Chesapeake

SOIL REMEDIATION, CLOSURE DOCUMENTATION, AND FINAL C-141

Conoco Federal #1 Battery
Ref. #160004

UL-L (NW¼ of the SW¼) of Section 17, R32E, T18S
Latitude 32°44'48.099"N and Longitude 103°47'44.925"W
Elevation ~3,765'amsl

~8.5 miles south of Maljamar, Lea County, New Mexico

March 2005

Prepared by

Environmental Plus, Inc.
2100 Avenue O
P.O. Box 1558
Eunice, New Mexico 88231
Tele 505•394•3481 FAX 505•394•2601

Chesapeake 147179
facility - fPAC0603427327
Inspekd - ePAC0603427478
incident - nPAC0603427527
appl. - pPAC0603427749

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OCD

STANDARD OF CARE

Soil Remediation, Closure Documentation, and Final C-141

Conoco Federal #1 Battery
Ref. #160004

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993), the NMOCD Unlined Surface Impoundment Closure Guidelines (February 1993), and the Environmental Plus, Inc. (EPI) Standard Operating Procedures and Quality Assurance/Quality Control Plan. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were arrived at with currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered EPI professional with a background in engineering, environmental, and/or the natural sciences.

This report was prepared by:

Patrick W. McCasland — March 21, 2005
Date

This report was reviewed by:

Iain Olness, PG — 23 March 2005
Date

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NMOCD - New Mexico Oil Conservation Division
NMSLO - New Mexico State Land Office
Chesapeake - Chesapeake
EPI - Environmental Plus, Inc.
BLM - U.S. Department of Interior Bureau of Land Management

Table of Contents

1.0 INTRODUCTION

This site is located in UL-L (NW¼ of the SW¼) of Section 17, R32E, T18S at a latitude of 32°44'48.099"N and a longitude of 103°47'44.925"W, approximately 8.5 miles south of Maljamar, Lea County, New Mexico on property owned by the US Department of the Interior BLM. A topographical map is included in Attachment I. The estimated 125 barrel (bbl) crude oil leak occurred on December 27, 2004 at 10:00 AM at the Chesapeake Conoco Federal #1 Tank Battery and was due to an improper valve configuration. Approximately 110 bbls was recovered and returned to the tank. The release impacted approximately 444 square feet (ft^2) inside the berm; 2,534 ft^2on the caliche pad; and 4,567 ft^2 off the caliched location. The total affected surface area was approximately 7,545 ft^2. Based on water well information from the New Mexico Office of the State Engineer, groundwater was estimated to occur approximately 460-feet below ground surface ('bgs). There are no surface water bodies or domestic or agricultural water wells observed to be within a 1,000-foot radius of the site. This gives the site a 0 point New Mexico Oil Conservation Division (NMOCD) ranking score that applies the following remedial guidelines for the "constituents/contaminants of concern" (CoCs):

CONSTITUENTS/CONTAMINANTS OF CONCERN	REMEDIAL GOAL
Benzene	10 mg/Kg
BTEX (the mass sum of benzene, toluene, ethylbenzene, and xylenes)	50 mg/Kg
Total Petroleum Hydrocarbon Using EPA method 8015m (TPH^{8015m})	5,000 mg/Kg
Chloride	Chloride residuals can not be capable of impacting local groundwater above the New Mexico Water Quality Control Commission standard of 250 mg/L.

On December 28, 2004, Chesapeake retained Environmental Plus, Inc. (EPI) to mitigate, delineate and remediate the release consistent with the NMOCD guidelines. Mitigation and remediation began on December 28, 2004. The impacted caliche around the tanks and the surface area northwest of the tanks on the pad down to a depth of approximately 1'bgs was excavated and disposed in the NMOCD approved and permitted Artesia Aeration Landfarm. The excavated area was backfilled with clean caliche, compacted and the facility berm reconstructed to a height of approximately 3-feet. Approximately 3-feet of soil (608 cubic yards (yd^3)) was excavated from the remainder of the release area and blended with local clean soil. Analytical results from laboratory analysis of the blended soil samples and the excavation sidewall and bottom samples were all less than the CoC remedial goals. The excavation was backfilled with the remediated soil and contoured to the natural grade. The site will be reseeded in the spring of 2005. EPI, on behalf of Chesapeake, requests that the NMOCD require "no further action" at this site.

2.0 ENVIRONMENTAL MEDIA CHARACTERIZATION

Chemical parameters of the soil and groundwater were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents:

- Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)
- Unlined Surface Impoundment Closure Guidelines (February 1993)

Acceptable thresholds for **contaminants/constituents of concern** (CoCs), i.e., TPH, benzene, and the mass sum of benzene, toluene, ethylbenzene, and total xylene (BTEX), were determined based on the NMOCD Ranking Criteria as follows:

- Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water,
- Wellhead Protection Area, i.e., distance from fresh water supply wells, and
- Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.

2.1 GEOLOGICAL DESCRIPTION

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico" (A. Nicholson and A. Clebsch, 1961), describes the near surface geology of southern Lea County as an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche.

2.2 ECOLOGICAL DESCRIPTION

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (Querqus harvardi) interspersed with Honey Mesquite (Prosopis glandulosa) along with typical desert grasses and weeds. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, and the Mule Deer. Reptiles, amphibians, and birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 AREA GROUND WATER

The New Mexico Office of the State Engineer water well database indicates groundwater occurring in the area at approximately 460'bgs. According to the USGS, the groundwater elevation decreases generally to the southeast.

2.4 AREA WATER WELLS

The New Mexico Office of the State Engineer records two water wells in T18S R32E but none in Section 17. The nearest well (CP-00672) is approximately 0.8

mile northwest of the site in Section 7 at a similar elevation with a 1985 recorded water level of 460'bgs. The other well (CP-00566) is located approximately 2 miles north in Section 4 with a 1977 recorded water level of 65'bgs at a higher elevation. Because of the similar elevations of the site and well CP-00672, groundwater is estimated to occur at the site at approximately 460'bgs.

Chesapeake Conoco Federal #1 Battery Area Water Level Information									
Well Number	Tws	Rng	Sec	Easting	Northing	Date	Water 'bgs	Distance and Direction from Site	Elevation 'amsl
CP 00566	18S	32E	4	615011	3627072	6/3/1977	65	11,950 feet northeast	3,861
CP 00672	18S	32E	7	612526	3624741	1/29/1985	460	4,615 feet northwest	3,759
								Site: Chesapeake Conoco Federal #1 Battery	3,765
Source: New Mexico Office of the State Engineer Database. Elevations interpolated from the USGS Topographical map.									

2.5 Area Surface Water Bodies

There are no permanent or intermittent surface water bodies within a 1,000-foot radius of the site.

3.0 NMOCD Site Ranking

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to ground water, the site has an NMOCD ranking score of 0 points with the soil remedial goals highlighted below in the Site Ranking Matrix.

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) = 0 + 0 + 0 = 0 points		

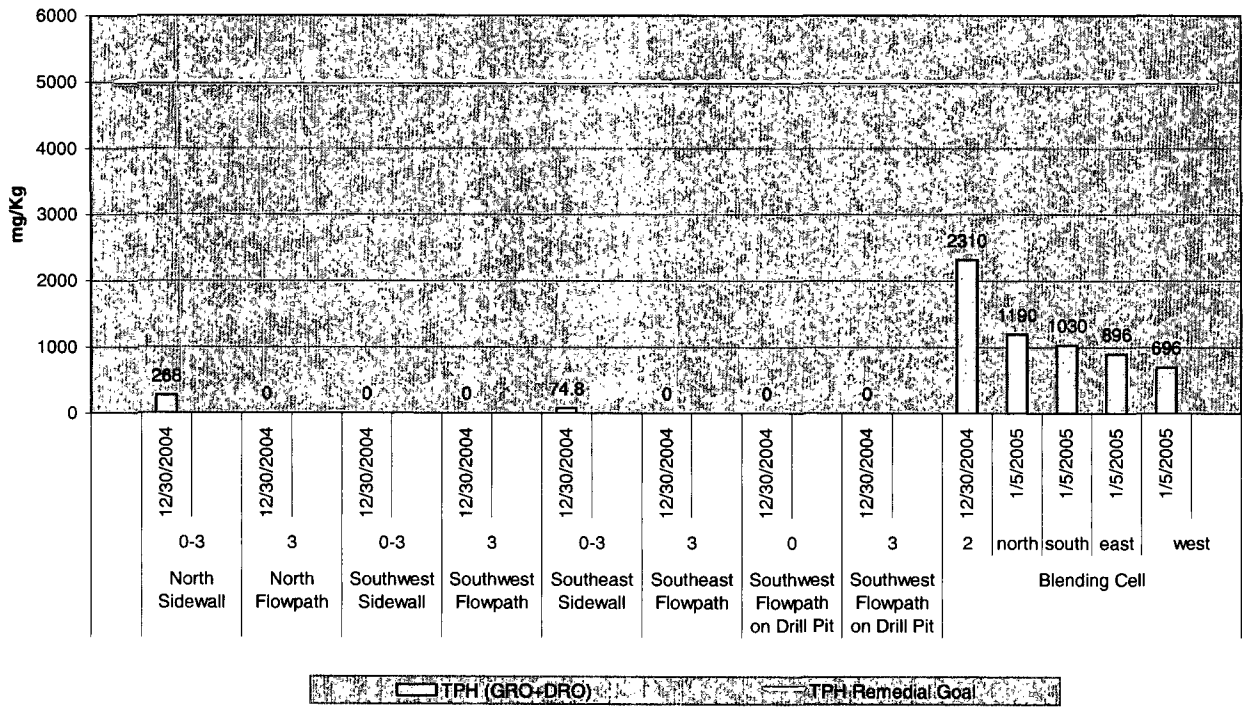
Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Parameter	>19	10-19	**0-9**
Benzene[1]	10 ppm	10 ppm	**10 ppm**
BTEX[1]	50 ppm	50 ppm	**50 ppm**
TPH	100 ppm	1000 ppm	**5000 ppm**

4.0 Soil Delineation

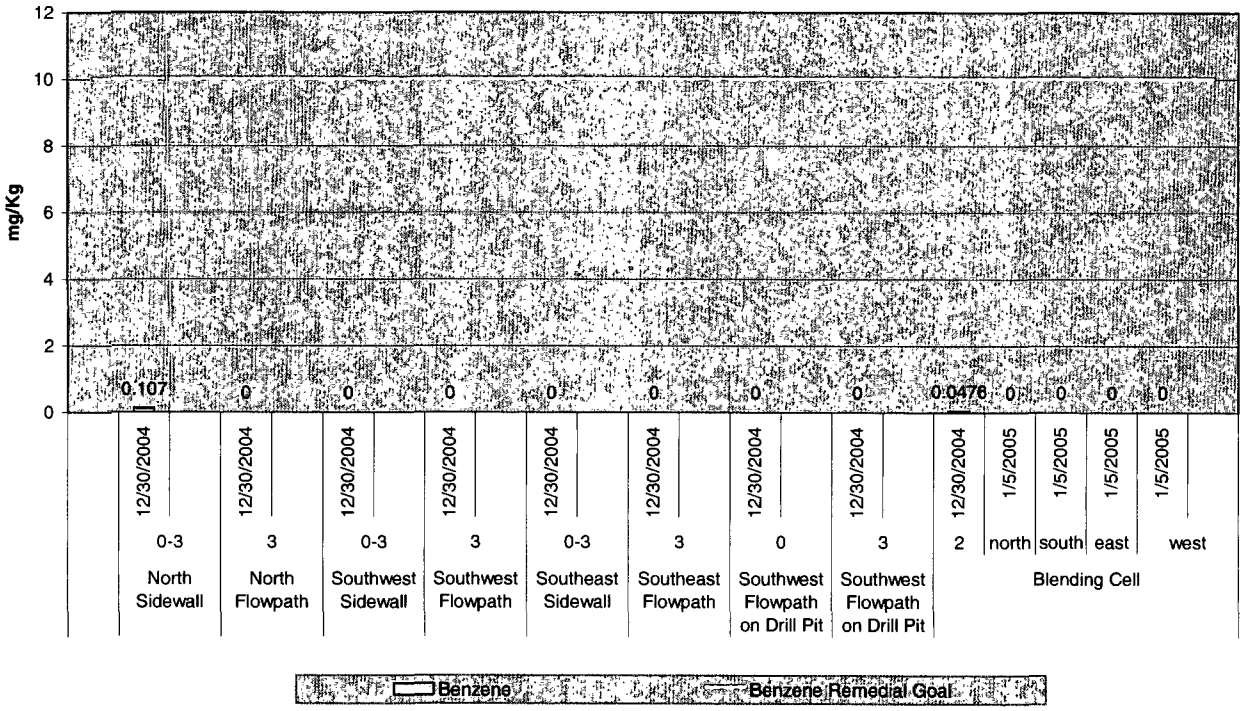
On December 28, 2004, Chesapeake retained Environmental Plus, Inc. (EPI) to mitigate, delineate and remediate the release consistent with the NMOCD guidelines. Mitigation and remediation began on December 28, 2004. The impacted caliche around the tanks and the surface area northwest of the tanks on the facility pad down to a depth of approximately 1'bgs was excavated and disposed in the NMOCD approved and permitted Artesia Aeration Landfarm. The excavated area was backfilled with clean caliche, compacted and the facility berm reconstructed to a height of approximately 3-feet. Approximately 3-feet of soil

(608 cubic yards (yd^3)) was excavated from the remainder of the release area and blended with local clean soil. Composite samples of the excavation sidewalls and bottom were collected on December 30, 2004 and submitted to Environmental Lab of Texas (ELT) in Odessa, Texas for quantification of the CoCs. Analytical results from laboratory analyses of the excavation sidewall and bottom samples were all less than the CoC remedial goals. On January 5, 2005, composite samples were collected from the blended soil pile quadrants and submitted to ELT for quantification of the CoCs. Analytical results from laboratory analysis of the blended soil samples were all less than the CoC remedial goals. Subsequently, the excavation was backfilled with the remediated soil and contoured to the natural grade. The laboratory reports are included and the analytical results summarized in Attachment III and illustrated below. The site map showing the affected area is included in Attachment I.

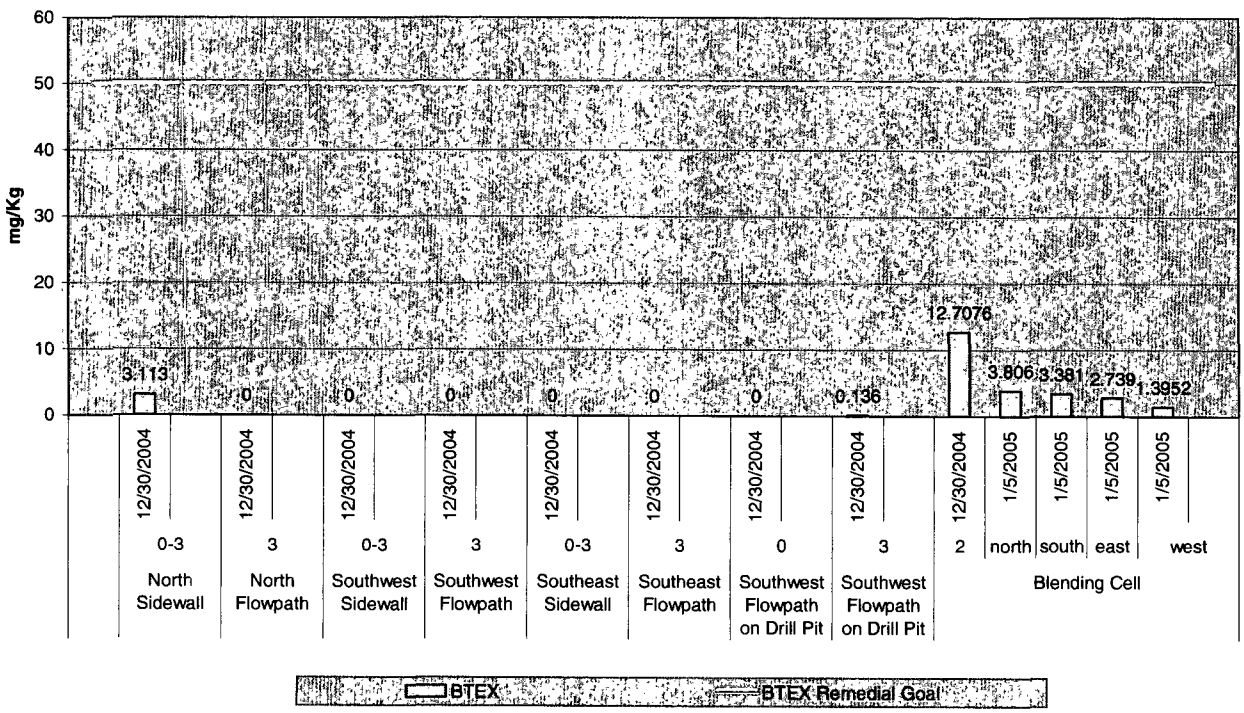
Chesapeake Energy
Conoco Federal #1 Tank Battery
Total Petroleum Hydrocarbon 8015M (TPH) Delineation

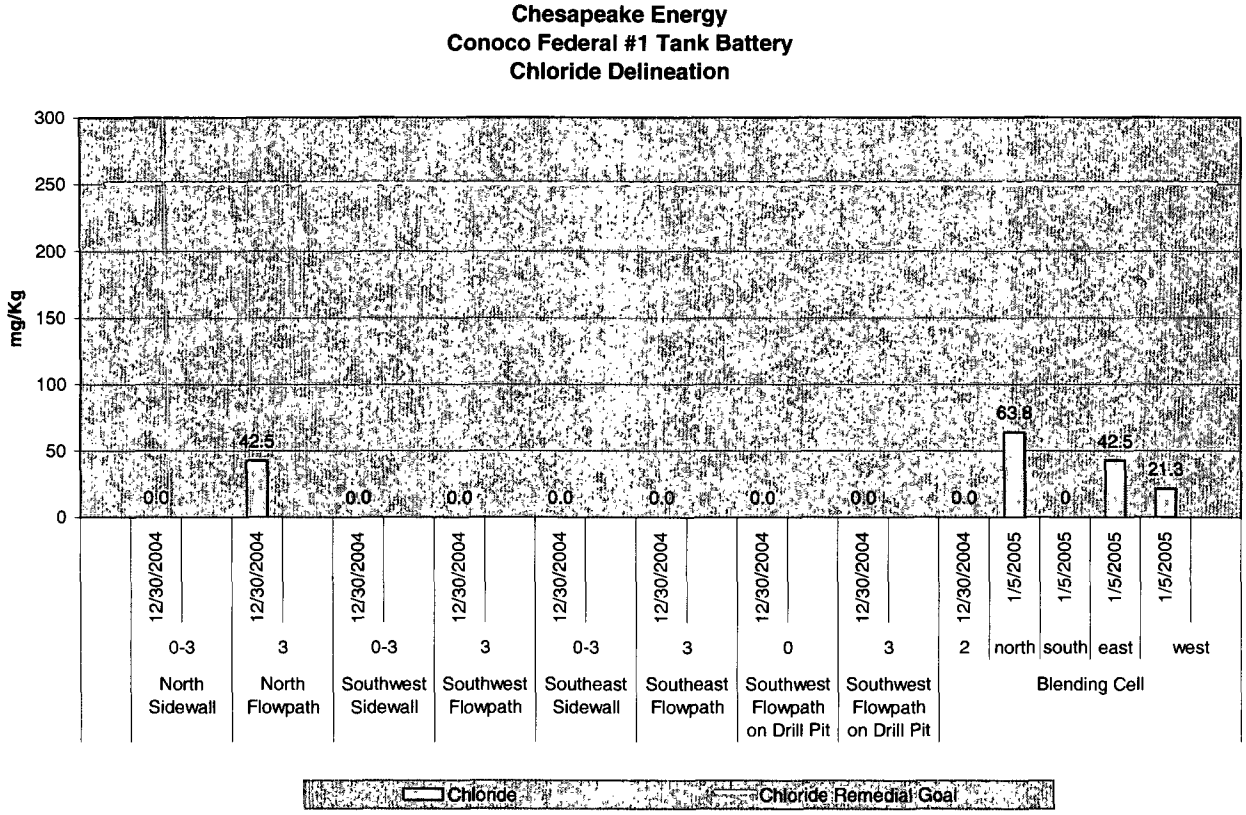


Chesapeake Energy
Conoco Federal #1 Tank Battery
Benzene Delineation



Chesapeake Energy
Conoco Federal #1 Tank Battery
BTEX Delineation





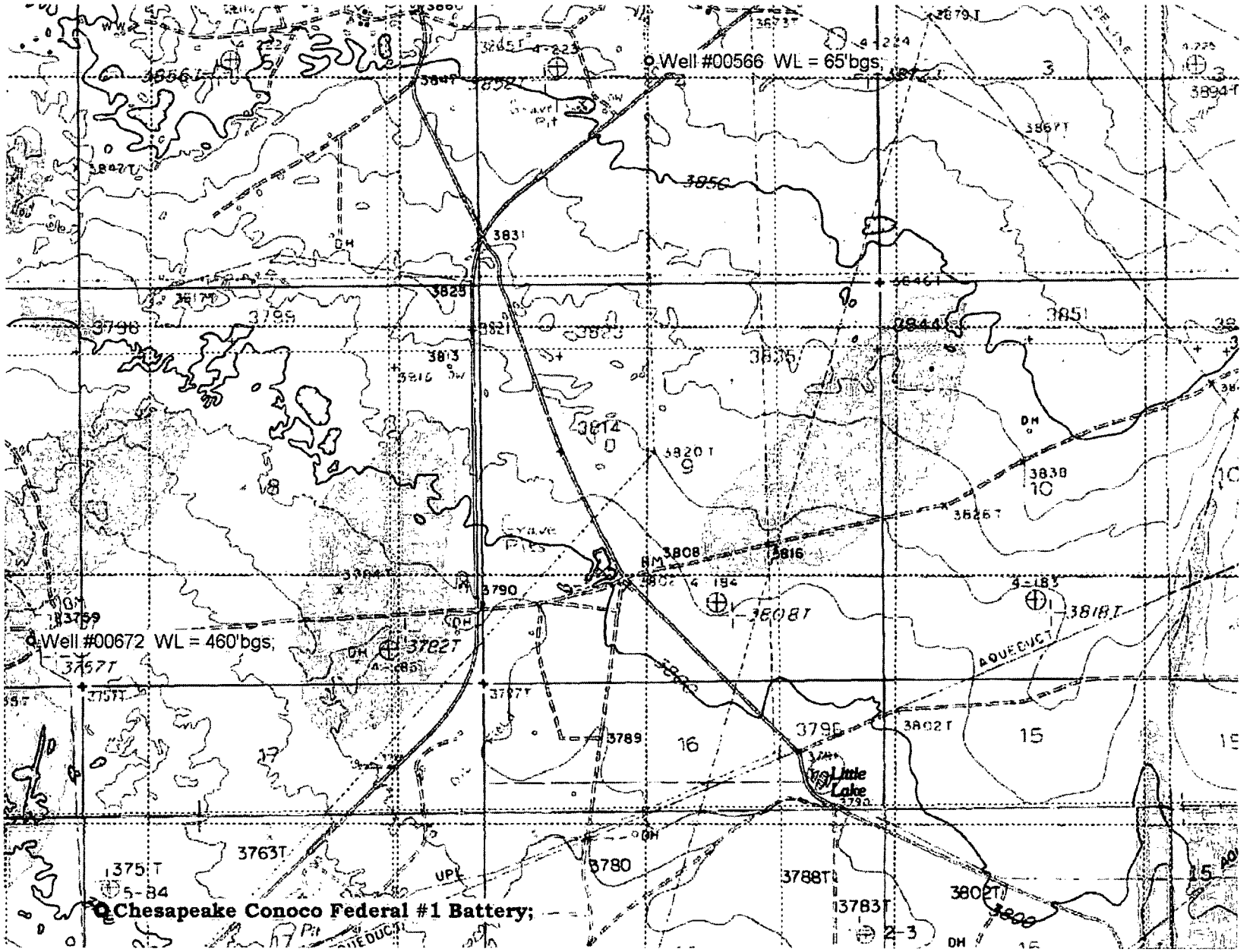
5.0 Ground Water Investigation

The CoC delineation information collected during remediation of the release does not warrant a groundwater investigation and concludes that this release did not impact ground water in excess of the WQCC standards.

6.0 Closure Justification

The information provided in this report documents achievement of the NMOCD site specific CoC remedial goals. EPI, on behalf of Chesapeake, requests that the NMOCD require "no further action" at this site. The site will be reseeded in the spring of 2005. The final NMOCD form C-141 is included in Attachment V.

ATTACHMENT I: SITE MAPS


Well #00566 WL = 65'bgs;
Well #00672 WL = 460'bgs;
Chesapeake Conoco Federal #1 Battery;
Little Lake
AQUEDUCT

CHESAPEAKE ENERGY
CONOCO FEDERAL
#1 BATTERY
UL-L SEC 17
T18S R32E
LEA CO NM
AFFECTED AREA
~7,545 SQFT

N

SCALE 1:3,000

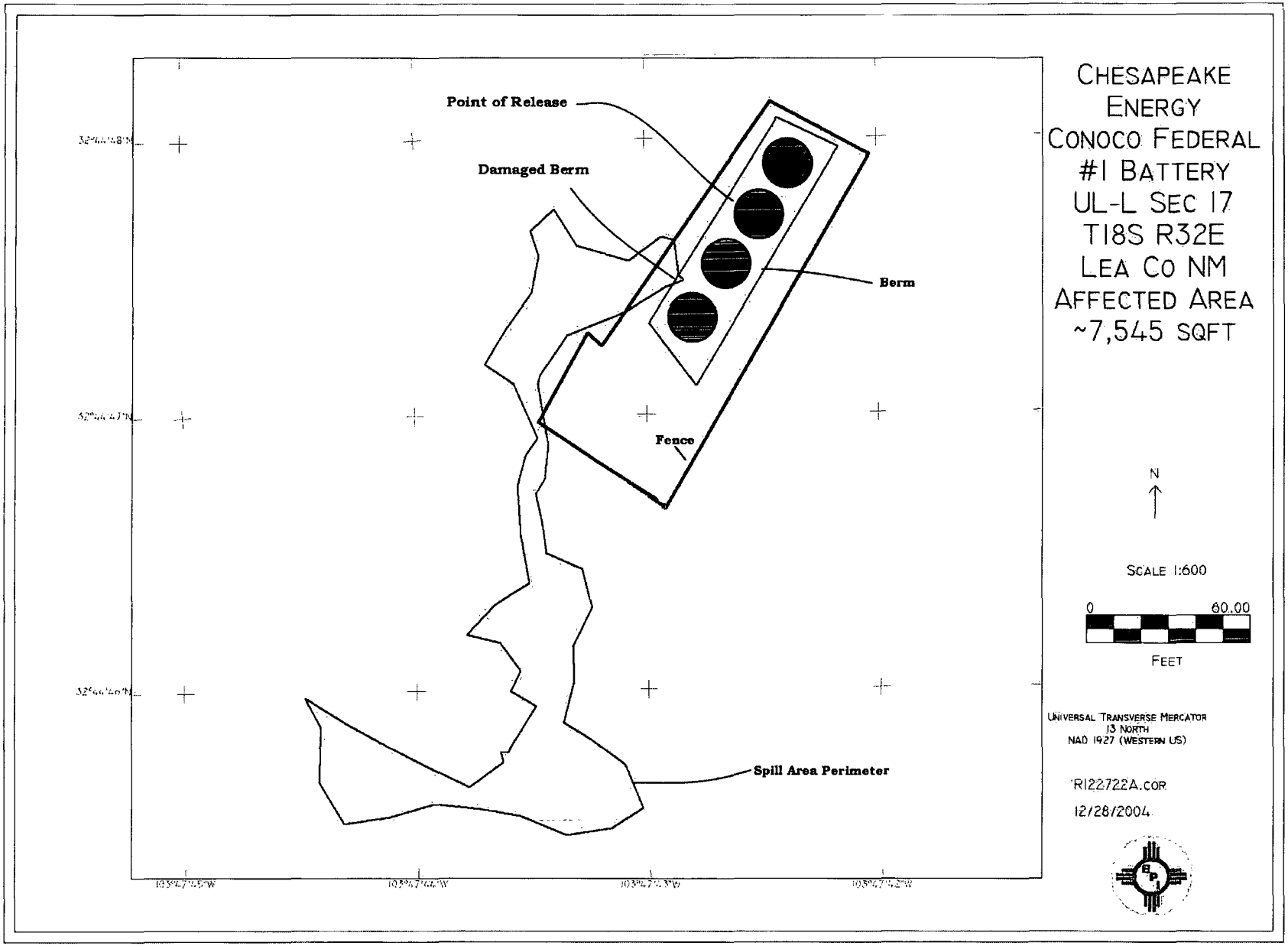
0 300.0

FEET

UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1927 (WESTERN US)

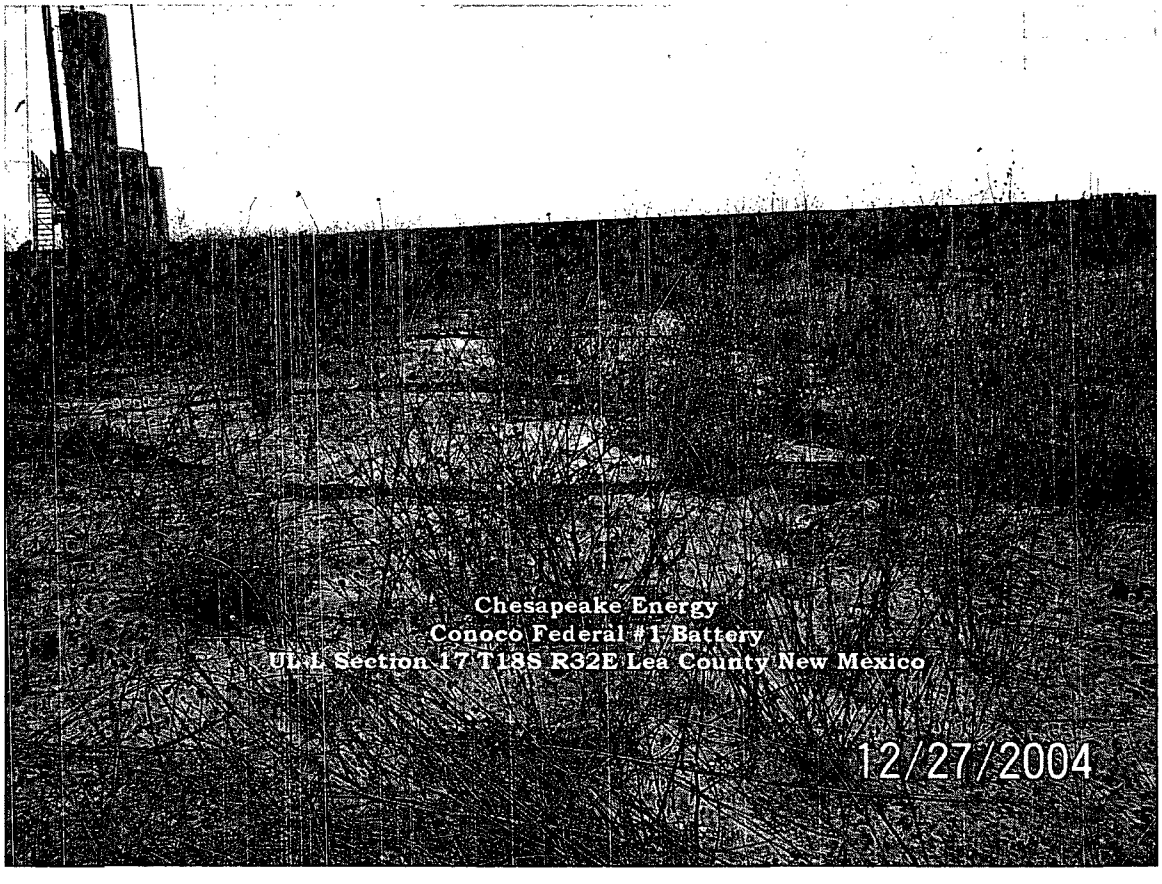
RI22722A.COR

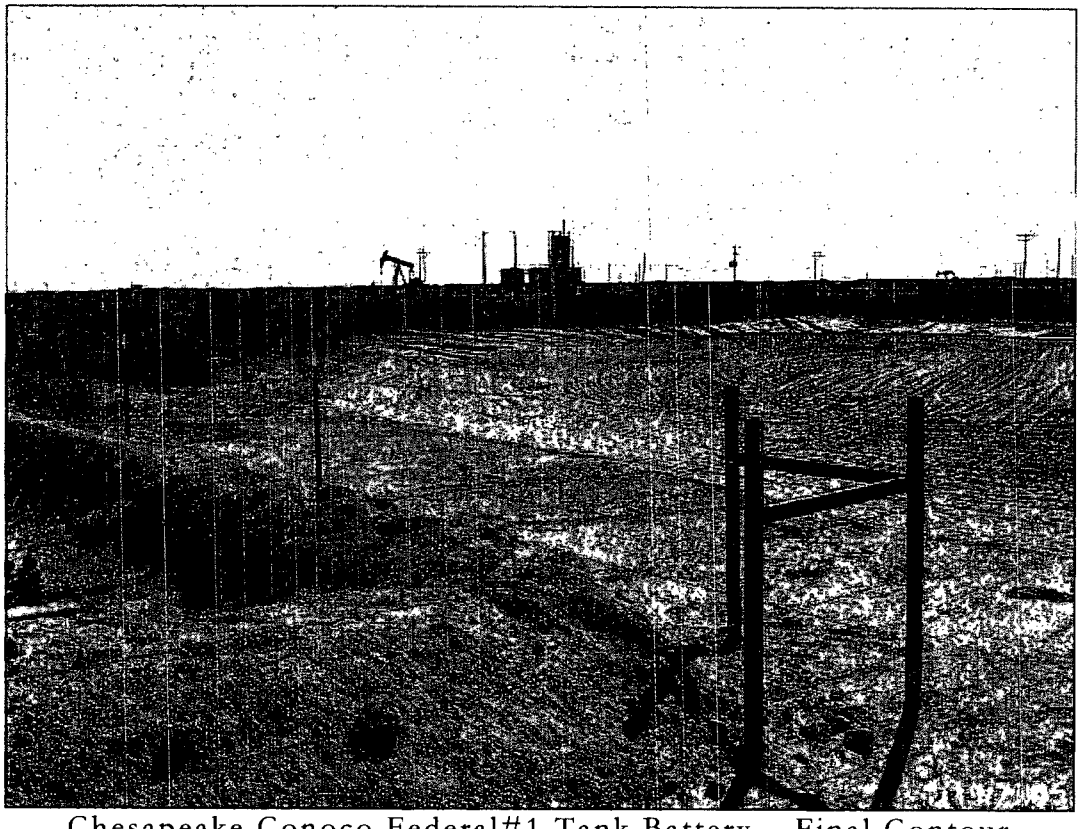
12/28/2004


Point of Release
Damaged Berm
Berm
Fence
Spill Area Perimeter
CHESAPEAKE ENERGY
CONOCO FEDERAL #1 BATTERY
UL-L SEC 17
T18S R32E
LEA CO NM
AFFECTED AREA
~7,545 SQFT
N
SCALE 1:600
0
60.00
FEET
UNIVERSAL TRANSVERSE MERCATOR
13 NORTH
NAD 1927 (WESTERN US)
RI22722A.COR
12/28/2004

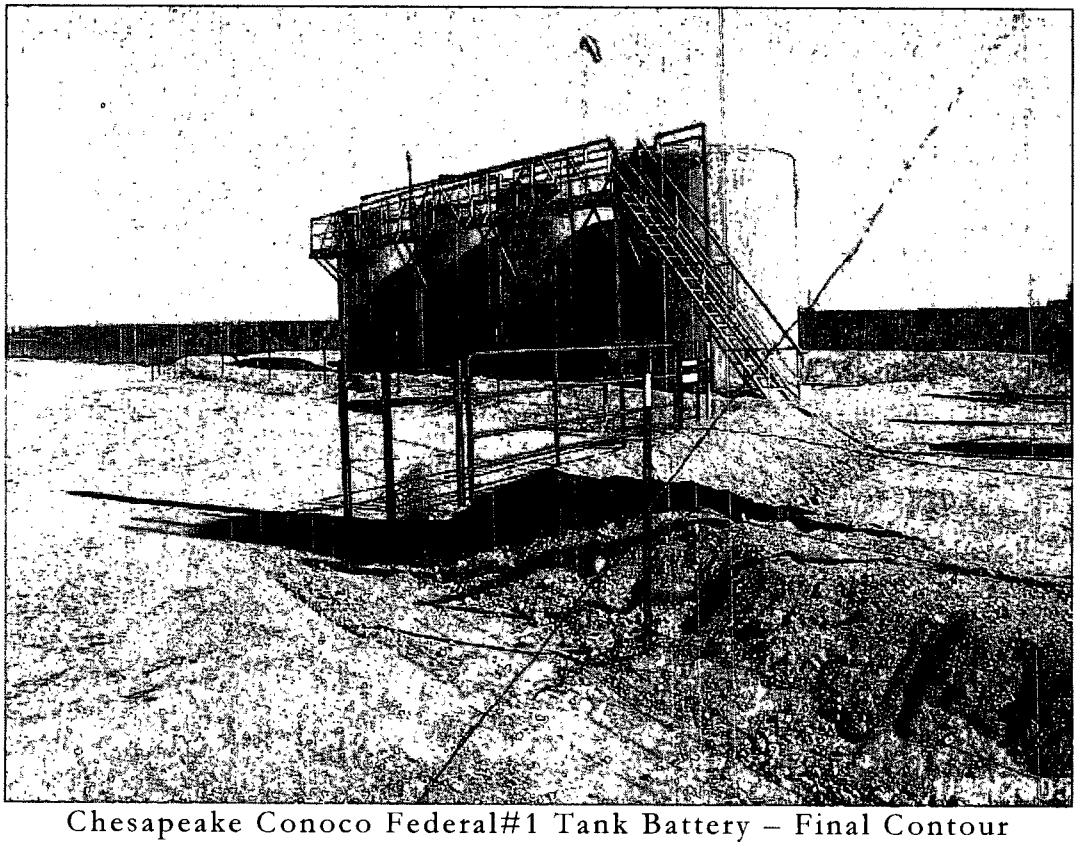
ATTACHMENT II: PHOTOGRAPHS


Damaged Berm
Chesapeake Energy
Conoco Federal #1 Battery
UL-L Section 17 T18S R32E Lea County New Mexico
12/27/2004


Chesapeake Energy
Conoco Federal #1 Battery
UL-L Section 17 T18S R32E Lea County New Mexico
12/27/2004



Chesapeake Conoco Federal#1 Tank Battery – Final Contour



Chesapeake Conoco Federal#1 Tank Battery – Final Contour

ATTACHMENT III: ANALYTICAL REPORTS AND SUMMARY

Chesapeake Conoco Federal #1 Battery
UL-L Section 17, T18S, R32E Lea County New Mexico
Analytical Results

Sample Location	Sampling Interval	Sample Description	Sample ID	Sample Date	VOC[2]	GRO[3]	DRO[4]	TPH (GRO+DRO)	BTEX[5]	Benzene	Toluene	Ethylbenzene	p/m-Xylene	o-Xylene	Chloride
	feet below ground surface				ppm	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
North Sidewall	0-3-feet	Composite	CCF#1 NSW	12/30/2004	1484	84.5	183	268	3.1130	0.1070	0.6010	0.6070	1.1600	0.6380	ND
North Flowpath	3-feet	Composite	CCF#1 N@3'	12/30/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	42.5
Southwest Sidewall	0-3-feet	Composite	CCF#1 SWSW	12/30/2004	188	ND	J[9.98]	ND	ND	ND	ND	ND	ND	ND	ND
Southwest Flowpath	3-feet	Composite	CCF#1 SW@3'	12/30/2004	83.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Southeast Sidewall	0-3-feet	Composite	CCF#1 SESW	12/30/2004	495	10.2	64.6	74.8	ND	ND	ND	ND	ND	ND	ND
Southeast Flowpath	3-feet	Composite	CCF#1 SE@3'	12/30/2004	34.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Southwest Flowpath on Drill Pit	Surface	Composite	CCF#1 SWPSur	12/30/2004	4.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Southwest Flowpath on Drill Pit	3-feet	Composite	CCF#1 SWP3'	12/30/2004	19.5	ND	ND	ND	0.1360	ND	0.0304	0.0456	0.0600	J[0.0222]	ND
Blending Cell	2-feet	Composite	CCF#1Blending Cell	12/30/2004	514	651	1660	2310	12.7076	0.0476	1.4800	2.8800	5.8100	2.4900	ND
Blending Cell	2-feet - northside	Composite	SCCR1504N	1/5/2005	227	291	899	1190	3.8060	ND	0.2160	0.7600	1.8700	0.9600	63.8
Blending Cell	2-feet - southside	Composite	SCCR1504S	1/5/2005	352	250	776	1030	3.3810	ND	0.2760	0.6870	1.5300	0.8880	ND
Blending Cell	2-feet - eastside	Composite	SCCR1504E	1/5/2005	289	229	667	896	2.7390	ND	0.1250	0.5430	1.2500	0.8210	42.5
Blending Cell	2-feet -westside	Composite	SCCR1504W	1/5/2005	386	164	532	696	1.3952	ND	0.0712	0.3020	0.7030	0.3190	21.3
				Method Detection Limits		10	10	10	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0
				NMOCD Remedial Goals	100	--	--	5000	50.0000	10.0000	--	--	--	--	WQCC[1]

WQCC[1] - New Mexico Water Quality Control Commission, chloride residuals cannot be capable of impacting local groundwater or surface water above 250 mg/L.
VOC[2] - Volatile organic compounds/constituents
GRO[3] - Gasoline Range Organics (C_6 - C_{12})
DRO[4] - Diesel Range Organics (C_{12} - C_{35})
BTEX[5] - The mass sum of benzene, toluene, ethylbenzene, m/p-xylene, and o-xylene.

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Pat McCasland

Chesapeake Energy

5014 Carlsbad Highway

Hobbs, NM 88240

Project: Conoco Federal #1

Project Number: None Given

Location: None Given

Lab Order Number: 5A05016

Report Date: 01/11/05

Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/11/05 16:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CCF#1 NSW	5A05016-01	Soil	12/30/04 09:00	01/05/05 13:36
CCF#1 N@3'	5A05016-02	Soil	12/30/04 09:03	01/05/05 13:36
CCF#1 SWSW	5A05016-03	Soil	12/30/04 09:05	01/05/05 13:36
CCF#1 SW@3'	5A05016-04	Soil	12/30/04 09:07	01/05/05 13:36
CCF#1 SESW	5A05016-05	Soil	12/30/04 09:10	01/05/05 13:36
CCF#1 SE@3'	5A05016-06	Soil	12/30/04 09:12	01/05/05 13:36
CCF#1 SWPSur	5A05016-07	Soil	12/30/04 11:00	01/05/05 13:36
CCF#1 SW P 3'	5A05016-08	Soil	12/30/04 11:05	01/05/05 13:36
CCF#1 Blending Cell	5A05016-09	Soil	12/30/04 14:14	01/05/05 13:36

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 NSW (5A05016-01) Soil									
Benzene	**0.107**	0.0250	mg/kg dry	25	EA51003	01/06/05	01/09/05	EPA 8021B	
Toluene	**0.601**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.607**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**1.16**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.638**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*143 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*144 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**84.5**	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**183**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**268**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*83.6 %*	*70-130*		"	"	"	"	
CCF#1 N@3' (5A05016-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*96.4 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*76.8 %*	*70-130*		"	"	"	"	
CCF#1 SWSW (5A05016-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*113 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**J [9.98]**	10.0	"	"	"	"	"	"	J
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 SWSW (5A05016-03) Soil									
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		*EA50509*	*01/05/05*	*01/07/05*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*76.0 %*	*70-130*		"	"	"	"	
CCF#1 SW@3' (5A05016-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*98.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*103 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*75.0 %*	*70-130*		"	"	"	"	
CCF#1 SESW (5A05016-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*119 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**10.2**	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**64.6**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**74.8**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*76.8 %*	*70-130*		"	"	"	"	

Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/11/05 16:25

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 SE@3' (5A05016-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*113 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*72.6 %*	*70-130*		"	"	"	"	
CCF#1 SWPSur (5A05016-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*106 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*115 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*82.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*70.2 %*	*70-130*		"	"	"	"	
CCF#1 SW P 3' (5A05016-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**0.0304**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.0456**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.0600**	0.0250	"	"	"	"	"	"	
Xylene (o)	**J [0.0222]**	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*114 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Organics by GC

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 SW P 3' (5A05016-08) Soil									
Surrogate: 1-Chlorooctane		*94.8 %*	*70-130*		*EA50509*	*01/05/05*	*01/07/05*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*78.4 %*	*70-130*		"	"	"	"	
CCF#1 Blending Cell (5A05016-09) Soil									
Benzene	**0.0476**	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**1.48**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**2.88**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**5.81**	0.0250	"	"	"	"	"	"	
Xylene (o)	**2.49**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*154 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*168 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**651**	10.0	mg/kg dry	1	EA50509	01/05/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**1660**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**2310**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*114 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	

Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/11/05 16:25

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 NSW (5A05016-01) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**16.5**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 N@3' (5A05016-02) Soil									
Chloride	**42.5**	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**6.5**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SWSW (5A05016-03) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**0.2**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SW@3' (5A05016-04) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**4.1**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SESW (5A05016-05) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**0.4**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SE@3' (5A05016-06) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**8.5**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SWPSur (5A05016-07) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**18.1**		%	"	EA50511	01/05/05	01/06/05	% calculation	
CCF#1 SW P 3' (5A05016-08) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**4.8**		%	"	EA50511	01/05/05	01/06/05	% calculation	

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Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/11/05 16:25

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CCF#1 Blending Cell (5A05016-09) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**1.6**		%	"	EA50511	01/05/05	01/06/05	% calculation	

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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 EA50509 - Solvent Extraction (GC)										
Blank (EA50509-BLK1)				Prepared: 01/05/05 Analyzed: 01/07/05						
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	*38.9*		*mg/kg*	*50.0*		*77.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.4*		*"*	*50.0*		*72.8*	*70-130*			
Blank (EA50509-BLK2)				Prepared: 01/06/05 Analyzed: 01/07/05						
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	*39.0*		*mg/kg*	*50.0*		*78.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.3*		*"*	*50.0*		*76.6*	*70-130*			
LCS (EA50509-BS1)				Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	478	10.0	mg/kg wet	500		95.6	75-125			
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125			
Total Hydrocarbon C6-C35	980	10.0	"	1000		98.0	75-125			
Surrogate: 1-Chlorooctane	*49.3*		*mg/kg*	*50.0*		*98.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.6*		*"*	*50.0*		*75.2*	*70-130*			
LCS (EA50509-BS2)				Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	475	10.0	mg/kg wet	500		95.0	75-125			
Diesel Range Organics >C12-C35	490	10.0	"	500		98.0	75-125			
Total Hydrocarbon C6-C35	965	10.0	"	1000		96.5	75-125			
Surrogate: 1-Chlorooctane	*48.4*		*mg/kg*	*50.0*		*96.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.6*		*"*	*50.0*		*73.2*	*70-130*			
Calibration Check (EA50509-CCV1)				Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	553		mg/kg	500		111	80-120			
Diesel Range Organics >C12-C35	576		"	500		115	80-120			
Total Hydrocarbon C6-C35	1130		"	1000		113	80-120			
Surrogate: 1-Chlorooctane	*58.7*		*"*	*50.0*		*117*	*70-130*			
Surrogate: 1-Chlorooctadecane	*39.0*		*"*	*50.0*		*78.0*	*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 EA50509 - Solvent Extraction (GC)										
Calibration Check (EA50509-CCV2)				Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	545		mg/kg	500		109	80-120			
Diesel Range Organics >C12-C35	568		"	500		114	80-120			
Total Hydrocarbon C6-C35	1110		"	1000		111	80-120			
Surrogate: 1-Chlorooctane	*57.3*		*"*	*50.0*		*115*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.0*		*"*	*50.0*		*76.0*	*70-130*			
Matrix Spike (EA50509-MS1)	**Source: 5A05016-04**			Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	543	10.0	mg/kg dry	521	ND	104	75-125			
Diesel Range Organics >C12-C35	593	10.0	"	521	ND	114	75-125			
Total Hydrocarbon C6-C35	1140	10.0	"	1040	ND	110	75-125			
Surrogate: 1-Chlorooctane	*59.4*		*mg/kg*	*50.0*		*119*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.5*		*"*	*50.0*		*89.0*	*70-130*			
Matrix Spike (EA50509-MS2)	**Source: 5A06011-10**			Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	632	10.0	mg/kg dry	574	6.96	109	75-125			
Diesel Range Organics >C12-C35	794	10.0	"	574	162	110	75-125			
Total Hydrocarbon C6-C35	1430	10.0	"	1150	162	110	75-125			
Surrogate: 1-Chlorooctane	*52.9*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.6*		*"*	*50.0*		*85.2*	*70-130*			
Matrix Spike Dup (EA50509-MSD1)	**Source: 5A05016-04**			Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	579	10.0	mg/kg dry	521	ND	111	75-125	6.42	20	
Diesel Range Organics >C12-C35	580	10.0	"	521	ND	111	75-125	2.22	20	
Total Hydrocarbon C6-C35	1160	10.0	"	1040	ND	112	75-125	1.74	20	
Surrogate: 1-Chlorooctane	*60.0*		*mg/kg*	*50.0*		*120*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.4*		*"*	*50.0*		*76.8*	*70-130*			
Matrix Spike Dup (EA50509-MSD2)	**Source: 5A06011-10**			Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	644	10.0	mg/kg dry	574	6.96	111	75-125	1.88	20	
Diesel Range Organics >C12-C35	770	10.0	"	574	162	106	75-125	3.07	20	
Total Hydrocarbon C6-C35	1410	10.0	"	1150	162	109	75-125	1.41	20	
Surrogate: 1-Chlorooctane	*53.0*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.5*		*"*	*50.0*		*85.0*	*70-130*			

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Organics by GC - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA51003 - EPA 5030C (GC)										
Blank (EA51003-BLK1)				Prepared & Analyzed: 01/06/05						
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	*84.8*		*ug kg*	*100*		*84.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*97.7*		*"*	*100*		*97.7*	*80-120*			
LCS (EA51003-BS1)				Prepared & Analyzed: 01/06/05						
Benzene	91.3		ug/kg	100		91.3	80-120			
Toluene	95.5		"	100		95.5	80-120			
Ethylbenzene	104		"	100		104	80-120			
Xylene (p/m)	231		"	200		116	80-120			
Xylene (o)	112		"	100		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	*115*		*"*	*100*		*115*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*119*		*"*	*100*		*119*	*80-120*			
Calibration Check (EA51003-CCV1)				Prepared: 01/06/05 Analyzed: 01/09/05						
Benzene	99.9		ug/kg	100		99.9	80-120			
Toluene	104		"	100		104	80-120			
Ethylbenzene	99.4		"	100		99.4	80-120			
Xylene (p/m)	215		"	200		108	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*117*		*"*	*100*		*117*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*115*		*"*	*100*		*115*	*80-120*			
Matrix Spike (EA51003-MS1)	**Source: 5A05015-08**			Prepared: 01/06/05 Analyzed: 01/09/05						
Benzene	101		ug/kg	100	ND	101	80-120			
Toluene	106		"	100	ND	106	80-120			
Ethylbenzene	106		"	100	ND	106	80-120			
Xylene (p/m)	232		"	200	ND	116	80-120			
Xylene (o)	105		"	100	ND	105	80-120			
Surrogate: a,a,a-Trifluorotoluene	*115*		*"*	*100*		*115*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*110*		*"*	*100*		*110*	*80-120*			

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 EA51003 - EPA 5030C (GC)										
Matrix Spike Dup (EA51003-MSD1)	**Source: 5A05015-08**			Prepared: 01/06/05 Analyzed: 01/09/05						
Benzene	99.0		ug/kg	100	ND	99.0	80-120	2.00	20	
Toluene	104		"	100	ND	104	80-120	1.90	20	
Ethylbenzene	107		"	100	ND	107	80-120	0.939	20	
Xylene (p/m)	236		"	200	ND	118	80-120	1.71	20	
Xylene (o)	110		"	100	ND	110	80-120	4.65	20	
Surrogate: a,a,a-Trifluorotoluene	*115*		"	*100*		*115*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*119*		"	*100*		*119*	*80-120*			
Batch EA51105 - EPA 5030C (GC)										
Blank (EA51105-BLK1)				Prepared & Analyzed: 01/10/05						
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	*107*		*ug/kg*	*100*		*107*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*90.1*		"	*100*		*90.1*	*80-120*			
LCS (EA51105-BS1)				Prepared & Analyzed: 01/10/05						
Benzene	93.5		ug/kg	100		93.5	80-120			
Toluene	97.9		"	100		97.9	80-120			
Ethylbenzene	102		"	100		102	80-120			
Xylene (p/m)	224		"	200		112	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*106*		"	*100*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*116*		"	*100*		*116*	*80-120*			

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 EA51105 - EPA 5030C (GC)										
Calibration Check (EA51105-CCV1)				Prepared & Analyzed: 01/10/05						
Benzene	99.4		ug/kg	100		99.4	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	96.9		"	100		96.9	80-120			
Xylene (p/m)	208		"	200		104	80-120			
Xylene (o)	98.0		"	100		98.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*120*		"	*100*		*120*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*112*		"	*100*		*112*	*80-120*			
Matrix Spike (EA51105-MS1)		**Source: 5A06011-05**		Prepared & Analyzed: 01/10/05						
Benzene	97.4		ug/kg	100	ND	97.4	80-120			
Toluene	105		"	100	ND	105	80-120			
Ethylbenzene	106		"	100	ND	106	80-120			
Xylene (p/m)	234		"	200	ND	117	80-120			
Xylene (o)	110		"	100	ND	110	80-120			
Surrogate: a,a,a-Trifluorotoluene	*117*		"	*100*		*117*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*119*		"	*100*		*119*	*80-120*			
Matrix Spike Dup (EA51105-MSD1)		**Source: 5A06011-05**		Prepared & Analyzed: 01/10/05						
Benzene	103		ug/kg	100	ND	103	80-120	5.59	20	
Toluene	108		"	100	ND	108	80-120	2.82	20	
Ethylbenzene	108		"	100	ND	108	80-120	1.87	20	
Xylene (p/m)	236		"	200	ND	118	80-120	0.851	20	
Xylene (o)	109		"	100	ND	109	80-120	0.913	20	
Surrogate: a,a,a-Trifluorotoluene	*110*		"	*100*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*118*		"	*100*		*118*	*80-120*			

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 EA50511 - General Preparation (Prep)										
Blank (EA50511-BLK1)				Prepared: 01/05/05 Analyzed: 01/06/05						
% Moisture	0.001		%							
Duplicate (EA50511-DUP1)	**Source: 5A04009-01**			Prepared: 01/05/05 Analyzed: 01/06/05						
% Moisture	8.9		%		8.4			5.78	20	
Batch EA51006 - Water Extraction										
Blank (EA51006-BLK1)				Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	ND	2.50	mg/kg Wet							
Matrix Spike (EA51006-MS1)	**Source: 5A05016-01**			Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	436	2.50	mg/kg Wet	500	0.00	87.2	80-120			
Matrix Spike Dup (EA51006-MSD1)	**Source: 5A05016-01**			Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	447	2.50	mg/kg Wet	500	0.00	89.4	80-120	2.49	20	
Reference (EA51006-SRM1)				Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	5100	2.50	mg/kg Wet	5000		102	80-120			

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
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: Raland K Tuttle Date: 1/11/2005

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 Lab of Texas, Inc.

12600 West I-20 East Phone: 915-563-1800
Odessa Texas 79763 Fax: 915-563-1713

Project Manager: Pat McCasland
Company Name: Chesapeake Energy
Company Address: 5014 Carlsbad Highway
City/State/Zip: Hobbs, NM 88240 (o) 505-391-1462 (f) 505-391-6079
Telephone No: 505-441-1268 Bradley Blevins
Sampler Signature:

Project Name: Conoco Federal #1
Project #:
Project Loc:
PO#: INVOICE EPI

Lab ID	Sample ID	Date Sampled	Time Sampled	No. of Containers (4oz glass)	ICE	HNO	HCl	NaOH	HSO	None	Other (Specify)	Water	Sludge	Soil	Other (Specify)	Analyze For: TCLP / TOTAL: TDS/CL/SAR/EC	TPH 418.1	TPH TX 1005Extended	TPHS01SMGCHODRO	Metals	Volatiles	Semivolatiles	BTEX 8021B/5030	Reactivity	Corrosivity	Ignitiability	Chlorides			RUSH TAT	Standard TAT
-01	CCF#1 NSW	12/30/2004	9:00	1	X									X					X				X				X				
-02	CCF#1 N@3'	12/30/2004	9:03	1	X									X					X				X				X				
-03	CCF#1 SWSW	12/30/2004	9:05	1	X									X					X				X				X				
-04	CCF#1 SW@3'	12/30/2004	9:07	1	X									X					X				X				X				
-05	CCF#1 SESW	12/30/2004	9:10	1	X									X					X				X				X				
-06	CCF#1 SE@3'	12/30/2004	9:12	1	X									X					X				X				X				
-07	CCF#1 SWPSur	12/30/2004	11:00	1	X									X					X				X				X				
-08	CCF#1 SW P 3'	12/30/2004	11:05	1	X									X					X				X				X				
-09	CCF#1 Blending Cell	12/30/2004	2:14	1	X									X					X				X				X				

Special Instructions

FAX RESULTS TO Pat McCasland ASAP

Sample Containers Intact (Y) N
Temperature Upon Request
Laboratory Comments: 0.5°C

Relinquished:	Date	Time	Received by:	Date	Time
Felix Hernandez	1-5-05	0700	Eddie J Harper		
Eddie J Harper	01-05-05	1336	Jaime McMurray	01-05-05	1336

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Chesapeake Energy

Date/Time: 01-05-05 @ 1336

Order #: 5A 05016

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	0.5 C
Shipping container/cooler in good condition?	Yes	No	N/A
Custody Seals intact on shipping container/cooler?	Yes	No	Not present N/A
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

Other observations:

_____

_____

_____

Variance Documentation:

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

Regarding:

_____

_____

_____

Corrective Action Taken:

_____

_____

_____

_____

_____

_____

_____

_____

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Pat McCasland

Chesapeake Energy

5014 Carlsbad Highway

Hobbs, NM 88240

Project: Conoco Federal #1

Project Number: None Given

Location: None Given

Lab Order Number: 5A06003

Report Date: 01/12/05

Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/12/05 10:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SCCF1504N	5A06003-01	Soil	01/05/05 15:35	01/06/05 09:30
SCCF1504S	5A06003-02	Soil	01/05/05 15:37	01/06/05 09:30
SCCF1504E	5A06003-03	Soil	01/05/05 15:39	01/06/05 09:30
SCCF1504W	5A06003-04	Soil	01/05/05 15:41	01/06/05 09:30

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

Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/12/05 10:03

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SCCF1504N (5A06003-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**0.216**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.760**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**1.87**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.960**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*117 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*151 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**291**	10.0	mg/kg dry	1	EA50509	01/06/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**899**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**1190**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*104 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*93.0 %*	*70-130*		"	"	"	"	
SCCF1504S (5A06003-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**0.276**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.687**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**1.53**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.888**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*128 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**250**	10.0	mg/kg dry	1	EA50509	01/06/05	01/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	**776**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**1030**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*99.4 %*	*70-130*		"	"	"	"	
SCCF1504E (5A06003-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**0.125**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.543**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**1.25**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.821**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*124 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*139 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**229**	10.0	mg/kg dry	1	EA50509	01/06/05	01/07/05	EPA 8015M	
Diesel Range Organics >C12-C35	**667**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**896**	10.0	"	"	"	"	"	"	

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Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/12/05 10:03

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SCCF1504E (5A06003-03) Soil									
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		*EA50509*	*01 06 05*	*01 07 05*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*93.4 %*	*70-130*		"	"	"	"	
SCCF1504W (5A06003-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EA51105	01/10/05	01/10/05	EPA 8021B	
Toluene	**0.0712**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.302**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.703**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.319**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*116 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**164**	10.0	mg/kg dry	1	EA50509	01/06/05	01/10/05	EPA 8015M	
Diesel Range Organics >C12-C35	**532**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**696**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*111 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*87.6 %*	*70-130*		"	"	"	"	

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Chesapeake Energy	Project: Conoco Federal #1	Fax: (505) 391-6679
5014 Carlsbad Highway	Project Number: None Given	**Reported:**
Hobbs NM, 88240	Project Manager: Pat McCasland	01/12/05 10:03

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SCCF1504N (5A06003-01) Soil									
Chloride	**63.8**	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**5.9**		%	"	EA50621	01/06/05	01/07/05	% calculation	
SCCF1504S (5A06003-02) Soil									
Chloride	ND	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**5.5**		%	"	EA50621	01/06/05	01/07/05	% calculation	
SCCF1504E (5A06003-03) Soil									
Chloride	**42.5**	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**5.7**		%	"	EA50621	01/06/05	01/07/05	% calculation	
SCCF1504W (5A06003-04) Soil									
Chloride	**21.3**	2.50	mg/kg Wet	1	EA51006	01/06/05	01/10/05	SW 846 9253	
% Moisture	**5.6**		%	"	EA50621	01/06/05	01/07/05	% calculation	

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

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 EA50509 - Solvent Extraction (GC)										
Blank (EA50509-BLK1)				Prepared: 01/05/05 Analyzed: 01/07/05						
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	*38.9*		*mg/kg*	*50.0*		*77.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.4*		"	*50.0*		*72.8*	*70-130*			
Blank (EA50509-BLK2)				Prepared: 01/06/05 Analyzed: 01/07/05						
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	*39.0*		*mg/kg*	*50.0*		*78.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.3*		"	*50.0*		*76.6*	*70-130*			
LCS (EA50509-BS1)				Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	478	10.0	mg/kg wet	500		95.6	75-125			
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125			
Total Hydrocarbon C6-C35	980	10.0	"	1000		98.0	75-125			
Surrogate: 1-Chlorooctane	*49.3*		*mg/kg*	*50.0*		*98.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*37.6*		"	*50.0*		*75.2*	*70-130*			
LCS (EA50509-BS2)				Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	475	10.0	mg/kg wet	500		95.0	75-125			
Diesel Range Organics >C12-C35	490	10.0	"	500		98.0	75-125			
Total Hydrocarbon C6-C35	965	10.0	"	1000		96.5	75-125			
Surrogate: 1-Chlorooctane	*48.4*		*mg/kg*	*50.0*		*96.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*36.6*		"	*50.0*		*73.2*	*70-130*			
Calibration Check (EA50509-CCV1)				Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	553		mg/kg	500		111	80-120			
Diesel Range Organics >C12-C35	576		"	500		115	80-120			
Total Hydrocarbon C6-C35	1130		"	1000		113	80-120			
Surrogate: 1-Chlorooctane	*58.7*		"	*50.0*		*117*	*70-130*			
Surrogate: 1-Chlorooctadecane	*39.0*		"	*50.0*		*78.0*	*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 EA50509 - Solvent Extraction (GC)										
Calibration Check (EA50509-CCV2)				Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	545		mg/kg	500		109	80-120			
Diesel Range Organics >C12-C35	568		"	500		114	80-120			
Total Hydrocarbon C6-C35	1110		"	1000		111	80-120			
Surrogate: 1-Chlorooctane	*57.3*		"	*50.0*		*115*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.0*		"	*50.0*		*76.0*	*70-130*			
Matrix Spike (EA50509-MS1)	**Source: 5A05016-04**			Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	543	10.0	mg/kg dry	521	ND	104	75-125			
Diesel Range Organics >C12-C35	593	10.0	"	521	ND	114	75-125			
Total Hydrocarbon C6-C35	1140	10.0	"	1040	ND	110	75-125			
Surrogate: 1-Chlorooctane	*59.4*		*mg/kg*	*50.0*		*119*	*70-130*			
Surrogate: 1-Chlorooctadecane	*44.5*		"	*50.0*		*89.0*	*70-130*			
Matrix Spike (EA50509-MS2)	**Source: 5A06011-10**			Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	632	10.0	mg/kg dry	574	6.96	109	75-125			
Diesel Range Organics >C12-C35	794	10.0	"	574	162	110	75-125			
Total Hydrocarbon C6-C35	1430	10.0	"	1150	162	110	75-125			
Surrogate: 1-Chlorooctane	*52.9*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.6*		"	*50.0*		*85.2*	*70-130*			
Matrix Spike Dup (EA50509-MSD1)	**Source: 5A05016-04**			Prepared: 01/05/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	579	10.0	mg/kg dry	521	ND	111	75-125	6.42	20	
Diesel Range Organics >C12-C35	580	10.0	"	521	ND	111	75-125	2.22	20	
Total Hydrocarbon C6-C35	1160	10.0	"	1040	ND	112	75-125	1.74	20	
Surrogate: 1-Chlorooctane	*60.0*		*mg/kg*	*50.0*		*120*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.4*		"	*50.0*		*76.8*	*70-130*			
Matrix Spike Dup (EA50509-MSD2)	**Source: 5A06011-10**			Prepared: 01/06/05 Analyzed: 01/07/05						
Gasoline Range Organics C6-C12	644	10.0	mg/kg dry	574	6.96	111	75-125	1.88	20	
Diesel Range Organics >C12-C35	770	10.0	"	574	162	106	75-125	3.07	20	
Total Hydrocarbon C6-C35	1410	10.0	"	1150	162	109	75-125	1.41	20	
Surrogate: 1-Chlorooctane	*53.0*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.5*		"	*50.0*		*85.0*	*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 EA51105 - EPA 5030C (GC)										
Blank (EA51105-BLK1)				Prepared & Analyzed: 01/10/05						
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	*107*		*ug/kg*	*100*		*107*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*90.1*		"	*100*		*90.1*	*80-120*			
LCS (EA51105-BS1)				Prepared & Analyzed: 01/10/05						
Benzene	93.5		ug/kg	100		93.5	80-120			
Toluene	97.9		"	100		97.9	80-120			
Ethylbenzene	102		"	100		102	80-120			
Xylene (p/m)	224		"	200		112	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	*106*		"	*100*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*116*		"	*100*		*116*	*80-120*			
Calibration Check (EA51105-CCV1)				Prepared & Analyzed: 01/10/05						
Benzene	99.4		ug/kg	100		99.4	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	96.9		"	100		96.9	80-120			
Xylene (p/m)	208		"	200		104	80-120			
Xylene (o)	98.0		"	100		98.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*120*		"	*100*		*120*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*112*		"	*100*		*112*	*80-120*			
Matrix Spike (EA51105-MS1)	**Source: 5A06011-05**			Prepared & Analyzed: 01/10/05						
Benzene	97.4		ug/kg	100	ND	97.4	80-120			
Toluene	105		"	100	ND	105	80-120			
Ethylbenzene	106		"	100	ND	106	80-120			
Xylene (p/m)	234		"	200	ND	117	80-120			
Xylene (o)	110		"	100	ND	110	80-120			
Surrogate: a,a,a-Trifluorotoluene	*117*		"	*100*		*117*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*119*		"	*100*		*119*	*80-120*			

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

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 EA51105 - EPA 5030C (GC)										
Matrix Spike Dup (EA51105-MSD1)	**Source: 5A06011-05**		Prepared & Analyzed: 01/10/05							
Benzene	103		ug/kg	100	ND	103	80-120	5.59	20	
Toluene	108		"	100	ND	108	80-120	2.82	20	
Ethylbenzene	108		"	100	ND	108	80-120	1.87	20	
Xylene (p/m)	236		"	200	ND	118	80-120	0.851	20	
Xylene (o)	109		"	100	ND	109	80-120	0.913	20	
Surrogate: a,a,a-Trifluorotoluene	*110*		"	*100*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*118*		"	*100*		*118*	*80-120*			

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 EA50621 - General Preparation (Prep)										
Blank (EA50621-BLK1)				Prepared: 01/06/05 Analyzed: 01/07/05						
% Moisture	0.001		%							
Duplicate (EA50621-DUP1)	**Source: 5A05017-01**			Prepared: 01/06/05 Analyzed: 01/07/05						
% Solids	96.8		%		93.8			3.15	20	
Batch EA51006 - Water Extraction										
Blank (EA51006-BLK1)				Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	ND	2.50	mg/kg Wet							
Matrix Spike (EA51006-MS1)	**Source: 5A05016-01**			Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	436	2.50	mg/kg Wet	500	0.00	87.2	80-120			
Matrix Spike Dup (EA51006-MSD1)	**Source: 5A05016-01**			Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	447	2.50	mg/kg Wet	500	0.00	89.4	80-120	2.49	20	
Reference (EA51006-SRM1)				Prepared: 01/06/05 Analyzed: 01/10/05						
Chloride	5100	2.50	mg/kg Wet	5000		102	80-120			

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
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: Raland K Tuttle Date: 1/12/2005

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 Lab of Texas, Inc.

12600 West I-20 East — Phone: 915-563-1800
Odessa Texas 79763 — Fax: 915-563-1713

Project Manager: Pat McCasland — Project Name: Conoco Federal #1
Company Name: Chesapeake — Project #:
Company Address: — Project Loc:
City/State/Zip: — PO#:
Telephone No: 505-441-1268 Bradley Blevins
Sampler Signature: John Robinson

Lab I.D.	Sample I.D.	Date Sampled	Time Sampled	No. of Containers	ICE	HNO	HCl	NaOH	HSO	None	Other (Specify)	Water	Sludge	Soil	Other (Specify)	Analyze For: TDS/CL/SAR/EC	TPH 418.1	TPH TX 1005Extended	TPH8015MGBODRO	Metals	Volatiles	Semivolatiles	BTEX 8021B/5030	Reactivity	Corrosivity	Ignitiability	Chlorides			RUSH TAT	Standard TAT
-01	SCCF1504N	01/05/2004	3:35	1	X									X					X				X				X				
-02	SCCF1504S	01/05/2004	3:37	1	X									X					X				X				X				
-03	SCCF1504E	01/05/2004	3:39	1	X									X					X				X				X				
-04	SCCF1504W	01/05/2004	3:41	1	X									X					X				X				X				

Special Instructions

FAX RESULTS TO Pat McCasland ASAP

Sample Containers Intact (Y) N
Temperature Upon Request
Laboratory Comments: -2.0°C

Relinquished:	Date	Time	Received by:	Date	Time
John Robinson	1-6	0900		1-6	7600
Brad Hobbs	01-06-05	0930	Joanna McMurrey	01-06-05	0930

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Chesapeake

Date/Time: 01-06-05 @ 0930

Order #: 5A06003

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	-2.0 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

Other observations:

_____

_____

_____

Variance Documentation:

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

Regarding:

_____

_____

_____

Corrective Action Taken:

_____

_____

_____

_____

_____

_____

_____

_____

ATTACHMENT IV: AREA WATER INFORMATION AND BLM REPORT OF UNDESIRABLE EVENT

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 18S Range: 32E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic
● All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 12/27/2004

							(Depth Water in Feet)		
Bsn	**Tws**	**Rng**	**Sec**	**Zone**	**X**	**Y**	**Wells**	**Min**	**Max**	**Avg**
CP	18S	32E	04				1	65	65	65
CP	18S	32E	07				1	460	460	460

Record Count: 2

Form NM 3162-1
(July 1991)

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
New Mexico State Office

REPORT OF UNDESIRABLE EVENT

DATE OF OCCURRENCE/DISCOVERY: 12/27/2004 TIME OF OCCURRENCE: 10:00:00 AM

DATE REPORTED TO BLM: 12/27/2004 TIME REPORTED: 3:00 PM

BLM OFFICE REPORTED TO: (RESOURCE AREA/DISTRICT/OTHER): Carslbad, NM

LOCATION: NW¼ of the SW¼ SECTION 17 T.18S R.32E

MERIDIAN 32°44'48.099"N 103°47'44.925"W

COUNTY: Lea STATE: New Mexico WELL NAME: Conoco Federal #1 Battery

OPERATOR: COMPANY NAME Chesapeake Energy PHONE No. 505.391.1462
CONTACT PERSON'S NAME: Brad Blevins
SURFACE OWNER: _____ MINERAL OWNER: _____
(FEDERAL/INDIAN/FEE/STATE)

LEASE NO.: _____ RIGHT-OFWAY No.: _____

UNIT NAME / COMMUNITIZATION AGREEMENT No.: _____

TYPE OF EVENT, CIRCLE APPROPRIATE ITEM(S) :

BLOWOUT, FIRE, FATALITY, INJURY, PROPERTY DAMAGE, OIL SPILL, SALTWATER SPILL, OIL AND SALTWATER SPILL, TOXIC FLUID SPILL, HAZARDOUS MATERIAL SPILL, UNCONTROLLED FLOW OF WELLBORE FLUIDS, OTHER (SPECIFY) : Crude Oil

CAUSE OF EVENT: Crude Oil Storage Tank overflowed

HazMat Notified: (for spills) _____

Law Enforcement Notified: (for thefts) _____

CAUSE AND EXTENT OF PERSONAL INJURIES/CAUSE OF DEATH(S): _____

Safety Officer Notified: _____

EFFECTS OF EVENT: _____

ACTION TAKEN TO CONTROL EVENT: Fluids were vacuumed up and returned to storage. Impacted soil being stockpiled on plastic barrier ons site

LENGTH OF TIME TO CONTROL BLOWOUT OR FIRE: _____

VOLUMES DISCHARGED: OIL 125 bbls WATER_____ GAS_____

OTHER AGENCIES NOTIFIED: New Mexico Oil Conservation Division - Hobbs, NM

ATTACHMENT V: SITE INFORMATION & METRICS FORM AND FINAL FORM C-141

Chesapeake	Incident Date: Chesapeake Energy	NMOCD Notified: 12-27-04 @ 1:45 PM

SITE: **Conoco Federal #1 Battery**	Assigned Site Reference #: 160004
Company: Chesapeake Energy	**NATIONAL RESPONSE CENTER - 800.424.8802**
Street Address:	Notified Date/Time:
Mailing Address: 5014 Carlsbad Highway	Notified by: Brad Blevins
City, State, Zip: Hobbs, New Mexico 88240	Person Notified:
Representative: Brad Blevins	NRC Report# :
Representative Telephone: 505.391.1462	
Telephone:	
Fluid volume released (bbls): 125 bbls	Recovered (bbls): 110 bbls
>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: Conoco Federal #1 Battery	
Source of contamination: Crude Oil Storage Tank	
Land Owner, i.e., BLM, ST, Fee, Other: Bureau of Land Management	
LSP Dimensions ~220' x 80'	
LSP Area: inside of berm=444 sqft; on pad=2,534 sqft; off pad=4,567 sqft Total Affected Area=7,545ft²	
Location of Reference Point (RP)	
Location distance and direction from RP	
Latitude: 32°44'48.099"N	
Longitude: 103°47'44.925"W	
Elevation above mean sea level: 3,765'amsl	
Feet from South Section Line	
Feet from West Section Line	
Location- Unit or ¼¼: NW¼ of the SW¼	Unit Letter: L
Location- Section: 17	
Location- Township: T18S	
Location- Range: R32E	
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	
Agricultural water wells within 1000' radius of site:	
Public water supply wells within 1000' radius of site: none	
Public water supply wells within 1000' radius of site:	
Depth from land surface to ground water (DG) 460'bgs	
Depth of contamination (DC) –	
Depth to ground water (DG – DC = DtGW) -	

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) = 0		

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	1000 ppm	**5000 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: **Brad Blevins**
Address **5014 Carlsbad Highway Hobbs, New Mexico 88240**	Telephone No. **505.391.1462**
Facility Name **Conoco Federal #1 Battery ref.#160004**	Facility Type **Crude Oil Storage Tank**
Surface Owner: **Bureau of Land Management**	Mineral Owner / Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
L	17	T18S	R32E					

Latitude: 32°44'48.099"N Longitude: 103°47'44.925"W

NATURE OF RELEASE

Type of Release **Crude Oil**	Volume of Release **125 barrels**	Volume Recovered **110 barrels**
Source of Release **Crude Oil Storage Tank**	Date and Hour of Occurrence **12/27/2004 @ 10:00:00 AM**	Date and Hour of Discovery **12-27-04 @ 1:00 PM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Larry Johnson**	
By Whom? **Brad Blevins**	Date and Hour **12-27-04 @ 1:45 PM**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
Crude Oil Storage Tank Crude oil storage tank overflowed. Free fluids were vacuumed up and returned to the tank. Near surface saturated soil was scraped up and placed on a plastic barrier on the caliche pad location.

Describe Area Affected and Cleanup Action Taken.*
Total Affected Area=7,545 ft^2 (~220' x 80'): The site was delineated during excavation. A portion of the soil was disposed of in the Artesia Aeration Landfarm and the remainder blended to acceptable CoC levels and used to backfill the excavation. The CoC Remedial Goals are: TPH 8015m = 5000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

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.

	OIL CONSERVATION DIVISION	
Signature: [signature] for B. Blevins		
Printed Name: Brad Blevins	Approved by District Supervisor:	
E-mail Address: BBlevins@CHKEnergy.com	Approval Date:	Expiration Date:
Title: Field Technician	Conditions of Approval:	Attached ☐
Date: March , 2005 Phone: 505.391.1462		

Attach Additional Sheets If Necessary

March 21, 2005

Mr. Larry Johnson
Environmental Engineer
New Mexico Oil Conservation Division
1625 North French
Hobbs, New Mexico 88240

Subject: Chesapeake Energy final C-141 and supporting documentation

Re: Conoco Federal #1 Battery, ref. #160004
UL-L (NW¼ of the SW¼) of Section 17, T18S, R32E,
Latitude 32°44'48.099"N and Longitude 103°47'44.925"W
Landowner: Bureau of Land Management
Driving Directions: From the intersection of US 82 and Lea County Road 126 in Maljamar, New Mexico go south on LCR 126 5.3 miles to NMSR 529, cross NMSR529 and go 3.5 miles, then right on caliche road 0.1 miles, then left 0.2 miles to the Chesapeake Conoco Federal #1 Battery

Dear Mr. Johnson,

Environmental Plus, Inc. (EPI), on behalf of Chesapeake Energy Corporation, submits the attached final New Mexico Oil Conservation Division (NMOCD) form C-141 and supporting documentation for the above referenced site and requests that "no further action" be required at the site.

All official communication should be directed to:

RECEIVED
Hobbs
OCD

Brad Blevins
Chesapeake Energy Corporation
5014 Carlsbad Highway
Hobbs, New Mexico 88240
bblevins@chkenergy.com

If there are any questions please call Mr. Cody Miller or myself at the office or at 505.631.8447 and 505.390.7864, respectively or Brad Blevins at 505.391.1462.

ENVIRONMENTAL PLUS, INC.

Sincerely,

Pat McCasland
EPI Technical Services Manager
(enviplus1@aol.com)

cc: Brad Blevins, Chesapeake (bblevins@chkenergy.com)
Curtis Blake, Chesapeake (cblake@chkenergy.com)
Jim Amos, BLM (james_amos@nm.blm.gov)
Paul Evans, (paul_evans@nm.blm.gov)
file

ENVIRONMENTAL PLUS, INC.

Chesapeake	**Site Information and Metrics**	Incident Date: **12/27/2004 @ 10:00:00 AM**	NMOCD Notified: 12-27-04 @ 1:45 PM

SITE: Conoco Federal #1 Battery	Assigned Site Reference #: 160004
Company: Chesapeake Energy	
Street Address:	
Mailing Address: 5014 Carlsbad Highway	
City, State, Zip: Hobbs, New Mexico 88240	
Representative: Brad Blevins	
Representative Telephone: 505.391.1462	
Telephone:	
Fluid volume released (bbls): 125 bbls	Recovered (bbls): 110 bbls
>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: Conoco Federal #1 Battery	
Source of contamination: Crude Oil Storage Tank	
Land Owner, i.e., BLM, ST, Fee, Other: Bureau of Land Management	
LSP Dimensions ~220' x 80'	
LSP Area: inside of berm=444 ft^2; on pad=2,534 ft^2; off pad=4,567 ft^2 Total Affected Area=7,545 ft^2	
Location of Reference Point (RP)	
Location distance and direction from RP	
Latitude: 32°44'48.099"N	
Longitude: 103°47'44.925"W	
Elevation above mean sea level: 3,765'amsl	
Feet from South Section Line	
Feet from West Section Line	
Location- Unit or ¼¼: NW¼ of the SW¼	Unit Letter: L
Location- Section: 17	
Location- Township: T18S	
Location- Range: R32E	
Surface water body within 1000 ' radius of site: none	
Domestic water wells within 1000' radius of site: none	
Domestic water wells within 1000' radius of site:	
Agricultural water wells within 1000' radius of site: none	
Agricultural water wells within 1000' radius of site:	
Public water supply wells within 1000' radius of site: none	
Depth from land surface to ground water (DG) 460'bgs	
Depth of contamination (DC) – ~3'bgs	
Depth to ground water (DG – DC = DtGW) - ~457-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) = 0		

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	1000 ppm	**5000 ppm**

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

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 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 March 17, 1999 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 **Brad Blevins**
Address **5014 Carlsbad Highway Hobbs, New Mexico 88240**	Telephone No. **505.391.1462**
Facility Name **Conoco Federal #1 Battery ref.#160004**	Facility Type **Crude Oil Storage Tank**

Surface Owner: **Bureau of Land Management**	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
17	**17**	**T18S**	**R32E**					Lea

Latitude: 32°44'48.099"N **Longitude:** 103°47'44.925"W

NATURE OF RELEASE

Type of Release **Crude Oil**	Volume of Release **125 barrels**	Volume Recovered **110 barrels**
Source of Release **Crude Oil Storage Tank**	Date and Hour of Occurrence **12/27/2004 @ 10:00:00 AM**	Date and Hour of Discovery **12-27-04 @ 1:00 PM**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Larry Johnson**	
By Whom? **Brad Blevins**	Date and Hour **12-27-04 @ 1:45 PM**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*: Crude Oil Storage Tank overflowed because of an improper valve configuration. Recovered fluids place back in tank..

Describe Area Affected and Cleanup Action Taken.*: The site was delineated during excavation to determine the vertical and horizontal extents of CoC impact. 126 cubic yards of soil impacted above the NMOCD CoC remedial goals was disposed of in NMOCD approved Artesia Aeration Landfarm, the remainder was blended on site to less than the CoC remedial goals. Remedial Goals: TPH 8015m = 5000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.

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: Pat McCasland EPI for B. Blevins	**OIL CONSERVATION DIVISION**	
Printed Name: Brad Blevins	Approved by District Supervisor:	
Title: Field Technician Email: bblevins@chkenergy.com	Approval Date:	Expiration Date:
Date: March 21, 2005 Phone: 505.391.1462	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary