

## Bratcher, Mike, EMNRD

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**From:** Tavarez, Ike <Ike.Tavarez@tetratech.com>  
**Sent:** Thursday, October 17, 2013 1:31 PM  
**To:** Bratcher, Mike, EMNRD  
**Cc:** Robert McNeill; Robert Grubbs; Michelle Mullins (MMullins@concho.com)  
**Subject:** COG Operating - Weens #1 Tank Battery - Work Plan Approval Request  
**Attachments:** COG-Work Plan - WEEMS\_#1.pdf

Mike,

Please find the enclosed Work Plan for the above reference spill site located in Eddy County, New Mexico. The spill have been assessed and the remedial recommendations are included in the work plan. I will mail you a hard copy of the work plan for your files. Once approved, Tetra Tech will schedule the soil remediation and notify you prior to implementing the work plan. Please let me know if you need additional information or call me if you have any questions

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

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

[Ike.Tavarez@tetratech.com](mailto:Ike.Tavarez@tetratech.com)

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## SITE INFORMATION

### Report Type: Work Plan

#### General Site Information:

<b>Site:</b>	Weems #1 Tank Battery				
<b>Company:</b>	COG Operating LLC				
<b>Section, Township and Range</b>	Unit B	Sec 34	T22S	R27E	
<b>Lease Number:</b>	API-30-015-35789				
<b>County:</b>	Eddy County				
<b>GPS:</b>	32.35320° N			104.17399° W	
<b>Surface Owner:</b>	State				
<b>Mineral Owner:</b>					
<b>Directions:</b>	In Carlsbad, from the intersection of Highway 285 and Highway 62, travel South on Highway 285 for 3.7 miles. Turn right on to location of site.				

#### Release Data:

<b>Date Released:</b>	7/9/2013
<b>Type Release:</b>	Oil and produced water
<b>Source of Contamination:</b>	Drain Line Failure
<b>Fluid Released:</b>	154 bbls Oil, 16 bbls Produced Water
<b>Fluids Recovered:</b>	0 bbls Oil and Produced Water

#### Official Communication:

<b>Name:</b>	Robert McNeill	Ike Tavaréz
<b>Company:</b>	COG Operating, LLC	Tetra Tech
<b>Address:</b>	One Concho Center 600 W. Illinois Ave	4000 N. Big Spring St.
<b>City:</b>	Midland Texas 79701	Midland, Texas
<b>Phone number:</b>	(432) 686-3023	(432) 682-4559
<b>Fax:</b>	(432) 684-7137	
<b>Email:</b>	rmcneill@conchoresources.com	ike.tavaréz@tetrattech.com

#### Ranking Criteria

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

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	1,000



TETRA TECH

October 8, 2013

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

**Re: Work Plan for the COG Operating LLC., Weems #1 Tank Battery, Unit B, Section 34, Township 22 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 Weems #1 Tank Battery located in Unit B, Section 34, Township 22 South, Range 27 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.35320°, W 104.17399°. 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 09, 2013, and released approximately one hundred fifty four (154) barrels of oil and sixteen (16) barrels of produced water from 1 inch nipple that failed on a drain line due to corrosion. To alleviate the problem, COG personnel replaced the nipple to prevent a reoccurrence. Zero (0) barrels of oil or produced water was recovered. The spill initiated inside a lined tank battery, but then ran onto the pad affecting an area approximately 85' X 15' and 55' x 20'. The initial C-141 form is enclosed in Appendix A.

### **Groundwater**

According to the NM State Engineers Well Report, two (2) water wells were listed in Section 34 with depth to groundwater of approximately 60' below surface. The Geology and Groundwater Conditions in Southern Eddy County, New Mexico Resource shows groundwater depth of approximately 53' 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 1,000 mg/kg.

## **Soil Assessment and Analytical Results**

On August 14, 2013, Tetra Tech personnel inspected and sampled the spill area. Three (3) auger holes (AH-1, AH-2 and AH-3) 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, a hydrocarbon impact was detected in the subsurface soils. The BTEX concentrations detected were all below the RRAL. Auger holes (AH-1 and AH-3) showed a shallow impact to the soils at 0'-1', but declined below the TPH RRAL at 1'-1.5' below surface. The area of auger hole (AH-2) showed a deeper impact to the subsurface soils and not vertically defined. The bottom auger hole sample showed a TPH concentration of 22,500 mg/kg at 6'-6.5' below surface. Deeper samples were not collected due to the dense formation at the site.

In addition, the chlorides detected ranged from <20.0 mg/kg to 340 mg/kg. The chloride concentrations detected do not appear to be an environmental concern.

## **Work Plan**

COG proposes to remove impacted material as highlighted (green) in Table 1 and shown on Figure 4. The areas of AH-1 and AH-3 will be excavated to a depth of approximately 1.0' below surface to remove the hydrocarbon impacted soil above the RRAL.



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In the area of AH-2, a backhoe trench will be installed to define the hydrocarbon extents. Based on the results, the area will be excavated to the appropriate depth, where the hydrocarbon impact has decreased below regulatory levels. All of the impacted material will be transported to proper disposal and the excavations will be backfilled with clean soil to grade. If the impacted soil is not vertically defined, Tetra Tech will install a borehole to define the extents.

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 safety 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 comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,  
TETRA TECH

Mike Tavaraz, PG  
Senior Project Manager

cc: Robert McNeill – COG

## Tables

**Table 1**  
**COG Operating LLC.**  
**Weems #1 Tank Battery**  
**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-1	8/14/2013	0-1	0	X		1,650	93.4	1,743	<0.0200	0.294	2.82	2.61	5.43	<20.0
	"	1-1.5	"	X		24.7	<50.0	24.7	-	-	-	-	-	<20.0
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	3-3.5	"	x		-	-	-	-	-	-	-	-	98.5
	"	4-4.5	"	X		-	-	-	-	-	-	-	-	73.9
AH-2	8/14/2013	0-1	0	X		2,560	561	3,121	<0.100	<0.100	7.75	37.6	45.4	<20.0
	"	1-1.5	"	X		3,790	2,140	5,930	-	-	-	-	-	<20.0
	"	2-2.5	"	X		3,740.0	3,950	7,690	-	-	-	-	-	217
	"	3-3.5	"	x		6,360	6,500	12,860	-	-	-	-	-	340
	"	4-4.5	"	X		6,970	8,670	15,640	-	-	-	-	-	271
	"	5-5.5	"	X		6,530	8,780	15,310	-	-	-	-	-	212
Trench	"	6-6.5	"	X		10,300	12,200	22,500	-	-	-	-	-	98.7
AH-3	8/14/2013	0-1	0	X		3130	412	3,542	<0.400	<0.400	8.69	24.2	32.9	<20.0
	"	1-1.5	"	X		24.7	<50.0	24.7	-	-	-	-	-	24.7
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	59.2
	"	3-3.5	"	x		-	-	-	-	-	-	-	-	187
	"	4-4.5	"	X		-	-	-	-	-	-	-	-	197
	"	5-5.5	"	X		-	-	-	-	-	-	-	-	78.9
	"	6-6.5	"	X		-	-	-	-	-	-	-	-	143

Trench Proposed Trench to Define

(-) Not Analyzed

 Proposed Excavation Depths

PAD

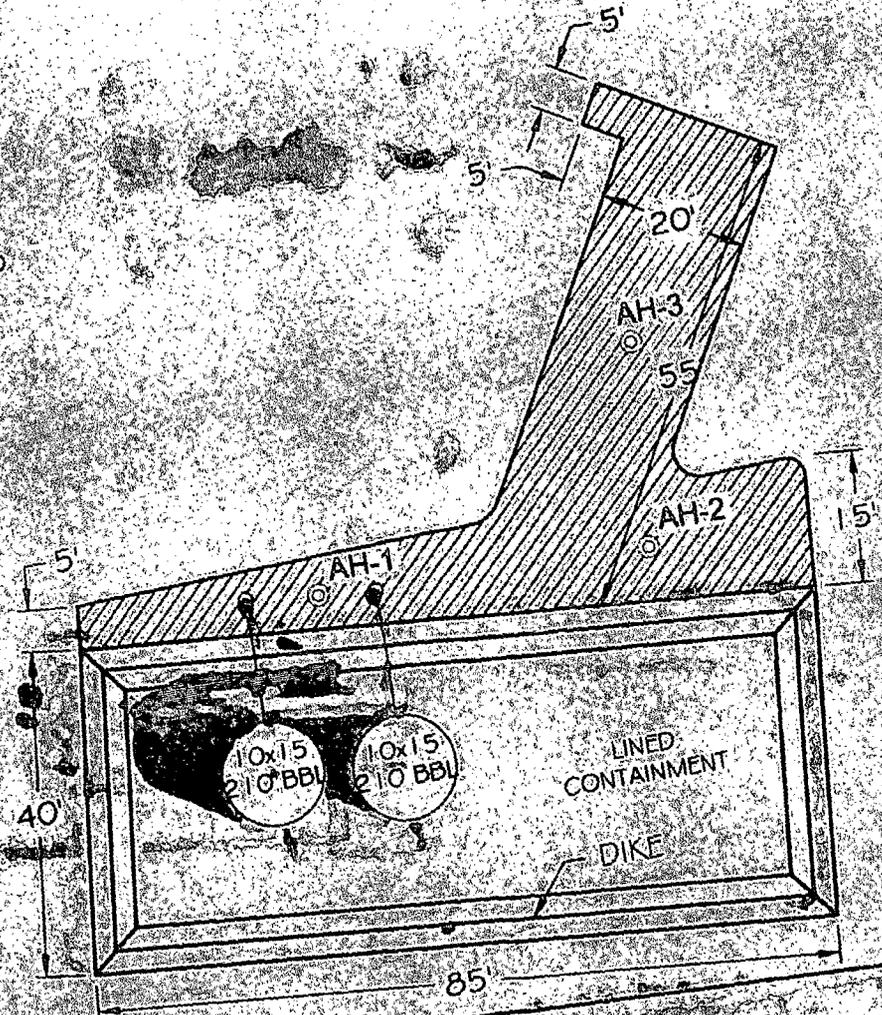


Figure 3  
 Weems #1 Tank Battery  
 Spill Assessment Aerial Map  
 Eddy County, New Mexico

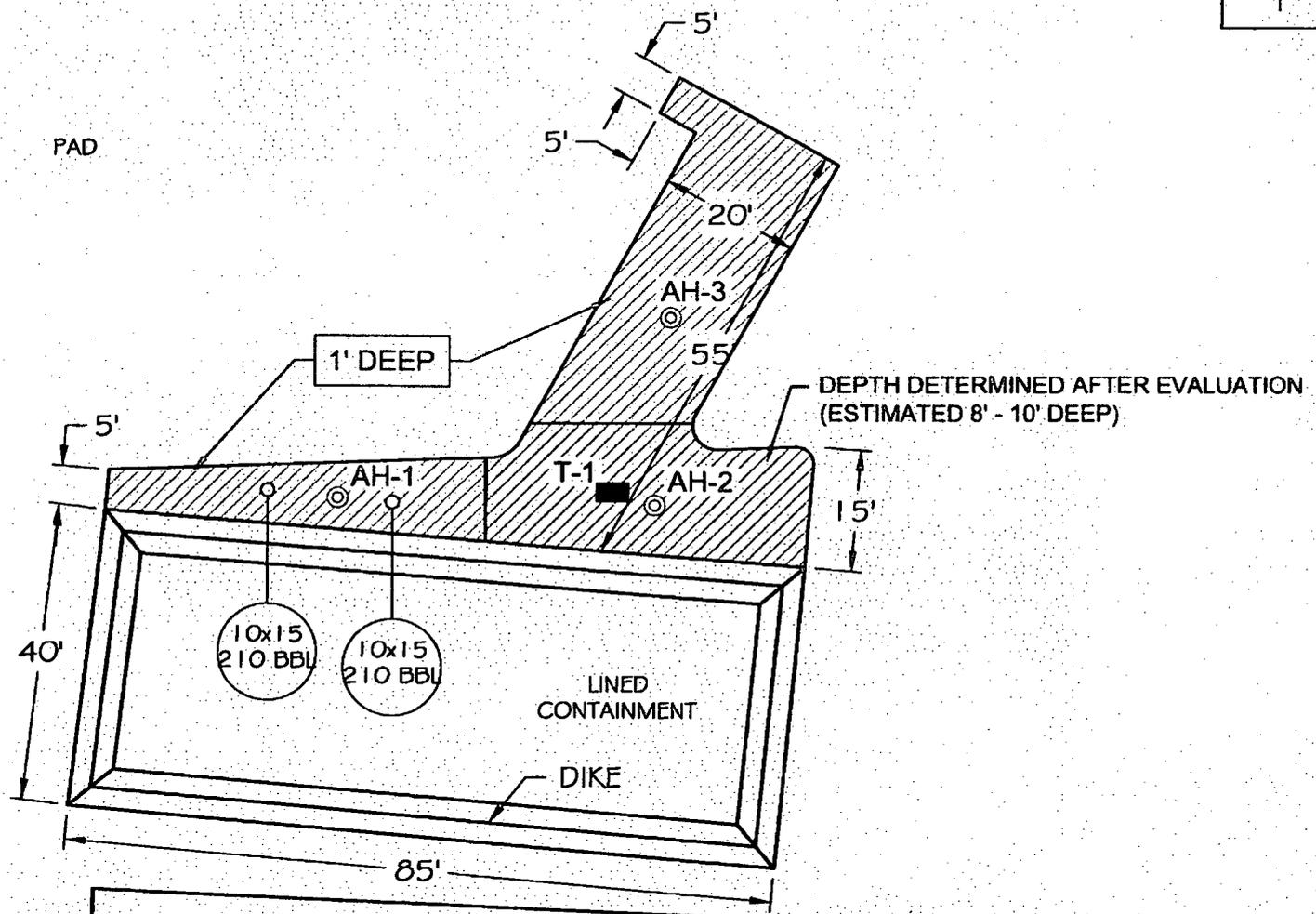
Project: 112MCO5595  
 Date: 9/23/2013  
 File: HACO\112MCO5595\WEEIMS #1



**LEGEND**

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ▭ SPILL AREA

NORTH



**LEGEND**

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- PROPOSED TRENCHING LOCATIONS
- ▨ PROPOSED EXCAVATION AREAS

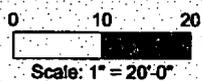


Figure 4

Weems #1 Tank Battery

Proposed Excavation Areas & Depths Map

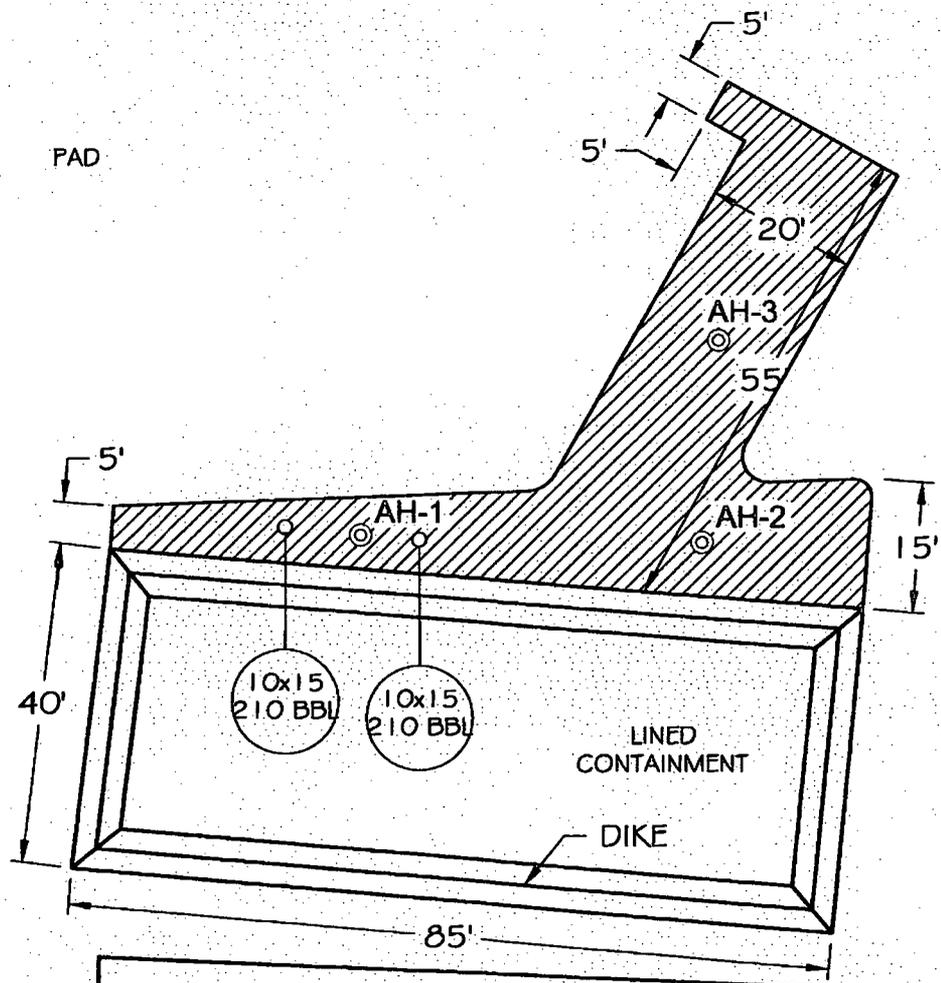
Eddy County, New Mexico



Project: 112MC05585  
 Date: 8/23/2013  
 File: H:\COG\112MC05585\WEEMS #1



NORTH



**LEGEND**

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA

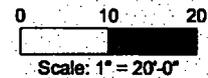


Figure 3

Weems #1 Tank Battery

Spill Assessment Map

Eddy County, New Mexico

Project: 112MC05595

Date: 9/23/2013

File: H:\COG\112MC05595\WEEMS #1



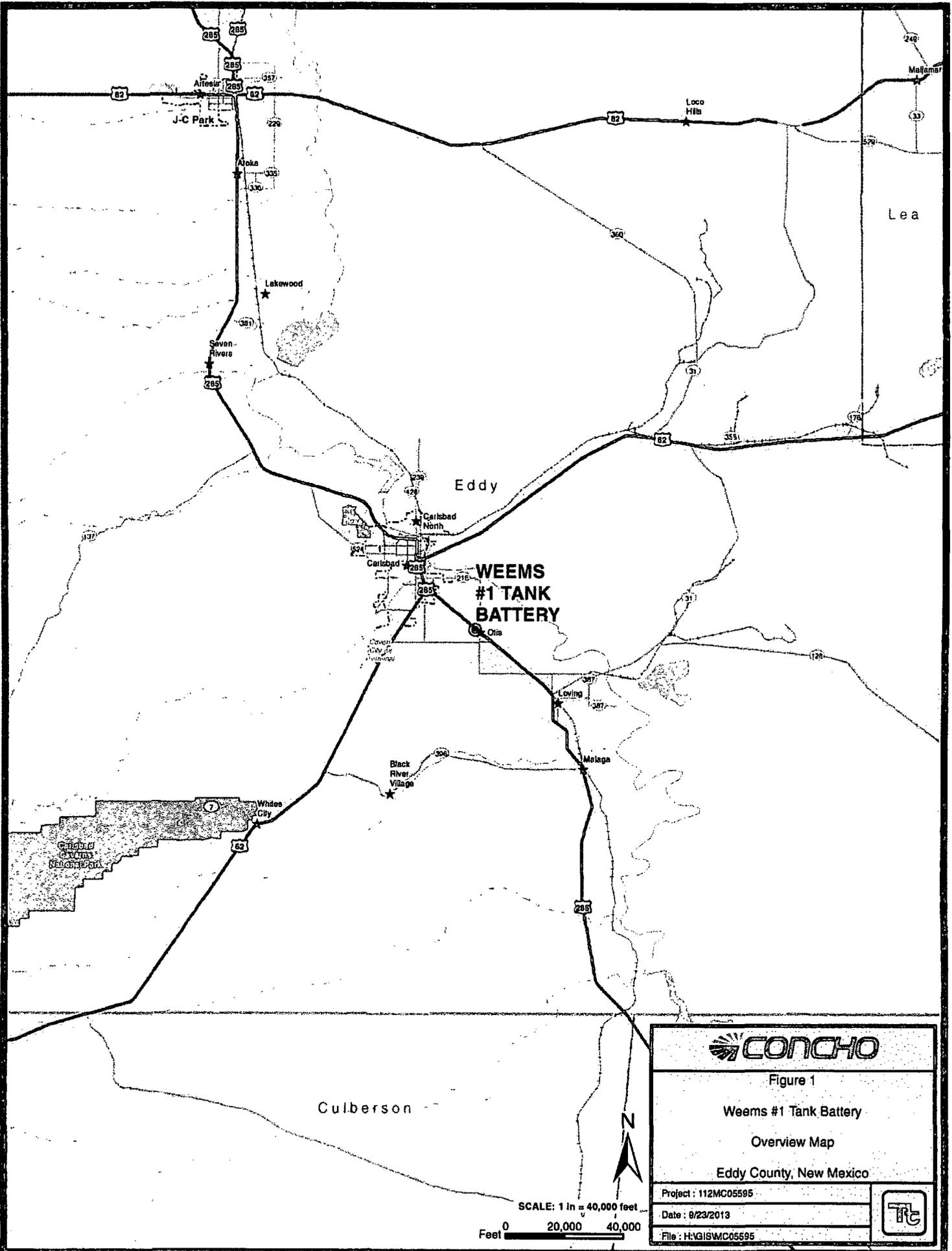


	
Figure 1 <b>Weems #1 Tank Battery</b> Overview Map Eddy County, New Mexico	
Project : 112MC05595	
Date : 9/23/2013	
File : H:\GIS\MC05595	
	

## Bratcher, Mike, EMNRD

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**From:** Bratcher, Mike, EMNRD  
**Sent:** Wednesday, October 23, 2013 1:49 PM  
**To:** 'Tavarez, Ike'  
**Cc:** Robert McNeill; Robert Grubbs; Michelle Mullins (MMullins@concho.com)  
**Subject:** RE: COG Operating - Weens #1 Tank Battery - Work Plan Approval Request

Reference: COG Production, LLC \* Weems 1 \* 30-015-35789 \* B-34-22s-27e \* Eddy County, New Mexico  
NMOCD Tracking number: 2RP-1725 \* Date of release: 7/9/2013

Ike,

Your proposal for remediation of the above referenced release is approved. Please provide results obtained from the delineation trenches prior to backfilling, and, advise in the event the proposed excavation depths are not achieved. It was noted in the proposal that initially, the released fluids were in a lined battery, but no fluids were recovered. Please advise as to the condition of the liner at this facility.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Mike Bratcher  
NMOCD District 2  
811 S. First Street  
Artesia, NM 88210  
O: 575-748-1283 X108  
C: 575-626-0857  
F: 575-748-9720

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Ike Tavarez, PG | Senior Project Manager

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**From:** Microsoft Outlook  
**To:** Tavaréz, Ike; Robert McNeill; Robert Grubbs; Michelle Mullins (MMullins@concho.com)  
**Sent:** Wednesday, October 23, 2013 1:50 PM  
**Subject:** Relayed: RE: COG Operating - Weens #1 Tank Battery - Work Plan Approval Request

**Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:**

Tavaréz, Ike (Ike.Tavaréz@tetrattech.com)

Robert McNeill (RMcNeill@concho.com)

Robert Grubbs (RGrubbs@concho.com)

Michelle Mullins (MMullins@concho.com) (MMullins@concho.com)

Subject: RE: COG Operating - Weens #1 Tank Battery - Work Plan Approval Request