

CLOSURE REPORT

NEWMAN 32 STATE #2

1RP #: 1002

EPI REF: #160036

UL-B (NW¼ OF THE NE¼) OF SECTION 32 T23S R38E

~13 MILES NORTHEAST OF JAL

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 15' 58.57"

LONGITUDE: W 103° 04' 53.54"

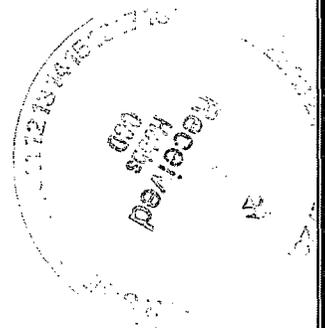
AUGUST 2006

PREPARED BY:

**ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
EUNICE, NEW MEXICO 88231**

PREPARED FOR:


Chesapeake





Distribution List

Site Characterization

Newman 32 State #2

1RP# 1002; Ref. #160036

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 Operating, Inc.	P.O. Box 190 Hobbs, NM 88240-0190	bblevins@chkenergy.com
Curtis Blake	Superintendent	Chesapeake Operating, Inc.	P.O. Box 190 Hobbs, NM 88240-0190	cblake@chkenergy.com
Harlan Brown	Senior Environmental Representative	Chesapeake Operating, Inc.	6100 N. Western Avenue Oklahoma City, OK 73118	hbrown@chkenergy.com
Thaddeus Kostrubala	District Resource Manager	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 - Hobbs	2702-D North Grimes Hobbs, NM 88240	mmeyers@slo.state.nm.us
File	--	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231-1558	jstegenmoller@envplus.net



STANDARD OF CARE

Site Characterization

Newman 32 State #2

1RP# 1002; Ref. #160036

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.

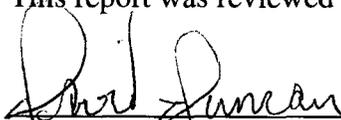
This report was prepared by:



Jason Stegemoller
Environmental Scientist

24 August 2006
Date

This report was reviewed by:



David Duncan
Civil Engineer

8/29/06
Date



Table of Contents

1.0	Project Synopsis	iv
2.0	Site and Release Information	1
3.0	NMOCD Site Ranking	2
4.0	Excavation Soil Information	3
5.0	Sampling Information	4
6.0	Analytical Results	5
7.0	Discussion	6
8.0	Conclusion and Recommendations	7

FIGURES

- Figure 1: Area Map
- Figure 2: Site Location Map
- Figure 3: Site Map
- Figure 4: Excavation Map

TABLES

- Table 1: Well Information Report
- Table 2: Summary of Soil Sample Analytical Results

APPENDICES

- Appendix I: Laboratory Analytical Reports and Chain-of-Custody Forms
- Appendix II: Project Photographs
- Appendix III: Final NMOCD C-141 Form



1.0 PROJECT SYNOPSIS

Site Specific:

- ◆ **Company Name:** Chesapeake Operating, Inc.
- ◆ **Facility Name:** Newman 32 State #2
- ◆ **Project Reference:** 160036
- ◆ **Company Contacts:** Bradley Blevins
- ◆ **Site Location:** WGS84 N32° 15' 58.57"; W103° 04' 53.54"
- ◆ **Legal Description:** Unit Letter-B, (NW¼ of the NE¼), Section 23, T 23S, R 38E
- ◆ **General Description:** Approximately 13-miles northeast of Jal, New Mexico
- ◆ **Elevation:** 3,315-ft amsl
- ◆ **Land Ownership:** State of New Mexico
- ◆ **EPI Personnel:** Project Consultant – Iain Olness
Site Foreman – Felix Hernandez

Release Specific:

- ◆ **Product Released:** Crude oil and produced water
- ◆ **Volume Released:** ~70 barrels **Volume Recovered:** ~25 barrels
- ◆ **Time of Occurrence:** 24 October 2005 p.m. **Time of Discovery:** 25 October 2005 a.m.
- ◆ **Release Source:** Stuffing box on pumping unit
- ◆ **Initial Surface Area Affected:** ~ 5,600 square feet

Remediation Specific:

- ◆ **Final Vertical extent of contamination:** 10-feet bgs at maximum depth
- ◆ **Depth to Ground Water:** >100-ft bgs (~210-ft bgs)
- ◆ **Water wells within 1,000-ft:** None
- ◆ **Private domestic water sources within 200-ft:** None
- ◆ **Surface water bodies within 1,000-ft:** None
- ◆ **NMOCD Site Ranking Index:** 0 points (<100-ft to top of water table)
- ◆ **Remedial goals for Soil:** TPH – 5,000 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) Impacted soil above NMOCD remedial goals was excavated and transported to the EPI Land Farm for treatment; b) laboratory analyses to confirm removal of soil impacted above NMOCD remedial thresholds and NMWQCC groundwater standards in excavation bottom; c) backfill excavation with clean soil purchased from the State of New Mexico.
- ◆ **Disposal Facility:** Environmental Plus, Inc. Land Farm – Eunice, New Mexico
- ◆ **Volume disposed:** ~1,160-yd³
- ◆ **Project Completion Date:** 21 March 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.***
Stuffing box on pumping unit blew out of an operating pumpjack. The release area was confined to the well pad.

2.3 ***What is the volume of the release? (if known):*** 70 barrels of crude oil and water

2.4 ***What is the volume recovered? (if any)*** 24 barrels

2.5 ***When did the release occur? (if known):*** 24 October 2005

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 ~210-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*). Groundwater gradient in this area is generally to the west-southeast.

2.9 ***Area Water Wells***

There are no public water supply wells located within a 1,000-foot radius of the release site. In addition, 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 are no surface water features within a 1,000 foot radius of the release site (reference *Figure 2*).



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 zero 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: 0 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) = 0 + 0 + 0 = 0 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: October 25, 2005 through November 3, 2005

Total volume removed: ~1,160 cubic yards

4.2 Indicated soil treatment type:

<input type="checkbox"/>	<i>Disposal</i>
<input checked="" 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:
Environmental Plus, Inc. Land Farm – 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 was placed in a polyethylene bag and allowed sufficient time and temperature for organic vapors to volatilize. The detector portion of a Photoionization Detector equipped with a 10.2 electron volt lamp was placed in the bag to analyze organic vapor concentration.

Chloride Concentrations – A La Motte Chloride Test Kit was utilized for field chloride concentration analyses.

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 November 4, 2005, a series of seven soil samples were collected from the excavation sidewalls at depths ranging from 3 to 4-ft bgs. A soil sample was collected from the west sidewall [WSW (3')], east sidewall [ESW (3')], three soil samples were collected from the south excavation sidewall [SSW-W (3'), SSW-M (4') and SSW-E (3')] and two soil samples were collected from the north sidewall [NSW-W (4') and NSW-E (3')] (reference *Figure 4*). Soil sample locations were chosen to provide the best representative example of soil within the excavation sidewalls.

Additionally, soil samples were collected on November 4, 2005 from the west excavation floor [BHW (3')], east excavation floor [BHE (7')] and two locations in the center excavation floor [BHM (5') and BHME (10')] (reference *Figure 4*). 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.*

Laboratory analyses of soil samples collected on November 4, 2005 from the excavation sidewalls indicated TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Chloride concentrations were reported to range from 38.6 to 257 mg/Kg (reference *Table 2, Figure 4 and Appendix I*).

Laboratory analyses of soil samples collected on November 4, 2005 from the excavation floor indicated BTEX constituent concentrations were ND at or above laboratory MDL. TPH concentrations were reported to range from ND to 46.0 mg/Kg, below the NMOCD remedial threshold of 5,000 mg/Kg. Reported chloride concentrations ranged from 308 to 867 mg/Kg (reference *Table 2, Figure 4 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 the EPI Land Farm for treatment.



7.0 **DISCUSSION**

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

Based on depth to groundwater (>100-ft bgs), contaminants remaining in the soil should not be capable of impacting groundwater above NMWQCC groundwater standards.

7.2 ***Discuss the risks associated with the impacted groundwater:*** NA

7.3 ***Discuss other concerns not mentioned above:*** NA



8.0 CONCLUSIONS AND RECOMMENDATIONS

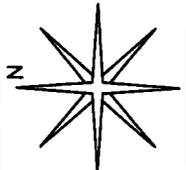
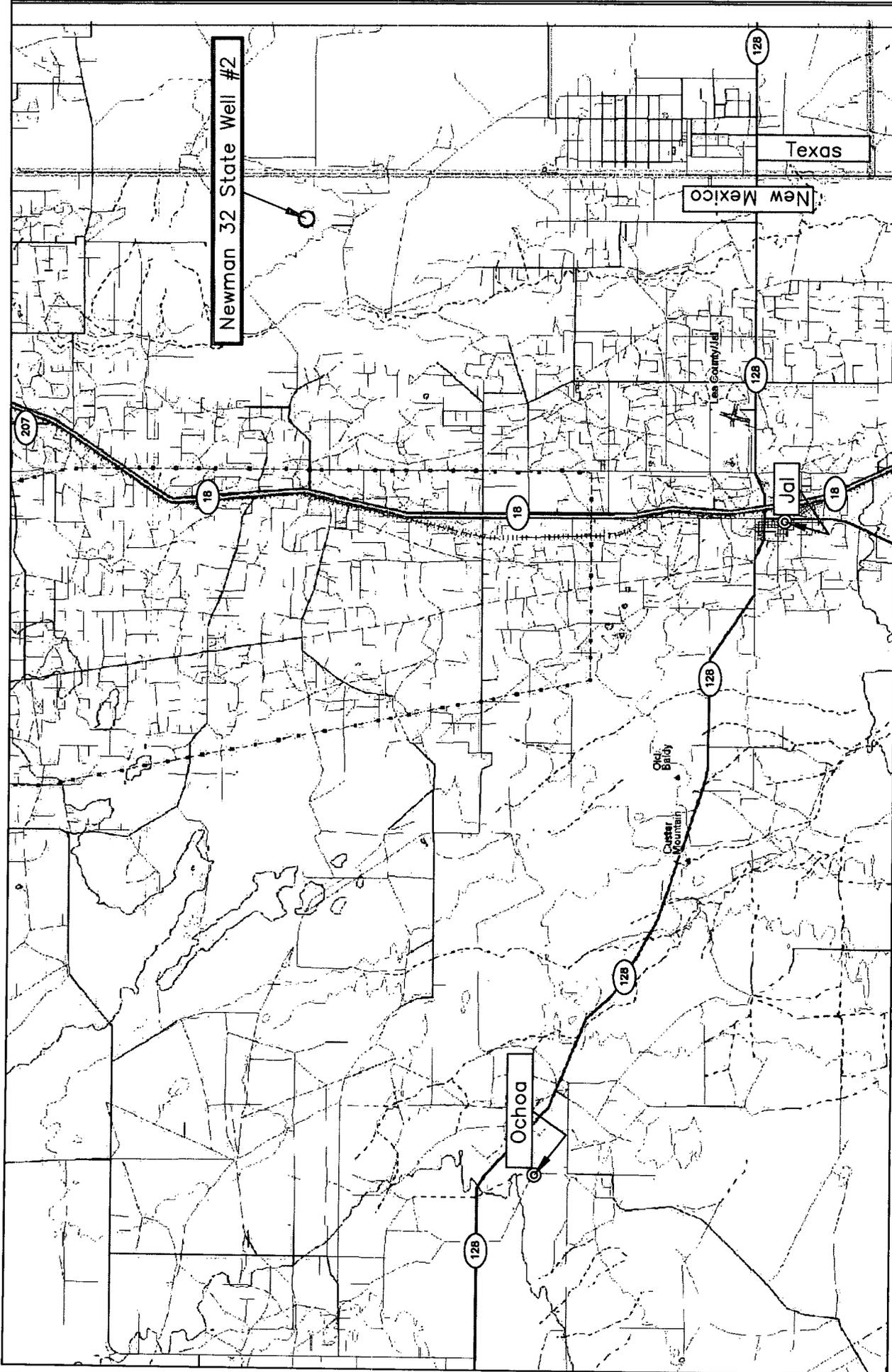
- 8.1 *Recommendation for the site:*
- Site Closure*
 - Additional Groundwater Monitoring*
 - Corrective Action*

- 8.2 *Base the recommendation above on Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993). Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.*

Approximately 1,160 cubic yards of hydrocarbon impacted soil above the NMOCD remedial thresholds for TPH and BTEX constituents were excavated and transported to the Environmental Plus, Inc. Land Farm for treatment. Laboratory analytical results of soil samples collected on November 4, 2005 indicated NMOCD remedial thresholds have been achieved. Approximately 1,150 cubic yards of clean soil were purchased from the State of New Mexico and utilized as backfill material. Upon completion of backfilling, the site was graded to allow natural drainage. The site will not be revegetated until the pumping unit is decommissioned.

- 8.3 *If additional groundwater and monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the NMOCD responds to this report. NA*
- 8.4 *If corrective action is recommended, provide a conceptual approach. NA*

FIGURES



DWG By: Daniel Dominguez
 October 2005

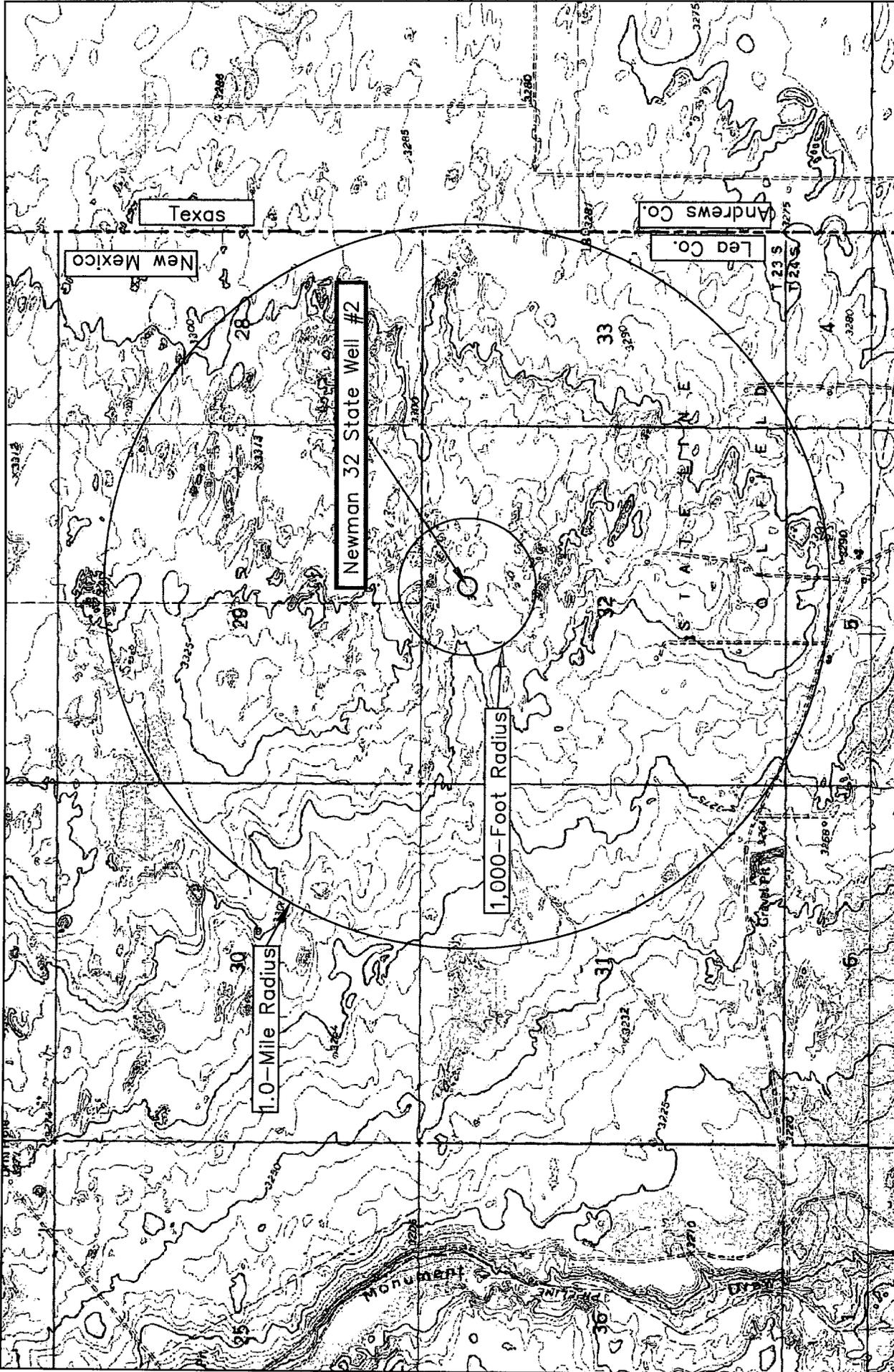
REVISED:

0 3 6
 Miles

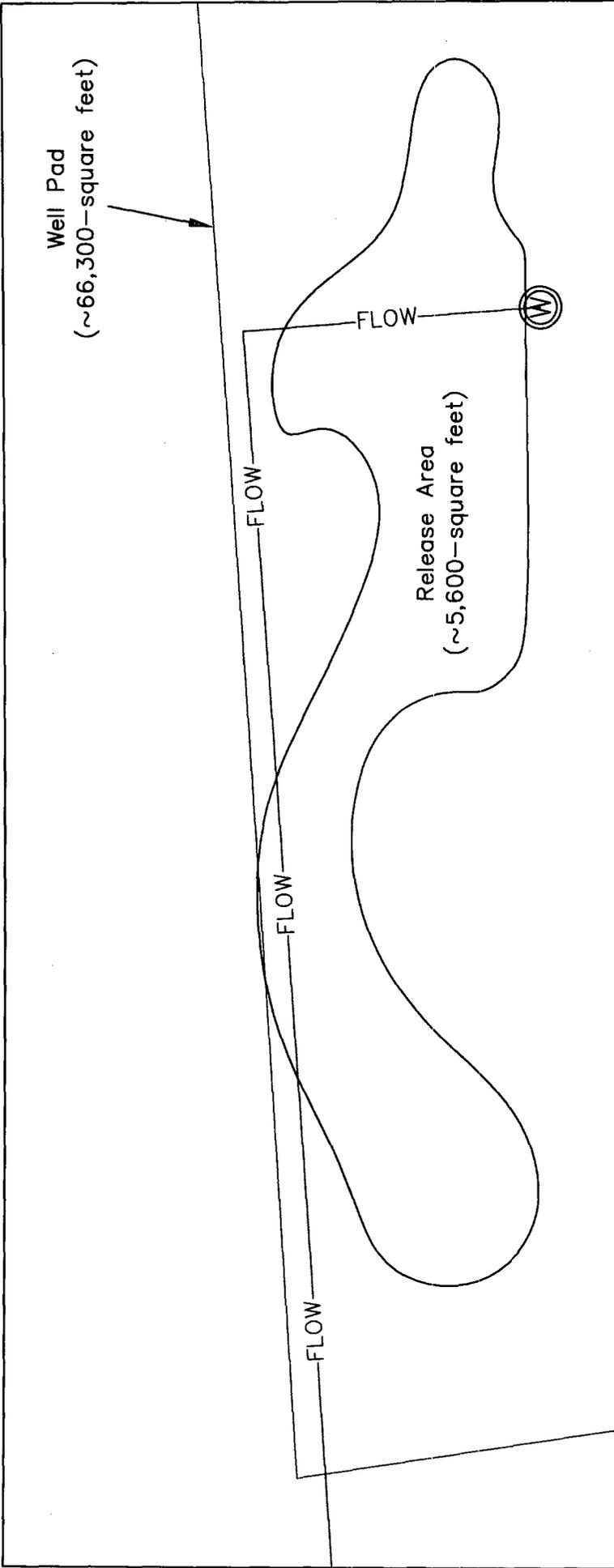
SHEET
 1 of 1

Lea County, New Mexico
 NW 1/4 of the NE 1/4, Sec. 32, T23S, R38E
 N 32° 15' 58.57" W 103° 04' 53.54"
 Elevation: 3,315 feet amsl

Figure 1
 Area Map
 Chesapeake Energy
 Newman 32 State Well #2

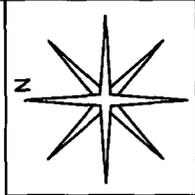


<p>Figure 2 Site Location Map Chesapeake Energy Newman 32 State Well #2</p>	<p>Lea County, New Mexico NW 1/4 of the NE 1/4, Sec. 32, T23S, R38E N 32° 15' 58.57" W 103° 04' 53.54" Elevation: 3,315 feet amsl</p>		<p>DWG By: Daniel Dominguez October 2005</p>	<p>REVISED:</p>
	<p>0 2000 4000 Feet</p>		<p>0 2000 4000 SHEET 1 of 1</p>	

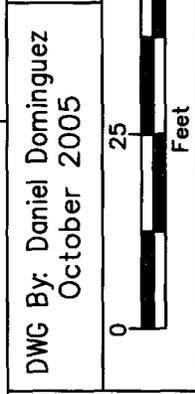


LEGEND

 Pumping Unit
 FLOW — Flowline

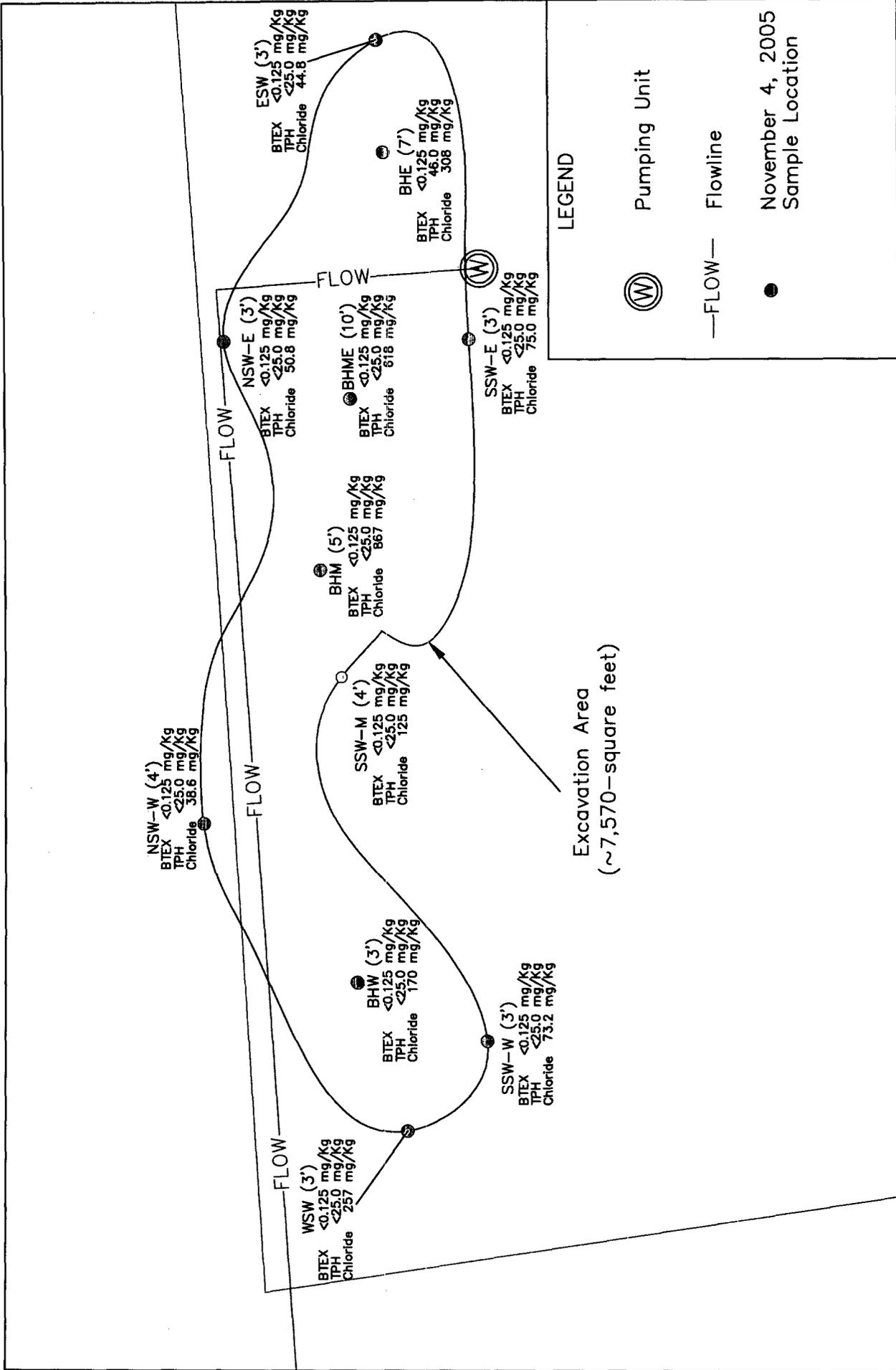


DWG By: Daniel Dominguez
 October 2005
 REVISED:
 JCS, Feb. 2006



Lea County, New Mexico
 NW 1/4 of the NE 1/4, Sec. 32, T23S, R38E
 N 32° 15' 58.57" W 103° 04' 53.54"
 Elevation: 3,315 feet amsl

Figure 3
 Site Map
 Chesapeake Energy
 Newman 32 State Well #2



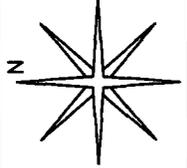
LEGEND



Pumping Unit

—FLOW— Flowline

● November 4, 2005 Sample Location



DWG By: Daniel Dominguez
October 2005

Lea County, New Mexico
NW 1/4 of the NE 1/4, Sec. 32, T23S, R38E
N 32° 15' 58.57" W 103° 04' 53.54"
Elevation: 3,315 feet amsl

Figure 4
Excavation Map
Chesapeake Energy
Newman 32 State Well #2



REVISED:
JCS, Feb. 2006

TABLES

TABLE 1

WELL INFORMATION REPORT*

Chesapeake Energy Newman 32 State Well #2 (Ref. 160036)

Well Number	Diversion ^A	Owner	Use	Source	Twp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Depth to Water	
											(ft)	(bgs)
CP 00687	3	LINEBERRY	DOM	Shallow	23S	38E	08 2 1	N 32° 19' 20.6"	W 103° 4' 55.31"	10/1/1985		335
CP 00688	3	TOM LINEBERRY	DOM	Shallow	23S	38E	20 4 4	N 32° 16' 56.91"	W 103° 4' 40"	10/1/1985		265
CP 00069 DCI	0	OGALLALA SAND	DOM		24S	38E	31 3 4 2	N 32° 9' 59.22"	W 103° 6' 12.32"			
L 02851	3	ROBERT K. FIELD	DOM	Shallow	24S	38E	23 4 2 4			5/14/1955		30

* = Data obtained from the New Mexico Office of the State Engineer Website (http://i.waters.osc.state.nm.us:7001/iWATERS/wr_RegisServlet) and USGS Database.

^A = in acre feet per annum

^B = Interpolated from USGS Topographical Map

IND = Industrial

STK = Livestock Watering

DOM = Domestic one household

EXP = Expired

(quarters are 1=NW, 2=NE, 3=SW, 4=SE and are biggest to smallest)

TABLE 2

Summary of Soil Sample Analytical Results

Chesapeake- Newman 32 State #2 (Ref. #160036)

Soil Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	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)
WSW (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	257
BHW (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	170
SSW-W (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	73.2
SSW-M (4')	4	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	125
NSW-W (4')	4	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	38.6
BHM (5')	5	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	867
BHME (10')	10	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	618
BHE (7')	7	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	5.95 ^A	46.0	46.0	308
ESW (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	44.8
SSW-E (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	75.0
NSW-E (3')	3	In Situ	04-Nov-05	--	<0.0250	<0.0250	<0.0250	<0.0500	<0.125	<25.0	<25.0	<25.0	50.8
NMOC Remedial Thresholds				100³	10				50			5,000	250^B

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

-- = Not Analyzed

^A Detected below laboratory method detection limits, therefore an estimate.

^B Chloride and sulfate residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 ppm and 600 ppm, respectively.

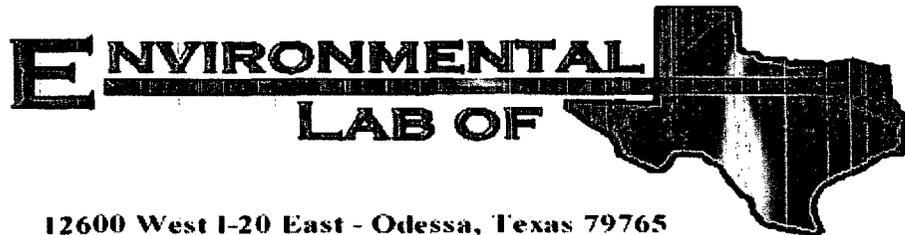
APPENDICES

APPENDIX I

LABORATORY ANALYTICAL REPORTS

AND

CHAIN-OF-CUSTODY FORM



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/ Newman 32 State

Project Number: 160036

Location: UL-B, Sect. 32, T 23 S, R 38 E

Lab Order Number: 5K08009

Report Date: 11/17/05

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WSW (3')	5K08009-01	Soil	11/04/05 10:50	11/08/05 11:00
BHW (3')	5K08009-02	Soil	11/04/05 10:55	11/08/05 11:00
SSW-W (3')	5K08009-03	Soil	11/04/05 10:59	11/08/05 11:00
SSW-M (4')	5K08009-04	Soil	11/04/05 11:05	11/08/05 11:00
NSW-W (4')	5K08009-05	Soil	11/04/05 11:07	11/08/05 11:00
BHM (5')	5K08009-06	Soil	11/04/05 11:10	11/08/05 11:00
BHME (10')	5K08009-07	Soil	11/04/05 11:17	11/08/05 11:00
BHE (7')	5K08009-08	Soil	11/04/05 11:19	11/08/05 11:00
ESW (3')	5K08009-09	Soil	11/04/05 11:22	11/08/05 11:00
SSW-E (3')	5K08009-10	Soil	11/04/05 11:25	11/08/05 11:00
NSW-E (3')	5K08009-11	Soil	11/04/05 11:30	11/08/05 11:00

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WSW (3') (5K08009-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK50811	11/09/05	11/09/05	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>		83.4 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		113 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		115 %	70-130		"	"	"	"	
BHW (3') (5K08009-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK50811	11/09/05	11/09/05	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>		81.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		95.8 %	70-130		"	"	"	"	
SSW-W (3') (5K08009-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK50811	11/09/05	11/09/05	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>		80.3 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	

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.

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SSW-W (3') (5K08009-03) Soil									
<i>Surrogate: 1-Chlorooctane</i>		91.8 %	70-130		EK50908	11/09/05	11/11/05	TX 1005	
<i>Surrogate: 1-Chlorooctadecane</i>		94.2 %	70-130		"	"	"	"	
SSW-M (4') (5K08009-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	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>		87.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		88.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		95.4 %	70-130		"	"	"	"	
NSW-W (4') (5K08009-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	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>		83.1 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		112 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		118 %	70-130		"	"	"	"	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BHM (5') (5K08009-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		86.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		92.8 %	70-130		"	"	"	"	
BHME (10') (5K08009-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		80.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		95.4 %	70-130		"	"	"	"	
BHE (7') (5K08009-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		80.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	J [5.95]	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	J
Diesel Range Organics >C12-C35	46.0	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	46.0	25.0	"	"	"	"	"	"	

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.

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BHE (7') (5K08009-08) Soil									
<i>Surrogate: 1-Chlorooctane</i>		105 %	70-130		EK50908	11/09/05	11/11/05	TX 1005	
<i>Surrogate: 1-Chlorooctadecane</i>		111 %	70-130		"	"	"	"	
ESW (3') (5K08009-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/11/05	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>		88.8 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50908	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		108 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		122 %	70-130		"	"	"	"	
SSW-E (3') (5K08009-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	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>		82.3 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50909	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		107 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		107 %	70-130		"	"	"	"	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
NSW-E (3') (5K08009-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK51005	11/10/05	11/10/05	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>		81.5 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	25.0	"	1	EK50909	11/09/05	11/11/05	TX 1005	
Diesel Range Organics >C12-C35	ND	25.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	25.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		95.0 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		98.8 %	70-130		"	"	"	"	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WSW (3') (5K08009-01) Soil									
Chloride	257	10.0	mg/kg	20	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	3.7	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
BHW (3') (5K08009-02) Soil									
Chloride	170	10.0	mg/kg	20	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	7.4	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
SSW-W (3') (5K08009-03) Soil									
Chloride	73.2	5.00	mg/kg	10	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	5.2	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
SSW-M (4') (5K08009-04) Soil									
Chloride	125	5.00	mg/kg	10	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	11.8	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
NSW-W (4') (5K08009-05) Soil									
Chloride	38.6	5.00	mg/kg	10	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	3.2	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
BHM (5') (5K08009-06) Soil									
Chloride	867	20.0	mg/kg	40	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	12.5	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
BHME (10') (5K08009-07) Soil									
Chloride	618	10.0	mg/kg	20	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	4.5	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
BHE (7') (5K08009-08) Soil									
Chloride	308	10.0	mg/kg	20	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	8.7	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
ESW (3') (5K08009-09) Soil									
Chloride	44.8	5.00	mg/kg	10	EK51503	11/11/05	11/15/05	EPA 300.0	
% Moisture	2.5	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
SSW-E (3') (5K08009-10) Soil									
Chloride	75.0	12.5	mg/kg	25	EK51504	11/14/05	11/15/05	EPA 300.0	
% Moisture	3.1	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	
NSW-E (3') (5K08009-11) Soil									
Chloride	50.8	12.5	mg/kg	25	EK51504	11/14/05	11/15/05	EPA 300.0	
% Moisture	2.4	0.1	%	1	EK50906	11/09/05	11/09/05	% calculation	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK50811 - EPA 5030C (GC)

Blank (EK50811-BLK1)

Prepared: 11/08/05 Analyzed: 11/09/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	0.0324		"	0.0400		81.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	80-120			

LCS (EK50811-BS1)

Prepared: 11/08/05 Analyzed: 11/09/05

Benzene	0.0408	0.00100	mg/kg wet	0.0500		81.6	80-120			
Toluene	0.0425	0.00100	"	0.0500		85.0	80-120			
Ethylbenzene	0.0445	0.00100	"	0.0500		89.0	80-120			
Xylene (p/m)	0.0910	0.00100	"	0.100		91.0	80-120			
Xylene (o)	0.0491	0.00100	"	0.0500		98.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0348		"	0.0400		87.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.0444		"	0.0400		111	80-120			

Calibration Check (EK50811-CCV1)

Prepared: 11/08/05 Analyzed: 11/10/05

Benzene	41.4		ug/kg	50.0		82.8	80-120			
Toluene	42.0		"	50.0		84.0	80-120			
Ethylbenzene	40.7		"	50.0		81.4	80-120			
Xylene (p/m)	82.5		"	100		82.5	80-120			
Xylene (o)	43.1		"	50.0		86.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0355		mg/kg wet	0.0400		88.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0337		"	0.0400		84.2	80-120			

Matrix Spike (EK50811-MS1)

Source: 5K08009-03

Prepared: 11/08/05 Analyzed: 11/09/05

Benzene	0.0423	0.00100	mg/kg dry	0.0527	ND	80.3	80-120			
Toluene	0.0434	0.00100	"	0.0527	ND	82.4	80-120			
Ethylbenzene	0.0425	0.00100	"	0.0527	ND	80.6	80-120			
Xylene (p/m)	0.0851	0.00100	"	0.105	ND	81.0	80-120			
Xylene (o)	0.0450	0.00100	"	0.0527	ND	85.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0358		"	0.0422		84.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0422		93.6	80-120			

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK50811 - EPA 5030C (GC)

Matrix Spike Dup (EK50811-MSD1)

Source: 5K08009-03

Prepared: 11/08/05

Analyzed: 11/09/05

Benzene	0.0425	0.00100	mg/kg dry	0.0527	ND	80.6	80-120	0.373	20	
Toluene	0.0434	0.00100	"	0.0527	ND	82.4	80-120	0.00	20	
Ethylbenzene	0.0425	0.00100	"	0.0527	ND	80.6	80-120	0.00	20	
Xylene (p/m)	0.0857	0.00100	"	0.105	ND	81.6	80-120	0.738	20	
Xylene (o)	0.0453	0.00100	"	0.0527	ND	86.0	80-120	0.700	20	
Surrogate: a,a,a-Trifluorotoluene	0.0366		"	0.0422		86.7	80-120			
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0422		102	80-120			

Batch EK50908 - Solvent Extraction (GC)

Blank (EK50908-BLK1)

Prepared: 11/09/05

Analyzed: 11/10/05

Gasoline Range Organics C6-C12	ND	25.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	25.0	"							
Total Hydrocarbon C6-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	44.8		mg/kg	50.0		89.6	70-130			
Surrogate: 1-Chlorooctadecane	45.3		"	50.0		90.6	70-130			

LCS (EK50908-BS1)

Prepared: 11/09/05

Analyzed: 11/10/05

Gasoline Range Organics C6-C12	393	25.0	mg/kg wet	500		78.6	75-125			
Diesel Range Organics >C12-C35	444	25.0	"	500		88.8	75-125			
Total Hydrocarbon C6-C35	837	25.0	"	1000		83.7	75-125			
Surrogate: 1-Chlorooctane	48.1		mg/kg	50.0		96.2	70-130			
Surrogate: 1-Chlorooctadecane	47.0		"	50.0		94.0	70-130			

Calibration Check (EK50908-CCV1)

Prepared: 11/09/05

Analyzed: 11/11/05

Gasoline Range Organics C6-C12	425		mg/kg	500		85.0	80-120			
Diesel Range Organics >C12-C35	548		"	500		110	80-120			
Total Hydrocarbon C6-C35	973		"	1000		97.3	80-120			
Surrogate: 1-Chlorooctane	54.2		"	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	52.1		"	50.0		104	70-130			

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

Project: Chesapeake/Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK50908 - Solvent Extraction (GC)

Matrix Spike (EK50908-MS1)		Source: 5K08007-01		Prepared: 11/09/05		Analyzed: 11/11/05	
Gasoline Range Organics C6-C12	413	25.0	mg/kg dry	538	ND	76.8	75-125
Diesel Range Organics >C12-C35	518	25.0	"	538	ND	96.3	75-125
Total Hydrocarbon C6-C35	931	25.0	"	1080	ND	86.2	75-125
Surrogate: 1-Chlorooctane	54.8		mg/kg	50.0		110	70-130
Surrogate: 1-Chlorooctadecane	54.0		"	50.0		108	70-130

Matrix Spike Dup (EK50908-MSD1)		Source: 5K08007-01		Prepared: 11/09/05		Analyzed: 11/11/05			
Gasoline Range Organics C6-C12	427	25.0	mg/kg dry	538	ND	79.4	75-125	3.33	20
Diesel Range Organics >C12-C35	547	25.0	"	538	ND	102	75-125	5.45	20
Total Hydrocarbon C6-C35	974	25.0	"	1080	ND	90.2	75-125	4.51	20
Surrogate: 1-Chlorooctane	54.1		mg/kg	50.0		108	70-130		
Surrogate: 1-Chlorooctadecane	57.3		"	50.0		115	70-130		

Batch EK50909 - Solvent Extraction (GC)

Blank (EK50909-BLK1)				Prepared: 11/09/05		Analyzed: 11/11/05	
Gasoline Range Organics C6-C12	ND	25.0	mg/kg wet				
Diesel Range Organics >C12-C35	ND	25.0	"				
Total Hydrocarbon C6-C35	ND	25.0	"				
Surrogate: 1-Chlorooctane	47.9		mg/kg	50.0		95.8	70-130
Surrogate: 1-Chlorooctadecane	50.8		"	50.0		102	70-130

LCS (EK50909-BS1)				Prepared: 11/09/05		Analyzed: 11/11/05	
Gasoline Range Organics C6-C12	447	25.0	mg/kg wet	500		89.4	75-125
Diesel Range Organics >C12-C35	595	25.0	"	500		119	75-125
Total Hydrocarbon C6-C35	1040	25.0	"	1000		104	75-125
Surrogate: 1-Chlorooctane	60.4		mg/kg	50.0		121	70-130
Surrogate: 1-Chlorooctadecane	51.3		"	50.0		103	70-130

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK50909 - Solvent Extraction (GC)

Calibration Check (EK50909-CCV1)

Prepared: 11/09/05 Analyzed: 11/11/05

Gasoline Range Organics C6-C12	460		mg/kg	500		92.0	80-120			
Diesel Range Organics >C12-C35	559		"	500		112	80-120			
Total Hydrocarbon C6-C35	1020		"	1000		102	80-120			
Surrogate: 1-Chlorooctane	55.4		"	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	61.7		"	50.0		123	70-130			

Matrix Spike (EK50909-MS1)

Source: 5K08009-11

Prepared: 11/09/05 Analyzed: 11/11/05

Gasoline Range Organics C6-C12	416	25.0	mg/kg dry	512	ND	81.2	75-125			
Diesel Range Organics >C12-C35	603	25.0	"	512	ND	118	75-125			
Total Hydrocarbon C6-C35	1020	25.0	"	1020	ND	100	75-125			
Surrogate: 1-Chlorooctane	56.8		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	51.1		"	50.0		102	70-130			

Matrix Spike Dup (EK50909-MSD1)

Source: 5K08009-11

Prepared: 11/09/05 Analyzed: 11/11/05

Gasoline Range Organics C6-C12	439	25.0	mg/kg dry	512	ND	85.7	75-125	5.38	20	
Diesel Range Organics >C12-C35	608	25.0	"	512	ND	119	75-125	0.826	20	
Total Hydrocarbon C6-C35	1050	25.0	"	1020	ND	103	75-125	2.90	20	
Surrogate: 1-Chlorooctane	62.4		mg/kg	50.0		125	70-130			
Surrogate: 1-Chlorooctadecane	61.5		"	50.0		123	70-130			

Batch EK51005 - EPA 5030C (GC)

Blank (EK51005-BLK1)

Prepared & Analyzed: 11/10/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	0.0329		"	0.0400		82.3	80-120			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	80-120			

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.

Page 12 of 16

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK51005 - EPA 5030C (GC)

LCS (EK51005-BS1)

Prepared & Analyzed: 11/10/05

Benzene	0.0415	0.00100	mg/kg wet	0.0500		83.0	80-120			
Toluene	0.0428	0.00100	"	0.0500		85.6	80-120			
Ethylbenzene	0.0428	0.00100	"	0.0500		85.6	80-120			
Xylene (p/m)	0.0859	0.00100	"	0.100		85.9	80-120			
Xylene (o)	0.0439	0.00100	"	0.0500		87.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0361		"	0.0400		90.2	80-120			
Surrogate: 4-Bromofluorobenzene	0.0443		"	0.0400		111	80-120			

Calibration Check (EK51005-CCV1)

Prepared & Analyzed: 11/10/05

Benzene	41.4		ug/kg	50.0		82.8	80-120			
Toluene	42.0		"	50.0		84.0	80-120			
Ethylbenzene	40.7		"	50.0		81.4	80-120			
Xylene (p/m)	82.5		"	100		82.5	80-120			
Xylene (o)	43.1		"	50.0		86.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0355		mg/kg wet	0.0400		88.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0337		"	0.0400		84.2	80-120			

Matrix Spike (EK51005-MS1)

Source: 5K08009-09

Prepared: 11/10/05 Analyzed: 11/11/05

Benzene	0.0419	0.00100	mg/kg dry	0.0513	ND	81.7	80-120			
Toluene	0.0433	0.00100	"	0.0513	ND	84.4	80-120			
Ethylbenzene	0.0434	0.00100	"	0.0513	ND	84.6	80-120			
Xylene (p/m)	0.0873	0.00100	"	0.103	ND	84.8	80-120			
Xylene (o)	0.0447	0.00100	"	0.0513	ND	87.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0346		"	0.0410		84.4	80-120			
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0410		105	80-120			

Matrix Spike Dup (EK51005-MSD1)

Source: 5K08009-09

Prepared: 11/10/05 Analyzed: 11/11/05

Benzene	0.0411	0.00100	mg/kg dry	0.0513	ND	80.1	80-120	1.98	20	
Toluene	0.0412	0.00100	"	0.0513	ND	80.3	80-120	4.98	20	
Ethylbenzene	0.0411	0.00100	"	0.0513	ND	80.1	80-120	5.46	20	
Xylene (p/m)	0.0843	0.00100	"	0.103	ND	81.8	80-120	3.60	20	
Xylene (o)	0.0422	0.00100	"	0.0513	ND	82.3	80-120	5.67	20	
Surrogate: a,a,a-Trifluorotoluene	0.0348		"	0.0410		84.9	80-120			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0410		100	80-120			

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EK50906 - General Preparation (Prep)

Blank (EK50906-BLK1)				Prepared & Analyzed: 11/09/05						
% Solids	100		%							
Duplicate (EK50906-DUP1)				Source: 5K08004-01		Prepared & Analyzed: 11/09/05				
% Solids	94.5		%		94.1			0.424	20	

Batch EK51503 - Water Extraction

Blank (EK51503-BLK1)				Prepared: 11/11/05 Analyzed: 11/15/05						
Chloride	ND	0.500	mg/kg							
LCS (EK51503-BS1)				Prepared: 11/11/05 Analyzed: 11/15/05						
Chloride	8.00		mg/L	10.0		80.0	80-120			
Calibration Check (EK51503-CCV1)				Prepared: 11/11/05 Analyzed: 11/15/05						
Chloride	8.00		mg/L	10.0		80.0	80-120			
Duplicate (EK51503-DUP1)				Source: 5K08008-01		Prepared: 11/11/05 Analyzed: 11/15/05				
Chloride	35.1	5.00	mg/kg		35.9			2.25	20	

Batch EK51504 - Water Extraction

Blank (EK51504-BLK1)				Prepared: 11/14/05 Analyzed: 11/15/05						
Chloride	ND	0.500	mg/kg							
LCS (EK51504-BS1)				Prepared: 11/14/05 Analyzed: 11/15/05						
Chloride	8.58		mg/L	10.0		85.8	80-120			

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK51504 - Water Extraction										
Calibration Check (EK51504-CCV1)					Prepared: 11/14/05 Analyzed: 11/15/05					
Chloride	8.62		mg/L	10.0		86.2	80-120			
Duplicate (EK51504-DUP1)					Source: 5K08007-01 Prepared: 11/14/05 Analyzed: 11/15/05					
Chloride	20.4	12.5	mg/kg		20.9			2.42	20	

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

Project: Chesapeake/ Newman 32 State
Project Number: 160036
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:
11/17/05 13:04

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

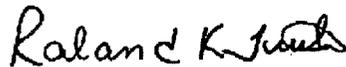
RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date: 11/17/2005

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.

Page 16 of 16

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

Company Name Environmental Plus, Inc. EPI Project Manager Iain Oiness Mailing Address P.O. BOX 1558 City, State, Zip Eunice New Mexico 88231 EPI Phone#/Fax# 505-394-3481 / 505-394-2601 Client Company Chesapeake Energy Facility Name Newman '32' State Location UL-B, Sect. 32, T 23 S, R 38 E Project Reference 160036 EPI Sampler Name Roger Boone		Bill To  Attn: Iain Oiness P.O. Box 1558 Eunice, NM 88231		ANALYSIS REQUEST TPH 8015M X BTEX 8021B X CHLORIDES (Cl) X SULFATES (SO ₄) PH TCLP OTHER >>> PAH															
LAB I.D. 5K00000001	SAMPLE I.D.	(G)RAB OR (C)OMP. G 1	# CONTAINERS 1	GROUND WATER WASTEWATER SOIL CRUDE OIL SLUDGE OTHER:	ACID/BASE ICE/COOL X OTHER	PRESERV.	MATRIX	SAMPLING DATE 04-Nov-05 TIME 11:30	PH TCLP OTHER >>> PAH										
										1	1	1	1	1	1	1	1	1	
										2									
										3									
										4									
										5									
										6									
										7									
										8									
										9									
										10									

E-mail results to: iainness@envplus.net

NOTES:
 2100
 002
 labds/seab

Sampler Relinquished: *Roger Boone*
 Relinquished by: *Roger Boone*
 Delivered by: *Roger Boone*
 Received By: *Roger Boone*
 Received By: (lab staff)
 Received By: *Roger Boone*
 Sample Cool & Intact: Yes No
 Checked By: *Roger Boone*

Environmental Lab of Texas

Variance / Corrective Action Report – Sample Log-In

Client: ENV. PLUS
 Date/Time: 11/8/05 11:00
 Order #: SK08009
 Initials: CR

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2.0 C
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not present
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not present
Chain of custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Container labels legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable

Other observations:

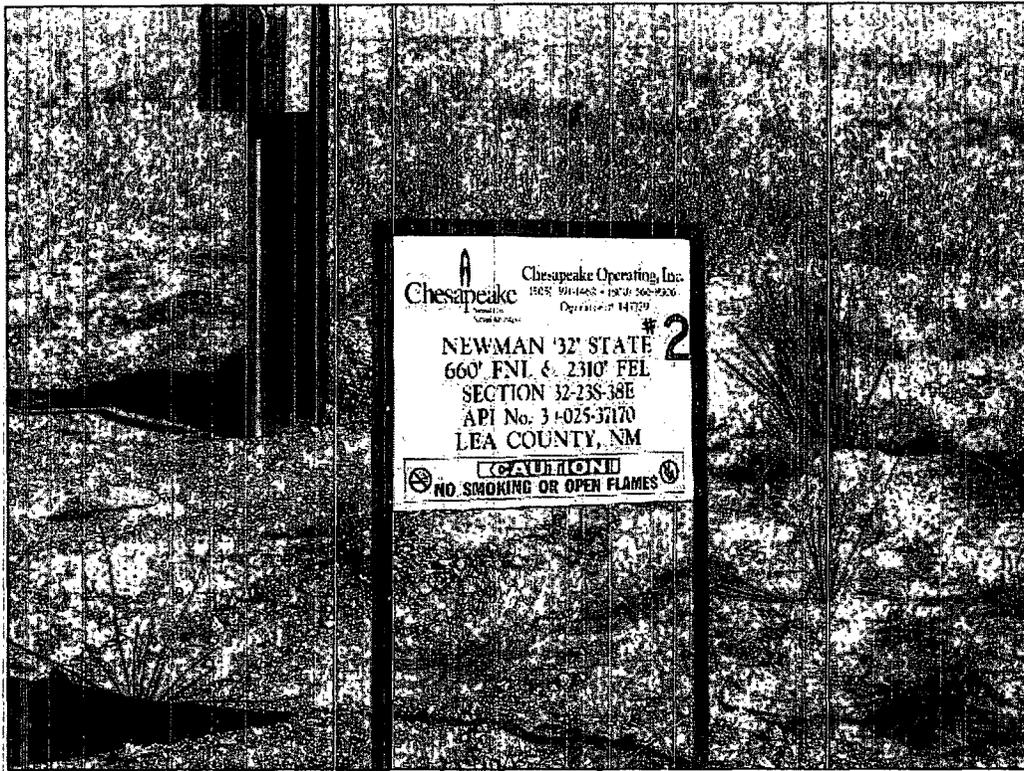
Variance Documentation:

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

Corrective Action Taken:

APPENDIX II

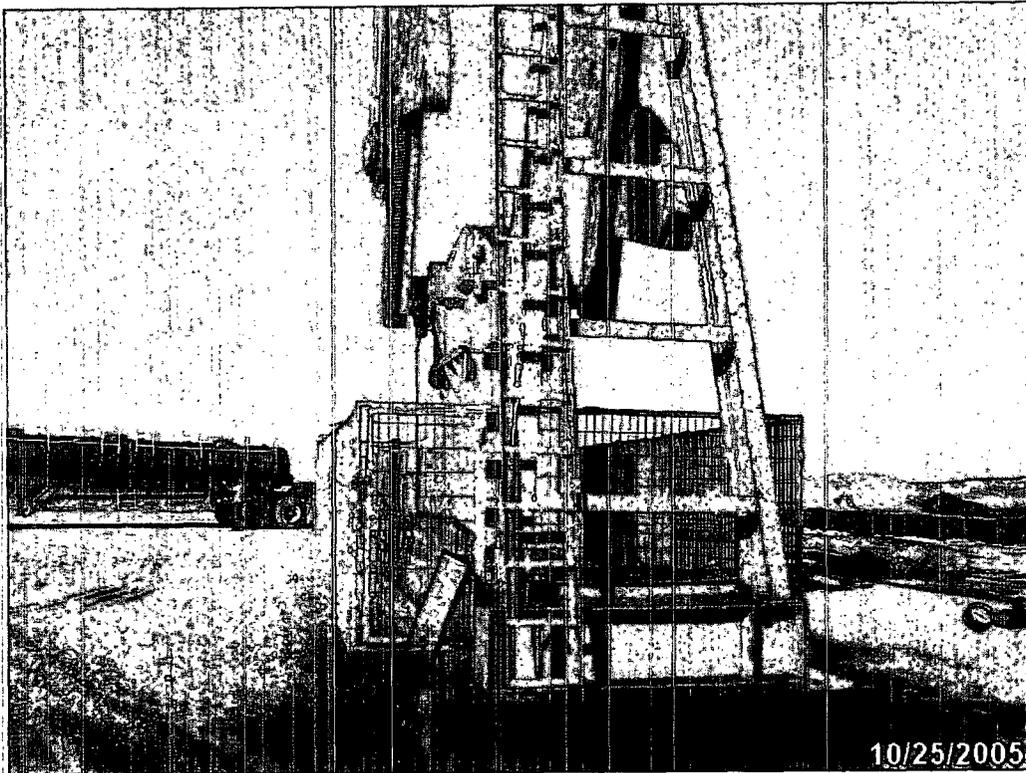
PROJECT PHOTOGRAPHS



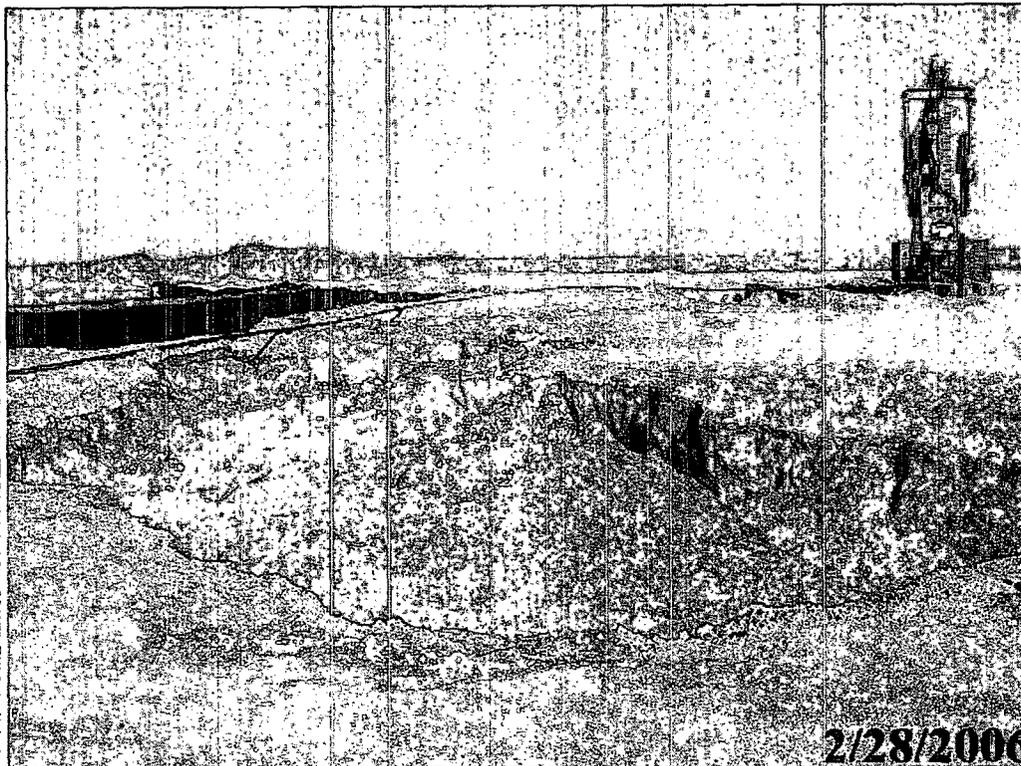
Photograph #1 – Lease Sign



Photograph #2 – Looking northeasterly at release area.



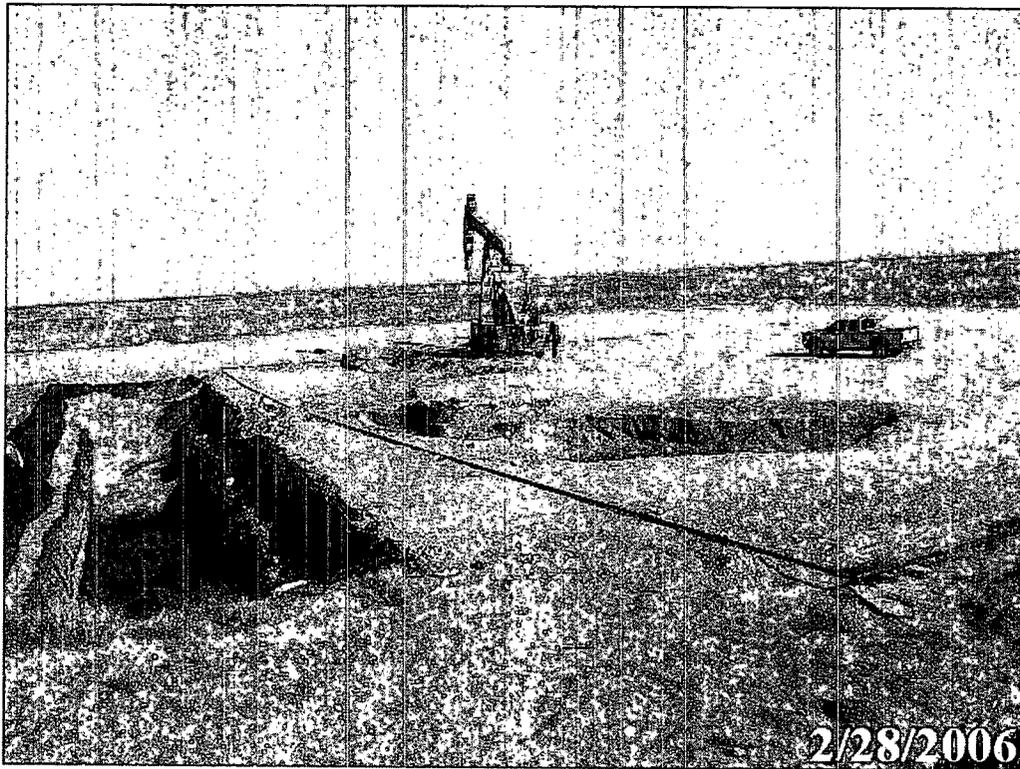
Photograph #3 – Looking at easterly at release area.



Photograph #4 – Excavation area looking westerly.



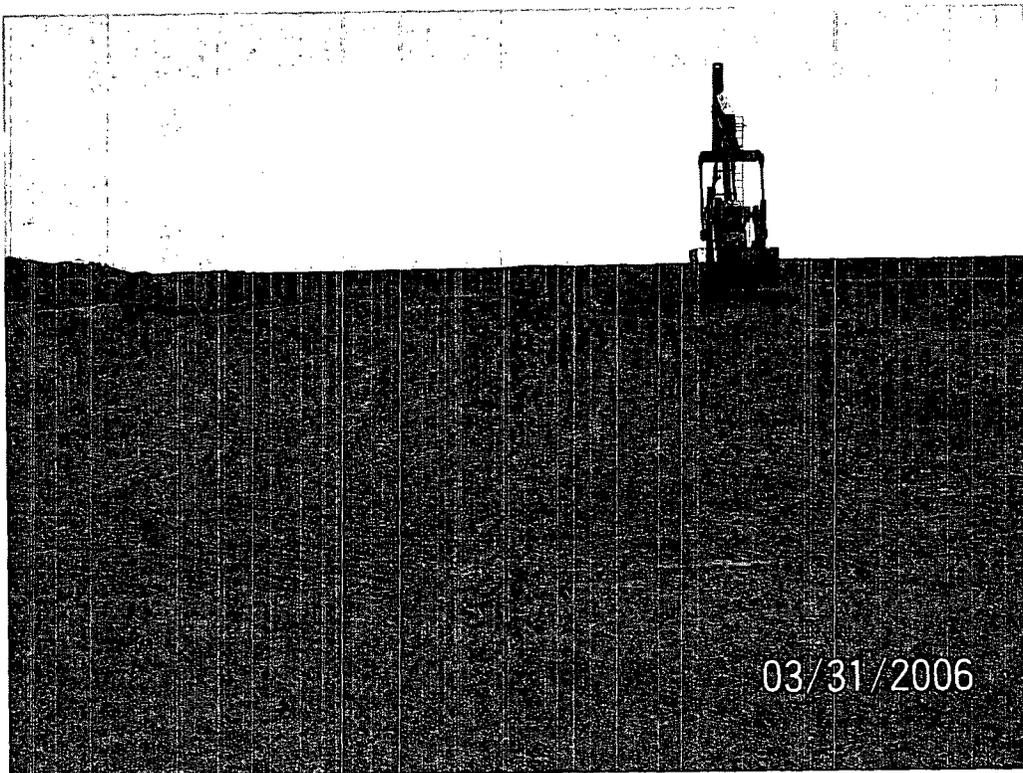
Photograph #5 – excavation looking southerly.



Photograph #6 – Excavation area looking southwesterly.



Photograph #7 – Site graded and contoured, looking northwesterly.



Photograph #8 – Site graded and contoured, looking westerly.

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

Form C-141
Revised October 10, 2003

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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. 6224
Facility Name: Newman 32 State Well #2 IRP# 1002	Facility Type: Oil Well
Surface Owner: State of New Mexico	Mineral Owner: State of New Mexico
Lease No.: A0-2614-0000	

LOCATION OF RELEASE API# 30025371700000

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	32	23S	38E	660	North	2,310	East	Lea

Latitude: N 32° 15' 58.57" Longitude: W 103° 04' 53.54"

NATURE OF RELEASE

Type of Release: Oil and Water	Volume of Release: 70 barrels	Volume Recovered: 25 barrels
Source of Release: Oil Well	Date and Hour of Occurrence: 24 October 2005	Date and Hour of Discovery: 25 October 2005 early am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Gary Wink, NMOCD	
By Whom? Iain Olness	Date and Hour: 25 October 2005 @ 1040 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.* Stuffing box on pumping unit blew out. Stuffing box was repacked and bolts replaced.

Describe Area Affected and Cleanup Action Taken.* Approximately 5,600 square feet of surface area was impacted by the release. A vacuum truck was retained to recover product. Hydrocarbon impacted soil above the NMOCD remedial thresholds of 5,000 mg/Kg for TPH, 50 mg/Kg for BTEX and 10 mg/Kg for benzene was excavated and transported to the Environmental Plus, Inc. Land Farm for treatment. The excavation was backfilled with clean soil obtained from the State of New Mexico upon receipt of laboratory analytical data indicating NMOCD remedial thresholds had been achieved..

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: <i>Bradley Blevins</i>		OIL CONSERVATION DIVISION	
Printed Name: Bradley Blevins		Approved by District Supervisor:	
Title: Field Supervisor		Approval Date:	Expiration Date:
E-mail Address: bblevins@chkenergy.com		Conditions of Approval:	
Date: 8-23-06 Phone: (505) 391-1462 ext. 6224		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

RP#1002

application p PAC 0622747346