

# INITIAL C-141 AND REMEDICATION WORK PLAN

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

HOBBS OCD

MAY 12 2011

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

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**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	Hercules Federal Com #1	Facility Type	Flowline
Surface Owner	Federal	Mineral Owner	
		Lease No. (API#) 30-005-27999	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	15	15S	31E					Chaves

Latitude 33 01.018 Longitude 103 49.058

**NATURE OF RELEASE**

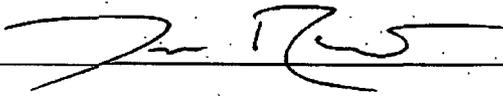
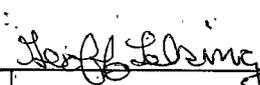
Type of Release	Produced fluid	Volume of Release	30bbls	Volume Recovered	25bbls
Source of Release	Flowline	Date and Hour of Occurrence	05/01/2011	Date and Hour of Discovery	05/01/2011 8:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking—OCD		
By Whom?	Josh Russo	Date and Hour	05/02/2011 10:45 a.m.		
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.\*  
GW @ 260'

Describe Cause of Problem and Remedial Action Taken.\*  
Due to high pressure, the poly flowline ruptured at the Hercules Federal Com #1 location. The poly flowline has been fused back together and returned into service.

Describe Area Affected and Cleanup Action Taken.\*  
Initially 30bbls of produced fluid was released from the ruptured poly flowline and we were able to recover 25bbls with a vacuum truck. The spill area occurred to the west of the location on an area of the pad that has been downsized as part of an interim reclamation. The spill area measured 20' x 75'. Standing fluid has been removed and any contaminated soil has been scraped off of the well pad location. A mist of oil was oversprayed into the pasture and the affected area has been sprayed with microblaze. 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:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name:	Josh Russo	Approved by ENV ENGINEER:	
Title:	HSE Coordinator	Approval Date:	9/22/11
E-mail Address:	jrusso@conchoresources.com	Expiration Date:	11/22/11
Date:	05/05/2011	Phone:	432-212-2399
		Conditions of Approval: SUBMIT FINAL C-141 BY 11/22/11.	Attached <input type="checkbox"/> IRP-09-11-2742

\* Attach Additional Sheets If Necessary

FEB 06 2012

SEP 22 2011

**Leking, Geoffrey R, EMNRD**

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**From:** Tavaréz, Ike [Ike.Tavaréz@tetrattech.com]  
**Sent:** Thursday, September 22, 2011 3:27 PM  
**To:** Leking, Geoffrey R, EMNRD  
**Cc:** 'Joshua Russo'; 'Pat Ellis'; Grubbs, Robert  
**Subject:** COG - Hercules Federal Com #1 - Chaves County - Work Plan Approval Request  
**Attachments:** COG - Hercules Federal - Work Plan .pdf

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Geoffrey,

Please find the enclosed Work Plan for the Hercules Federal Com #1 located in Chaves County, New Mexico. The work plan includes the soil assessment and recommendations for the remediation for the site. I will mail you a hard copy of the work plan for your files. Once approved, Tetra Tech will schedule the soil remediation and notify you prior to implementing the work plan.. Please let me know if you need additional information or call me if you have any questions, thanks

**Ike Tavaréz, PG** | Senior Project Manager

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

[Ike.Tavaréz@tetrattech.com](mailto:Ike.Tavaréz@tetrattech.com)

Tetra Tech | Complex World. Clear Solutions™

1910 North Big Spring | Midland, TX 79705 | [www.tetrattech.com](http://www.tetrattech.com)

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# SITE INFORMATION

HORBS ACD

## Report Type: Work Plan

**General Site Information:**

SEP 22 2011

<b>Site:</b>	Hercules Federal Com #1			
<b>Company:</b>	COG Operating LLC			
<b>Section, Township and Range</b>	Unit E	Sec 15	T15S	R31E
<b>Lease Number:</b>	API-30-005-27999			
<b>County:</b>	Chaves County			
<b>GPS:</b>	33.01765° N		103.81779° W	
<b>Surface Owner:</b>	Federal			
<b>Mineral Owner:</b>				
<b>Directions:</b>	From the intersection of Hwy 82 and Co Rd 249 travel north on Co Rd 249 for 11 miles, turn left and continue on Co Rd 249 for 0.9 miles, turn right onto Meldin Ranch Road and travel for 0.1 miles to site.			

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**Release Data:**

<b>Date Released:</b>	5/2/2011
<b>Type Release:</b>	Produced Fluid
<b>Source of Contamination:</b>	Flowline
<b>Fluid Released:</b>	30 bbls
<b>Fluids Recovered:</b>	25 bbls

**Official Communication:**

<b>Name:</b>	Pat Ellis	Ike Tavaréz
<b>Company:</b>	COG Operating, LLC	Tetra Tech
<b>Address:</b>	550 W. Texas Ave. Ste. 1300	1910 N. Big Spring
<b>P.O. Box</b>		
<b>City:</b>	Midland Texas, 79701	Midland, Texas
<b>Phone number:</b>	(432) 686-3023	(432) 425-3878
<b>Fax:</b>	(432) 684-7137	
<b>Email:</b>	pellis@conchoresources.com	ike.tavarez@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
<b>Total Ranking Score:</b>	<b>0</b>	

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

Approved with conditions  
 Jeffrey Selim, Env. Eng.  
 NMCCD - DIST 1  
 9/23/11



**TETRA TECH**

September 12, 2011

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

**Re: Work Plan for the COG Operating LLC., Hercules Federal Com #1,  
Unit E, Section 15, Township 15 South, Range 31 East, Chaves  
County, New Mexico.**

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Hercules Federal Com #1 located in Unit E, Section 15, Township 15 South, Range 31 East, Chaves County, New Mexico (Site). The spill site coordinates are N 33.01765°, W 103.81779°. 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 May 1, 2011, and released approximately thirty (30) barrels of produced fluid from a flow line. Twenty Five (25) barrels of standing fluids were recovered. The spill initiated west of the pad affecting an area measuring 160' x (5' to 40' wide). In addition, there was also an area of light overspray measuring approximately 80' x 145'. The initial C-141 is enclosed in Appendix A.

### **Groundwater**

No water wells were listed within Section 15. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 200' below surface.



## **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 24, 2011, Tetra Tech personnel inspected and sampled the spill area. Four (4) auger holes (AH-1 and 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 B. 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 samples were below the TPH and BTEX RRAL, with the exception of AH-4. Auger hole (AH-4) showed a TPH of 9,585 mg/kg at 0-0.5' and not vertically defined, due to the dense formation. AH-1, AH-3 and AH-4 showed chloride concentrations of 1,600 mg/kg (0-0.5'), 2,120 mg/kg (0-1') and 1,670 mg/kg (0-0.5'), respectively. AH-1 did show a significant decline to <200 mg/kg at 1-1.5', but the remaining auger holes were not vertically defined.

## **Work Plan**

COG proposes to remove impacted material as highlighted (green) in Table 1. The areas of AH-1, AH-3 and AH-4 will be excavated to a depth of approximately 1.0' to 2.0' below surface. Once excavated, backhoe trenches will be installed in the areas of AH-3 and AH-4 to evaluate the excavation bottom and further define the chloride impact, if necessary. In addition, a confirmation sample for TPH will be collected from the area of AH-4. Once excavated to the appropriate depths, the excavations will be backfilled with clean soil.



**TETRA TECH**

Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

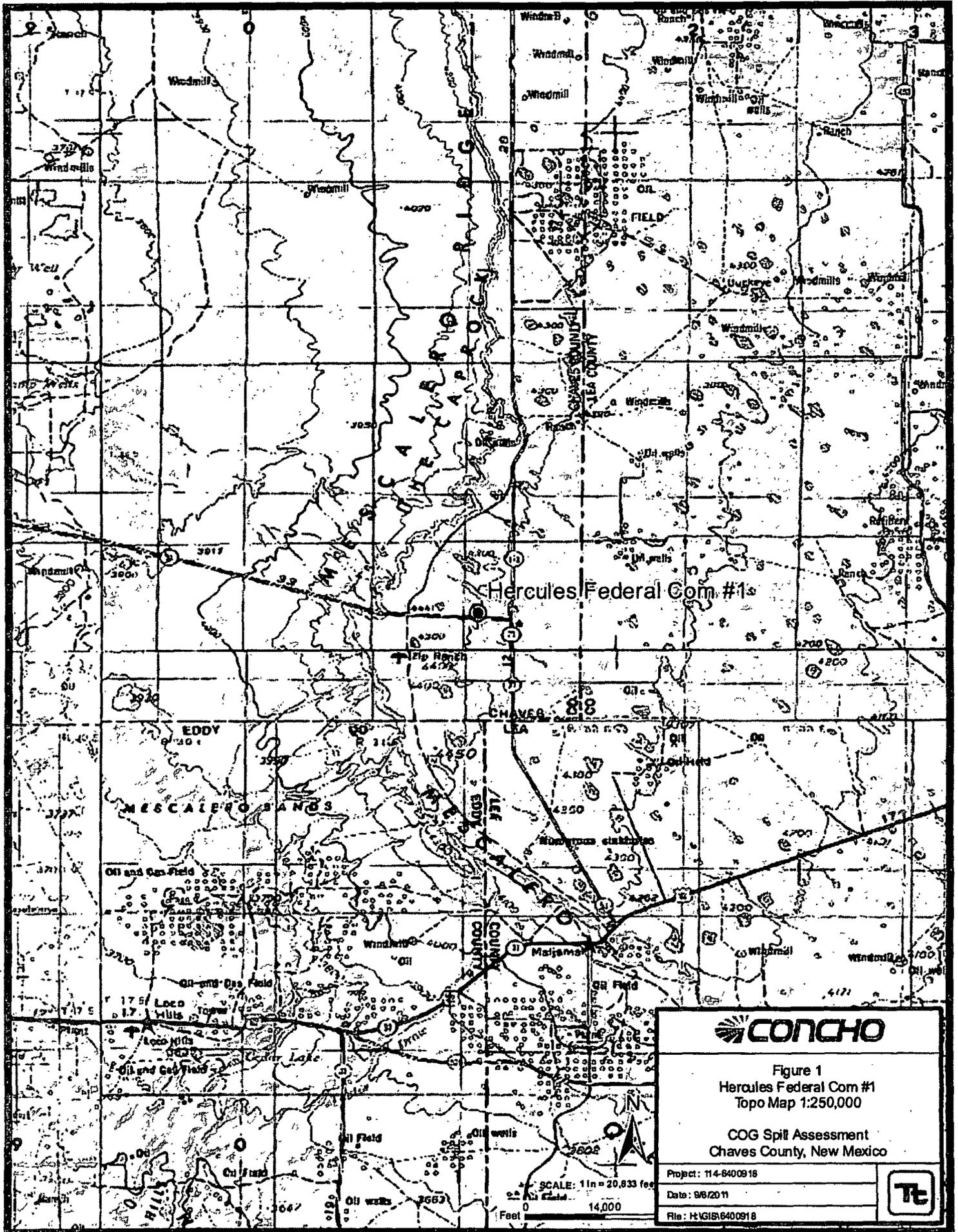
Respectfully submitted,  
TETRA TECH



Ike Tavaréz, PG  
Project Manager

cc: Pat Ellis – COG

## Figures



**CONCHO**

Figure 1  
 Hercules Federal Com #1  
 Topo Map 1:250,000

COG Spill Assessment  
 Chaves County, New Mexico

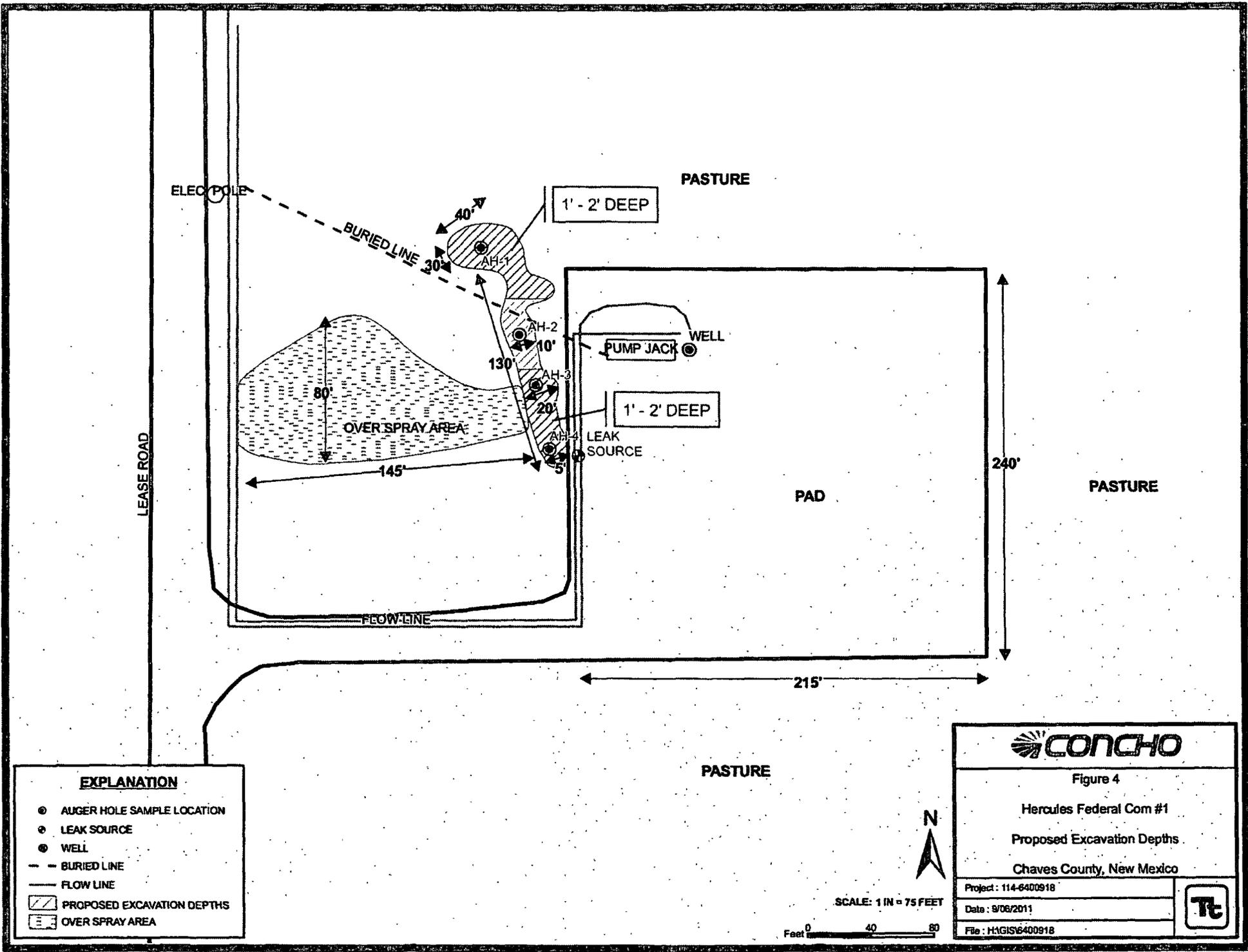
Project: 114-6400918  
 Date: 9/6/2011  
 File: H:\GIS\6400918

SCALE: 1 in = 20,833 feet  
 0 14,000 Feet

**TC**







**EXPLANATION**

- AUGER HOLE SAMPLE LOCATION
- LEAK SOURCE
- WELL
- - BURIED LINE
- FLOW LINE
- ▨ PROPOSED EXCAVATION DEPTHS
- ▨ OVER SPRAY AREA

**CONCHO**

Figure 4

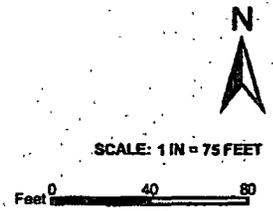
Hercules Federal Com #1

Proposed Excavation Depths

Chaves County, New Mexico

Project : 114-6400918
Date : 9/06/2011
File : HGIS6400918

**Tc**



## Tables

**Table 1**  
**COG Operating LLC.**  
**HERCULES FEDERAL COM. #1**  
**Chavez 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)	Total BTEX	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	5/24/2011	0-1'	X		474	3,400	3,874	<0.200	<0.200	0.771	2.96	3.73	1,600
	"	1-1.5'	X		49.7	148	197.7	<0.0200	<0.0200	<0.0200	0.318	0.318	<200
AH-2	5/24/2011	0-1'	X		297	2,310	2,607	<0.100	<0.100	0.413	2.96	3.373	626
AH-3	5/24/2011	0-1'	X		394	3,600	3,994	<0.100	0.602	0.619	6.53	7.15	2,120
AH-4	5/24/2011	0-0.5'	X		775	8,810	9,585	1.04	13.2	19.5	16.8	36.30	1,670

(-) Not Analyzed



Proposed Excavated Depths

Photos

COG Operating LLC  
Hercules Federal Com #1  
Chaves County,  
New Mexico



TETRA TECH



View North – AH-4, 3, 2, 1



View South – AH-1, 2, 3, 4

# Appendix A

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**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	Hercules Federal Com #1	Facility Type	Flowline

Surface Owner	Federal	Mineral Owner		Lease No. (API#)	30-005-27999
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**LOCATION OF RELEASE**

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E	15	15S	31E					Chaves

Latitude 33 01.018 Longitude 103 49.058

**NATURE OF RELEASE**

Type of Release	Produced fluid	Volume of Release	30bbbls	Volume Recovered	25bbbls
Source of Release	Flowline	Date and Hour of Occurrence	05/01/2011	Date and Hour of Discovery	05/01/2011 8:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking—OCD		
By Whom?	Josh Russo	Date and Hour	05/02/2011 10:45 a.m.		
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.\*

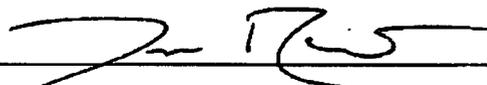
Describe Cause of Problem and Remedial Action Taken.\*

Due to high pressure, the poly flowline ruptured at the Hercules Federal Com #1 location. The poly flowline has been fused back together and returned into service.

Describe Area Affected and Cleanup Action Taken.\*

Initially 30bbbls of produced fluid was released from the ruptured poly flowline and we were able to recover 25bbbls with a vacuum truck. The spill area occurred to the west of the location on an area of the pad that has been downsized as part of an interim reclamation. The spill area measured 20' x 75'. Standing fluid has been removed and any contaminated soil has been scraped off of the well pad location. A mist of oil was oversprayed into the pasture and the affected area has been sprayed with microblaze. 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.

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Signature:		<b>OIL CONSERVATION DIVISION</b>	
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:	05/05/2011	Phone:	432-212-2399
		Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

## Appendix B

## Summary Report

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

Report Date: June 14, 2011

Work Order: 11052704



Project Location: Chavez Co., NM  
Project Name: COG/Hercules Fed. Com. #1  
Project Number: 114-6400918

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
267518	AH-1 0-1'	soil	2011-05-24	00:00	2011-05-26
267519	AH-1 1-1.5'	soil	2011-05-24	00:00	2011-05-26
267520	AH-2 0-1'	soil	2011-05-24	00:00	2011-05-26
267521	AH-3 0-1'	soil	2011-05-24	00:00	2011-05-26
267522	AH-4 0-0.5'	soil	2011-05-24	00:00	2011-05-26

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
267518 - AH-1 0-1'	<0.200	<0.200	0.771	2.96	3400 q.	474
267519 - AH-1 1-1.5'	<0.0200	<0.0200	<0.0200	0.318	148	49.7
267520 - AH-2 0-1'	<0.100	<0.100	0.413	2.96	2310 q.	297
267521 - AH-3 0-1'	<0.100	0.602	0.619	6.53	3600 q.	394
267522 - AH-4 0-0.5'	1.04	13.2	19.5	16.8	8810 q.	775

Sample: 267518 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		1600	mg/Kg	4

Sample: 267519 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4