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SITE INFORMATION

Report Type: Assessment Work Plan - 2RP 1099

General Site Information:

Site:	Cowtown Tank Battery					
Company:	Alamo Permian Resources, LLC.					
Section, Township and Range	Section 13	T18S	R28E			
Lease Number:	30-015-01843					
County:	Eddy County					
GPS:	32.7464136° N			104.1321674 W		
Surface Owner:	State					
Mineral Owner:						
Directions:	Pending assessment					

Proposal to delineate

Release Data:

Date Released:	4/4/2012
Type Release:	Crude Oil
Source of Contamination:	Oil Tank
Fluid Released:	97 barrels
Fluids Recovered:	0 barrels

Official Communication:

Name:	Steven Mastin		Ike Tavarez
Company:	Alamo Permian Resources, LLC.		Tetra Tech
Address:	415 W. Wall St. Suite 500		1910 N. Big Spring
P.O. Box			
City:	Midland Texas		Midland, Texas
Phone number:	(432) 557-5847		(432) 682-4559
Fax:			
Email:			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:	10

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

TETRA TECH

May 21, 2012

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

Re: Assessment Work Plan for the Alamo Permian Resources, LLC., Cowtown Tank Battery, Unit K, Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico. (2RP-1099)

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by Alamo Permian Resources, LLC., (Alamo) to assess a spill from the Cowtown Tank Battery located in Unit K, Section 13, Township 18 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.7464136°, W 104.1321674°.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on April 4, 20112, and released approximately ninety-seven (97) barrels of crude oil from hole in an oil tank. None of the fluids were recovered. The spill migrated approximately 300 yards into the pasture, with a width of approximately 5.0' wide. The initial C-141 form is enclosed in Appendix A.

Groundwater

The New Mexico State Engineer's Office data showed one well located in Section 35, Township 18 South, Range 28 East, with a depth to water of approximately 65' below surface. According to the NMOCD groundwater map and well data, the depth to groundwater in the area is approximately 225' below. The groundwater data is shown in Appendix B.

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

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, ethyl-benzene 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. Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Assessment Work Plan

Tetra Tech personnel will inspect and assess the spill area. Soil samples will be collected using a stainless steel, bucket type hand auger to evaluate the extent of subsurface impact at this site. If a dense formation is encountered and deeper samples cannot be collected to define extents, backhoe trenches will be installed at the site. If the soil impact cannot be defined, boreholes will be installed using an air rotary rig.

Soil samples will be collected at selected depth intervals for field screening and sampling for laboratory analysis. A head space gas survey will be performed by collecting discrete soil samples and placing a portion of the sample in a clean plastic sample bag and measuring organic vapors using an Organic Vapor Meter (OVM).

The samples selected for analysis will be determined from field data and observation. All samples will be collected and preserved in laboratory prepared sample containers with standard QA/QC procedures. All samples will be shipped under proper chain-of-custody control and analyzed within the standard holding times. The soil samples will be analyzed for Total Petroleum Hydrocarbon (TPH) by method 8015 DRO/GRO, Benzene, Toluene, Ethyl benzene, and Xylene (BTEX) by EPA Method 8021B and chloride by method EPA method 300.0.

TETRA TECH

Once the analytical data has been received and reviewed, a remediation work plan will be prepared and submitted to the NMOCD for approval. If you have any questions or comments concerning the proposed work plan, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez , PG
Sr. Project Manager

cc: Hollie Lamb - HeLM

Appendix A

Water Well Data
Average Depth to Groundwater (ft)
Alamo - Cowtown Tank Battery
Eddy County, New Mexico

17 South 27 East

6	5 30	4	3	2	1
7 14	8	9	10	11 54 50	12
18 111	17 90	16 175	15	14	13
19	20	21	22	23 40	24
30	29	28	27	26	25
31	32 140	33	34	35	36

17 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 79	23	24
30	29	28	27	26	25
31	32	33	34	35 258	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 80	23	24
30	29 210 208'	28	27	26	25
31	32	33	34	35 153	36

18 South 27 East

6	5	4	3	2	1
7	8	9	10 50	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 100	27	26	25
31 65	32	33	34	35	36

18 South 28 East

6	5	4 108	3	2	1
7 49	8 89	9	10	11	12
18	17	16	15	14	13
19	20	21 226	22	23	24
49	29	28	27	26	25
31	32	33	34	35 65	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

19 South 27 East

6	5 20	4	3	2	1
7	8 50	9	10	11	12
18	17	16 18	15	14 82 107	13 60
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

19 South 28 East

6	5	4	3	2	1
7	8	9 246 265	10	11	12
18 91	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

19 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 123 101
19	20 62	21	22	23	24
30	29	28	27	26	25
31	32	33	34 62 60	35 121 110	36 115

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
L 01142 POD1		L	LE	2	4	15	18S	28E		578921	3623453*	80		
L 01150 POD1		L	LE	1	1	35	18S	28E		579344	3619433*	135	65	70
BA 09588			ED	1	2	33	18S	28E		576976	3619384*	300		

Average Depth to Water: **65 feet**

Minimum Depth: **65 feet**

Maximum Depth: **65 feet**

Record Count: 3

PLSS Search:

Township: 18S Range: 28E

***UTM location was derived from PLSS - see Help**

5/21/12 8:39 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

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

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

POD Number	POD Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00361			ED		1	3	09	19S	28E	576195	3615347*	365	265	100
CP 00361 EXPL			ED	3	1	3	09	19S	28E	576094	3615246*	365	265	100
CP 00502			ED		1	1	18	19S	28E	573001	3614478*	100	91	9
CP 00836			ED		1	1	18	19S	28E	573001	3614478*	110		
CP 00837			ED		1	1	18	19S	28E	573001	3614478*	110		
CP 00838			ED		1	1	18	19S	28E	573001	3614478*			

Average Depth to Water: **207 feet**

Minimum Depth: **91 feet**

Maximum Depth: **265 feet**

Record Count: 6

PLSS Search:

Township: 19S Range: 28E

*UTM location was derived from PLSS - see Help

5/21/12 8:48 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

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

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Code	Subbasin	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00863			ED	1	4	2	27	18S	29E	588341	3620768*	320		
											Average Depth to Water:		--	
											Minimum Depth:		--	
											Maximum Depth:		--	

Record Count: 1

PLSS Search:

Township: 18S Range: 29E

*UTM location was derived from PLSS - see Help

5/21/12 8:47 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER