# Chesapeake

# **CLOSURE PROPOSAL**

# WILL 7A FEE #1 DRILLING PIT REF: 160025

UL-A (NE¼ OF THE NE¼) OF SECTION 7, T23S, R28E ~9.0 Miles Southeast of Carlsbad Eddy County, New Mexico Latitude: N 32° 19' 30.76" Longitude: W 104° 07' 16.97"

NOVEMBER 2005

RECEIVED

**PREPARED BY:** 

NOV 1 5 2005



ï

# **Distribution** List

.

File	John Brantley	Curtis Blake	Jace Marshall	Bradley Blevins	Mike Bratcher	Name
	Landowner	Superintendent	Safety and Environmental Representative	Field Supervisor	Environmental Engineer	Title
EPI		Chesapeake Energy	Chesapeake Energy	Chesapeake Energy	NMOCD	Company or Agency
P. O. Box 1558 Eunice, NM 88231		5014 Carlsbad Highway Hobbs, NM 88240	6100 N. Western Ave Oklahoma, OK 73118	5014 Carlsbad Highway Hobbs. NM 88240	1301 West Grand Avenue Artesia, NM 88210	Mailing Address
iolness@hotmail.com		cblake@chkenergy.com	imarshall2@chkenergy.com	<u>bblevins@chkenergy.com</u>	<u>mbratcher@state.nm.us</u>	e-mail

NMOCD - New Mexico Oil Conservation Division EPI - Environmental Plus, Inc.

•

### Standard of Care

#### **Closure Report**

#### Will 7A Fee #1 Ref: 160025

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

This report was prepared by:

tegendi Jason Stegemoller, M.S.

Environmental Scientist

November 11, 2005

Date

This report was reviewed by:

en

Iain A. Olness, P.G. Hydrogeologist

11 November 2005 Date

#### **Table of Contents**

Project	Summary	ii	i
1.0	Introductio	n and Background1	!
2.0	Site Descri	ption2	)
	2.1	Geological Description	)
	2.2	Ecological Description2	)
	2.3	Area Ground Water	)
	2.4	Area Water Wells	)
	2.5	Area Surface Water Features	)
3.0	NMOCD S	ite Ranking2	)
4.0	Subsurface	Soil Investigation	;
5.0	Ground Wa	ater Investigation4	ŀ
6.0	Remediatio	n Process4	ł
7.0	Closure Jus	stification4	ŀ

#### FIGURES

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

#### **TABLES**

Table 1: Summary of Excavation Analytical Results Table 2: Well Data

#### **APPENDICES**

Appendix I: Laboratory Analytical Reports and Chain-of-Custody Forms Appendix II: Project Photographs Appendix III: Soil Boring Logs Appendix IV: Informational Copy of the NMOCD C-103 Form

# Project Summary

#### Site Specific:

- Company Name: Chesapeake Operating, Inc.
- Facility Name: Will 7A Fee #1
- Project Reference 160025
- Company Contacts: Bradley Blevins
- Site Location: WGS84 N32° 19' 30.76"; W104° 07' 16.97"
- Legal Description: Unit Letter A, (NE¼ of the NE¼), Section 7, T23S, R28E
- General Description: approximately 9.0-miles southeast of Carlsbad, New Mexico
- Elevation: 3,041-ft amsl Depth to Ground Water: <50-ft
- Land Ownership: John Brantley
- EPI Personnel: Project Consultant Iain Olness

Site Foreman – Felix Hernandez

#### **Release Specific:**

- Product Released: Not Applicable Drilling Pit Closure
- Volume Released: Not Applicable
- Volume Recovered: Not Applicable

Time of Occurrence:

Time of Discovery:

- Release Source:
- ◆ Initial Surface Area Affected: ≈22,800 square foot pit

#### **Remediation Specific:**

- Final Vertical extent of contamination: hydrocarbon contamination removed from pit; chloride residuals >400 mg/Kg exist to a depth of 20-ft bgs; groundwater encountered at 17-ft bgs; Remaining depth to ground water: <50-ft (i.e., 0-ft)
- Water wells within 1,000-ft: 4 Surface water bodies within 1,000-ft: 0
- NMOCD Site Ranking Index: 40 points (<50-ft to top of water table and <1,000-ft to water source)
- 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) Remove all contents from pit and dispose of at CRI plus a minimum of six inches of soil from beneath the liner; b) laboratory analyses to confirm removal of soil impacted above NMOCD remedial thresholds and NMWQCC groundwater standards in sidewalls; c) installation of impermeable clay, PVC or equivalent liner; d) backfill excavation with clean soil
- Disposal Facility: Controlled Recovery, Inc.-Hobbs, New Mexico
- Volume disposed of: 3,900-yd<sup>3</sup>
- Project Completion Date:
- Additional Commentary: None

# **1.0 Introduction & Background**

On August 19, 2005, Chesapeake Operating, Inc. retained Environmental Plus, Inc. (EPI) to perform site delineation, remediation and closure of the Will 7A Fee #1 drilling pit. This site is located approximately 9.0 miles southeast of Carlsbad, Eddy County, New Mexico (reference *Figure 1*). EPI performed GPS surveying, photography and characterization of the site on August 19, 2005. Form C-103 was submitted to the New Mexico Oil Conservation Division (NMOCD) on August 31, 2005 documenting the site and proposed operations. The drilling pit entailed an area of approximately 22,800 square feet ( $ft^2$ ) to a depth of 8-feet below ground surface (bgs) (reference *Figure 3*).

From September 29 to October 14, 2005, EPI personnel excavated and transported approximately 3,900 cubic yards (yd<sup>3</sup>) of material from the drill pit to Controlled Recovery, Inc. (CRI) of Hobbs, New Mexico for disposal. On October 5, 2005 grab samples were collected from the south and west walls and the pit floor and analyzed in the field for the presence of organic vapors utilizing an MiniRae photoionization detector (PID) equipped with a 9.8 electron-volt (eV) lamp and chloride concentrations utilizing a LaMotte Chloride Test Kit. Field analyses indicated organic vapor concentrations ranged from 23.1 to 25.5 parts per million (ppm) and chloride concentrations ranged from 400 to 2,400 mg/Kg.

On October 12, 2005, grab type soil samples were collected from the pit floor. A portion of each sample was placed in a laboratory provided container and set on ice for transport to Cardinal Laboratories of Hobbs, New Mexico laboratory for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX constituents), total petroleum hydrocarbon (TPH) and chloride concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapor utilizing a PID and chloride concentrations utilizing a LaMotte Chloride Test Kit. Field analytical results indicated organic vapor concentrations ranged from 0.0 to 10.5 parts per million (ppm) and chloride concentrations ranged form 480 to 13,640 mg/Kg.

On October 14, 2005, grab type soil samples were collected from the pit sidewalls. A portion of each sample was placed in a laboratory provided container and set on ice for transport to Cardinal Laboratories of Hobbs, New Mexico for quantification of chloride, TPH and BTEX constituent concentrations. The remaining portion of each sample was analyzed in the field for the presence of organic vapor utilizing a PID and chloride concentrations utilizing LaMotte Chloride Test Kit. Field analytical results indicated organic vapor concentrations ranged from 0.1 to 24.7 parts per million (ppm) and chloride concentrations ranged form 200 to 6,000 mg/Kg.

Laboratory analytical results for the soil samples collected on October 12 and 14 indicated all hydrocarbon contaminant concentrations were less than the NMOCD remedial thresholds. Reported chloride concentrations in the pit floor ranged from 512 to 15,900 mg/Kg.

On October 20, 2005, two soil borings (BH-1 and BH-2) were advanced to approximately 20-feet bgs. Soil samples were collected from the soil borings at intervals of 10, 15 and 20-feet bgs. A portion of each sample, upon collection, was placed in a laboratory provided container and set on ice for transport to Environmental Lab of Texas. All soil samples were analyzed for chloride concentrations, additionally samples collected from BH-1 at 10-feet bgs and BH-2 at 10 and 20-feet bgs were analyzed for TPH and BTEX constituent concentrations.

Laboratory analytical results for the samples collected from soil borings BH-1 and BH-2 indicated hydrocarbon concentrations were non-detectable at or above laboratory method detection limits (MDL). Reported chloride concentrations ranged from 455 to 3,120 mg/Kg.

This release site is located in Unit Letter A, (NE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub>), Section 7, T23S, R28E, N32° 19' 30.76" and W104° 07' 16.97". The site is approximately 9-miles southeast of Carlsbad, New Mexico on property owned by Mr. John Brantley (reference *Figures 1 through 3*).

# 2.0 Site Description

## 2.1 Geological Description

<u>The New Mexico Bureau of Mines and Mineral Resources Ground-Water Report 3.</u> <u>"Geology and Ground-Water Resources of Eddy County, New Mexico," G.E. Hendrickson</u> <u>and R.S. Jones, 1952</u>, describes the near surface geology near the release site as "Quaternary deposits" composed of older "Quartzose conglomerate that ranges in thickness from a feather edge to more than 300 feet and consists of clay, silt, sand, gravel and conglomerate."

# 2.2 Ecological Description

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

#### 2.3 Area Groundwater

The unconfined groundwater aquifer at this site is projected to be <50-ft bgs based on water depth data obtained from the New Mexico State Engineers Office and the United States Geological Survey data base. Groundwater was encountered at approximately 17-ft bgs during the advancement of soil borings BH-1 and BH-2 on October 20, 2005. Groundwater gradient in this area is generally to the west-southwest.

# 2.4 Area Water Wells

There are four water supply wells (C 01448, C 01634, C 01699 and C 02141) located within a 1,000 foot radius of the release site.

# 2.5 Area Surface Water Features

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

# 3.0 NMOCD Site Ranking

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

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

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

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

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is 40 points with the soil remedial goals highlighted in the Site Ranking table presented below.

1. Ground Water		2. Wellhead Prote	ection Area	3. Distance to Surface Water
Depth to GW <50 points	feet: 20		vater source, or; ate domestic water	<200 horizontal feet: 20 points
Depth to GW 50 to 10 points	o 99 feet:	source: 20 poin		200-1,000 horizontal feet: 10 points
Depth to GW >10 0 points	) feet:		vater source, or; ate domestic water s	>1,000 horizontal feet: <i>0 points</i>
Site Rank (1+2+3)	= 20 + 20	+ 0 = 40 points		L
Total Site Rankin	g Score an	d Acceptable Ren	nedial Goal Concent	rations
Parameter	20	or >	10	0
Benzene <sup>1</sup>	10	opm	10 ppm	10 ppm
BTEX1	50	opm	50 ppm	50 ppm
ТРН	100	ppm	1,000 ppm	5,000 ppm

<sup>1</sup> A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the benzene and BTEX concentration limits.

# 4.0 Subsurface Soil Investigation

Excavation of pit contents commenced on September 29, 2005 and continued through October 14, 2005. Approximately 3,900 cubic yards of impacted drill pit materials was excavated and disposed of at Controlled Recovery, Inc. of Hobbs, New Mexico.

Soil samples were collected from the pit sidewalls and floor on October 12 and 14, 2005. A portion of each sample was placed in a laboratory provided container and submitted to an independent laboratory for analyses. The remaining portion was analyzed in the field for the presence of organic vapors utilizing a PID and chloride concentrations utilizing a La Motte Chloride Test Kit. Field analyses indicated that organic vapor concentrations ranged from 0.0 to 15.5 ppm and chloride concentrations ranged from 480 to 13,640 mg/Kg (reference *Figure 4*).

Laboratory analytical data for the samples collected from the pit sidewalls and floor indicated that TPH and BTEX constituent concentrations were non-detectable at or above laboratory method detection limits (MDL). Reported chloride concentrations in the pit sidewalls ranged from 96 to 4,000 mg/Kg. Chloride concentrations in the pit floor ranged from 512 to 15,900 mg/Kg (reference *Table 1*).

The vertical extent of contamination from the drill pit materials was determined via two soil borings (BH-1 and BH-2) to depths of 20-ft bgs on October 20, 2005. During the advancement of the soil borings, soil samples were collected at 10, 15 and 20-feet bgs. A portion of each sample was submitted for laboratory analyses. The remaining portion of each sample was anlyzed in the field for organic vapor and chloride concentrations. Field analyses indicated organic vapor concentrations ranged from 2.9 to 5.0 ppm and chloride concentrations ranged from 560 to 2,560 mg/Kg (reference *Figure 5*).

Laboratory analytical from the soil sample collected from soil borings BH-1 and BH-2 indicated TPH and BTEX constituent concentrations were non-detectable at or above laboratory MDL. Reported chloride concentrations for the soil samples collected from BH-1 at 10-feet bgs were

3,120 mg/Kg, at 15-feet bgs were 939 mg/Kg and at 20-feet bgs were 1,240 mg/Kg. Chloride concentrations for the soil samples collected from BH-2 at 10-feet bgs were 719 mg/Kg, at 15-feet bgs were 463 mg/Kg and at 20-feet bgs were 455 mg/Kg (reference *Table 1*).

# 5.0 Groundwater Investigation

The projected depth to groundwater at this site is <50-ft bgs. Groundwater was encountered at approximately 17-feet bgs during the advancement of soil boring BH-1. Soil impacted above the NMOCD remedial thresholds for TPH and BTEX constituents has been removed from the pit and disposed of at CRI of Hobbs, New Mexico.

Confirmatory laboratory analytical results for soil samples collected from the pit floor and sidewalls indicated that TPH and BTEX constituents were non-detectable at or above laboratory MDL. Laboratory analytical results for soil samples collected from the advancement of BH-1 and BH-2 to 20-feet bgs indicated TPH and BTEX constituents were non-detectable at or above laboratory MDL (reference *Table 1 and Appendix I*).

Laboratory analytical results for the soil samples collected from the pit sidewalls indicated chloride concentrations ranged from 96 to 4,000 mg/Kg and from the pit floor a range of 512 to 13,000 mg/Kg. Analytical data indicated chloride concentrations for soil boring BH-1 ranged from 939 to 3,120 mg/Kg and for soil boring BH-2 ranged from 455 to 719 mg/Kg (reference *Table 1 and Appendix I*).

# 6.0 Remediation Process

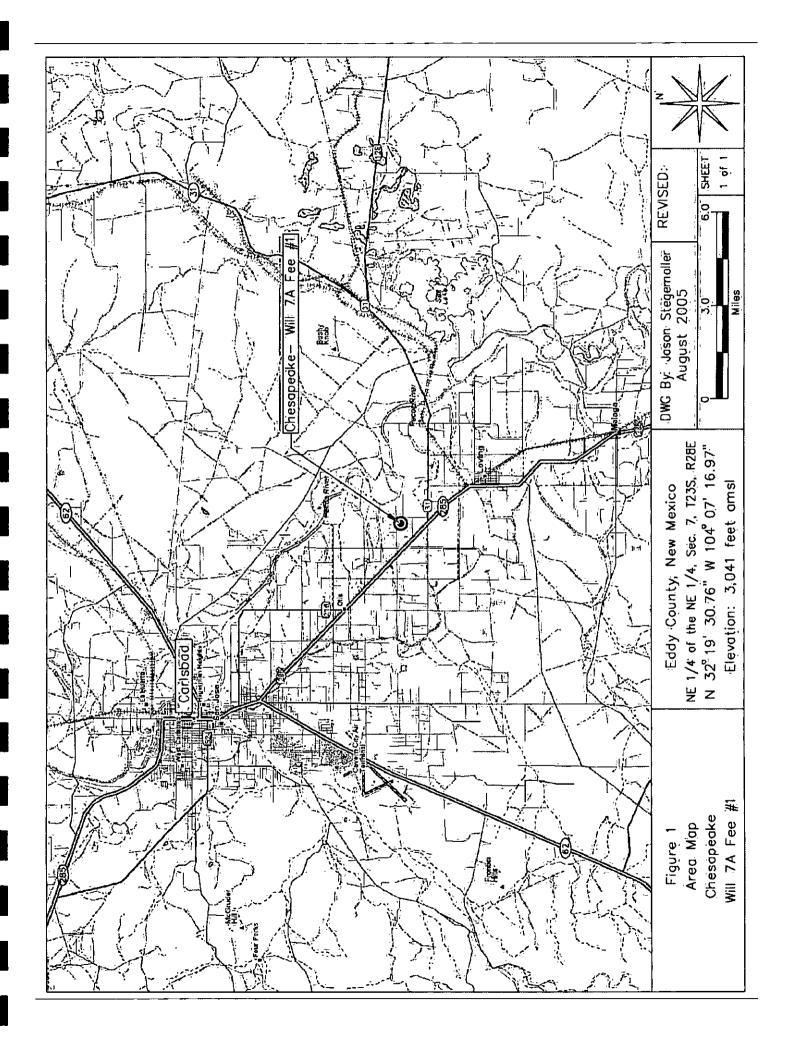
Excavation of the drilling pit contents commenced on September 29, 2005 and continued through October 14, 2005. Approximately 3,900 cubic yards of excavated drill pit materials were disposed of at Controlled Recovery Inc. Laboratory analytical data indicated that hydrocarbon concentrations in the pit sidewalls, floor and subsurface to 20-feet bgs were non-detectable at or above laboratory MDL.

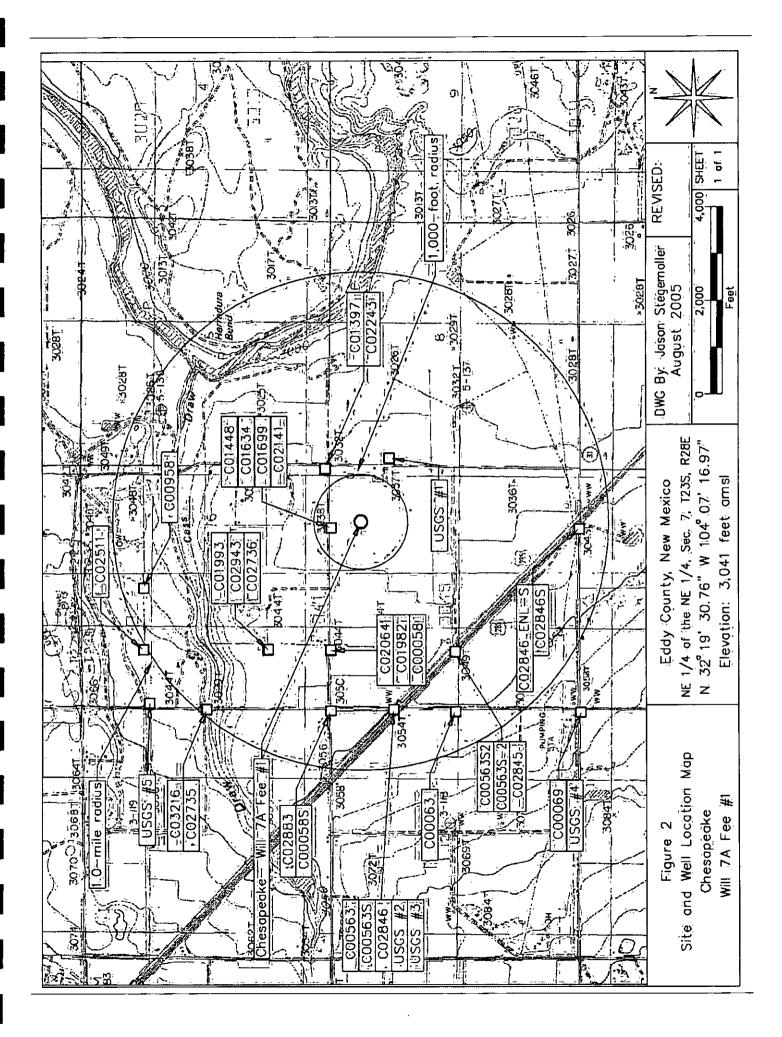
# 7.0 Closure Proposal

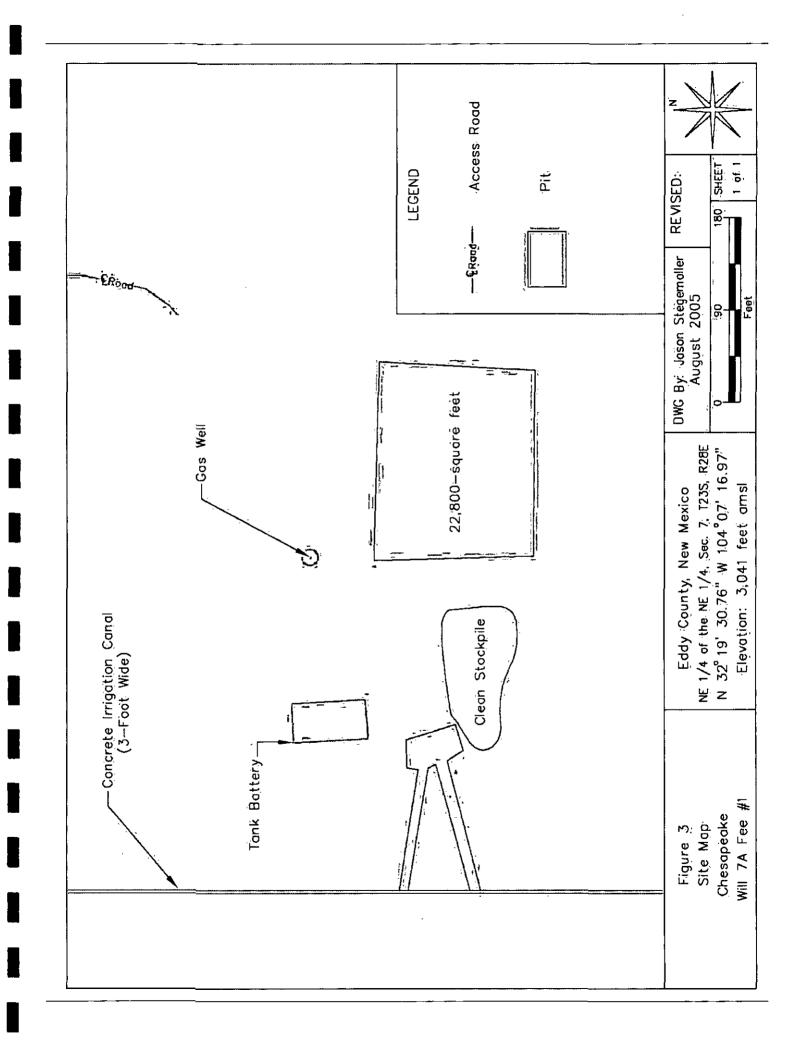
This report documents successful treatment of hydrocarbon impacted soil above the NMOCD remedial thresholds discussed in Section 3 above and confirmed via laboratory analyses for this release site. The impacted soil was excavated and disposed of at CRI. Additional excavation will be performed to remove chloride residuals >250 mg/Kg from the pit sidewalls. To isolate chloride residuals remaining in the soil, Chesapeake proposes the installation of an impermeable liner of compacted clay, polyvinyl chloride or equivalent placed on the pit floor. If a poly liner is utilized, the liner shall be placed on a layer of cushion material (i.e., sand) and extend past original contamination limits by three feet, then another layer of cushion material will be placed upon the liner. Upon placement of liner, the excavation will be backfilled with clean soil, graded to allow natural drainage and seeded with a blend preferred by the landowner. Remediation activities will commence upon approval of this proposal. EPI will provide the NMOCD with at least 48 hours notice prior to any final soil sampling events.

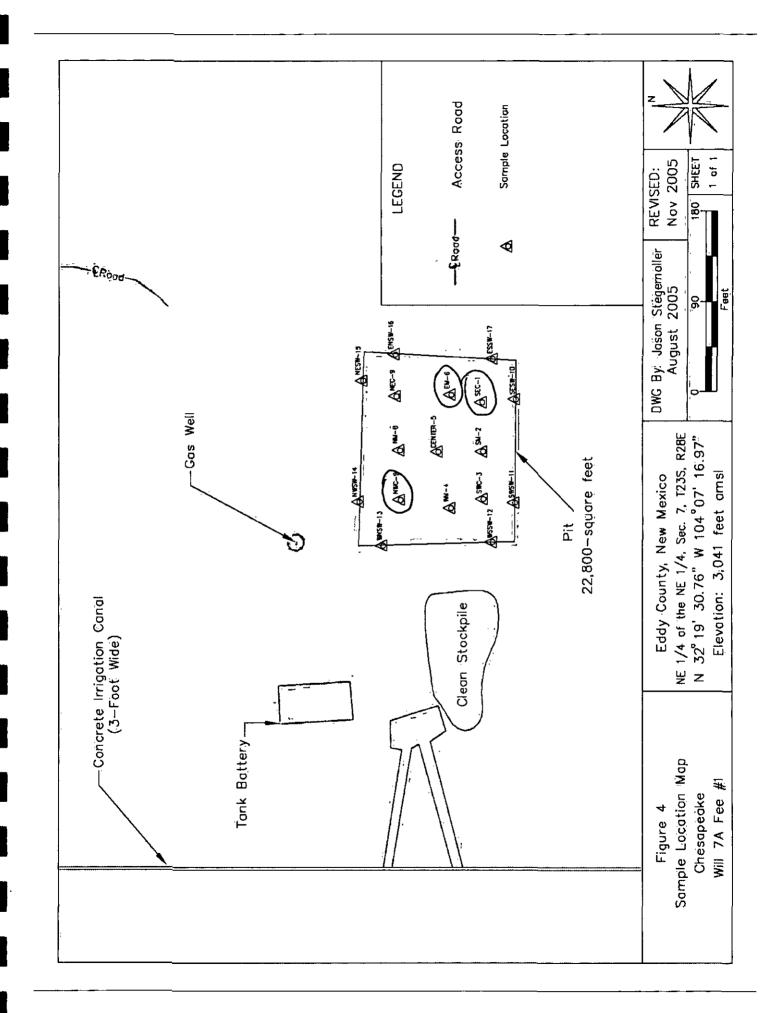
# **FIGURES**

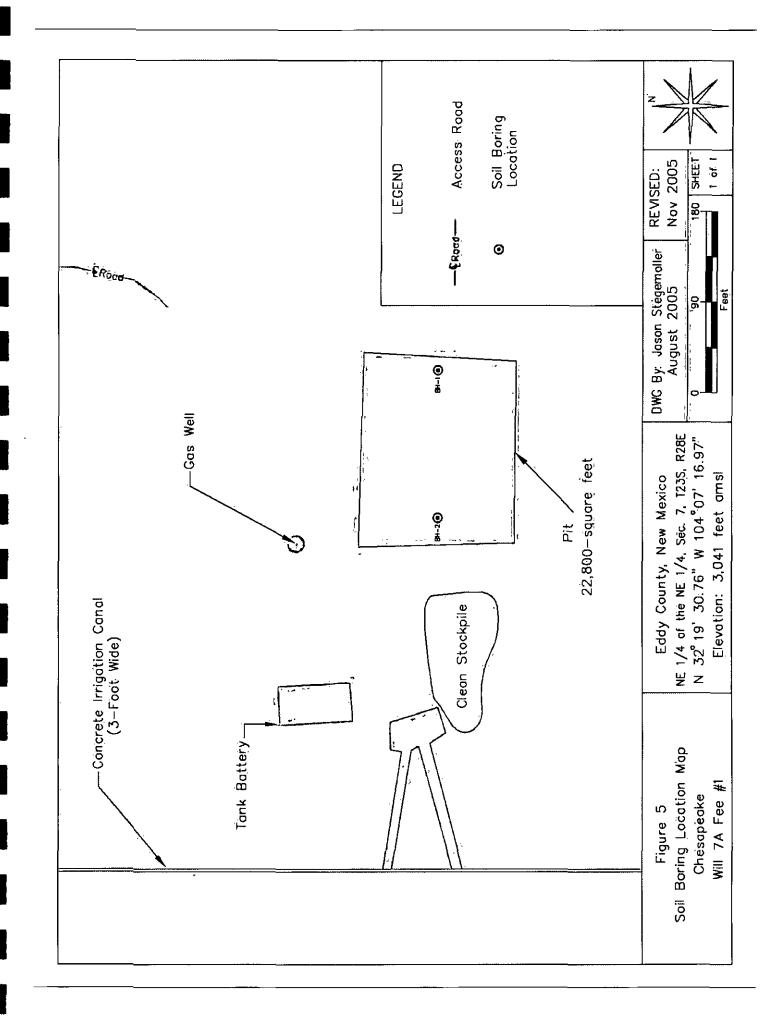
•











TABLES

**TABLE 1** 

Summary of Soil Sample Laboratory Analytical Results

Chesapeake Energy - Will 7 Fee (Ref.# 160025)

Sample Location	Sample I.D.	Depth (feet)	Soil Status	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Sample Date	Benzene (arg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylencs (mg/Kg)	Total BTEX (mg/Kg)		TTPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
	SESW-10	4	In Situ	5.8	009*E	14-Oct-05	<0.005	≤00'0>	<0,005	<0.015	<0.10	<10.0	<10.0	<10.0	4,000
Ч.	11-MSMS	4	In Silu	15.5	092	14-Oct-05	<0.005	<0.005	<0.005	<0.015	<0,10	<10.0	<10.0	<10.0	672
	WSSW-12	4	In Situ	1.7	200	14-Oct-05	<0.005	<0.005	<0,005	<0.015	<0.10	<10.0	<10.0	<10.0	96
s	EI-WSNW	4	ln Situ	15.5	6,000	14-Oct-05	<0.005	≤00'0>	<0.005	<0.015	<0,10	<10.0	<10.0	<10.0	5,730
e q	NWSW-14	4	In Situ	ę	1,800	14-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	1,790
3 a -	NESW-15	4	In Situ	3.5	1,360	14-Oct-05	<0.005	<0.005	<0,005	<0.015	<0.10	<10.0	<10.0	<10.0	1,360
	ENSW-16	4	In Situ	0.1	1,400	14-Oct-05	<0.005	<0.005	<0.005	<0.015	<0,10	<10.0	<10.01>	<10.0	1,839
. —	ESSW-17	4	In Situ	0.1	1,600	14-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	1,580
	SEC-1	8	In Situ	10.5	096'8	12-Oct-05	<0.005	<0,005	<0.005	<0,015	<0.10	<10.0	<10.0	<10.0	12,100
	SM-2	~	In Situ	0.0	1,280	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.01>	<10.0	6,960
Ь	SWC-3	∞	In Situ	0.0	2,720	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	3,420
. <b>.</b> .	EM-6	8	In Situ	0.0	480	12-Oct-05	<0.005	<0.005	<0,005	<0.015	<0.10	<10.0	<10.0	<10.0	13,000
ia, -	CENTER-5	8	In Situ	0.0	5,520	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	1,710
• • •	WM-4	~	In Situ	0.0	13,640	12-Oct-05	<0,005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	512
-	NWC-9	œ	In Situ	0.0	2,960	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	15,900
	8-MN	20	In Situ	0.0	5,120	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	6,480
	NEC-9	8	In Situ	0.0	12,000	12-Oct-05	<0.005	<0.005	<0.005	<0.015	<0.10	<10.0	<10.0	<10.0	6,080
		NMOC	NMOCD Remedial Thresholds	Thresholds			01				50			1,000	250 <sup>2</sup>

Bolded vahues are in excess of NAOCD Remediation Thresholds <sup>1</sup> Estimated concentration; analyte deciscited below method devection limits • Chilarido reviehale may not be capable of imparing local graindwater above the NMWQCC standards of 230 mg 4.

**TABLE 2** 

# Summary of Soil Boring Soil Sample Laboratory Analytical Results

	\ <u>.</u>	ich's					
Chloride (mg/Kg)	3,120	686	1,240	719	463	455	250 <sup>2</sup>
Total TPH (mg/Kg)	<10.0	<10,0	<10.0	<10.0	<10.0	<10.0	000'1
TPH (as diesel) (a)g/Kg)	<10.0	0'01>	<10.0	<10.0	<10.0	<10.0	
TPH (as gasoline) (mg/Kg)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	
Total BTEX (mg/Kg)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	50
Total Xylenes (mg/Kg) (mg/Kg)	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	<0.0750	
Ethylbenzene (mg/Kg)	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	
Tohuene (mg/Kg)	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	
Benzene (mg/Kg)	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	10
Sample Date	20-Oct-05	20-0ct-05	20-Oct-05	20-Oct-05	20-Oct-05	20-Oct-05	
Field Chloride Analyses (mg/Kg)	2,560	1,280	1,040	880	560	800	sholds
PID Field Analysis (ppm)	2.9	3.6	4.3	4.5	5.0	4.3	medial Three
Soil Status	In Situ	In Sítu	In Situ	In Situ	In Situ	In Situ	NMOCD Remedial Thresholds
Depth (feet)	10	15	20	10	15	20	<b>F</b> 4
Sample I.D.		BH-1			BH-2		

. Bolded values are in excess of NMOCD Remediation Thresholds Bolded values are in excess of NMOCD Remediation Thresholds <sup>1</sup> Estimated concentration; and be capable of imposing local groundwater above the NMINOCC standards of 350 mg/L.

١ .

#### TABLE 3

#### Well Data

#### Chesapeake Energy Will 7A #1 (Ref. #160025)

Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rog	Sec q q q	Latitude	Longitude	Date Measured	Well Depth (ft bgs)	Depth to Water (ft bgi)
C 00563	45	Brantley Draper	IRR	235	28E	07 113	32° 19' 24.11*	104° 08' 4.32"		[	
C 00563 S		Brantley Draper		23\$	28E	07 1 1 3	32° 19' 24,11"	103° 08' 4.32"			
C 00563 S-2		Brantley Draper		23S	28E	07 143	32° 19' 11"	103° 07' 49.37"			
C 00063	120	W W Galton	IRR	23\$	28E	07 131	32° 19' 10,93"	103° 08' 4.46"	31-Dec-45	130	
C 00069	234,537	Juan H. Villa	IRR	23S	28E	07 3 3 3	32° 18' 44.58"	104° 08' 4.75"			
C 00069	328,5	Miguela C. Villa	IRR	23\$	28E	07333	32" 18' 44.58"	104° 08' 4.75"		<b></b>	
C 00069	351.215	New Mexico Interstate Stream Commission	IRR	238	28E	07333	32° 18' 44.58"	104° 08' 4.75"			
C 00563	1,113	Brantley Draper	IRR	23S	28E	07 1 1 3	32° 19' 24.11"	103° 08' 4.32"		Γ	
C 00563 S		Brantley Draper		23S	28E	07113	32° 19' 24,11"	103° 08' 4,32"			
C 00563	15	Brantley Draper		23S	28E	07 1 1 3	32° 19' 24.11"	103* 08' 4,32*			
C 00563 S		Brantley Draper		23\$	28E	07 1 1 3	32° 19' 24,11"	103° 08' 4.32"			
C 00563 S-2		Brantley Draper		23S	28E	07 1 4 3	32° 19' 11"	103° 07' 49.37"			
C 00563 S2		Brantley Draper		23\$	28E	07 1 4 3	32° 19' 11"	103° 07' 49.37"			
C 02845	0	Brantley Bros.	EXP	23\$	28E	07 1 4 3	32° 19' 11*	103° 07' 49.37"		220	
C 02846	57	Brantley Bros.	COM	235	28E	07114	32° 19' 24.11"	103° 08' 4.32"	31-Dec-38	60	50
C 02846 ENL-S		Brantley Bros.		23S	28E	07 4 4 4	32° 18' 44.81"	103° 07' 18.72"			
C 02846 S		Brantley Bros.		23\$	28E	07444	32° 18' 44.81"	103° 07' 18.72"	18-Apr-03	150	40
C 00058	392.1	Farm Credit of New Mexico	IRR	238	28E	06343	32° 19' 37.33"	103° 07' 49.14"	06-May-48	185	20
C 00058 S		Farm Credit of New Mexico		23S	28E	06 3 3 3	32° 19' 37,29*	103° 08' 4.17"	13-Mar-02	202	60
C_00058	186.3	Joe N. Carrasco	IRR.	235	28E	06343	32° 19' 37.33*	103° 07' 49.14"	06-May-48	185	20
C_00958	3	Jerry F. Ballard	DOM	23S	28E	06212	32° 20' 16.9*	104° 07' 33.42"	09-Aug-61	Γ	
C 01397	0	Gomez Ramon	IRR	23S	28E	0644		I			
C 01448	0	Gomez Ramon	IRR	23S	28E	06 4 4	32° 19' 37.45*	104° 07' 18.35"			
C 01634	3	Grady O. Dodson	DOM	23S	28E	0642	32° 19' 50.62"	103° 07' 18.21"	03-Feb-76	185	85
C 01699	3	Tom McIlvain	DOM	23S	28E	06 4 2	32° 19' 50.62"	103° 07' 18.21"	15-Jul-77	90	65
C 01982	0	Justin Magby	DOM	23S	28E	0634	32° 19' 37.33"	103° 07' 49.14"			
C 01993	3	Read & Stevens	PRO	238	28E	0632	32° 19' 50.51"	103° 07' 49.01"	27-Nov-81	164	45
C 02064	3	Justin Magby	DOM	23S	28E	0634	32° 19' 37.33"	103° 07' 49.14"	25-Sep-83	90	45
C 02141	3	Edgar Magby	DOM	23S	28E	0644	32° 19' 37.45"	104° 07' 18.35"	09-May-88	65	36
C 02243	3	Edgar Magby	DOM	23S	28E	06444			29-Nov-92	160	40
C 02511	3	Hernandez Daniel	DOM	235	28E	06 1 2 1	32° 20' 16.86"	103° 07' 48.76"	03-Mar-97	60	35
C 02735	3	Julius Roberson	DOM	238	28E	06124	32° 20' 3,65"	103° 08' 3.88"			
C 02736	3	Julius Roberson	STK	238	28E	06 3 2 4	32° 19' 50.51"	103° 07' 49.01"			
C 00058 S	0	Julius Roberson	EXP	235	28E	06333	32° 19' 37 29"	103° 08' 4.17"	13-Mar-02	202	60
C 02883		Julius Roberson Jr.		23S	28E	06 3 3 1	32° 19' 37.29"	103° 08' 4.17"	13-Mar-02	202	58
C 02883	3	Julius Roberson	STK	235	28E	06331	32° 19' 37.29"	103° 08' 4.17"	13-Mar-02	202	
C 02943	3	William J. and Diana Redfearn	DOM	23S	_	06 1 1 2	32° 19' 50.51 "	103° 07' 49.01*	25-Jan-03	69	43
C 02736	0	Nadel & Gussan Pernian LLC	PRO	235			32° 19' 50,51*	103° 07' 49.01"			
C 02736	0	Chesapeake Operating	PRO	23S	_	06 324	32° 19' 50.51*	103° 07' 49.01"			
C 03216	3	Judy Parker	DOM	235	28E	06134	32° 20' 3,65"	103° 08' 3.88"			
USGS #1				23S		07 1 1 3	32° 19' 25*	103° 07' 01"	27-Jan-03	195	39.79
USGS #2				235		07 1 1 3			03-Jan-78		58.14
USGS #3				238		07 1 1 3			24-Jan-96		25,3
USGS #4				235	28E				12-Aug-48		45.1
USGS #5				23S	28E	06 1 3 1			10-Jan-75		25 79

\* - Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr\_RegisServlet1)

Well locations shown on Figure 2

^ - in acre feet per annum

<sup>8</sup> = Elevation interpolated from USGS topographical map based on referenced location.

IND = Industrial

IRR = Irrigation

DOM = Domestic

EXP = Exploration

PRO= Prospecting or Development of Natural Resources

STK- Livestock Watering

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

# **APPENDIX I**

# LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM



PHONE (325) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: IAIN OLNESS P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 10/17/05 Reporting Date: 10/20/05 Project Owner: CHESAPEAKE OPERATING (#160025) Project Name: WILL 7 FEE Project Location: UL-A SEC. 7, T23S, R28E Sampling Date: 10/12/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC/HM

LAB NUMBE	r sample id	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS D	ATE	10/18/05	10/18/05	10/18/05
H10310-1	SEC-1 (8')	<10	<10	12100
H10310-2	SM-2 (8')	<10	<10	6960
H10310-3	SWC-3 (8')	<10	<10	3420
H10310-4	EM-6 (8')	<10	<10	13000
H10310-5	CENTER-5 (8')	<10	<10	1710
H10310-6	WM-4 (8')	<10	<10	512
H10310-7	NWC-9 (8')	<10	<10	15900
H10310-8	NM-8 (8')	<10	<10	6480
H10310-9	NEC-9 (8')	<10	<10	6080
Quality Contr	ol	754	770	990
True Value C	)C	800	800	1000
% Recovery		94.3	96.2	99.0
Relative Perc	cent Difference	0.5	1.0	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI<sup>\*</sup>: Std. Methods 4500-CI<sup>\*</sup>B \*Analyses performed on 1:4 w:v aqueous extracts.

la look

#### H10310A.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors ansing out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: IAIN OLNESS P.O. BOX 1558 EUNICE, NM 88231 FAX FAX TO: (505) 394-2601

Receiving Date: 10/17/05 Reporting Date: 10/20/05 Project Owner: CHESAPEAKE OPERATING (#160025) Project Name: WILL 7 FEE Project Location: UL-A SEC. 7, T23S, R28E Sampling Date: 10/12/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: HM

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS DA	TE	10/18/05	10/18/05	10/18/05	10/18/05
H10310-1	SEC-1 (8')	<0.005	< 0.005	< 0.005	<0.015
H10310-2	SM-2 (8')	<0.005	< 0.005	< 0.005	<0.015
H10310-3	SWC-3 (8')	<0.005	<0.005	< 0.005	<0.015
H10310-4	EM-6 (8')	< 0.005	< 0.005	< 0.005	<0.015
H10310-5	CENTER-5 (8')	<0.005	<0.005	<0.005	<0.015
H10310-6	WM-4 (8')	<0.005	< 0.005	< 0.005	<0.015
H10310-7	NWC-9 (8')	< 0.005	< 0.005	< 0.005	<0.015
H10310-8	NM-8 (8')	< 0.005	< 0.005	< 0.005	< 0.015
H10310-9	NEC-9 (8')	< 0.005	< 0.005	< 0.005	< 0.015
Quality Control		0.091	0.091	0.096	0.293
True Value QC		0.100	0.100	0.100	0.300
% Recovery		90.6	91.2	96.3	97.7
Relative Percer	nt Difference	4.0	4.3	2.3	0.9

METHOD: EPA SW-846 8260

4fh Cooke

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims to graph provide the provide the provide the provide the amount paid by client for analyses. All claims to graph provide the provide the amount paid by client for analyses. All claims to graph provide the provi

Inc.
Plus,
mental
vironmen
En

Chain of Custody Form

Page 1 of 2

																		j.					-1
2100 Avenue O, Eunice, NM 88231 (505) 394-3481 FAX: (505) 394-26	Eunice, NM 88231 FAX: (505) 394-2601	Р.О	P.O. Box		58,	Euni	ce, l	1558, Eunice, NM 88231	3823	-													
Company Name	Environmental Plus, Inc.	s, Inc	.							18	II TO			南語明		AN	ALEX:	Sis	REG	UES	で いって いっち	<b>Material Sister Contest and Andrews</b>	1914 1914
<b>EPI Project Manager</b>	lain Olness				-									1411-141		-							ä
Mailing Address	P.O. BOX 1558				T					╡													
City, State, Zip	Eunice New Mexico 88231	0 882	31		Г				J	۵ س	الر												
EPI Phone#/Fax#	505-394-3481 / 505-394-2601	-394-:	2601		Γ			•	ſ	-)	L												
Client Company	Chesapeake Operating	อื่น			Т-										_								
Facility Name	Will 7 Fee				Г											_							_
Location	UL-A, Sect. 7, T 23 S, R	S, R	28 E		r -				Attr	t: lai	Attn: Iain Olness	SSS				_							
<b>Project Reference</b>	160025				Г				ā	ă O	PO Box 1558										_		
EPI Sampler Name	Felix Hernandez				r				Eun	ce,	Eunice, NM 88231	231											
		_		1	Ē	MATRIX	L	Γ	PRE	PRESERV.		SAMPLING	Ű								_		
		.q	_	$\mathbf{F}$	╞┝		<u>ן</u>	t	ţ	ţ			2		_		_			_			
		IWO	s														( 1/						
LAB I.D.	SAMPLE I.D.	(ว) ห	ИЕВ		1318	ר								8			<u></u>		<				-
		<u>о а</u> ая(э	АТИОЗ #	BROUND		SRUDE O	BOUL	:83HTC	SA8\012/		ЯЗНТО	AT C	TIME	11EX 805	12108 Hd.		STATU: H	СГЬ	<< 83HT(	HA			
M/0//0-1 1 SEC	SEC-1 (8')	0	-	╉──	+	+	×		-	+	-	12-Oct-05	14:00	i ×	_	_	_	+	-	1		╋	<b>—</b>
1 - 2 SM-2 (8')	2 (8')	G	٢		F					┢	7	12-Oct-05	14:05	×		×	-	ļ				┢──	1
	SWC-3 (8')	G	-		1						12	12-Oct-05	14:10	×		×	┣	L_				-	
(c 4 EM	4 EM-4 (8') のイーを (g')	G	-		-					Η	12	12-Oct-05	14:15	×	×	×	_		[			┝	<b>–</b> –
-5 5 Cent	(8')	G	-		-					Η	12	12-Oct-05	14:20	X	×	×							<u> </u>
	6(8) WH C81 AC	G	-								12	12-Oct-05	14:25	×	×	×	_						-
-7 7 NWC	NWC-7 (8') NWC-9(5) A(	G	-		-						12	12-Oct-05	14:30	Х	×	×	_						1
- <u>5</u> 8 NM-8 (8')	1	G	-		-						12	12-Oct-05	14:35	×	X	X							
	NEC-9 (8') NEC-9 (8') 1/1(	G	-		Ξ					Н	12	12-Oct-05	14:40	Х	×	×					$\vdash$		<b></b> _
, 10										$\vdash$						$\vdash$					-		<b>—</b>
																							- <b>1</b>
Sampler Relinquished:	Date	Rece	Received By:	2					F	-mai	il result	E-mail results to: iolness@envplus.net	s@envplu	s.net									1
	Time									REMARKS:	IKS:												
Retinquished by:	Date 17 05		Received By:		(lab staff)	0			<b></b>													٠	
unsen un la	m /0:25	4	Ź	L	3	4	ŝ	S	T														
		Sample Cool & Intact	& Inta¢ No	-	≥	Ö	checked By:	By:				i											
																							1



PHONE (505) 393-2326 + 101 E. MARLAND + HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: IAIN OLNESS P.O. BOX 1558 EUNICE, NM 88231 FAX TO: (505) 394-2601

Receiving Date: 10/17/05 Reporting Date: 10/20/05 Project Owner: CHESAPEAKE OPERATING (#160025) Project Name: WILL 7 FEE Project Location: UL-A SEC. 7, T23S, R28E Sampling Date: 10/14/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC/HM

LAB NUMBE	R SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	CI* (mg/Kg)
ANALYSIS D	DATE	10/18/05	10/18/05	10/18/05
H10311-1	SESW-10 (4')	<10	<10	4000
H10311-2	SWSW-11 (4')	<10	<10	672
H10311-3	WSSW-12 (4')	<10	<10	96
H10311-4	WNSW-13 (4')	<10	<10	5730
H10311-5	NWSW-14 (4')	<10	<10	1790
H10311-6	NESW-15 (4')	<10	<10	1360
H10311-7	ENSW-16 (4')	<10	<10	1839
H10311-8	ESSW-17 (4')	<10	<10	1580
Quality Contr		754	770	990
True Value C	<u>2C</u>	800	800	1000
% Recovery		94.3	96.2	99.0
Relative Perce	cent Difference	0.5	1.0	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI<sup>-</sup>: Std. Methods 4500-CI<sup>-</sup>B \*Analyses performed on 1:4 w:v aqueous extracts.

Buy about Coche

#### H10311A.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



Project Name: WILL 7 FEE

Project Location: UL-A SEC. 7, T23S, R28E

PHONE (505) 393-2326 + 101 E. MARLAND + HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC. ATTN: IAIN OLNESS P.O. BOX 1558 EUNICE, NM 88231 FAX FAX TO: (505) 394-2601 Receiving Date: 10/17/05 Reporting Date: 10/20/05 Sam Project Owner: CHESAPEAKE OPERATING (#160025) Sam

Sampling Date: 10/14/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: HM

**T**1 N /1

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS DA	TE	10/18/05	10/18/05	10/18/05	10/18/05
H10311-1	SESW-10 (4')	< 0.005	<0.005	<0.005	<0.015
H10311-2	SWSW-11 (4')	<0.005	<0.005	<0.005	<0.015
H10311-3	WSSW-12 (4')	< 0.005	<0.005	<0.005	<0.015
H10311-4	WNSW-13 (4')	< 0.005	<0.005	<0.005	<0.015
H10311-5	NWSW-14 (4')	< 0.005	<0.005	<0.005	<0.015
H10311-6	NESW-15 (4')	< 0.005	< 0.005	<0.005	<0.015
H10311-7	ENSW-16 (4')	< 0.005	<0.005	< 0.005	<0.015
H10311-8	ESSW-17 (4')	<0.005	<0.005	<0.005	<0.015
					<u>i</u>
Quality Control	<u>.</u>	0.091	0.091	0.096	0.293
True Value QC		0.100	0.100	0.100	0.300
% Recovery	<u> </u>	90.6	91.2	96.3	97.7
<b>Relative Perce</b>	nt Difference	4.0	4.3	2.3	0.9

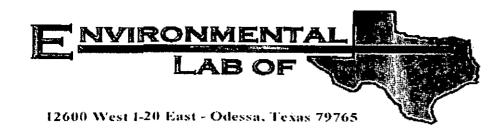
METHOD: EPA SW-846 8260

Carfo Cosh

(opon

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims introduced to the performance of the applicable deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

Page 2 of 2



# Analytical Report

#### **Prepared for:**

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

Project: Chesapeake/ Will 7 Fee Project Number: 160025 Location: UL-A, Sect. 7, T 23 S, R 28 E

Lab Order Number: 5J25002

Report Date: 10/31/05

ĺ	Environmental Plus, Incorporated		Project; C	Chesapeake/ Will 7 Fee	Fax: 505-394-2601
ļ	P.O. Box 1558		Project Number: 1	60025	Reported:
Í	Eunice NM, 88231	,	Project Manager: Ia	ain Olness	10/31/05 11:19

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (10')	5J25002-01	Soil	10/20/05 08:31	10/24/05 16:20
BH-1 (15')	5J25002-02	Soil	10/20/05 08:52	10/24/05 16:20
BH-1 (20')	5J25002-03	Soil	10/20/05 09:00	10/24/05 16:20
BH-2 (10')	5J25002-04	Soil	10/20/05 09:29	10/24/05 16:20
BH-2 (15')	5J25002-05	Soil	10/20/05 09:35	10/24/05 16:20
BH-1 (20')	5J25002-06	Soil	10/20/05 09:48	10/24/05 16:20

•

Project: Chesapeake/ Will 7 Fee Project Number: 160025 Project Manager: Iain Olness

Reported: 10/31/05 11:19

#### Organics by GC

#### **Environmental Lab of Texas**

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
BH-1 (10') (5J25002-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ52509	10/25/05	10/26/05	EPA 8021B	
Toluene	ND	0.0250			•	17		1+	
Ethylbenzene	ND	0.0250	м	17	н	н	μ	*1	
Xylene (p/m)	ND	0.0250	"	n	н	u.	D.	и	
Xylene (o)	ND	0.0250	н	0	a	и	н	н	
Surrogate: a,a,a-Trifluorotoluene		85.0 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.2 %	80-1	20	"	п	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg đry	1	EJ52504	10/25/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0		п	"	n	н	+1	
Total Hydrocarbon C6-C35	ND	10.0	μ	.,	н	n	р	19	
Surrogate: I-Chlorooctane	, _, _, _,	86.8 %	70-1	30	"	n	P		
Surrogate: 1-Chlorooctadecane		124 %	70-1	30	"	л	"	n	
-									
BH-2 (10') (5J25002-04) Soil			_						
Benzene	NÐ	0.0250	mg/kg dry	25	EJ52509	10/25/05	10/26/05	EPA 8021B	
Toluene	ND	0.0250	R.	••	14	"	н	и	
Ethylbenzene	ND	0.0250	м	IF	н	**	N	н	
Xylene (p/m)	ND	0.0250	"	п	*	u		*1	
Xylene (o)	DND	0.0250		+1	12	р	и	16	
Surrogate: a,a,a-Trifluorotoluene		105 %	80-1	20	"	"	N	"	
Surrogate: 4-Bromofluorobenzene		95.8 %	80-1	20	**	"	и	14	
Gasoline Range Organics C6-C12	ND ·	10.0	mg/kg dry	I	EJ52504	10/25/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	0	н		н	м	11	
Total Hydrocarbon C6-C35	ND	10.0	н	*	н	и	11	и	
Surrogate: 1-Chlorooctane		84.4 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		82.0 %	70-1	30		n	п	"	
BH-2 (15') (5J25002-05) Soil		·					_ <u></u> ·		<u> </u>
Benzene	ND	0.0250	mg/kg dry	25	EJ52509	10/25/05	10/26/05	EPA 8021B	
Toluen <del>e</del>	ND	0.0250	н	н	11	11	"	м	
Ethylbenzene	ND	0.0250	"				н	11	
Xylene (p/m)	ND	0.0250	tr	и	"		н	0	
Xylene (o)	ND	0.0250	"			н	n	"	
Surrogate: a,a,a-Trifluorotoluene		98.8 %	80-1	20	"	<i>n</i>	"	"	
Surrogate: 4-Bromofluorobenzene		92.5 %	80-1	20	*	"	н	u.	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	L	EJ52504	10/25/05	10/26/05	EPA 8015M	~
Diesel Range Organics >C12-C35	ND	10.0	u	"		"	н	*	
Total Hydrocarbon C6-C35	ND	10.0	ч	0	n.	н	μ	н	

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 2 of 9

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

Environmental Plus, Incorporated	Project: Chesapeake/ Will 7 Fee	Fax: 505-394-2601
P.O. Box 1558	Project Number: 160025	Reported:
Eunice NM, 88231	Project Manager: lain Olness	10/31/05 11:19

#### Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-2 (15') (5J25002-05) Soil	<u> </u>			120					
Surrogate: 1-Chlorooctane Surrogate: 1-Chlorooctadecane		98.2 % 95.0 %	70 70		EJ52504 "	10/25/05 "	10/26/05 "	EPA 8015M "	

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.

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

#### Project: Chesapeake/ Will 7 Fee Project Number: 160025 Project Manager: Iain Olness

Reported: 10/31/05 11:19

#### General Chemistry Parameters by EPA / Standard Methods

#### **Environmental Lab of Texas**

	Result	Reporting Limit	T I '						
Analyte	Result		Units	Dilution	Batch	Prepared	Analyzed	Method	Note
BH-1 (10') (5J25002-01) Soil									
Chloride	3120	100	mg/kg	200	EJ52617	10/25/05	10/26/05	EPA 300.0	
% Moisture	11.4	0.1	%	ł	EJ52603	10/25/05	10/26/05	% calculation	
BH-1 (15') (5J25002-02) Soil									
Chloride	939	20.0	mg/kg	40	EJ52617	10/25/05	10/26/05	EPA 300.0	
BH-1 (20') (5J25002-03) Soil									
Chloride	1240	20.0	mg/kg	40	EJ52617	10/25/05	10/26/05	EPA 300.0	
BH-2 (10') (5J25002-04) Soit						_			
Chloride	719	10.0	mg/kg	20	EJ52617	10/25/05	10/26/05	EPA 300.0	
% Moisture	3.3	0.1	%	l	EJ52603	10/25/05	10/26/05	% calculation	
BH-2 (15') (5J25002-05) Soil									
Chloride	463	10.0	mg/kg	20	EJ52617	10/25/05	10/26/05	EPA 300.0	
% Moisture	19.3	0.1	%	1	EJ52603	10/25/05	10/26/05	% calculation	
BH-1 (20') (5J25002-06) Soil									
Chloride	455	10.0	mg/kg	20	EJ52617	10/25/05	10/26/05	EPA 300.0	

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.

Reported: 10/31/05 11:19

#### **Organics by GC - Quality Control**

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limil	Notes
Batch EJ52504 - Solvent Extraction (GC)				20701						
			<u> </u>				0 <b>b</b> ( 10 -			
Blank (EJ52504-BLK1)			· _ ···	Prepared:	10/25/05 A	analyzed: 1	0/26/05		<b></b>	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	и							
Total Hydrocarbon C6-C35	ND	10.0							<u>.</u>	<u> </u>
Surrogate: 1-Chlorooctane	49.8		mg/kg	50.0	_	99.6	70-130		_	
Surrogate: 1-Chlorooctadecane	48.8		"	50.0		97.6	70-130			
LCS (EJ52504-BS1)				Prepared: 1	10/25/05 A	.nalyzed: 1	0/26/05			
Gasoline Range Organics C6-C12	462	10.0	mg/kg wet	500		92.4	75-125			—· -
Diesel Range Organics >C12-C35	439	10.0	**	500		87.8	75-125			
Total Hydrocarbon C6-C35	901	10.0	D	1000		90.1	75-125			
Surrogate: 1-Chlorooctune	53.4	<u> </u>	mg/kg	50.0		107	70-130		<u> </u>	
Surrogate: 1-Chlorooctadecane	57.9		"	50.0		116	70-130			
Calibration Check (EJ52504-CCV1)				Prepared: I	0/25/05 A	.nalyzed: I	0/26/05			
Gasoline Range Organics C6-C12	434		mg/kg	500		86.8	80-120			
Diesel Range Organics >C12-C35	405		и	500		81.0	80-120			
Total Hydrocarbon C6-C35	839		••	1000		83.9	80-120			
Surrogate: I-Chlorooctane	49.2		"	50.0		98.4	70-130			<u>-</u>
Surrogate: 1-Chlorooctadecane	52.1		"	50.0		104	70-130			
Matrix Spike (EJ52504-MS1)	Sou	rce: 5J25001-	-02	Prepared: 1	0/25/05 A	.nalyzed: 1	0/27/05			
Gasoline Range Organics C6-C12	587	10.0	mg/kg dry	576	ND	102	75-125		<u></u>	
Diesel Range Organics >C12-C35	570	10.0	н	576	13.6	96.6	75-125			
Total Hydrocarbon C6-C35	1160	10.0	и	1150	13.6	99.7	75-125			
urrogate: 1-Chlorooctane	47.5		mg/kg	50.0	<u> </u>	95.0	70-130			
Surrogate: 1-Chlorooctadecane	59.2		"	50.0		118	70-130			
Matrix Spike Dup (EJ52504-MSD1)	Sour	rce: 5J25001-	·02	Prepared: 1	0/25/05 A	nalyzed: 1	0/26/05			
Jasoline Range Organics C6-C12	530	10.0	mg/kg dry	576	ND	92.0	75-125	10.2	20	
Diesel Range Organics >C12-C35	508	10.0	и	576	13.6	85.8	75-125	11.5	20	
otal Hydrocarbon C6-C35	1040	10.0	•	1150	13.6	89.3	75-125	10.9	20	
urrogate: 1-Chlorooctane	54.3		mg/kg	50.0		109	70-130			
urrogate: 1-Chlorooctadecane	58.I		н	50.0		116	70-130			

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.

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

#### Project: Chesapeake/ Will 7 Fee Project Number: 160025 Project Manager: Iain Olness

Fax: 505-394-2601

Reported: 10/31/05 11:19

#### **Organics by GC - Quality Control**

#### **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit		Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ52509 - EPA 5030C (GC)										
Blank (EJ52509-BLK1)				Prepared 8	Analyzed:	: 10/25/05				
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	tr							
Xylene (p/m)	ND	0.0250	н							
Xyiene (0)	ND	0.0250	"							
Surrogate: a,a,u-Trifluorotoluene	38.0		ug/kg	40.0		95.0	80-120		· · · · · · · · · · · · · · · · · · ·	
Surrogate: 4-Bromofluorobenzene	40.4		"	40.0		101	80-120			
LCS (EJ52509-BS1)				Prepared &	Analyzed:	10/25/05				
Benzene	0.0526	0.00100	mg/kg wet	0.0500		105	80-120			
Toluene	0.0537	0.00100	н	0.0500		107	80-120			
Ethylbenzene	0.0587	0.00100	"	0.0500		117	80-120			
Xylene (p/m)	0.114	0.00100		0.100		114	80-120			
Xylene (0)	0.0575	0.00100	и	0.0500		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.6		ug/kg	40.0		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	45.1		"	40.0		113	80-120			
Calibration Check (EJ52509-CCV1)				Prepared: 1	0/25/05 A	nałyzed: 10	/26/05			
Benzenc	49.8		ug/kg	50.0		99.6	80-120			
Toluene	49.8		••	50.0		99.6	80-120			
Ethylbenzene	54.2		61	50.0		108	80-120			
Xylene (p/m)	103		0	100		103	80-120			
Xylene (0)	54.8		н	50.0		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.8		"	40.0		87.0	80-120	,		
Surrogate: 4-Bromofluorobenzene	36.0		*	40.0		90.0	80-120			
Matrix Spike (EJ52509-MS1)	Sou	rce: 5J25005	-02	Prepared: 1	0/25/05 Ai	nalyzed: 10	/26/05			
Benzene	1.29	0.0250	mg/kg dry	1.34	ND	96.3	80-120			
Tolucne	1,34	0.0250	и	1.34	0.0127	99.1	80-120			
Ethylbenzene	1.55	0.0250		1.34	0.0225	114	80-120			
Xylene (p/m)	2.93	0.0250	n	2.68	0.0609	107	80-120			
Xylenc (o)	1.45	0.0250	74	1.34	0.0264	106	80-120			
Surrogate: u.a.a-Trifluorotoluene	35,3		ug/kg	40,0		88.2	80-120			
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	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.

#### Project: Chesapeake/ Will 7 Fee Project Number: 160025 Project Manager: Iain Olness

Fax: 505-394-2601

Reported: 10/31/05 11:19

#### **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 EJ52509 - EPA 5030C (GC)							_			
Matrix Spike Dup (EJ52509-MSD1)	Sout	ce: 5J25005	-02	Prepared:	10/25/05 A	nalyzed: 10	/26/05			
Benzene	1.24	0.0250	mg/kg dry	1.34	ND	92.5	80-120	4.03	20	
Toluene	1.29	0.0250		1.34	0.0127	95.3	80-120	3.91	20	
Ethylbenzene	1.51	0.0250	н	1,34	0.0225	111	80-120	2.67	20	
Xylenc (p/m)	2.91	0.0250		2.68	0.0609	106	80-120	0.939	20	
Xylene (0)	1.51	0.0250	н	1.34	0.0264	111	80-120	4.61	20	
Surrogate: a.a.a-Trifluorotoluene	33.6		ug/kg	40.0		84.0	80-120			
Surrogate: 4-Bromofluorobenzene	43.6		*	40.0		109	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.

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

Reported: 10/31/05 11:19

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control

**Environmental Lab of Texas** 

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ52603 - General Preparation (Prep)		_								
Blank (EJ52603-BLK1)				Prepared: 1	0/25/05	Analyzed: 10	/26/05			
% Solids	100		%				- <u> </u>			
Duplicate (EJ52603-DUP1)	Sou	rce: 5J25001-0	01	Prepared: 1	0/25/05	Analyzed: 10	/26/05			
% Solids	88.7		%		88.7			0.00	20	
Duplicate (EJ52603-DUP2)	Sou	rce: 5J25006-0	08	Prepared: 1	0/25/05	Analyzed: 10	/26/05			
% Solids	97.3		%		97,2			0.103	20	
Batch EJ52617 - Water Extraction										
Blank (EJ52617-BLK1)				Prepared: 1	0/25/05	Analyzed: 10	/26/05			
Chloride	ND	0.500	mg/kg	• •••						
LCS (EJ52617-BS1)				Prepared: I	0/25/05	Analyzed: 10	/26/05			
Chloride	8.21		mg/L	10.0		82.1	80-120			
Calibration Check (EJ52617-CCV1)				Prepared: 1	0/25/05 /	Analyzed: 10	/26/05			
Chloride	8.37		mg/L	10.0		83.7	80-120			
Duplicate (EJ52617-DUP1)	Sou	rce: 5J21002-{	)3	Prepared: 1	0/25/05	Analyzed: 10	/26/05			
Chloride	766	10.0	mg/kg		712			7.31	20	

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.

Reported: 10/31/05 11:19

#### Notes and Definitions

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

Ciliz D. Kune

Report Approved By:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

Date:

10/31/2005

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.

Environ	Environmental Plus, Inc.														ठ	Chain of Custody Form	ď	Cr	<u>sto</u> (	1×1	-or	FI
2100 Avenue O, (505) 394-3481	2100 Avenue O, Eunice, NM 88231 (505) 394-3481   FAX: (505) 394-2601	P.O.		Box 1558, Eunice, NM 88231	Щ Ф	nic	Š,	M 88	231													
Company Name	Environmental Plus, Inc.	s, Inc.								Bill To	10.23.22				<b>ANV</b>	ANALYSIS REQUEST.		PEG	Ŭ			
EPI Project Manager															┢	-						
Mailing Address	s P.O. BOX 1558		Į						-	_				_		-	<u>.</u>					<i></i>
City, State, Zip	Eunice New Mexico	8823						-11			BÌ			-		-						
EPI Phone#/Fax#	c# 505-394-3481 / 505-394-2601	394-20	l <u>õ</u>					1				<u>.</u>				ي عمي الرو			4			
Client Company		D.							-									وبجاخل				
Facility Name	Will 7 Fee															يسادين الكري						
Location	UL-A, Sect. 7, T 23 S, R 28 E	S, H 2	ш ю					4	ttn:	laín	Attn: Iain Olness			a de la compañía de l		ودراه اد اوهب ال					÷	
Project Reference									2	Bo	PO Box 1558									`		
<b>EPI Sampler Name</b>	me John Robinson							щ	- Dict	e, N	Eunice, NM 88231	<del></del>		V.Joneza				-		_		
		•			MATRIX	Ě		Ĥ	PRESERV.	ΕË.	SAMPLING	NG		a più di ficano				وبندان				
		ЧМ	8	L_		F	┢╴		┡							;					- Installer	
		0()				*****										ko		_				
LABI.D.	SAMPLE I.D.	) 년 (				ור		3					-					<				
×,25002		0 84		WƏT		DE O	_	:Ha	1000								) Audio Andrea		4 <del>48.636.64</del>			
5		ສ(ອ)			1105	กษว	INTS	NTO NOA		HLO	DATE	TIME	(318	нат		PH BHLF	тсгр	інто	НА9			
0	BH-1 (10)	ß									20-Oct-05	8:31	ļ		×	-	<b> </b>			T	F	Τ
1	0.2 BH-1 (15')	ڻ ت	_		-				_		20-Oct-05	8:52			×		ļ				$\uparrow$	T
0,	O3 BH-1 (20')	U	_								20-Oct-05	00:6			×		<b> </b>			T	┢	Γ
Ö	- 04 BH-2 (10')	G	_	_							20-Oct-05	9:29	Х	X	×							<b>F</b>
0,	- <u>()</u> 5 BH-2 (15')	J			-						20-Oct-05	9:35	X	X	X	_						<u> </u>
ă,	~ 06 BH-2 (20')	5	_	4	-	1	-	-			20-Oct-05	9:48			×						-	<b>[</b>
	7	1	-+	4	Ι	7	╉	-	4	$\square$					-						$\square$	<u>[</u> _]
	8	+	+	_		╈	╈	-+		_			-	-	$\dashv$		4	_				
	9		+			1	-	-	_	$\square$			-	-	-			_				
10	0		-	_		7	-														ŀ	Γ
		100																				1
Sampler, Helinquisped.	Sarte aller	Received By:	id By:	M. U					щã	u ARK	E-mail results to: folness@envplus.net REMARKS:	as @envplu:	.net									1
Relinquished by:	1/1 2010 1 2010	Fecel	CONVOL BY: (10	(leb staff )	Ē	$\left  \right\rangle$			r		Yorgless pressic bac	toz glass piashe bags far Citony sompres	1.00	1	e de la como de la como La como de la	0						·
Dylivered by:	Samp	Sample Cool & Ir	Intact No Co			Sheet Sheet	Chacked By:		1													
			1	Ĩ		ł			_				ĺ									

Page 1 of 1

ł

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

Client:	EPI
Date/Time:	10/14/105 4:20
Order #:	<u>6325002</u>
Initials:	CR.

# Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	0,5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Xes	No	
Sample Instructions complete on Chain of Custody?	des	No	
Chain of Custody signed when relinguished and received?	Xès	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yës	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No I	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Contact Person: Regarding:	Variance Documentation:	_ Contacted by:
Corrective Action Taken:	*****	······································

# **APPENDIX II**

# **PROJECT PHOTOGRAPHS**

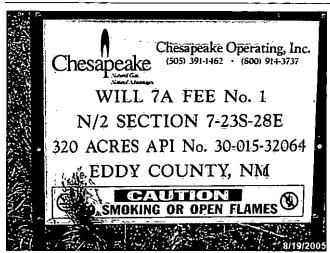


Photo #1: Sign denoting lease specifications.

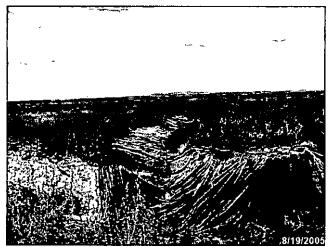


Photo #2: Looking westerly at pit area and liner.

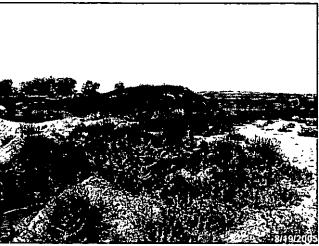


Photo #3: Looking westerly at stockpile.

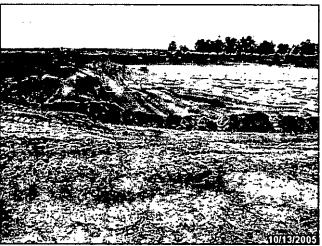


Photo #5: Current status of pit looking southerly.



Photo #4: Looking easterly towards clean stockpile.



Photo #6: Current status of pit looking southwesterly.

# **APPENDIX III**

Soil Boring Logs

					Ļ	og 01	f Test Borings (NOTE - Page 1 of 1)
B.	<u> </u>					1	Project Number: 160025
	E	NVIF		ral P	lus, Inc		Project Name: Chesapeake Will 7A Fee #1
<b>ا</b> ₹_'		ATE A ENV	TRONMEN	ital sei	FARM AN	ч <u>в</u> –	ocation: UL-A, Section 7, Township 23 South, Range 28 East
<u> </u>			E 505-	UNICE 394-348	31		oning Number: BH-1 Surface Elevation: 3,041
<b>**</b> or I		7	· · · · · · · · · · · · · · · · · · ·	T	ı .	<u>L</u>	
Sample # and TIme	Sample Type	Recovery (inches)	Moisture	PJD. Readings (ppm)	U.S.C.S. Symbol	Depth (feet)	Start Date: 10/20/05 Time: 0831 hrs
ц р Ц р	<sup>T</sup> α <sup>T</sup>		, in the second	a gg	S'Y'	Å.	Completion Date: 10/20/05 Time: 0900 hrs
<u> </u>			2	+			Description
						_	_
						_	
						5.	
			<b>_</b>	ļ	ļ	_	_
							_
	Í				,  -	_	_
		·······		╂───┤	·		Brown Sand Clay Rock Mix
0831				2.9	-	_	
	+		+	╂───┥			_
	-						-
				;		<u> </u>	
				+		15-	Tan Coarse Sand Pebbles
0852			Moist	3.6		_	_
				1			Groundwater encountered at 17.0'
					[		
					·		
0900				4.3		-	Brown Sand Clay Mix End of Boring at 20.0' —
	/			ļ		_	
						_	_
						_	
		. <u> </u>		<b> </b>	· · ·	25-	
			1		-		-
			+	+		_	
						_	—
					ŀ		-
			1				
					I		
Date	Water   Time		el Meas	urement	s (feet Cave-Ir	)   Vat	Drilling Method: HSA 3.5' ID
		D		Casing Depth		Lév	/el Backfill Mathema Pontonita
<u>10/20/0</u> -	5 -		-				
						1	Field Representative: JR

ĺ

r · · ·							Test Borings (NOTE - Page 1 of 1)
للر``		Finivie		tal Pi	LUS ING	. H	roject Number: 160025
<b>≡(</b> "•	; <b>)</b> ≡ s	TATE A	PPROV	ED LAND	FARM AN	ים וויי	roject Name: Chesapeake Will 7A Fee #1
<u>الاريما</u>		EINVI	1	EUNICE		<u> </u>	ocation: UL-A, Section 7, Township 23 South, Range 28 East
			כעכ	-394-348	r	I	ring Number: BH-2 Sunface Elevation: 3,041
Sample # and Time	ole De	Recovery (inches)	ure	S S S S S	N N	£₽	Start Date: 10/20/05
o mpl	Sample Type	n no	Moisture	PID Readings (ppm)	U.S.C.S. Symbol	Depth (feet)	Completion Date: 10/20/05 Time: 0948 hrs
νa		20	<b>2</b>	<u>~</u>			Description
					-	-	-
					ŀ	-	-
						_	-
					· ·	5_	
						_ ]	-
				+	· ·	-	
					.    -	-	-
						-	-
				_		10-	Coarse Sand Rock
0929				4.5	-	-	
					`	_	
			:			_	-
					; ,	15	
0935				5.0	-	_	Red Brown Clay -
							-
						-	-
					-		-
					· · · · · ·	20	
0948				4.3			Sandy Brown Clay - End of Boring at 20.0'
						_	-
						-	-
				<u> </u>		25-	
					<u>`</u>	-	-
						-	-
						-	-
						-	-
						30- 	
			<u></u>				-
Date			el Meas Imple epth	casing	Cave-Ir	Vat	
10/20/0	15 -		epth -	Depth	Depth -	Lev	
-	-		-	-	-	-	Field Representative: JR

# **APPENDIX IV**

# INFORMATIONAL COPY OF THE NMOCD C-103 FORM

Submit 3 Copies To Appropriate District Office	State of New Mexico Energy, Minerals and Natural Resources	Form C-103 May 27, 2004
1625 N. French Dr., Hobbs, NM 88240		WELL API NO.: 30-015-32064
1301 W. Grand Ave., Artesia, NM 88210 District III	OIL CONSERVATION DIVISION 1220 South St. Francis Dr.	5. Indicate Type of Lease
1000 Rio Brazos Rd., Aztec, NM 87410 District IV	Santa Fe, NM 87505	STATE FEE   6. State Oil & Gas Lease No.:
1220 S. St. Francis Dr., Santa Fe, NM 87505		
SUNDRY NOTICES	AND REPORTS ON WELLS	7. Lease Name or Unit Agreement
DIFFERENT RESERVOIR.: USE "APPLICATIO PROPOSALS.)	TO DRILL OR TO DEEPEN OR PLUG BACK TO A N FOR PERMIT" (FORM C-101) FOR SUCH	Name: Will 7A Fee #1 8. Well Number: No. 1
1. Type of Well: Oil Well 🔲 Gas	Well 🔀 Other	
2. Name of Operator: Chesapeake Op	erating, Inc.	9. OGRID Number:
3. Address of Operator: 5014 Carlsba Hobbs, NM 8		10. Pool name or Wildcat
4. Well Location		E Statistics
	a the line and feet from the line	
	outh Range 28 East NMPM Count Elevation (Show whether DR, RKB, RT, GR, ea	y Eddy
	41 feet above mean sea level	
	<u>ifect_</u> Distance from nearest fresh water well:< <u>1:000 feet</u>	Distance from nearest surface water: > 1,000 feet
	Tänk: Volume: bbls; Construction Material:	
12. Check Approp	priate Box to Indicate Nature of Notice	, Report or Other Data
NOTICE OF INTEN	TION TO:	SEQUENT REPORT OF:
	JG AND ABANDON 🖸 🤅 REMEDIAL WORK	
	ANGE PLANS	
OTHER:	d operățions. (Clearly state all pertinent detai	
estimated date of starting any	proposed work). SEE RULE 1103. For Multip	ole Completions: Attach wellbore diagram
of proposed completion or reco Chesapëake Operating Inc. (Che	mpletion. sapeake) is conducting the pit closure according t	o NMOCD guidelines. As the depth to
groundwater is < 50 feet below g	round surface (bgs), Chesapeake is removing all	contents from the pit and disposing of them at
	six (6) inches of soil from beneath the liner will a	
	soil samples will be collected from the floor of the (TPH), benzene, toluene, ethylbenzene, and total	
Should analytical results indicate	That the integrity of the liner has been compromi	sed a Delineation/Remediation Plan will be
	<u>IMOCD for approval: Should analytical results in It be backfilled with clean soil obtained from an c</u>	
allow for natural drainage and the	e site seeded with a blend of seed preferred by the	
at 111 more than a start		
I hereby certify that the information ab	ove is true and complete to the best of my kno- closed according to NMOCD guidelines (2), a general per	
SIGNATURE	TITLE Field Technician	DATE
Type or print name: <u>Bradley Blevins</u>	E-mail address: <u>bblevins@chkenergy.com</u>	Telephone No.: (505) 391-1462.ext. 24
For State Use Only		
APPROVED BY:	TITLE	DATE
Conditions of Approval (if any):		

Í