5 December, 2005

RECEIVED
DEC - 7 2005
OCD-ARTESIA

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

RE: Site Characterization
Chesapeake Energy-Principle 1 & 2 Battery (Ref. #160032)
UL-C of Section 27, T18S, R31E

Dear Mr. Bratcher:

On September 17, 2005, approximately 154 barrels (bbls) of fluid were released onto the ground surface after lightening struck a 500 bbl fiberglass produced water tank. Approximately 80 bbls of production water were recovered by a vacuum truck with the remaining fluid seeping into the soil. Chesapeake Energy Corporation (Chesapeake) retained Environmental Plus, Inc. (EPI) in September 2005 to delineate the vertical extent of impacted soil at the site. This letter report documents the results of the delineation activities.

Site Background

The site is located in the NE¼ of the NW¼ of Section 27, Township 18 South, Range 31 East at an elevation of approximately 3,635 feet above mean sea level (reference *Figures 1 and 2*). The property is owned by the United States Government-Bureau of Land Management. A search for area water wells was completed utilizing the *New Mexico Office of the State Engineers* website and a database maintained by the United States Geological Survey (USGS). No wells (domestic, agriculture or public) or bodies of surface water exist within a 1,000 feet radius of the site (reference *Figure 2*). Groundwater level indicates an average water depth of approximately 381.5 feet below ground surface in the area (reference *Table 1*). Therefore, based on available information it was determined that the distance between the contamination and groundwater is greater than 100 feet. Utilizing this information, it was determined the New Mexico Oil Conservation Division (NMOCD) Remedial Goals for this site are as follows:

Parameter	Remedial Goal
Benzene	10 parts per million
BTEX	50 parts per million
TPH	5,000 parts per million

* Chloride residuals may not be capable of impacting local groundwater above NMWQCC Standard of 250 mg/Kg

Field Work

On September 19, 2005, EPI performed a site assessment of the surface area damage caused by the spill. The total spill area was surveyed and classified as a primary release area consisting of 5,100 square feet (sf).

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On October 18, 2005, EPI mobilized at the site to direct the placement and depth of one (1) soil boring within the perimeter of the release area to delineate the vertical extent of production fluid impacted soil (reference *Figure 4*). During the advancement of the soil boring, samples were collected at 5-feet intervals with a portion of the sample being placed in a laboratory provided container and the remainder placed in a self sealing polyethylene bag. The samples in laboratory provided containers were immediately placed on ice for transport to Environmental Lab of Texas in Odessa, Texas, for quantification of benzene, toluene, ethylbenzene, total xylenes (BTEX), gasoline range organics (GRO), diesel range organics (DRO) and chlorides. The portions of the samples in the self-sealing polyethylene bags were placed in a heated environment (i.e., cab of a truck) to allow the volatilization of organic vapors. After the samples had been allowed to equilibrate to ≈70° F, they were analyzed for the presence of organic vapors utilizing a MiniRae® photoionozation detector (PID) equipped with a 9.8 electron-volt (eV) lamp. In addition, the samples were analyzed in the field for the presence of chlorides using a LaMotte Chloride Test Kit.

The soil boring for BH-1 was advanced to a depth of 30 feet below ground surface (bgs) and samples were collected at 2-feet and 5-feet depths initially then at 5-foot intervals to total depth (TD) of the soil boring. Field analyses of the samples collected during the advancement of soil boring BH-1 indicated the presence of organic vapors at concentrations ranging from 1.6 parts per million (ppm) at 30 feet bgs to 5.4 ppm at 2 feet bgs. Field analyses for chloride indicated concentrations ranging from 240 milligrams per kilogram (mg/Kg) at 30 feet bgs to 400 mg/Kg at 2 feet bgs (reference *Table 1*).

During the advancement of the soil boring, the lithology was defined as sand to a depth of approximately 15 feet bgs underlain by red clayey sand from a depth of approximately 20 feet bgs to 25 feet bgs. The red clayey sand is underlain with friable caliche from a depth of approximately 25 feet to 40 feet bgs (reference *Attachment II*).

Analytical Data

Analytical results for the samples collected at 2-feet bgs indicated TPH concentrations of 13.6 mg/Kg. Benzene, toluene and ethylbezene were not detected at or above laboratory method detection limits (MDL) while total xylenes were reported 0.0254 mg/Kg. Chloride concentrations were reported at 407 mg/Kg for this sample.

Analytical results for the sample collected at 5-feet bgs indicated TPH, benzene, toluene, ethylbenzene and o-xylene were not detected at or above MDL. Xylenes (m,p) estimated value of 0.0235 mg/Kg was below MDL. Chloride concentrations were reported at 51.1 mg/Kg.

The sample collected from 10-feet bgs was submitted for quantification of chloride only. Analytical results for this sample indicated chloride concentrations of 31.1 mg/Kg.

Samples collected from 15-feet bgs to 30-feet bgs were not analyzed as two (2) consecutive samples previously tested were below the NMOCD Remedial Goals.

Summary

Based on field and analytical analysis, soil impacted above the NMOCD remedial thresholds extends to a depth between 2-feet bgs and 5-feet bgs within the confines of the release area (reference *Figure 3*). The release area is approximately 5,100 square feet in size, resulting in approximately 950 cubic yards of soil (*in situ*) impacted above NMOCD remedial guidelines for this site. It is unlikely soil impacted above the NMOCD remedial guidelines for this site extends completely to 5-feet bgs across the entire release area and the actual volume of impacted soil is less than 950 cubic yards.

Should you have any questions or concerns, please feel free to contact me at (505) 394-3481 or via e-mail at dduncan@envplus.net. Upon your approval, EPI will initiate the next phase of site remediation. All official correspondence should be submitted to Mr. Bradley Blevins at:

Mr. Bradley Blevins
Chesapeake Energy Corporation
P.O. Box 190
Hobbs, NM 88240-0190

(505) 391-1462, ext. 6224
bblevins@chkenergy.com

Sincerely,

ENVIRONMENTAL PLUS, INC.

David P. Duncan
Civil Engineer

cc: Bradley Blevins, Chesapeake Energy-Hobbs, NM
Curtis Blake, Chesapeake Energy-Hobbs, NM
Jace Marshall, Chesapeake Energy-Oklahoma City, OK
Paul Evans, U.S. Department of Interior, Bureau of Land Management-Carlsbad, NM

encl. Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Site Map
Figure 4 – Soil Boring Location Map
Table 1 – Summary of Soil Boring Analytical Results
Table 2 – Well Data
Attachment I– Site Photographs
Attachment II – Laboratory Results and Chain-of-Custody Form
Attachment III – Soil Boring Logs
Attachment IV – Copy of Initial C-141

FIGURES

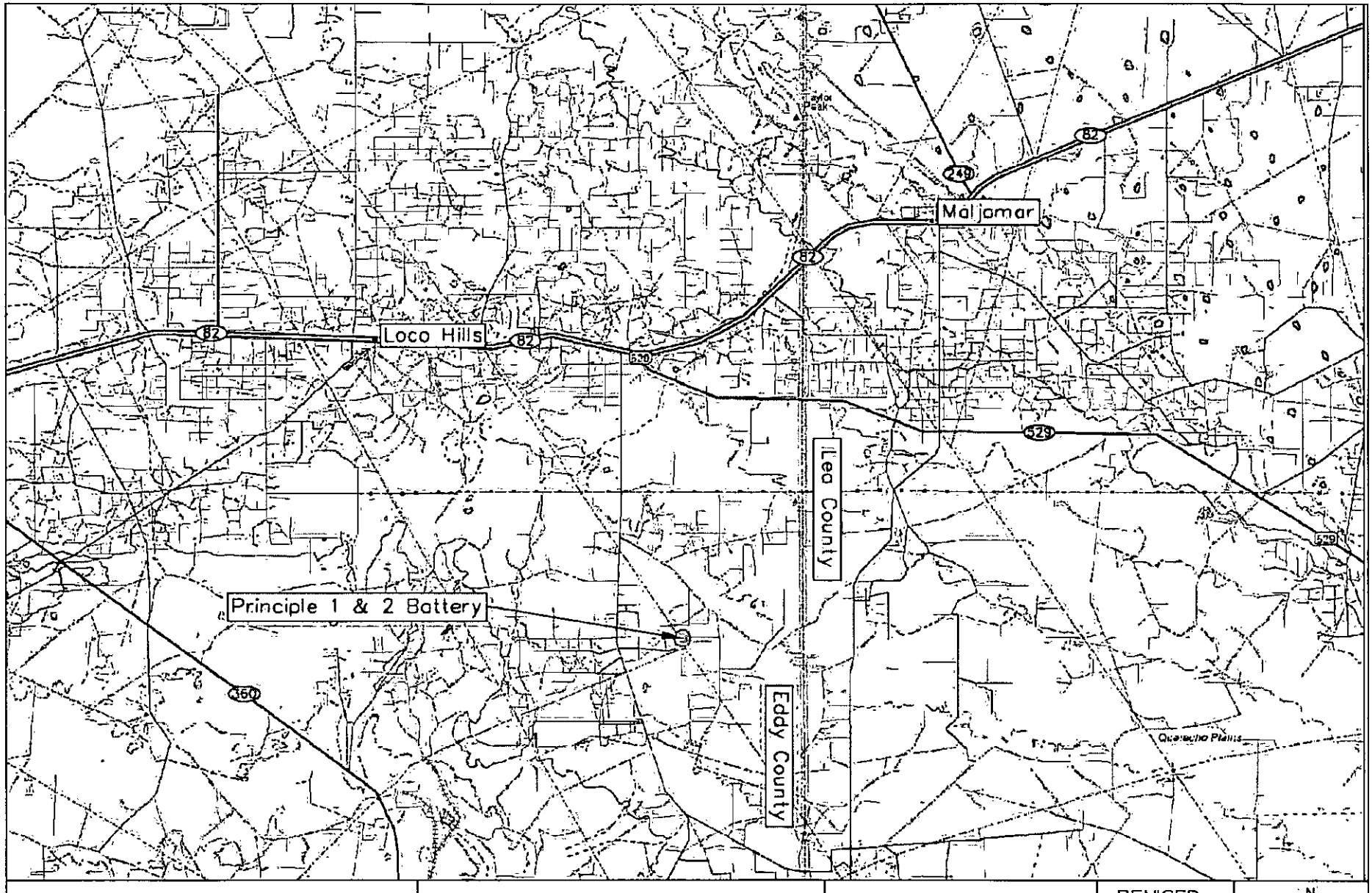

Figure 1
Area Map
Chesapeake Energy
Principle 1 & 2 Battery

Eddy County, New Mexico
NE 1/4 of the NW 1/4, Sec. 27, T18S, R31E
N' 32° 43' 23.13" W 103° 51' 37.13"
Elevation: 3,635 feet amsl

DWG By: Jason Stegemoller
September 2005

REVISED:

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Miles

SHEET
1 of 1

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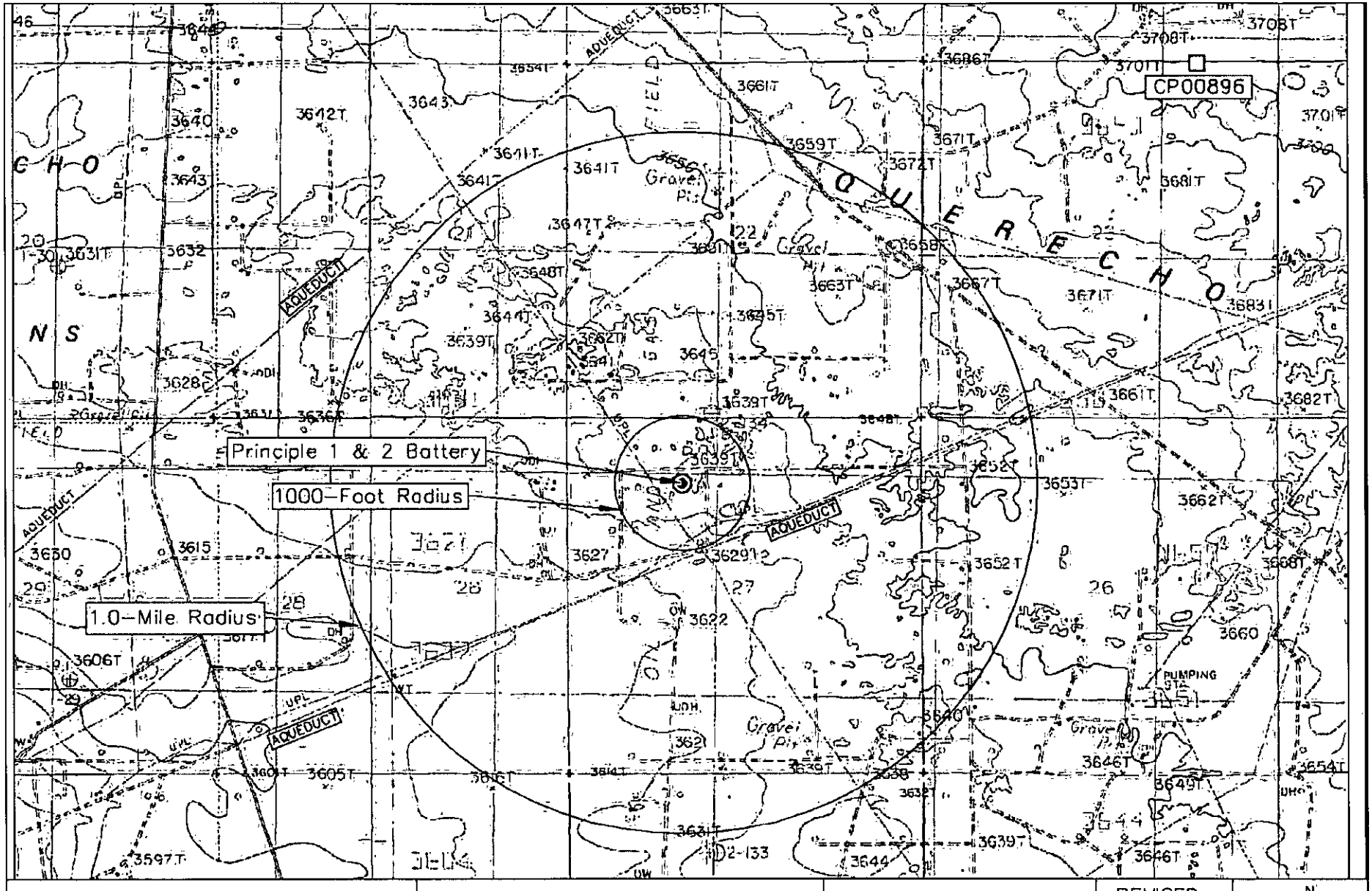


Figure 2 Site Location Map Chesapeake Energy Principle 1 & 2 Battery	Eddy County, New Mexico NE 1/4 of the NW 1/4, Sec. 27, T18S, R31E N 32° 43' 23.13" W 103° 51' 37.13" Elevation: 3,635 feet amsl	DWG By: Jason Stegemoller September 2005 REVISED:	N 0 2,000 4,000 Feet SHEET 1 of 1

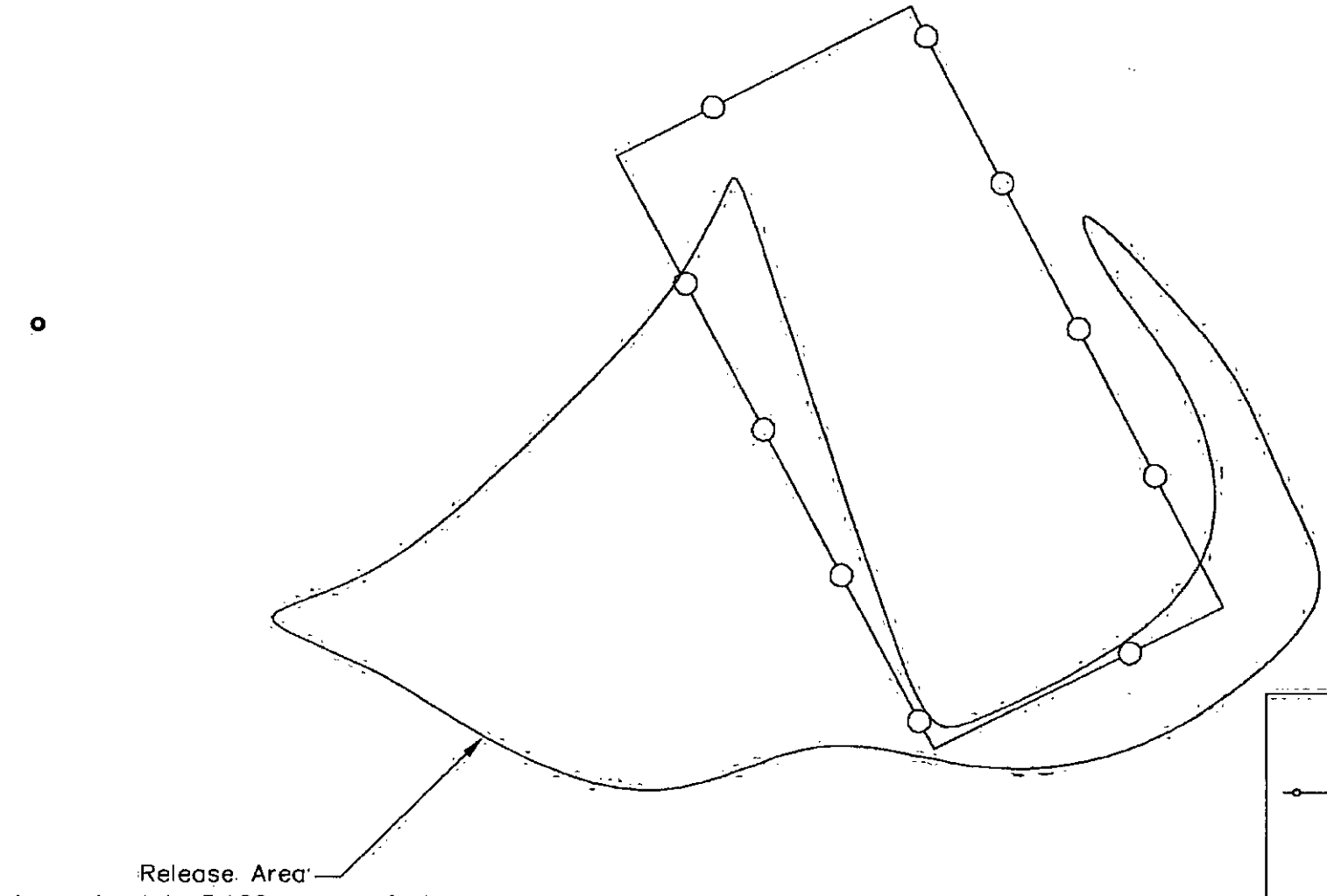


Figure 3 Site Map Chesapeake Energy Principle 1 & 2 Battery	Eddy County, New Mexico NE 1/4 of the NW 1/4, Sec. 27, T18S, R31E N 32° 43' 23.13" W 103° 51' 37.13" Elevation: 3,635 feet amsl	DWG By: Jason Stegemoller September 2005	REVISED:	N
		0 25 50 Feet	SHEET 1 of 1	

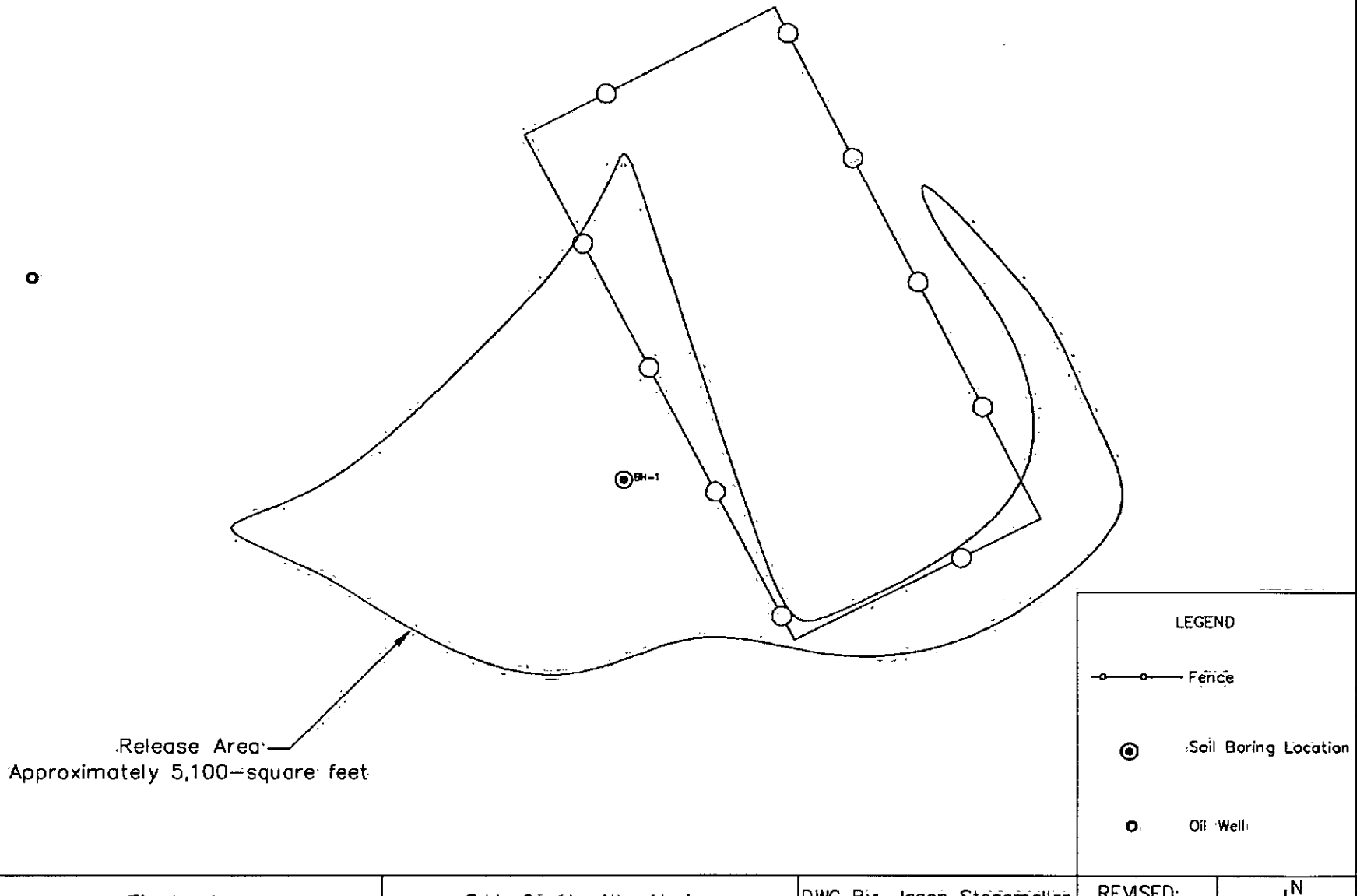


Figure 4 Soil Boring Location Map Chesapeake Energy Principle 1 & 2 Battery	Eddy County, New Mexico NE 1/4 of the NW 1/4, Sec. 27, T18S, R31E N 32 ° 43' 23.13" W 103° 51' 37.13" Elevation: 3,635 feet amsl	DWG By: Jason Stegemoller September 2005	REVISED: Nov 2005	SHEET 1 of 1

TABLES

TABLE 1

Summary of Soil Boring Analytical Results

Chesapeake Energy Principle 1 & 2 Battery (Ref. #160032)

Soil Boring	Depth (feet)	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-Xylenes (mg/Kg)	o-Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
BH-1	2	18-Oct-05	5.4	400	<0.0250	<0.0250	<0.0250	0.0254	<0.0250	0.0254	<10.0	13.6	13.6	407
	5	18-Oct-05	2.5	400	<0.0250	<0.0250	<0.0250	0.0235 [1]	<0.0250	0.0235 [1]	<10.0	<10.0	<10.0	51.1
	10	18-Oct-05	3.3	320	--	--	--	--	--	--	--	--	--	31.3
	15	18-Oct-05	3.5	320	--	--	--	--	--	--	--	--	--	--
	20	18-Oct-05	1.6	240	--	--	--	--	--	--	--	--	--	--
	25	18-Oct-05	1.7	240	--	--	--	--	--	--	--	--	--	--
	30	18-Oct-05	1.6	240	--	--	--	--	--	--	--	--	--	--
NMOCD Remedial Thresholds			**100** [2]		**10**					**50**			**5,000**	**250** [4]

[1] *Estimated value concentration below Labatory Limits*

[2] *--: Not Analyzed*

[3] *In lieu of laboratory analyes of benzene, toluene, ethylbenzene and total xylenes.*

[4] *Chloride residuals may not be capable of impacting local groundwaterobove the NMWQCCstandard of 250 mg/L*

TABLE 2

Well Data

Chesapeake Energy Principle 1 & 2 Battery (Ref. #160032)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Well Depth (ft bgs)	Depth to Water (ft bgs)
CP 00896	3	Thelma A. Webber & B.L.M.	STK	18S	31E	14 4 4 1	N 32° 44' 24.75"	W 103° 50' 7.41"			400	
USGS #1				18S	31E	01 4 4 4			17-Mar-94			454.25
USGS #2				18S	31E	12 2 3 1			17-Mar-94			434.14
USGS #3				18S	31E	14 2 2 1			17-Mar-94			376.82
USGS #4				18S	31E	35 3 1 3			17-Mar-94			260.67

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1) and the USGS website (http://waterdata.usgs.gov/nwis/).

Shaded areas indicate well locations shown on Figure 2

[A] = in acre feet per annum

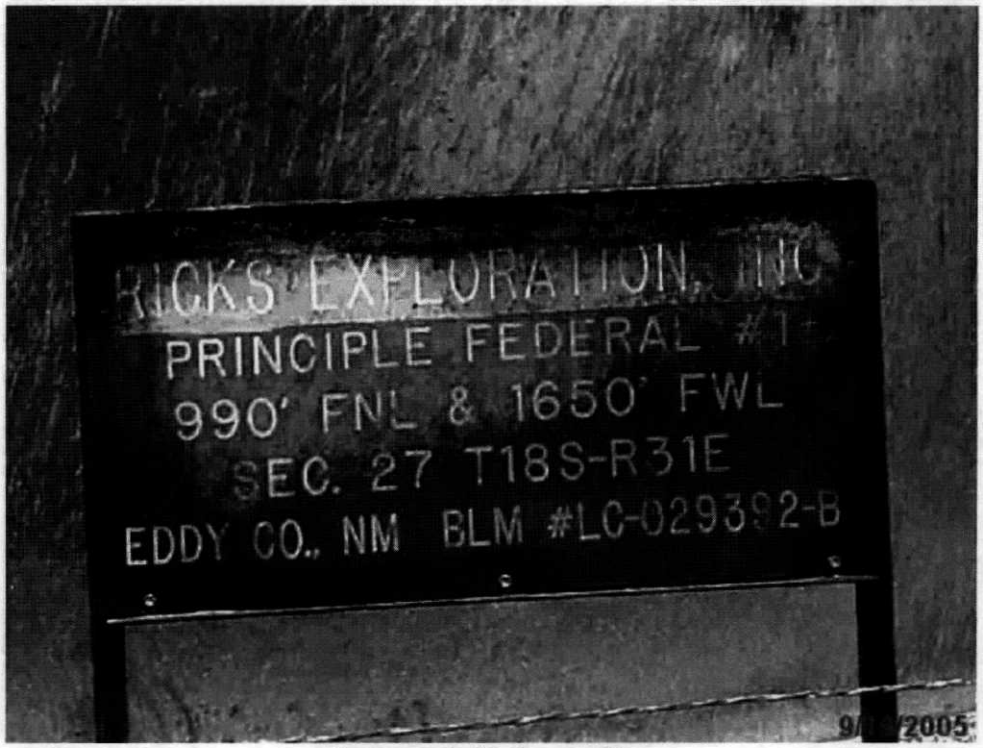
[B] = Elevation interpolated from USGS topographical map based on referenced location.

STK = Livestock Watering

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

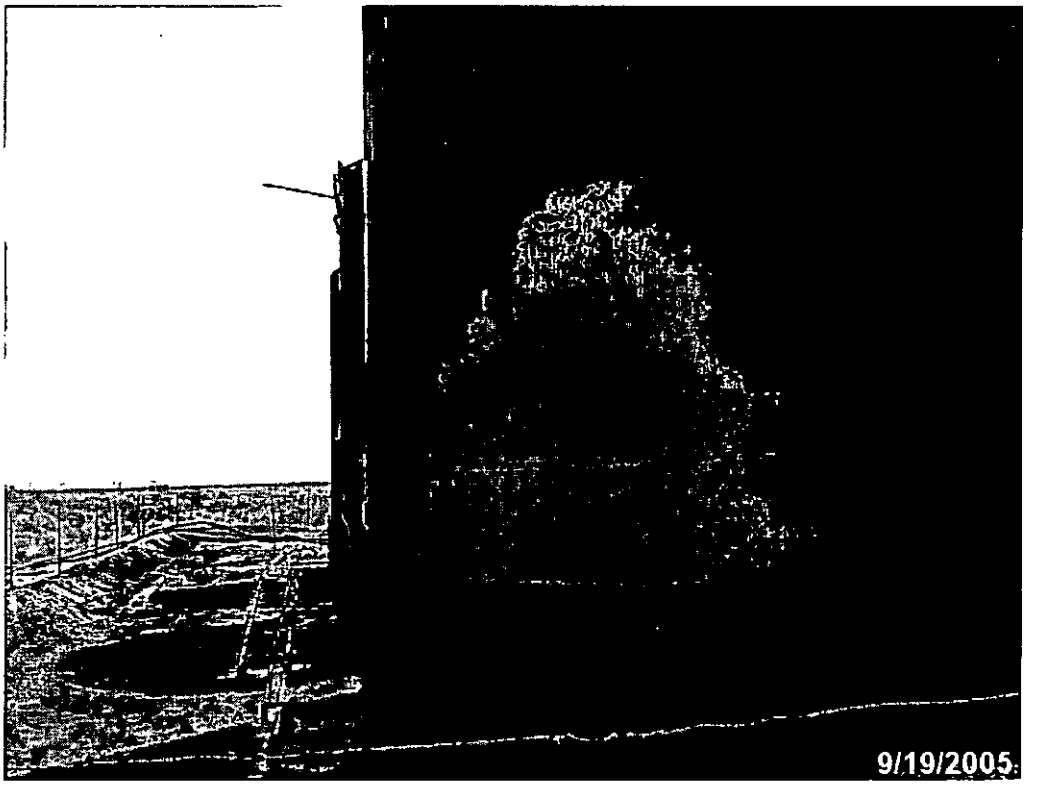
ATTACHMENT I

SITE PHOTOGRAPHS

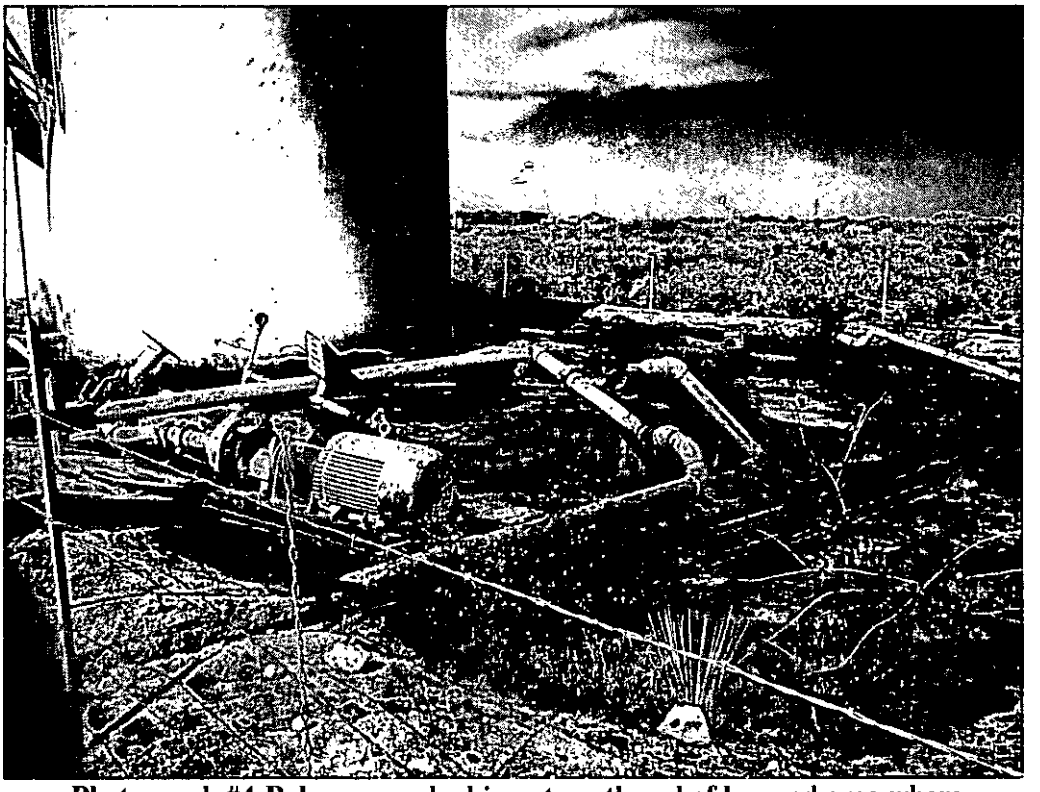


Photograph #1- Lease Sign.

Photograph #2- Release area looking northerly. Dark colored soil indicates contamination.



Photograph #3-Release area looking northerly noting contaminated area within the berm



Photograph #4-Release area looking at north end of bermed area where the 500-bbl FG Tank was located

ATTACHMENT II

LABORATORY RESULTS
AND
CHAIN-OF-CUSTODY FORM

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Chesapeake/ Principle 1 & 2 Batt.

Project Number: 160032

Location: UL-C, Sect. 27, T 18 S, R 31 E

Lab Order Number: 5J19009

Report Date: 10/31/05

Environmental Plus, Incorporated	Project: Chesapeake/ Principle 1 & 2 Batt.	Fax: 505-394-2601
P.O. Box 1558	Project Number: 160032	**Reported:**
Eunice NM, 88231	Project Manager: Iain Olness	10/31/05 11:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 2'	5J19009-01	Soil	10/18/05 09:10	10/19/05 14:10
BH-1 5'	5J19009-02	Soil	10/18/05 09:15	10/19/05 14:10
BH-1 10'	5J19009-03	Soil	10/18/05 09:20	10/19/05 14:10

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 2' (5J19009-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ51903	10/19/05	10/19/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.0254**	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*85.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EJ51913	10/19/05	10/20/05	EPA 8015M	
Diesel Range Organics >C12-C35	**13.6**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**13.6**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*86.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*76.8 %*	*70-130*		"	"	"	"	
BH-1 5' (5J19009-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ51903	10/19/05	10/19/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**J [0.0235]**	0.0250	"	"	"	"	"	"	J
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*83.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.2 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EJ51913	10/19/05	10/20/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*94.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*80.6 %*	*70-130*		"	"	"	"	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 2' (5J19009-01) Soil									
Chloride	**407**	10.0	mg/kg	20	EJ52107	10/20/05	10/21/05	EPA 300.0	
% Moisture	**1.4**	0.1	%	1	EJ51912	10/19/05	10/20/05	% calculation	
BH-1 5' (5J19009-02) Soil									
Chloride	**51.1**	5.00	mg/kg	10	EJ52107	10/20/05	10/21/05	EPA 300.0	
% Moisture	**0.3**	0.1	%	1	EJ51912	10/19/05	10/20/05	% calculation	
BH-1 10' (5J19009-03) Soil									
Chloride	**31.3**	5.00	mg/kg	10	EJ52616	10/25/05	10/26/05	EPA 300.0	

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ51903 - EPA 5030C (GC)										
Blank (EJ51903-BLK1)				Prepared & Analyzed: 10/19/05						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*37.0*		*ug/kg*	*40.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.9*		"	*40.0*		*89.8*	*80-120*			
LCS (EJ51903-BS1)				Prepared & Analyzed: 10/19/05						
Benzene	0.0423	0.00100	mg/kg wet	0.0500		84.6	80-120			
Toluene	0.0476	0.00100	"	0.0500		95.2	80-120			
Ethylbenzene	0.0539	0.00100	"	0.0500		108	80-120			
Xylene (p/m)	0.0997	0.00100	"	0.100		99.7	80-120			
Xylene (o)	0.0544	0.00100	"	0.0500		109	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.1*		*ug/kg*	*40.0*		*95.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.9*		"	*40.0*		*89.8*	*80-120*			
Calibration Check (EJ51903-CCV1)				Prepared: 10/19/05 Analyzed: 10/20/05						
Benzene	42.0		ug/kg	50.0		84.0	80-120			
Toluene	48.4		"	50.0		96.8	80-120			
Ethylbenzene	59.3		"	50.0		119	80-120			
Xylene (p/m)	109		"	100		109	80-120			
Xylene (o)	59.7		"	50.0		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.2*		"	*40.0*		*95.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.8*		"	*40.0*		*97.0*	*80-120*			
Matrix Spike (EJ51903-MS1)	**Source: 5J19002-07**			Prepared & Analyzed: 10/19/05						
Benzene	1.11	0.0250	mg/kg dry	1.30	ND	85.4	80-120			
Toluene	1.27	0.0250	"	1.30	ND	97.7	80-120			
Ethylbenzene	1.48	0.0250	"	1.30	ND	114	80-120			
Xylene (p/m)	2.73	0.0250	"	2.60	ND	105	80-120			
Xylene (o)	1.44	0.0250	"	1.30	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	*40.5*		*ug/kg*	*40.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.9*		"	*40.0*		*99.8*	*80-120*			

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ51903 - EPA 5030C (GC)										
Matrix Spike Dup (EJ51903-MSD1)	**Source: 5J19002-07**			Prepared: 10/19/05 Analyzed: 10/20/05						
Benzene	1.22	0.0250	mg/kg dry	1.30	ND	93.8	80-120	9.38	20	
Toluene	1.37	0.0250	"	1.30	ND	105	80-120	7.20	20	
Ethylbenzene	1.53	0.0250	"	1.30	ND	118	80-120	3.45	20	
Xylene (p/m)	3.12	0.0250	"	2.60	ND	120	80-120	13.3	20	
Xylene (o)	1.56	0.0250	"	1.30	ND	120	80-120	7.79	20	
Surrogate: a,a,a-Trifluorotoluene	*37.8*		*ug/kg*	*40.0*		*94.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.8*		*"*	*40.0*		*99.5*	*80-120*			
Batch EJ51913 - Solvent Extraction (GC)										
Blank (EJ51913-BLK1)				Prepared & Analyzed: 10/19/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*41.6*		*mg/kg*	*50.0*		*83.2*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.5*		*"*	*50.0*		*85.0*	*70-130*			
LCS (EJ51913-BS1)				Prepared & Analyzed: 10/19/05						
Gasoline Range Organics C6-C12	415	10.0	mg/kg wet	500		83.0	75-125			
Diesel Range Organics >C12-C35	414	10.0	"	500		82.8	75-125			
Total Hydrocarbon C6-C35	829	10.0	"	1000		82.9	75-125			
Surrogate: 1-Chlorooctane	*48.3*		*mg/kg*	*50.0*		*96.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.8*		*"*	*50.0*		*108*	*70-130*			
Calibration Check (EJ51913-CCV1)				Prepared: 10/19/05 Analyzed: 10/20/05						
Gasoline Range Organics C6-C12	469		mg/kg	500		93.8	80-120			
Diesel Range Organics >C12-C35	443		"	500		88.6	80-120			
Total Hydrocarbon C6-C35	912		"	1000		91.2	80-120			
Surrogate: 1-Chlorooctane	*54.9*		*"*	*50.0*		*110*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.1*		*"*	*50.0*		*104*	*70-130*			

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ51913 - Solvent Extraction (GC)										
Matrix Spike (EJ51913-MS1)	**Source: 5J19007-01**			Prepared & Analyzed: 10/19/05						
Gasoline Range Organics C6-C12	427	10.0	mg/kg dry	512	ND	83.4	75-125			
Diesel Range Organics >C12-C35	426	10.0	"	512	ND	83.2	75-125			
Total Hydrocarbon C6-C35	853	10.0	"	1020	ND	83.6	75-125			
Surrogate: 1-Chlorooctane	*50.8*		*mg/kg*	*50.0*		*102*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.6*		*"*	*50.0*		*105*	*70-130*			
Matrix Spike Dup (EJ51913-MSD1)	**Source: 5J19007-01**			Prepared & Analyzed: 10/19/05						
Gasoline Range Organics C6-C12	429	10.0	mg/kg dry	512	ND	83.8	75-125	0.467	20	
Diesel Range Organics >C12-C35	412	10.0	"	512	ND	80.5	75-125	3.34	20	
Total Hydrocarbon C6-C35	841	10.0	"	1020	ND	82.5	75-125	1.42	20	
Surrogate: 1-Chlorooctane	*50.2*		*mg/kg*	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.4*		*"*	*50.0*		*103*	*70-130*			

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ51912 - General Preparation (Prep)										
Blank (EJ51912-BLK1)				Prepared: 10/19/05 Analyzed: 10/20/05						
% Solids	100		%							
Duplicate (EJ51912-DUP1)	Source: 5J18008-01			Prepared: 10/19/05 Analyzed: 10/20/05						
% Solids	89.1		%		89.2			0.112	20	
Duplicate (EJ51912-DUP2)	Source: 5J19008-02			Prepared: 10/19/05 Analyzed: 10/20/05						
% Solids	92.2		%		91.9			0.326	20	
Batch EJ52107 - Water Extraction										
Blank (EJ52107-BLK1)				Prepared: 10/20/05 Analyzed: 10/21/05						
Chloride	ND	0.500	mg/kg							
LCS (EJ52107-BS1)				Prepared: 10/20/05 Analyzed: 10/21/05						
Chloride	8.90		mg/L	10.0		89.0	80-120			
Calibration Check (EJ52107-CCV1)				Prepared: 10/20/05 Analyzed: 10/21/05						
Chloride	9.05		mg/L	10.0		90.5	80-120			
Duplicate (EJ52107-DUP1)	Source: 5J19009-01			Prepared: 10/20/05 Analyzed: 10/21/05						
Chloride	360	10.0	mg/kg		407			12.3	20	
Batch EJ52616 - Water Extraction										
Blank (EJ52616-BLK1)				Prepared: 10/25/05 Analyzed: 10/26/05						
Chloride	ND	0.500	mg/kg							

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ52616 - Water Extraction										
LCS (EJ52616-BS1)				Prepared: 10/25/05 Analyzed: 10/26/05						
Chloride	8.39		mg/L	10.0		83.9	80-120			
Calibration Check (EJ52616-CCV1)				Prepared: 10/25/05 Analyzed: 10/26/05						
Chloride	8.49		mg/L	10.0		84.9	80-120			
Duplicate (EJ52616-DUP1)		**Source: 5J19002-01**		Prepared: 10/25/05 Analyzed: 10/26/05						
Chloride	390	10.0	mg/kg		394			1.02	20	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Notes and Definitions

J

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not ReportedDetected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Celey D Keene Date: 10/31/2005

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Principle 1 & 2 Batt.
Location	UL-C, Sect. 27, T 18 S, R 31 E
Project Reference	160032
EPI Sampler Name	John Robinson

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
5J19009																									
-01	1	BH-1 (2')	G	1			1					X		18-Oct-05	9:10	X	X	X								
-02	2	BH-1 (5')	G	1			1					X		18-Oct-05	9:15	X	X	X								
-03	3	BH-1 (10')	G	1			1					X		18-Oct-05	9:20			X				See Notes				
-04	4	BH-1 (15')	G	1			1					X		18-Oct-05	9:30			X				See Notes				
-05	5	BH-1 (20')	G	1			1					X		18-Oct-05	9:46	X	X	X				See Notes				
-06	6	BH-1 (25')	G	1			1					X		18-Oct-05	9:57	X	X	X				See Notes				
-07	7	BH-1 (30')	G	1			1					X		18-Oct-05	10:10			X				See Notes				
	8																									
	9																									
	10																									

Sampler Relinquished: Iain Olness	Date 10/19/05 Time 1055	Received By: Jesse Mills	E-mail results to: iolness@envplus.net
Relinquished by: Jesse Mills	Date 10/19/05 Time 7:10	Received By: (lab staff) Carrie Kelly	NOTES: Analyze subsequent samples for chloride until two consecutive samples are below 250 mg/Kg. Only Analyze BH-1 (20') and BH-1 (25') for TPH and BTEX if analytical results for BH-1 (5') indicate TPH >5,000 ppm, benzene >10 ppm and/or BTEX >50 ppm.
Delivered by:	Sample Cool & Intact Yes / No	Checked By:	chlorides have plastic bags / 4oz labels seals on jars 5.0

Variance / Corrective Action Report – Sample Log-In

Client: EPI

Date/Time: 10/19/05 2:15

Order #: 5519009

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	5.0 C
Shipping container/cooler in good condition?	(Yes)	No	
Custody Seals intact on shipping container/cooler?	(Yes)	No	Not present
Custody Seals intact on sample bottles?	(Yes)	No	Not present
Chain of custody present?	(Yes)	No	
Sample Instructions complete on Chain of Custody?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
Samples properly preserved?	(Yes)	No	
Sample bottles intact?	(Yes)	No	
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	(Not Applicable) for Chloride samples

Other observations:

Variance Documentation:

Contact Person: _____ Date/Time: _____ Contacted by: _____

Regarding:

Corrective Action Taken:

ANALYTICAL RESULTS NOT INCLUDED IN THE DRAFT COPY OF THE REPORT

ATTACHMENT III

SOIL BORING LOG

Log Of Test Borings

(NOTE - Page 1 of 1)

ENVIRONMENTAL PLUS, INC.
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES
EUNICE
505-394-3481

Project Number: 160032
Project Name: Chesapeake Principle #1 & #2 Battery
Location: UL-C, Section 27, Township 18 South, Range 31 East
Boring Number: BH-1 | Surface Elevation: 3,635

Start Date: 10/18/05 Time: 0910 hrs
Completion Date: 10/18/05 Time: 1010 hrs

Sample # and Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	U.S.C.S. Symbol	Depth (feet)	Description
0910				5.4	SP	2	SAND, Oil Stained
0915				2.5	SP	5	SAND
0920				3.3	SP	10	SAND
0930				3.5	SP	15	SAND
0946				1.6	SP	20	SAND, Clay
0957				1.3	SP	25	SAND, Clay
1010				1.6	SP	30	Caliche SAND End of Boring at 30.0'

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-In Depth	Water Level
10/18/05	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: HSA 3.5" ID
Backfill Method: Bentonite
Field Representative: JR

ATTACHMENT IV

COPY OF INITIAL C-141

Chesapeake
Information and Metrics

Incident Date:	NMOCD Notified:
17 September 2005	18 September 2005

Site: Principle 1 & 2 Battery	**Assigned Site Reference #:** 160032
Company: Chesapeake Energy	
Street Address: 5014 Carlsbad Highway	
Mailing Address: 5014 Carlsbad Highway	
City, State, Zip: Hobbs, New Mexico 88240	
Representative: Bradley Blevins	
Representative Telephone: (505) 391-1462 ext. 24	
Telephone:	
Fluid volume released (bbls): 154 barrels	**Recovered (bbls):** ≈80 barrels
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)	
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)	
Leak, Spill, or Pit (LSP) Name: Principle 1 & 2 Battery	
Source of contamination: 500 barrel produced water tank.	
Land Owner, i.e., BLM, ST, Fee, Other: United States Government- Bureau of Land Manangement	
LSP Dimensions: 100 feet by 100 feet, and 60 feet by 90 feet	
LSP Area: ≈5,100 ft^2	
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: N 32° 43' 23.131"	
Longitude: W 103° 51' 37.137"	
Elevation above mean sea level: 3,635'	
Feet from South Section Line:	
Feet from West Section Line:	
Location- Unit or ¼¼: NE¼ of the NW¼	**Unit Letter:** C
Location- Section: 27	
Location- Township: T18S	
Location- Range: R31E	
Surface water body within 1000 ' radius of site: none	
Domestic water wells within 1000' radius of site: none	
Agricultural water wells within 1000' radius of site: none	
Public water supply wells within 1000' radius of site: none	
Depth from land surface to ground water (DG): > 100 feet	
Depth of contamination (DC): unknown	
Depth to ground water (DG – DC = DtGW): > 100 feet	

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water Body
If Depth to GW <50 feet: *20 points*	If <1000' from water source, or;<200' from private domestic water source: *20 points*	<200 horizontal feet: *20 points*
If Depth to GW 50 to 99 feet: *10 points*		200-100 horizontal feet: *10 points*
If Depth to GW >100 feet: *0 points*	If >1000' from water source, or; >200' from private domestic water source: *0 points*	>1000 horizontal feet: *0 points*
Ground water Score = 0	*Wellhead Protection Area Score= 0*	*Surface Water Score= 0*

Site Rank (1+2+3) = 10

Total Site Ranking Score and Acceptable Concentrations

Parameter	>19	10-19	0-9
Benzene[1]	10 ppm	10 ppm	10 ppm
BTEX[1]	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm

[1]100 ppm field VOC headspace measurement may be substituted for lab analysis

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: Chesapeake Energy	**Contact:** Bradley Blevins
Address: 5014 Carlsbad Highway	**Telephone No.:** (505) 391-1462 ext. 24
Facility Name: Principle 1 & 2 Battery	**Facility Type:** Tank Battery

Surface Owner: United States Government-Bureau of Land Management	**Mineral Owner:** United States Government-Bureau of Land Management	**Lease No.:** BLM #LC-029392-B

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	27	18S	31E	990	North	1650	West	Eddy

Latitude: N 32° 43' 23.131" **Longitude:** W 103° 51' 37.137"

NATURE OF RELEASE

Type of Release: Produced Water **Source of Release:** Tank Battery	**Volume of Release:** 154 barrels **Date and Hour of Occurrence:** September 17, 2005 P.M.	**Volume Recovered:** 80 barrels **Date and Hour of Discovery:** September 18, 2005 A.M.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** Gerry Guye, NMOCD- Artesia	
By Whom? Bradley Blevins, Chesapeake	**Date and Hour:** September 18, 2005 @ 1100 hours	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Describe Cause of Problem and Remedial Action Taken.* Lightening strike threw 500 barrel fiberglass water tank approximately 100-feet from tank battery location. Wells were shut in upon discovery.

Describe Area Affected and Cleanup Action Taken.* Approximately 5,100 square feet of surface area was impacted by the release. The site will be delineated and a Remediation/Closure Plan developed and submitted to the NMOCD.

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: Bradley Blevins	**Approved by District Supervisor:**	
Title: Field Technician	**Approval Date:**	**Expiration Date:**
E-mail Address: bblevins@chkenergy.com	**Conditions of Approval:**	**Attached** ☐
Date: **Phone:** (505) 391-1462 ext. 24		

* **Attach Additional Sheets If Necessary**