PLWJ1019742270
2588

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 1300 Midland, Texas 79701**	Telephone No. **(432) 685-4332**
Facility Name MC Federal #3 Tank Battery	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. NMLC-029509-A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	21	17S	32E					Lea

Latitude N 32 49.282° **Longitude** W 103 46.359°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 60 **bbls**	Volume Recovered 57 **bbls**
Source of Release Water Tank	Date and Hour of Occurrence 7/9/10	Date and Hour of Discovery 7/9/10 5:45 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Larry Johnson – OCD and Geoffrey Leking – OCD**	
By Whom? Josh Russo	Date and Hour 7/9/10 5:03p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Water tank overflowed due to wells being shut in for water tie in. The flush from this down time along with hanging a new well were contributing factors.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil with elevated chloride concentrations were removed and hauled away for proper disposal. The excavation was backfilled with clean clay material and brought up to surface grade. Tetra Tech prepared closure report and submitted 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@tetratech.com	Conditions of Approval:	Attached ☐
Date: 8-8-11 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

Deferred until Abandonment

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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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	MC Federal #3 Tank Battery	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. NMLC-029509-A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	21	17S	32E					Lea

Latitude 32 49.282 **Longitude** 103 46.359

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 60bbls	Volume Recovered 57bbls
Source of Release Water tank	Date and Hour of Occurrence 07/09/2010	Date and Hour of Discovery 07/09/2010 5:45 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson-OCD Geoffrey Leking-OCD	
By Whom? Josh Russo	Date and Hour 07/09/2010 5:03 p.m.	
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.*

Water tank overflowed due to wells being shut in for water tie in. The flush from this down time along with hanging a new well were contributing factors.

Describe Area Affected and Cleanup Action Taken.*

Initially 60bbls of produced water was released from the water tank inside the facility firewall of the MC Federal #3 Tank Battery. We were able to recover 57bbls with a vacuum truck. All free fluids were recovered and contained inside the dike walls of the facility. The chloride concentration of the produced water in this area is 135,500 mg/l. The dimensions of the release area were 20' x 60' from the front of the water tank, then flowed east along dike wall 60' x 5'. (The closest well location to this release is the MC Federal #3, Unit F, Sec.21-T17S-R32E, 2160' FNL 2310' FWL, Lea County, New Mexico, NMLC-029509-A, API# 30-025-34773). 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: 07/09/2010 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Work Plan

General Site Information:		
Site:	MC Federal #3 Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit F - Sec 21 - T17S - R32E	
Lease Number:	029509-A	
County:	Lea County	
GPS:	32.82150° N	103.77258° W
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 529 and CR 126 travel north 1.8 miles on CR-126, turn left on Conoco Road 0.3 miles, right 0.3 miles, left 0.2 miles to location.	

Release Data:	
Date Released:	7/9/2010
Type Release:	Produced water
Source of Contamination:	Tank overflowed during shut in for water tie in
Fluid Released:	60 bbls
Fluids Recovered:	57 bbls

Official Communication:			
Name:	Pat Ellis		Ike Tavarez
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) 631-0348
Fax:	(432) 684-7137		(432) 682-3946
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.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

120'

TETRA TECH

February 27, 2011

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

Re: Work Plan for the COG Operating LLC., MC Federal #3 Tank Battery, Unit F, Section 21, Township 17 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 MC Federal #3 Tank Battery, Unit F, Section 21, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.82150°, W 103.77258°. 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 July 9, 2010, and released approximately sixty (60) barrels of produced water, due to a tank overflow. Fifty seven (57) barrels of standing fluids were recovered from the site. The spill was contained within the facility firewall and impacted an area approximately 20' x 60'. The initial C-141 form is enclosed in Appendix C.

Groundwater

The United States Geological Survey (USGS) Well Reports did not list any wells in Section 21. To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) in Section 30 to a depth of 125' bgs and did not encounter groundwater. According to the

Tetra Tech
1910 North Big Spring Midland TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

NMOCD groundwater map, the average depth to groundwater in this area is greater than 200' below surface. The average depth to groundwater is shown in Appendix A.

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 August 17, 2010, Tetra Tech personnel inspected and sampled the spill area. Due access or equipment issues, a total of three (3) auger holes (AH-1 through AH-3) were installed using a stainless steel hand auger to assess the impacted soils. AH-1 was installed in the west end of the tank battery. Auger holes (AH-2 and AH-3) were installed behind the facility south of the tank battery. 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 locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX at 0-1.0'. Elevated chloride concentrations were detected for all three auger holes. AH-3 declined with depth showing a chloride high of 3,230 at 0-1.0', which declined to <200 mg/kg at 6.0-6.5' below surface. AH-1 was not vertically defined and showed a chloride concentration of 1,390 mg/kg at 1.0-1.5' below surface. AH-2 showed a significant decline from 5,040 at 0-1' to <200 mg/kg at 3.0-3.5' below surface. However, the deeper samples did show an increasing chloride concentration with depth to 10,100 mg/kg at 7.0-7.5' below surface.

TETRA TECH

Work Plan

Although the chloride impact was not vertically defined, the site limited access restricts collecting deeper samples with a drilling rig. The area south of the tank battery is elevated and numerous lines are present in the area. (See Attached Photos).

On February 16, 2011, Tetra Tech discussed the results and access issues with Geoffrey Leking with NMOCD. He agreed the area of AH-2 and AH-3 would require some soil removal for a liner installation and the deeper impact would be deferred until abandonment. The excavation depth (maximum depth of 4.0') would depend on the site formation and safety of lines and tanks.

The proposed excavation depths are highlighted in Table 1. Once the areas are excavated to the appropriate depths, the excavation will be backfilled with clean soil.

Since the excavation is inside a tank battery firewall, the proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable.

Upon completion, a final report will be submitted to the NMOCD. If you have any questions or require any additional information regarding this work plan proposal, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

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

Table 1
COG Operating LLC.
MC FEDERAL #3 TANK BATTERY
Lea 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	8/17/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	1,140
	"	1-1.5'		X		-	-	-	-	-	-	-	1,390
AH-2	8/17/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	5,040
	"	1-1.5'		X		-	-	-	-	-	-	-	206
	"	2-2.5'		X		-	-	-	-	-	-	-	228
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	201
	"	5-5.5'		X		-	-	-	-	-	-	-	1,260
	"	6-6.5'		X		-	-	-	-	-	-	-	3,520
	"	7-7.5'		X		-	-	-	-	-	-	-	10,100
AH-3	8/17/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	3,230
	"	1-1.5'		X		-	-	-	-	-	-	-	725
	"	2-2.5'		X		-	-	-	-	-	-	-	648
	"	3-3.5'		X		-	-	-	-	-	-	-	345
	"	4-4.5'		X		-	-	-	-	-	-	-	561
	"	5-5.5'		X		-	-	-	-	-	-	-	600
	"	6-6.5'		X		-	-	-	-	-	-	-	<200
	"	6.5-7'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom

(-) Not Analyzed

▭ Proposed Excavation Depth

——— liner

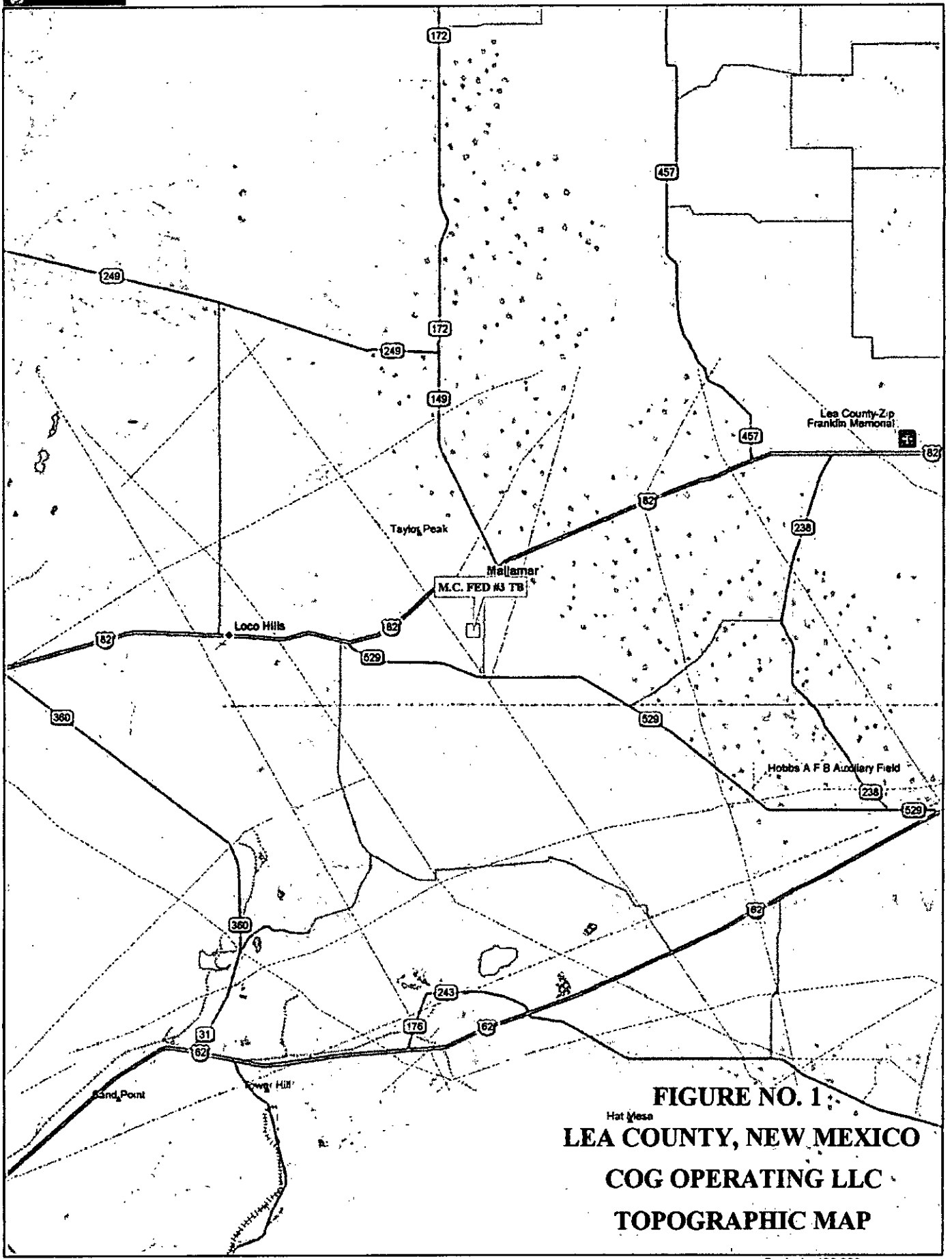

FIGURE NO. 1

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

Data use subject to license.
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www.delorme.com

Scale 1 : 400,000

1" = 6.31 mi Data Zoom 9-0

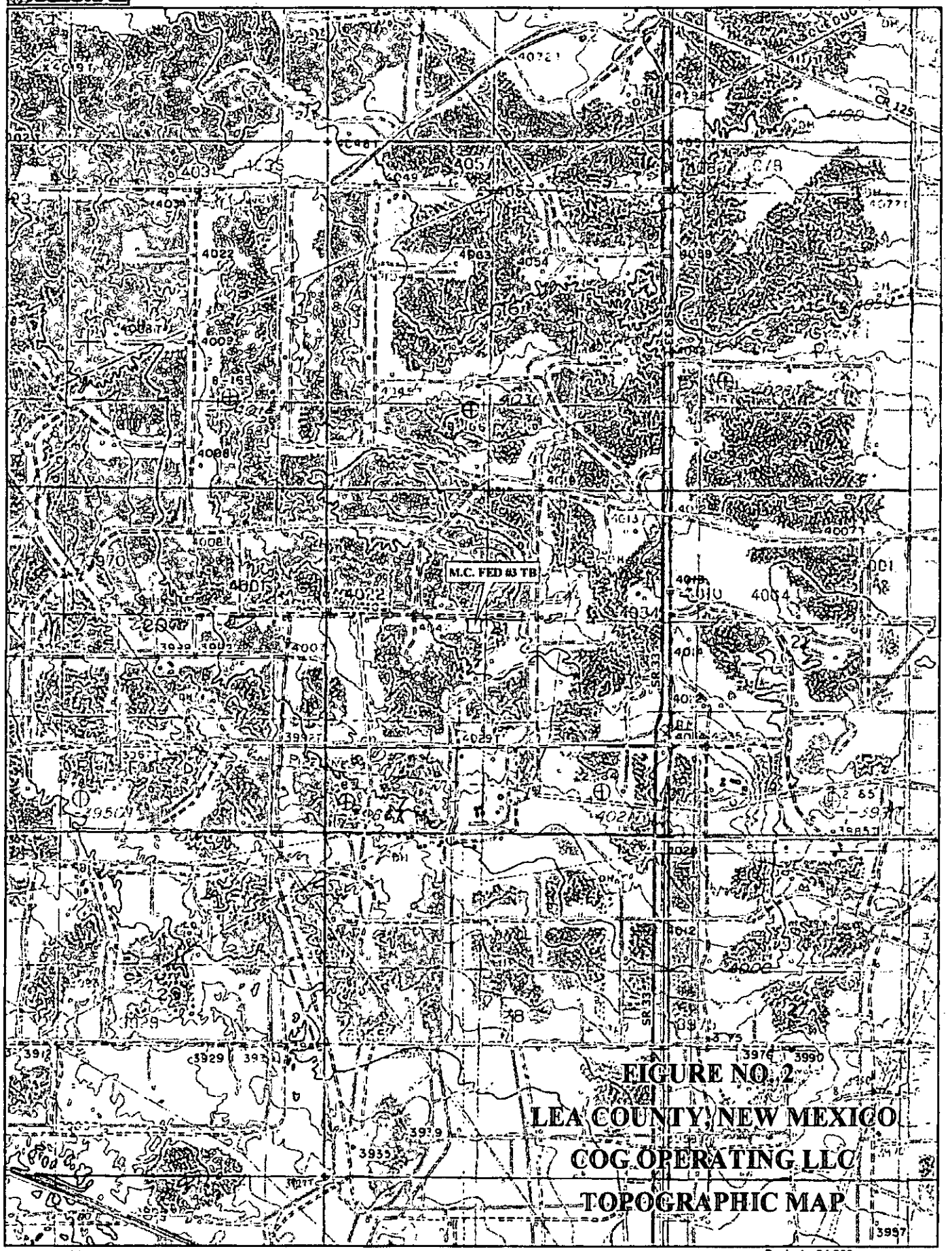

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

Data use subject to license.

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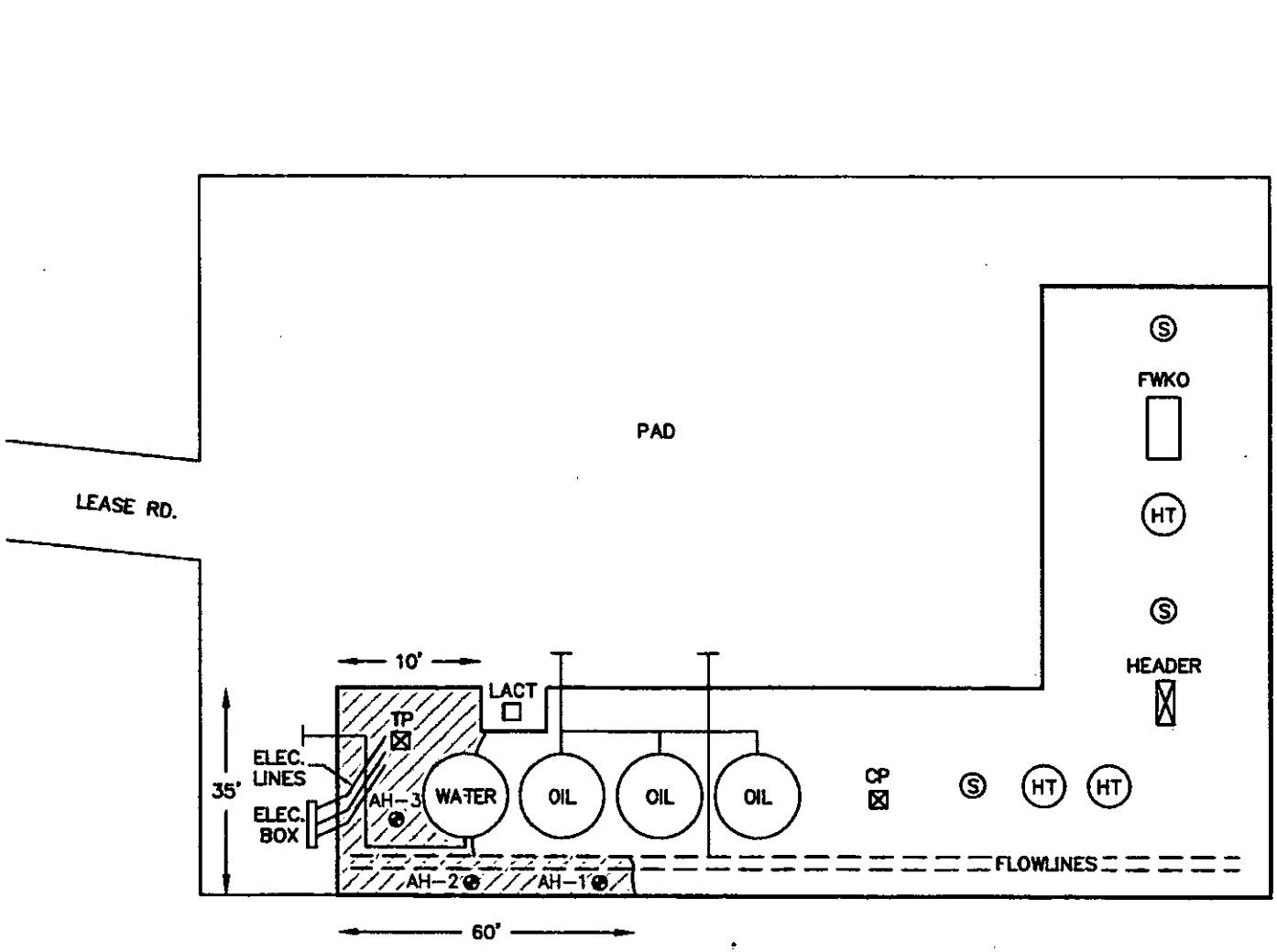
Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0



SPILL AREA
SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

MC FED #3 TB

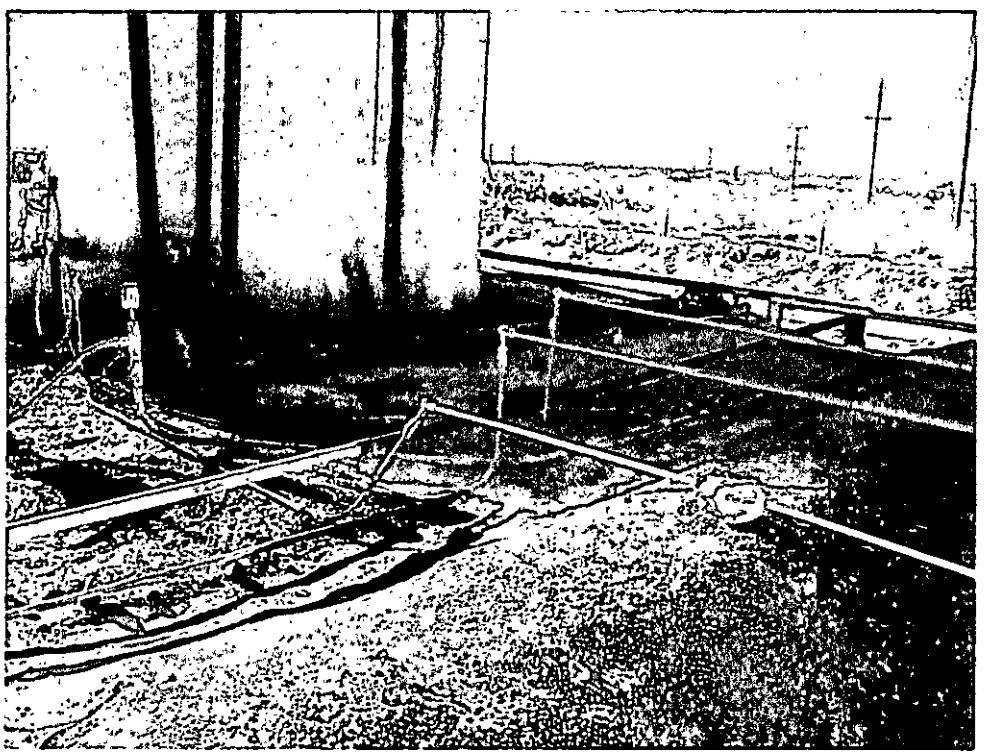
DATE: 8/17/10
DWN. BY: JJ
FILE:

TETRA TECH, INC.
MIDLAND, TEXAS

COG - MC Federal #3 Tank Battery

Lea County, NM

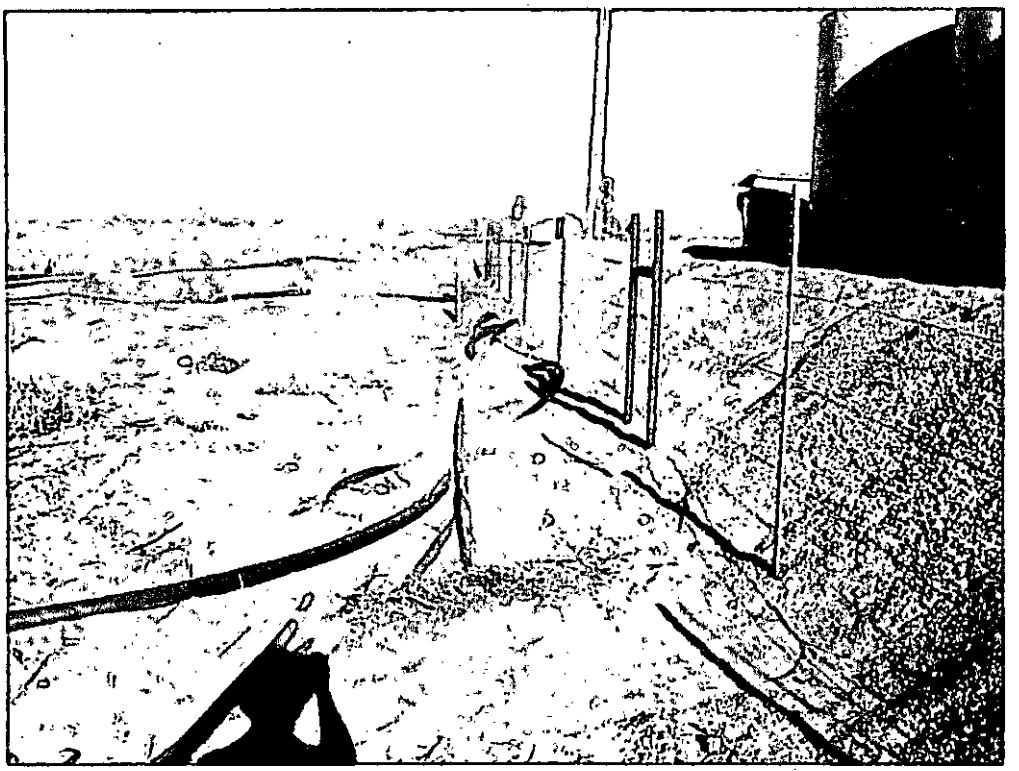
1. View of Sample Points #1, #2 and flow lines



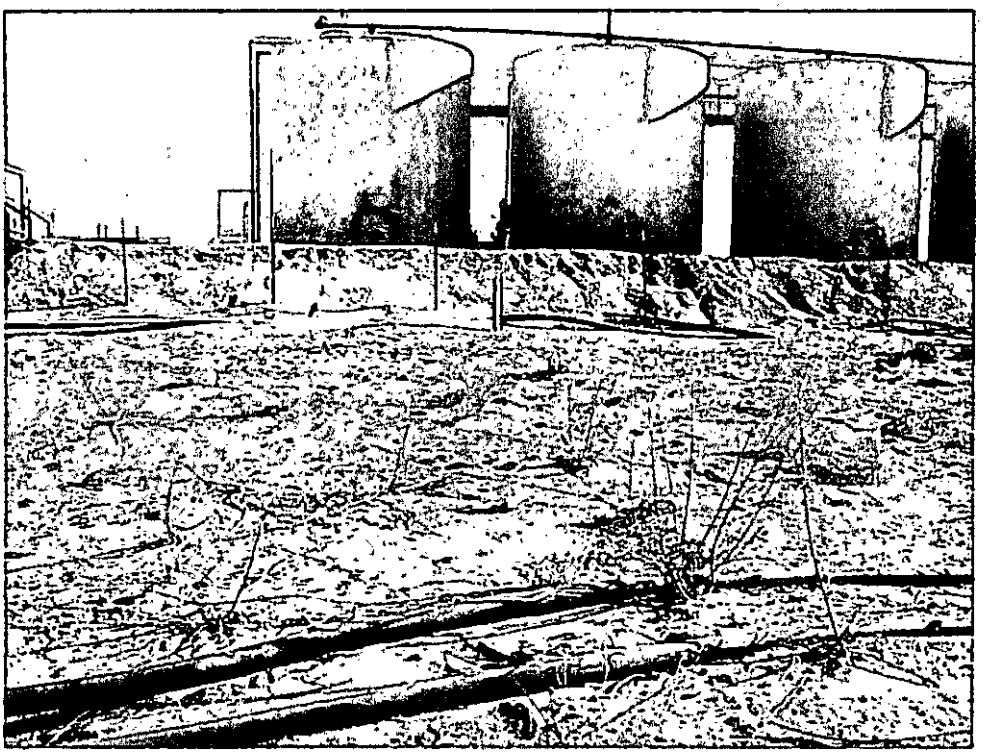
2. View of Sample Point #3

COG - MC Federal #3 Tank Battery

Lea County, NM



3. View of access issues south of Tank Battery



4. View of access issues south of Tank Battery

Water Well Data
Average Depth to Groundwater (ft)
COG - MC Federal #3 Tank Battery
Lea County, New Mexico

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 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 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

16 South 32 East

6	5	4	3 85	2 265	1 265
7	8	9	10	11	12 215
18	17	16 221	15	14	13 215
19 220	20	21 210	22	23 210	24
30	29	28	27	26 243	25
31	32	33	34	35	36 260

17 South 32 East

6	5	4 82	3 175	2 60	1 225
7	8	9	10	11 70 88	12 120
18	17	16	15	14	13
19	20	21 SITE	22	23	24
30 180	29	28	27	26	25
31	32	33	34	35	36

18 South 32 East

6	5	4 65	3	2	1
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 164	21	22 429	23	24
30	29	28	27	26	25
31	32	33	34 117	35	36

16 South 33 East

6	5 180	4 150	3 130	2 148	1 142
7	8 200	9	10 182	11	12 142
18	17 182	16 160	15 175	14 143	13 110
19	20	21	22	23 120	24
30 191	29	28 190	27 130	26 143	25 120
31 190	32 168	33	34 160	35	36

17 South 33 East

6 90	5	4	3 155	2 158	1 150
7 167	8 173	9 161	10	11	12
18 188	17 180	16	15	14	13 165
19	20 190	21	22	23 115	24
30	29	28	27	26	25
31	32	33	34	35 155	36

18 South 33 East

6	5	4	3	2	1
7	8 100	9	10 62	11	12 143 140
18	17 85	16	15	14 36	13 60
19 >140	20	21	22	23	24 195
30 35	29	28	27	26	25
31	32	33	34 177	35	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
- Tetra Tech Temporary well (TD 180' - Dry Well)

Summary Report

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

Report Date: August 27, 2010

Work Order: 10081832

Project Location: Lea County, NM
Project Name: COG/MC Fed #3 TB
Project Number: 114-6400647

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241718	AH-1 0-1'	soil	2010-08-17	00:00	2010-08-18
241719	AH-1 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241720	AH-2 0-1'	soil	2010-08-17	00:00	2010-08-18
241721	AH-2 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241722	AH-2 2-2.5'	soil	2010-08-17	00:00	2010-08-18
241723	AH-2 3-3.5'	soil	2010-08-17	00:00	2010-08-18
241724	AH-2 4-4.5'	soil	2010-08-17	00:00	2010-08-18
241725	AH-2 5-5.5'	soil	2010-08-17	00:00	2010-08-18
241726	AH-2 6-6.5'	soil	2010-08-17	00:00	2010-08-18
241727	AH-2 7-7.5'	soil	2010-08-17	00:00	2010-08-18
241728	AH-3 0-1'	soil	2010-08-17	00:00	2010-08-18
241729	AH-3 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241730	AH-3 2-2.5'	soil	2010-08-17	00:00	2010-08-18
241731	AH-3 3-3.5'	soil	2010-08-17	00:00	2010-08-18
241732	AH-3 4-4.5'	soil	2010-08-17	00:00	2010-08-18
241733	AH-3 5-5.5'	soil	2010-08-17	00:00	2010-08-18
241734	AH-3 6-6.5'	soil	2010-08-17	00:00	2010-08-18
241735	AH-3 6.5-7'	soil	2010-08-17	00:00	2010-08-18

	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)
241718 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241720 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241728 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 241718 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		1140	mg/Kg	4.00

Sample: 241719 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1390	mg/Kg	4.00

Sample: 241720 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		5040	mg/Kg	4.00

Sample: 241721 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		206	mg/Kg	4.00

Sample: 241722 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		228	mg/Kg	4.00

Sample: 241723 - AH-2 3-3.5'

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

Sample: 241724 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		201	mg/Kg	4.00

Sample: 241725 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		1260	mg/Kg	4.00

Sample: 241726 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**3520**	mg/Kg	4.00

Sample: 241727 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**10100**	mg/Kg	4.00

Sample: 241728 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3230**	mg/Kg	4.00

Sample: 241729 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**725**	mg/Kg	4.00

Sample: 241730 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**648**	mg/Kg	4.00

Sample: 241731 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**345**	mg/Kg	4.00

Sample: 241732 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**561**	mg/Kg	4.00

Sample: 241733 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**600**	mg/Kg	4.00

Sample: 241734 - AH-3 6-6.5'

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

Sample: 241735 - AH-3 6.5-7'

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

SITE INFORMATION

Report Type: Closure

General Site Information:		
Site:	MC Federal #3 Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit F - Sec 21 - T17S - R32E	
Lease Number:	029509-A	
County:	Lea County	
GPS:	32.82150° N	103.77258° W
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 529 and CR 126 travel north 1.8 miles on CR-126, turn left on Conoco Road 0.3 miles, right 0.3 miles, left 0.2 miles to location.	

Release Data:	
Date Released:	7/9/2010
Type Release:	Produced water
Source of Contamination:	Tank overflowed during shut in for water tie in
Fluid Released:	60 bbls
Fluids Recovered:	57 bbls

Official Communication:			
Name:	Pat Ellis		Kim Dorey
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) 631-0348
Fax:	(432) 684-7137		(432) 682-3946
Email:	pellis@conchoresources.com		kim.dorey@tetratech.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

OCT 07 2011

RECEIVED

TETRA TECH

September 8, 2011

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

Re: Work Plan for the COG Operating LLC., MC Federal #3 Tank Battery, Unit F, Section 21, Township 17 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 MC Federal #3 Tank Battery, Unit F, Section 21, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.82150°, W 103.77258°. 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 July 9, 2010, and released approximately sixty (60) barrels of produced water, due to a tank overflow. Fifty seven (57) barrels of standing fluids were recovered from the site. The spill was contained within the facility firewall and impacted an area approximately 20' x 60'. The initial C-141 form is enclosed in Appendix C.

Groundwater

The United States Geological Survey (USGS) Well Reports did not list any wells in Section 21. To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) in Section 30 to a depth of 125' bgs and did not encounter groundwater. According to the

Tetra Tech
1910 North Big Spring, Midland,TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

NMOCD groundwater map, the average depth to groundwater in this area is greater than 200' below surface. The average depth to groundwater is shown in Appendix A.

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 August 17, 2010, Tetra Tech personnel inspected and sampled the spill area. Due access or equipment issues, a total of three (3) auger holes (AH-1 through AH-3) were installed using a stainless steel hand auger to assess the impacted soils. AH-1 was installed in the west end of the tank battery. Auger holes (AH-2 and AH-3) were installed behind the facility south of the tank battery. 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 locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX at 0-1.0'. Elevated chloride concentrations were detected for all three auger holes. AH-3 declined with depth showing a chloride high of 3,230 at 0-1.0', which declined to <200 mg/kg at 6.0-6.5' below surface. AH-1 was not vertically defined and showed a chloride concentration of 1,390 mg/kg at 1.0-1.5' below surface. AH-2 showed a significant decline from 5,040 at 0-1' to <200 mg/kg at 3.0-3.5' below surface. However, the deeper samples did show an increasing chloride concentration with depth to 10,100 mg/kg at 7.0-7.5' below surface.

TETRA TECH

Remedial Work and Closure Request

Although the chloride impact was not vertically defined, the site limited access restricts collecting deeper samples with a drilling rig. The area south of the tank battery is elevated and numerous lines are present in the area. (See Attached Photos).

On February 16, 2011, Tetra Tech discussed the results and access issues with Geoffrey Leking with NMOCD. He agreed the area of AH-2 and AH-3 would require some soil removal for a liner or clay installation and the deeper impact would be deferred until abandonment. The excavation depth (maximum depth of 4.0') would depend on the site formation and safety of lines and tanks.

Tetra Tech personnel oversaw the excavation of the site from March 31 through April 1, 2011, based on the NMOCD approved work plan. The excavation measured approximately 40' x 3' wide with housekeeping areas near AH-3.

Approximately 28 yards^3 were removed and hauled to CRI Inc. for proper disposal. Photos of the excavation are attached. The excavation depths are highlighted in Table 1. Once excavated, the site was backfilled with clean material. A copy of the C-141 (Final) is included in Appendix A.

Based on the remedial activities performed at this site, COG request closure of this site. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff II Geologist

cc: Pat Ellis – COG
cc: Jim Amos – BLM

DeLORME

Topo USA® 8

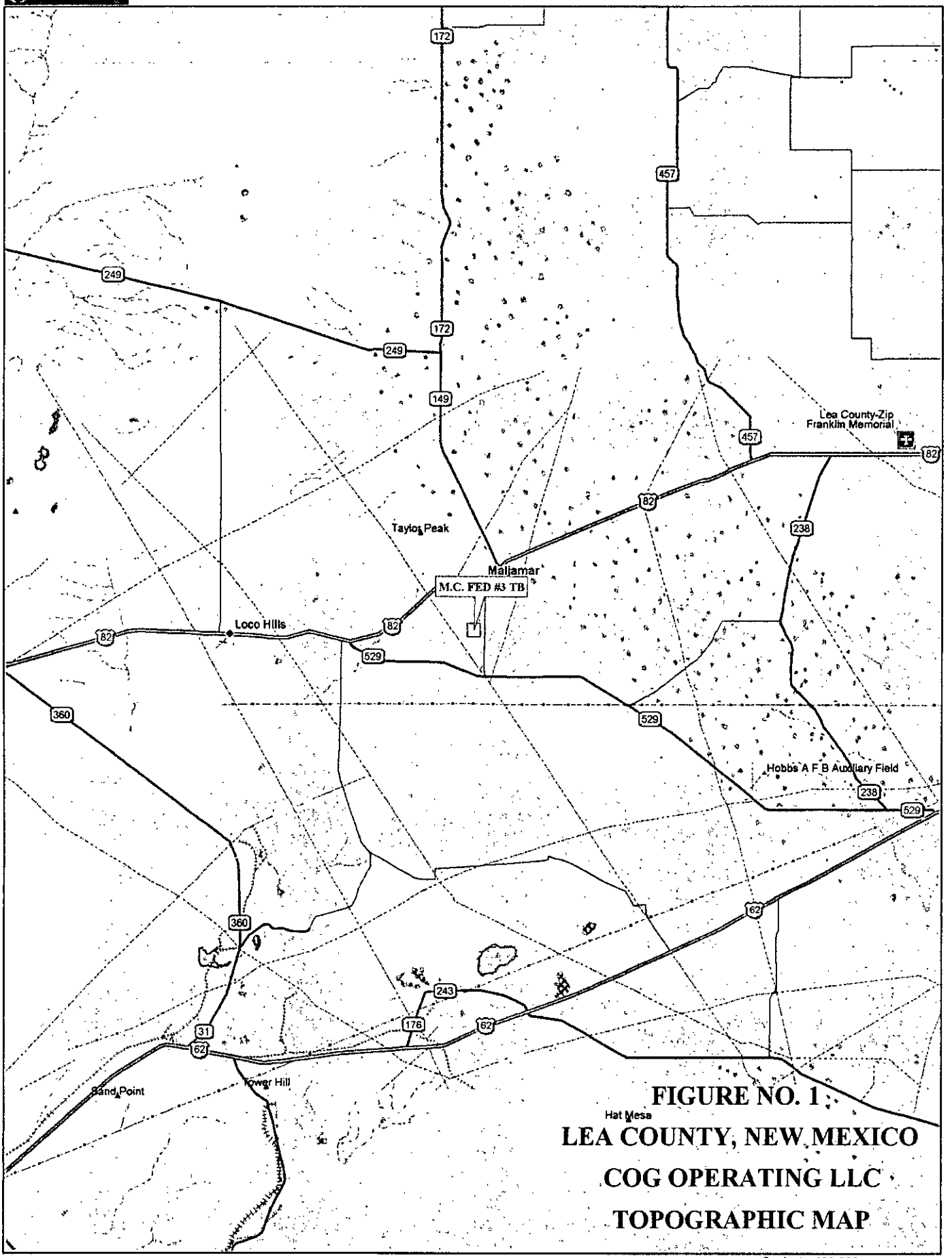


FIGURE NO. 1

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

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TN

MN (7.6°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

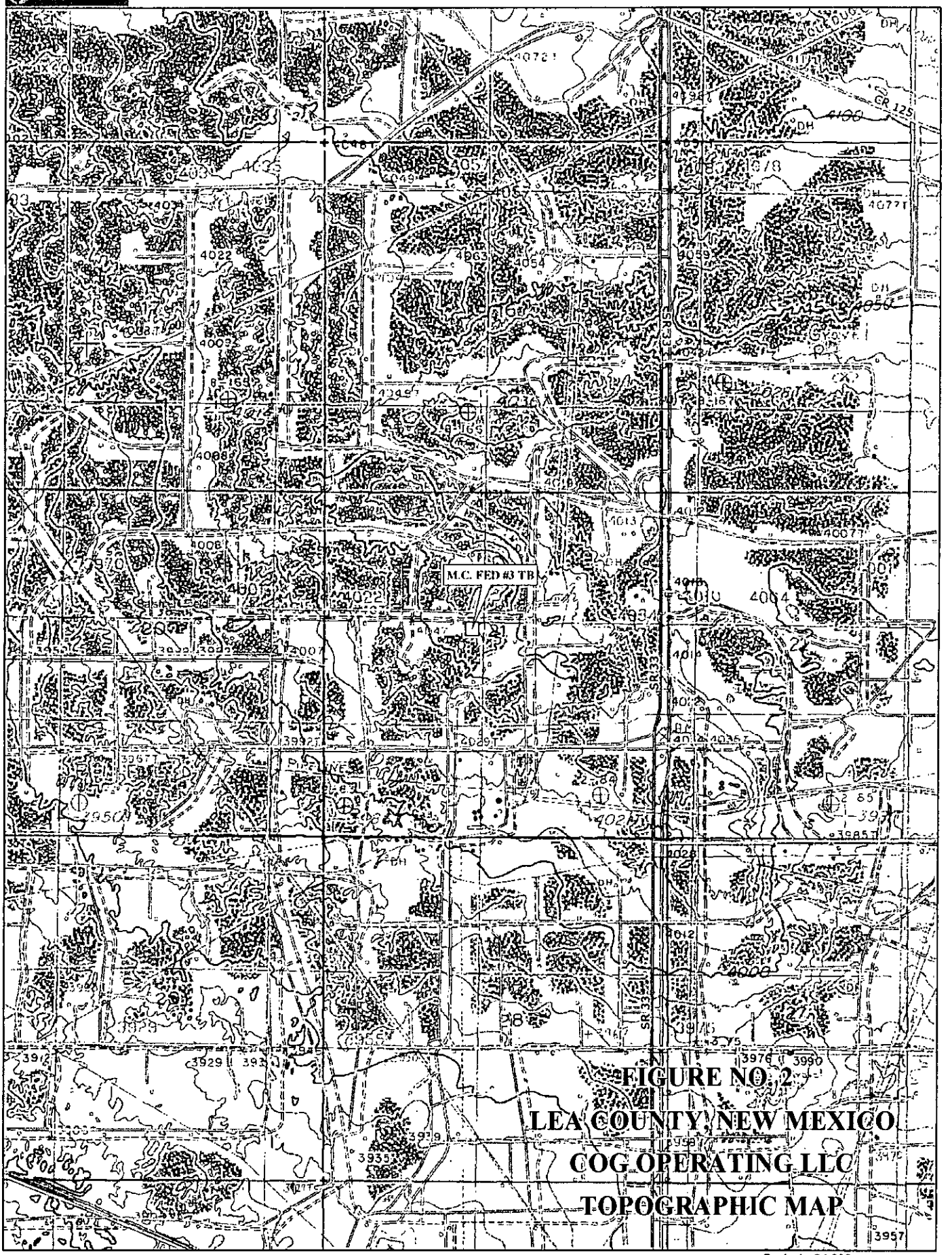

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

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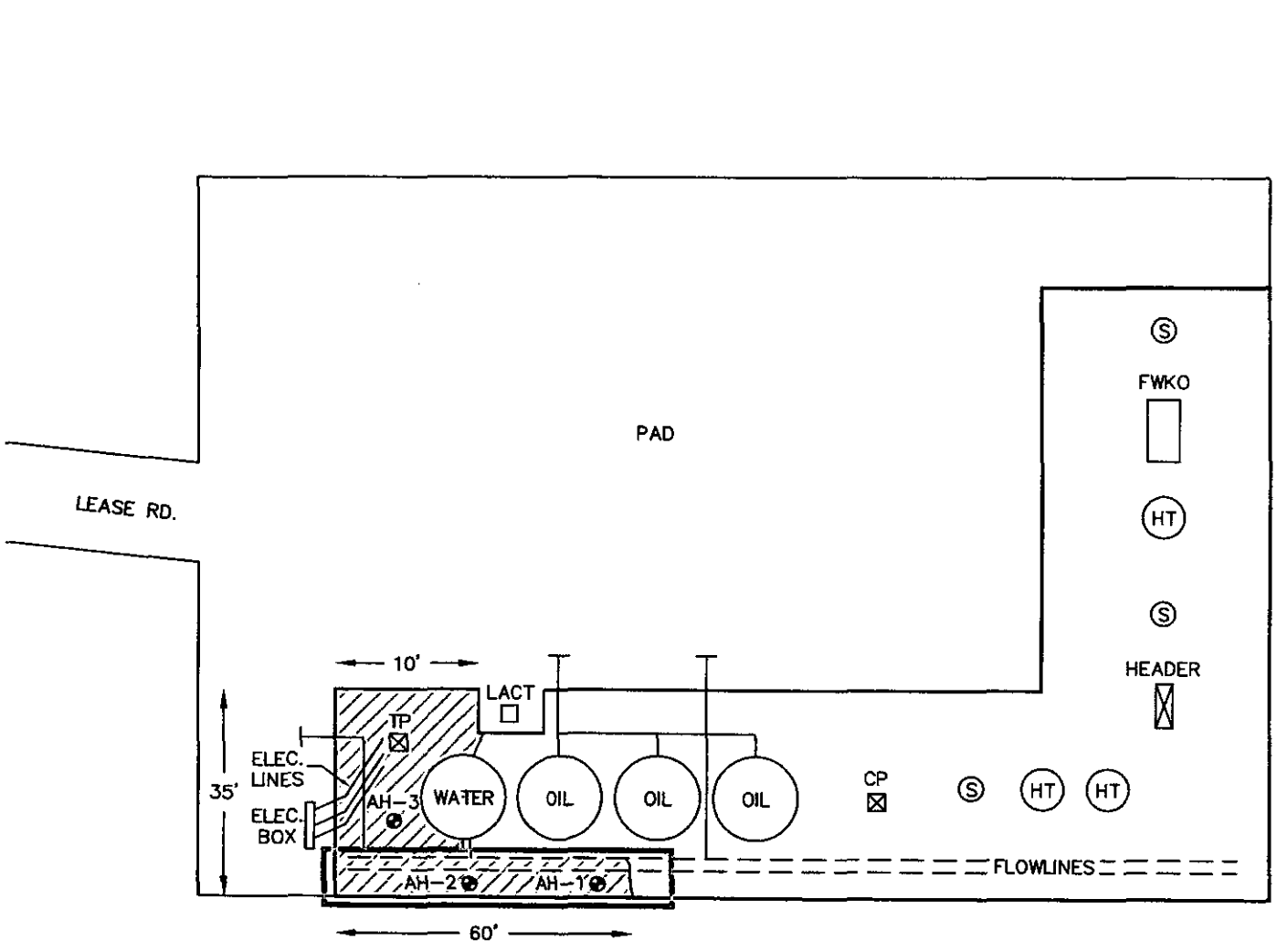
TN

MN (7.8°E)

Scale 1 : 24,000

1" = 2,000.0 ft Data Zoom 13-0



AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
COMPACTED CLAY BOTTOM

NOT TO SCALE

FIGURE NO. 3

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

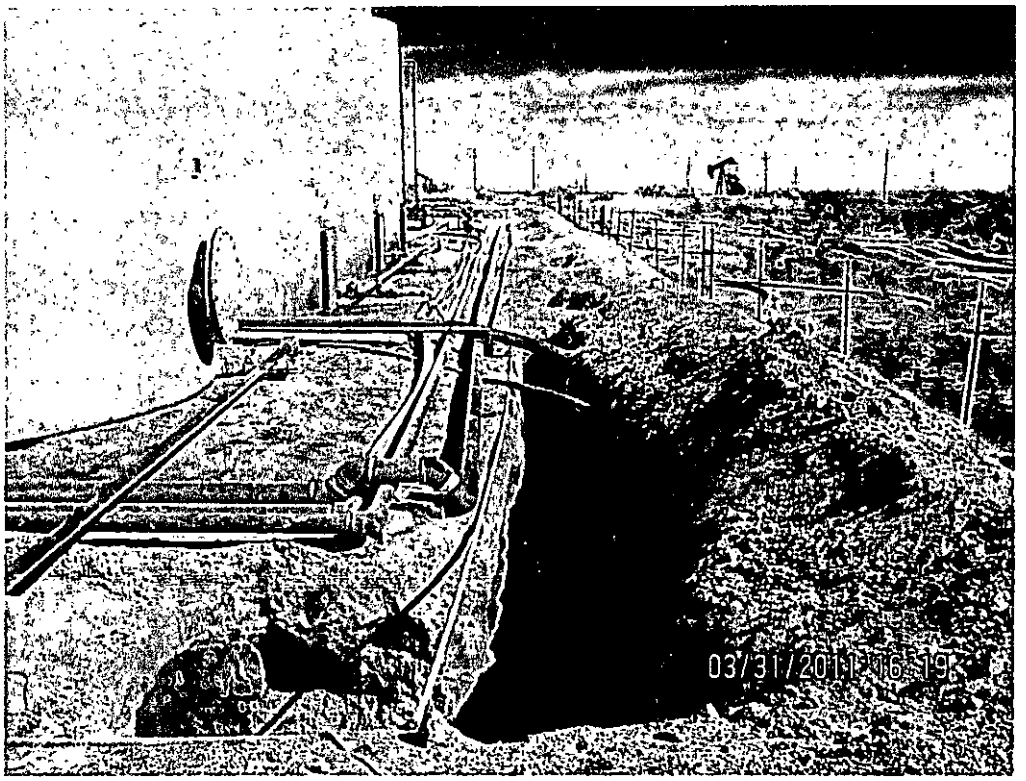
MC FED #3 TB

DATE: 9/8/2011
DWN. BY: IM
FILE: H:\COG\640047 MC FED #3 TB

TETRA TECH, INC.
MIDLAND, TEXAS

COG Operating LLC
MC Federal #3 Tank Battery
Lea County, New Mexico

TETRA TECH



View east – Excavated area near AH-1 and AH-2

Housekeeping near AH-3

Table 1
COG Operating LLC.
MC FEDERAL #3 TANK BATTERY
Lea 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	8/17/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	1,140
	"	1-1.5'		X		-	-	-	-	-	-	-	1,390
AH-2	8/17/2010	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	5,040
	"	1-1.5'			X	-	-	-	-	-	-	-	206
	"	2-2.5'			X	-	-	-	-	-	-	-	228
	"	3-3.5'			X	-	-	-	-	-	-	-	<200
	"	4-4.5'			X	-	-	-	-	-	-	-	201
	"	5-5.5'		X		-	-	-	-	-	-	-	1,260
	"	6-6.5'		X		-	-	-	-	-	-	-	3,520
	"	7-7.5'		X		-	-	-	-	-	-	-	10,100
AH-3	8/17/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	3,230
	"	1-1.5'		X		-	-	-	-	-	-	-	725
	"	2-2.5'		X		-	-	-	-	-	-	-	648
	"	3-3.5'		X		-	-	-	-	-	-	-	345
	"	4-4.5'		X		-	-	-	-	-	-	-	561
	"	5-5.5'		X		-	-	-	-	-	-	-	600
	"	6-6.5'		X		-	-	-	-	-	-	-	<200
	"	6.5-7'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom
(-) Not Analyzed
Excavation Depths
Compacted clay bottom

Water Well Data
Average Depth to Groundwater (ft)
COG - MC Federal #3 Tank Battery
Lea County, New Mexico

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 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 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

16 South 32 East

6	5	4	3 **65**	2 **265**	1 **265**
7	8	9	10	11	12 **215**
18	17	16 **221**	15	14	13 **215**
19 **220**	20	21 **210**	22	23 **210**	24
30	29	28	27	26 **243**	25
31	32	33	34	35	36 **260**

17 South 32 East

6	5	4 **82**	3 **175**	2 **60**	1 **225**
7	8	9	10	11 **70 88**	12 **120**
18	17	16	15	14	13
19	20	21 SITE	22	23	24
30 **180**	29	28	27	26	25
31	32	33	34	35	36

18 South 32 East

6	5	4 **65**	3	2	1
7 **460** **82**	8	9	10	11	12
18	17	16 **84**	15	14	13
19	20 **164**	21	22 **429**	23	24
30	29	28	27	26	25
31	32	33	34 **117**	35	36

16 South 33 East

6	5 **180**	4 **150**	3 **130**	2 **148**	1 **142**
7	8 **200**	9	10 **182**	11	12 **142**
18	17 **182**	16 **180**	15 **175**	14 **143**	13 **110**
19	20	21	22	23 **120**	24
30 **191**	29	28 **190**	27 **130**	26 **143**	25 **120**
31 **190**	32 **168**	33	34 **160**	35	36

17 South 33 East

6 **90**	5	4	3 **155**	2 **158**	1 **150**
7 **167**	8 **173**	9 **161**	10	11	12
18 **188**	17 **180**	16	15	14	13 **165**
19	20 **190**	21	22	23 **115**	24
30	29	28	27	26	25
31	32	33	34	35 **155**	36

18 South 33 East

6	5	4	3	2	1
7	8 **100**	9	10 **62**	11	12 **143** **140**
18	17 **85**	16	15	14 **36**	13 **60**
19 **>140**	20	21	22	23	24 **195**
30 **35**	29	28	27	26	25
31	32	33	34 **177**	35	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
- Tetra Tech Temporary well (TD 180' - Dry Well)

Summary Report

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

Report Date: August 27, 2010

Work Order: 10081832

Project Location: Lea County, NM
Project Name: COG/MC Fed #3 TB
Project Number: 114-6400647

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241718	AH-1 0-1'	soil	2010-08-17	00:00	2010-08-18
241719	AH-1 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241720	AH-2 0-1'	soil	2010-08-17	00:00	2010-08-18
241721	AH-2 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241722	AH-2 2-2.5'	soil	2010-08-17	00:00	2010-08-18
241723	AH-2 3-3.5'	soil	2010-08-17	00:00	2010-08-18
241724	AH-2 4-4.5'	soil	2010-08-17	00:00	2010-08-18
241725	AH-2 5-5.5'	soil	2010-08-17	00:00	2010-08-18
241726	AH-2 6-6.5'	soil	2010-08-17	00:00	2010-08-18
241727	AH-2 7-7.5'	soil	2010-08-17	00:00	2010-08-18
241728	AH-3 0-1'	soil	2010-08-17	00:00	2010-08-18
241729	AH-3 1-1.5'	soil	2010-08-17	00:00	2010-08-18
241730	AH-3 2-2.5'	soil	2010-08-17	00:00	2010-08-18
241731	AH-3 3-3.5'	soil	2010-08-17	00:00	2010-08-18
241732	AH-3 4-4.5'	soil	2010-08-17	00:00	2010-08-18
241733	AH-3 5-5.5'	soil	2010-08-17	00:00	2010-08-18
241734	AH-3 6-6.5'	soil	2010-08-17	00:00	2010-08-18
241735	AH-3 6.5-7'	soil	2010-08-17	00:00	2010-08-18

	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)
241718 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241720 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241728 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 241718 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**1140**	mg/Kg	4.00

Sample: 241719 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1390**	mg/Kg	4.00

Sample: 241720 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**5040**	mg/Kg	4.00

Sample: 241721 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**206**	mg/Kg	4.00

Sample: 241722 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**228**	mg/Kg	4.00

Sample: 241723 - AH-2 3-3.5'

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

Sample: 241724 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**201**	mg/Kg	4.00

Sample: 241725 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**1260**	mg/Kg	4.00

Sample: 241726 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**3520**	mg/Kg	4.00

Sample: 241727 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**10100**	mg/Kg	4.00

Sample: 241728 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3230**	mg/Kg	4.00

Sample: 241729 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**725**	mg/Kg	4.00

Sample: 241730 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**648**	mg/Kg	4.00

Sample: 241731 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**345**	mg/Kg	4.00

Sample: 241732 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**561**	mg/Kg	4.00

Sample: 241733 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**600**	mg/Kg	4.00

Sample: 241734 - AH-3 6-6.5'

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

Sample: 241735 - AH-3 6.5-7'

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