Chesapeake

CLOSURE REPORT

STATE L #2 RELEASE SITE

REF: 160024

UL-E (SW¼ OF THE NW¼) OF SECTION 19 T17S R36E

~9.0 MILES SOUTHWEST OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 49' 21.74" LONGITUDE: W 103° 23' 55.79"

OCTOBER 2005

PREPARED BY:

Chesapeake - 147179

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incident - nPAC0606153777

application - pPAC0606154074

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Project Summary

Site Specific:

- **Company Name**: Chesapeake Energy
- **Facility Name**: State L #2
- **Project Reference** 160024
- **Company Contacts**: Bradley Blevins
- **Site Location:** WGS84 N32° 49' 21.743"; W103° 23' 55.798"
- **Legal Description**: Unit Letter E, (SW¼ of the NE¼), Section 19, T17S, R36E
- **General Description**: approximately 9.0-miles southwest of Lovington, New Mexico
- **Elevation**: 3,898-ft amsl **Depth to Ground Water**: <50-ft
- **Land Ownership**: Darr Angell
- **EPI Personnel**: Project Consultant – Pat McCasland
  Site Foreman – David Robinson

Release Specific:

- **Product Released**: Produced Water (≈60 bbls) and Crude Oil (≈5 bbls)
- **Volume Released**: ≈65-bbl reported **Volume Recovered**: 0-bbl
- **Time of Occurrence**: 11-Aug-05 @ 17:00 hrs **Time of Discovery**: 11-Aug-05
- **Release Source**: Structural integrity of a 2-inch polyethylene flowline was compromised
- **Initial Surface Area Affected**: ≈8,000-ft^2

Remediation Specific:

- **Final Vertical extent of contamination**: 16-ft bgs; Remaining depth to ground water: <50-ft
- **Water wells within 1,000-ft**: 0 **Surface water bodies within 1,000-ft**: 0
- **NMOCD Site Ranking Index**: 20 points (<50-ft to top of water table)
- **Remedial goals for Soil**: TPH – 100 mg/kg; BTEX – 50 mg/kg; Benzene – 10 mg/kg; Chloride and Sulfate residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 mg/kg, and 600 mg/kg, respectively.
- **RCRA Waste Classification**: Exempt
- **Remediation Option Selected**: a) Excavation of contaminated soil above NMOCD remedial goals; b) laboratory analyses to confirm removal of soil impacted above NMOCD remedial thresholds and NMWQCC groundwater standards; c) dispose of impacted soil at a state approved disposal facility; d) backfill excavation with clean soil
- **Disposal Facility**: Sundance Services, Inc. **Volume disposed of**: 1,078-yd^3
- **Project Completion Date**: 23 September 2005
- **Additional Commentary**: None

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Chesapeake Energy State L #2 flowline remediation site. On August 12, 2005, Environmental Plus, Inc. (EPI) was notified by Chesapeake Energy regarding a recently discovered produced water and crude oil release from a two inch polyethylene flowline. This site is located approximately 9.0 miles southwest of Lovington, Lea County, New Mexico (reference *Figure 1*). The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on September 1, 2005, reports the release volume as approximately 65-barrels (bbls), comprised of approximately 60 bbls produced water and 5 bbls of crude oil with no recovery. EPI performed GPS surveying, photography and characterization of the site on August 12, 2005. The initial site consisted of an approximate 8,000 square feet (ft^2) visibly affected surface area, with approximately 1,400 ft^2 impacted within the overspray area (reference *Figure 3*).

Initial activities at the site consisted of excavating saturated soil and stockpiling on plastic. On August 23, 2005, a composite soil sample was collected from the stockpiled soil and submitted for laboratory quantification of chloride concentrations. On August 31, 2005, soil samples were collected from a test trench excavated to a depth of 18-feet below ground surface (bgs) and 11 locations within the impacted area. A portion of each sample was analyzed in the field for the presence of organic vapors utilizing an UltraRae photoionization detector (PID) equipped with a 9.8 electron-volt (eV) lamp and chloride concentrations utilizing LaMotte Chloride Test Kit. In addition, a portion of each sample was submitted for laboratory confirmation to ensure the extents of contamination had been delineated.

Once the extents of contamination had been delineated, remediation activities commenced. Remediation of this site consisted of the excavation of approximately 1,078 cubic yards (yds^3) of contaminated soil from what was ultimately a 2,800-ft^2 excavation extending to a maximum depth of 16-feet below ground surface (bgs). The contaminated soil was transported to Sundance Services, Inc. for disposal.

On September 6, 2005, soil samples were collected from the excavation floor and sidewalls. A portion of each sample was placed in a laboratory provided container, set in ice and submitted to an independent laboratory for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons (TPH) and chloride concentrations. The remaining portion of each soil sample was analyzed in the field for the presence of organic vapors utilizing an UltraRae photoionization detector (PID) equipped with a 9.8 electron volt (eV) lamp.

Laboratory analytical results indicated all contaminant concentrations were less than the NMOCD hydrocarbon remedial thresholds and New Mexico Water Quality Control Commission (NMWQCC) groundwater standards. The construction phase of the site remediation commenced on August 31, 2005 and was completed with backfilling and contouring on September 23, 2005.

This release site is located in Unit Letter E, (SW¼ of the NW¼), Section 19, T17S, R36E, N32° 49' 21.74" and W103° 23' 55.79". The site is approximately 9-miles southwest of Lovington, New Mexico on property owned by Mr. Darr Angell (reference *Figures 1 through 3*).

2.0 Site Description

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 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 prairie grasses, primarily Blue Grama grass and Buffalograss, interspersed with Honey Mesquite (*Prosopis glandulosa*) 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 <50-ft bgs based on limited water depth data obtained from the New Mexico State Engineers Office data base and information provided by the landowner. Groundwater gradient in this area is generally to the east-southeast.

2.4 Area Water Wells

There are no water supply wells located within a 1,000 foot radius of the release site.

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
- ***Unlined Surface Impoundment Closure Guidelines (February 1993)***

Acceptable thresholds for contaminants/constituents of concern (CoC) 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);*
- *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 20 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 source: *20 points***	**<200 horizontal feet: *20 points***
Depth to GW 50 to 99 feet: *10 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: *0 points***	**>1,000 horizontal feet: *0 points***
Ground Water Score = 20	**Wellhead Protection Score= 0**	**Surface Water Score= 0**
Site Rank (1+2+3) = 20 + 0 + 0 = 20 points		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations

Parameter	20 or >	10	0
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] 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

Excavation of soil impacted above the NMOCD remedial thresholds commenced on August 11, 2005 with the excavation and stockpiling of saturated soil on plastic. The vertical extent of contamination from the produced water and crude oil release was determined with a test excavation at the point of release (POR) to a depth of 18-ft bgs on August 31, 2005. The lateral extent of contamination was determined with PID and chloride analyses in the field as the excavation progressed outwardly from the POR. Organic vapor concentrations were measured in the field utilizing an UltraRae PID equipped with a 9.8 eV lamp; chloride concentrations were measured in the field utilizing a La Motte Chloride Reactant #2 Field Titration Kit.

To verify soil impacted above NMOCD remedial thresholds and NMWQCC groundwater standards had been excavated, composite soil samples were collected on September 7, 2005, from the floor and sidewalls of the excavation and analyzed in the field to quantify chloride concentrations and verify remedial limits had been achieved. Field analyses indicated chloride concentrations ranged from 280 to 320 ppm with an average concentration of 312 ppm (reference *Table 1*).

Upon completion of excavation activities, samples were collected and submitted to an independent laboratory for quantification of chlorides, TPH and BTEX constituent concentrations. Analytical results indicated hydrocarbon concentrations for all analytes were not detected at or above laboratory method detection limits. Chloride concentrations were reported to range from 16.0 to 80.0 mg/Kg, below NMWQCC chloride groundwater standards of 250 mg/L (reference *Table 1 and Appendix I*).

5.0 Groundwater Investigation

The projected depth to groundwater at this site is <50-ft bgs. Excavation of the site was to a maximum depth of sixteen feet. Final field analyses for the composite soil samples collected from the east, west, north and south sidewalls and floor of the excavation indicated chloride concentrations ranged from 240 ppm to 320 ppm (reference *Table 1*). Laboratory analytical results for the samples collected from the sidewalls and base of the excavation indicated TPH and BTEX concentrations were not detected at or above each analytes' respective laboratory method detection limit (MDL). Reported chloride concentrations for these samples ranged from 16 to 80 mg/Kg (reference *Table 1 and Appendix I*).

The excavation was backfilled with clean soil purchased from the property owner (Mr. Darr Angell). Based on the treatment of impacted soil to below remedial goal concentrations and adequate depth to groundwater, there is no need for further groundwater investigation at this site.

6.0 Remediation Process

Remediation of the site commenced on August 31, 2005 and continued through September 23, 2005. Remedial activities at the site consisted of excavation and disposal of 1,078 yd^3 of produced water and crude oil impacted soil from the site. After laboratory analyses of soil samples collected from the sidewalls and base of the excavation indicated remedial goals had been achieved, the excavation was backfilled with clean soil purchased from the landowner. The backfilling and contouring of the site was completed on September 23, 2005.

7.0 Closure Justification

This report documents successful treatment of impacted soil above the remedial thresholds discussed in Section 3 above and confirmed via laboratory analyses for this release site. The impacted soil was excavated and disposed of at Sundance Services, Inc. The excavation was backfilled with clean soil purchased from the landowner and contoured to allow natural drainage. Based on the data presented in this report, Environmental Plus, Inc., on behalf of Chesapeake Energy, requests that the NMOCD require "no further action" at this site and issue a *Site Closure Letter*.

FIGURES

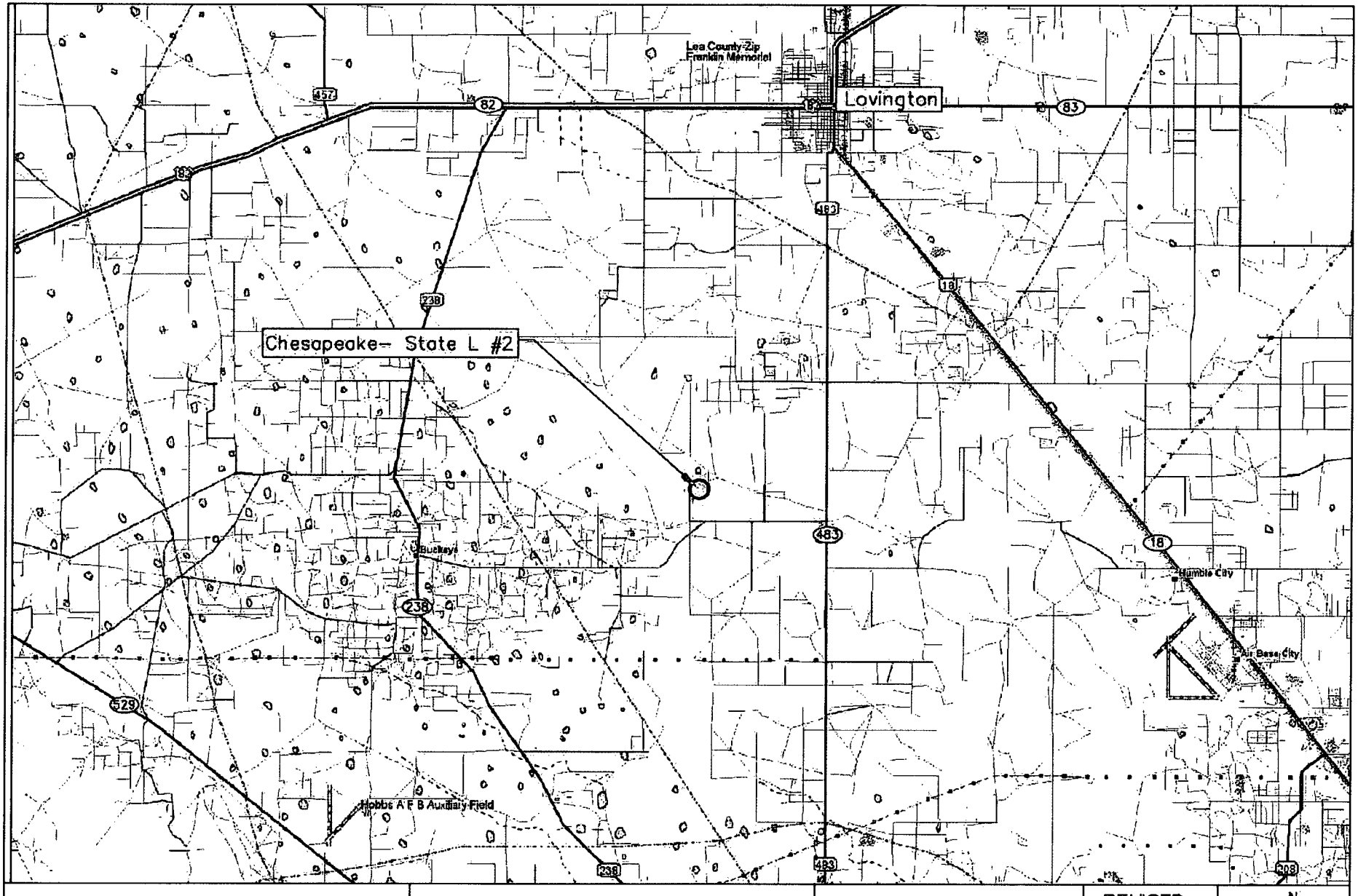

Figure 1
Area Map
Chesapeake
State L #2

Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 19, T17S, R36E
N 32° 49' 21.74" W 103°23' 55.79"
Elevation: 3,898 feet amsl

DWG By: Jason Stegemoller
August 2005

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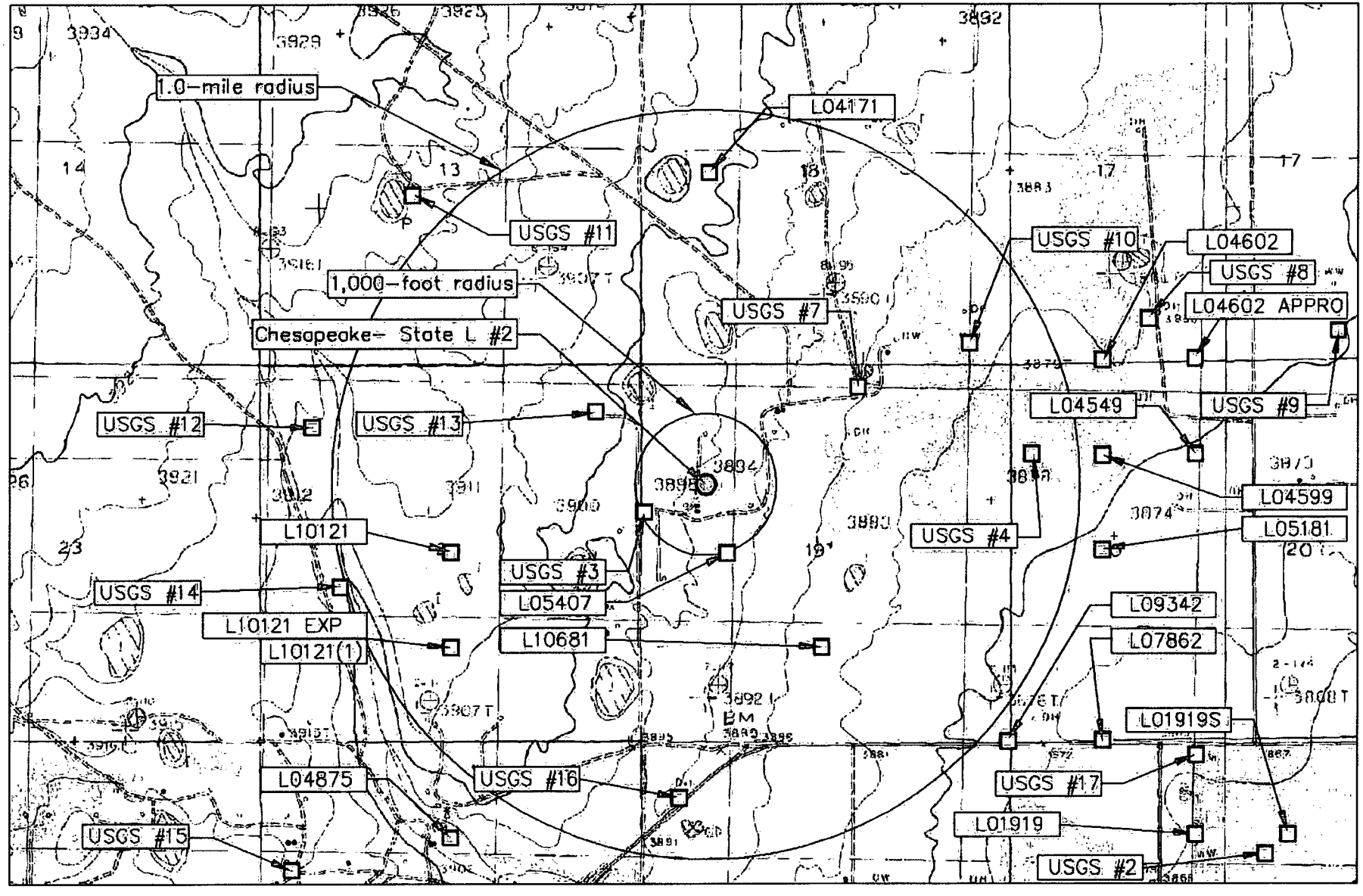

Figure 2 Site and Well Location Map Chesapeake State L #2	Lea County, New Mexico SW 1/4 of the NW 1/4, Sec. 19, T17S, R36E N 32° 49' 21.74" W 103°23' 55.79" Elevation: 3,898 feet amsl	DWG By: Jason Stegemoller August 2005 0 2,000 4,000 Feet	REVISED: SHEET 1 of 1

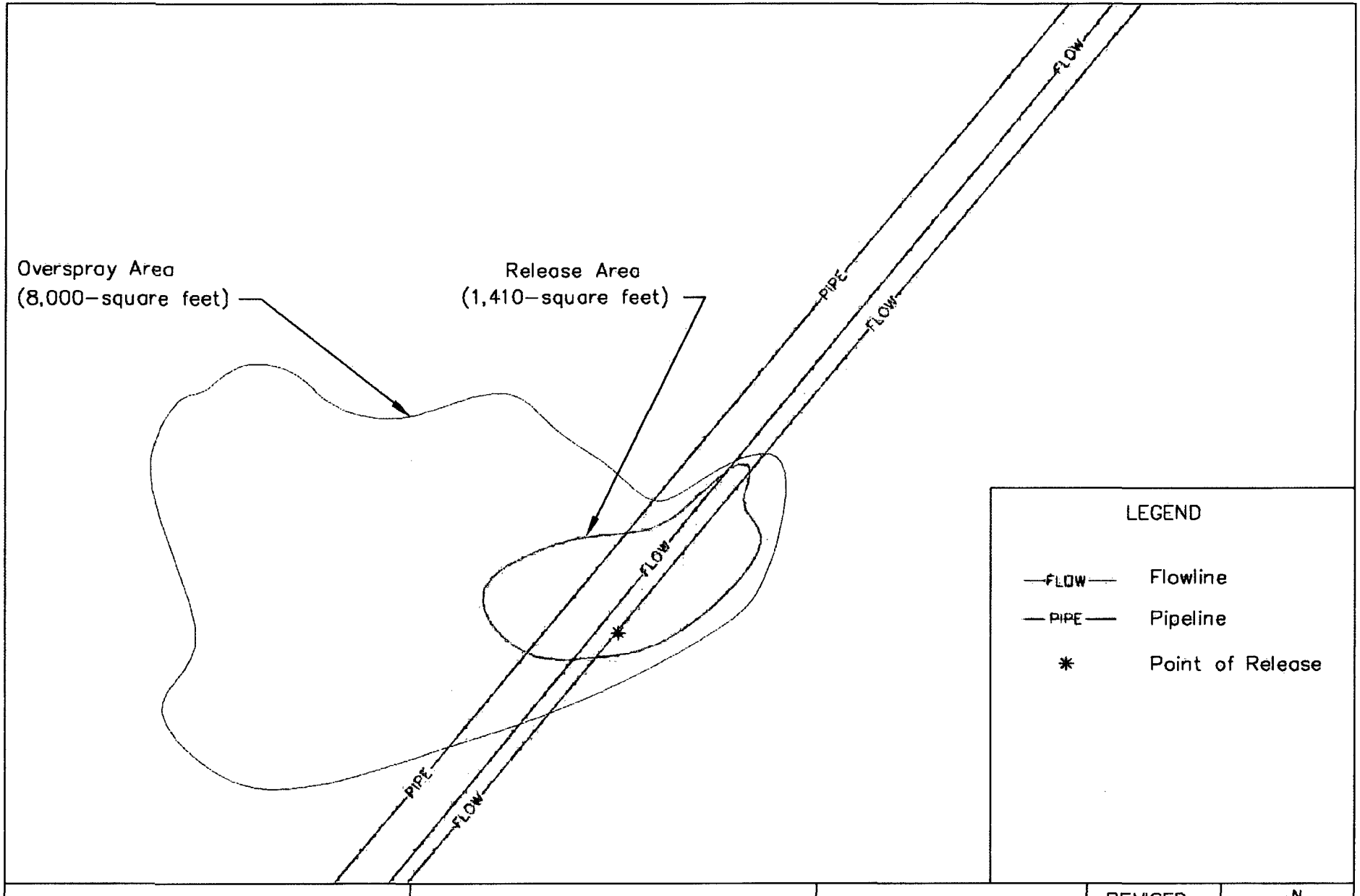

Figure 3
Site Map
Chesapeake
State L #2

Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 19, T17S, R36E
N 32° 49' 21.74" W 103°23' 55.79"
Elevation: 3,898 feet amsl

DWG By: Jason Stegemoller
August 2005

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JCS, Oct. 2005

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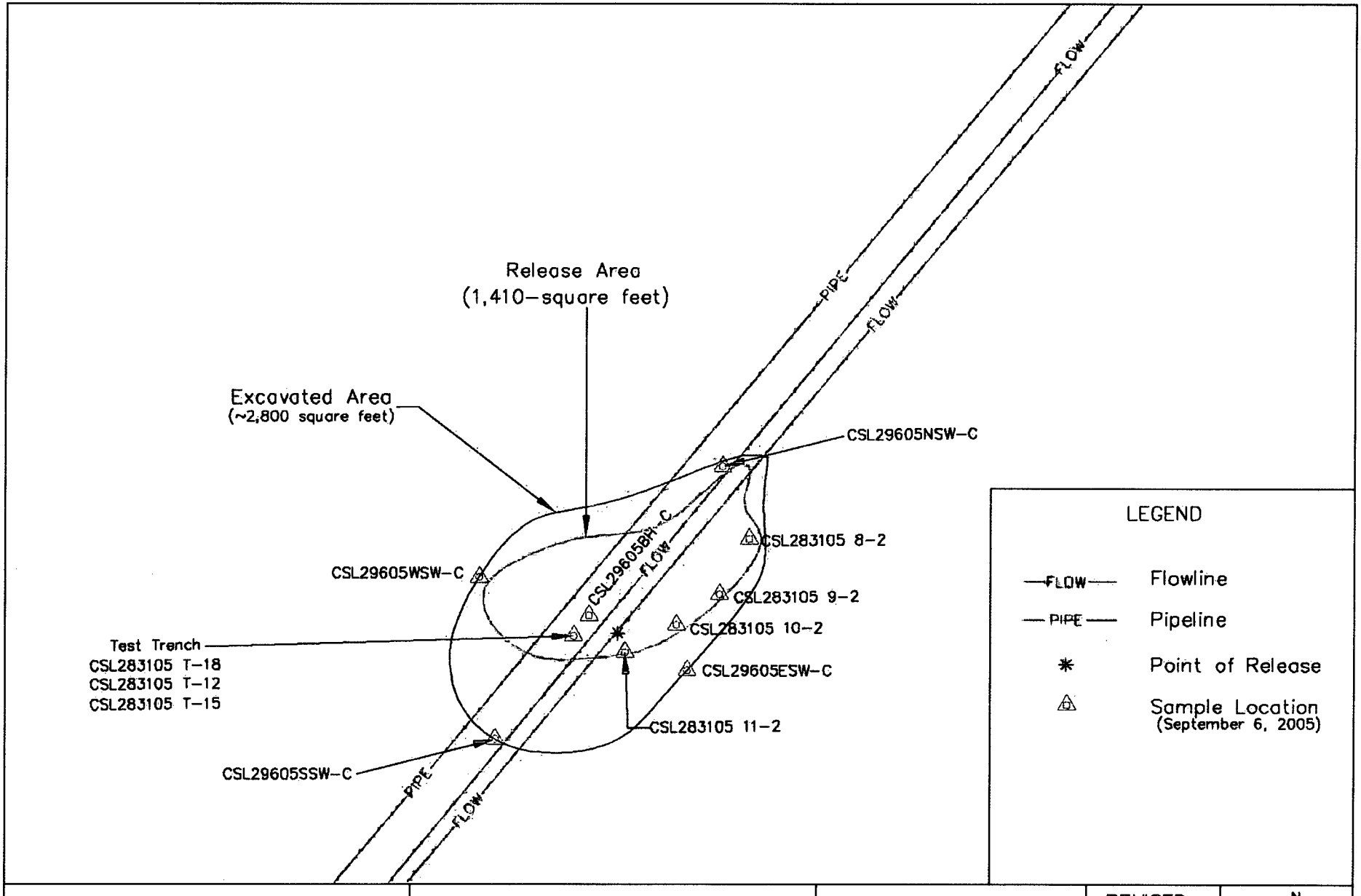

Figure 4 Excavation and Sample Location Map Chesapeake State L #2	Lea County, New Mexico SW 1/4 of the NW 1/4, Sec. 19, T17S, R36E N 32° 49' 21.74" W 103°23' 55.79" Elevation: 3,898 feet amsl	DWG By: Jason Stegemoller August 2005	REVISED: JCS, Oct. 2005	N
		0 30 60 Feet	SHEET 1 of 1	

TABLES

TABLE 1

Summary of Soil Sample Laboratory Analytical Results

Chesapeake Energy- State L #2 (Ref.# 160024)

Sample I.D.	Depth (feet)	Soil Status	Sample Date	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SCSL082305SP	Comp	Excavated	23-Aug-05	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	NA[1]	3,679
CSL283105 8-2	2	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	14.3	14.3	609
CSL283105 9-2	2	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	1,970
CSL283105 T-18	18	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	36.4
CSL283105 T-12	12	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	22.8
CSL283105 T-15	15	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	26.2
CSL283105 10-2	2	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	58.1
CSL283105 11-2	2	Excavated	31-Aug-05	<0.0250	<0.0250	<0.0250	<0.05	<0.125	<10.0	<10.0	<20.0	73.9
CSL29605NSW-C	Comp	In Situ	06-Sep-05	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	64.0
CSL29605SSW-C	Comp	In Situ	06-Sep-05	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	16.0
CSL29605ESW-C	Comp	In Situ	06-Sep-05	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	32.0
CSL29605WSW-C	Comp	In Situ	06-Sep-05	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	16.0
CSL29605BH-C	Comp	In Situ	06-Sep-05	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	80.0
NMOCD Remedial Thresholds				**10**				**50**			**100**	**250** [2]

Bolded *values are in excess of NMOCD Remediation Thresholds*

[1] *NA= Not Analyzed*

[2] *Chloride residuals may not be capable of impacting local groundwater above the NMWQCC standards of 250 mg/L.*

Comp= Composite sample

TABLE 2

Well Data

Chesapeake Energy State L #2 (Ref. #160024)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Well Depth (ft bgs)	Depth to Water (ft bgs)
L 01919	242.1	NOLAN H. BRUNSON	IRR	17S	36E	29 2 1 1	32° 48' 33.62"	103° 22' 34.74"		135	
L 01919 S		NOLAN H. BRUNSON		17S	36E	30 2 2 2	32° 48' 33.75"	103° 22' 19.24"	14-Jun-01	225	110
L 04171	3	NORWOOD DRILLING COMPANY	PRO	17S	36E	18 1 4	32° 50' 4.77"	103° 23' 52.25"	09-Jun-59	128	128
L 04171 APPRO		NORWOOD DRILLING COMPANY		17S	36E	20 2 1	32° 50' 4.77"	103° 23' 52.25"	09-Jun-59	128	128
L 04549	3	INC. CARPER DRILLING CO.	PRO	17S	36E	20 2 1	32° 49' 26"	103° 22' 34.92"	05-Nov-60	121	48
L 04549 APPRO		INC. CARPER DRILLING CO.		17S	36E	20 2 1	32° 49' 26"	103° 22' 34.92"	05-Nov-60	121	48
L 04570	220.2	NOLAN H. BRUNSON JR.	IRR	17S	36E	29 2 3 1	32° 48' 20.54"	103° 22' 34.68"		106	
L 04570 S		NOLAN H. BRUNSON JR.		17S	36E	29 2 4 4	32° 48' 20.7"	103° 22' 19.17"		205	
L 04599	3	GARDNER BROTHERS DRILLING CO.	PRO	17S	36E	20 1 2	32° 49' 25.91"	103° 22' 50.39"	16-Feb-61	128	38
L 04599 APPRO		GARDNER BROTHERS DRILLING CO.		17S	36E	20 1 2	32° 49' 25.91"	103° 22' 50.39"	16-Feb-61	128	38
L 04601	0	NOBLE DRLG. CORP.	PRO	17S	36E	30	32° 47' 53.71"	103° 24' 6.86"	22-Jan-61	125	50
L 04602	3	HUMBLE OIL & REFINING COMPANY	PRO	17S	36E	17 3 4 2	32° 49' 39.02"	103° 22' 50.42"	16-Feb-61	115	45
L 04602 APPRO		HUMBLE OIL & REFINING COMPANY		17S	36E	17 4 3 2	32° 49' 39.1"	103° 22' 34.96"	16-Feb-61	115	45
L 04876	0	INC. B.L. MCFARLAND	PRO	17S	36E	29 3 4	32° 47' 54.16"	103° 22' 50.1"	12-Apr-62	130	75
L 05181	0	LOFFLAND BROTHERS COMPANY	PRO	17S	36E	20 1 4	32° 49' 12.8"	103° 22' 50.36"	21-Jun-63	125	75
L 05361	0	LOWE DRILLING CO.	PRO	17S	36E	20	32° 48' 46.48"	103° 23' 5.79"	11-Apr-64	123	90
L 05407	0	TRI SERVICE DRILLING COMPANY	PRO	17S	36E	19 1 4	32° 49' 12.37"	103° 23' 52.27"	10-Jun-64	108	49
L 05407 (1)	0	TRI-SERVICE DRILLING COMPANY	PRO	17S	36E	19 1 4	32° 49' 12.37"	103° 23' 52.27"			
L 07790	0	SOUTHWESTERN PUBLIC SERVICE CO	IND	17S	36E	29 4 3	32° 47' 54.38"	103° 22' 34.56"		225	
L 07791	0	SOUTHWESTERN PUBLIC SERVICE CO	IND	17S	36E	29 3 3	32° 47' 53.94"	103° 23' 5.63"		225	
L 07792	0	SOUTHWESTERN PUBLIC SERVICE CO	IND	17S	36E	30 4	32° 47' 53.82"	103° 23' 36.73"		225	
L 07793	200	SOUTHWESTERN PUBLIC SERVICE CO	IND	17S	36E	30 2	32° 48' 20.05"	103° 23' 36.74"			
L 07794	200	SOUTHWESTERN PUBLIC SERVICE CO	IND	17S	36E	30 1	32° 48' 19.9"	103° 24' 6.81"			
L 07862	3	R. A. ROGERS	DOM	17S	36E	20 3 4	32° 48' 46.59"	103° 22' 50.3"	13-Apr-78	110	58
L 07907	3	NOLAN H. JR. BRUNSON	DOM	17S	36E	29 2 3	32° 48' 20.54"	103° 22' 34.68"	05-Jun-78	150	45
L 08266 (6) EXP	0	ARCO OIL COMPANY	PRO	17S	36E	19 1 3 1	32° 48' 20.21"	103° 23' 5.71"			
L 08266 (7) EXP	0	TMBR SHARP DRILLING CO.	PRO	17S	36E	29 1 3 1	32° 48' 20.21"	103° 23' 5.71"			
L 09342	3	GREAT WESTERN DRILLING CO.	STK	17S	36E	20	32° 48' 46.48"	103° 23' 5.79"	28-Sep-83	138	60
L 10681	3	GOFF DAIRY	STK	17S	36E	19 4 1	32° 48' 59.38"	103° 23' 36.77"	02-Jul-97	120	40
L 04503	3	TRI SERVICE DRILLING CO.	PRO	17S	35E	24 2	32° 49' 12.51"	103° 24' 37.95"	10-Sep-60	90	43
L 04503 APPRO		TRI SERVICE DRILLING CO.		17S	35E	24 2	32° 49' 12.51"	103° 24' 37.95"	10-Sep-60	90	43
L 04875	0	INC. A.W. THOMPSON	PRO	17S	35E	25 2 1 1	32° 48' 33.26"	103° 24' 38.04"	12-Apr-62	130	71
L 06723 EXP	0	GILES M. LEE	DOM	17S	35E	25 1 4 2	32° 48' 20.27"	103° 24' 53.61"			
L 08124	0	HONDO DRILLING CO.	STK	17S	35E	25 4 4 4	32° 47' 53.82"	103° 24' 22.4"	03-Aug-79	125	58
L 08124 EXP		HONDO DRILLING CO.		17S	35E	25 4 4	32° 47' 53.82"	103° 24' 22.4"			
L 08124 (1) EXP	0	BTA OIL PRODUCERS.	STK	17S	35E	25 4 4 4	32° 47' 53.82"	103° 24' 22.4"			
L 08124 (2) EXP	0	PIONEER PRODUCTION CORPORATION	PRO	17S	35E	25 4 4 4	32° 47' 53.82"	103° 24' 22.4"			
L 08124 (3) EXP	0	BTA OIL PRODUCERS	PRO	17S	35E	25 4 4 4	32° 47' 53.82"	103° 24' 22.4"			
L 08731	391	SOUTHWESTERN PUBLIC SERVICE	IND	17S	35E	25 1 4 2	32° 48' 20.27"	103° 24' 53.61"			
L 09727 EXP	0	GILES M LEE	DOM	17S	35E	25 4	32° 47' 53.92"	103° 24' 37.94"			
L 10121	0	GILES M. LEE	STK	17S	35E	24 1 3 2	32° 48' 59.44"	103° 24' 38.01"			
L 10121 EXP		GILES M. LEE		17S	35E	24 3 1 4	32° 48' 59.7"	103° 25' 9.28"			
L 10121 (1)	0	ORYX ENERGY CO.	PRO	17S	35E	24 3 1 4	32° 48' 59.7"	103° 25' 9.28"			

TABLE 2

Well Data

Chesapeake Energy State L #2 (Ref. #160024)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Well Depth (ft bgs)	Depth to Water (ft bgs)
USGS #1				17S	35E	36 3 1 1	32° 47' 10"	103° 24' 55"	16-Jan-01	110	52.23
USGS #2				17S	35E	29 2 1 1	32° 48' 31"	103° 22' 23"	08-Feb-96	135	49.44
USGS #3				17S	35E	24 2 2 3	32° 49' 18"	103° 24' 6"	16-Jan-01	90	44.35
USGS #4				17S	35E	18 4 4 4	32° 49' 26"	103° 23' 2"	12-Jan-01	120	39.77
USGS #5				17S	35E	17 4 4 1	32° 49' 36"	103° 22' 2"	25-Jan-96	100	44.2
USGS #6				17S	35E	11 1 1 1	32° 51' 6"	103° 26' 0"	14-Feb-96	128	42.56
USGS #7				17S	36E	19 2 1 1			16-Jan-86		37.46
USGS #8				17S	36E	17 3 4 3			26-Feb-76		39.99
USGS #9				17S	36E	17 4 4 1			25-Jan-96		44.2
USGS #10				17S	36E	18 4 4 4			25-Jan-96		38.36
USGS #11				17S	35E	13 3 2 2			09-Feb-96		44.5
USGS #12				17S	35E	24 1 1 3			19-Dec-90		37.07
USGS #13				17S	35E	24 2 2 3			25-Jan-96		43.16
USGS #14				17S	35E	24 3 1 2			19-Dec-90		36.78
USGS #15				17S	35E	25 1 3 1			04-Mar-76		43.6
USGS #16				17S	35E	29 2 1 1			08-Feb-96		49.44
USGS #17				17S	35E	30 1 1 3			03-Mar-61		39.4

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1)
Shaded areas indicate well locations shown on Figure 2
[A] = in acre feet per annum
IND = Industrial
IRR = Irrigation
DOM = Domestic
EXP = Exploration
PRO= Prospecting or Development of Natural Resources
STK= Livestock Watering
quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

APPENDIX I

LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORM

ANALYTICAL RESULTS NOT INCLUDED IN DRAFT COPY OF REPORT

APPENDIX II

PROJECT PHOTOGRAPHS

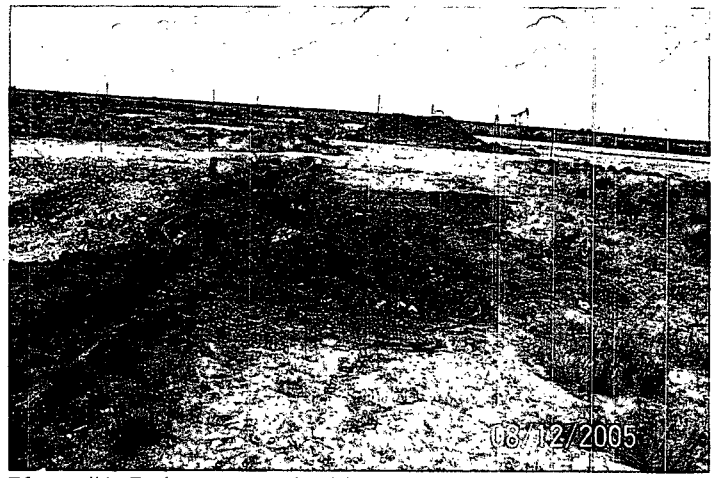

Photo #1: Release area, looking northerly along the flowline. Notice soil staining in center of photograph.

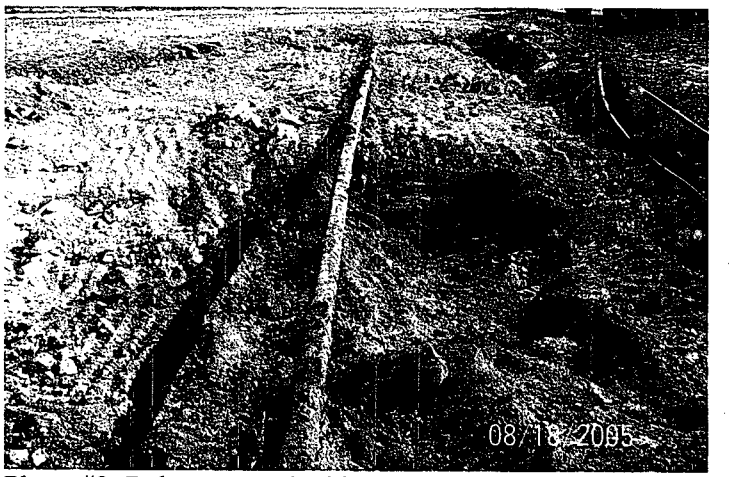

Photo #2: Release area, looking northerly. Notice soil staining in central portion of the photograph.

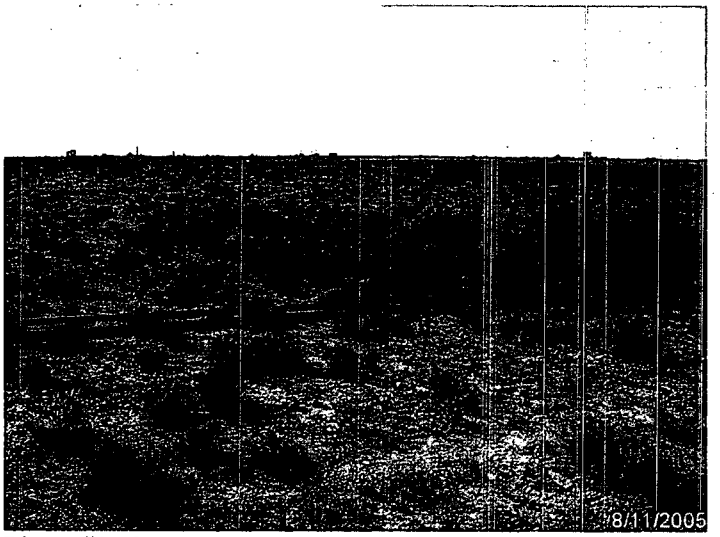

Photo #3: Overspray area, looking westerly.

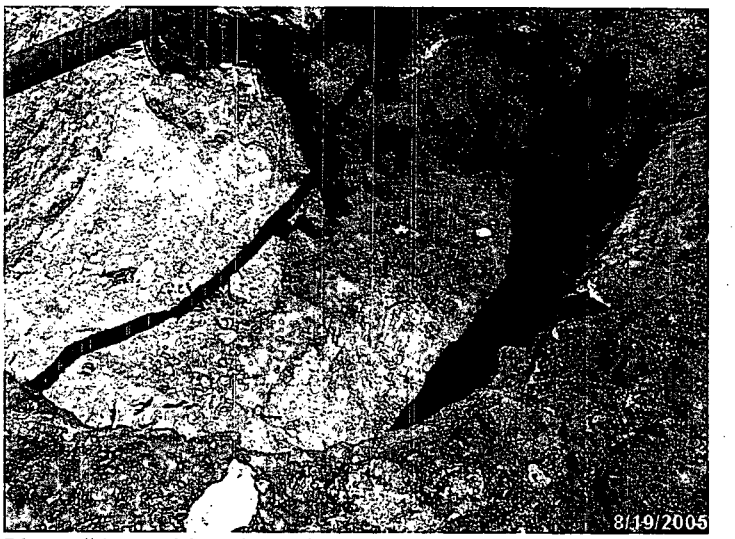

Photo #4: Looking down into excavation.

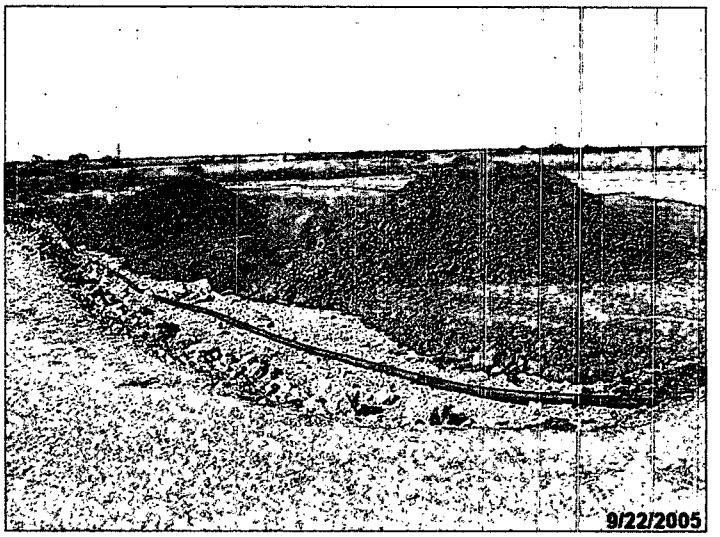

Photo #5: Site graded and contoured, looking southerly.

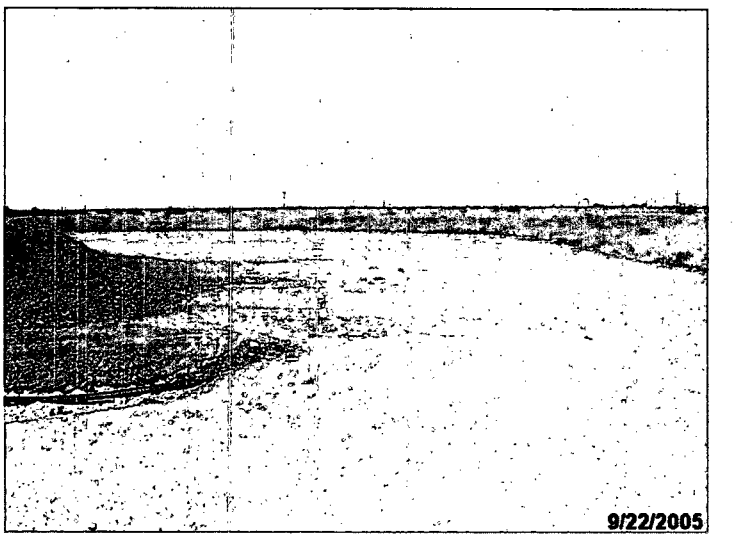

Photo #6: Site graded and contoured, looking westerly.

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

Received OCD Hobbs AUG 2005

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Chesapeake Energy	**Contact:** Bradley Blevins	
Address: 5014 Carlsbad Highway	**Telephone No.:** (505) 391-1462 ext. 24	
Facility Name: State L #2	**Facility Type:** Flowline	
Surface Owner: Darr Angell	**Mineral Owner:**	**Lease No.:** 3002523852

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	19	17S	36 E					Lea

Latitude: N 32° 49' 21.74" **Longitude:** W 103° 23' 55.79"

NATURE OF RELEASE

Type of Release: Produced Water (60 bbls) and Oil (5 bbls)	**Volume of Release:** 65	**Volume Recovered:** 0 gallons
Source of Release: Flowline	**Date and Hour of Occurrence:** August, 11 2005 @ 5:00 P.M.	**Date and Hour of Discovery:** August 11, 2005 @ 5:00 P.M.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** Larry Johnson, NMOCD-Hobbs	
By Whom? Bradley Blevins, Chesapeake	**Date and Hour:** August 12, 2005 @ 8:46 A.M.	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** Not Applicable	

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

Describe Cause of Problem and Remedial Action Taken.* Polyethylene flowline release of produced water and oil. Saturated soil was scraped up and placed on plastic.Upon conclusion of remedial excavation, saturated soil was disposed of at Sundance Services, Inc.

Describe Area Affected and Cleanup Action Taken.* Approximately 8,000 square feet of surface area was impacted by the release, with approximately 1,400 square feet of soil saturated. Approximately 1,204 cubic yards of impacted soil was excavated and transported to Sundance Services, Inc. for disposal. The excavation was backfilled with clean soil purchased from the landowner and contoured to allow drainage.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	**OIL CONSERVATION DIVISION**
Printed Name: Bradley Blevins	**Approved by District Supervisor:** ENVIRONMENTAL ENGINEER
Title: Field Technician	**Approval Date:** 8.2.06 **Expiration Date:**
E-mail Address: bblevins@chkenergy.com	**Attached** ☐
Date: **Phone:** (505) 391-1462 ext. 24	**Conditions of Approval:** CORRECTED. NO FURTHER ACTION REQUIRED

*** Attach Additional Sheets If Necessary**