

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	Owl 20504 JV-P Well #5				
Company:	COG Operating LLC				
Section, Township and Range	Unit J	Sec 18	T26S	R27E	
Lease Number:	API-30-015-35135				
County:	Eddy County				
GPS:	32.04119° N			104.22750° W	
Surface Owner:	Federal				
Mineral Owner:					
Directions:	South of Malaga at the intersection of Hwy 285 and CR 724 (White City Rd), travel west on CR 724 for 11.2 miles, turn left (south) on CR 742 (John D. Forehand) and travel 2.3 miles, turn left (east) and travel 1.0 mile to the site.				

Release Data:

Date Released:	3/10/2013
Type Release:	Produced Water
Source of Contamination:	Fiberglass Line
Fluid Released:	10 bbls
Fluids Recovered:	0 bbls

Official Communication:

Name:	Robert McNeill	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center 600 W. Illinois Ave.	1910 N. Big Spring
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 686-3023	(432) 682-4559
Fax:	(432) 684-7137	
Email:	rmcneill@concho.com	ike.tavarez@tetrattech.com

Ranking Criteria

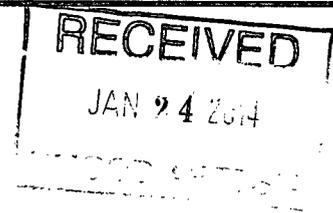
Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	20
50-99 ft	10	
>100 ft.	0	

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:	20
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Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	100





TETRA TECH

October 23, 2013

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

**Re: Closure Report for the COG Operating LLC., Owl 20504 JV-P Well #5,
Unit J, Section 18, Township 26 South, Range 27 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 Owl 20504 JV-P Well #5 located in Unit J, Section 18, Township 26 South, Range 27 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.04119°, W 104.22750°. 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 March 10, 2013, and released approximately ten (10) barrels of produced water from a fiberglass line on the pad. To alleviate the problem, COG personnel replaced the line. Zero (0) barrels of standing fluids were recovered. The spill initiated and remained on the facility pad and measured approximately 60' x 175', 30' x 100' and 50' x 70'. The initial C-141 form is enclosed in Appendix A.

Hydrogeology and Groundwater

According to the Geology and Groundwater Resources of Eddy County, New Mexico (Report 3), the Rustler and Castile formation (Ochoa Series) is present west and east of the Pecos River. The Salado formation overlies the Castile formation east of the Pecos River and was removed by solution west of the river. The Rustler and Castile formations consist of anhydrite, gypsum, interbedded sandy clay and beds of dolomite. Groundwater from the Castile and Rustler formations west of the Pecos River is historically high in chloride and sulfate concentrations which increase towards the river.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



According to the USGS, no water wells are listed in Section 18. One water well is reported in Section 22, with a depth to groundwater of 50.0' below surface. In addition, a well is reported in Section 5, with a depth to groundwater of 12.0' below surface. According to the NMOCD groundwater map the reported depth to groundwater in this area is approximately 25.0' below surface. The groundwater data 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 100 mg/kg.

Soil Assessment and Analytical Results

On April 4, 2013, Tetra Tech personnel inspected and sampled the spill area. Ten (10) auger holes (AH-1 through AH-10) were installed using a stainless steel hand auger to assess the impacted soils. Selected 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 sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples selected exceeded the TPH or BTEX RRAL's. Elevated chloride concentrations were detected in all of the auger holes, except in the area of AH-1. Auger holes (AH-2 and AH-3) showed a chloride in the shallow soils at depths of approximately 1.0' to 2.0' and the deeper samples significantly declined with depth. The areas of AH-4 through AH-10 had elevated chloride concentrations and detected bottom hole samples of 8,610 mg/kg (5.5'), 7,630 mg/kg (3.5'), 11,800 mg/kg (3.5'), 2,720 mg/kg (3.5'), 1,980 mg/kg (3.5'), 4,820 mg/kg (3.5') and 1,380 mg/kg (5.5'), respectively. These auger hole locations were not vertically defined.

On May 8, 2013, Tetra Tech supervised the installation of seven (7) soil borings (SB-1 through SB-7) using an air rotary drilling rig to assess the impacted soils. The soil borings were installed to a maximum depth of 30.0' below surface. Copies of laboratory analysis chain-of-custody documentation are included in Appendix D. The soil boring results are summarized in Table 1. The soil boring locations are shown on Figure 3.



TETRA TECH

Referring to Table 1, chloride concentrations were detected in all of the soil borings. However, the impact soils were vertically defined and significantly declined at depths ranging from 5.0' to 15.0' below surface.

Upon further review, a suspected closed reserve pit appears to be in the area of AH-4. The samples from 0 to 3.0' below surface did not show a chloride impact to the shallow soils. In addition, a 2008 aerial photograph (Figure 5) shows what appears to be a closed reserve pit in the area. According to the well site information, the reserve pit drilling mud was removed and hauled to proper disposal. Correspondence on the well site is enclosed in Appendix C. Based on the results, the spill did not impact the area and the chlorides detected appear to be from a former closed reserve pit. Therefore, COG will not excavated or disturb this area.

Remediation and Conclusion

On April 5, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. In order to remove the elevated chloride concentrations, AH-2 and AH-3 were excavated to 2.0'; AH-5, AH-6 and AH-8 were excavated to 3.0-4.0' and AH-7, AH-9 and AH-10 were excavated to 4.0-5.0' below surface. A 40 mil liner was installed in the areas of AH-5, AH-6 and AH-8 to cap the remaining impact.

Approximately 2,000 cubic yards³ of soil were removed and transported to R360 facility for proper disposal. The site was then backfilled with clean material to surface grade.

Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. 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: Robert McNeill – COG
James Amos - BLM

Figures

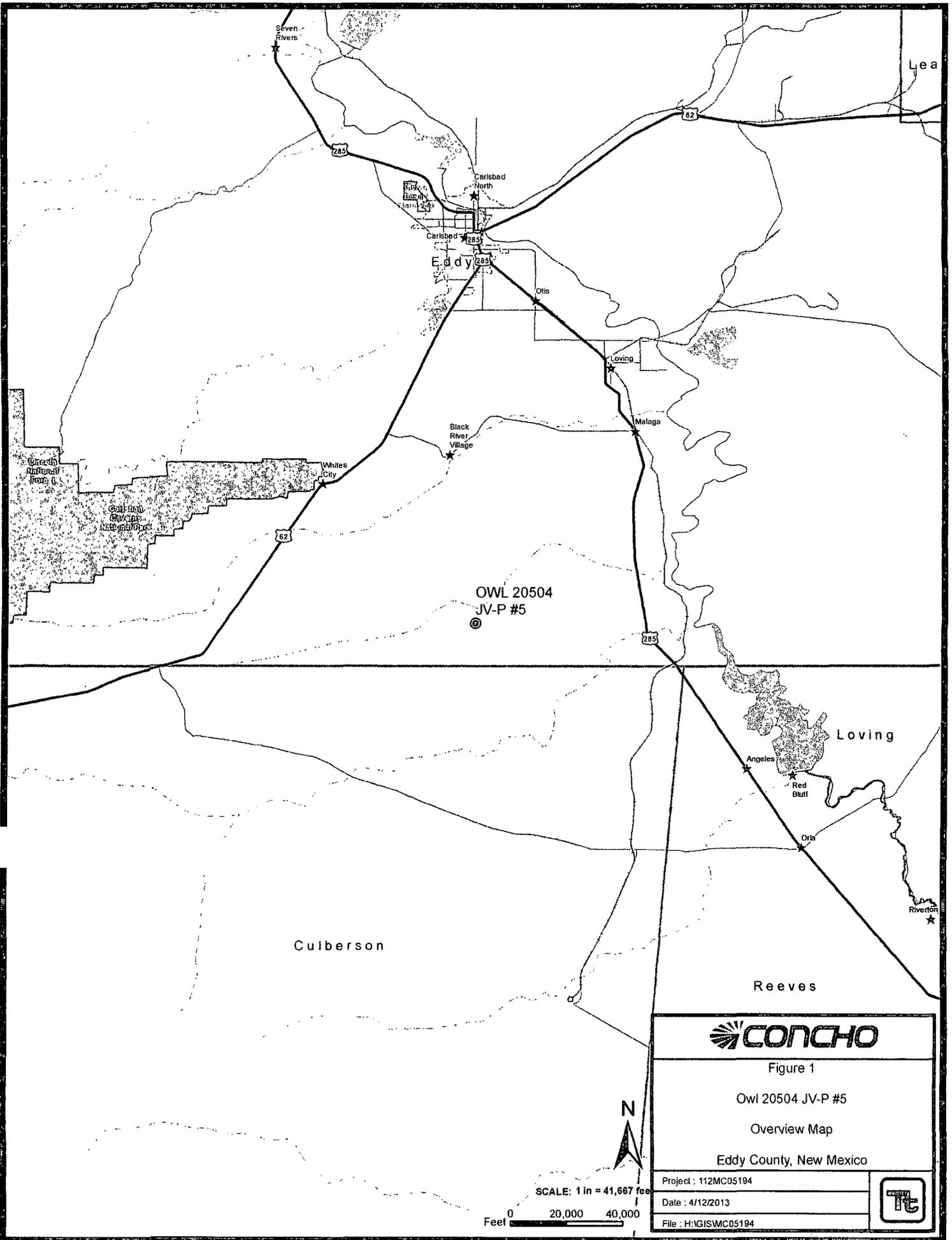
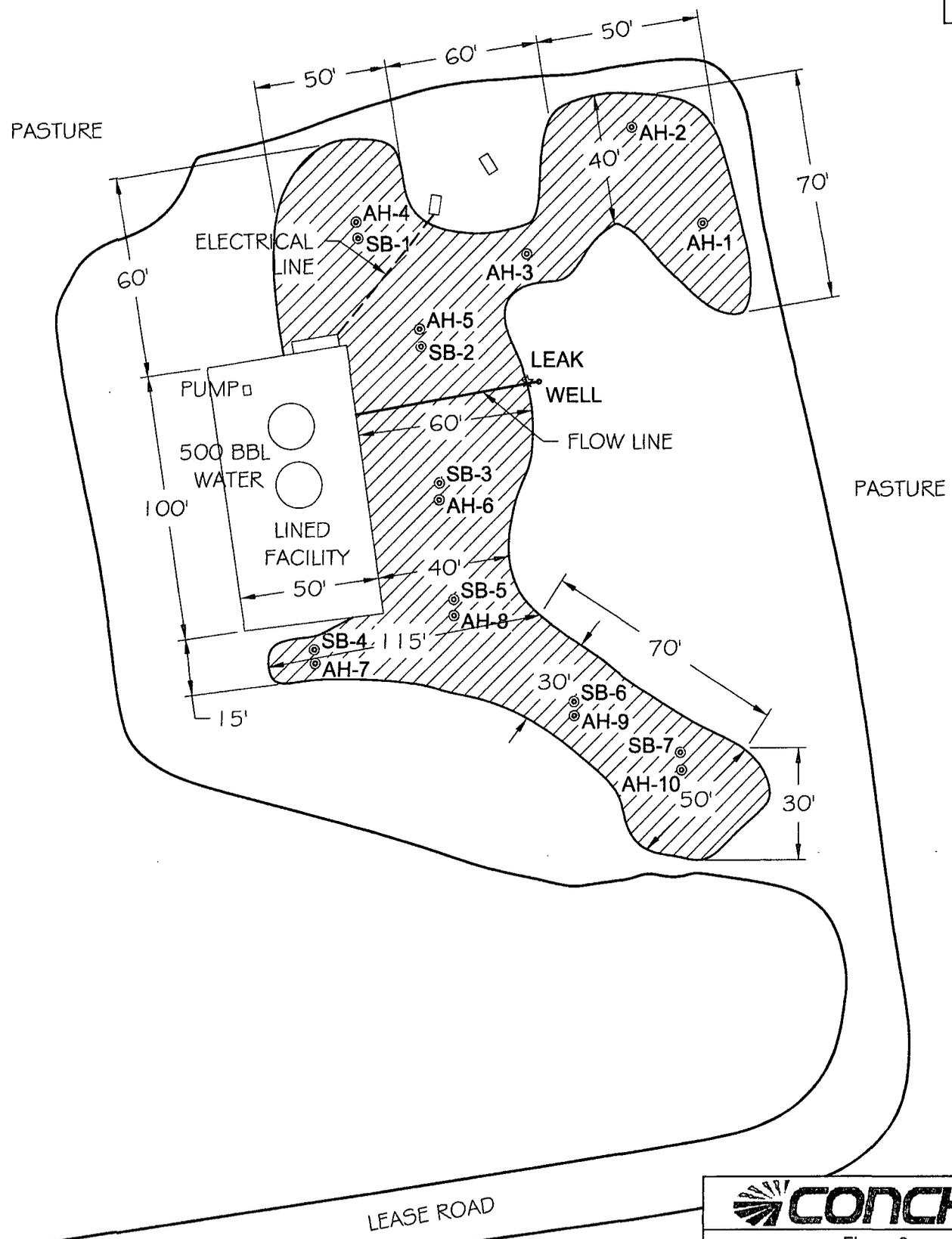


Figure 1	
Owl 20504 JV-P #5	
Overview Map	
Eddy County, New Mexico	
Project : 112MC05194	
Date : 4/12/2013	
File : H:\GIS\MC05194	



LEGEND

- ☆ LEAK SOURCE
- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ SOIL BORING SAMPLE LOCATIONS
- ▨ SPILL AREA



Figure 3

Owl 20504 JV-P #5
 Spill Assessment Map
 Eddy County, New Mexico

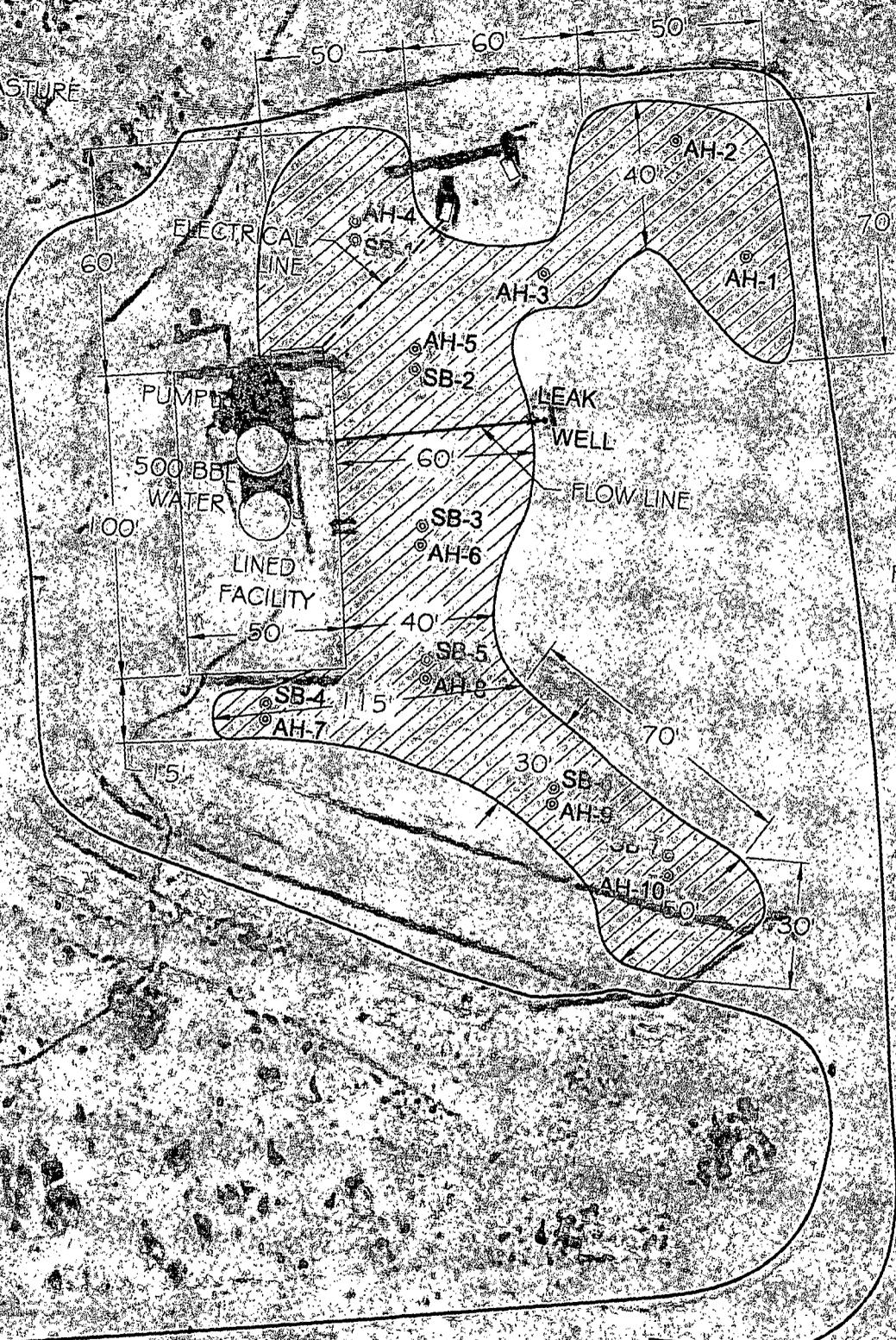
Project: 112MC05194
 Date: 4/12/2013
 File: H:\Concho\112MC05194\Owl 20504 JV-P #5



NOT TO SCALE



PASTURE



PASTURE

LEASE ROAD

LEGEND

- ☆ LEAK SOURCE
- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ SOIL BORING SAMPLE LOCATIONS
- ▨ SPILL AREA



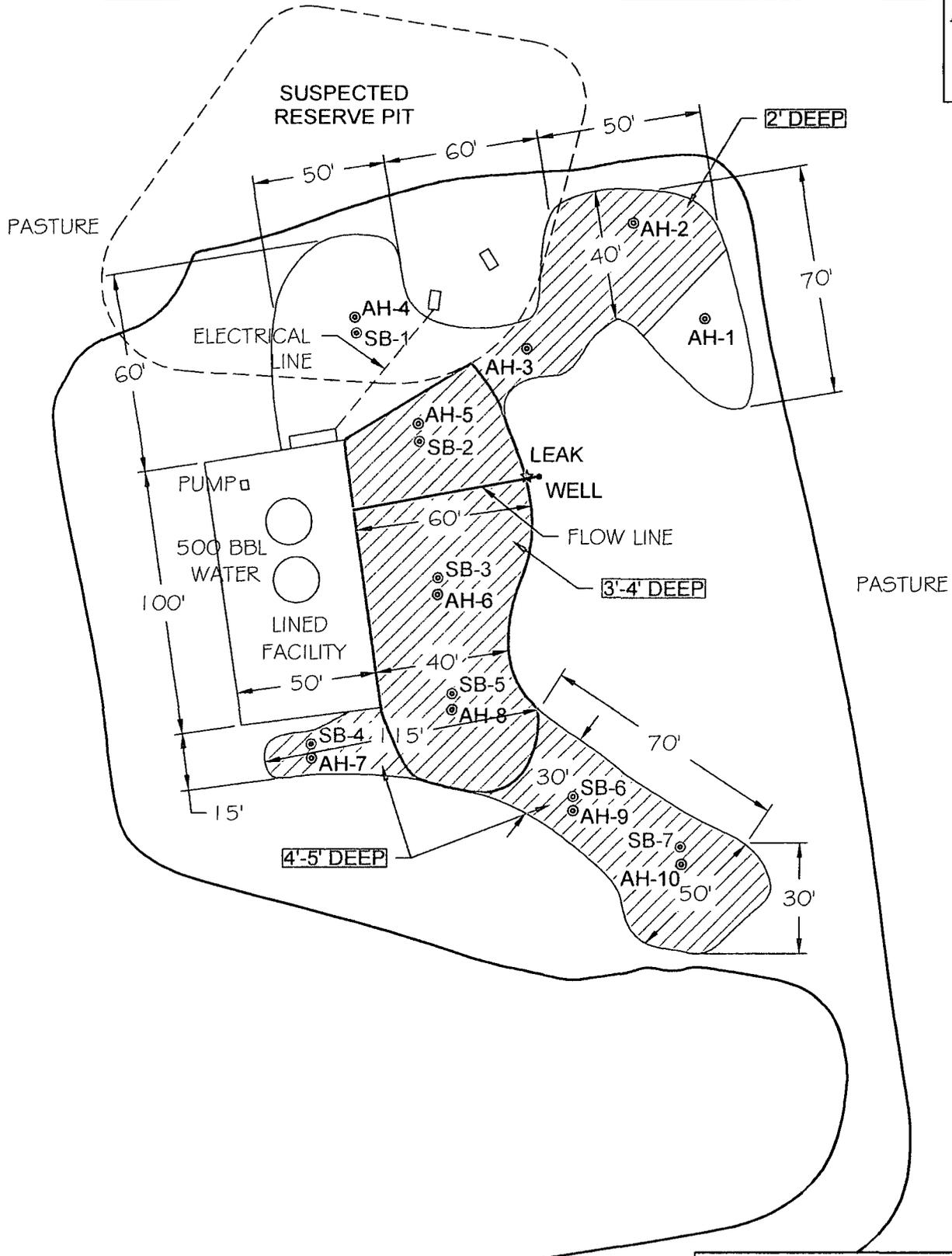
Figure 3

Owl 20504 JV-P #5
 Spill Assessment Aerial Map
 Eddy County, New Mexico

Project: 112MC05194
 Date: 4/12/2013
 File: H:\Concho\112MC05194\Owl 20504 JV-P #5



NOT TO SCALE



LEGEND	
☆	LEAK SOURCE
⊙	AUGER HOLE SAMPLE LOCATIONS
⊙	SOIL BORING SAMPLE LOCATIONS
	EXCAVATION AREAS
	LINER



Figure 4

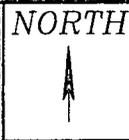
Owl 20504 JV-P #5

Excavation Areas & Depths Map

Eddy County, New Mexico

Project: 112MC05194	
Date: 4/12/2013	
File: H:\ACAD\COG\112MC05194\Owl 20504 JV-P #5	

NOT TO SCALE



SUSPECTED
RESERVE PIT



WELL

LEASE ROAD



Figure 5

Owl 20504 JV-P #5

2008 Aerial Suspected Reserve Pit Location

Eddy County, New Mexico

Project: 112MC05194

Date: 7/15/2013

File: H:\Concho\112MC05194\Owl 20504 JV-P #5



NOT TO SCALE

Tables

Table 1
COG Operating LLC.
Owl 20504 JV-P #5
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-10	4/4/2013	0-1	0		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	4,460
	"	1-1.5	"		X									4,620
	"	2-2.5	"		X									2,020
	"	3-3.5	"		X									951
	"	4-4.5	"		X									1,280
	"	5-5.5	"	X		-	-	-	-	-	-	-	-	-
SB-7	5/8/2013	0-1	0		X	-	-	-	-	-	-	-	-	7,010
	"	2-3	"		X	-	-	-	-	-	-	-	-	5,530
	"	4-5	"		X	-	-	-	-	-	-	-	-	2,360
	"	6-7	"	X		-	-	-	-	-	-	-	-	1,120
	"	9-10	"	X		-	-	-	-	-	-	-	-	<20.0
	"	14-15	"	X		-	-	-	-	-	-	-	-	<20.0
Background	4/4/2013	0-1	0	X		-	-	-	-	-	-	-	-	<20.0
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0
Background	5/7/2013	0-1	0	X		-	-	-	-	-	-	-	-	59.5
	"	5	"	X		-	-	-	-	-	-	-	-	89.3
	"	10	"	X		-	-	-	-	-	-	-	-	79.4
	"	15	"	X		-	-	-	-	-	-	-	-	74.4
	"	20	"	X		-	-	-	-	-	-	-	-	44.6
	"	25	"	X		-	-	-	-	-	-	-	-	<20.0

(-)

Not Analyzed

(BEB)

Below Excavation Bottom

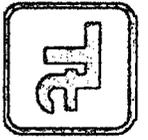


Excavated Depths

Liner Installed

Photos

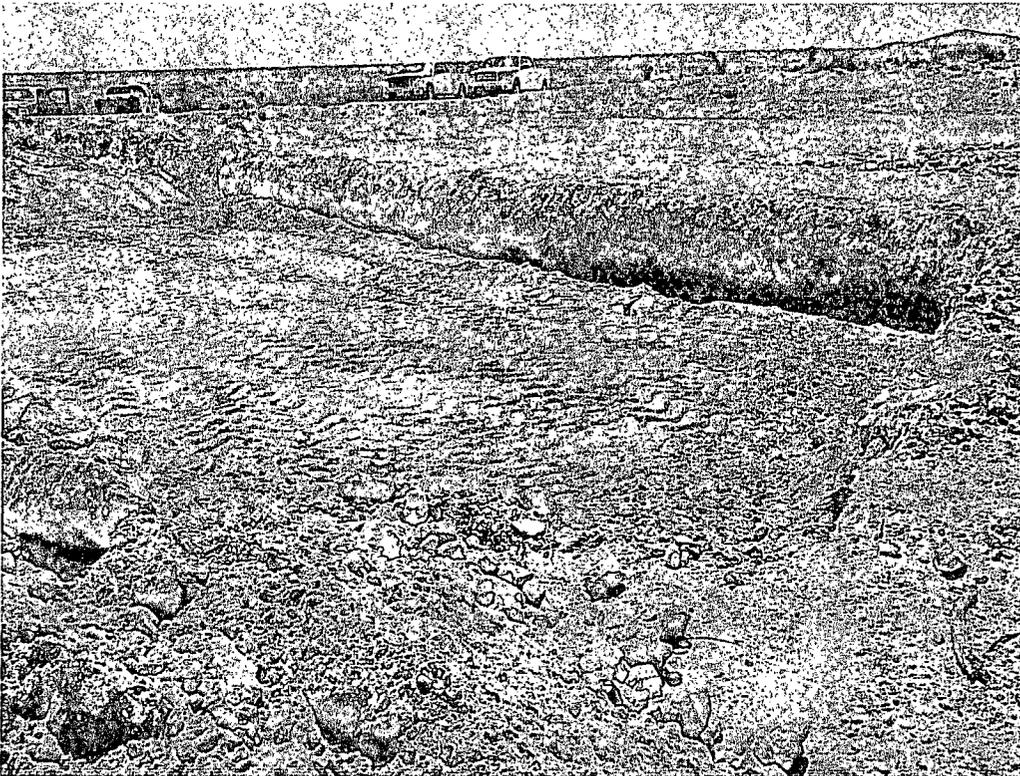
COG Operating LLC
Owl 20504 JV-P Well #5
Eddy County, New Mexico



TETRA TECH



View Southeast – Area of AH-9 and AH-10

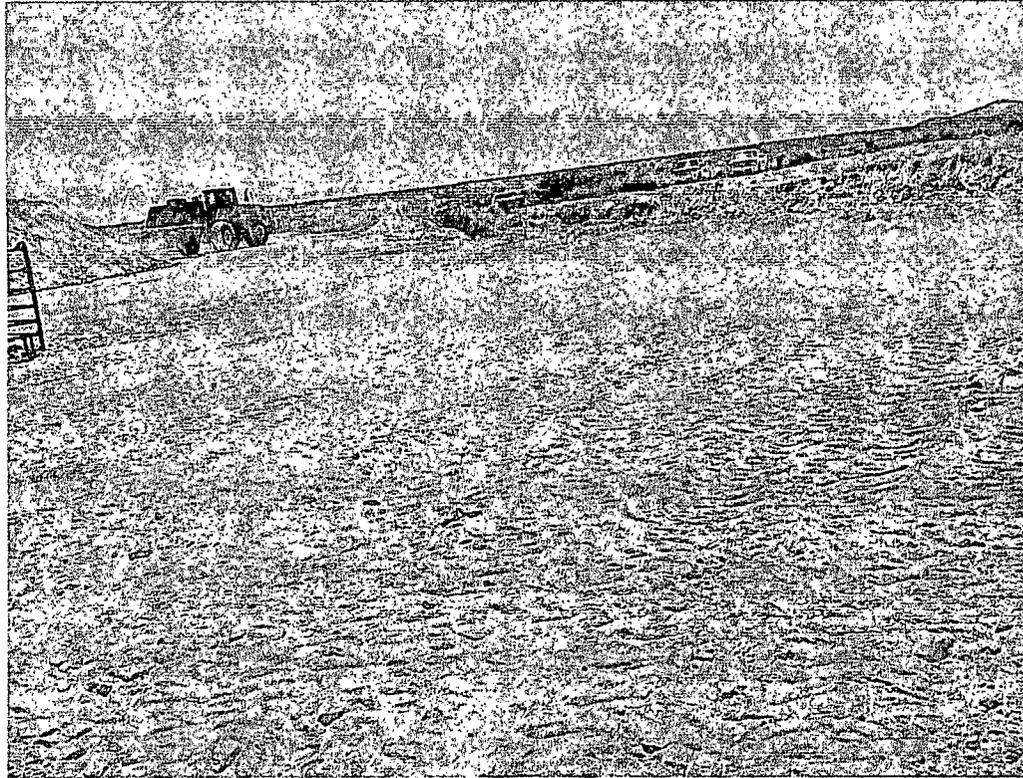


View Northeast – Area of AH-6 and AH-8

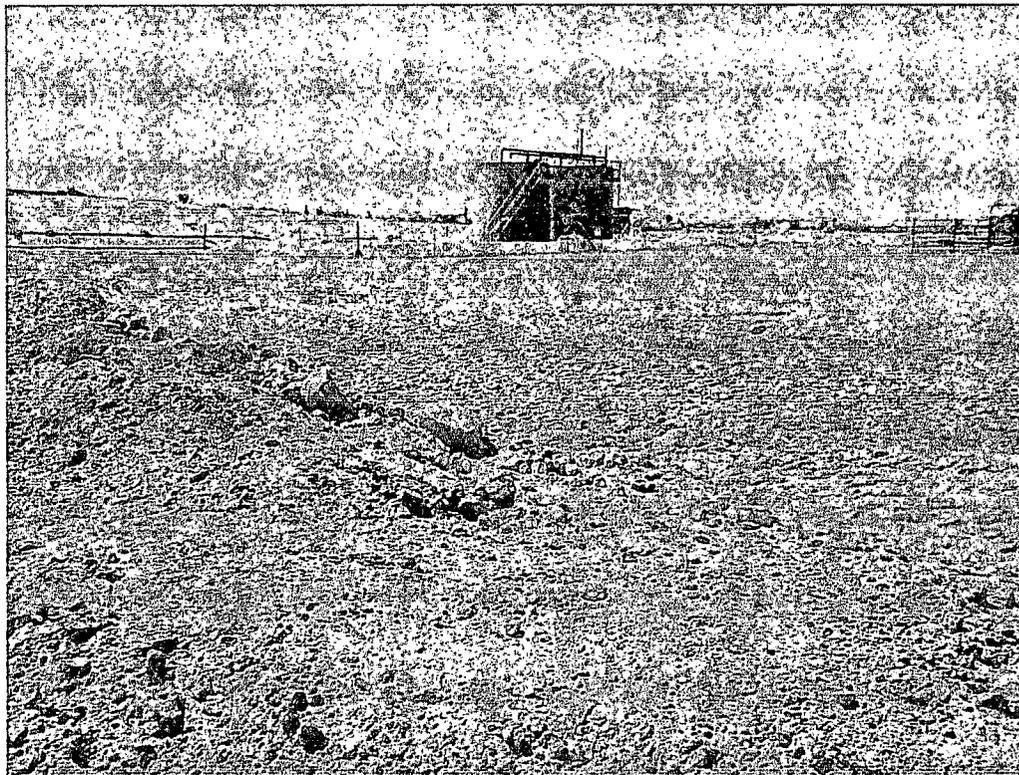
COG Operating LLC
Owl 20504 JV-P Well #5
Eddy County, New Mexico



TETRA TECH



View East – Area of AH-3 and AH-4



View North – Backfill

Appendix A

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	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	(432) 230-0077
Facility Name	OWL 20504 JV-P Well #005	Facility Type	SWD

Surface Owner: Federal	Mineral Owner	Lease No. (API#)30-015-35135
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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
J	18	26S	27E					Eddy

Latitude N32.04148 ° Longitude W104.22825 °

NATURE OF RELEASE

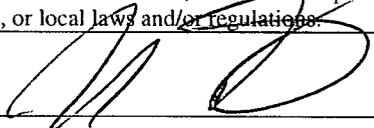
Type of Release: Produced Water	Volume of Release 10 bbls	Volume Recovered 0 bbls
Source of Release: Fiberglass line	Date and Hour of Occurrence 3/10/2013	Date and Hour of Discovery 3/10/2013 4:45 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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. N/A	

If a Watercourse was Impacted, Describe Fully.*

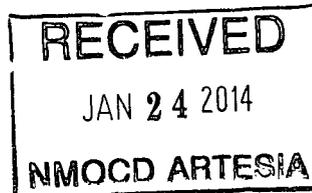
Describe Cause of Problem and Remedial Action Taken.*
A buried fiberglass line fractured due to traffic. The line has been replaced and added more surface material for additional padding and protection.

Describe Area Affected and Cleanup Action Taken.*
Tetra Tech personnel inspected the site and collected samples to define the spill extents. Soil that exceeded the RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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: Ike Tavarez (agent for COG)	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: Ike Tavarez@tetrattech.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 10-23-13 Phone: (432) 682-4559			

* Attach Additional Sheets If Necessary



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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	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	OWL 20504 JV-P WELL #005	Facility Type	SWD

Surface Owner	FEDERAL	Mineral Owner		Lease No. (API#)	30-015-35135
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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
J	18	26S	27E					EDDY

Latitude 32.04148 Longitude 104.22825

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	10bbls	Volume Recovered	0bbls
Source of Release	Fiberglass line	Date and Hour of Occurrence	03-10-2013	Date and Hour of Discovery	03-10-2013 4:45pm
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" 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.*

The buried fiberglass line fractured due to traffic. The line has been replaced and added more surface material for additional padding and protection.

Describe Area Affected and Cleanup Action Taken.*

Initially an estimated 10bbls were released due to a fracture in a buried fiberglass line on location. We were unable to recover any fluids. The entire spill was contained on the location. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a 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/BLM 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:	Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address:	jrusso@concho.com	Conditions of Approval:	
Date:	03-20-2013	Phone:	432-212-2399
			Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG-Owl 20504 JV-P Well #5
Eddy County, New Mexico

24 South 26 East

6	63	5	4	3	2	1
7	250	8	450	9	10	11
18	17	16	15	14	30	13
19	20	21	22	23	38	24
				37	30	
30	29	46	28	27	30	25
70						
31	32	111	33	34	35	36
	109					

24 South 27 East

6	5	4	3	2	1
7	8	26	9	10	11
18	17	43	16	15	14
19	20	21	22	23	24
			70		31
30	29	28	27	26	25
31	32	33	34	35	36

24 South 28 East

6	70	5	30	4	30	3
7		8	50	9	10	11
18	17	16	15	14	20	13
19	20	21	22	23	24	
		42	29	18	52	34
30	29	28	27	26	25	
31	32	33	34	35	36	

25 South 26 East

6	5	4	3	2	1
7	8	9	45	10	11
60	18	17	16	15	14
19	20	21	22	23	24
			118		
30	29	28	27	26	25
31	32	33	34	35	36

25 South 27 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
					92
30	29	28	27	26	25
31	32	33	34	35	36
		19			

25 South 28 East

6	5	4	35	3	2	1
7	8	9	10	11	12	
18	17	16	15	48	14	13
19	20	21	22	23	24	
			49			
30	29	28	27	26	25	
31	32	33	34	35	36	
						40

26 South 26 East

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

26 South 27 East

6	5	4	3	2	1
7	12	8	9	10	11
18	17	16	15	14	13
SITE	19	20	21	22	23
			50		35
30	29	28	27	26	25
31	32	33	34	35	36

26 South 28 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
				120	56
30	29	28	27	26	25
31	32	33	34	35	36
					100

-  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

District I
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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

AUG 02 2007
OCD-ARTESIA

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes No

Type of action: Registration of a pit or below-grade tank Closure of a pit or below-grade tank



Operator: BTA Oil Producers 003002 Telephone: 432-482-3753 e-mail address: seay 04 @ leaco . net
Address: 104 S. Pecos Midland Tex 79701
Facility or well name: Dwl 20504 JV-P #5 API #: 30.015.35435 U/L or Qtr/Qtr J Sec 18 T 26 R 27
County: Eddy Latitude 32° 04.396 N Longitude 104.22747 W NAD: 1927 1983
Surface Owner: Federal State Private Indian

Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12</u> mil Clay <input type="checkbox"/> Pit Volume <u>4500</u> bbl	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not.
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) <u>20 ft</u>	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more (0 points)
Ranking Score (Total Points) <u>20</u>	

this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite offsite If offsite, name of facility CRT. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No Yes If yes, show depth below ground surface _____ ft. and attach sample results.

Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: We plan to excavate and haul the contents of the drilling pit to a OCD approved facility. Sample the bottom of the excavation, and backfill and level, seed only after OCD + BLM approved. Will notify OCD + BLM before starting and file Sunday notice after closing. Will begin soon after approved.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines , a general permit , or an (attached) alternative OCD-approved plan .

Date: 2/31/07
Printed Name/Title Eddie W Seay Agent Signature Eddie W Seay

Our certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

NOTIFY OCD 24 HOURS PRIOR to beginning closure and 24 HOURS PRIOR to obtaining samples. Samples are to be obtained from pit area and analyses submitted to OCD prior to back-filling.

Signature Mike Signed By Mike Date: AUG 06 2007

State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I
1625 N. FRENCH DR., BOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Artec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-1
Revised October 12, 2
Submit to Appropriate District Off
State Lease - 4 Cop
Fee Lease - 3 Cop

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPO

API Number	Pool Code 97012	Pool Name Wildcat (Delaware)
Property Code	Property Name 20504 JV-P OWL	Well Number 5
OGRID No. 003002	Operator Name BTA OIL PRODUCERS	Elevation 3289'

Surface Location

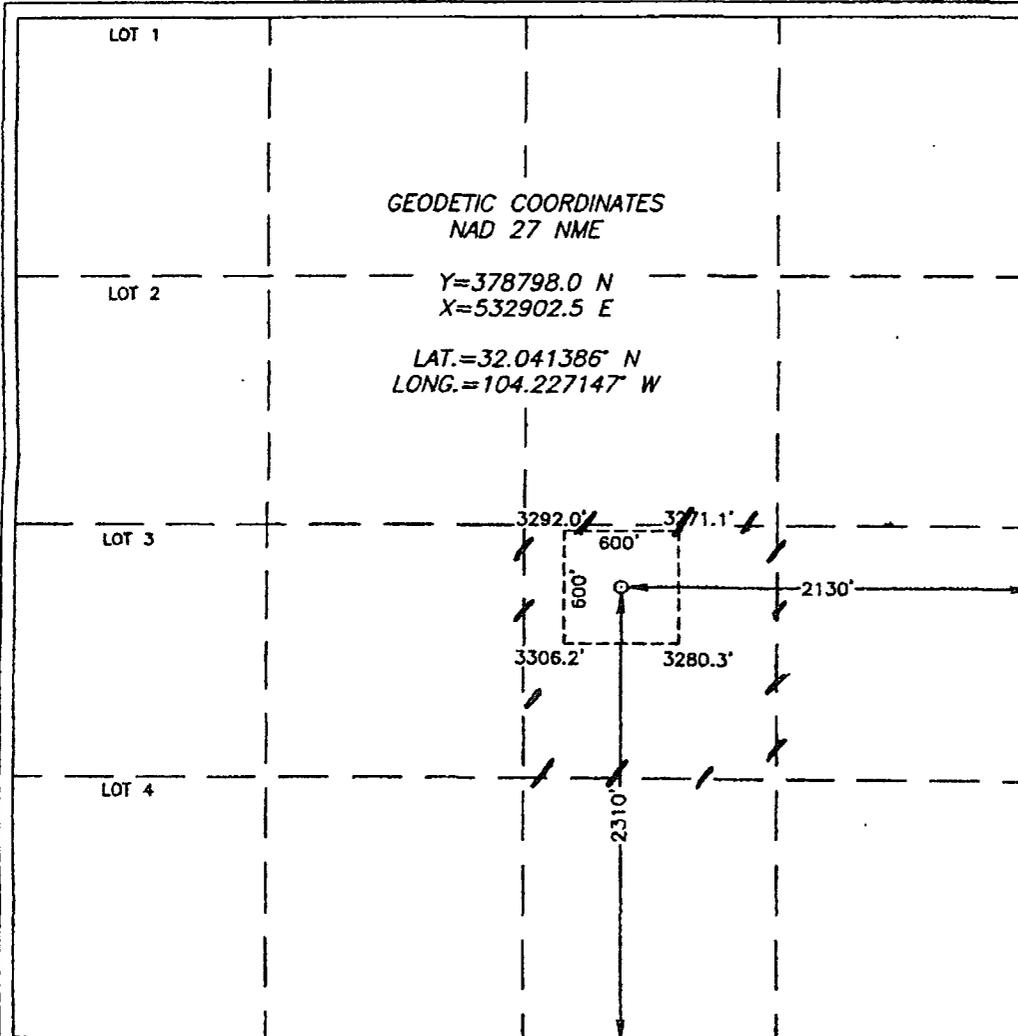
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	18	26-S	27-E		2310	SOUTH	2130	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 4c	Joint or Infill	Consolidation Code	Order No.
-----------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Pam Inskeep 01/09/07
Signature Date

Pam Inskeep
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

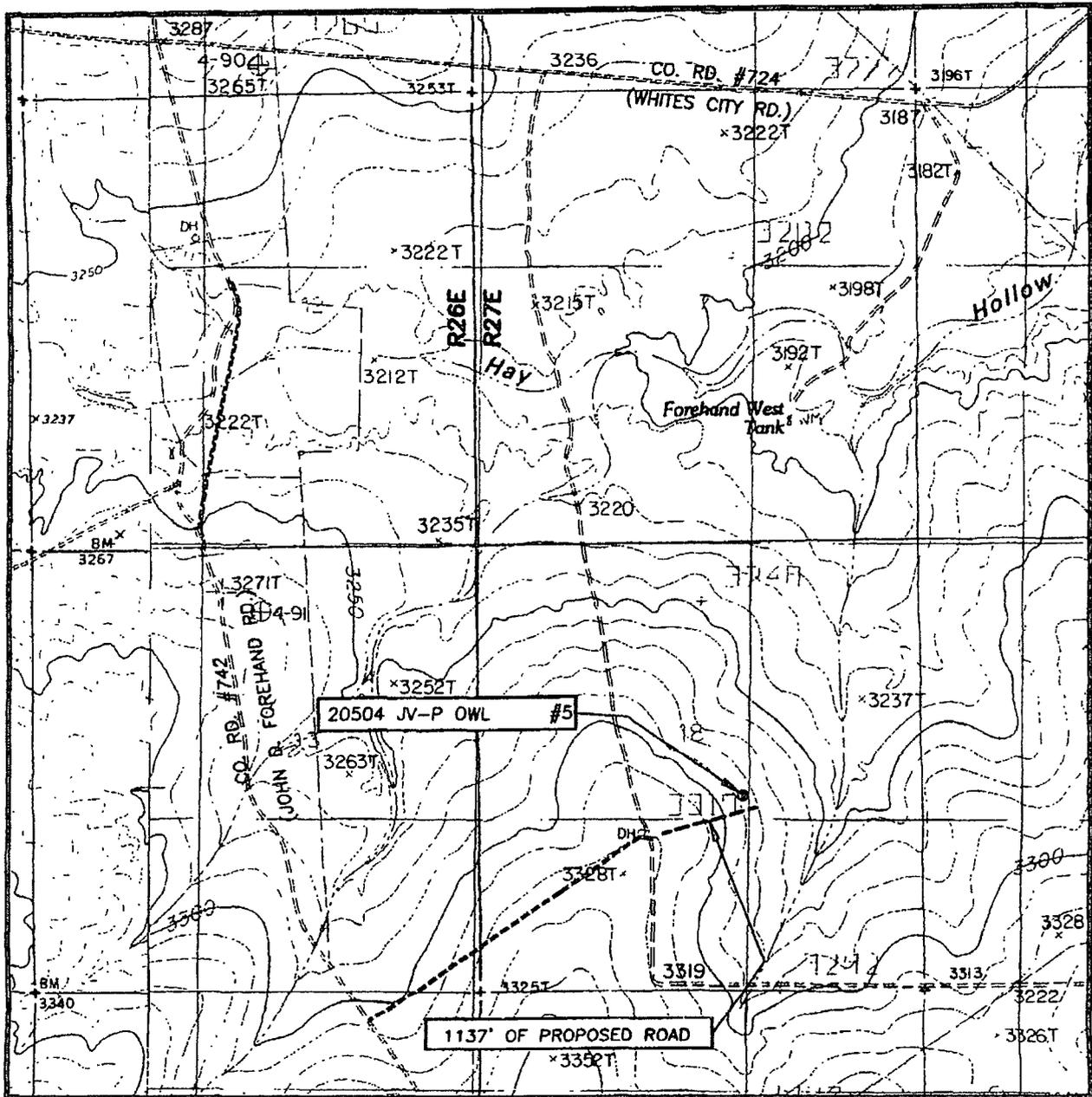
SEPTEMBER 12, 2006

Date Surveyed MR

Signature of State Registered Professional Surveyor

GARY G. FIDSON
NEW MEXICO
06.11.1405
CERTIFICATE No. GARY FIDSON 1284
REGISTERED PROFESSIONAL SURVEYOR

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
COTTONWOOD HILLS, N.M. - 10'

SEC. 18 TWP. 26-S RGE. 27-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2310' FSL & 2130' FEL

ELEVATION 3289'

OPERATOR BTA OIL PRODUCERS

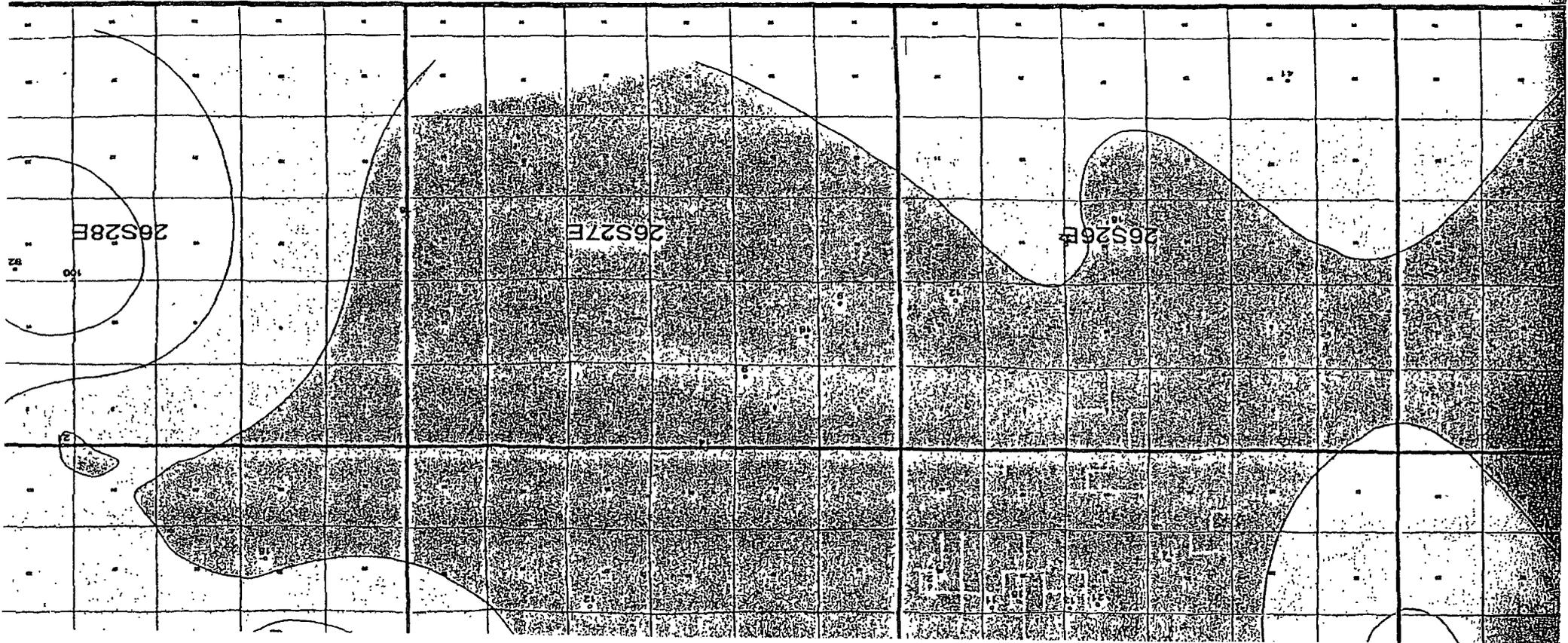
LEASE 20504 JV-P OWL

U.S.G.S. TOPOGRAPHIC MAP
COTTONWOOD HILLS, N.M.



PROVIDING SURVEYING SERVICES
 SINCE 1948
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 383-3117

Groundwater map



OCD-ARTESIA

RECEIVED
 Form 3160-5
 (February 2005)
 MAY 01 2012
NMOC D ARTESIA

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

FORM APPROVED
 OMB No 1004-0137
 Expires March 31, 2007

NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1 Type of Well
 Oil Well Gas Well Other SWD

2 Name of Operator
 COG Operating LLC

3a Address
 550 W Texas, Suite 100

3b Phone No. (include area code)
 432-685-4384

4 Location of Well (Footage, Sec., T. R., M., or Survey Description)

UL -J-, Sec. 18, T26S-R27E
 2310' FSL & 2320' FEL

5. Lease Serial No

NMNM 114969

6 If Indian, Allottee or Tribe Name

7 If Unit or CA/Agreement, Name and/or No

8 Well Name and No

Owl, 20504 JV-P #5

9 API Well No

30-015-35435

10 Field and Pool, or Exploratory Area

SWD, Cherry Canyon

11 County or Parish, State

Eddy Co., NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC will take over operations of this location from BTA Oil Producers, LLC, 104 S Pecos, Midland, TX 79701, 432-682-3753, effective 04/01/2012.

COG Operating LLC accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described herein. BLM Bond No. NMB000740; NMB000215.

If well goes off production for more than 30 days notify BLM by Sundry within 5 business days

Accepted for record
 NMOCD

SEE ATTACHED FOR
 CONDITIONS OF APPROVAL

APPROVED
 APR 28 2012
 /s/ JD Whitlock Jr
 BUREAU OF LAND MANAGEMENT
 CARLSBAD FIELD OFFICE

14 I hereby certify that the foregoing is true and correct
 Name (Printed/Typed)

Kelly J. Holly

Title Permitting Tech

Signature

Date

04/12/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 USC Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220
575-234-5972**

Conditions of Approval

**COG Production LLC
OWL 20504 JV-P #1 & #5
NM114969**

1. Tank battery must be bermed/diked (must be able to contain 1 1/2 times the volume of the largest tank).
2. Submit for approval of water disposal method.
3. Submit updated facility diagrams as per Onshore Order #3
4. This agency shall be notified of any spill or discharge as required by NTL-3A.
5. All outstanding environmental issue must be addressed within 90 days. Contact Jim Amos for inspection and to resolve environmental issues. 575-234-5909
6. Install legible well sign on location with operator name, well name and number, lease number, unit number, 1/4 1/4, section, township, and range. NMOCD requires the API number on well signs.
7. Subject to like approval by NMOCD.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM 114969

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
Owl, 20504 JV-P #5

9. API Well No.
30-015-35435

10. Field and Pool, or Exploratory Area
Wildcat (Delaware)

11. County or Parish, State
Eddy Co., NM

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well Oil Well Gas Well Other Injection

2. Name of Operator BTA Oil Producers LLC

3a. Address 104 S. Pecos, Midland, TX 79701

3b. Phone No. (include area code) 432-682-3753

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
UL -J-, Sec. 18, T26S-R27E
2310' FSL & 2130' FWL

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input checked="" type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

BTA submits that the surface location for this well has been improved and restored as follows:

06/08-11/18/2010

- Made the facility pad smaller
- Excavated impacted site, collected soil samples and submitted them to an approved laboratory for analysis, removed impacted soil to approved disposal facility, received approval from BLM and backfilled the excavation with clean soil, seeded as per BLM approved seed and requirements. We will monitor the growth.
- On back side of the battery, slope was terraced and seeded slope with approved BLM seed mix. Will monitor growth.
- Built firewall on east, north and west sides of production pad
- Removed poly-pipe not in service.

RECEIVED
JAN 24 2011
NMOCD ARTESIA

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Pam Inskeep

Title Regulatory Administrator

Signature

Date

ACCEPTED FOR RECORD
01/06/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Office

JAN 15 2011
Date

BUREAU OF LAND MANAGEMENT

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Accepted for record
NMOCD

1/11/11

Appendix D

Summary Report

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

Report Date: May 16, 2013

Work Order: 13050941



Project Location: Eddy Co., NM
Project Name: COG/Owl 20504 JV-P #5
Project Number: 112MC05194

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
328718	Background 0-1'	soil	2013-05-07	00:00	2013-05-09
328719	Background 5'	soil	2013-05-07	00:00	2013-05-09
328720	Background 10'	soil	2013-05-07	00:00	2013-05-09
328721	Background 15'	soil	2013-05-07	00:00	2013-05-09
328722	Background 20'	soil	2013-05-07	00:00	2013-05-09
328723	Background 25'	soil	2013-05-07	00:00	2013-05-09
328724	SB-1 @ AH-4 5'	soil	2013-05-07	00:00	2013-05-09
328725	SB-1 @ AH-4 10'	soil	2013-05-07	00:00	2013-05-09
328726	SB-1 @ AH-4 15'	soil	2013-05-07	00:00	2013-05-09
328727	SB-1 @ AH-4 19-20'	soil	2013-05-07	00:00	2013-05-09
328728	SB-1 @ AH-4 24-25'	soil	2013-05-07	00:00	2013-05-09
328729	SB-1 @ AH-4 29-30'	soil	2013-05-07	00:00	2013-05-09
328731	SB-2 @ AH-5 0-1'	soil	2013-05-07	00:00	2013-05-09
328732	SB-2 @ AH-5 2-3'	soil	2013-05-07	00:00	2013-05-09
328733	SB-2 @ AH-5 4-5'	soil	2013-05-07	00:00	2013-05-09
328734	SB-2 @ AH-5 6-7'	soil	2013-05-07	00:00	2013-05-09
328735	SB-2 @ AH-5 9-10'	soil	2013-05-07	00:00	2013-05-09
328736	SB-2 @ AH-5 14-15'	soil	2013-05-07	00:00	2013-05-09
328738	SB-3 @ AH-6 0-1'	soil	2013-05-08	00:00	2013-05-09
328739	SB-3 @ AH-6 2-3'	soil	2013-05-08	00:00	2013-05-09
328740	SB-3 @ AH-6 4-5'	soil	2013-05-08	00:00	2013-05-09
328741	SB-3 @ AH-6 6-7'	soil	2013-05-08	00:00	2013-05-09
328742	SB-3 @ AH-6 9-10'	soil	2013-05-08	00:00	2013-05-09
328743	SB-3 @ AH-6 14-15'	soil	2013-05-08	00:00	2013-05-09
328744	SB-4 @ AH-7 0-1'	soil	2013-05-08	00:00	2013-05-09
328745	SB-4 @ AH-7 2-3'	soil	2013-05-08	00:00	2013-05-09
328746	SB-4 @ AH-7 4-5'	soil	2013-05-08	00:00	2013-05-09
328747	SB-4 @ AH-7 6-7'	soil	2013-05-08	00:00	2013-05-09
328748	SB-4 @ AH-7 9-10'	soil	2013-05-08	00:00	2013-05-09
328749	SB-4 @ AH-7 14-15'	soil	2013-05-08	00:00	2013-05-09

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
328750	SB-5 @ AH-8 0-1'	soil	2013-05-08	00:00	2013-05-09
328751	SB-5 @ AH-8 2-3'	soil	2013-05-08	00:00	2013-05-09
328752	SB-5 @ AH-8 4-5'	soil	2013-05-08	00:00	2013-05-09
328753	SB-5 @ AH-8 6-7'	soil	2013-05-08	00:00	2013-05-09
328754	SB-5 @ AH-8 9-10'	soil	2013-05-08	00:00	2013-05-09
328755	SB-5 @ AH-8 14-15'	soil	2013-05-08	00:00	2013-05-09
328756	SB-5 @ AH-8 19-20'	soil	2013-05-08	00:00	2013-05-09
328757	SB-5 @ AH-8 24-25'	soil	2013-05-08	00:00	2013-05-09
328758	SB-6 @ AH-9 0-1'	soil	2013-05-08	00:00	2013-05-09
328759	SB-6 @ AH-9 2-3'	soil	2013-05-08	00:00	2013-05-09
328760	SB-6 @ AH-9 4-5'	soil	2013-05-08	00:00	2013-05-09
328761	SB-6 @ AH-9 6-7'	soil	2013-05-08	00:00	2013-05-09
328762	SB-6 @ AH-9 9-10'	soil	2013-05-08	00:00	2013-05-09
328763	SB-7 @ AH-10 0-1'	soil	2013-05-08	00:00	2013-05-09
328764	SB-7 @ AH-10 2-3'	soil	2013-05-08	00:00	2013-05-09
328765	SB-7 @ AH-10 4-5'	soil	2013-05-08	00:00	2013-05-09
328766	SB-7 @ AH-10 6-7'	soil	2013-05-08	00:00	2013-05-09
328767	SB-7 @ AH-10 9-10'	soil	2013-05-08	00:00	2013-05-09
328768	SB-7 @ AH-10 14-15'	soil	2013-05-08	00:00	2013-05-09

Sample: 328718 - Background 0-1'

Param	Flag	Result	Units	RL
Chloride		59.5	mg/Kg	4

Sample: 328719 - Background 5'

Param	Flag	Result	Units	RL
Chloride		89.3	mg/Kg	4

Sample: 328720 - Background 10'

Param	Flag	Result	Units	RL
Chloride		79.4	mg/Kg	4

Sample: 328721 - Background 15'

Param	Flag	Result	Units	RL
Chloride		74.4	mg/Kg	4

Sample: 328722 - Background 20'

Param	Flag	Result	Units	RL
Chloride		44.6	mg/Kg	4

Sample: 328723 - Background 25'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 328724 - SB-1 @ AH-4 5'

Param	Flag	Result	Units	RL
Chloride		6400	mg/Kg	4

Sample: 328725 - SB-1 @ AH-4 10'

Param	Flag	Result	Units	RL
Chloride		9870	mg/Kg	4

Sample: 328726 - SB-1 @ AH-4 15'

Param	Flag	Result	Units	RL
Chloride		1660	mg/Kg	4

Sample: 328727 - SB-1 @ AH-4 19-20'

Param	Flag	Result	Units	RL
Chloride		9110	mg/Kg	4

Sample: 328728 - SB-1 @ AH-4 24-25'

Param	Flag	Result	Units	RL
Chloride		8610	mg/Kg	4

Sample: 328729 - SB-1 @ AH-4 29-30'

Param	Flag	Result	Units	RL
Chloride		214	mg/Kg	4

Sample: 328731 - SB-2 @ AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		8130	mg/Kg	4

Sample: 328732 - SB-2 @ AH-5 2-3'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4

Sample: 328733 - SB-2 @ AH-5 4-5'

Param	Flag	Result	Units	RL
Chloride		7490	mg/Kg	4

Sample: 328734 - SB-2 @ AH-5 6-7'

Param	Flag	Result	Units	RL
Chloride		3160	mg/Kg	4

Sample: 328735 - SB-2 @ AH-5 9-10'

Param	Flag	Result	Units	RL
Chloride		821	mg/Kg	4

Sample: 328736 - SB-2 @ AH-5 14-15'

Param	Flag	Result	Units	RL
Chloride		213	mg/Kg	4

Sample: 328738 - SB-3 @ AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		13100	mg/Kg	4

Sample: 328739 - SB-3 @ AH-6 2-3'

Param	Flag	Result	Units	RL
Chloride		2330	mg/Kg	4

Sample: 328740 - SB-3 @ AH-6 4-5'

Param	Flag	Result	Units	RL
Chloride		2080	mg/Kg	4

Sample: 328741 - SB-3 @ AH-6 6-7'

Param	Flag	Result	Units	RL
Chloride		1160	mg/Kg	4

Sample: 328742 - SB-3 @ AH-6 9-10'

Param	Flag	Result	Units	RL
Chloride		4050	mg/Kg	4

Sample: 328743 - SB-3 @ AH-6 14-15'

Param	Flag	Result	Units	RL
Chloride		203	mg/Kg	4

Sample: 328744 - SB-4 @ AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		2560	mg/Kg	4

Sample: 328745 - SB-4 @ AH-7 2-3'

Param	Flag	Result	Units	RL
Chloride		1900	mg/Kg	4

Sample: 328746 - SB-4 @ AH-7 4-5'

Param	Flag	Result	Units	RL
Chloride		1110	mg/Kg	4

Sample: 328747 - SB-4 @ AH-7 6-7'

Param	Flag	Result	Units	RL
Chloride		785	mg/Kg	4

Sample: 328748 - SB-4 @ AH-7 9-10'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 328749 - SB-4 @ AH-7 14-15'

Param	Flag	Result	Units	RL
Chloride		146	mg/Kg	4

Sample: 328750 - SB-5 @ AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		834	mg/Kg	4

Sample: 328751 - SB-5 @ AH-8 2-3'

Param	Flag	Result	Units	RL
Chloride		927	mg/Kg	4

Sample: 328752 - SB-5 @ AH-8 4-5'

Param	Flag	Result	Units	RL
Chloride		2260	mg/Kg	4

Sample: 328753 - SB-5 @ AH-8 6-7'

Param	Flag	Result	Units	RL
Chloride		976	mg/Kg	4

Sample: 328754 - SB-5 @ AH-8 9-10'

Param	Flag	Result	Units	RL
Chloride		2650	mg/Kg	4

Sample: 328755 - SB-5 @ AH-8 14-15'

Param	Flag	Result	Units	RL
Chloride		621	mg/Kg	4

Sample: 328756 - SB-5 @ AH-8 19-20'

Param	Flag	Result	Units	RL
Chloride		63.5	mg/Kg	4

Sample: 328757 - SB-5 @ AH-8 24-25'

Param	Flag	Result	Units	RL
Chloride		39.1	mg/Kg	4

Sample: 328758 - SB-6 @ AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		6180	mg/Kg	4

Sample: 328759 - SB-6 @ AH-9 2-3'

Param	Flag	Result	Units	RL
Chloride		6890	mg/Kg	4

Sample: 328760 - SB-6 @ AH-9 4-5'

Param	Flag	Result	Units	RL
Chloride		1290	mg/Kg	4

Sample: 328761 - SB-6 @ AH-9 6-7'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 328762 - SB-6 @ AH-9 9-10'

Param	Flag	Result	Units	RL
Chloride		48.9	mg/Kg	4

Sample: 328763 - SB-7 @ AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		7010	mg/Kg	4

Sample: 328764 - SB-7 @ AH-10 2-3'

Param	Flag	Result	Units	RL
Chloride		5530	mg/Kg	4

Sample: 328765 - SB-7 @ AH-10 4-5'

Param	Flag	Result	Units	RL
Chloride		2360	mg/Kg	4

Sample: 328766 - SB-7 @ AH-10 6-7'

Param	Flag	Result	Units	RL
Chloride		1120	mg/Kg	4

Sample: 328767 - SB-7 @ AH-10 9-10'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 328768 - SB-7 @ AH-10 14-15'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Summary Report

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

Report Date: April 15, 2013

Work Order: 13040905



Project Location: Eddy Co., NM
Project Name: COG/Owl 20504 JV-P #5
Project Number: 112MC05194

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
325503	Background 0-1'	soil	2013-04-04	00:00	2013-04-08
325504	Background 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325505	Background 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325506	AH-1 0-1'	soil	2013-04-04	00:00	2013-04-08
325507	AH-1 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325508	AH-1 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325509	AH-1 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325510	AH-1 4-4.5'	soil	2013-04-04	00:00	2013-04-08
325511	AH-1 5-5.5'	soil	2013-04-04	00:00	2013-04-08
325512	AH-1 6-6.5'	soil	2013-04-04	00:00	2013-04-08
325513	AH-2 0-1'	soil	2013-04-04	00:00	2013-04-08
325514	AH-2 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325515	AH-2 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325516	AH-2 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325517	AH-3 0-1'	soil	2013-04-04	00:00	2013-04-08
325518	AH-3 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325519	AH-3 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325520	AH-3 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325521	AH-4 0-1'	soil	2013-04-04	00:00	2013-04-08
325522	AH-4 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325523	AH-4 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325524	AH-4 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325525	AH-4 4-4.5'	soil	2013-04-04	00:00	2013-04-08
325526	AH-4 5-5.5'	soil	2013-04-04	00:00	2013-04-08
325527	AH-5 0-1'	soil	2013-04-04	00:00	2013-04-08
325528	AH-5 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325529	AH-5 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325530	AH-5 2.5-3'	soil	2013-04-04	00:00	2013-04-08
325531	AH-6 0-1'	soil	2013-04-04	00:00	2013-04-08
325532	AH-6 1-1.5'	soil	2013-04-04	00:00	2013-04-08

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
325533	AH-6 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325534	AH-6 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325535	AH-7 0-1'	soil	2013-04-04	00:00	2013-04-08
325536	AH-7 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325537	AH-7 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325538	AH-7 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325539	AH-8 0-1'	soil	2013-04-04	00:00	2013-04-08
325540	AH-8 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325541	AH-8 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325542	AH-8 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325543	AH-9 0-1'	soil	2013-04-04	00:00	2013-04-08
325544	AH-9 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325545	AH-9 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325546	AH-9 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325547	AH-10 0-1'	soil	2013-04-04	00:00	2013-04-08
325548	AH-10 1-1.5'	soil	2013-04-04	00:00	2013-04-08
325549	AH-10 2-2.5'	soil	2013-04-04	00:00	2013-04-08
325550	AH-10 3-3.5'	soil	2013-04-04	00:00	2013-04-08
325551	AH-10 4-4.5'	soil	2013-04-04	00:00	2013-04-08
325552	AH-10 5-5.5'	soil	2013-04-04	00:00	2013-04-08

Sample - Field Code	BTEX				TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenc (mg/Kg)		
325506 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _N
325513 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _N
325517 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _N
325521 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _N
325527 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _N
325531 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _r , Q _N
325535 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _r , Q _N
325539 - AH-8 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _r , Q _N
325543 - AH-9 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _r , Q _N
325547 - AH-10 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00 Q _r , Q _N

Sample: 325503 - Background 0-1'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325504 - Background 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325505 - Background 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325506 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		959	mg/Kg	4

Sample: 325507 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		98.9	mg/Kg	4

Sample: 325508 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		119	mg/Kg	4

Sample: 325509 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		63.9	mg/Kg	4

Sample: 325510 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		128	mg/Kg	4

Sample: 325511 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		236	mg/Kg	4

Sample: 325512 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		556	mg/Kg	4

Sample: 325513 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		3050	mg/Kg	4

Sample: 325514 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		939	mg/Kg	4

Sample: 325515 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		24.6	mg/Kg	4

Sample: 325516 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325517 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		8690	mg/Kg	4

Sample: 325518 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1960	mg/Kg	4

Sample: 325519 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1950	mg/Kg	4

Sample: 325520 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		255	mg/Kg	4

Sample: 325521 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		481	mg/Kg	4

Sample: 325522 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		24.1	mg/Kg	4

Sample: 325523 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		144	mg/Kg	4

Sample: 325524 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		9290	mg/Kg	4

Sample: 325525 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		6490	mg/Kg	4

Sample: 325526 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		8610	mg/Kg	4

Sample: 325527 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		14100	mg/Kg	4

Sample: 325528 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7660	mg/Kg	4

Sample: 325529 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		7150	mg/Kg	4

Sample: 325530 - AH-5 2.5-3'

Param	Flag	Result	Units	RL
Chloride		7630	mg/Kg	4

Sample: 325531 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		6700	mg/Kg	4

Sample: 325532 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		3760	mg/Kg	4

Sample: 325533 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4

Sample: 325534 - AH-6 3-3.5'

Param	Flag	Result	Units	RL
Chloride		11800	mg/Kg	4

Sample: 325535 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		1630	mg/Kg	4

Sample: 325536 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1780	mg/Kg	4

Sample: 325537 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2290	mg/Kg	4

Sample: 325538 - AH-7 3-3.5'

Param	Flag	Result	Units	RL
Chloride		2720	mg/Kg	4

Sample: 325539 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		2770	mg/Kg	4

Sample: 325540 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		2580	mg/Kg	4

Sample: 325541 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2910	mg/Kg	4

Sample: 325542 - AH-8 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1980	mg/Kg	4

Sample: 325543 - AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 325544 - AH-9 1-1.5'

Param	Flag	Result	Units	RL
Chloride		2260	mg/Kg	4

Sample: 325545 - AH-9 2-2.5'

Param	Flag	Result	Units	RL
Chloride		3380	mg/Kg	4

Sample: 325546 - AH-9 3-3.5'

Param	Flag	Result	Units	RL
Chloride		4820	mg/Kg	4

Sample: 325547 - AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		4460	mg/Kg	4

Sample: 325548 - AH-10 1-1.5'

Param	Flag	Result	Units	RL
Chloride		4620	mg/Kg	4

Sample: 325549 - AH-10 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2020	mg/Kg	4

Sample: 325550 - AH-10 3-3.5'

Param	Flag	Result	Units	RL
Chloride		951	mg/Kg	4

Sample: 325551 - AH-10 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1280	mg/Kg	4

Sample: 325552 - AH-10 5-5.5'

Param	Flag	Result	Units	RL
Chloride		1380	mg/Kg	4