Chesapeake

SITE CHARACTERIZATION

RUTH 20-2 RELEASE SITE REF: 160011

UL-D (NW¼ OF THE NW¼) OF SECTION 20, T16S, R36E ~2.4 MILES SOUTHWEST OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 54' 48.03" LONGITUDE: W 103° 22' 57.43"

FEBRUARY 2006

application-pPACOGOG228

PREPARED BY:



incident - n PAC0606228112

Distribution List

Chesapeake- Ruth 20-2 Release Site (Ref. #160011)

Name	Title	Company or Agency	Mailing Address	e-mail
Larry Johnson	Environmental Engineer	New Mexico Oil Conservation Division- Hobbs	1625 French Drive Hobbs, NM 88240	lwjohnson@state.nm.us
Bradley Blevins	Field Supervisor	Chesapeake Energy	P.O. Box 190 Hobbs, NM 88240-0190	bblevins@chkenergy.com
Jace Marshall	Safety and Environmental Representative	Chesapeake Energy	6100 N. Western Ave Oklahoma, OK 73118	jmarshall2@chkenergy.com
Curtis Blake	Superintendent	Chesapeake Energy	P.O. Box 190 Hobbs, NM 88240-0190	cblake@chkenergy.com
Thaddeus Kostrubala	Environmental Engineer	New Mexico State Land Office-Sante Fe	310 Old Sante Fe Trail P.O. Box 1148 Sante Fe, NM 87504-1148	tkostrubala@slo.state.nm.us
Myra Meyers	District Resource Manager	New Mexico State Land Office-Sante Fe	2702-D North Grimes Hobbs, NM 88240	<u>mmeyers@slo.state.nm.us</u>
File	;	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231	iolness@envplus.net

i

Standard of Care

Site Characterization

Ruth 20-2 Release Site Ref: 160011

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:

Jason Stegemoller, M.S. Environmental Scientist Date

This report was reviewed by:

Iain A. Olness, P.G. Hydrogeologist Date

Table of Contents

1.0	Summary	
2.0	Site Descri	ption1
	2.1	Geological Description2
	2.2	Ecological Description
	2.3	Area Ground Water
	2.4	Area Water Wells2
	2.5	Area Surface Water Features2
3.0	NMOCD S	Site Ranking2
4.0	Subsurface	e Soil Investigation
5.0	Ground W	ater Investigation4
6.0	Summary of	of Results4

FIGURES

Figure 1: Area Map Figure 2: Site Location Map Figure 3: Site Map Figure 4: Excavation and Final Sample Location Map

TABLES

Table 1: Summary of Excavation Analytical Results Table 2: Summary of Soil Boring Analytical Results Table 3: Well Data

APPENDICES

Appendix I: Laboratory Analytical Reports and Chain-of-Custody Forms Appendix II: Project Photographs Appendix III: Soil Boring Log Appendix IV: Site Metrics Form and Informational NMOCD C-141

1.0 Summary

On June 3, 2005, a release of approximately 500 gallons of diesel fuel from a vandalized fuel line supplying a generator. Chesapeake Operating, Inc. (Chesapeake) immediately retained Environmental Plus, Inc. (EPI) to conduct emergency response measures at the release site. EPI personnel mobilized June 4, 2005, to excavate and stockpile diesel saturated soil on plastic as well as perform GPS surveying, photography and characterization of the site. Upon completion of initial excavation activities, three composite samples were collected from the base of the excavation and submitted to an independent laboratory for quantification of total petroleum hydrocarbons (TPH) and benzene, ethylbenzene, toluene and total xylenes (BTEX constituents). Analytical results for these samples indicated TPH concentrations ranging from 3,440 parts per million (ppm) to 8,790 ppm with an average concentration of 5,350 ppm remaining in the excavation. In addition, reported BTEX constituent concentrations ranged from 0.887 ppm to 3.11 ppm with an average concentration f^{1} (reference *Table 1*). The release entailed an area of approximately 3,150-square feet (ft²) (reference *Figure 3*). The site is located approximately 2.4 miles southwest of Lovington, Lea County, New Mexico (reference *Figure 1*).

On June 8, 2005, EPI personnel initiated remediation activities. Excavation of hydrocarbon impacted soil continued until field analyses indicated remedial concentrations had been achieved. Field analyses were conducted utilizing a MiniRae photoionization detector (PID) equipped with a 9.7 electron volt lamp. Field analyses indicated organic vapor concentrations ranged from 10.1 ppm to 73.5 ppm, with an average concentration of 33.5 ppm. Confirmatory soil samples were collected from the excavation, placed in a laboratory provided container and submitted for quantification of TPH and BTEX constituents.

Analytical results indicated TPH concentrations were in excess of the NMOCD remedial threshold of 100 mg/Kg. On July 25, 2005, excavation activities resumed concentrating in the areas analytical results indicated contaminant levels were in excess of the NMOCD remedial thresholds. Excavation activities continued until soil sample field analyses indicated organic vapor concentrations were below remedial thresholds.

On July 11, 2005, a series of eleven soil samples were collected from the excavation floor at approximately 1-foot below ground surface (bgs) (reference *Figure 4*). A portion of each sample was placed in a laboratory provided container and set on ice for transport to an independent laboratory for quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapors. Field analytical data indicated organic vapor concentrations ranged from 0.7 to 73.5 ppm (reference *Table 1*).

Laboratory analytical data indicated BTEX constituent concentrations were non-detectable (ND) at or above laboratory method detection limits in sample locations SP-1 through 11. TPH concentrations were reported to range from ND to 3,410 mg/Kg (reference *Table 1*).

Based on analytical data, excavation activities resumed in the areas where soil samples SP-5, 6, 9, 10 and 11 were collected (reference *Figure 4*). Upon confirmation via field analyses that impacted soil had been removed, soil samples were collected on July 26, 2005 from the excavation floor at these five locations. A portion of each sample was placed in a laboratory provided container and submitted to an independent laboratory for quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapors. Field analytical data indicated organic vapor concentrations ranged from 0.6 to 3.0 ppm (reference *Table 1*).

Laboratory analytical data indicated BTEX constituent concentrations were ND at or above laboratory MDL. TPH concentrations in soil sample SP-5, 10 and 11 at 2-feet bgs were ND at or above laboratory MDL. Reported TPH concentrations in SP-6 were 138 mg/Kg and in SP-9 were 276 mg/Kg, in excess of the NMOCD remedial threshold of 100 mg/Kg (reference *Table 1* and *Figure 4*). The northern portion of the release site was backfilled after receipt of verbal approval from the NMOCD.

After further remedial excavation in the southern portion of the release site, a series of five soil samples (SP-12 through 16) were collected on September 6, 2005 from the excavation. A portion of each sample was placed in a laboratory provided container and submitted for laboratory quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapor concentrations. Field analyses indicated organic vapor concentrations ranged from 1.7 to 8.1 ppm (reference *Table 1*).

Laboratory analytical data indicated BTEX constituent concentrations were ND at or above laboratory MDL. Reported TPH concentrations were reported to range from ND to 24.5 mg/Kg, below the NMOCD remedial threshold of 100 mg/Kg (reference *Table 1*).

Approximately 340 cubic yards of hydrocarbon impacted soil was excavated and transported to Artesia Aeration for treatment. An equivalent amount of clean soil obtained from an off-site source was utilized to backfill the excavation.

This release site is located in Unit Letter D, (NW¹/₄ of the NW¹/₄), Section 20, T16S, R36E, N32° 54' 48.033" and W103° 22' 57.430". The site is approximately 2.4-miles southwest of Lovington, New Mexico on property owned by the State of New Mexico (reference *Figures 1* through 3).

2.0 Site Description

2.1 Geological Description

<u>The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and</u> <u>Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A.</u> <u>Clebsch, 1961</u>, 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 and generally overlain by sandy soil."

The release site is located in the High Plains physiographic subdivision, described by Nicholson & Clebsch as "a flat, gently sloping plain, treeless and marred only by slight undulations and covered with short prairie grass."

2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of sandy soil covered with short semi-arid grasses, interspersed with Honey Mesquite and forbs. Mammals represented, include Orrd's and Merriam's Kangaroo Rats, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, amphibians, and birds are numerous and typical of the area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 Area Groundwater

The unconfined groundwater aquifer at this site is projected to be $\sqrt{71-ft}$ bgs based on water depth data obtained from the New Mexico State Engineers Office and the United States

Geological Survey data base. Groundwater was encountered at approximately 72-ft bgs during the advancement of a soil boring advanced during delineation activities of the adjacent Ruth 20-2 drilling pit on October 19, 2005.

2.4 Area Water Wells

There are two water supply wells (L 00209C and USGS #1) located within a 1,000 foot radius of the release site (reference *Figure 2* and *Table 3*).

2.5 Area Surface Water Features

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

3.0 NMOCD Site Ranking

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the groundwater were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

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

Acceptable thresholds for contaminants/constituents of concern (CoC) were determined based on the NMOCD Ranking Criteria as follows:

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

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is 30 points with the soil remedial goals highlighted in the Site Ranking table presented below.

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water				
Depth to GW <50 feet: 20 points	If <1,000' from water source, or; <200' from private domestic water	<200 horizontal feet: 20 points				
Depth to GW 50 to 99 feet: <i>10 points</i>	source: 20 points	200-1,000 horizontal feet: 10 points				
Depth to GW >100 feet: 0 points	If >1,000' from water source, or; >200' from private domestic water source: <i>0 point</i> s	>1,000 horizontal feet: <i>0 point</i> s				
Total Site Rank	king Score and Acceptable Remedial	Goal Concentrations				
Parameter 20 d	or > 10	0				
Benzene ¹ 10 p	opm 10 ppm	10 ppm				
BTEX ¹ 50 p	opm 50 ppm	50 ppm				
ТРН 100	ppm 1,000 ppm	5,000 ppm				

A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the benzene and BTEX concentration limits.

4.0 Subsurface Soil Investigation

On June 8, 2005, 5-point composite soil samples were collected from the release area after diesel saturated soil had been excavated. Soil samples were placed in a laboratory provided container and submitted for laboratory quantification of TPH and BTEX constituent concentrations. Laboratory analytical data indicated TPH concentrations ranged from 3,440 to 8,970 mg/Kg, in excess of the NMOCD remedial threshold of 100 mg/Kg. BTEX concentrations ranged from 0.921 to 3.11 mg/Kg, below the NMOCD remedial threshold of 50 mg/Kg (reference *Table 1*).

On July 11, 2005, a series of 11 soil samples were collected after remedial excavation of hydrocarbon impacted soil to approximately 1-foot bgs. Upon collection, a portion of each sample was placed in a laboratory provided container and set on ice for transport to an independent laboratory for quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapors. Field analyses indicated organic vapor concentrations ranged from 10.1 to 73.5 mg/Kg. Laboratory analytical results indicated BTEX constituent concentrations were ND at or above laboratory MDL in SP-1 through 11. Reported TPH concentrations in SP-1 and SP-7 were ND at or above laboratory MDL. TPH concentrations in all other sample locations (i.e., SP-2, 3, 4, 5, 6, 8, 9, 10 and 11) ranged from 90.4 to 3,410 mg/Kg (reference *Table 1* and *Figure 4*).

On July 26, 2005, soil samples were collected after further excavation in the area of SP-5, 6, 9, 10 and 11. A portion of each sample was placed in a laboratory provided container and submitted to an independent laboratory for quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapors. Field analyses indicated organic vapor concentrations ranged from 0.5 to 3.0 ppm. Laboratory analytical data indicated BTEX concentrations were ND at or above laboratory MDL. Reported TPH concentrations ranged from ND to 276 mg/Kg (reference *Table 1* and *Figure 4*).

On September 6, 2005, soil samples SP-12 through 16 were collected from the excavation. A portion of each sample was placed in a laboratory provided container and submitted to an independent laboratory for quantification of TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapors. Field analyses indicated organic vapor concentrations ranged from 1.7 to 8.1 ppm. Laboratory analytical data indicated BTEX constituent concentrations were ND at or above laboratory MDL. Reported TPH concentrations were ND at or above laboratory MDL, with the exception of sample SP-12. Reported TPH concentrations in SP-12 were 24.5 mg/Kg, below the NMOCD remedial threshold of 100 mg/Kg (reference *Table 1* and *Figure 4*).

5.0 Groundwater Investigation

Groundwater was encountered at approximately 72-ft bgs during the advancement of a soil boring (BH-1) advanced during delineation activities of the adjacent Ruth 20-2 drilling pit on October 19, 2005.

Confirmatory laboratory analytical results for soil samples SP-1, 4, 5, 7, 10, 11, 12, 13, 14, 15 and 16 indicated that TPH and BTEX constituents were non-detectable at or above laboratory MDL, with the exception of SP-12. Analytical data from SP-4 indicated TPH was 24.5 mg/Kg, below the NMOCD remedial threshold of 100 mg/Kg (reference *Table 1* and *Appendix I*).

6.0 Summary of Results

Approximately 340 cubic yards of hydrocarbon-impacted soil was excavated and transported to Artesia Aeration for treatment. An equivalent amount of clean soil was transported from an off-site

4

source and utilized to backfill the excavation. The northern portion of the excavation was backfilled upon approval from the NMOCD. The final extent of excavated area comprised approximately 3,130-square feet to a maximum depth of 6-feet bgs. Laboratory analytical results indicated BTEX constituent concentrations were ND at or above laboratory MDL. Reported TPH concentrations were below the NMOCD remedial threshold of 100 mg/Kg (reference *Table 1*).

FIGURES









·

Summary of Excavation Soil Field Analyses and Laboratory Analytical Results

Chesapeake Energy Ruth 20-2 Release Site (Ref.# 160011)

Sample ID	Depth (feet)	Sample Date	Soll Status	PID Reading (ppm)	Benzene (mg/Kg)	Toluene (møKg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mgKg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/K g)	Total TPH (mg/Kg)
Ruth 20-2 S. Flowpath	Comp	08-Jun-05	Excavated	NA	<0.0250	0.0711	0.510	2.53	3.11	1,590	7,200	8,790
Ruth 20-2 W. Half Pooling Area	Comp	0 8-Jun- 05	Excavated	NA	<0.0250	0.0683	0.134	0.685	0.887	507	3,300	3,810
Ruth 20-2 E. Half Pooling Area	Comp	08-Jun-05	Excavated	NA	<0.0250	0.0518	0.0877	0.781	0.921	470	2,970	3,440
SP-1	1	11-Jul-05	Excavated	23.5	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	<10.0	<10.0
SP-2	1	11-Jul-05	Excavated	10.1	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	14.7	846	861
SP-3	1	11-Jul-05	Excavated	10.4	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	108	108
SP-4	1	11-Jul-05	In Situ	24.1	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	90.4	90.4
	1	11-Jul-05	Excavated	38.9	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	169	169
C-48	5	26-Jul-05	In Situ	0.7	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	<10.0	<10.0
ę	1	11-Jul-05	Excavated	41.4	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	30.9	724	755
9	و	26-Jul-05	In Situ	0.9	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	138	138
SP-7		11-Jul-05	In Situ	25.0	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	<10.0	<10.0
SP-8	1	11-Jul-05	In Situ	39.6	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<10.0	27.8	27.8
ę	-	11-Jul-05	Excavated	46.2	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	16.9	315	332
6-J8	Q	26-Jul-05	In Situ	3.0	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	12.4	264	276

٠,

•

Summary of Excavation Soil Field Analyses and Laboratory Analytical Results

Chesapeake Energy Ruth 20-2 Release Site (Ref.# 160011)

Image: SP-10 Image: Image		ti Toluane Ethylb (mg/Kg) (mg	Kg) (mg/Kg)	Total BTEX (mg/Kg)	(as gasoline) (mg/K g)	as diesel) (mg/Kg)	Total TPH (mg/Kg)
SF-10 2 26-Jul-05 In Situ 0.5 <0 SP-11 1 11-Jul-05 Excavated 31.6 <0	ed 73.5 <0.025(0.0250 <0.0	250 <0.0500	<0.125	166	3,240	3,410
I 11-Jul-05 Excavated 31.6 <0. SP-11 2 26-Jul-05 In Situ 0.6 <0.	1 0.5 <0.025() <0.0250 <0.0	250 <0.0500	<0.125	<10.0	<10.0	<10.0
SP-11 2 26-Jul-O5 In Situ 0.6 <0.1 SP-12 3 06-Sep-05 In Situ 1.7 <0	ed 31.6 <0.0250	0.0250 <0.0	250 <0.0500	<0.125	<10.0	213	213
SP-12 3 06-Sep-05 In Situ 1.7 <0 SP-13 6 06-Sep-05 In Situ 7.0 <0	1 0.6 <0.0250) <0.0250 <0.0	250 <0.0500	<0.125	<10.0	<10.0	<10.0
SP-13 6 06-Sep-05 In Situ 7.0 <0	1 1.7 <0.005	<0.005 <0.0	005 <0.015	<0.030	<10.0	24.5	24.5
	1 7.0 <0.005	<0.005 <0.0	005 <0.015	<0.030	<10.0	<10.0	<20.0
SP-14 3 06-Sep-05 In Situ 8.1 <0	1 8.1 <0.005	<0.005 <0.0	05 <0.015	<0.030	<10.0	<10.0	<20.0
SP-15 6 06-Sep-05 In Situ 6.6 <0	1 6.6 <0.005	<0.005 <0.	005 <0.015	<0.030	<10.0	<10.0	<20.0
SP-16 3 06-Sep-05 In Situ 6.7 <0	1 6.7 <0.005	<0.005 <0.0	005 <0.015	<0.030	<10.0	<10.0	<20.0
NMOCD Remedial Thresholds 100	100 10			50			100

¹ Bolded values are in excess of NMOCD Remediation Thresholds * NA=Nat Applicable ³ Chloride and sulfate residuals may not be capable of impacting local groundwater above the NMWQCC standards of 230 mg/L and 630 mg/L, respectively.

Well Data

Chesapeake Energy Ruth 20-2 (Ref. #160011)

Depth to Water ft has	04					547T.	70	e.	70	70:47	75.34			22			61.33			8	8	8	36					5	63.24	67.82			¥\$	15			02	68	86		8				8	55.55	45	ğ	50
Well.Depth (R.bes)	105						147	150)	150					110		81		127	128	130	130	120	071		9 1	ŭ	·				2	75	136	136	the second second		95	118	120.	, ,	120		And the second		166		76	8	8
Date Measured	DS: Man KK	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					31,710,82	27-Jun-96	27 Jun 96	27-Feb-91	31-Mar-81	ter an internet is not up as a subscription		01-Jun-60			27.8eb-01			06-Mar-53	06 Mar 53	30-May-60	30-May-60	-	05-Beb-77	18-Jan-78			26-Feb-91	16-Jan-09	02-Apt-S1	02-Apt-31	21-Jan-62	23-Jan-62	متحققهم وريبي والمحق		30-May-67	12-May-72	24-Aug-72		26-Apr-00				01-Sep-97	26月10-96	15,06630	104Feb.55	19-Reb-55
Longtude	W1100 221 46.46"	The second of the second	W 100-22-20-4/		ILAT OLD CZ COT M	W 100 17 00 40	W 1039-234 6.64"	W 103* 22' 10.91"	W 1036 22' 19.91"			W103°.21'.33.28"	W 103° 21' 33.28"	W 103º 21' 17.73"	W 103°23'33.28"	W/103P 21:33.28"		W 103º 22/ 51:08"	W 103º 22051.08"	W.103°23' 6,68"	W 103° 23' 6.68"	W 103° 23' 6.65"	W 103° 23' 6.65"	W 103º 22' 19.98"	W 1036 23' 6.65"	W'103º 22' 35.55"	W 103° 22' 36 55'	W 103° 23' 6.67"			W 1039239 22:19"	W 103º 23' 22.19"	W1004 29/ 22.17	W105° 23' 22.17"	W 103° 23' 22 16"	W 103° 22' 22 16"	W.103° 23' 22.17	W 103° 23' 22.10"	W 102º 23' 22.16"	W 103° 23' 22.16"	W 1054 23/ 22.16	W100-23-22.17"	W 103° 23' 22 19"	W 103° 23' 22.17"	W 103° 23' 22 17"		W 1079:24:7.41"	W.103*23/53.17"	LIFES SECONT W
Latitude	V 430 SALAKA	The second second	NOT DE LA COM		SOUL PLANE	00'D +C 70 M	N 32° 54' 39.88"	N.32* 54: 30.94"	AND OC IFS ACC N			"BE01":25 "CE'N	N 32° 55' 19.33"	N 32° 55' 32.49"	N:32º 55' 10.38'	N 324 555 19 33"		N 32º 55º 6.07º	N:32*54:53"	N32*55:32.22"	N 32° 55' 32, 23'	N 32° 54' 52.96"	N 32° 54' 52.96"	N 32° 55' 82.3"	N.326.54.52.96"	N 32º 55: 32.27"	N 32° 35' 32 27"	"E1.91"25" 25"N	· · ·		N.32° 55' 32.19"	N.32° 55' 32.19"	N 329 55' 6.02"	N 32º 55' 6.02"	N 32° 54: 52.93"	N.32° 54' 52' 93"	N 32° 55' 6.02"	N.32°.55°.6.02''	N 32° 54' 52.93'	N 32° 54' 52.93"	10575-145 47E N	N 32° 55: 6.02"		N.32°.55'.6.02"	N 32° 55' 6,02"		N.92°.54' 26,72"	N 32* 54' 26.74"	N:32°54'26.74"
કે છે કે તું તું	DO: A	1.0 1.00	1.67 02	100		SUC 2	20:114	20 2 2 1	20 22.1	20 111	20 423	16 231	16 231	16 222	16. 2,	16 234	16 231	17 323	17 43	11.11	11 41	17 3	17 3	17 22.2	13	17 211	17 212	17 13	111 71	EE 1 4	18: 2.2	18 22	18 42	18 42	18 443	18, 4,43	18 (4.2 .	18 42.1	18 4 4 4	18 443	18. 44.2	18 42	18 4.2	<u> 18.</u> 4.2,	18 (42,	18, 1.11	19, 1.3	19 1 1 2	19 1.42
Rug	N D	10.1	107	2	100	205	90 E	36 E	36 E	36 E	36 E	30E	36.E	36 E	398	36.E	36 E	36 E	36.E	36 E	36.E	36 E	36 E	36.10	36.E	36 E	36.8	30.E	36 E	36.R	39 K	36.6	39E	36JR	36.E	36.E	36.E	36.E	36 E	36.E	36.15	36.F	36.E	30.1	36.E	36.E	36.E	36.6	39E
Twsp	16 6		10.01		2.2	0 01	IGS	16.5	16.8	16 S	16 S	16 S	16 S	16.8	8 9F	16.5	16.5	16.8	16 S	16.5	16.8	I6 S	16.5	16.5	16.5	16.8	16.8	16.9	16.8	16 Sì	16.8	165	16 S	16.8	16.5	16 S	16.8	16.8	16.3	16 S:	16.5	168	16.5	16.5	16.8	16 \$	16.8	16 \$	16 S
Uŝŧ	ST 16	(created	NTO		TCNF	ANA I	PRO	OIL.	PRO	the second second	a ser a state i state i a se	DOM		DOM	XIS	PRO		IRB	RR	FRO		MOD		DOM	PRO	DOW	DOM	M	ľ		DOM	Mod	DOM		DOM		DOW	DOM	DOM	DOM	NOG	XIX	a)car	EXCP.	PRO		DOM	DOM	
Очепет	Davna, Dintermitica :			No. Courte Strength	C. Cause Company	And the second s	Roger C. Hanks	Yates Petroleum	Yates Petroleum			T.M. Blackmon	T.M. Blackmon	Kenneth Cox	T.M. Blackmon	Chesapeake Optening		College of the SW Foundation,	College of the SW Foundation	Noble Drilling Company	Noble Dilling Company	Roy Bölmd	Roy Boland	Bary Lee Hobbs:	Huida R. Heidel	Berry Lee Hobbs	Catvin or Jo. Ann Holloway	Increase Oil Company			C.C. Chambers	C. Chambers	Pline-H. Standd	Eimer H. Swandd	George Wayne Sumuld	George Wayne Sumuld	George Wayne Sumuld	R. R. Sumuld	Ricky Jones	Oscar V. Neithok	Odell Thick	Wayne.Sumuld	R. H. Sunnik	R. H. Sumuld	Chesapeake.Operating		George Spires	Venion N. Key	Venon N: Key
Diversion ^A			n e			P	0	jr	õ			3			Ģ	0		303.9	287.7	6		3		0	a	3	0.	ę			6		£	a some signal	e		8	5	3	0	6 3)	0	0	0	0		6		
Well Number	T.OKRAK.	1 0002	T. ATAKE EVEN	A Prove WAY AND A	L WARAN PART	ALL CONTRACT	L.08698	L.10572	1107E	I# SOSU	DSGS #2	L 03318	L 03318 APPRO EXP	L 04487 APPRO	L 06368 EXP	60900 T.	USGS #3	I. 00200 B	L 00209 C	L 02056	L 02056 APPRO	L 04437	L 04437 APPRO	L.05530 EXP	L 07649	1:0757	L 09689 EQCP	T 10010 EXP.	DSGS #4	USGS #5	1.01086	L'01087 APPRO.	T 04598	I.(04598 APPRO)	D09600	L,04609,APHRD EXP	T 06139	E 06934	1.06063	L 068067	T 07033	T(6,6)T	1,09729	T.06290	T.10712!	9# SOSO	CON994 APPRO	LOND	LO2B AFFRO

٠.

•.

Well Data

Chesapeake Energy Ruth 20-2 (Ref. #160011)

Well Number	Diversion	Öwnter	dise Dise	Twap	Ring	Sec a à à	Lattude	Löngttide	Date	Well Depth	Depth to Water
				•	p			1	Measured	(It bgs)	(ft hgs)
L 04801	6	George Spares	DOM	16 S	36 E	19 1.2	"18 35.745 38 BL	W103° 23'53.18"	The second second		
L 04895	5	George Spires	MOG	16.5	36.E	19 1.2-	N32° 54° 39.81	W.103° 23' 53.18'	03.May-62	100T	
L.06639 EXP	0	Joe Grado	DOM	16.5	36.E	19 1.4.2	N:32º 54' 26.74"				
L,06689 EXP	Q,	Walter Haman	NOO	16.8	36 E	19: 1-1-4	187.94°34'39.78	W.1039.241 7.3"			1
L'06937	ģ	Dale Gendy	DOM	16.8	36.15	19 2.2.4	N 32° 54' 39.85"	W. 103º 23' 22. 15"	25-Apr-72	110	89
L 07444 EXPL-1	0	G. Cattle Company	ê CA	16 S	36 (E)	16.2. 61	N 32º 54: 26.76"	W 103° 23' 37,64"	13-Oot-75	130	3
L 07444 EXPL-2		G. Cattle Company	eX.	16.8	36/8	16 2 3 1	N 32º 54' 26.76"	W 103° 23' 37 64"	13-Oct-75	140	The second second second second
L'07444 EXPL-3		G. Cattle Company	EXB	16.5	36.8	16.2.61	N 32° 54' 26.76'	W 108° 23(37.64"	14-Oct-75	178	120
L.08744	3	Roger Price	DOM	16.S	36 B/	19 33	N 32° 54' 0.59"	W 103° 24' 7.42"	الاعامد من المناطقة الريسية ال	108	ц.
L.10209	'nj	Kenty Jackson	MOO	16.8	36 E	19 122	N 32° 54' 39.81"	"81.62°23'553.88	03-Aug-91	128	æ
L 00150 ENGLD:S	õ	Chestpake Operating	PRO	16.8	36.E	19 213	N 32° 54 39 83"	W 103° 23: 37.66"	У	80	
L/00130	0	Nearburg Producing Company.	PRO	16.8	36.1	19 2.1.1	N 32° 54' 39 89'	W.103º 23: 37.66"		125;	
USGS #1				16.8	36 B)	14-1-61	100	 	18-#M-16		59.25
10000 Ht		ب ب السير:		893	38 K	10 2.1 I		λ	16-Feb-61		50.9
OF SPSO	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		د : تونيد	16.8	36 E	19 211			03:Mar-76		649
USGS #10		1 Annual Control of the second se	1	16.5	36.P	19 214	korr	in the second	15-Peb-71		64.05
DSGS#11	Supervised and an and a supervised in the supervised sector of the supe			16.5	30 E	19 413			30-Sep-61		15 99
L: 03966	6	Robert Ratph Sims	DOM	16 S	36 E	21 2 4 4	N 32° 54' 26.96"	W 103° 21' 17.68"	18-Aug-58	95	8
L 03966 APPRO				16.5	36:E	21 2 2 4	N 32° 54' 40.06"	W 103°.21' 17.68"	18-Aug-58	95	8
L 05269	ę	Raph E. Collins	DOM	16 S	36 E	21 2 2 4	N 32° 54' 40.06"	W 103º 21' 17.68"	19-Oct-63	110	8
USGS #12				16 S	36 E	21 232			01-Feb-96		66.58
L 01608 APPRO	Ø	Lawton Ol Group	PRO	16.5	36/E	30 2.2	N 320 53, 47 54"	W. 1036 23/ 22:07"	24-Oct 32	145	. 80 °
1:04932	R	George Spines	NOC	16.9	36 F	30.1.2	"EF 14 .65 .2E N	W 103" 23" 53.08"	12-Jul-62	104	8
L 06334	0	Marcum Drilling Company	PRO	16 S	36 F	30 311	N 32° 53' 21.38"	W 103º 24' 7.28"	02-Jun-68	135	75
L 06334 (E) 1	0	Humble Oil & Refining Co.	PRO	16 S	36 E	30 311	N 32º 53' 21, 38"	W 103° 24' 7.28"			
DSGS#13				368	36 E	30.124			10-Mar-76		75.23

*= Data obtained from the New Mexico Office of the State Engineer Website (http://waters.ose.state.nm.us.7001/iWATERS/wr_RegisServlet1) Well locations shown on Figure 2

A = in acre feet per annum
 IND = Industrial
 IRR = Industria
 IRR = Industrian
 DOM = Domestic
 EXP = Exploration
 EXP = Exploration
 and the state of the

APPENDIX I

•

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM

ANALYTICAL RESULTS NOT INCLUDED IN DRAFT COPY OF REPORT

۰.

APPENDIX II

PROJECT PHOTOGRAPHS



Photo #1: Looking northwesterly at diesel tank, generator and release area.



Photo #2: Looking westerly at release area.



Photo #3: Looking down at point-of-release.



Photo #4: Looking at pooled diesel fuel on caliche pad.



Photo #5: Excavated, diesel soaked soil stockpiled on plastic. Drilling pit is in background of photo.



Photo #6: Looking southwesterly at excavation.



Photo #7: Looking westerly at excavation.



Photo #8: Looking westerly at excavation. Drilling pit is in right side of photo.



Photo #9: Looking northerly at excavation.



Photo #10: Looking northwesterly at excavation.

APPENDIX III

SOIL BORING LOG

Image: State Approved Land Farm And Environmental Services EUNICE S05-394-3481 Project Number: 160016 Image: State Approved Land Farm And Environmental Services EUNICE S05-394-3481 Project Name: Chesapeake Ruth 20-2 Pit Closur Location: UL-D, Section 20, Township 16 South, R Image: State Approved Land Farm And Environmental Services EUNICE S05-394-3481 Boring Number: BH-1 Surface Elevation: 3; Image: State Approved Land Farm And Environmental Services EUNICE S05-394-3481 Image: State Date: 10/19/05 Time: 1 Image: State Date: State Date: State Date: 10/19/05 Image: State Date: 10/19/05 Time: 1 Image: State Date: State Date: 10/19/05 Image: State Date: 10/19/05 Time: 1 Image: State Date: State Date: 10/19/05 Image: State Date: 10/19/05 Time: 1 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: State Date: 10/19/05 Image: 10/19/05	^e
Image: State Approximation of the state in the state	^e
STATE APPRIVED LAND FARM AND ENVIRINMENTAL SERVICES EUNICE 505-394-3481 Invoject Numeri Chesupeake Rd in 20-2 Protocosing Image: State approximation of the services EUNICE 505-394-3481 Location: UL-D, Section 20, Township 16 South, R Image: State approximation of the services EUNICE 505-394-3481 Boring Number: BH-1 Surface Elevation: 3, Start Date: Image: State approximation of the services Image: Start Date: 10/19/05 Time: 1 Approximation of the services Image: State approximation of the services Image: Start Date: 10/19/05 Time: 1 Approximation of the services Image: State approximation of the services Image: Start Date: 10/19/05 Time: 1 Approximation of the services Image: Start Date: Start Date: Image: Start Date: 10/19/05 Time: 1 Approximation of the services Image: Start Date: Image: Start Date: Image: Start Date: 10/19/05 Time: 1 Approximation of the services Image: Start Date: Image: Start Date: Image: Start Date: Image: Start Date: Image: Start Date: Image: Start Date: Image: Start Date: Image: Start Date: Image: St	
EUNICE EUNICE 505-394-3481 Boring Number: BH-1 Surface Elevation: 3, Boring Number: BH-1 Start Date: 10/19/05 Boring Number: BH-1 Start Date:	anno 36 Fast 1
$\frac{2}{4} = \frac{2}{3} = \frac{2}$	
a a b a b	1020 hnc
F G <td>1350 hrs</td>	1350 hrs
1' Sandy Loam Topsoil - 1' Sandy Loam Topsoil -	
1' Sandy Loam Topsoil - CALICHE, White to Tan, Hard	
CALICHE, White to Tan, Hard	
	_
	-
	_
	—
1030 PS 6 5.4 1,360 10	
	_
1035 PS 12 47 1.360 SM 15 SAND White to Tap to Red Fine to Course	e Grained
1028 20 Z 1280 SP 20 Sand turns to Red	
	_
	_
25 Sand turns to White	
1043 PS 8 6.4 1,280 SP	
	_
	_
	-
1050 PS 12 3.2 1,040 SM	
Water Level Measurements (feet)	
Date Time Sample Casing Cave-in Water Drilling Method: HSA 3.5' ID	
Backfill Method: Bentonite	
Field Representative: JR	

						.og	Of Te	t Borings (NOTE - Page 2 of 3)
		_		_	_		Proje	ct Number: 160016
				fal Pi	LUS, IN	C.	Proje	ct Name: Chesapeake Ruth 20-2 Pit Closure
		ENVI	RONMEN	ITAL SE	RVICES	עאו	Locat	on: UL-D, Section 20, Township 16 South, Range 36 East
			505-	UNICE 394-348	31		Boring	Number: BH-1 Surface Elevation: 3,938-feet amsl
	0	2	à	Js.	a s o			Start Date: 10/19/05 Time: 1030 hrs
a m	vpe /pe	ove hes	tur		/Kg	S'C'S	et t	Completion Date: 10/19/05 Time: 1350 hrs
-	Sa	Rec (inc	Mois	Read	And Ang		ר אַ ר	Description
								SAND White to Tan to Red Fine to Counce Grained
								Shind, white to full to ked, the to course drained
								_
					_			
1054	PS	11		1.6	1,520	S№	1	
	i							_
								_
1203	PS	8		2.6	1,520	SM	1	_
								_
								_
				<u> </u>				5
1220	PS	8		2.3	1,120	SM	1	_
								_
							\vdash	_
							F	_
								o
1230	PS	12		1.9	1,040	SM	1	_
							<u> </u>	_
								_
							-	_
1241		-		1 2	1.040		<u>_</u> ;	5
1241	<u>гз</u>	8		1.3	1,040	<u></u>	" 	· · · · ·
							┣-	_
							<u> </u>	_
				1			-	_
1316	PS	<u> </u>		17	1.320	5	1	o
					1,020		·	-
	Wate	er Leve	l Meas	uremen	ts (fee	t)		Dolling Mathank USA 251 ID
Date	Tim	ie So De	imple epth	Casing Depth	Cave- Depti	in V	/ater Level	שרונערוט ויופ נאסמי HSA 3.5' עו
<u> </u>	-		-				-	Backfill Method: Bentonite
			-		-			Field Representative: JR

•

					L	.og	Of Test	Borings (NOTE - Page 3 of 3)
							Project	Number: 160016
山	È F			AI P	lus. Tni	-	Ducies	
≡(ʰ,)	s is			D LAND	FARM A	ND	Frojec	thame chesapeake kuth 20-2 Pit closure
\mathcal{M}	Ì.	LINVI					LOCATION	UL-1, Section 20, Township 16 South, Range 36 East
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			394-348	31 		Boring N	umber: BH-1 Surface Elevation: 3,938-feet ams
0 2	ي م	ery (S)	a a	, b b c c	sis Sis (9)	NO	÷£	Start Date: <u>10/19/05</u> Time: <u>1030 hrs</u>
Time T		2 2 2 2 2 2 2 2	listu	p II p dir	nolor ng/k	C.S.C	fee	Completion Date: 10/19/05 Time: 1350 hrs
		ar P	Ψ	Re Re	Ç\$2	20		Description
								SAND, White to Tan to Red, Fine to Coarse Grained
]			<u>}</u>	
1320	PS	10		2.0	4.000	SM		—
	- 3				1,000			_
ļ							<u> </u>	_
								_
						L		_
1327	PS	10		1.1	4,880	SM	//	
							V	
1343	PS	12	Damp	1.8	>4,000	MZ		
								
1350	PS	12	Wet			SM		
								End of Soil Boring at 76 bgs
							-	
							<u> </u>	_
	·						80	_
							<u> </u>	
							<u> </u>	-
			l				-	–
								—
			<u> </u>	<u>├</u>	<u> </u>			
							<u> </u>	_
					l		—	-
							Γ	_
Date	Wate Tim	e Leve	el Meas	uremen Casino	ts (fee Cave-	t) n W	later Dr	rilling Method: HSA 3.5" ID
0/19/05	134		epith	Depth -	Depth	<u> </u>	evel B	ackfill Method: Bentonite
-					-	+	- FI	eld Representative:
	L				.l			

APPENDIX IV

SITE METRICS FORM AND INFORMATIONAL NMOCD C-141 FORM

Incident Date: NMCCD Notified: 03 June 2005 4 June 2005 Site: BRC Foderal Well #] Battery Assigned Site Reference #: G60010 ⁻² Company: Chesspeake Energy Street Address: S014 Carlsbad Highway City, State 2, Jip: Hobs, New Mexico 82420 Representative: Bradley Blevins Recovered (bbls): 0 gallons Perform South Set (505) 391-1462 ext. 24 Representative: Gridley Blevins Representative: Bradley Blevins Recovered (bbls): 0 gallons >255 bbls: Notify NMOCD verbadly within 24 for and submit form C-141 within 15 days. (Also apple to unauthorized releases >500 mK starral Cao) 5-25 bbls: Submit form C-141 within 15 days (Also applies to usanthorized releases of 500 mK starral Cao) Leak, Spill, or Pit (LSP) Name: Rut 20-2 Source of Contin Minos: 7 feet Uhre: State of New Mexico Lay Area: Sal, 150, df- Location of Reference Point (RP):						
On Superal Procession 03 June 2005 4 June 2005 Information and Metrics Information and Metrics 4 June 2005 Stree RCF Forceal Well #1 Batery Assigned Site Reference #: (760010 ³) Company: Chesspeake Energy Street Address: Street Address: 5014 Carisbad Highway Street Address: Malling Address: Solid Carisbad Highway Street Address: Representative: Solid Carisbad Highway Solid Carisbad Highway Representative: Solid Carisbad Highway Solid Carisbad Highway Representative: Solid Carisbad Highway Solid Carisbad Highway Peterson: (305 391-1462 ext. 24 Solid Carisbad Highway Solid Carisbad Highway Solid Carisbad Highway Solid Carisbad Highway Solid Carisbad Highway (305 391-1462 ext. 24 Solid Carisbad Highway Solid Carisbad Cobisba Solid Carisbad Highway Solid Carisbad Highway Solid Carisbad Cobisba Solid Carisbad Highway Solid Carisbad Highway Solid Carisbad Cobisba Solid Carisbad Cobisba Solid Carisba Solid Carisbad Cobisba Solid Carisba Solid Car		A	Incident Date:	NMOCD Not	ified:	
Chesspecke Information and Metrics Site: BRC Foderal Well #I Battery Company: Cheageake Energy Siter Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway Company: Cheageake Energy Street Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway Representative: Bradley Blevins Representative: Bradley Blevins Representative: Telephone: 'Fluid volume released (bbly): 500 gallons >255 bbls: Submit form C-141 within 15 days (Alos applies to ansuthorized release of 50-500 mcl Natural Gas) -25 bbls: Submit form C-141 within 15 days (Alos applies to ansuthorized release of 50-500 mcl Natural Gas) Leak, Spill, or Pti (LSP) Name: Ruth 20-2 Source of Contaminations: Protein Lines upplying diesel to a generator was vandalized and all the diesel fuel was released onto the surface. Land Owner, Le, BLM, ST, Fee, Other: State of New Mexico LSP Dimensione: 23,150.012 Location of Reference Point (RP): Location of State Can Line: Peet from South Section Line: Peet from Wet Section Line: Peet from Wet Section Line:			03 June 2005	4 June 2005		
Information and Metrics Site: BRC Potent Well # Batery Company: Chesspeake Energy Street Address: 5014 Carisbad Highway Street Address: 5014 Carisbad Highway City, State, Zip: Hobbs, New Mexico 88240 Representative: Fieldbone: (505) 391-1462 ext. 24 Telephone: Fluid volume released (bbls): 500 gallons Pielephone: State, Zip: Hobbs, New Mexico 88240 Representative: Telephone: (505) 391-1462 ext. 24 Telephone: Fluid volume released (bbls): 500 gallons Note: Note: Nutro Coll within 15 days (Also applies to unauthorized releases >560 mChatral Gas) State Stabils: Submit form C-141 within 15 days (Also applies to unauthorized releases >560 mChatral Gas) Stabils: Ort (LOR) Nome: Ruth 70-2 Source of contamination: Puel line supplying desel to a generator was vandalized and all the desel fuel was released onto the surface. Land Owner, Je., BLM, ST, Fee, Other: State of New Mexico LSP Area: 32,150 all Location of Reference Point (RP): Location distance and direction from RP: Lastifuele: N22 Stat3333 Location of Reference Point (RP): Location of Net Section Line: Feet from West Section Line: Feet from West Section Line: Location - Reference Point State of State: none Domestic water wells within 1000 'radius of site: none Domestic water wells within 1000 'radius of site: none Degyth from land surface to ground water (DG): 50 to 100 feet Depth of contamination Of the State of State State on Figure 2) Agricultural water wells within 1000 'radius of site: none Degyth from land surface to ground water (DG): 50 to 100 feet Depth of well State apply wells within 1000 'radius of site: none Degyth from land surface to ground water (DG): 50 to 100 feet Depth of W >100 type State of State State State State State State on State Water Body If Depth to GW >00 (State ID points If Depth to GW >00 (State ID points If Depth to GW >100 feet ID points If Depth to GW >100 feet ID points If Depth to G	Cn	esapeake				
Site: ERC Fideral Well #I Battery Assigned Site Reference #: 4560010 ⁻⁵ Company: Chesspoke Energy Street Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway City, State, 21, Hobb, New Mexico 68240 Representative: Bradley Blevins Recovered (bbls): 0 gallons Representative: Telephone: (S05) 391-1462 ext. 24 Fluid volume released (bbls): 500 gallons Recovered (bbls): 0 gallons >255 bbls: Nettly NMOCD verbally within 24 hrs and submit form C-144 within 15 days. (Also applies to unauthorized releases >5600 mcf Natural Gas) 5-25 bbls: Submit form C-144 within 15 days (Also applies to unauthorized releases >5600 mcf Natural Gas) Source of contamination: Telline supplying desel to a generator way vandalized and all the desel fuel was released onto the surface. Land Owner, Le., BLM, ST, Fee, Other: State of New Mexico LSP Dimension: 75 feet by 45 feet. LSP Area: 23,150.8 ² Location of Reference Point (RP): Location of State Call Line: Peet from South Section Line: Peet from South Section Line: Peet from South Section Line: Location - Section: 20 Location - Section: 20 Location - Tormship: T168 Location - Section: 20 Location - Section: 20 Location	Informa	tion and Metrics				
Company: Chesapeke Energy Street Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway City, State, Zip: Hobbs, New Mexico 88240 Representative: Englemannia Representative: Source and the state of the sta	Site: BRC Fed	eral Well #1 Battery	A	Assigned Site Reference #: 9	60010	
Street Address: 5014 Carlsbad Highway Mailing Address: 5014 Carlsbad Highway City, State, Zip: Hobs, New Mexico 88240 Representative: Bradley Elevins Representative: Bradley Elevins Representative: Bradley Elevins Representative: Edephone: '10id volume released (bbls): 500 gallons '25 bbls: Notify NMOCD verhally within 24 hrs and submit form C-141 within 15 days. (Also applies to unanthorized releases >560 mcf Natural Cas) '525 bbls: Submit form C-141 within 15 day: (Also applies to unanthorized releases of 50-500 mcf Natural Cas) Source of contamination: Fee, Other: Source of contamination: Fee, Other: Location of Keference Point (RP): Location of Keference Point (RP): Location of Keference Point (RP): Location of Keference Point (RP): Location of Keference Point (RP): Location of Keference Point (RP): Location of Keference Point (RP): Location Section Line: Feet from West Section Line: Feet from South Section Line: Location: Torial of site: none Domestive warks within 1000' radius of site: none Location - Keinsence II status of site: none Domestive ware wells within	Company: Ch	nesapeake Energy				
Malling Address: 5014 Carlshad Highway City, State, Zip: Hobbs, New Mexico 88240 Representative: Bradley Blevins Representative: Telephone: Fluid volume released (bbls): 500 gallons Recovered (bbls): 0 gallons >255 bble: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >560 mcf Natural Cas) 5-25 bble: Submit form C-141 within 15 day (Also applies to unauthorized releases of 50-560 mcf Natural Cas) Leak, Spill, Orne: Ruh 70-2 Source of contamination: Fuel insource of Natural Cas) Leak, Spill, Orne: Ruh 70-2 Source of contamination: Fuel insource Log Owner, I.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimemions: LSP Dimemions: 75 feet by 45 feet Location of Reference Point (RP): Location of Reference Point (RP): Location of Reference Point (RP): Location Section Line: Feet from Suth Section Line: Feet from West Section Line: Feet from West Section Line: Location - State Within 1000* radius of site: none Location- Romship: TileS Location - State Within 1000* radius of site: none Location- Romship: TileS Location - State Within 1000* radius of site: none Location- Romship: TileS L	Street Address	5014 Carlsbad Highwa	ay			
City, State, Zip: Hobbs, New Mexico 88240 Representative Telephone: (SO) 391-1462 ext. 24 Telephone: (SO) 391-1462 ext. 24 Telephone: (Also applies to unauthorized releases >500 mcf Natural Cas) > 255 bbi: Submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Cas) S-25 bbi: Submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Cas) Source of contamination: Fuel line supplying desel to a generator was vandalized and all the desel fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 73 feet by 45 feet LSP Area: 31.50 df. Location of Reference Point (RP):	Mailing Addres	ss: 5014 Carlsbad Highv	vay			
Representative: Bradley Blevins Representative: Telephone: (305) 391-1462 ext. 24 Fluid volume released (bbls): 500 gallons Recovered (bbls): 0 gallons >225 bbls: Notify MOCD verbally within 24 brs 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 >500 mcf Natural Gas) 5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases >500 mcf Natural Gas) Leak, Spil, O, Phit (LSP) Name: Rul D-2-2 Source of contamination: Fuel line supplying desel to generator was vandalized and all the dised fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet Location of Reference Point (RP): Location of Reference Point (RP): Location of Reference Point (RP): Location Section Ine: Feet from South Section Line: Location- Range: R36E Surface water body within 1000' radius of site: none Domesic water wells within 1000' radius of site: none Domesic water wells within 1000' radius of site: none Depth from and surface to ground water (DC): S0 to 100 feet Depth form Rand Surface to ground water (DC): S0 to 100 feet Depth to GW >0 feet: 10 points	City, State, Zip	: Hobbs, New Mexico	88240			
Representative Telephone: (503) 391-1462 ext. 24 Telephone: Stopping: Fluid volume released (bbls): 500 gallons > 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 >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) Source of contamination: To: Fuel ine supplying deed to a generator was vandalized and all the diesel fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Area:: 315.042 Location of Reference Point (RP): Location of New Mexico Large train distance and direction from RP: Latitude:: N32*254.348033" Location form or Xe:: Reet from West Section Line: Feet from West Section Line: Feet from West Section Line: Location- Section: 20 Location funct 7%2: NW% of the NW% Uncation- Range: R3GE 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: none Depeth form land sur	Representative	: Bradley Blevins				
Telephone: Fluid volume released (bbls): 500 gallons Recovered (bbls): 0 gallons >25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to manuthorized releases >500 mcf Natural Cas) 5-25 bbls: Submit form C-141 within 15 days. (Also applies to manuthorized releases >500 mcf Natural Cas) Sector of contamination: Fuel line supplying diseal to a generator was vandalized and all the diseal fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet Location of Reference Point (RP): Location in Christica With 000° radius of site: Location- Inter W/A: NW/A of the NW/A Unit Letter: D Location- Range: R3GE Surface water body within 1000° radius of site: none Domestic water wells within 1000° radius of site: none Depth for Bad surface to ground water QOC: Stot 100 feet Depth to Gwd Sol feet: 20 points ff <loop 100="" ala="" feet<="" from="" ground="" qoc:="" stot="" surface="" td="" to="" water=""> <</loop>	Representative	Telephone: (505) 391	-1462 ext. 24			
Fluid volume released (bbls): 500 gallons Recovered (bbls): 0 gallons >25 bbls: Notify NMOCD vorbally 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> 500 mcf Natural Gas) Source of contamination: Fuel line supplying diesel to a generator was vandalized and all the diesel fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet LSP Area: 83,150.04 Location of Reference Point (RP): Location of Reference Point (RP): Location of accestor mass rear level: -3,938 Feet from South Section Line: Location above mean rear level: -3,938 Feet from West Section Line: Location - Section: 20 Location - Section: 20 Location - Namship: TI6S Location - Range: R36E 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: none Depth form land surface to ground water (DG): 50 to 100 feet Depth to GW >50 to 99 feet: 10 points ff <loop ints<="" td=""> ff <1000' from water source, or; >200' from <</loop>	Telephone:			·····		
>255 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: Ruth 20-2 Source of contamination: Fuel line supplying dised to a generator was vandalized and all the dised fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet Location of Reference Point (RP): Location Suff Section Ince: Feet from Suff Section Line: Feet from Suff Section Line: Location- Range: R36E 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: none Domestic water wells within 1000' radius of site: none Dopti to ground water (DC - DC = DtGW): 50 to 100 feet Depth to GW > 50 to 90 of set: 10 points If >1000 from water source, or, >200' from private domestic water source: 0, pr	Fluid volume r	eleased (bbls): 500 gallo	ons	Recovered (bbls): 0 ga	allons	
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: Ruth 20-2 Source of contamination: Fuel line supplying dissel to a generator was vandalized and all the dissel fuel was released onto the surface. Land Owner, i.e., BLAM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet LSP Area: 32,150;47 Location of Reference Point (RP): Location distance and direction from RP: Latitude: NA32 534:28(323) Longitude: W.1003:22: 57,430 Elevation above mean sea level: -3,938 Feet from South Section Line: Location- Section: 20 Location- Section: 20 Location- Section: 20 Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Depth form land surface to ground water (DG: 50 to 100 feet Depth to GW <50 feet: 20 points		>25 bbis: Notify NM((Also ap	OCD verbally with plies to unauthor	hin 24 hrs and submit form C-1 ized releases >500 mcf Natural (41 within 15 days. Gas)	
Leak, Spill, or Pit (LSP) Name: Ruth 20-2 Source of contamination: Fiel line supplying dised to a generator was vandalized and all the diesel fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet LSP Aren: \$23,150,04 ² Location of Reference Point (RP): Location of Reference Point (RP): Logitude: N103 22: 57,430' Elevation above mean sea level: -3,938 Feet from West Section Line: Feet from West Section Line: Location - Unit or ¼½: NW¼ of the NW¼ Location- Comship: 1165 Location- Range: R36E Surface water body within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Depth of contamination (DC): 10 feet Depth for contamination (DC): Depth to GW 50 feet: 20 points If >1000' from water source, or, >200' from rivate domestic water source: 02 points If Depth to GW >50 to 99 feet: 10 points If >1000' from water sourc	5-25 b	bls: Submit form C-141 wi	thin 15 days (Also	o applies to unauthorized releas	es of 50-500 mcf Natural Gas)	
Source of contamination: Fuel line supplying diesel to a generator was vandalized and all the diesel fuel was released onto the surface. Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet Location of Reference Point (RP): Location of Reference Point (RP): Location of Stance and direction from RP: Latitude: _M322547.88.033" Longitude: W. 103222: 57.430" Elevation above mean sea level: -3.938 Feet from South Section Line: Location of XV: NW¼ of the NW¼ Location - Tomship: T163 Location - Range: R36E 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: none Depth of contamination (DC): < 10 feet	Leak. Spill. or	Pit (LSP) Name: Ruth	20-2	·····		
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico LSP Dimensions: 75 feet by 45 feet LSP Area: >3.150.48 Location of Reference Point (RP): Location of Reference Point (RP): Longitude: N. 1032:22: 52.430° Elevation above mean sca tevel: -3,938 Feet from West Section Line: Feet from West Section Line: Feet from West Section Line: Location - Township: T168 Location - Township: T168 Location - Township: T168 Location - Township: T168 Location - Township: Table Public water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Depth from hand surface to ground water (DG): 50 to 100 feet Depth to ground water (DG - DC = DtGW): 50 to 100 feet Depth to GW >100 feet: 0 points If Depth to GW >100 feet: 0 points If Depth to GW >100 feet: 0 points If Pepth to GW >100 feet: 0 points If Depth to GW >100 feet: 0 points If Depth to GW >100 feet: 0 points If Pepth to GW >100 feet: 0 points If Pepth to GW >100 feet: 0 points If Pepth to GW >100 feet: 0 points <td>Source of conta</td> <td>mination: Fuel line supp</td> <td>lying diesel to a ge</td> <td>perator was vandalized and all the</td> <td>diesel fuel was released onto the surface</td>	Source of conta	mination: Fuel line supp	lying diesel to a ge	perator was vandalized and all the	diesel fuel was released onto the surface	
LSP Dimensions: 75 feet by 45 feet LSP Dimensions: 75 feet by 45 feet LSP Area: \$23,150,04 ² Location of Reference Point (RP): Location distance and direction from RP: Latitude: N+325'34'-38:033" Longitude: W.1032:22: 57,430" Elevation above mean scale teet: -3,538 Feet from South Section Line: Feet from West Section Line: Location Unit or ¼¼: NW¼ of the NW¼ Location - Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet 1. Ground Water 2. Wellhead Protection Area If Depth to GW <50 feet: 20 points	Land Owner, i.	e., BLM, ST, Fee, Other	: State of New M	lexico		
Lor Jame Solution of Reference Point (RP): Location of Reference Point (RP): Intude:,N-32*54:38:03* Longitude: W1003*22:57:430* Elevation above mean sea tevel:~-3,938 Feet from South Section Line: Feet from West Section Line: Location - Section: 20 Intervention Location- Range: R36E Intervention Surface water body within 1000 * radius of site: none Intervention Domestic water wells within 1000 * radius of site: none Cloge of the Southwest irrigation well - L 00209C and USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000 * radius of site: none Cloge of the Southwest irrigation well - L 00209C and USGS #1, as illustrated on Figure 2) Public water supply wells within 1000 * radius of site: none Cloge of the Southwest irrigation well - L 00209C and USGS #1, as illustrated on Figure 2) Public water supply wells within 1000 * radius of site: none Domestic water supply wells within 1000 * radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	I SP Dimension	s: 75 feet by 45 feet				
Location of Reference Point (RP): Location of Reference Point (RP): Latitude: M-32°54*38:033** Longitude: W.103°2:25.7.330* Elevation above mean sea level: ~3,938 Feet from South Section Line: Feet from West Section Line: Location - NestSection Line: Location - Section: 20 Location - Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	LSP Area: \$3	150-ft ²				
Location distance and direction from RP: Latitude:, N-32°_54::48:003" Longitude: W.103°:22: 57:430" Elevation above mean sea level: -3,938 Feet from South Section Line: Location- Nettor VM: Location- Section: 20 Location- Range: R36E 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: none Depth to Gwater wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth for contamination (DC): < 10 feet	Location of Re	ference Point (RP)				
Latitude: N32*54:48:032* Longitude: W103*22*57.48:032* Elevation above mean sea level: -3,938 Feet from South Section Line: Feet from West Section Line: Location-Unit or ½½: NW¼ of the NW¼ Unit Letter: D Location-Township: T168 Location-Township: T168 Location-Township: T168 Location-Within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none Depth of site: supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	Location distan	ice and direction from R	· ·			
Longitude: W.103: 22: 57.430° Elevation above mean sea level: -3;938 Feet from South Section Line: Feet from West Section Line: Feet from West Section Line: Location-Unit or ½: NW¼ of the NW¼ Unit Letter: D Location-Section: 20 Location-Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth for contamination (DC): < 10 feet	Latitude N.32	9.54" 18 11 22"	<u>u</u> .			
Elevation above mean set level:-3,938 Feet from South Section Line: Location-Unit or ¼½: NW¼ of the NW¼ Unit Letter: D Location-Section: 20 Location-Range: R36E Surface water body within 1000' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): <10 feet	Langitude: W	1039 22' 57 430"				
Event and a dove mean sear level. 37,33 Feet from South Section Line: Int Letter: D Location-Unit or ¼¼: NW¼ of the NW¼ Location-Section: 20 Int Letter: D Location-Range: R36E Int Letter: D Domestic water wells within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none Domestic water wells within 1000' radius of site: none College of the Southwest irrigation well – L 00209C and USGS #1, as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth form land surface to ground water (DG): 50 to 100 feet Depth to GW -DC = DtGW): 50 to 100 feet Depth to GW 50 feet: 20 points If <1000' from water source, or; <200' from	Flovetion abov	103_22_31.430				
Feet from south section Line: Location- Unit or '4/4: NW'4 of the NW'4 Unit Letter: D Location- Section: 20 Location- Township: T168 Location- Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000 ' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth system Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): 10 Ground Water 1. Ground Water 2. Wellhead Protection Area 1. Ground Water 1. Ground Water 1. Ground Water 2. Wellhead Protection Area 1. Ground Water 2. Wellhead Protection Area 1. Ground Water 1. Ground Water 2. Wellhead Protection Area 1. Bepth to GW >100 feet: 0 p	Elevation abov	b Soction Lines				
Teter from west section Line: Location- Unit or ¼4: NW4 of the NW4 Unit Letter: D Location- Section: 20 Location- Township: T16S Location- Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none Depth from land surface to ground water (DG): S0 to 100 feet Depth for contamination (DC): < 10 feet	Feet from West	t Section Line.				
Location- Cinit Of 747: NW 4 of the NW 4 Onit Letter: D Location- Section: 20 Location- Township: T16S Location- Range: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth to ground water (DG - DC = DtGW): 50 to 100 feet Depth to GW <50 feet: 20 points	Feet from wes	on 1/1/1 NW1/ of the NE	11/	Linit Latton D		
Location - Section: 20 Location - Township: T16S Location - Range: R36E Surface water body within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth to ground water (DG - DC = DtGW): 50 to 100 feet Depth to GW <50 feet: 10 points	Location Section	OF 7474: IN W 74 OF LIFE IN	<u>vv 74</u>			
Location- Townsnip: 1105 Location- Range: R36E Surface water body within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	Locauon- Secu	011: 20				
Locauon- Kange: R36E Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: two (College of the Southwest irrigation well – L 00209C and USGS #1, as illustrated on Figure 2) Public water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth for contamination (DC): < 10 feet	<td>Locauon- Town</td> <td>nsmp: 1105</td> <td></td> <td></td> <td></td>	Locauon- Town	nsmp: 1105			
Surface water body within 1000 ' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: two (College of the Southwest irrigation well – L 00209C and USGS #1, as illustrated on Figure 2) Public water wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	Locauon- Kang	ge: KJOE				
Surface water body within 1000' radius of site: none Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (College of the Southwest irrigation well – L 00209C and USGS #1, as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): <10 feet Depth to ground water (DG – DC = DtGW): 50 to 100 feet If Openth to GW <50 feet: 20 points If <1000' from water source, or; <200' from <200 horizontal feet: 20 points If Depth to GW 50 to 99 feet: 10 points If >1000' from water source, 0r; >200' from >200-100 horizontal feet: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >100 ppm 10 ppm >0-9	C		- F - 14			
Domestic water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Agricultural water wells within 1000' radius of site: none (USGS #1 as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	Surface water	body within 1000 · radiu	is of site: none		<u></u>	
Agricultural water wells within 1000' radius of site: two (College of the Southwest irrigation well - 1.00209C and USGS #1, as illustrated on Figure 2) Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet	Domestic water	r wells within 1000' radi	us of site: none	(USGS #1 as illustrated on Fig	gure 2)	
#1, as illustrated on Figure 2)Public water supply wells within 1000' radius of site: noneDepth from land surface to ground water (DG): 50 to 100 feetDepth of contamination (DC): < 10 feetDepth to ground water (DG – DC = DtGW): 50 to 100 feet1. Ground Water2. Wellhead Protection Area1. Ground Water3. Distance to Surface Water BodyIf Depth to GW <50 feet: 20 pointsIf <1000' from water source, or, <200' from private doinestic water source: 20 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source: 0; >200' from private domestic water source: 0 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source: 0 pointsSite Rank (1+2+3) = 30 pointsSite Rank (1+2+3) = 30 pointsParameter>1910-190-90-9Benzene ¹ 10 ppm10 ppmBTEX ¹ 50 ppm50 ppm100 ppm1,000 ppm1100 ppm1,000 ppm1100 ppm5,000 ppm	Agricultural w	ater wells within 1000' r	adius of site: tw	o (College of the Southwest u	rigation well – L 00209C and USGS	
Public water supply wells within 1000' radius of site: none Depth from land surface to ground water (DG): 50 to 100 feet Depth of contamination (DC): < 10 feet			#1	, as illustrated on Figure 2)		
Depth from land surface to ground water (DG): <10 feet Depth of contamination (DC): <10 feet Depth to ground water (DG – DC = DtGW): 50 to 100 feet 3. Distance to Surface Water Body If Depth to GW <50 feet: 20 points If <1000' from water source, or, <200' from <200 horizontal feet: 20 points If Depth to GW >50 to 99 feet: 10 points private domestic water source: 20 points 200-100 horizontal feet: 10 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points If Depth to GW >100 feet: 0 points If >1000' from water source: 0 points >1000 horizontal feet: 0 points Site Rank (1+2+3) = 30 points If >1000 horizontal feet: 0 points >1000 horizontal feet: 0 points Parameter >19 10-19 0-9 Benzene ¹ 10 ppm 10 ppm 10 ppm BTEX ¹ 50 ppm 50 ppm 50 ppm If Dop ppm 1,000 ppm 5,000 ppm	Public water su	ipply wells within 1000'	radius of site: n	ione		
Depth of contamination (DC): < 10 feetDepth to ground water (DG – DC = DtGW): 50 to 100 feet1. Ground Water2. Wellhead Protection Area3. Distance to Surface Water BodyIf Depth to GW <50 feet: 20 pointsIf <1000' from water source, or; <200' from private domestic water source: 20 points<200 horizontal feet: 20 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source; 0r; >200' from private domestic water source: 0 points>1000 horizontal feet: 0 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source; 0 points>1000 horizontal feet: 0 pointsSite Rank (1+2+3) = 30 pointsDepth to GW >100 feet: 0 pointsSite Ranking Score and Acceptable ConcentrationsParameter>10 ppm10 ppmBenzene ¹ 10 ppm10 ppmBTEX ¹ 50 ppm50 ppm50 ppmTPH100 ppm1,000 ppm5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis5,000 ppm	Depth from lan	id surface to ground wat	ter (DG): 50 to 1	100 feet		
Depth to ground water (DG - DC = DtGW): 50 to 100 feet1. Ground Water2. Wellhead Protection Area3. Distance to Surface Water BodyIf Depth to GW <50 feet: 20 points	Depth of conta	mination (DC): < 10 fee	t			
1. Ground Water2. Wellhead Protection Area3. Distance to Surface Water BodyIf Depth to GW <50 feet: 20 points	Depth to groun	$\frac{1}{10000000000000000000000000000000000$	GW): 50 to 100	feet		
If Depth to GW <50 feet: 20 pointsIf <1000' from water source, or; <200' from private domestic water source: 20 points<200 horizontal feet: 20 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source, or; >200' from private domestic water source: 0 points>1000 horizontal feet: 0 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source, or; >200' from private domestic water source: 0 points>1000 horizontal feet: 0 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source; 0 points>1000 horizontal feet: 0 pointsSite Rank (1+2+3) = 30 points>1000 horizontal feet: 0 pointsParameter>1910-19Benzene110 ppm10 ppmBTEX150 ppm50 ppm50 ppmTPH100 ppm1,000 ppm5,000 ppm100 ppm field VOC headspace measurement may be substituted for lab analysis5,000 ppm	1. G	round Water	2. Well	head Protection Area	3. Distance to Surface Water Body	
If Depth to GW 50 to 99 feet: 10 pointsprivate domestic water source: 20 points200-100 horizontal feet: 10 pointsIf Depth to GW >100 feet: 0 pointsIf >1000' from water source, or; >200' from private domestic water source: 0 points>1000 horizontal feet: 0 pointsSite Rank (1+2+3) = 30 pointsSite Rank (1+2+3) = 30 pointsParameter>1910-19Benzene ¹ 10 ppm10 ppmBTEX ¹ 50 ppm50 ppmTPH100 ppm5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis	If Depth to GW	<50 feet: 20 points	If <1000' from	water source, or;<200' from	<200 horizontal feet: 20 points	
If Depth to GW >100 feet: 0 pointsIf >1000' from water source, or; >200' from private domestic water source: 0 points>1000 horizontal feet: 0 pointsSite Rank $(1+2+3) = 30$ pointsTotal Site Ranking Score and Acceptable ConcentrationsParameter>1910-19Benzene ¹ 10 ppm10 ppmBTEX ¹ 50 ppm50 ppmTPH100 ppm5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis	If Depth to GW	50 to 99 feet: 10 points	private domesti	c water source: 20 points	200-100 horizontal feet: 10 points	
Site Rank $(1+2+3) = 30 \text{ points}$ Total Site Ranking Score and Acceptable ConcentrationsParameter>1910-190-9Benzene ¹ 10 ppm10 ppm10 ppmBTEX ¹ 50 ppm50 ppm50 ppmTPH100 ppm1,000 ppm5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis50 ppm	If Depth to GW	>100 feet: 0 points	If >1000' from private domesti	water source, or; >200' from c water source: 0 points	>1000 horizontal feet: 0 points	
Total Site Ranking Score and Acceptable ConcentrationsParameter>1910-190-9Benzene ¹ 10 ppm10 ppm10 ppmBTEX ¹ 50 ppm50 ppm50 ppmTPH100 ppm1,000 ppm5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			Site Rank ((1+2+3) = 30 points	L	
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 5,000 ppm		Total Si	te Ranking Scor	e and Acceptable Concentra	tions	
Benzene ¹ 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 5,000 ppm	Parameter	>19		10-19	0-9	
BTEX ¹ 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	Benzene ¹	10 ppm		10 ppm	10 npm	
TPH 100 ppm 5,000 ppm ¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis 5,000 ppm	BTEX1	-50 ppm		50 ppm	50 npm	
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis	ТРН	100 ppm		1 000 ppm	5 000 nnm	
	¹ 100 ppm field	VOC headspace measurer	nent may be subs	stituted for lab analysis	9,000 ppm	

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

5

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		<i>A</i> .
Address: P.O. Box 190, Hobbs, N.M. 88240	Telephone No.: (505) 391-1462	ext. 24	14 14 10
Facility Name: Ruth 20-2	Facility Type: Tank Battery		and the second
Sumface Owners State of New Marriag	Minanal Ownamy State of Now Maying	Lassa No + VOM	71.0.0000
Surface Owner: State of New Mexico -	Mineral Owner: State of New Mexico	Lease 110.1 9.0-4	19-0000

Surface Owner: State of New Mexico -Mineral Owner: State of New Mexico Leased by Dale Gandy

2. LOCATION OF DELEASE

LOCATION OF RELEASE									
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County	
D	20	16 S	36 E					Lea	

Latitude: N 32º 54' 48.033" Longitude: W 103º 22' 57.430"

NATURE OF RELEASE

Type of Release: Diesel Fuel	Volume of Release: 500 gallons	Volume Recovered: 0 gallons						
Source of Release: Tank	Date and Hour of Occurrence:	Date and Hour of Discovery:						
	03 June 2005, time unkown	04 June 2005						
Was Immediate Notice Given?	IT YES, IO Whom?							
	Not Applicable							
By Whom? Not Applicable	Date and Hour: Not Applicable							
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse:							
🗋 Yes 🖾 No	Not Applicable							
If a Watercourse was Impacted, Describe Fully.* Not Applicable								
Describe Cause of Problem and Remedial Action Taken." The site was vandalized and the fuel line from the diesel tank to the generator was cut and all								
the diesel allowed to flow onto the calibre pad. Soil impacted above the NMOCD remedial thresholds has been excavated and transported to a State								
approved deadlight facility.								
Describe Area Affected and Cleanup Action Taken* Approximately 3 150 square feet of surface area was impacted by the release all of which was on								
the caliche pad at the site. Approximately 340-cubic yards of hydrocarbo	n impacted soil above the NMOCD rer	nedial guidelines was excavated and						
transported to Artesia Aeration for treatment. An equivalent amount of cl	ean soil was obtained from an off-site	source and utilized to backfill the						
excavation. NMOCD remedial thresholds for the site were: 10 mg/Kg for	benzene, 50 mg/Kg for BTEX and 10	0 mg/Kg for TPH.						
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 r	notifications and perform corrective ac	tions for releases which may endanger						
public health or the environment. The acceptance of a C-141 report by th	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								
tederal, state, or local laws and/or regulations.								
	OIL CONSERVATION DIVISION							
Signature:								
	Approved by District Supervisor:							
Printed Name: Bradley Blevins								
Title: Field Technician	pproval Date: Expiration Date:							
E-mail Address: bbievins(a)chkenergy.com	Conditions of Approval:	Attached						
Date: Disame (505) 201 1460+ 04								
Phone: (303) 391-1402 ext. 24								

* Attach Additional Sheets If Necessary