

SITE INFORMATION

Report Type: Work Plan

General Site Information			
Site:	Moose Federal 23		
Company:	COG Operating LLC		
Section, Township and Range	Unit L	Sec 23	T16S R28E
Lease Number:	API-30-015-25332		
County:	Eddy County		
GPS:	32.905833° N		104.152166° W
Surface Owner:	Federal		
Mineral Owner:			
Directions:	From the intersection of Hwy 82 and Co Rd 217 travel west on Hwy 82 for 9.3 miles, turn right and travel 2.5 miles, turn left and travel 2.3 miles, turn left and travel 2.3 miles, turn right and travel 0.9 miles, turn left and travel 2.7 miles to site.		

Release Data:		1st Spill	2nd Spill
Date Released:	02/21/2011	02/26/2011	
Type Release:	Oil	Oil	
Source of Contamination:	Swedge in Tank Battery	Stock Tank	
Fluid Released:	65 bbls	40 bbls	
Fluids Recovered:	63 bbls	35 bbls	

Official Communication:			
Name:	Pat Ellis		Ike Tavaréz
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 425-3878
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavaréz@tetrattech.com

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

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

RECEIVED
 OCT 17 2011
 NMOCD ARTESIA



TETRA TECH

September 16, 2011

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

Re: Work Plan for the COG Operating LLC., Moose Federal 23 Tank Battery, Unit L, Section 23, Township 16 South, Range 28 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 Moose Federal 23 Tank Battery located in Unit L, Section 23, Township 16 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.905833°, W 104.152166°. The site location is shown on Figures 1 and 2.

Background (Spill #1 and #2)

According to the State of New Mexico C-141 Initial Reports, COG had two reportable leaks at the facility. On February 21, 2011, a spill occurred when a swedge failed on a circulating line, releasing approximately sixty five (65) barrels of oil, which was contained inside the facility firewalls. Sixty three (63) barrels of standing fluids were recovered. The spill area measured approximately 10' x 100'.

On February 26, 2011, the second spill was discovered when a hole developed on an oil tank and released approximately forty (40) barrels. Thirty-five (35) barrels of fluid were recovered. The release was contained inside the facility firewall and measured approximately 20' x 50'. The initial C-141 forms are enclosed in Appendix A.

Tetra Tech

1910 North Big Spring, Midland TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com

Groundwater

No water wells were listed within Section 23. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. A well located in Section 24, T16S, R23E showed a depth to groundwater of 24', with an elevation of approximately 3,570'. In addition, a well located in Section 2, T17S, R28E showed a depth to water of 34' with a surface elevation of 3,574'. The Moose Federal 23 Tank Battery is located on top of the Pavo Mesa, with a surface elevation of 3750', approximately 175' high in elevation. Based on the site relative elevations, the groundwater depth at the Moose Federal Tank Battery should be greater than 100' below surface. The well report data and topographic maps are included in Appendix B.

Regulatory

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

Soil Assessment and Analytical Results

On March 24, 2010, Tetra Tech personnel inspected and sampled the spill area. Nine (9) auger holes (AH-1 and AH-9) 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 spill area and auger hole locations are shown on Figure 3.

Referring to Table 1, the areas of auger holes (AH-6 and AH-7) did not show TPH and BTEX concentrations above the RRAL. However, AH-1, AH-3, AH-5 and AH-8 samples were above the RRAL for TPH at 0-1' and only



the area of AH-3 was vertically defined at 2.5' below surface. In addition, either the total BTEX or benzene concentrations exceeded the RRAL at 0-1' in the areas of AH-1, AH-2, AH-3, AH-4, AH-5, AH-8 and AH-9. Auger holes (AH-2, AH-3 and AH-4) were vertically defined at 1.0', 2.0' and 1.0', respectively.

Elevated chloride concentrations were detected at 0-1' in the areas of AH-5 and AH-8 with concentrations of 1,570 mg/kg and 2,270 mg/kg, respectively. Due to the dense caliche formation, these areas were not defined using a hand auger.

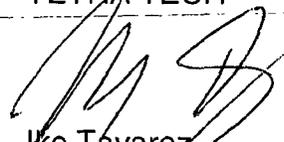
Work Plan

In order to remediate the site, COG proposes to remove impacted soil above the RRAL as highlighted (green) in Table 1. The proposed excavation depths are estimated at 1.0' to 2.0' below surface. In the TPH and BTEX impacted areas not vertically defined, confirmation samples will be collected from the excavation bottoms for evaluation. In the areas of AH-5 and AH-8, backhoe trenches will be installed to better define the chloride impact in these areas. Once excavated to the appropriate depths, the excavations will backfilled with clean soil.

Based on the spill location, the excavations around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable or defer the impacted soil until abandonment.

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.

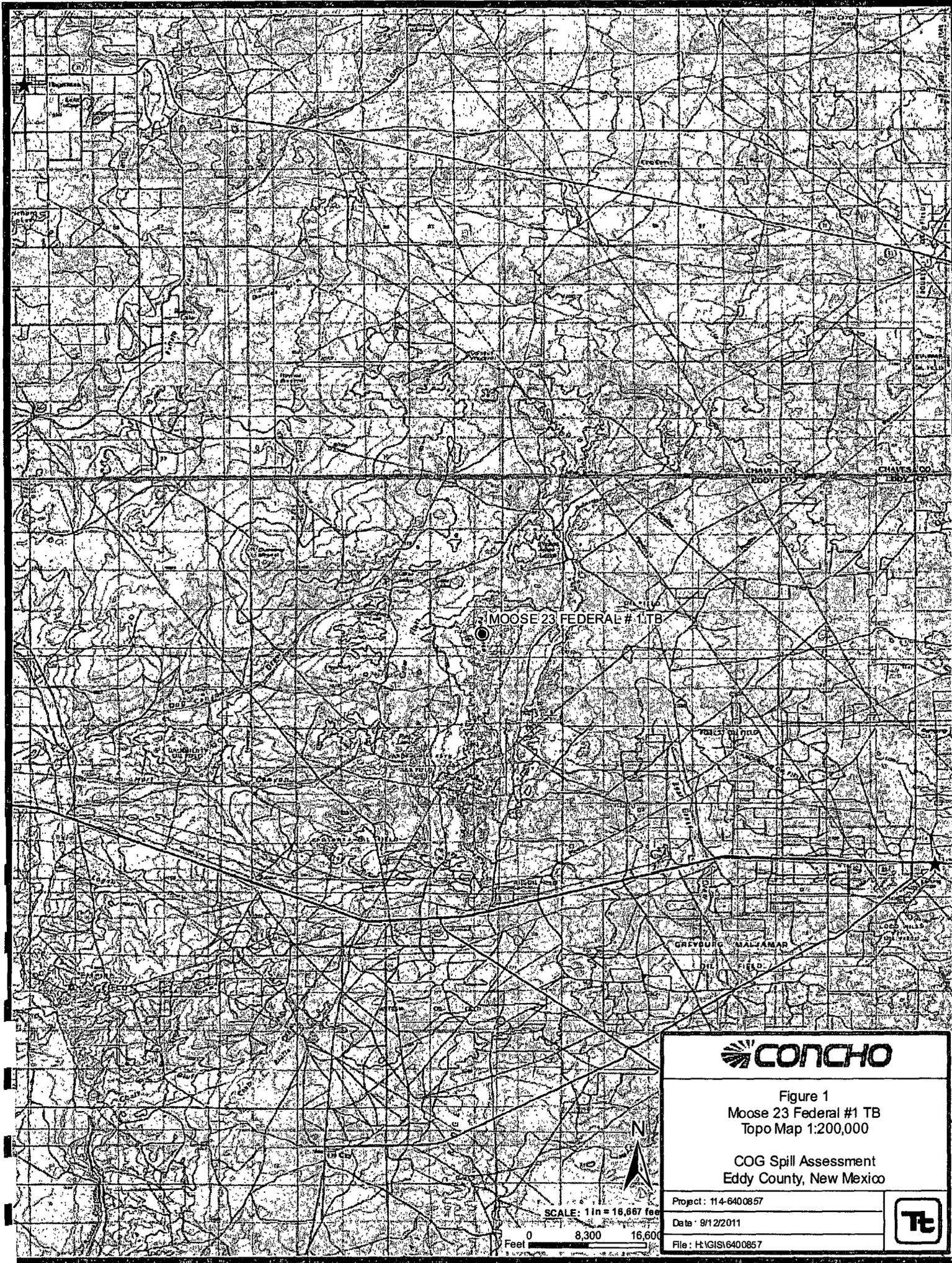
Respectfully submitted,
TETRA TECH



Ike Tavaréz
Project Manager

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

Figures



MOOSE 23 FEDERAL #1 TB



Figure 1
Moose 23 Federal #1 TB
Topo Map 1:200,000

COG Spill Assessment
Eddy County, New Mexico

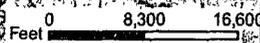
Project: 114-6400857

Date: 9/12/2011

File: H:\GIS\6400857



SCALE: 1 in = 16,667 feet



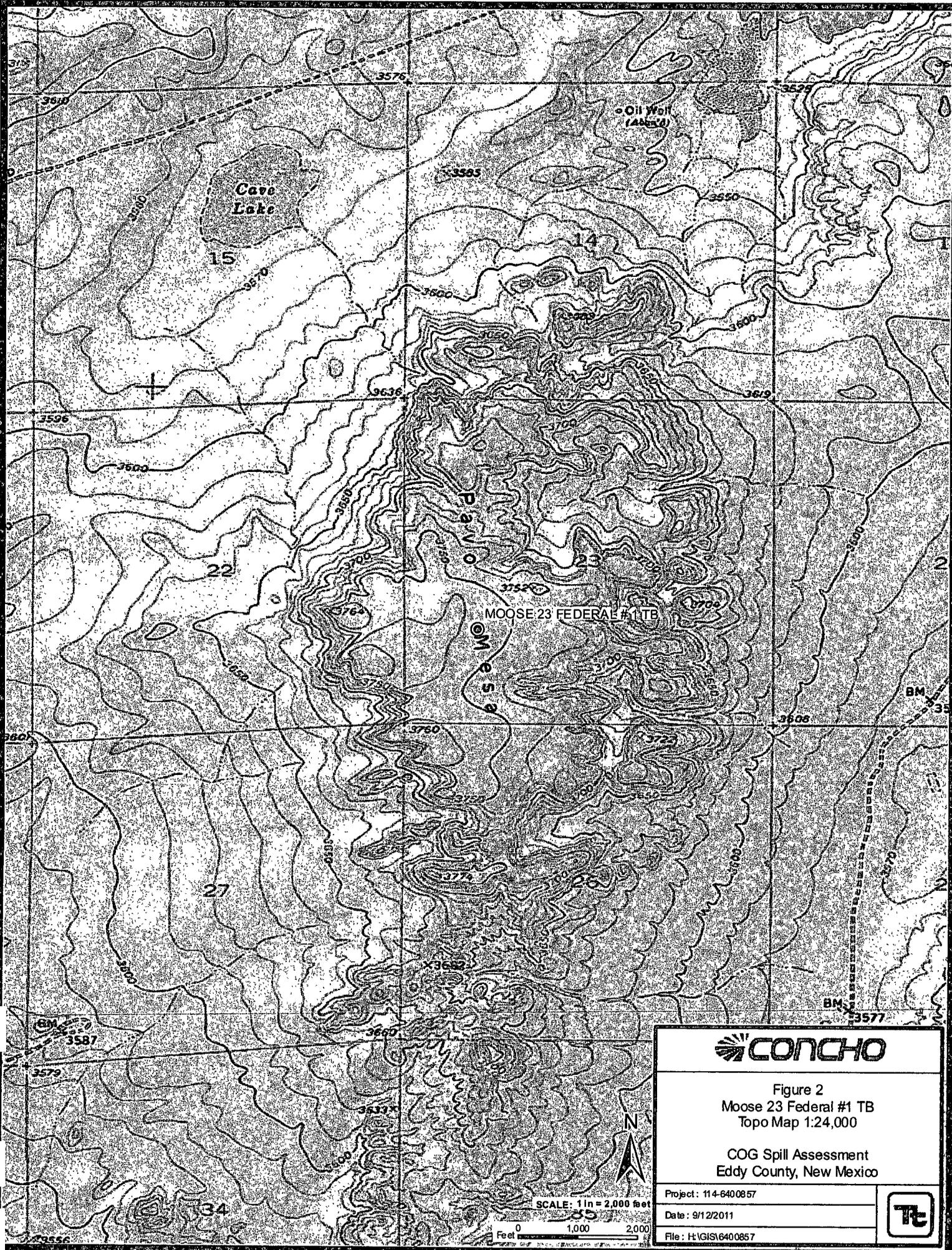


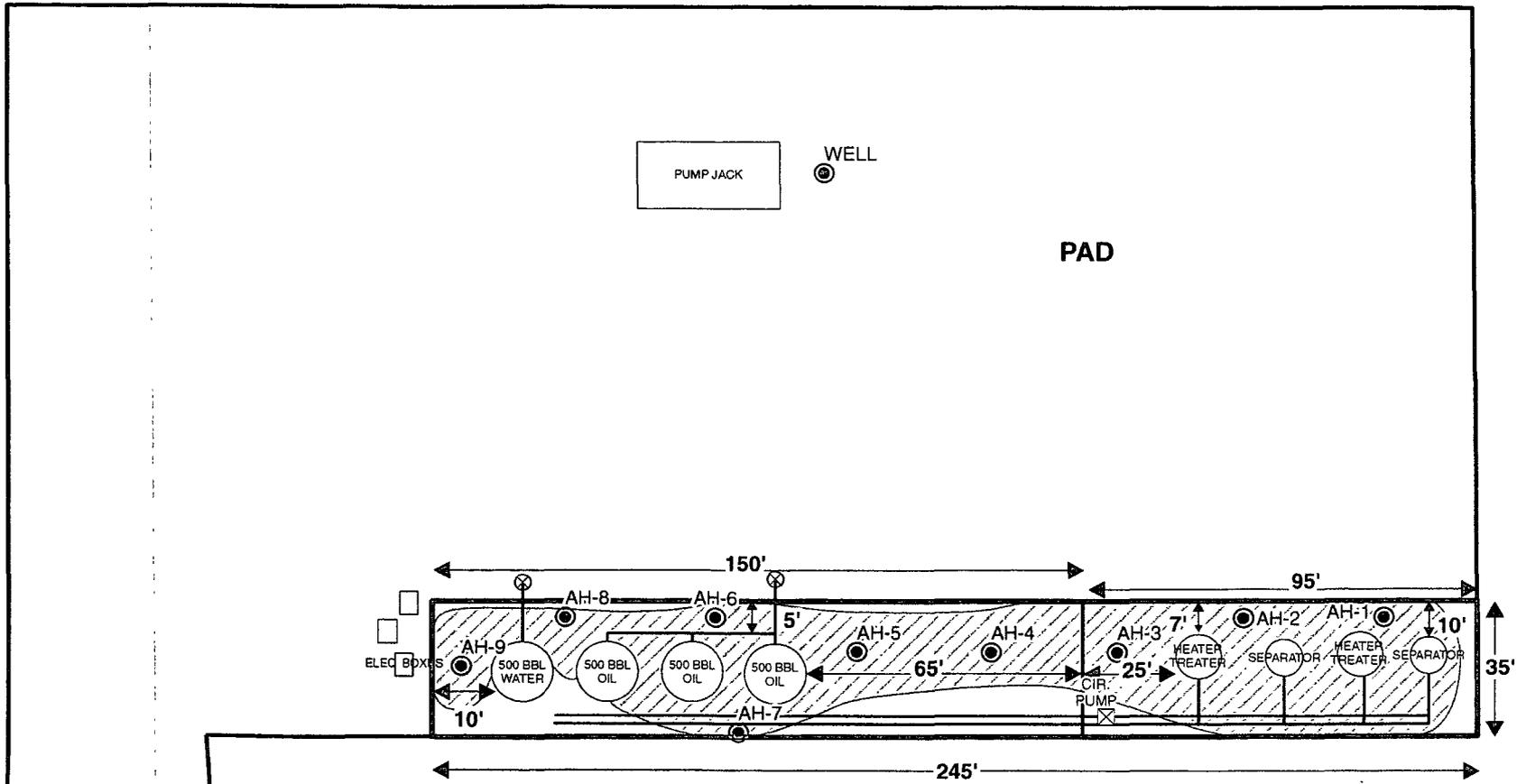
Figure 2
Moose 23 Federal #1 TB
Topo Map 1:24,000

COG Spill Assessment
Eddy County, New Mexico

Project: 114-6400857
Date: 9/12/2011
File: H:\GIS\6400857



Drawn By: Isabel Marmolejo



EXPLANATION	
●	AUGER HOLE SAMPLE LOCATIONS
⊗	CIR PUMP
⊙	WELL
▨	SPILL AREA

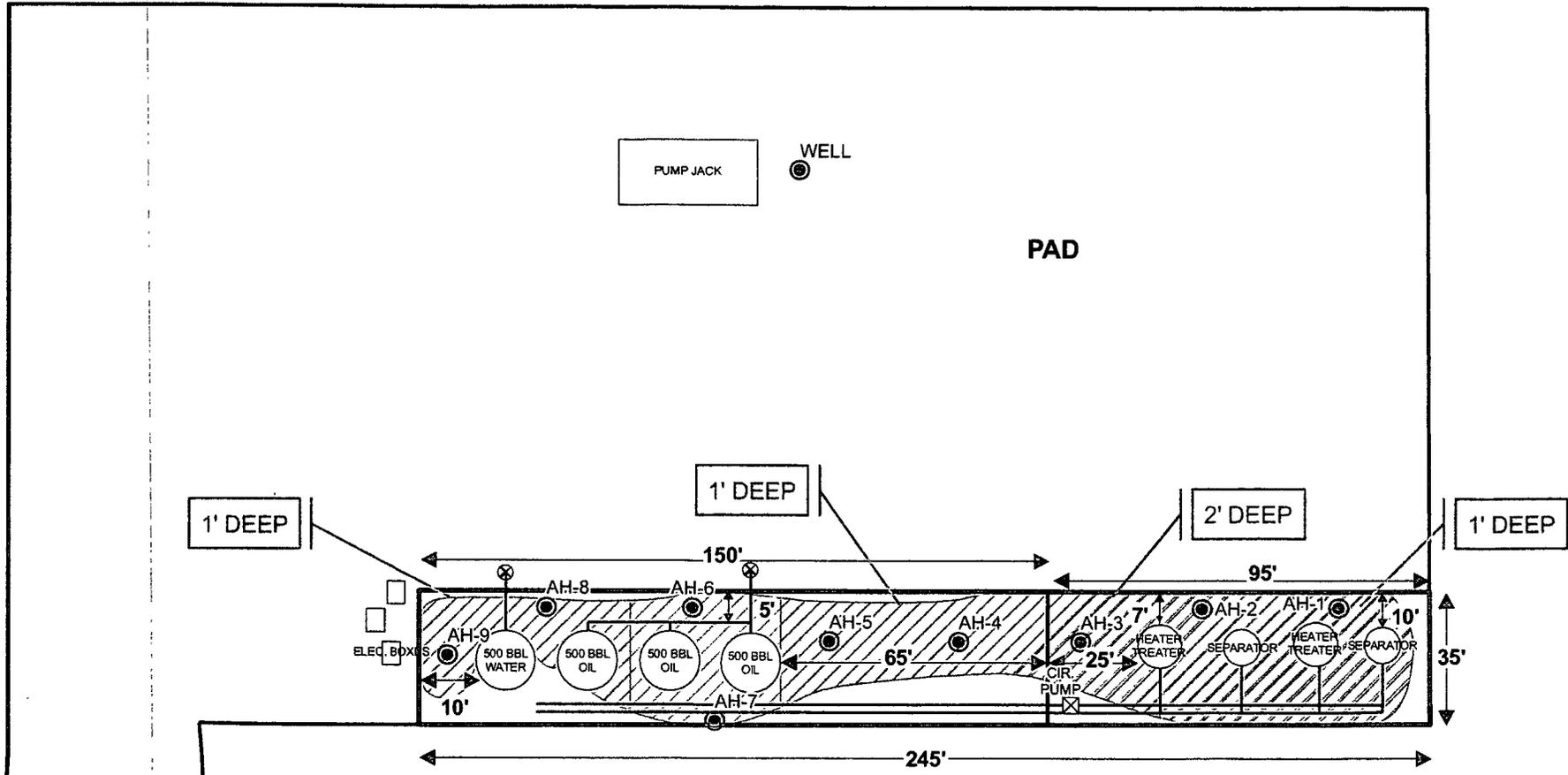
PASTURE



SCALE: 1 IN = 50 FEET



Figure 3	
Moose 23 Federal #1 TB Spill Assessment Map	
COG Spill Assessment Eddy County, New Mexico	
Project: 114-6400857	
Date: 09/12/2011	
File: H:\GIS\6400857	



EXPLANATION	
⊙	AUGER HOLE SAMPLE LOCATIONS
⊠	CIR. PUMP
●	WELL
▨	PROPOSED EXCAVATION AREA



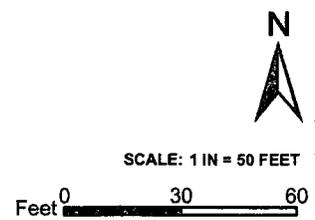
Figure 4

Moose 23 Federal #1 TB

Proposed Excavation Depths

Eddy County, New Mexico

Project : 114-6400857	
Date : 09/12/2011	
File : H:\GIS\6400857	



Tables

Table 1
COG Operating LLC.
MOOSE FEDERAL #23 TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	3/24/2011	0-1'	0.5'	X		3,190	1,990	5,180	15.6	148	97.2	165	425.8	<200
AH-2	3/24/2011	0-1'	0.5'	X		632	929	1,561	0.209	7.40	15.0	28.3	50.9	<200
	"	1-1.5'	0.5'	X		64.9	78.8	143.7	<0.0200	0.147	0.244	0.645	1.04	<200
AH-3	3/24/2011	0-1'		X		4,870	11,700	16,570	21.3	165	130	212	528.3	324
	"	1-1.5'		X		5,020	8,780	13,800	27.7	160	113	183	483.7	<200
	"	2-2.5'		X		7.26	<50.0	7.26	<0.02	0.171	0.157	0.426	0.75	<200
AH-4	3/24/2011	0-1'		X		688	3710	4398	1.37	20.5	19.4	33.8	75.1	<200
	"	1-1.5'		X		28.1	<50.0	28.1	<0.0200	0.177	0.277	0.749	1.2	<200
	"	2-2.5'		X		10.3	<50.0	10.3	-	-	-	-	-	<200
AH-5	3/24/2011	0-1'		X		3,360	7,300	10,660	13.0	83.5	73	124	293.5	1,570

Table 1
COG Operating LLC.
MOOSE FEDERAL #23 TANK BATTERY
Eddy County, New Mexico

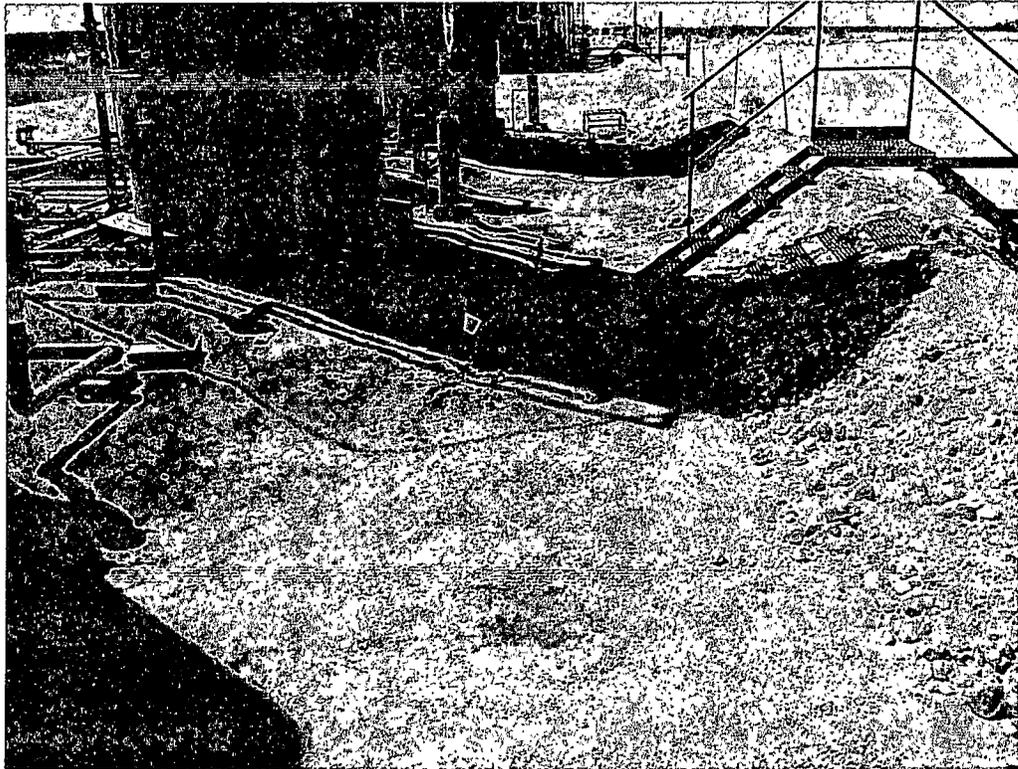
Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-6	3/24/2011	0-1'		X		127	293	420	-	-	-	-	-	385
AH-7	3/24/2011	0-1'		X		156	2,770	2,926	0.223	0.162	0.154	1.83	2.4	547
AH-8	3/24/2011	0-1'		X		1,280	4,090	5,370	4.25	12.8	5.85	32.9	55.8	2,270
AH-9	3/24/2011	0-1'	1'	X		1,420	2,290	3,710	22.2	111	58.0	96.7	287.9	781

BEB Below Excavation Bottom

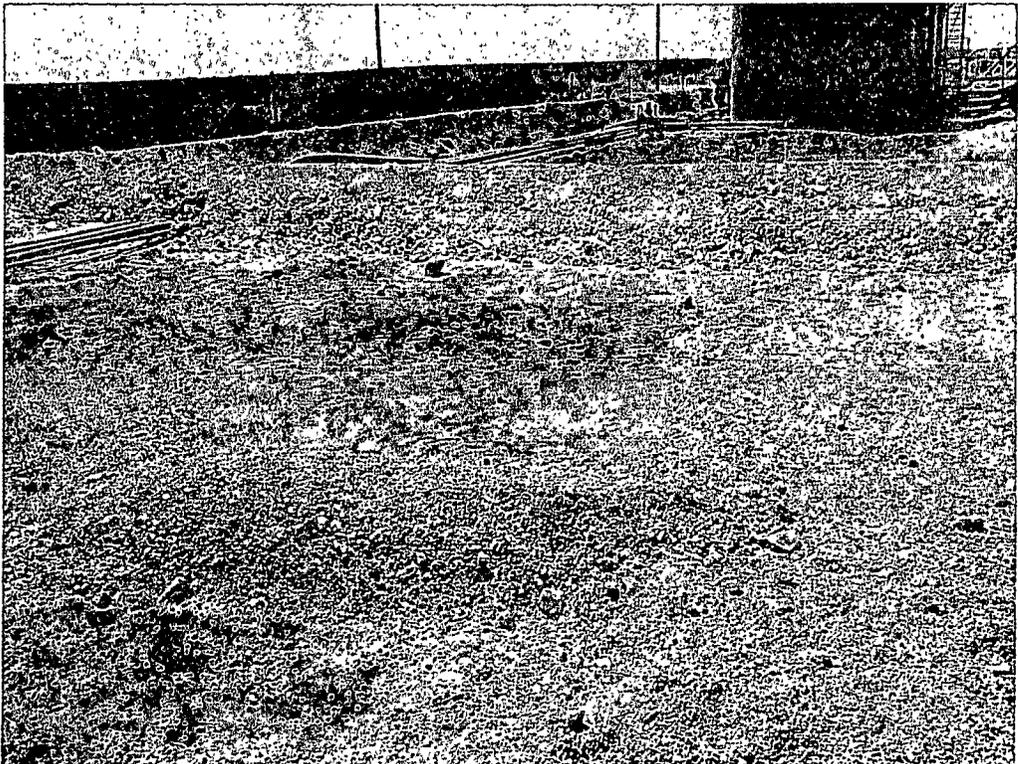
(--) Not Analyzed

 Proposed Excavation Depths

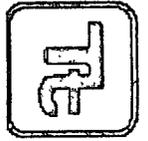
Photos



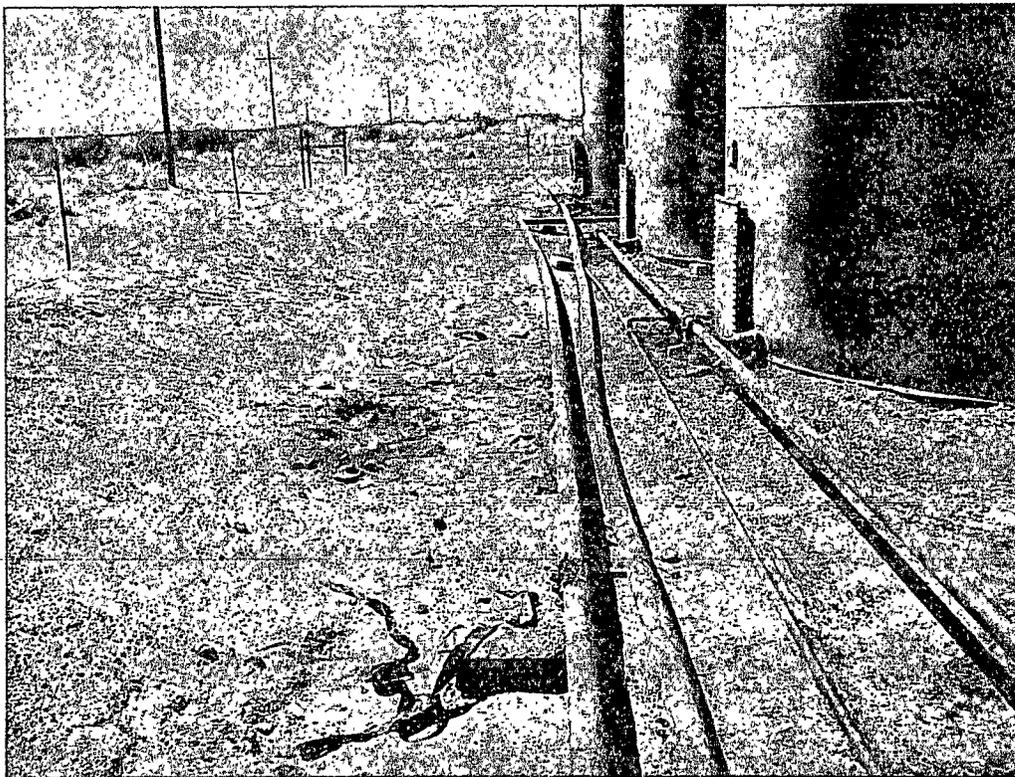
View West – AH-1, 2



View West – AH-3, 4, 5



View West – AH-6, 8

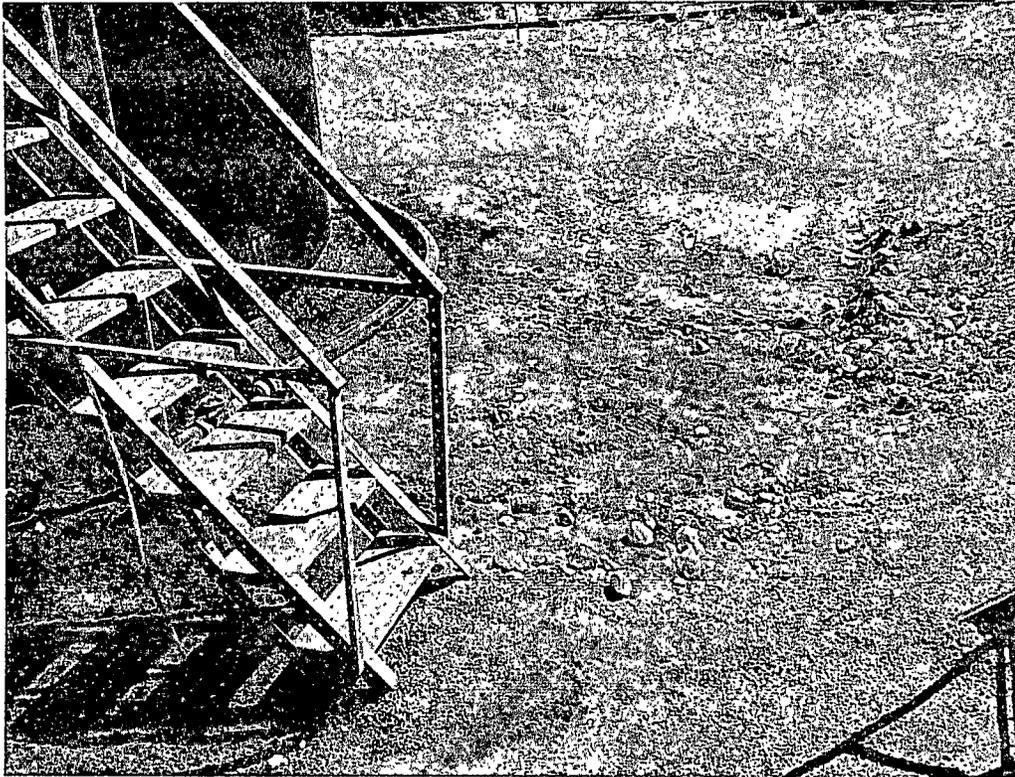


View West – AH-7

COG Operating LLC
Moose Federal 23
Eddy County, New Mexico



TETRA TECH



View South – AH-9

Site info and picture details

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	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Moose Federal 23	Facility Type	Tank Battery
Surface Owner	Federal	Mineral Owner	
		Lease No. (API#) 30-015-25332	

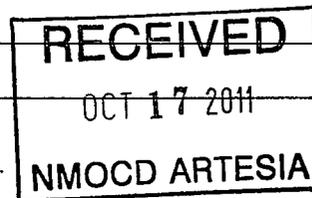
LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	16S	28E					Eddy

Latitude 32 54.350 Longitude 104 09.130

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	65bbbls	Volume Recovered	63bbbls
Source of Release	Swedge inside tank battery	Date and Hour of Occurrence	02/21/2011	Date and Hour of Discovery	02/21/2011 4:30 p.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher—OCD		
By Whom?	Josh Russo	Date and Hour	02/22/2011 3:43 p.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.*
Swedge failed on circulating line coming off of production tank. The swedge has been replaced with a new one.

Describe Area Affected and Cleanup Action Taken.*
Initially 65bbbls of oil was released and completely contained inside the walls of the facility. We were able to recover 63bbbls with a vacuum truck and all standing fluid has been recovered. The contaminated soil has been removed from the facility and the spill area measured 10' x 100'. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD / BLM for approval prior to any significant remediation work.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		OIL CONSERVATION DIVISION	
Printed Name:	Josh Russo	Approved by District Supervisor:	
Title:	HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address:	jrusso@conchoresources.com	Conditions of Approval:	
Date:	03/02/2011	Phone:	432-212-2399
		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Moose Federal 23	Facility Type	Tank Battery

Surface Owner	Federal	Mineral Owner		Lease No. (API#)	30-015-25332
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L	23	16S	28E					Eddy

Latitude 32 54.350 Longitude 104 09.130

NATURE OF RELEASE

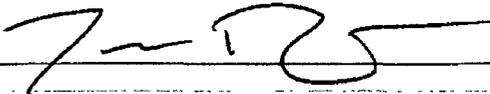
Type of Release	Oil	Volume of Release	40bbls	Volume Recovered	35bbls
Source of Release	Stock tank	Date and Hour of Occurrence	02/26/2011	Date and Hour of Discovery	02/26/2011 8:30 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher—OCD		
By Whom?	Josh Russo	Date and Hour	02/28/2011 9:38 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.*
A hole developed in a stock tank at the tank battery. The tank has been removed from service.

Describe Area Affected and Cleanup Action Taken.*
Initially 40bbls of oil was released from the stock tank and we were able to recover 35bbls with a vacuum truck. The entire release was contained inside the berm walls of the facility and measured an area of 20' x 50' around the tanks and toward the heaters. The contaminated soil has been removed and all free fluids have been picked up. 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 <input type="checkbox"/>
Date: 03/02/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Moose Federal 23
Eddy County, New Mexico

26 East			15 South						27 East						15 South						28 East						
3	2	1	6	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1	
10	11	12	18	7	8	9	10	11	12	7	8	9	10	11	12	35	43	16	15	14	13	7	8	9	10	11	12
15	14	13	18	17	16	15	14	13	18	17	16	15	14	13	19	20	21	22	23	24	18	17	16	15	14	13	
22	23	24	19	20	21	22	23	24	19	20	21	22	23	24	30	29	28	27	26	25	19	20	21	22	23	24	
27	26	25	30	29	28	27	26	25	30	29	28	27	26	25	31	32	33	34	35	36	30	29	28	27	26	25	
34	35	36	31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36	
			62						85																		

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

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

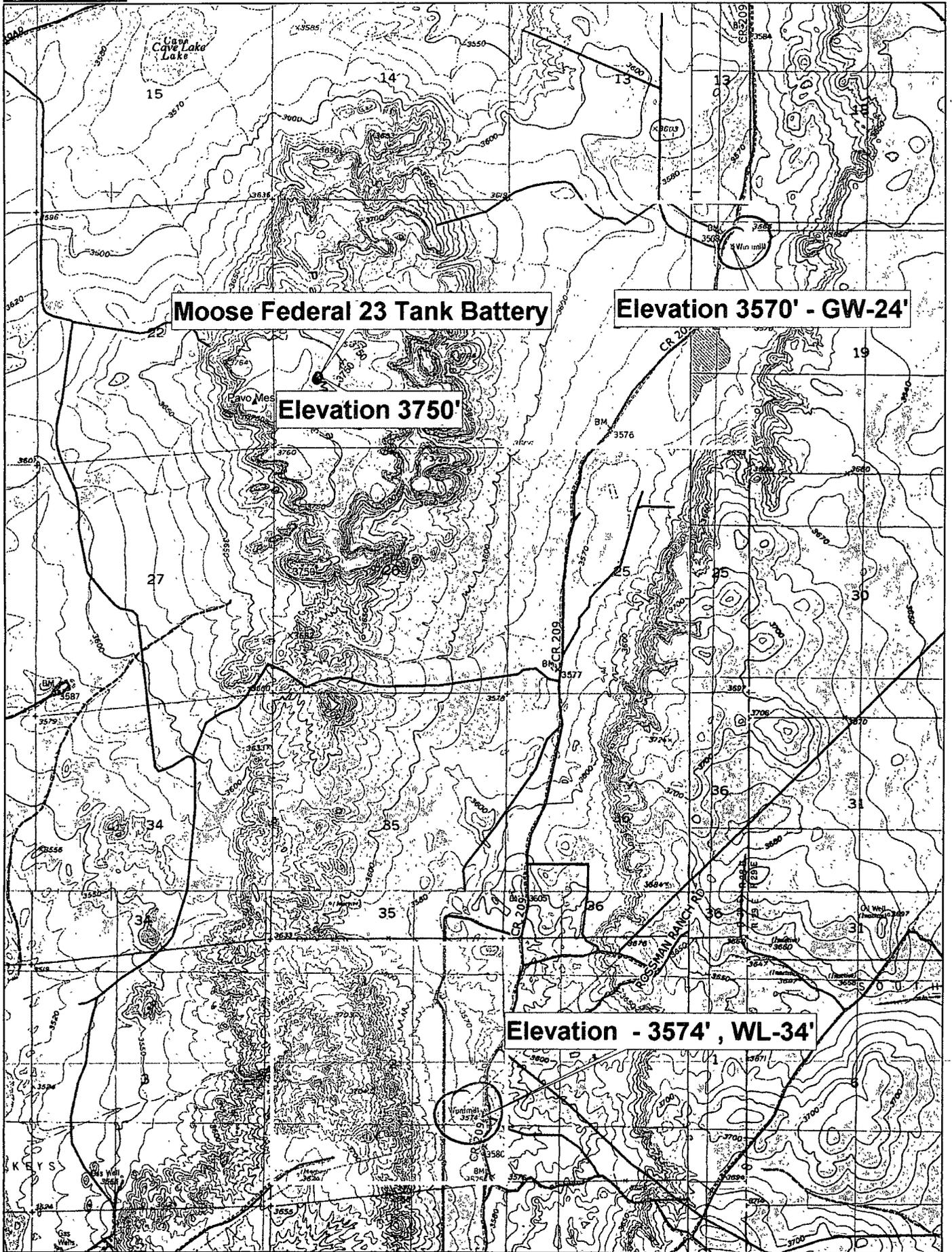
16 South					29 East				
6	5	4	3	2	6	5	4	3	2
7	8	9	10	11	7	8	9	10	11
18	17	16	15	14	18	17	16	15	14
19	20	21	22	23	19	20	21	22	23
30	29	28	27	26	30	29	28	27	26
31	32	33	34	35	31	32	33	34	35

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

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

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

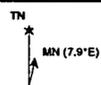
- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD Map - Groundwater Data



Data use subject to license.

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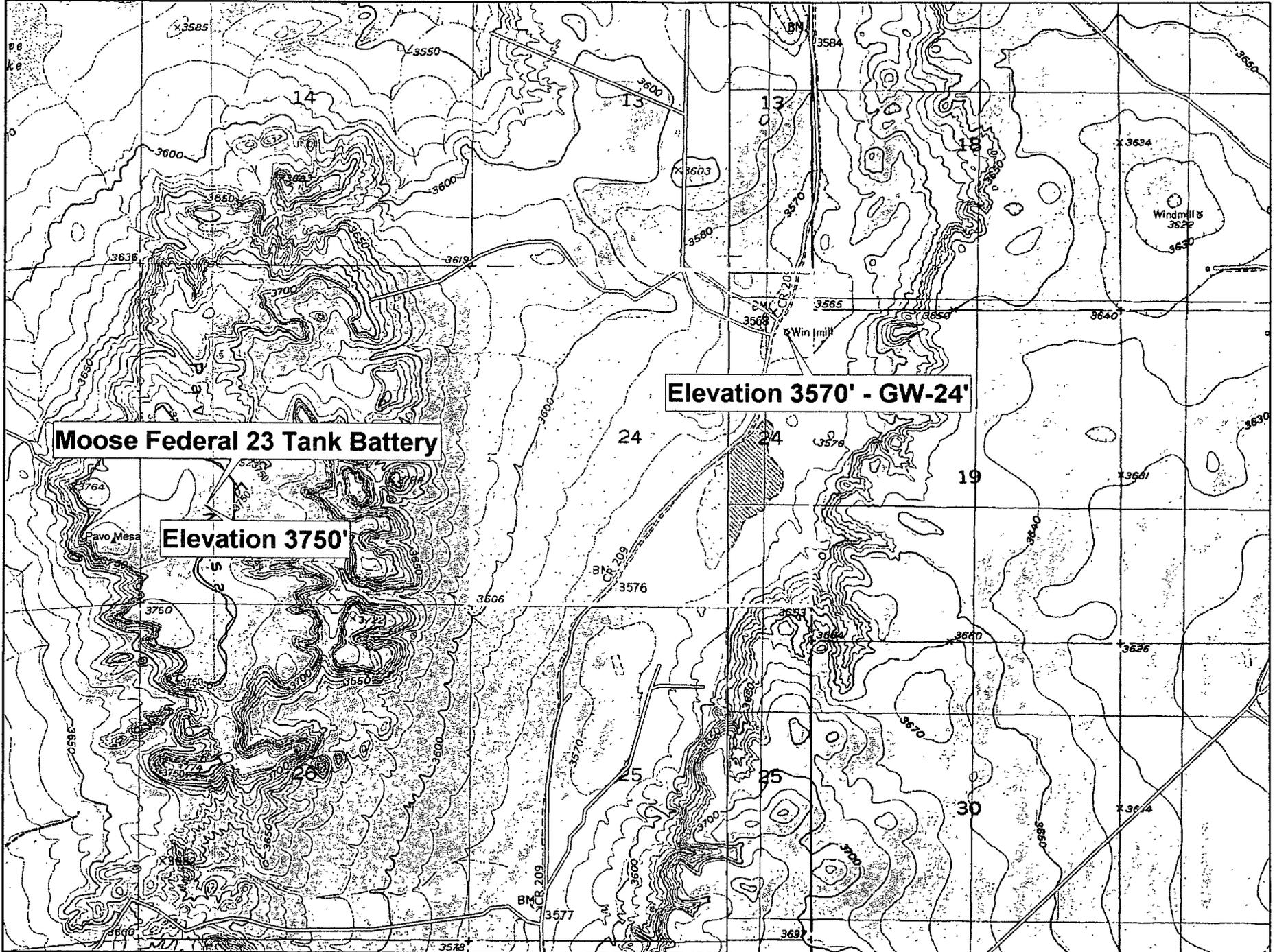


Scale 1 : 34,375



1" = 2,864.6 ft

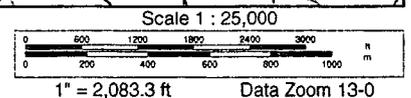
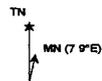
Data Zoom 12-5



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New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q	Q	Q	Sec	Tws	Range	X	Y	Depth Well	Depth Water	Water Column
RA 09342	DOM	ED	44	3	19	16S	29E	582737	3640640*	220	110	110		

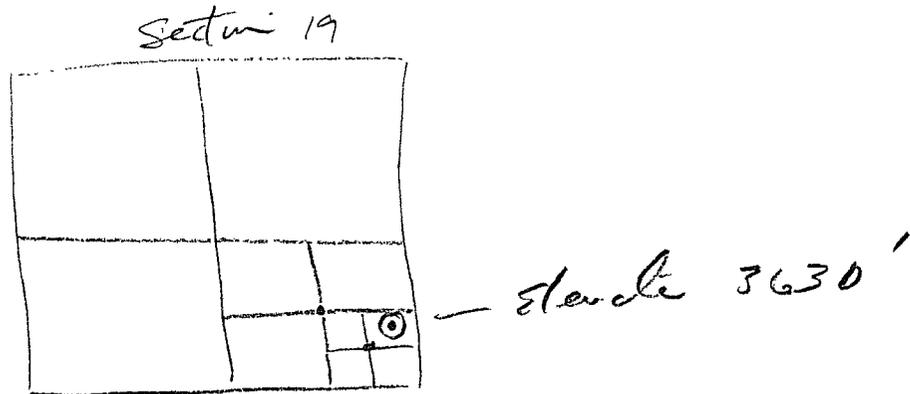
Average Depth to Water: 110 feet
Minimum Depth: 110 feet
Maximum Depth: 110 feet

Record Count: 1

PLSS Search:

Township: 16S

Range: 29E



*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

PLSS Search:

Township: 16S

Range: 28E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 1	Q 2	Q 3	Sec	Tws	Range	X	Y	Depth Well	Depth Water	Water Column
RA 09342	DOM	ED		4	4	3	19	16S	29E	582737	3640640*	220	110	110
												Average Depth to Water: 110 feet		
												Minimum Depth: 110 feet		
												Maximum Depth: 110 feet		

Record Count: 1

PLSS Search:

Township: 16S Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Appendix C

Summary Report

Victoria Inman
 Tetra Tech
 1910 N. Big Spring Street
 Midland, TX 79705

Report Date: April 4, 2011

Work Order: 11032822



Project Location: Eddy Co., NM
 Project Name: COG/Moose Fed. #23 TB
 Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261908	AH-1 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261911	AH-3 0-1'	soil	2011-03-24	00:00	2011-03-28
261912	AH-3 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261913	AH-3 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261916	AH-4 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261917	AH-5 0-1'	soil	2011-03-24	00:00	2011-03-28
261918	AH-6 0-1'	soil	2011-03-24	00:00	2011-03-28
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261920	AH-8 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	00:00	2011-03-28

Sample - Field Code	BTEX				TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)		
261908 - AH-1 0-1' 0.5' BEB	15.6	148	97.2	165	1990	3190
261909 - AH-2 0-1' 0.5' BEB					929	632
261910 - AH-2 1-1.5' 0.5' BEB					78.8	64.9
261911 - AH-3 0-1'	21.3	165	130	212	11700	4870
261912 - AH-3 1-1.5'	27.7	160	113	183	8780	5020
261913 - AH-3 2-2.5'	<0.0200	0.171	0.157	0.426	<50.0	7.26
261914 - AH-4 0-1'					3710	688
261915 - AH-4 1-1.5'					<50.0	28.1
261916 - AH-4 2-2.5'					<50.0	10.3
261917 - AH-5 0-1'	13.0	83.5	73.0	124	7300	3360
261918 - AH-6 0-1'					293	127

continued ...

. . continued

Sample - Field Code	BTEX				TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)		
261919 - AH-7 0-1'					2770	156
261920 - AH-8 0-1'	4.25	12.8	5.85	32.9	4090	1280
261921 - AH-9 0-1' 1' BEB					2290	1420

Sample: 261908 - AH-1 0-1' 0.5' BEB

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

Sample: 261909 - AH-2 0-1' 0.5' BEB

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

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

Sample: 261911 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		324	mg/Kg	4.00

Sample: 261912 - AH-3 1-1.5'

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

Sample: 261913 - AH-3 2-2.5'

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

Sample: 261914 - AH-4 0-1'

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

Sample: 261915 - AH-4 1-1.5'

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

Sample: 261916 - AH-4 2-2.5'

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

Sample: 261917 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		1570	mg/Kg	4.00

Sample: 261918 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		385	mg/Kg	4.00

Sample: 261919 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		547	mg/Kg	4.00

Sample: 261920 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		2270	mg/Kg	4.00

Sample: 261921 - AH-9 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		781	mg/Kg	4.00

Summary Report

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

Report Date: September 8, 2011

Work Order: 11032822



Project Location: Eddy Co., NM
 Project Name: COG/Moose Fed. #23 TB
 Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	00:00	2011-03-28

Sample - Field Code	BTEX			
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
261909 - AH-2 0-1' 0.5' BEB	0.209	7.40	15.0	28.3
261910 - AH-2 1-1.5' 0.5' BEB	<0.0200	0.147	0.244	0.645
261914 - AH-4 0-1'	1.37	20.5	19.4	33.8
261915 - AH-4 1-1.5'	<0.0200	0.177	0.277	0.749
261919 - AH-7 0-1'	0.223	0.162	0.154	1.83
261921 - AH-9 0-1' 1' BEB	22.2	111	58.0	96.7