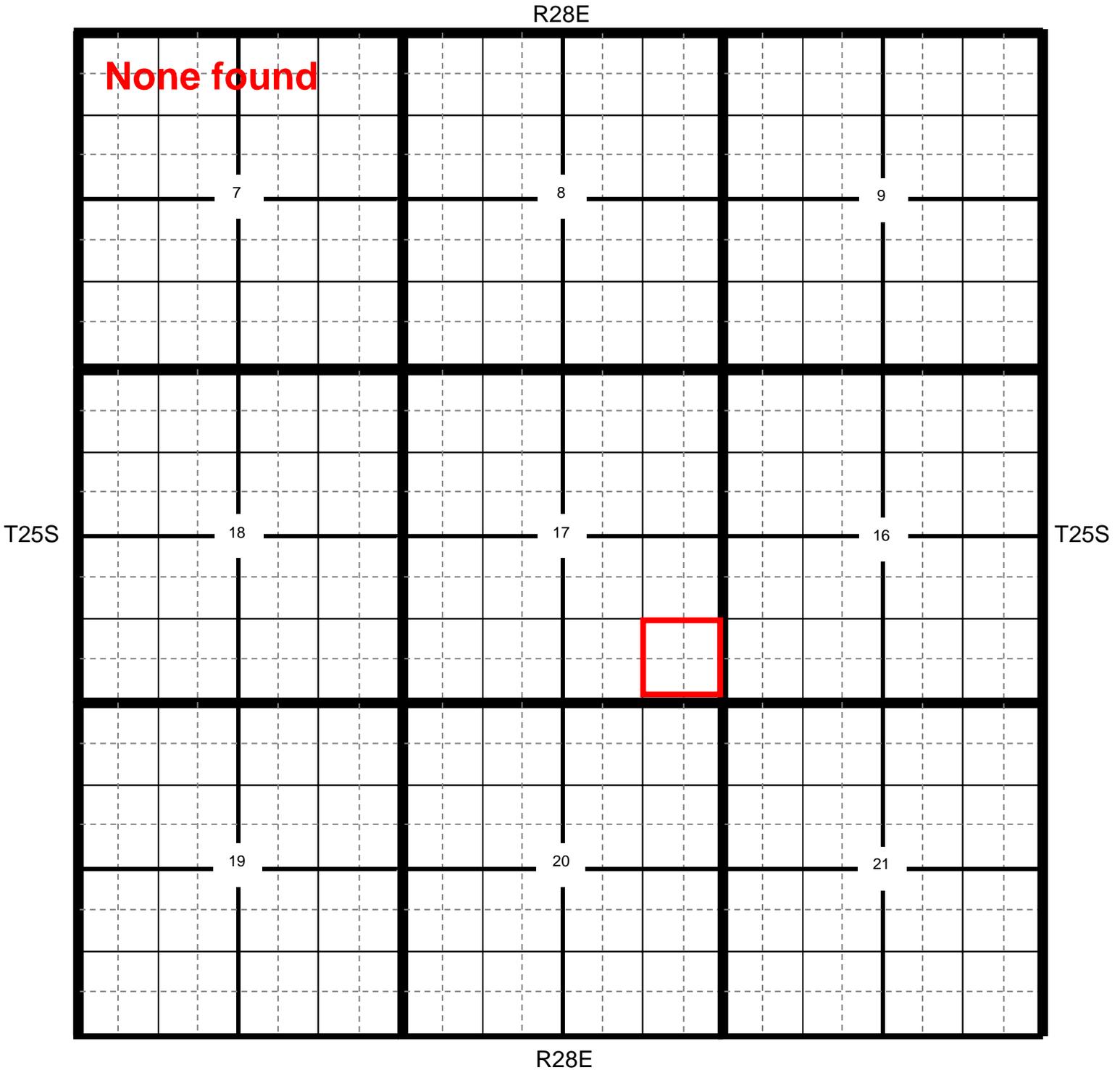
Unit Letter
P

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'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 6'
Analyte	Method	Date	8/31/16	8/31/16	8/31/16	8/31/16	8/31/16	8/31/16
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		11600	4560	32	80	144	112

		Sample	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 6'
Analyte	Method	Date	8/31/16	8/31/16	8/31/16	8/31/16	8/31/16
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		6320	32	80	224	224

		Sample	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 6'
Analyte	Method	Date	8/31/16	8/31/16	8/31/16	8/31/16	8/31/16	8/31/16
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		10400	528	64	64	128	496



September 27, 2016

DAKOTA NEEL
COG OPERATING
P. O. BOX 1630
ARTESIA, NM 88210

RE: WILLOW 17 STATE SWD

Enclosed are the results of analyses for samples received by the laboratory on 09/21/16 13:00.

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:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	09/21/2016	Sampling Date:	08/31/2016
Reported:	09/27/2016	Sampling Type:	Soil
Project Name:	WILLOW 17 STATE SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S1 - SURFACE (H602124-01)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11600	16.0	09/26/2016	ND	432	108	400	0.00	

Sample ID: S1 - 1' (H602124-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	09/26/2016	ND	432	108	400	0.00	

Sample ID: S1 - 2' (H602124-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S1 - 3' (H602124-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/26/2016	ND	432	108	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 09/21/2016
 Reported: 09/27/2016
 Project Name: WILLOW 17 STATE SWD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/31/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S1 - 4' (H602124-05)

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	09/26/2016	ND	432	108	400	3.64	

Sample ID: S1 - 6' (H602124-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S2 - 1' (H602124-07)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6320	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S2 - 2' (H602124-08)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S2 - 3' (H602124-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/26/2016	ND	432	108	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 09/21/2016
 Reported: 09/27/2016
 Project Name: WILLOW 17 STATE SWD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/31/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S2 - 4' (H602124-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S2 - 6' (H602124-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S3 - SURFACE (H602124-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10400	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S3 - 1' (H602124-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	09/26/2016	ND	432	108	400	3.64	

Sample ID: S3 - 2' (H602124-14)

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	09/26/2016	ND	432	108	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 09/21/2016
 Reported: 09/27/2016
 Project Name: WILLOW 17 STATE SWD
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 08/31/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Celey D. Keene

Sample ID: S3 - 3' (H602124-15)

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	09/26/2016	ND	432	108	400	3.64	

Sample ID: S3 - 4' (H602124-16)

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	09/26/2016	ND	432	108	400	3.64	

Sample ID: S3 - 6' (H602124-17)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/26/2016	ND	432	108	400	3.64	

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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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

10F3

ANALYSIS REQUEST

Company Name: COG Operating LLC
 Project Manager: Dakota Neel
 Address: 2208 West Main
 City: Artesia State: NM Zip: 88210
 Phone #: 432-215-2783 Fax #:
 Project #: Project Owner:
 Project Name: Willow 17 State SWD
 Project Location:
 Sampler Name: Dakota Neel
 P.O. #:
 Company: COG Operating LLC
 Attn: Robert McNeill
 Address: 600 W Illinois
 City: Midland
 State: TX Zip: 79701
 Phone #: (432) 221-0388
 Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	BTEX	TPH	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
H1602124																	
7	S2-1'											8/31/16	11:00 a.m.				X
8	S2-2'											8/31/16	11:00 a.m.				X
9	S2-3'											8/31/16	11:00 a.m.				X
10	S2-4'											8/31/16	11:00 a.m.				X
11	S2-6'											8/31/16	11:00 a.m.				X

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Relinquished By:
 Date: 8/21/16 Time: 1:30:00
 Received By: *[Signature]*
 Date:
 Time:
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:
dneel2@concho.com

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other:
 Sample Condition
 Cool Intact
 Yes No
 Checked By: *[Signature]*

FORM 000 R-20
 s. Please fax written changes to 575-393-2476
 #75

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 07 2016

Form C-141
Revised August 8, 2011

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

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

Release Notification and Corrective Action

0AB16160541652

OPERATOR Initial Report Final Report

Name of Company: COG Operating LLC <i>229137</i>	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: WILLOW 17 STATE SWD #001	Facility Type: SWD

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

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	17	35S	28E	660'	South	660'	East	Eddy

Latitude 32.1243935 Longitude -104.1029892

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15 bbls PW	Volume Recovered: 0 bbls PW
Source of Release: Flowline	Date and Hour of Occurrence: 5/27/2016 Unknown	Date and Hour of Discovery: 5/27/2016 2:00 pm
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 check valve on a poly flowline. The broken check valve was replaced.		
Describe Area Affected and Cleanup Action Taken.* This release occurred in the pasture on the north edge of the facility and is approximately 0.1 acre in size. 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: <i>Robert McNeill</i>	OIL CONSERVATION DIVISION	
Printed Name: Robert McNeill	Signed By: <i>Mike Bernier</i> Approved by Environmental Specialist:	
Title: Environmental Manager	Approval Date: <i>6/8/16</i>	Expiration Date: N/A
E-mail Address: rmcneill@concho.com	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines <input type="checkbox"/> Attached <input type="checkbox"/>	
Date: June 6, 2016 Phone: 432-230-0077	SUBMIT REMEDIATION PROPOSAL NO	

* Attach Additional Sheets If Necessary

LATER THAN: *1/19/16* *2RP-3721*