

SITE CHARACTERIZATION

JULIO STATE #1 RELEASE SITE

EPI REF: #160052

NMOCD RP #835

NMOCD ADMIN #PPAC0610937832

UL-D (NW¼ OF THE NW¼) OF SECTION 20 T20S R39E

~10 MILES NORTHEAST OF EUNICE

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 33' 49.44"

LONGITUDE: W 103° 04' 26.54"

JULY 2006

PREPARED BY:

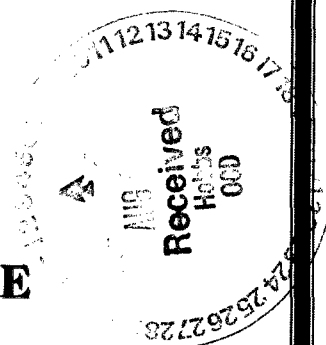
ENVIRONMENTAL PLUS, INC.

2100 AVENUE O

EUNICE, NEW MEXICO 88231

PREPARED FOR:


Chesapeake





Distribution List

Site Characterization

Julio State #1

Ref. #160052

Name	Title	Company or Agency	Mailing Address	e-mail
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McCasland Limited Partnership	Landowner	- -	P.O. Box 206 Eunice, NM 88231-0206	- -
File	- -	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231-1558	ioIness@envplus.net



STANDARD OF CARE

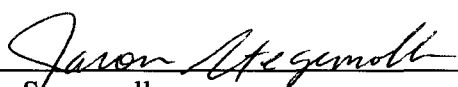
Site Characterization

Julio State #1

Ref. #160052


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 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 derived using currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered professional with a background in engineering, environmental and/or natural sciences.

This report was prepared by:


Jason Stegemoller
Environmental Scientist

25 July 2006
Date

This report was reviewed by:


Iain A. Olness, P.G.
Technical Manager

25 July 2006
Date



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1.0 PROJECT SYNOPSIS

Site Specific:

- ◆ **Company Name:** Chesapeake Operating, Inc.
- ◆ **Facility Name:** Julio State #1
- ◆ **Project Reference:** 160052
- ◆ **Company Contacts:** Bradley Blevins
- ◆ **Site Location:** WGS84 N32° 33' 49.44"; W103° 04' 26.54"
- ◆ **Legal Description:** Unit Letter-D, (NW¼ of the NW¼), Section 20, T 20 S, R 39 E
- ◆ **General Description:** Approximately 10-miles northeast of Eunice, New Mexico
- ◆ **Elevation:** 3,515-ft amsl
- ◆ **Land Ownership:** McCasland Limited Partnership
- ◆ **EPI Personnel:** Project Consultant – Iain Olness
Site Foreman – David Robinson

Release Specific:

- ◆ **Product Released:** Crude oil and production fluids
- ◆ **Volume Released:** ~10-barrels **Volume Recovered:** ~5-barrels
- ◆ **Time of Occurrence:** 8 March 2006 **Time of Discovery:** 8 March 2006
- ◆ **Release Source:** Well kicked during work over activities
- ◆ **Initial Surface Area Affected:** ~ 5,400 square feet with ~36,600 square feet impacted by overspray.

Remediation Specific:

- ◆ **Final Vertical Extent of Contamination:** <5-feet bgs
- ◆ **Depth to Ground Water:** Approximately 40-feet bgs
- ◆ **Water Wells Within 1,000-ft:** 2
- ◆ **Private Domestic Water Sources Within 200-ft:** 0
- ◆ **Surface Water Bodies Within 1,000-ft:** Ephemeral Stream and a Stock Pond
- ◆ **NMOCD Site Ranking Index:** 30 points (<50-ft to top of water table, <1,000-ft to surface water bodies)
- ◆ **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 and/or NMWQCC groundwater standards with disposal at Sundance Services, Inc.; b) laboratory analyses to confirm removal of soil impacted above NMOCD remedial thresholds and NMWQCC groundwater standards in excavation bottom; and, c) backfill the excavation
- ◆ **Disposal Facility:** Sundance Services, Inc.- Eunice, New Mexico
- ◆ **Volume Disposed:** 210-yd³
- ◆ **Project Completion Date:** May 12, 2006



2.0 **SITE AND RELEASE INFORMATION**

- 2.1** *Describe the land use and pertinent geographic features within 1,000 feet of the site.*
Land surrounding the area is rangeland in native grasses and would be utilized for livestock grazing.
- 2.2** *Identify and describe the source or suspected source(s) of the release.*
Well kicked during work over activities.
- 2.3** *What is the volume of the release? (if known):* 10 barrels of crude oil and production fluids
- 2.4** *What is the volume recovered? (if any)* 5 barrels
- 2.5** *When did the release occur? (if known):* 8 March 2006
- 2.6** *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 Eunice Plains physiographic subdivision, described by Nicholson & Clebsch as an area that "is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand. The sand cover is 2 to 5 feet thick over most of the area."
- 2.7** *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.
- 2.8** *Area Groundwater*
The unconfined groundwater aquifer at this site is projected to be approximately 40-ft bgs based on water depth data obtained from the New Mexico State Engineers Office and the United States Geological Survey data base (reference *Table 1*).
- 2.9** *Area Water Wells*
There are two water supply wells located within a 1,000-foot radius of the release site as indicated by USGS water well data. However, there are no private, domestic fresh water wells or springs used by less than five households for domestic or stock watering purposes located within a 200-foot radius of the release site (reference *Figure 2*).
- 2.10** *Area Surface Water Features*
There is a pond utilized for livestock watering 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 chemical parameters of the soil and 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)*
- ♦ *Unlined Surface Impoundment Closure Guidelines (February, 1993)*
- ♦ *Pit and Below-Grade Tank Guidelines (November, 2004)*

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 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 fifty points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. GROUNDWATER		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
Site Rank (1+2+3) = 20 +20 +10 = 30 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 can be substituted in lieu of laboratory analyses for benzene and BTEX.



4.0 **EXCAVATED SOIL INFORMATION**

4.1 Was soil excavated for off-site ~~treatment or~~ disposal? ☒ Yes ☐ No

Date excavated: March 14 – 20, 2006

Total volume removed: Approximately 210 cubic yards

4.2 *Indicated soil treatment type:*

<input checked="" type="checkbox"/>	<i>Disposal</i>
<input type="checkbox"/>	<i>Land Treatment</i>
<input type="checkbox"/>	<i>Composting/Biopiling</i>
<input type="checkbox"/>	<i>Other ()</i>

Name and location of ~~treatment~~/disposal facility:

Sundance Services, Inc. – Eunice, New Mexico



5.0 **SAMPLING INFORMATION**

5.1 ***Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil.***

Organic Vapor Concentrations – A portion of each soil sample collected was inserted into a self-sealing polyethylene bag to allow volatilization of organic vapors. After the samples equilibrated to ~70° F, they were analyzed for organic vapors utilizing a MiniRae® Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp.

Chloride Concentrations – A LaMotte Chloride Test Kit was utilized for field analyses of chloride concentration.

5.2 ***Briefly describe the soil analytical sampling and handling procedures used.***

Soil samples collected from the excavation were collected utilizing hand and/or mechanical excavation equipment to gather the sample from at least 6-inches below/within the surface of the excavation.

Upon collection of each sample, a portion was immediately placed in a laboratory provided container, labeled and set on ice for transport to an independent laboratory for quantification of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes (BTEX) and chloride concentrations.

5.3 ***Discuss sample locations and provide rationale for their locations.***

On March 14, 2006, soil samples were collected from a background location, two sample locations within the excavation and excavated, stockpiled soil for field analyses. Soil sample locations were chosen to provide the best representative example of soil within the excavation sidewalls.

After further excavation, soil samples were collected on March 16, 2006 from the two locations in the north excavation floor [NBH-1(8") and NBH-2 (6")] and four locations in the south excavation floor [SBH-1(12"), SBH-2(12"), SBH-3(6") and SBH-4(6")] for field and laboratory analyses (reference *Figure 5*). Soil sample locations were chosen to provide the best representative example of soil within the excavation floor.



6.0 ANALYTICAL RESULTS

6.1 *Describe the vertical and horizontal extent and magnitude of soil contamination.*

Field analyses of soil samples collected on March 14, 2006 from the excavation floor at one-foot bgs indicated organic vapor concentrations ranged from 22.6 to 37.6 parts per million (ppm). Chloride concentrations in the excavation floor samples were reported to range from 320 to 1,600 mg/Kg and the excavated, stockpiled soil were 640 mg/Kg. Field chloride analyses of the background sample indicated a concentration of 240 mg/Kg (reference Table 2).

Laboratory analyses of soil samples collected on March 16, 2006 from the excavation floor indicated TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Reported chloride concentrations ranged from 47 to 749 mg/Kg (reference Table 2, Figure 5 and Appendix I).

6.2 *Is surface soil contamination present at the site (i.e., soil in the uppermost two feet that is visibly stained, contaminated at greater than 10 ppm (PID) or hydrocarbon saturated)?*

☐ yes ☒ no

If yes, attach a site map identifying extent(s) of surface soil contamination.

Visibly stained soil has been excavated and transported to Sundance Services, Inc. for disposal. Field and laboratory analyses indicate hydrocarbon impacted soil has been excavated from the release area. Chloride impacted soil above the NMWQCC groundwater standard remains in the excavation floor.



7.0 DISCUSSION

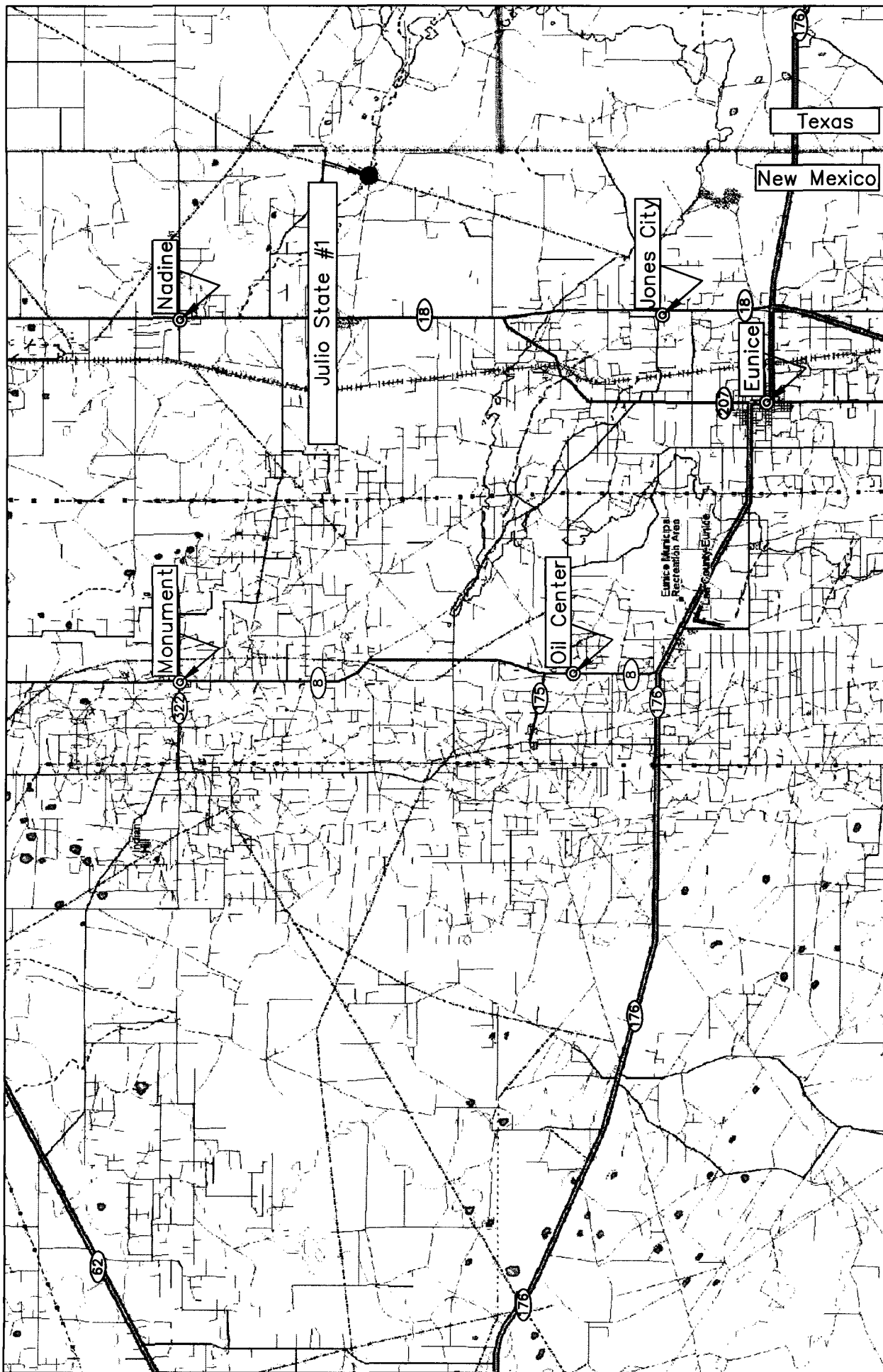
7.1 *Discuss the risks associated with the remaining soil contamination:*

Based on depth to groundwater (approximately 40-ft bgs), chloride impacted soil above the NMWQCC groundwater standards should not be capable of impacting local groundwater.

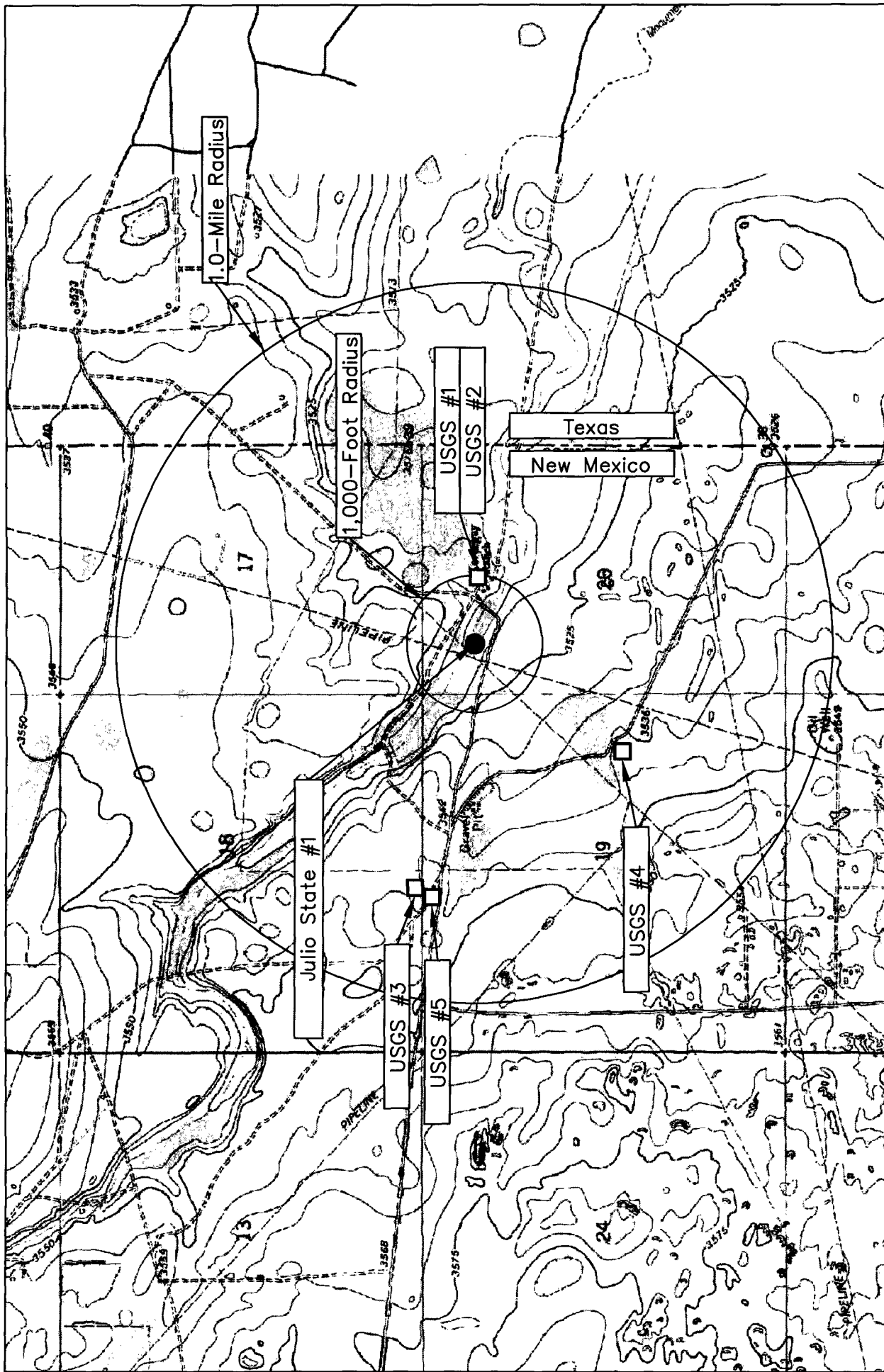
7.2 *Discuss the risks associated with the impacted groundwater:* Not Applicable

7.3 *Discuss other concerns not mentioned above:* The overspray area from the initial release consisted of an area of approximately 36,000-square feet. A treatment of 60 gallons of a 6% solution of Microblaze (i.e., a commercial solution of petrophillic microbes) was applied to the overspray area to mitigate any hydrocarbon impacts. Additionally, a sheen of oil was detected on a nearby stock pond. An absorbent boom was utilized to collect the oil from the water surface.

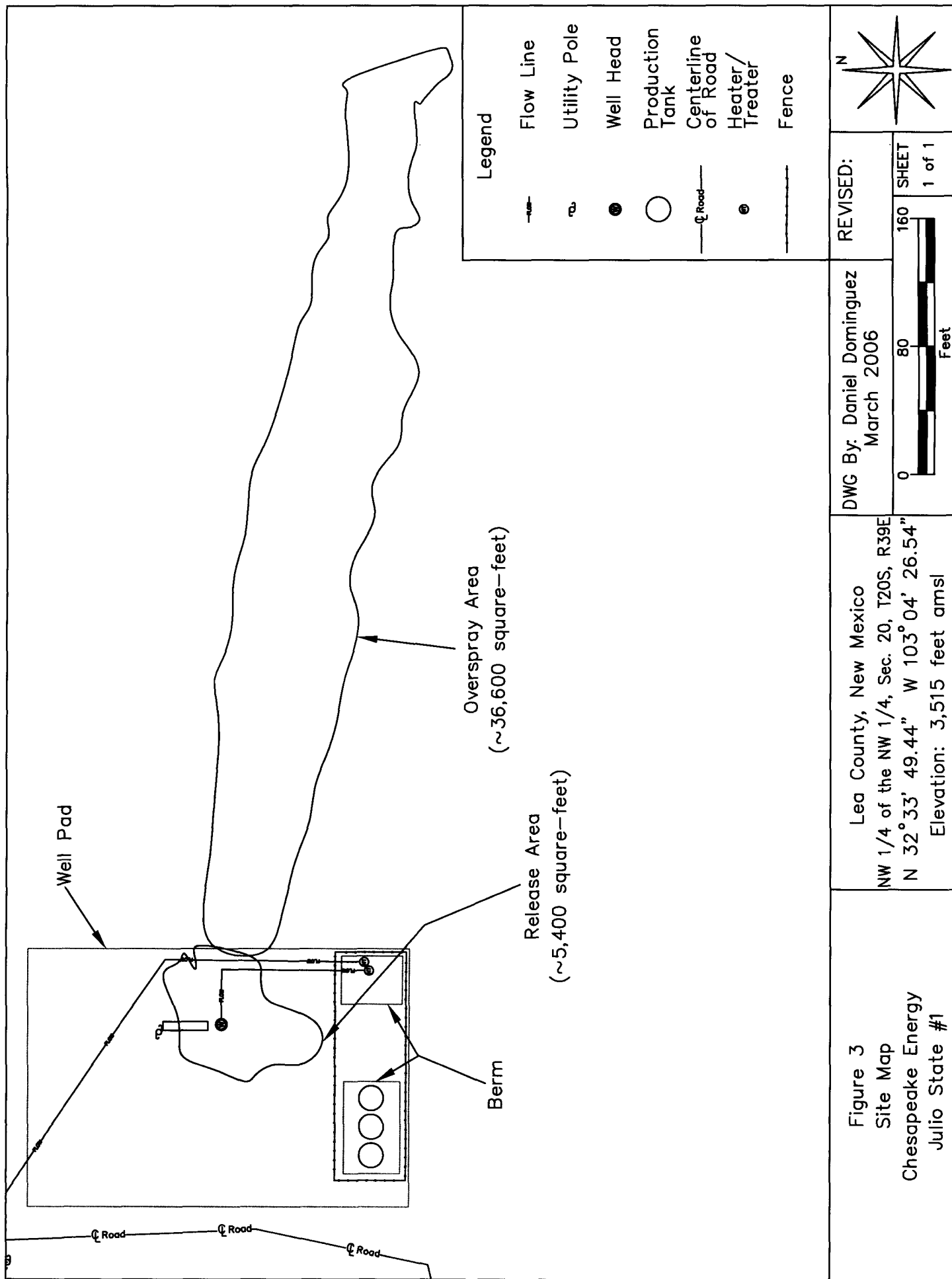
FIGURES

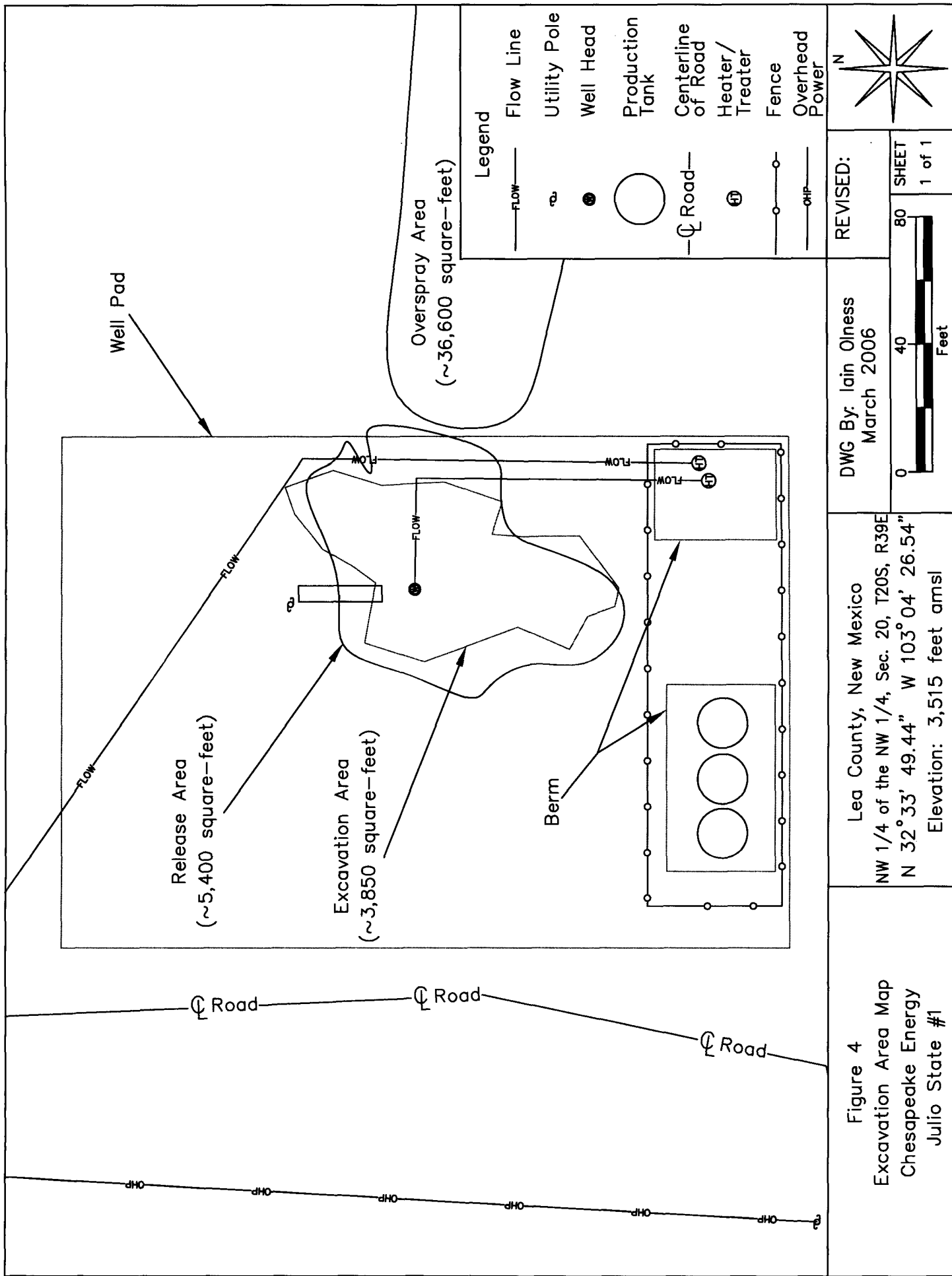


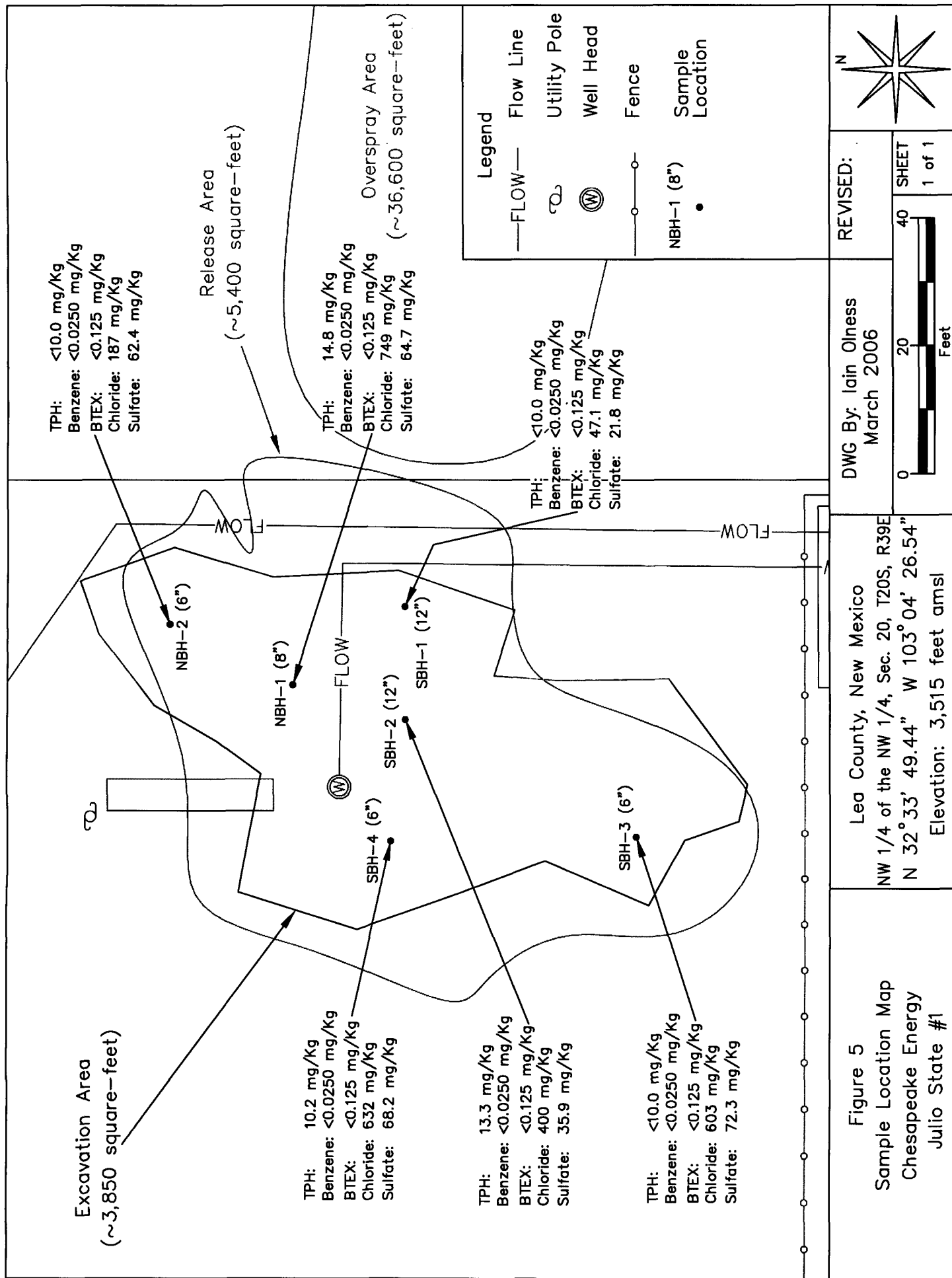
<p>Figure 1 Area Map Chesapeake Energy Julio State #1</p>	<p>Lea County, New Mexico NW 1/4 of the NW 1/4, Sec. 20, T20S, R39E N 32° 33' 49.44" W 103° 04' 26.54" Elevation: 3,515 feet amsl</p>		<p>DWG By: Daniel Dominguez March 2006</p>	<p>REVISED:</p>	<p>0 3.0 6.0 SHEET 1 of 1 Miles</p>	



<p>Figure 2 Site Location Map Chesapeake Energy Julio State #1</p>	<p>Lea County, New Mexico NW 1/4 of the NW 1/4, Sec. 20, T20S, R39E N 32° 33' 49.44" W 103° 04' 26.54" Elevation: 3,515 feet amsl</p>	<p>DWG By: Daniel Dominguez March 2006</p>	<p>REVISED:</p>	<p>4,000 2,000 0</p> <p>Feet</p> <p>SHEET 1 of 1</p>







TABLES

TABLE 1

Well Data

Chesapeake Energy - Julio State #1 (Ref. # 160052)

Well Number	Diversion ^A	Owner	Use	Twp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation ^B	Depth to Water
											(ft bgs)
USGS #1				20S	39E	20 1 2 3			10-Feb-76		30.58P
USGS #2				20S	39E	20 1 2 3			16-Jan-91		29.5
USGS #3				20S	39E	18 3 4 4			25-Feb-63		45.22S
USGS #4				20S	39E	19 4 2 1			04-Feb-81		53.53
USGS #5				20S	39E	19 1 2 2			31-Jan-96		43.7

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

EXP = Exploration

STK = 72-12-1 Livestock watering

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

Shaded area indicates wells not shown in Figure 2

TABLE 2

Summary of Soil Sample Analytical Results

Chesapeake Energy - Julio State #1 (Ref.# 160052)

Sample Location	Depth (feet)	Soil Status	Sample Date	Field Analysis for Organic Vapors (mg/Kg)	Field Chloride Analysis (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTX (mg/Kg)	Carbon Range C6-C12 (mg/Kg)	Carbon Range C12-C28 (mg/Kg)	Carbon Range C28-C35 (mg/Kg)	Total Hydrocarbon C6-C35 (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
SP-1	1	Excavated	14-Mar-06	22.6	1,600	--	--	--	--	--	--	--	--	--	--	--
SP-2	1	Excavated	14-Mar-06	37.6	320	--	--	--	--	--	--	--	--	--	--	--
Stockpile	--	Excavated	14-Mar-06	--	640	--	--	--	--	--	--	--	--	--	--	--
Background	1	In Situ	14-Mar-06	--	240	--	--	--	--	--	--	--	--	--	--	--
NBH-1 (8")	0.67	In Situ	16-Mar-06	25.7	880	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	14.8	<10.0	14.8	749	64.7
NBH-2 (6")	0.5	In Situ	16-Mar-06	38.8	600	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0	187	62.4
SBH-1 (12")	1	In Situ	16-Mar-06	13.6	320	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0	47	21.8
SBH-2 (12")	1	In Situ	16-Mar-06	3.5	560	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	13.3	<10.0	13.3	400	35.9
SBH-3 (6")	0.5	In Situ	16-Mar-06	17.8	720	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	8.11 ^c	<10.0	<10.0	603	72.3
SBH-4 (6")	0.5	In Situ	16-Mar-06	12.1	760	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	10.2	<10.0	10.2	632	68.2
NMOCD Remedial Thresholds				100		10				50				100	250^B	600^B

Bolded values are in excess of NMOCD Remediation Thresholds and/or NMWQCC groundwater standards.

^A Estimated concentration; analyte detected below method detection limits

^B Chloride residuals may not be capable of impacting local groundwater above the NMWQCC standards of 250 mg/L and 600 mg/L, respectively.

^C Detected, but below the Reporting Limit; therefore, result is an estimated concentration.

APPENDICES

APPENDIX I

LABORATORY ANALYTICAL REPORTS

AND

CHAIN-OF-CUSTODY FORM

Chain of Custody Form

Lab: ELT

Page 1 of 1

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

Client: Plains
 Date/Time: 3/17/06 10:05
 Order #: 6017002
 Initials: EB

Sample Receipt Checklist

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

Other observations:

Variance Documentation:

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

Corrective Action Taken:

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

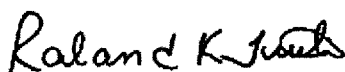
Fax: 505-394-2601

Reported:
03/20/06 13:00

Notes and Definitions

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

Report Approved By:



Date:

3/20/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

Lab: ELT

Company Name		Environmental Plus, Inc.		 <p>Attn: Iain Olness PO Box 1558, Eunice, NM 88231-1558</p>	
EPI Project Manager		Iain Olness			
Mailing Address		P.O. BOX 1558			
City, State, Zip		Eunice New Mexico 88231			
EPI Phone#/Fax#		505-394-3481 / 505-394-2601			
Client Company		Plains All American Pipeline			
Facility Name		Jct. 34 to Lea			
Location		UL-D, Sec. 20, T 20 S, R 39 E			
Project Reference		160052			
EPI Sampler Name		David Robinson			

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	SAMPLING		BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO ₄)	pH	TCLP	OTHER >>>	PAH
				GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE		ICE/COOL	OTHER								
-01	1 NBH-1 (8")	X	1			X															
-02	2 SBH-1 (12")	X	1			X															
-03	3 SBH-2 (12")	X	1			X															
-04	4 SBH-3 (6")	X	1			X															
-05	5 SBH-4 (6")	X	1			X															
-06	6 NBH-2 (6")	X	1			X															
7																					
8																					
9																					
10																					

Sample Relinquished By:	Date: 3/14/06	Received By:	Date: 3/14/06
Relinquished by:	Time: 9:05	Received By: (lab staff)	Time: 9:05
Delivered by:	Sample Cool & Intact	No	Checked By:

REMARKS:
RUSH

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch EC62001 - Water Extraction

Blank (EC62001-BLK1)

Prepared: 03/17/06 Analyzed: 03/20/06

Chloride	ND	0.500	mg/kg
Sulfate	ND	0.500	"

LCS (EC62001-BS1)

Prepared: 03/17/06 Analyzed: 03/20/06

Chloride	8.53		mg/L	10.0		85.3	80-120
Sulfate	8.26		"	10.0		82.6	80-120

Calibration Check (EC62001-CCV1)

Prepared: 03/17/06 Analyzed: 03/20/06

Chloride	8.81		mg/L	10.0		88.1	80-120
Sulfate	8.94		"	10.0		89.4	80-120

Duplicate (EC62001-DUP1)

Source: 6C16019-06

Prepared: 03/17/06 Analyzed: 03/20/06

Sulfate	166	10.0	mg/kg		170		2.38	20
Chloride	159	10.0	"		160		0.627	20

Batch EC62006 - General Preparation (Prep)

Blank (EC62006-BLK1)

Prepared: 03/17/06 Analyzed: 03/20/06

% Solids	100		%
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Duplicate (EC62006-DUP1)

Source: 6C16020-01

Prepared: 03/17/06 Analyzed: 03/20/06

% Solids	90.5		%		90.8		0.331	20
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Duplicate (EC62006-DUP2)

Source: 6C17001-03

Prepared: 03/17/06 Analyzed: 03/20/06

% Moisture	0.0	0.1	%		0.0			20
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Duplicate (EC62006-DUP3)

Source: 6C13017-02

Prepared: 03/17/06 Analyzed: 03/20/06

% Solids	90.8		%		90.9		0.110	20
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Environmental Lab of Texas

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch EC62002 - EPA 5030C (GC)									
Calibration Check (EC62002-CCV1)					Prepared: 03/18/06 Analyzed: 03/19/06				
Benzene	41.3		ug/kg	50.0		82.6	80-120		
Toluene	42.6		"	50.0		85.2	80-120		
Ethylbenzene	43.8		"	50.0		87.6	80-120		
Xylene (p/m)	90.4		"	100		90.4	80-120		
Xylene (o)	45.5		"	50.0		91.0	80-120		
Surrogate: a,a,a-Trifluorotoluene	38.0		"	40.0		95.0	80-120		
Surrogate: 4-Bromofluorobenzene	32.5		"	40.0		81.2	80-120		
Matrix Spike (EC62002-MS1)					Source: 6C17002-06 Prepared: 03/18/06 Analyzed: 03/19/06				
Benzene	1.12	0.0250	mg/kg dry	1.34	ND	83.6	80-120		
Toluene	1.32	0.0250	"	1.34	ND	98.5	80-120		
Ethylbenzene	1.48	0.0250	"	1.34	ND	110	80-120		
Xylene (p/m)	3.04	0.0250	"	2.68	ND	113	80-120		
Xylene (o)	1.46	0.0250	"	1.34	ND	109	80-120		
Surrogate: a,a,a-Trifluorotoluene	42.2		ug/kg	40.0		106	80-120		
Surrogate: 4-Bromofluorobenzene	34.8		"	40.0		87.0	80-120		
Matrix Spike Dup (EC62002-MSD1)					Source: 6C17002-06 Prepared: 03/18/06 Analyzed: 03/19/06				
Benzene	1.12	0.0250	mg/kg dry	1.34	ND	83.6	80-120	0.00	20
Toluene	1.31	0.0250	"	1.34	ND	97.8	80-120	0.713	20
Ethylbenzene	1.48	0.0250	"	1.34	ND	110	80-120	0.00	20
Xylene (p/m)	3.02	0.0250	"	2.68	ND	113	80-120	0.00	20
Xylene (o)	1.47	0.0250	"	1.34	ND	110	80-120	0.913	20
Surrogate: a,a,a-Trifluorotoluene	40.7		ug/kg	40.0		102	80-120		
Surrogate: 4-Bromofluorobenzene	36.3		"	40.0		90.8	80-120		

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EC61706 - Solvent Extraction (GC)

Blank (EC61706-BLK1)

Prepared & Analyzed: 03/17/06

Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	50.5		mg/kg	50.0		101	70-130			
Surrogate: 1-Chlorooctadecane	49.7		"	50.0		99.4	70-130			

LCS (EC61706-BS1)

Prepared & Analyzed: 03/17/06

Carbon Ranges C6-C12	527	10.0	mg/kg wet	500		105	75-125			
Carbon Ranges C12-C28	489	10.0	"	500		97.8	75-125			
Total Hydrocarbon C6-C35	1020	10.0	"	1000		102	75-125			
Surrogate: 1-Chlorooctane	58.8		mg/kg	50.0		118	70-130			
Surrogate: 1-Chlorooctadecane	51.9		"	50.0		104	70-130			

Calibration Check (EC61706-CCV1)

Prepared: 03/17/06 Analyzed: 03/18/06

Carbon Ranges C6-C12	276		mg/kg	250		110	80-120			
Carbon Ranges C12-C28	297		"	250		119	80-120			
Total Hydrocarbon C6-C35	573		"	500		115	80-120			
Surrogate: 1-Chlorooctane	55.1		"	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	52.4		"	50.0		105	70-130			

Matrix Spike (EC61706-MS1)

Source: 6C17009-03

Prepared & Analyzed: 03/17/06

Carbon Ranges C6-C12	560	10.0	mg/kg dry	522	ND	107	75-125			
Carbon Ranges C12-C28	534	10.0	"	522	25.1	97.5	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbon C6-C35	1090	10.0	"	1040	25.1	102	75-125			
Surrogate: 1-Chlorooctane	54.7		mg/kg	50.0		109	70-130			
Surrogate: 1-Chlorooctadecane	48.4		"	50.0		96.8	70-130			

Environmental Lab of Texas

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Page 6 of 10

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EC61706 - Solvent Extraction (GC)

Matrix Spike Dup (EC61706-MSD1)

Source: 6C17009-03

Prepared & Analyzed: 03/17/06

Carbon Ranges C6-C12	553	10.0	mg/kg dry	522	ND	106	75-125	1.26	20	
Carbon Ranges C12-C28	522	10.0	"	522	25.1	95.2	75-125	2.27	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbon C6-C35	1080	10.0	"	1040	25.1	101	75-125	0.922	20	
Surrogate: 1-Chlorooctane	53.9		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	47.1		"	50.0		94.2	70-130			

Batch EC62002 - EPA 5030C (GC)

Blank (EC62002-BLK1)

Prepared: 03/18/06 Analyzed: 03/19/06

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	37.1		ug/kg	40.0		92.8	80-120			
Surrogate: 4-Bromofluorobenzene	39.0		"	40.0		97.5	80-120			

LCS (EC62002-BS1)

Prepared: 03/18/06 Analyzed: 03/20/06

Benzene	1.01	0.0250	mg/kg wet	1.25		80.8	80-120			
Toluene	1.10	0.0250	"	1.25		88.0	80-120			
Ethylbenzene	1.26	0.0250	"	1.25		101	80-120			
Xylene (p/m)	2.63	0.0250	"	2.50		105	80-120			
Xylene (o)	1.28	0.0250	"	1.25		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.1		ug/kg	40.0		85.2	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120			

Environmental Lab of Texas

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
NBH-2 6" (6C17002-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		90.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		81.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		95.8 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		95.2 %	70-130		"	"	"	"	

Environmental Plus, Incorporated
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Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
NBH-1 8" (6C17002-01) Soil									
Chloride	749	10.0	mg/kg	20	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	9.4	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	64.7	10.0	mg/kg	20	EC62001	03/20/06	03/20/06	EPA 300.0	
SBH-1 12" (6C17002-02) Soil									
Chloride	47.1	5.00	mg/kg	10	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	8.5	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	21.8	5.00	mg/kg	10	EC62001	03/20/06	03/20/06	EPA 300.0	
SBH-2 12" (6C17002-03) Soil									
Chloride	400	10.0	mg/kg	20	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	8.3	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	35.9	10.0	mg/kg	20	EC62001	03/20/06	03/20/06	EPA 300.0	
SBH-3 6" (6C17002-04) Soil									
Chloride	603	10.0	mg/kg	20	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	6.2	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	72.3	10.0	mg/kg	20	EC62001	03/20/06	03/20/06	EPA 300.0	
SBH-4 6" (6C17002-05) Soil									
Chloride	632	10.0	mg/kg	20	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	4.6	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	68.2	10.0	mg/kg	20	EC62001	03/20/06	03/20/06	EPA 300.0	
NBH-2 6" (6C17002-06) Soil									
Chloride	187	10.0	mg/kg	20	EC62001	03/17/06	03/20/06	EPA 300.0	
% Moisture	6.7	0.1	%	1	EC62006	03/17/06	03/20/06	% calculation	
Sulfate	62.4	10.0	mg/kg	20	EC62001	03/20/06	03/20/06	EPA 300.0	

Environmental Lab of Texas

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Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
NBH-1 8" (6C17002-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C12-C28	14.8	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	14.8	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.2 %	70-130		"	"	"	"	
SBH-1 12" (6C17002-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		98.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.8 %	70-130		"	"	"	"	
SBH-2 12" (6C17002-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		96.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.5 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	

Environmental Lab of Texas

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Page 2 of 10

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

Organics by GC
Environmental Lab of Texas

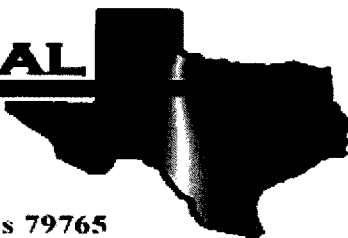
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SBH-2 12" (6C17002-03) Soil									
Carbon Ranges C12-C28	13.3	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	13.3	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		102 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		103 %	70-130		"	"	"	"	
SBH-3 6" (6C17002-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		88.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C12-C28	J [8.11]	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		96.2 %	70-130		"	"	"	"	
SBH-4 6" (6C17002-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC62002	03/18/06	03/19/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		93.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.0 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61706	03/17/06	03/18/06	EPA 8015M	
Carbon Ranges C12-C28	10.2	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	10.2	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		87.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		87.2 %	70-130		"	"	"	"	

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E **NVIRONMENTAL** **LAB OF**



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Chesapeake/ Julio State #1

Project Number: 160052

Location: UL-D, Sec. 20, T 20 S, R 39 E

Lab Order Number: 6C17002

Report Date: 03/20/06

Environmental Plus, Incorporated
P.O. Box 1558
Eunice NM, 88231

Project: Chesapeake/ Julio State #1
Project Number: 160052
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
03/20/06 13:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NBH-1 8"	6C17002-01	Soil	03/16/06 09:20	03/17/06 10:05
SBH-1 12"	6C17002-02	Soil	03/16/06 09:40	03/17/06 10:05
SBH-2 12"	6C17002-03	Soil	03/16/06 09:42	03/17/06 10:05
SBH-3 6"	6C17002-04	Soil	03/16/06 09:43	03/17/06 10:05
SBH-4 6"	6C17002-05	Soil	03/16/06 13:20	03/17/06 10:05
NBH-2 6"	6C17002-06	Soil	03/16/06 13:25	03/17/06 10:05

Jeanne McMurrey

From: "Iain Olness" <iolness@envplus.net>
To: "Jeanne McMurrey" <jeanne@elabtexas.com>
Sent: Friday, March 17, 2006 5:04 PM
Attach: EPI Chain of Custody.pdf
Subject: Chesapeake Operating Julio State #1 (Ref. #160052)

Dear Ms. McMurrey:

Attached is the revised COC for the above-referenced site. Should you have any questions or concerns, please feel free to contact me at (505) 394-3481 or via e-mail at iolness@envplus.net.

Sincerely,

ENVIRONMENTAL PLUS, INC.

Iain A. Olness, P.G.
Hydrogeologist

Environmental Plus, Inc.
P.O. Box 1558
Eunice, NM 88231

(505) 394-3481
(505) 394-2601 (facsimile)

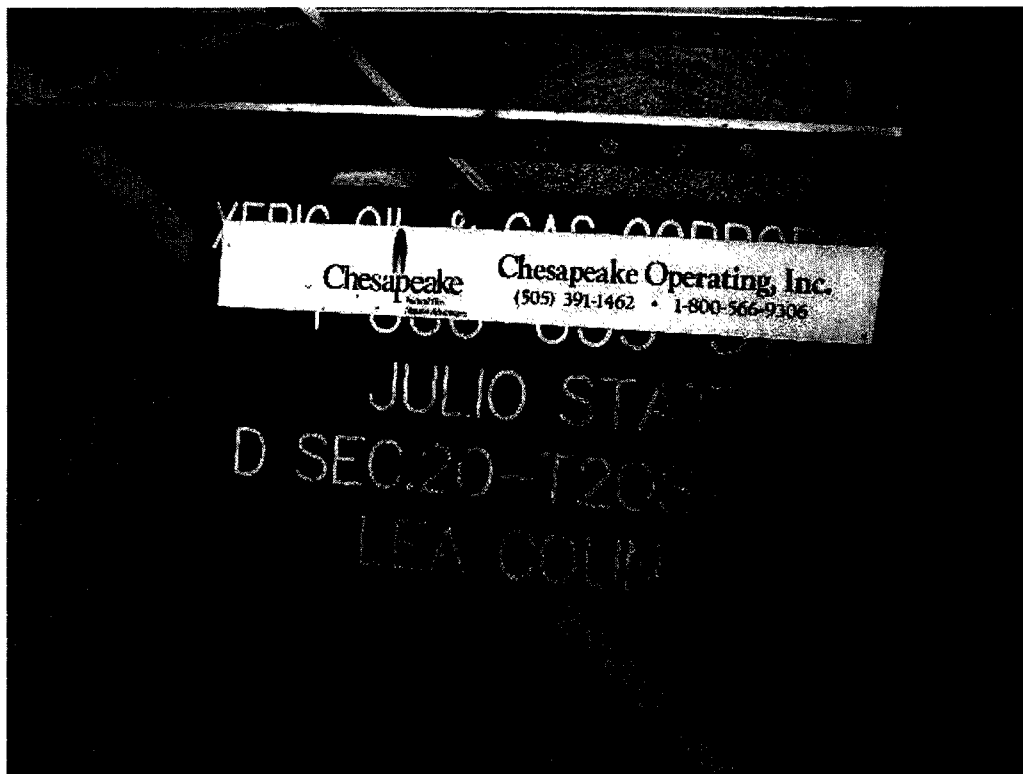
Scanned by McAfee e250 Appliance

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This message has been scanned for viruses and dangerous content by BasinBroadband, and is believed to be clean.

3/17/2006

APPENDIX II

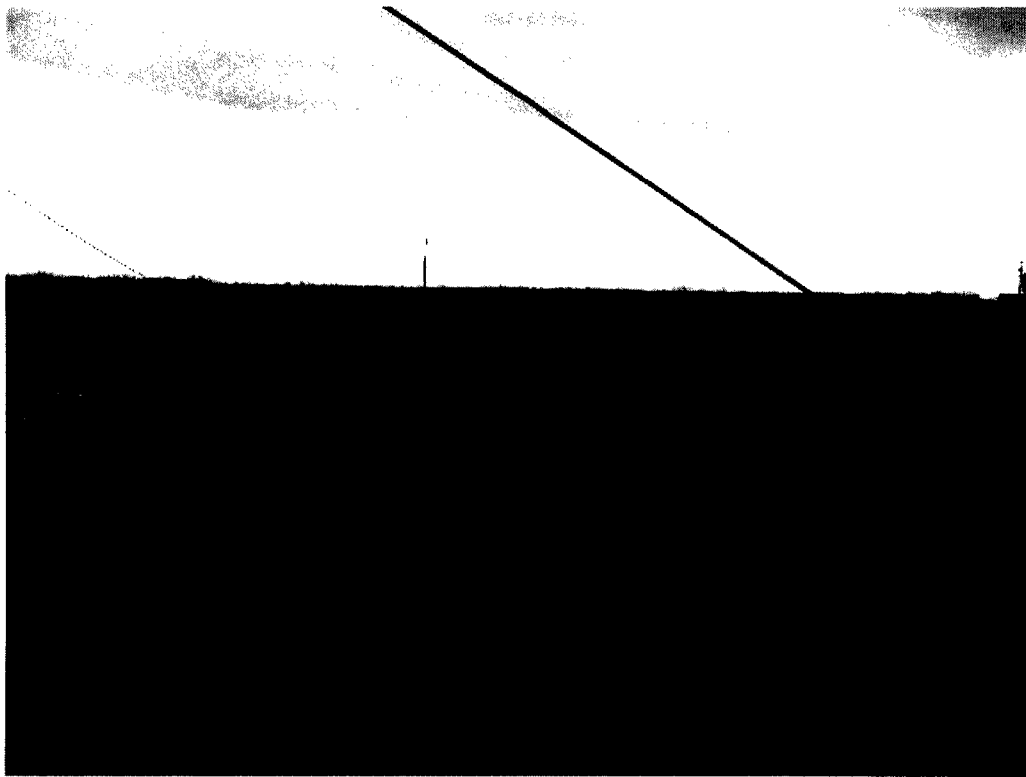
PROJECT PHOTOGRAPHS



Photograph #1 – Lease Sign



Photograph #2 – Looking north-northeasterly at release area.



Photograph #3 – Looking at northeasterly at overspray area.



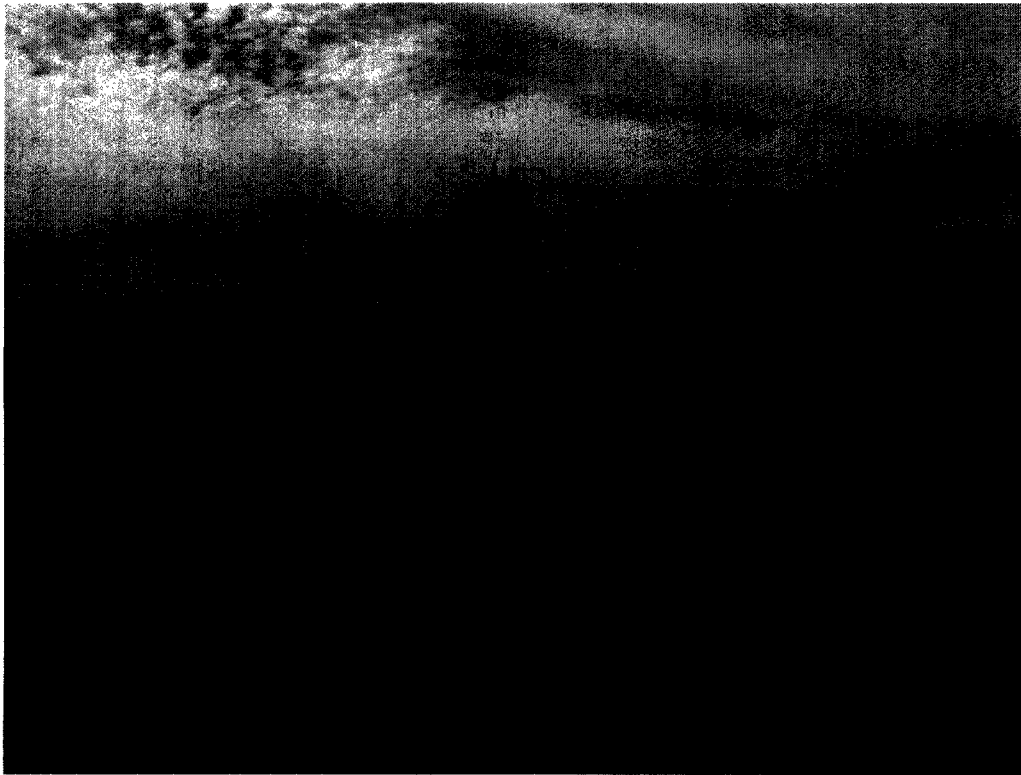
Photograph #4 – Excavation area looking southerly.



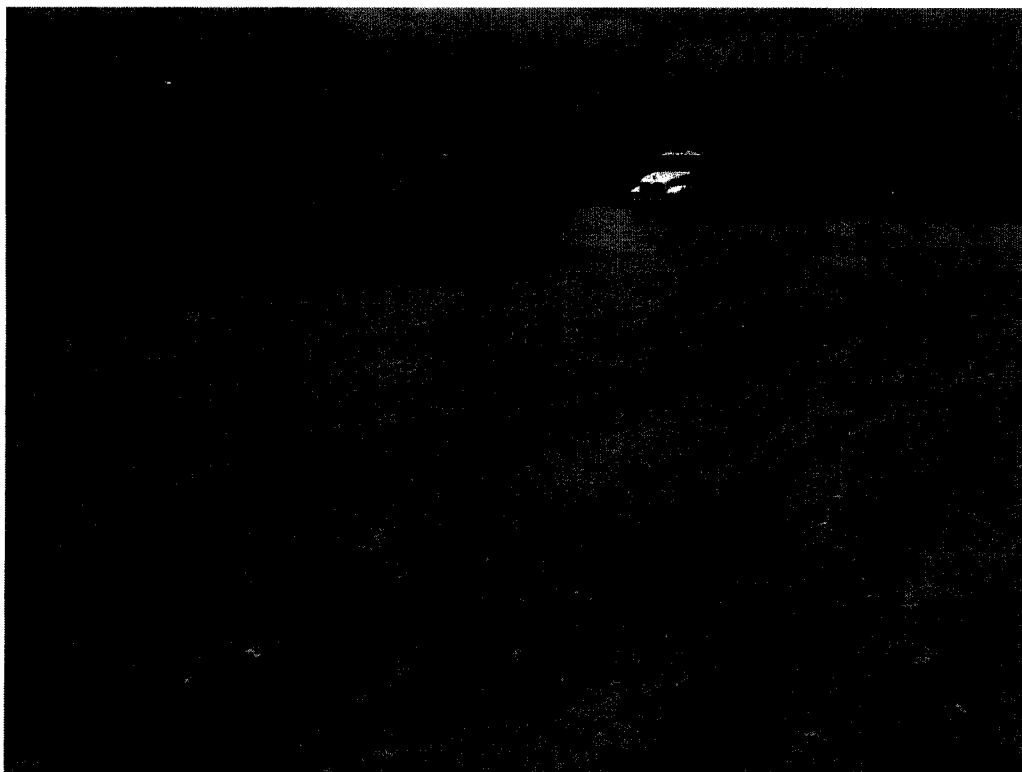
Photograph #5 – Excavation area looking westerly.



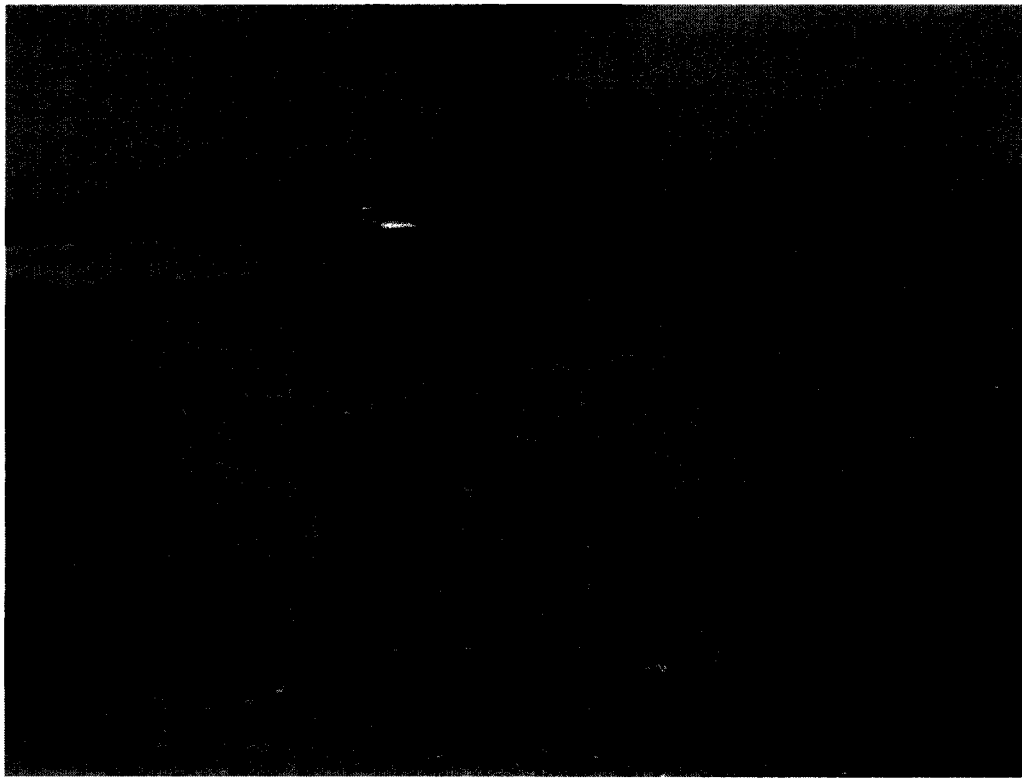
Photograph #6 – Excavation area looking southerly.



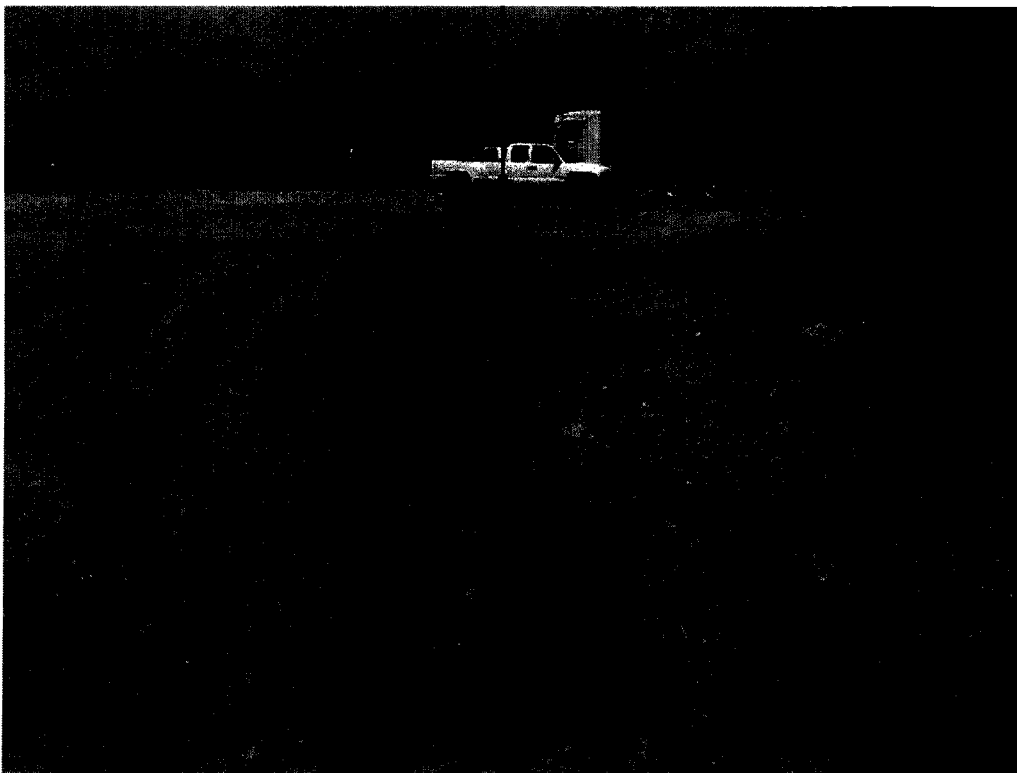
Photograph #7 – Looking southeasterly at backfilling activities.



Photograph #7 – Looking southwesterly at backfilling activities.



Photograph #8 – Looking northeasterly at backfilling activities.



Photograph #9 – Looking westerly at site graded and contoured.

APPENDIX III

FINAL NMOCD C-141 FORM

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003
Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Chesapeake Energy	Contact: Bradley Blevins
Address: P.O. Box 190	Telephone No.: (505) 391-1462 ext. 6224
Facility Name: Julio State #1	Facility Type: Tank Battery

Surface Owner: McCasland Limited Partnership	Mineral Owner:	Lease No.: IRP #835 Admin. # PAC0610938028
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LOCATION OF RELEASE

Unit Letter D	Section 20	Township 20S	Range 39E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude: N 32° 33' 49.44" Longitude: W 103° 04' 26.54"

NATURE OF RELEASE

Type of Release: Petroleum and/or production fluids	Volume of Release: ~10 bbls	Volume Recovered: ~5 bbls
Source of Release: Well kicked during work over activities.	Date and Hour of Occurrence: 8 March 2006	Date and Hour of Discovery: 8 March 2006
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse: Sheen due to overspray.	

If a Watercourse was Impacted, Describe Fully.* Stock pond had a light sheen from overspray; booms and absorbent pads were utilized to clean water surface.

Depth to Groundwater: ~40 feet

Describe Cause of Problem and Remedial Action Taken.* The well kicked during workover activities resulting in the release of approximately 10 barrels of crude oil, which impacted approximately 5,400 square feet of the pad. In addition, overspray from the release impacted approximately 36,600 square feet of pasture land. A vacuum truck was retained to recover approximately 5 barrels of pooled crude oil and microblaze, in a 6% solution, was applied to the overspray area

Describe Area Affected and Cleanup Action Taken.* Approximately 42,000 square-feet of surface area was impacted by the release. 60 gallons of Microblaze at a 6% solution was immediately applied to the overspray area to enhance natural biodegradation of overspray. Approximately 210 cubic yards of soil impacted above NMOCD remedial thresholds was excavated and disposed of at Sundance Services.

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

OIL CONSERVATION DIVISION

Signature: *Bradley Blevins*

Printed Name: Bradley Blevins

Title: Field Supervisor

E-mail Address: bblevins@chkenergy.com

Date: 8-2-06 Phone: (505) 391-1462 ext. 6224

Approved by District Supervisor: *EWING ENER*

Approval Date: 8.7.06

Expiration Date: —

Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

Application - PAC0610937832

RP#835