

SITE INFORMATION

Report Type: Work Plan

General Site Information

Site:	Falcon Federal 2 and 3H			
Company:	COG Operating LLC			
Section, Township and Range	Sec 9	T19S	R32E	
Lease Number:				
County:	Lea County			
GPS:	32.68165° N		103.77211° W	
Surface Owner:	Federal			
Mineral Owner:				
Directions:	From Hwy 529 and CR 126 travel south on CR 126 for 7.9 miles, turn left onto lease road and travel for 1.7 miles, turn right and travel 0.7 miles, turn right and travel for 0.2 miles to site.			

Release Data

Date Released:	4/11/2011
Type Release:	Produced Fluid
Source of Contamination:	Heater Treater
Fluid Released:	12 bbls
Fluids Recovered:	10 bbls

Official Communication

Name:	Pat Ellis		Ike Tavaréz
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	0
Wellhead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:		0

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000

HOBBS OCD

AUG 30 2011

RECEIVED

ECOPY COMMENTED
 ONE APPROVED W/ CAUTION
 Jeffrey Tekony
 ENV ENR
 NMOCD-DIST 1 8/12/11



TETRA TECH

July 29, 2011

Mr. Geoffrey Leking
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

HOBBS OCD

AUG 30 2011

RECEIVED

Re: Work Plan for the COG Operating LLC., Falcon Federal 2 and 3H Tank Battery, Unit B, Section 9, Township 19 South, Range 32 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Falcon Federal 2 and 3H Tank Battery located in Unit B, Section 9, Township 19 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.68165°, W 103.77211°. 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 April 11, 2011, and released approximately twelve (12) barrels of produced fluid due to a hole in the fire tube of the heater treater. To alleviate the problem, COG personnel will replace the heater treater. Ten (10) barrels of standing fluids were recovered. The spill was contained within the facility firewall. The initial C-141 form is enclosed in Appendix C.

Groundwater

No water wells were listed within Section 9. According to the NMOCD groundwater map, the average depth to groundwater in the area is approximately 375' below surface. The average depth to groundwater map is shown in Appendix A.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



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 May 10, 2011, Tetra Tech personnel inspected and sampled the spill area, which measured approximately 30' X 30'. A total of one (1) auger hole (AH-1) was 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 B. The sampling results are summarized in Table 1. The auger hole location is shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the TPH and BTEX RRAL. A chloride high of 4,160 mg/kg at 0-1' was detected and declined with depth to 4.0' to 5.0' where there was an increase to 2,780 mg/kg, before declining to 397 mg/kg at 7.0'. Based on the results, the deeper chloride impact appears to be historical.

Work Plan

Tetra Tech proposes to excavate the impacted soils to a depth of 1.0' below surface to remove surface elevated chloride impact. The proposed excavation depth is shown in Table 1. Based on location of the spill area, deeper excavation of the spill may not be achieved due to proximity of oil and gas equipment, structures or lines, which may cause cave ins and safety concerns for onsite equipment and personnel. In addition, the deeper chloride impact does not appear an environmental concern, with groundwater depth being greater than 300' below surface.



TETRA TECH

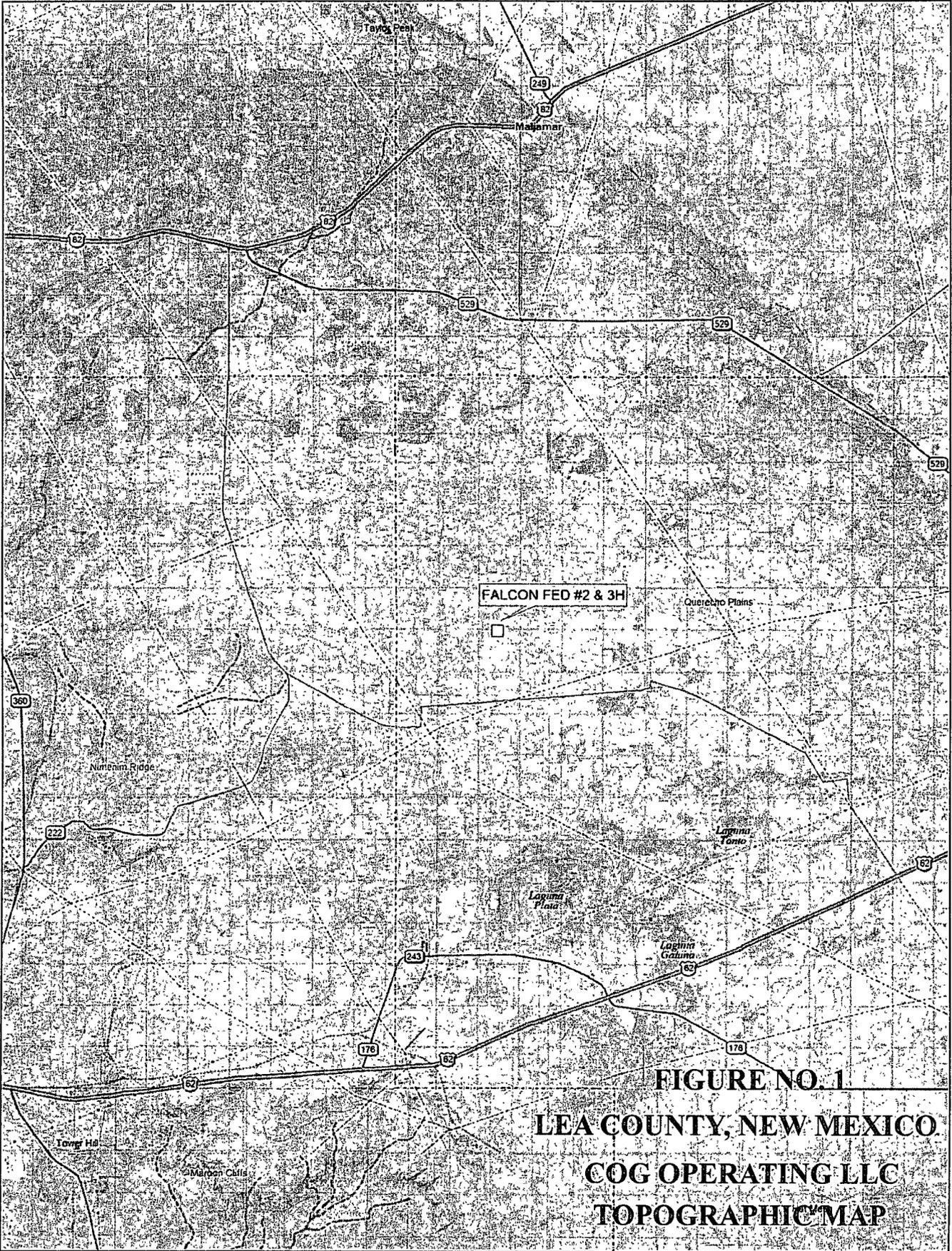
If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

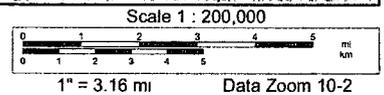
Ike Tavarez, PG
Senior Project Manager

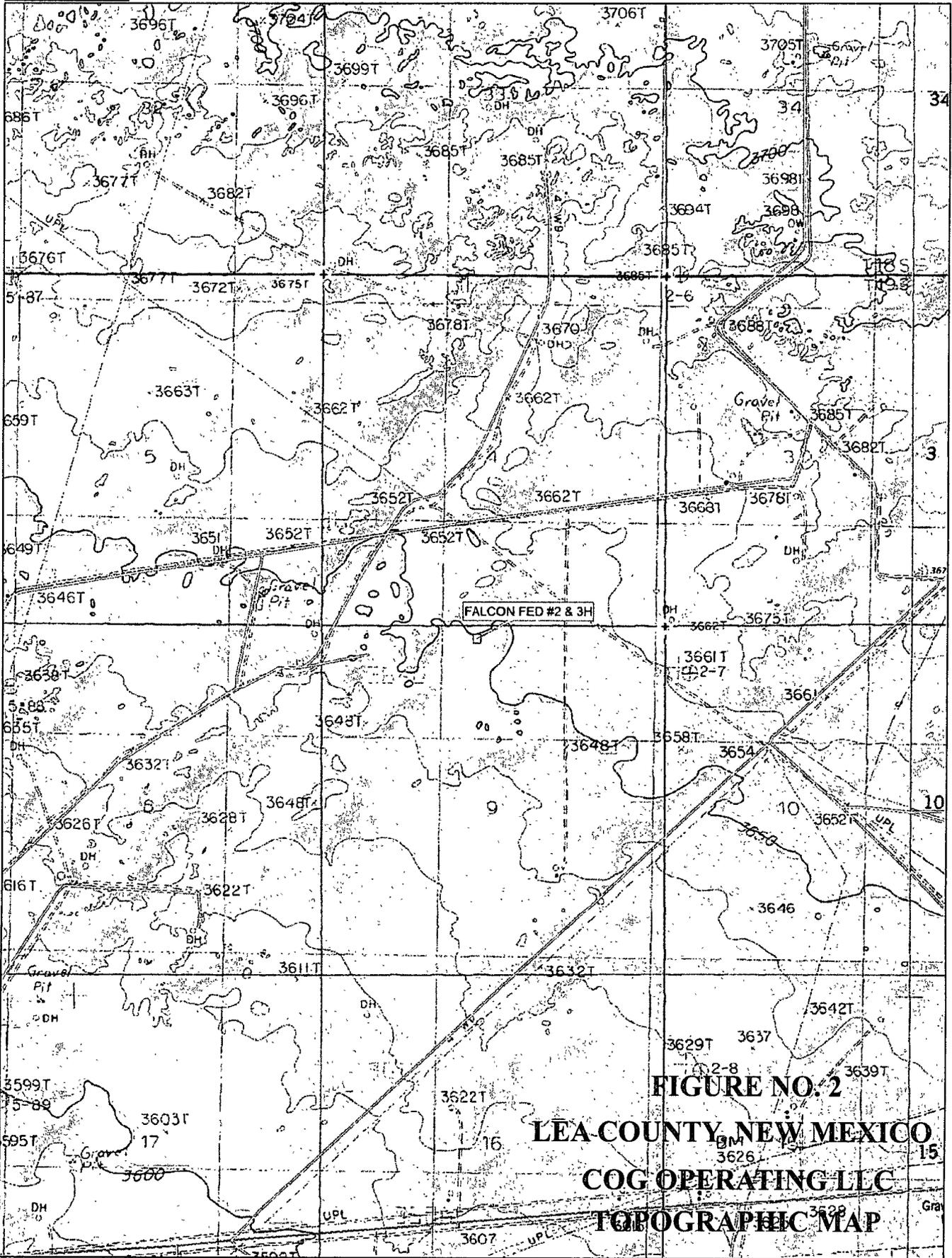
cc: Pat Ellis – COG
cc: Terry Gregston – BLM

Figures



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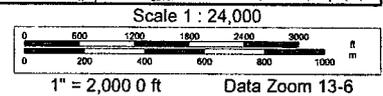
FALCON FED #2 & 3H

FIGURE NO. 2
LEA COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

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PUMP JACK

PUMP JACK

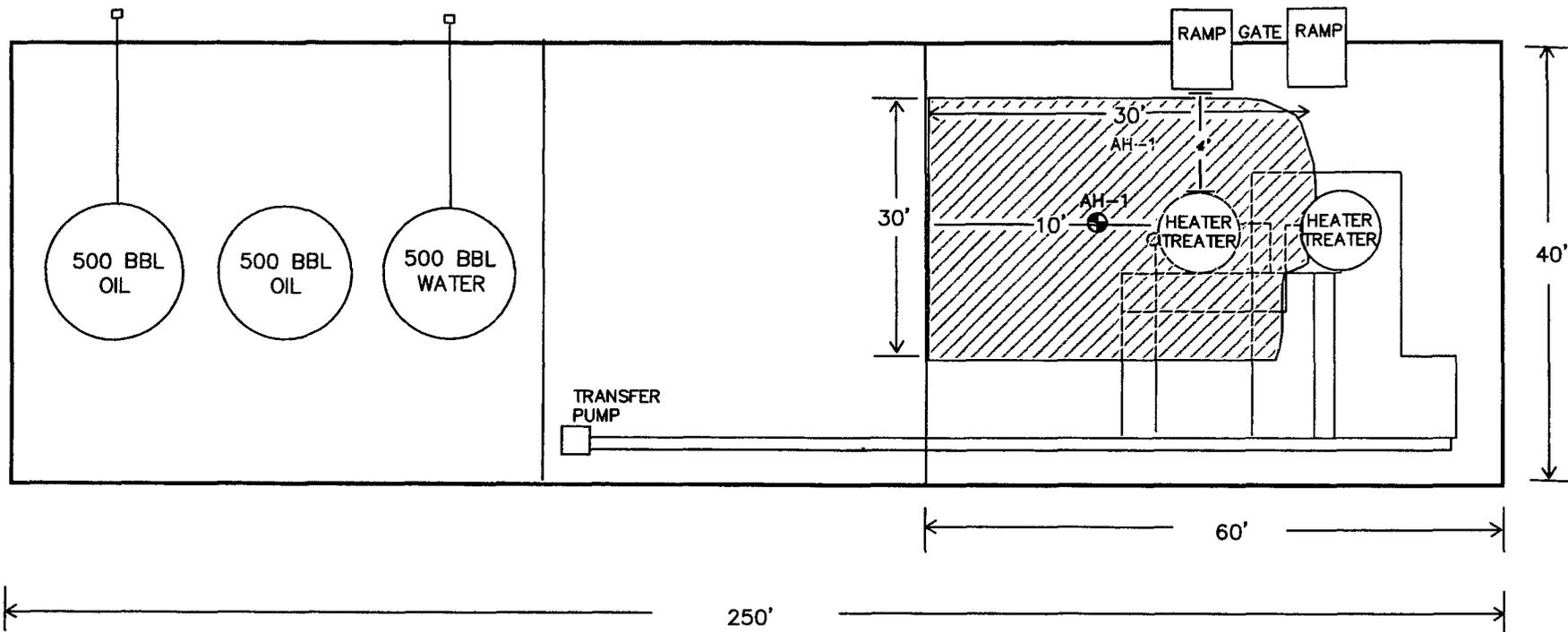


FIGURE NO. 3

LEA CO. NEW MEXICO

COG OPERATING LLC

FALCON FED # 2 & 3H

TETRA TECH, INC.
MIDLAND, TEXAS

● AUGER HOLE SAMPLE LOCATION
▨ SPILL AREA

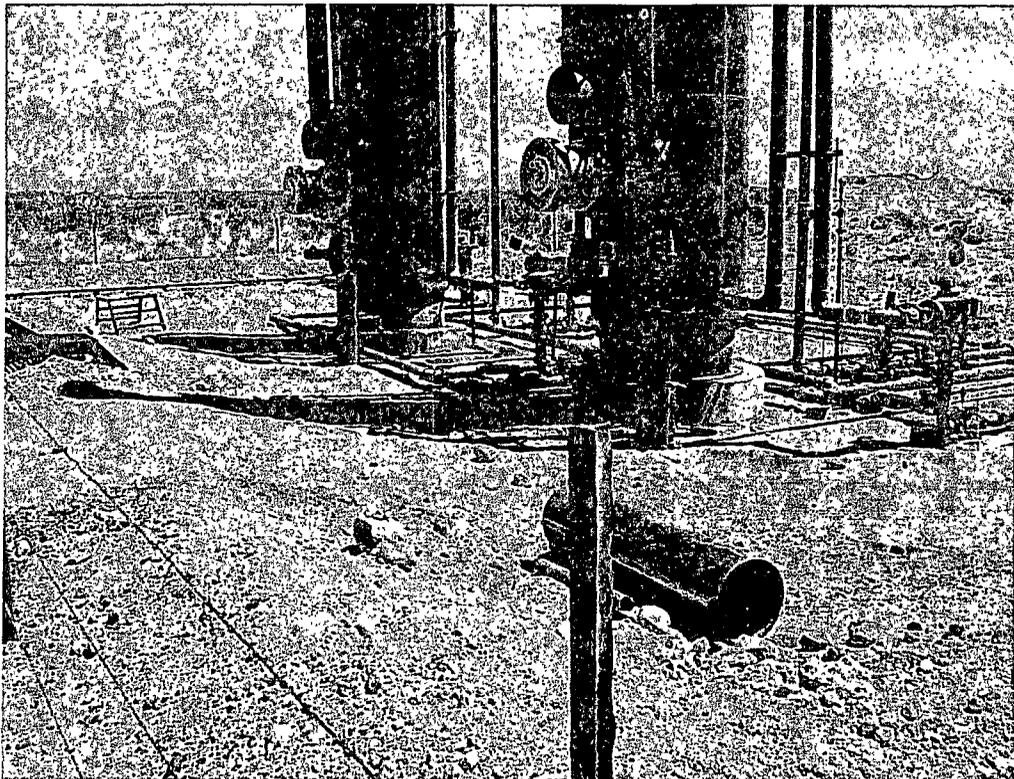
DATE:
5/13/11
DWNL BY:
JAD
FILE:
H:\COG\0400001
FALCON FED #2 & 3H

NOT TO SCALE

Photos



View North East



View North East - AH-1

Tables

Table 1
COG Operating LLC.
FALCON FEDERAL 2 AND 3H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	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	5/10/2011	0-1'	X		376	844	1,220	<0.200	0.836	0.789	2.71	4,160
	"	1-1.5'	X		-	-	-	-	-	-	-	1,090
	"	2-2.5'	X		-	-	-	-	-	-	-	1,560
	"	3-3.5'	X		-	-	-	-	-	-	-	899
	"	4-4.5'	X		-	-	-	-	-	-	-	2,780
	"	5-5.5'	X		-	-	-	-	-	-	-	2,420
	"	6-6.5'	X		-	-	-	-	-	-	-	1,840
	"	7-7.5'	X		-	-	-	-	-	-	-	397

(--)

Not Analyzed



Proposed Excavated Depths

Appendix A

Water Well Data
Average Depth to Groundwater (ft)
COG - Falcon Federal 2 and 3H
Lea County, New Mexico

18 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	35	36

18 South			32 East			
6	5	4	65	3	2	1
7	480	8	9	10	11	12
18	82	17	16	15	14	13
19	20	21	84	22	23	24
30	29	28	164	27	26	25
31	32	33	429	34	35	36
			117			

18 South			33 East		
6	5	4	3	2	
7	8	100	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

19 South			31 East			
6	5	4	3	2	1	
7	SITE	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	101	34	35	36

19 South			32 East			
6	5	4	3	2	1	
7	8	9	10	11	12	
18	365	17	SITE	16	15	14
19	20	21	22	23	24	135 dry
30	29	28	27	26	25	
31	32	33	34	35	36	

19 South			33 East		
6	5	4	3	2	
7	8	9	10	11	
18	17	16	15	14	
19	20	21	22	23	
30	29	28	27	26	92
31	32	33	34	35	

20 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	35	36

20 South			32 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

20 South			33 East		
6	5	4	3	2	
7	8	9	10	11	
18	17	16	15	14	
19	20	21	22	23	
30	29	28	27	26	
31	32	33	34	35	

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions in Southern Eddy, County, NM
-  NMOCD - Groundwater Data

Appendix B

Summary Report

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

Report Date: June 1, 2011

Work Order: 11051104

Project Name: COG/Falcon Federal 2 and 3H
Project Number: 114-6400891

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
266100	AH-1 0-1'	soil	2011-05-10	00:00	2011-05-10
266101	AH-1 1-1.5'	soil	2011-05-10	00:00	2011-05-10
266102	AH-1 2-2.5'	soil	2011-05-10	00:00	2011-05-10
266103	AH-1 3-3.5'	soil	2011-05-10	00:00	2011-05-10
266104	AH-1 4-4.5'	soil	2011-05-10	00:00	2011-05-10
266105	AH-1 5-5.5'	soil	2011-05-10	00:00	2011-05-10
266106	AH-1 6-6.5'	soil	2011-05-10	00:00	2011-05-10
266107	AH-1 7-7.5'	soil	2011-05-10	00:00	2011-05-10

Sample - Field Code	BTEX				TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)		
266100 - AH-1 0-1'	<0.200	0.836	0.789	2.71	844	376

Sample: 266100 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		4160	mg/Kg	4

Sample: 266101 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1090	mg/Kg	4

Sample: 266102 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1560	mg/Kg	4

Sample: 266103 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		899	mg/Kg	4

Sample: 266104 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		2780	mg/Kg	4

Sample: 266105 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		2420	mg/Kg	4

Sample: 266106 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		1840	mg/Kg	4

Sample: 266107 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		397	mg/Kg	4

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 **HOBBS OCD**
Oil Conservation Division
1220 South St. Francis Dr. **AUG 30 2011**
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	Falcon Federal 2 and 3H	Facility Type	Tank Battery

Surface Owner	Federal	Mineral Owner		Lease No.	
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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
B	9	19S	32E					Lea

Latitude 32 40.857 Longitude 103 46.339

NATURE OF RELEASE

Type of Release	Produced fluid	Volume of Release	12bbbls	Volume Recovered	10bbbls
Source of Release	Heater treater	Date and Hour of Occurrence	04/11/2011	Date and Hour of Discovery	04/11/2011 12:00 p.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required				
By Whom?	If YES, To Whom?				
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 hole in the fire tube caused the release. The heater is currently out of service and is going to be replaced with a new one.

Describe Area Affected and Cleanup Action Taken.*

Initially 12bbbls of fluid was released from the fire tube and we were able to recover 10bbbls with a vacuum truck. The entire release was completely contained inside the berm wall around the production equipment. The spill area measured 30' x 30'. Contaminated soil has been scraped and hauled appropriately. 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:	
Date:	04/18/2011	Phone:	432-212-2399
			Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary