Bratcher, Mike, EMNRD

From: Tavarez, Ike [Ike.Tavarez@tetratech.com]
Sent: Monday, October 04, 2010 3:30 PM
To: Bratcher, Mike, EMNRD; Terry Gregston (terry_gregston@nm.blm.gov)
Cc: Pat Ellis; Joshua Russo; 'James Amos (james_amos@nm.blm.gov)'
Subject: COG - Caddo Work Plan
Attachments: Caddo_Work_Plan.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

COG Operating
Caddo Federal #6, Well Site
Section 17, T17S, R30E, Unit B
Eddy County, New Mexico

Mike and Terry,

Please find the attached the work plan for the COG - Caddo Federal #6 Well Site, Eddy County, New Mexico for your review. Once approved, Tetra Tech will schedule the soil remediation at the site. Call me if you have any questions or comments on the work plan, thanks

Ike Tavarez, PG Senior Project Manager

Direct 432.682.4559 | Fax 432.682.3946 | Cell 432.425.0871

Ike.Tavarez@tetratech.com

Tetra Tech | Complex Solutions for Challenging Environments

1910 N. Big Spring | Midland, TX 79705 | www.tetratech.com

TETRA TECH

October 1, 2010

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, New Mexico 88210

Re: Work Plan for the COG Operating LLC., Caddo Federal #6 well site, Unit B, Section 17, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Caddo Federal #6 well site located in Unit B, Section 17, Township 17 South, Range 30 East, Eddy County, New Mexico. (Site). The spill site coordinates are N 32.83905°, W 103.99332°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on September 02, 2010, and released approximately ten (10) barrels of produced fluid from a clog in the tubing backpressure valve. To alleviate the problem, COG personnel removed the backpressure valve, unclogged it and repacked the stuffing box. Five (5) barrels of standing fluids were recovered. The spill initiated at the pump jack, affecting a 100' wide by 120' (tapering to 60') length area which ran south across the pad. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 17. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 250' below surface. The average depth to groundwater map is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On September 15, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of four (4) auger holes (AH-1 through AH-4) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for AH-1 of 863 mg/kg (0-1'), AH-2 of 1,800 mg/kg (0-1'), AH-3 of 2,000 mg/kg (0-1'), AH-4 of 3,760 mg/kg (0-1'). All chloride concentrations significantly declined with depth.

TETRA TECH

Work Plan

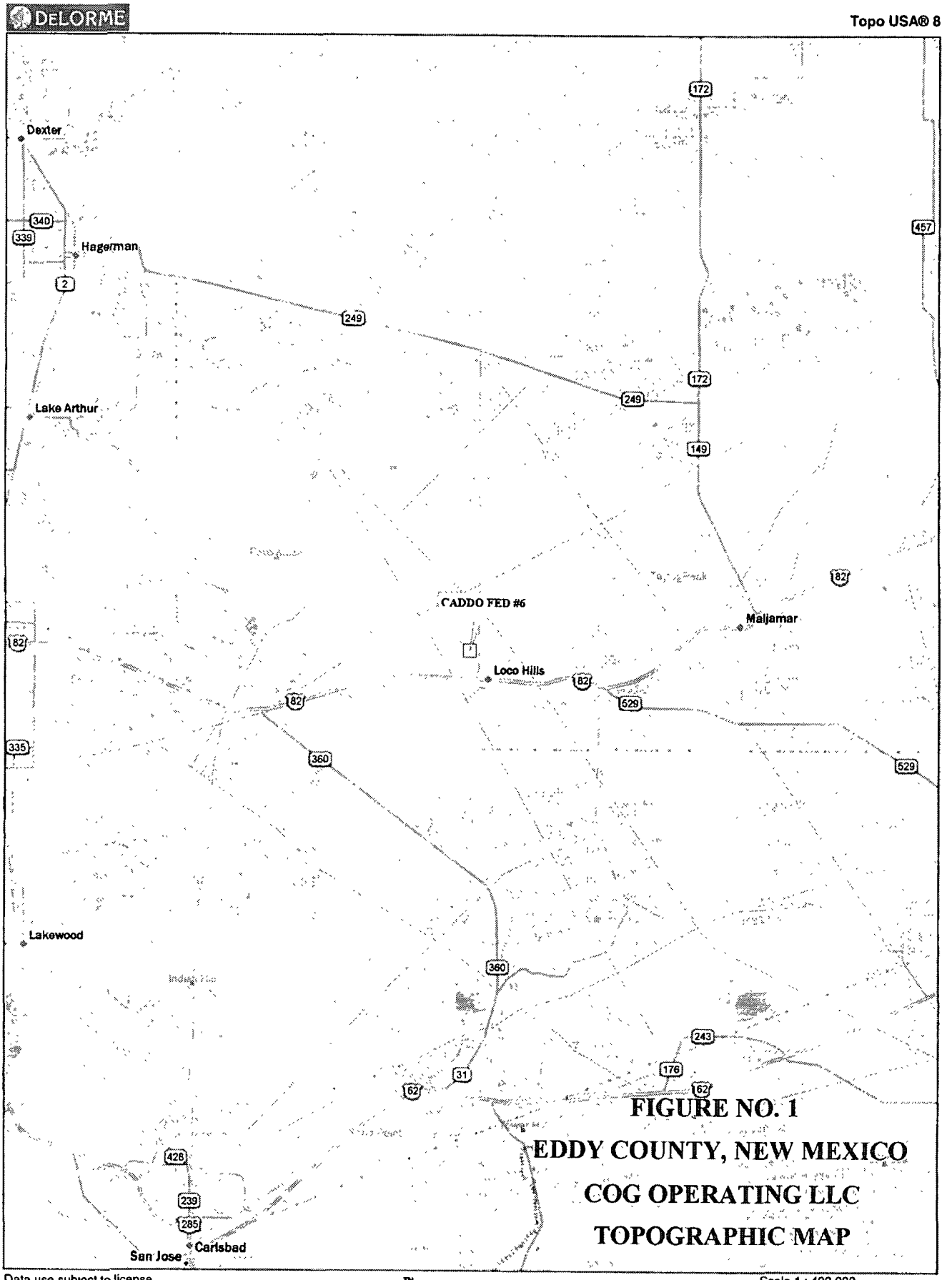
In order to remove the chloride impacted soil, COG proposes to excavate the spill area approximately 1.0' below surface. The excavated material will be transported for proper disposal and backfilled with clean soil. Once the remedial activities are completed, a closure report will be submitted for review.

If you require any additional information or have any questions or comments, please contact us at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Thomas Franklin
Staff Geologist

cc: Pat Ellis – COG
cc: Terry Gregston – BLM


DeLORME
Topo USA® 8
Dexter
Hagerman
Lake Arthur
CADDO FED #6
Maljamar
Loco Hills
Lakewood
San Jose
Carlsbad
172
457
340
339
2
249
149
82
335
360
529
243
176
62
31
426
239
285
FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP
Data use subject to license.
© DeLorme. Topo USA® 8.
www.delorme.com
TN
MN (7.9° E)
Scale 1 : 400,000
1" = 6.31 mi
Data Zoom 9-0

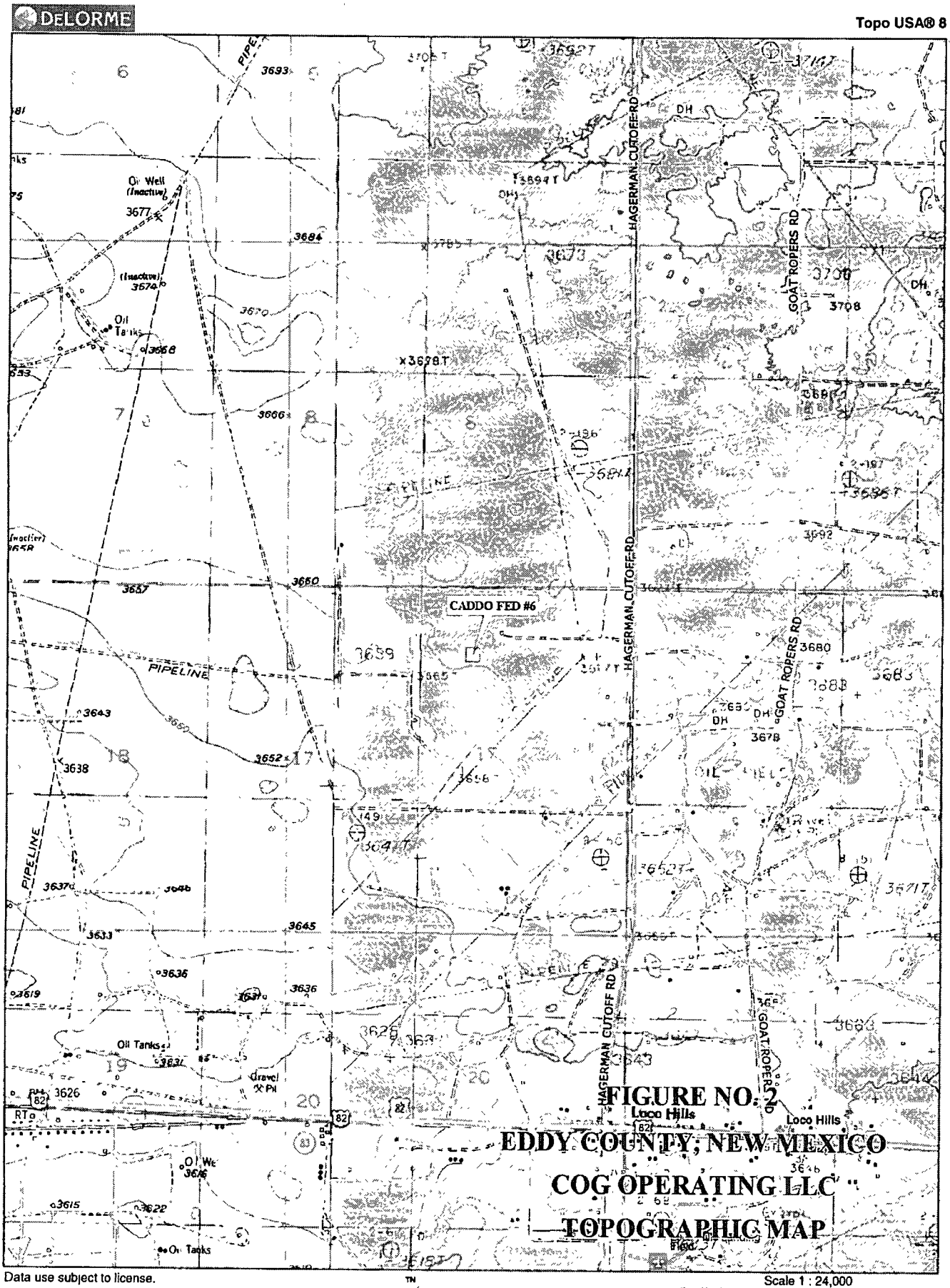
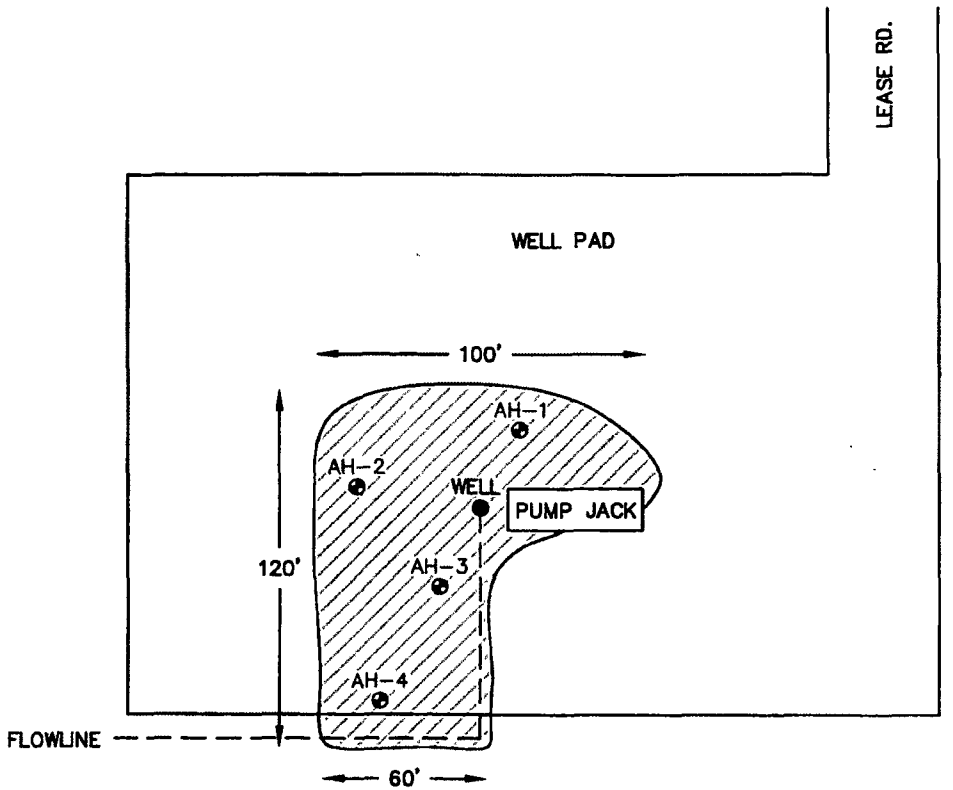


FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP



SPILL AREA
AUGER HOLE SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

DATE: 9/29/10
DWN. BY: JJ
FILE: HAYCOG\Access\CADDO FED #6

CADDO FED #6

TETRA TECH, INC.
MIDLAND, TEXAS

Table 1
COG Operating LLC.
CADDO FEDERAL #6
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	9/15/2010	0-1'		X		<2.00	90.1	90.1	-	-	-	-	863
	"	1-1.5'		X		-	-	-	-	-	-	-	269
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
	"	5-5.5'		X		-	-	-	-	-	-	-	<200
AH-2	9/15/2010	0-1'		X		<100	4,400	4,400	<1.00	<1.00	2.11	4.36	1,800
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	214
AH-3	9/15/2010	0-1'		X		<2.00	270	270	<0.0200	<0.0200	<0.0200	<0.0200	2,000
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
AH-4	9/15/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	3,760
	"	1-1.5'		X		-	-	-	-	-	-	-	478

BEB Below Excavation Bottom

(--) Not Analyzed

Propossed Excavated Depths

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	Caddo Federal #6	Facility Type	Wellhead

Surface Owner	Mineral Owner	Lease No. (API#)
Federal		30-015-36673 NMNM2933

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	17	17S	30E	990'	NORTH	2310'	EAST	Eddy

Latitude 32 50.46 **Longitude** 103 59.577

NATURE OF RELEASE

Type of Release Produced fluid	Volume of Release 10bbls	Volume Recovered 5bbls
Source of Release Wellhead	Date and Hour of Occurrence 09/02/2010	Date and Hour of Discovery 09/02/2010 8:00 a.m
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The cause of the problem was due to the tubing backpressure valve being plugged by packing. The tubing backpressure valve was removed and unplugged and the stuffing box was re-packed.

Describe Area Affected and Cleanup Action Taken.*

Initially 10bbls or produced fluid was released from the wellhead and we were able to recover 5bbls with a vacuum truck. The spill dimensions measured 30' x 60' northwest of the unit, 8' x 15' north of the unit, and a 3' x 20' area running off the south end of the location into the pasture. The pad location has been scraped and the contaminated material has been hauled off to the appropriate disposal facility. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM 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: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 09/02/2010 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

Water Well Data
Average Depth to Groundwater (ft)
COG - Caddo Federal #6
Eddy County, New Mexico

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 288
18	17	16	15	14	13 113
19	20	21	22	23	24
30	29	28	27	26	25
31 290	32	33	34	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 80	23	24
30	29 210 208'	28	27	26	25
31	32	33	34	35 153	36

17 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17 SITE	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: September 27, 2010

Work Order: 10091631

Project Location: Eddy County, NM
Project Name: COG/Caddo Federal #6
Project Number: 114-6400686

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244831	AH-1 0-1	soil	2010-09-15	00:00	2010-09-16
244832	AH-1 1-1.5	soil	2010-09-15	00:00	2010-09-16
244833	AH-1 2-2.5	soil	2010-09-15	00:00	2010-09-16
244834	AH-1 3-3.5	soil	2010-09-15	00:00	2010-09-16
244835	AH-1 4-4.5	soil	2010-09-15	00:00	2010-09-16
244836	AH-1 5-5.5	soil	2010-09-15	00:00	2010-09-16
244837	AH-2 0-1	soil	2010-09-15	00:00	2010-09-16
244838	AH-2 1-1.5	soil	2010-09-15	00:00	2010-09-16
244839	AH-2 2-2.5	soil	2010-09-15	00:00	2010-09-16
244840	AH-3 0-1	soil	2010-09-15	00:00	2010-09-16
244841	AH-3 1-1.5	soil	2010-09-15	00:00	2010-09-16
244842	AH-3 2-2.5	soil	2010-09-15	00:00	2010-09-16
244843	AH-3 3-3.5	soil	2010-09-15	00:00	2010-09-16
244844	AH-3 4-4.5	soil	2010-09-15	00:00	2010-09-16
244845	AH-4 0-1	soil	2010-09-15	00:00	2010-09-16
244846	AH-4 1-1.5	soil	2010-09-15	00:00	2010-09-16

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
244831 - AH-1 0-1					**90.1**	<2.00
244837 - AH-2 0-1	<1.00	<1.00	**2.11**	**4.36**	**4400**	<100
244840 - AH-3 0-1	<0.0200	<0.0200	<0.0200	<0.0200	**270**	<2.00
244845 - AH-4 0-1					<50.0	<2.00

Sample: 244831 - AH-1 0-1

continued ...

sample 244831 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		**863**	mg/Kg	4.00

Sample: 244832 - AH-1 1-1.5

Param	Flag	Result	Units	RL
Chloride		**269**	mg/Kg	4.00

Sample: 244833 - AH-1 2-2.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244834 - AH-1 3-3.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244835 - AH-1 4-4.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244836 - AH-1 5-5.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244837 - AH-2 0-1

Param	Flag	Result	Units	RL
Chloride		**1800**	mg/Kg	4.00

Sample: 244838 - AH-2 1-1.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244839 - AH-2 2-2.5

Param	Flag	Result	Units	RL
Chloride		**214**	mg/Kg	4.00

Sample: 244840 - AH-3 0-1

Param	Flag	Result	Units	RL
Chloride		**2000**	mg/Kg	4.00

Sample: 244841 - AH-3 1-1.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244842 - AH-3 2-2.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244843 - AH-3 3-3.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244844 - AH-3 4-4.5

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 244845 - AH-4 0-1

Param	Flag	Result	Units	RL
Chloride		**3760**	mg/Kg	4.00

Sample: 244846 - AH-4 1-1.5

Param	Flag	Result	Units	RL
Chloride		**478**	mg/Kg	4.00