FINAL CLOSURE REPORT

PAPAGAYO FEDERAL #1

EPI REF: #160049
NMOCD: 1RP#808
NMOCD ADMIN: #PPAC0609634261

UL-M (SW¼ OF THE SW¼) OF SECTION 27, T 23 S, R 34 E
~20 MILES NORTHWEST OF JAL,
LEA COUNTY, NEW MEXICO
LATITUDE: N 32° 16' 12.55" LONGITUDE: W 103° 27' 51.63"

JUNE 2007

PREPARED BY:

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

PREPARED FOR:

Chesapeake

Distribution List

Site Closure Report

Papagayo Federal #1 Oil Unit Tank Battery

NMOCD Ref. 1RP#808: EPI Ref. #160049

Name	Title	Company or Agency	Mailing Address	e-mail
Chris Williams	District I Supervisor	New Mexico Oil Conservation Division – Hobbs	1625 N. French Drive Hobbs, NM 88240	chris.williams@state.nm.us
Bradley Blevins	Field Supervisor	Chesapeake Operating, Inc.	P.O. Box 190 Hobbs, NM 88240-0190	bblevins@chkenergy.com
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Paul Evans	Environmental Protection Specialist	U.S. Department of the Interior- Bureau of Land Management	U.S. Department of the Interior Bureau of Land Management 260 E. Greene Street Carlsbad, New Mexico 887220	Paul_Evans@nm.blm.gov
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STANDARD OF CARE

Site Closure Report

Papagayo Federal #1

NMOCD Ref. 1RP808: EPI Ref. #160049

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:

Michael H. Stewart — 7-09-07

Michael H. Stewart, P.E., C.P.G.
Geological Engineer

Date

This report was reviewed by:

David P. Duncan — 7-09-07

David P. Duncan
Civil Engineer

Date

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1.0 PROJECT SYNOPSIS

Site Specific:

- ***Company Name:*** Chesapeake Operating, Inc.
- ***Facility Name:*** Papagayo Federal #1 Oil Unit Tank Battery
- ***Project Reference:*** NMOCD Ref. 1RP #808: EPI Ref. #160049
- ***Company Contacts:*** Bradley Blevins
- ***Site Location:*** WGS84 N32° 16' 12.55"; W103° 27' 51.63"
- ***Legal Description:*** Unit Letter-M, (SW¼ of the SW¼), Section 27, T 23 S, R 34 E
- ***General Description:*** Approximately 20-miles northwest of Jal, New Mexico
- ***Elevation:*** 3,472-ft amsl
- ***Land Ownership:*** U.S. Department of the Interior - Bureau of Land Management
- ***EPI Personnel:*** Project Consultant – David P. Duncan
  Site Foreman – Kirt Tyree
  Danny Deaton

Release Specific:

- ***Product Released:*** Crude oil and produced water
- ***Volume Released:*** >5.0 bbls
- ***Volume Recovered:*** Zero (0)
- ***Time of Occurrence:*** Historical
- ***Time of Discovery:*** January 2, 2006
- ***Release Source:*** Various sources
- ***Initial Surface Area Affected:*** Release Area ~ 900-ft^2; Overspray Area - none

Remediation Specific:

- ***Final Vertical extent of contamination:*** >13.5-feet bgs
- ***Water wells within 1,000-ft:*** None
- ***Private domestic water sources within 200-ft:*** None
- ***Depth to Groundwater:*** >100 ft bgs
- ***Surface water bodies within 1,000-ft:*** None
- ***NMOCD Site Ranking Index:*** Zero (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/L and 600 mg/L, respectively.
- ***RCRA Waste Classification:*** Exempt
- ***Remediation Option Selected:*** a) Excavation of contaminated soil above NMOCD remedial goals with repository at a disposal facility; b) laboratory analyses confirmed removal of impacted soil above NMOCD remedial threshold goals; c) backfilled excavation with caliche to original ground surface; d) graded area to a smooth, level surface allowing natural drainage
- ***Disposal Facility:*** Sundance Services, Inc., Eunice, New Mexico
- ***Volume disposed:*** ~ 1,016-yd^3
- ***Project Completion Date:*** June 3, 2006

2.0 SITE AND RELEASE INFORMATION

2.1 Describe the land use and pertinent geographic features within 1,000 feet of the site.
The release site is located within the confines of an established oil field. Surrounding land is used for grazing purposes

2.2 Identify and describe the source or suspected source(s) of the release.
Historical releases within a bulk storage tank area, around heater treater and overland to the northeast. Limited excavation around well head.

2.3 What was the volume of the release? (if known): >5-bbls

2.4 What was the volume recovered? (if known): No hydrocarbon liquids recovered

2.5 When did the release occur? (if known): Historical releases

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), Plate 1, shows that the release site is outside of the boundaries of the saturated Tertiary and Quaternary rocks (High Plains Aquifer). Plate 1 shows the top of the Dockum Formation (redbeds) at approximately 3,400 feet, resulting in a thin veneer (~70 feet) of Tertiary and recent deposits.*

Nelson and Clebsch show the potentiometric surface of water in the Triassic aquifers (redbeds) at 3100 feet or approximately 470 feet bgs. The redbeds are generally dominated by shales and siltstones so the uppermost groundwater beneath the release site would thus either be present in the low-permeability materials or hydraulically isolated from surface interactions.

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, annual and perennial 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 groundwater potentiometric surface at this site is projected to be a minimum of 250 feet bgs based on water depth data obtained from the New Mexico State Engineers Office and United States Geological Survey data base (reference *Table 1*).

2.9 Area Water Wells
No public water supply wells exist within 1-mile of the release site. Similarly, no private, domestic fresh water wells or springs used by less than five (5) households for domestic or stock watering purposes exist within 200-feet of the release site (reference *Figure 2* and *Table 1*).

2.10 Area Surface Water Features
No surface water features exist within 1,000-feet of the release site (reference *Figure 2*).

3.0 NMOCD SITE RANKING

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil were 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 distance of the site from 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 (0) 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			
Site Ranking	20 or >	10	0
Benzene[1]	10 ppm	10 ppm	10 ppm
BTEX[1]	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm

[1] A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.

4.0 EXCAVATED SOIL INFORMATION

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

Date excavated: March 23 through June 3, 2006

Total volume removed: ~ 1,016 cubic yards

4.2 ***Indicated soil treatment type:***

- ☒ ***Disposal***
- ☐ ***Land Treatement***
- ☐ ***Composting/Biopiling***
- ☐ ***Other*** ( )

Name and location of treatment/disposal facility:
Sundance Services, Inc., Lea County, Eunice, New Mexico

5.0 SAMPLING INFORMATION

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

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

Chloride Concentrations – A LaMotte Chloride Test Kit (Titration Method) was utilized for field analyses of chloride concentrations.

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

Initial soil samples were collected January 31, 2006 during the advancement of soil boring SB-1 utilizing a hollow core drill (reference *Figure 3*). Initial soil samples were collected from 2-3, 5-6 and 10-11 feet below ground surface (bgs) (reference *Table 1*).

Three (3) separate excavation episodes were completed on April 3, 2006, April 12, 2006 and May 22, 2006. During excavation of impacted soil from the release site, soil samples were collected from bottom and sidewalls excavation at different locales and depths to characterize materials for disposal. Soil samples were analyzed in the field for organic vapor and chloride concentrations. Excavation of impacted soil continued until organic vapor concentrations were below 100 parts per million (ppm) (reference *Table 2*).

Verification soil samples were then collected. A portion of each verification soil sample was immediately put into an approved sample container, labeled and placed on ice for submittal to an independent laboratory under standard Chain-of-Custody protocol for quantification of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes (BTEX), chloride and/or sulfate concentrations. Remaining portions of each verification soil sample were analyzed in the field for chloride and organic vapor concentrations utilizing methods described in Section 5.0, ***Sampling Information***, Article 5.1.

5.3 Discuss sample locations and provide rationale for their locations.

On January 31, 2006 boring BH-1 was advanced to a total depth (TD) of 13.5-feet bgs. The locale was chosen near the apparent maximum surface impact in the release area in order to delineate the vertical extent of impacted soils (reference *Figure 3*).

From April 3, 2006 through May 22, 2006 the affected area was excavated for removal of visibly impacted soils. Impacted soil was temporarily stockpiled "on-site" for transportation to a state approved disposal facility. During the removal activities, soil samples were collected from the bottom and sidewalls of the excavation. Locales and depth of the sample points were determined from visual inspection of the soil and assisted by field analyses of chloride and organic vapor concentrations. Laboratory analytical results were used to verify removal of soil impacted above NMOCD remedial threshold limits.

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.***

All hydrocarbon impacted soil above NMOCD remedial threshold goals for BTEX and TPH constituent concentrations was excavated from the release area. Approximately 1,016 cubic yards of soil impacted above NMOCD remedial threshold goals were disposed at Sundance Services, Inc.

Residual chlorides remaining in situ which are above remedial threshold goal for chloride concentrations are limited in extent.

In accordance with Chesapeake Operating, Inc., specifications, a 20-mil polyethylene liner was placed on bottom of the excavation to retard vertical migration of in situ chloride residuals. The polyethylene liner was enveloped between two (2) one (1) foot thick layers of cushion sand. The excavated areas were backfilled with approximately 1,034 cubic yards of imported material (caliche-700 c.y., top soil-292 c.y. and clay-42 c.y.)

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.*** Not applicable

8.4 ***If corrective action is recommended, provide a conceptual approach.*** Not applicable

FIGURES

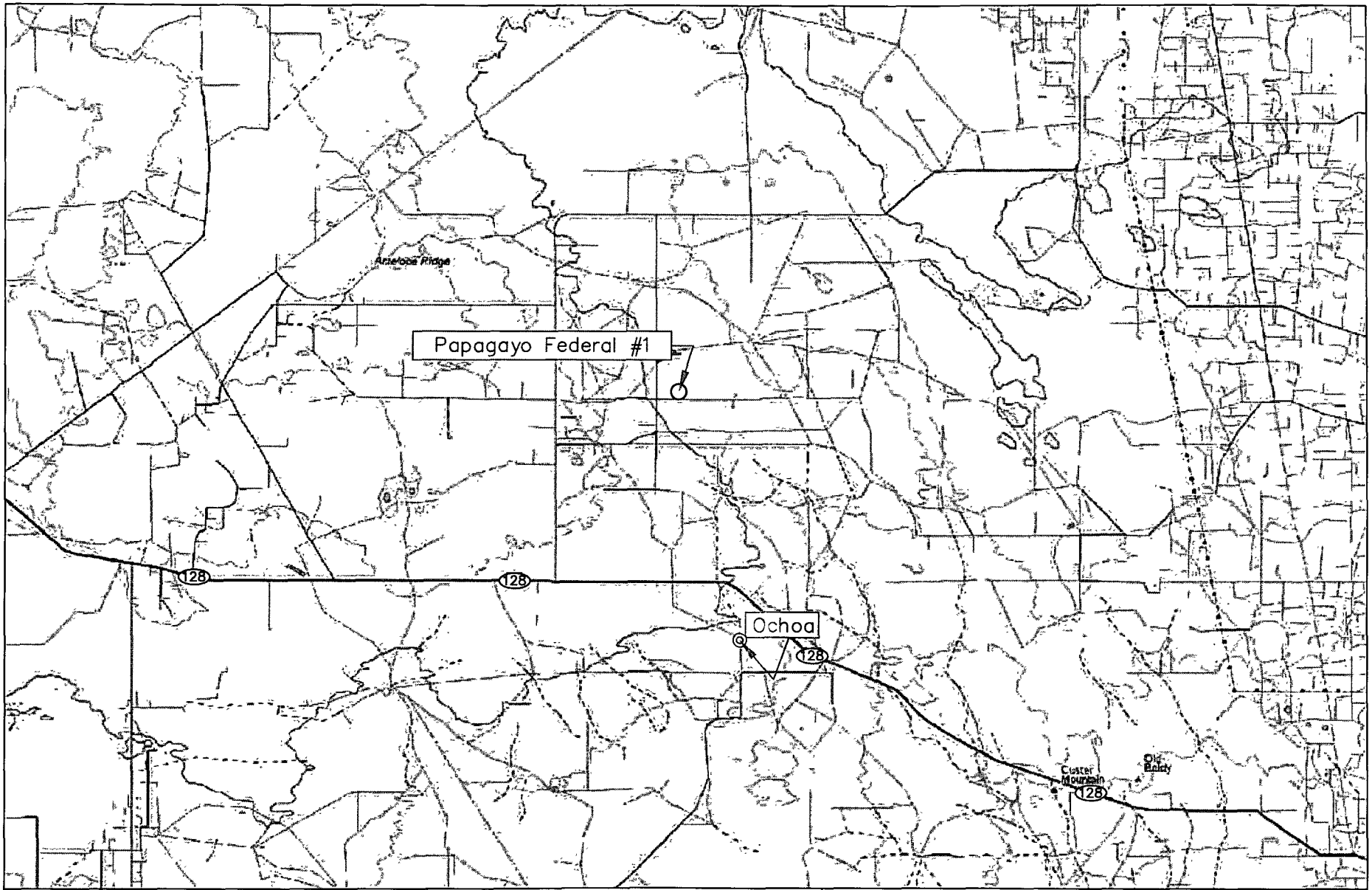

Figure 1 Area Map Chesapeake Energy Papagayo Federal #1	Lea County, New Mexico SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E N 32° 16' 12.55" W 103° 27' 51.63" Elevation: 3,472 feet amsl	DWG By: Daniel Dominguez January 2006 0 3 6 Miles	REVISED: SHEET 1 of 1

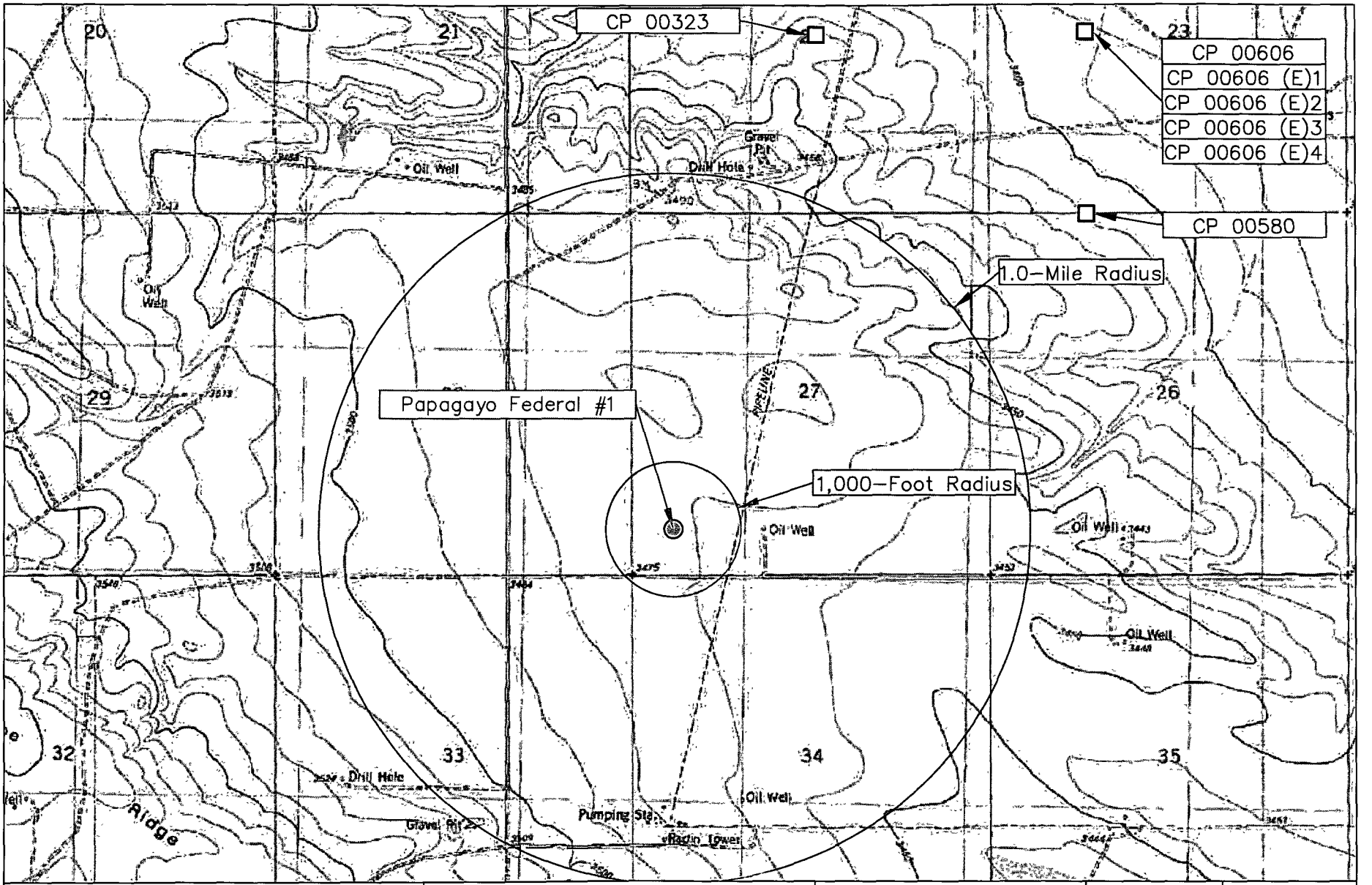

Figure 2
Site Location Map
Chesapeake Energy
Papagayo Federal #1

Lea County, New Mexico
SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E
N 32° 16' 12.55" W 103° 27' 51.63"
Elevation: 3,472 feet amsl

DWG By: Daniel Dominguez
January 2006

REVISED:

0 2,000 4,000
Feet

SHEET
1 of 1

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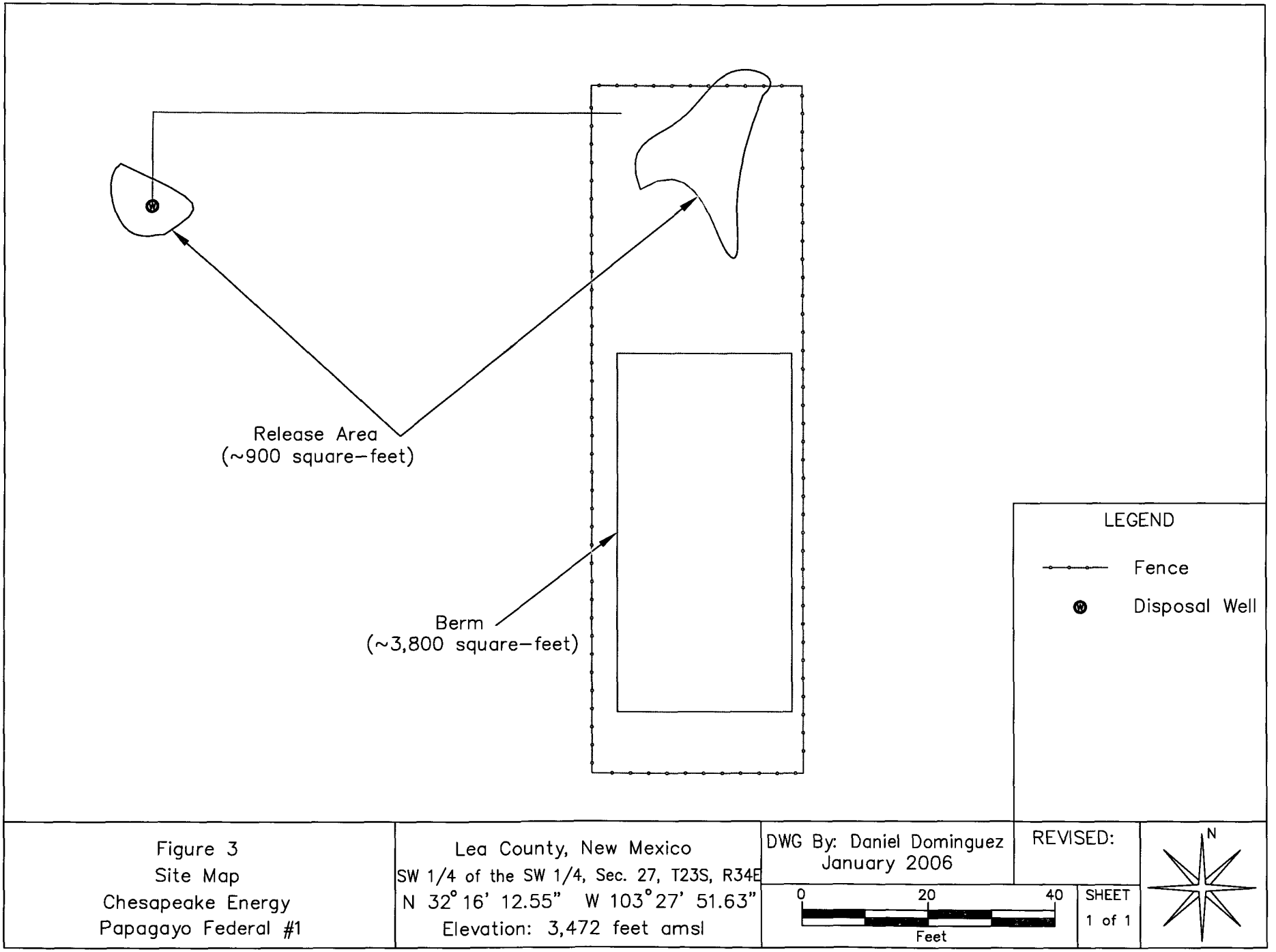

Figure 3 Site Map Chesapeake Energy Papagayo Federal #1	Lea County, New Mexico SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E N 32° 16' 12.55" W 103° 27' 51.63" Elevation: 3,472 feet amsl	DWG By: Daniel Dominguez January 2006	REVISED:	SHEET 1 of 1

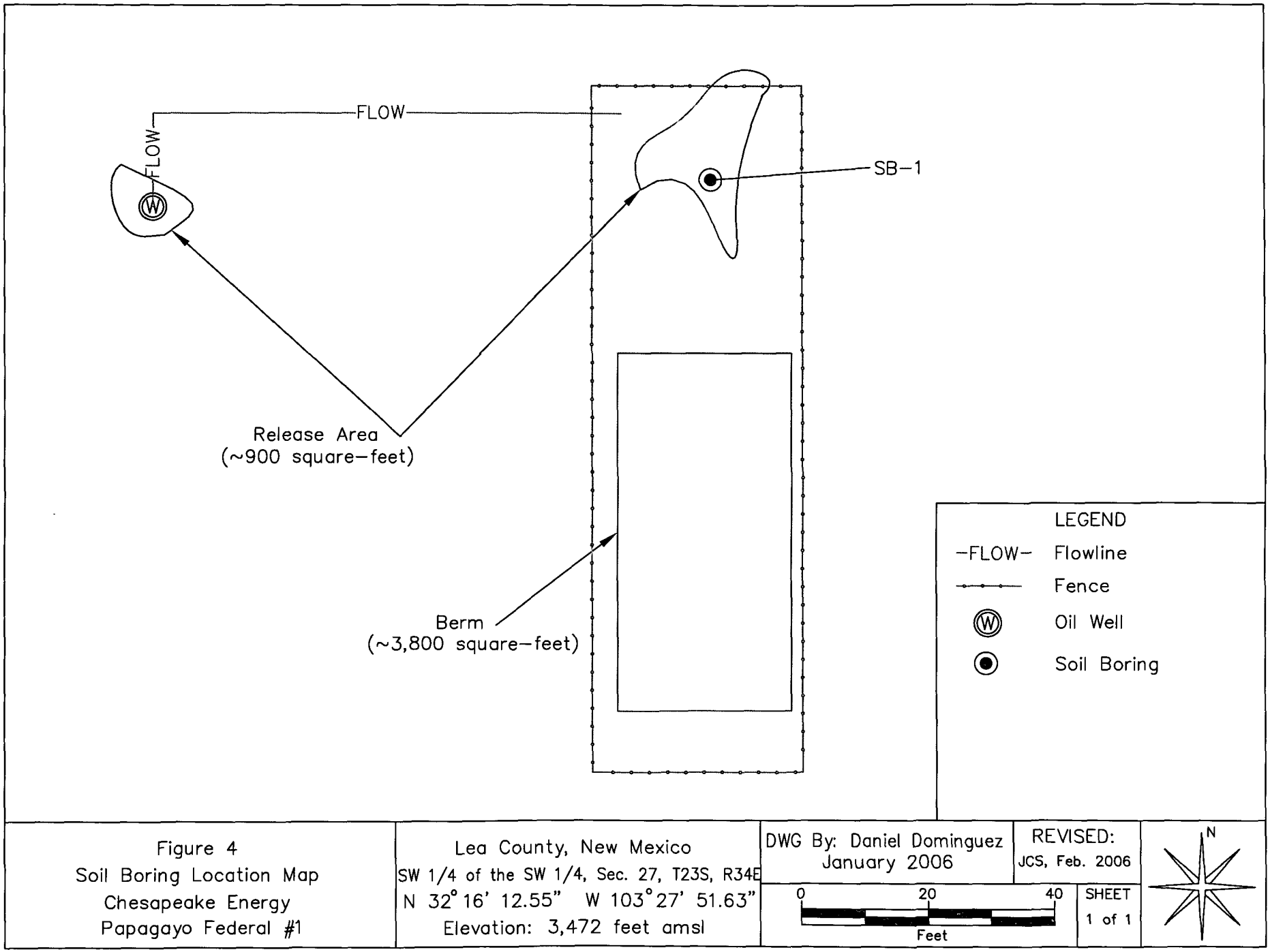

Figure 4 Soil Boring Location Map Chesapeake Energy Papagayo Federal #1	Lea County, New Mexico SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E N 32° 16' 12.55" W 103° 27' 51.63" Elevation: 3,472 feet amsl	DWG By: Daniel Dominguez January 2006	REVISED: JCS, Feb. 2006	
			SHEET 1 of 1	

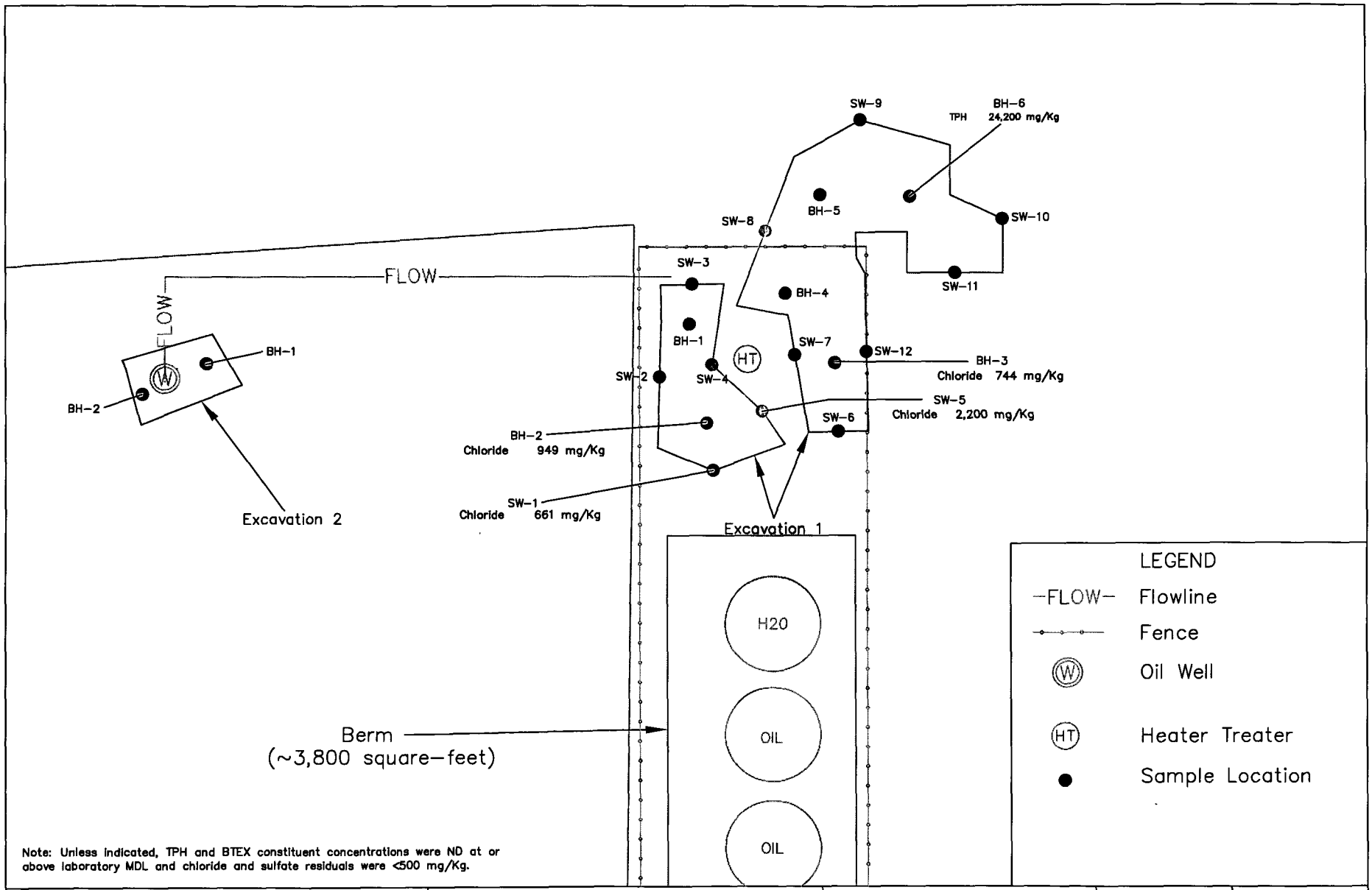

Figure 5 April 3, 2006 Excavation Sample Map Chesapeake Energy Papagayo Federal #1	Lea County, New Mexico SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E N 32° 16' 12.55" W 103° 27' 51.63" Elevation: 3,472 feet amsl	DWG By: Jason Stegemoller May 2006 0 20 40 Feet	REVISED: SHEET 1 of 1 N

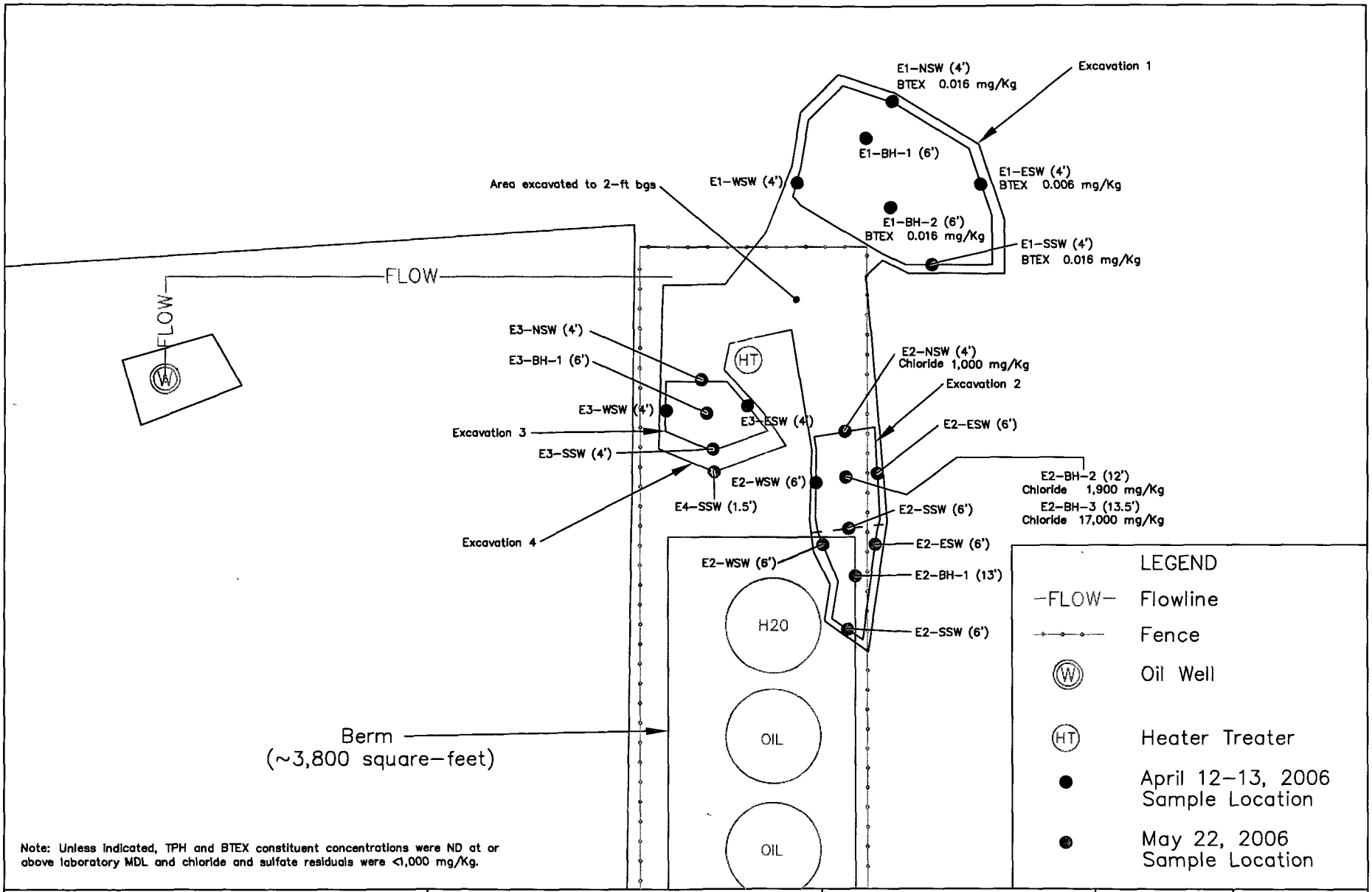

Figure 6 April 12-13 and May 22, 2006 Excavation Sample Map Chesapeake Energy Papagayo Federal #1	Lea County, New Mexico SW 1/4 of the SW 1/4, Sec. 27, T23S, R34E N 32° 16' 12.55" W 103° 27' 51.63" Elevation: 3,472 feet amsl	DWG By: Jason Stegemoller May 2006	REVISED:	N
		0 20 40 Feet	SHEET 1 of 1	

TABLES

TABLE 1

Well Data

Chesapeake Energy - Papagayo Federal #1 (Ref. # 160049)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
CP 00323 EXP	0	SHELL OIL COMPANY	PRO	23S	34E	22 2 3	N32° 17' 24.05"	W103° 27' 26.74"		3,445	
CP 00580	0	INC. NATOMAS NORTH AMERICA	PRO	23S	34E	23 3 4 3	N32° 16' 57.94"	W103° 26' 40.59"	09-Feb-79	3,417	
CP 00606	0	INC. NATOMAS NORTH AMERCIA	PRO	23S	34E	23 1 4	N32° 17' 24.04"	W103° 26' 40.60"	26-Jul-79	3,396	265
CP 00606 (E) 1 EXP	ERROR	NATOMAS NORTH AMERCIA	PRO	23S	34E	23 1 4	N32° 17' 24.04"	W103° 26' 40.60"			
CP 00606 (E) 2 EXP	ERROR	INC. NATOMAS NORTH AMERCIA	PRO	23S	34E	23 1 4	N32° 17' 24.04"	W103° 26' 40.60"			
CP 00606 (E) 3 EXP	ERROR	INC. NATOMAS NORTH AMERCIA	PRO	23S	34E	23 1 4	N32° 17' 24.04"	W103° 26' 40.60"			
CP 00606 (E) 4 EXP	ERROR	APACHE CORPORATION	PRO	23S	34E	23 1 4	N32° 17' 24.04"	W103° 26' 40.60"			

Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1) and USGS Database

[A] = In acre feet per annum

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

PRO = 72-12-1 Prospecting or Development of natural resource

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

Shaded area indicates wells not shown in Figure 2

TABLE 2

Summary of Soil Boring Analytical Results

Chesapeake- Papagayo Fed. No. 1 (Ref. #160049)

Soil Boring	Soil Sample I.D.	Depth (feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analyses (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)	Sulfate (mg/Kg)
SB-1	SB-1 2'-3'	2-3	31-Jan-06	In Situ	0 5	640	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10 0	<10 0	<10 0	**1,060**	58 7
	SB-1 5'-6'	5-6	31-Jan-06	In Situ	0 5	160	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10 0	<10 0	<10 0	39 2	25
	SB-1 10'-11'	10-11	31-Jan-06	In Situ	0 6	160	--	--	--	--	--	--	--	--	34 6	34 6
NMOCD Remedial Thresholds					**100**		**10**				**50**			**5,000**	**250** [B]	**600** [B]

Bolded *values are in excess of the NMOCD 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*

TABLE 3

Summary of Excavation Soil Sample Analytical Results

Chesapeake- Papagayo Fed. No. 1 (Ref. #160049)

Soil Sample I.D.	Depth (feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analyses (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)	C_{29}-C_{35} Range Organics (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
E1-BH-1 (2')	2	03-Apr-06	Excavated	8 7	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	143	30 1
E1-BH-2 (2')	2	03-Apr-06	Excavated	21 4	--	<0 0250	<0 0250	<0 0250	<0.050	<0 125	<10	<10	<10	<10	**949**	4 4
E1-BH-3 (2')	2	03-Apr-06	Excavated	19 4	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	**744**	38 6
E1-BH-4 (2')	2	03-Apr-06	Excavated	8 9	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	12 7	21 7
E1-BH-5 (2')	2	03-Apr-06	Excavated	18.9	--	<0 0250	<0 0250	<0 0250	<0 050	<0.125	<10	<10	<10	<10	10 7	12.9
E1-BH-6 (2')	2	03-Apr-06	Excavated	1510	--	0 796	2 09	2 31	11 55	16 746	6,740	16,100	1,400	**24,200**	239	25 5
E1-SW-1 (1')	1	03-Apr-06	Excavated	19 6	--	<0.0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	**661**	68 4
E1-SW-2 (1')	1	03-Apr-06	Excavated	26 8	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	59 6	33 0
E1-SW-3 (1')	1	03-Apr-06	Excavated	24 5	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	84 3	43 9
E1-SW-4 (1')	1	03-Apr-06	Excavated	24 1	--	<0 0250	<0 0250	<0.0250	<0 050	<0 125	<10	<10	<10	<10	66 4	21 6
E1-SW-5 (1')	1	03-Apr-06	Excavated	16 8	--	<0 0250	<0 0250	<0.0250	<0.050	<0 125	<10	<10	<10	<10	**2,200**	7 94
E1-SW-6 (1')	1	03-Apr-06	Excavated	11 5	--	<0 0250	<0.0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	149	20 8
E1-SW-7 (1')	1	03-Apr-06	Excavated	34 8	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	11 9	16 1
E1-SW-8 (1')	1	03-Apr-06	Excavated	21 4	--	<0 0250	<0.0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	22 5	19 9
E1-SW-9 (1')	1	03-Apr-06	Excavated	16 6	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	17 1	18 8
E1-SW-10 (1')	1	03-Apr-06	Excavated	23 3	--	<0 0250	<0.0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	18 6	16 1
E1-SW-11 (1')	1	03-Apr-06	Excavated	19 3	--	<0 0250	<0 0250	<0.0250	<0 050	<0 125	<10	<10	<10	<10	6 46	12 8
E1-SW-12 (1')	1	03-Apr-06	Excavated	27 4	--	<0 0250	<0 0250	<0 0250	<0.050	<0 125	<10	<10	<10	<10	7 79	12 1
E2-BH-2 (1')	1	03-Apr-06	In Situ	28 7	--	<0 0250	<0 0250	<0 0250	<0 050	<0 125	<10	<10	<10	<10	28 1	13.5
E2-BH-2 (1')	1	03-Apr-06	In Situ	28 6	--	<0 0250	<0 0250	<0 0250	<0.050	<0 125	<10	<10	<10	<10	162	32 6
E1-BH-1 (6')	6	12-Apr-06	In Situ	0.0	480	<0 005	<0 005	<0 005	<0.010	<0 025	<10.0	<10 0	<10 0	<30.0	**440**	<50
E1-BH-2 (6')	6	12-Apr-06	In Situ	0 0	320	0 016	<0 005	<0 005	<0.010	0.016	<10 0	<10 0	<10 0	<30 0	57	<25
E1-SSW(4')	4	12-Apr-06	In Situ	0 0	240	0 009	<0 005	<0 005	<0 010	0 009	<10.0	<10 0	<10 0	<30 0	<10	<5 0
E1-ESW(4')	4	12-Apr-06	In Situ	0 0	160	0 006	<0 005	<0.005	<0 010	0.006	<10 0	<10 0	<10 0	<30.0	<10	32
E1-NSW (4')	4	12-Apr-06	In Situ	0 0	160	0 006	<0 005	<0 005	<0 010	0 006	<10 0	<10 0	<10 0	<30 0	<10	17
E1-WSW (4')	4	12-Apr-06	In Situ	0.0	320	<0 005	<0 005	<0 005	<0 010	<0 025	<10.0	<10 0	<10 0	<30 0	130	<25
E2-ESW (4')	4	12-Apr-06	In Situ	1 4	320	--	--	--	--	--	--	--	--	--	110	27
E2-NSW (4')	4	12-Apr-06	In Situ	0.0	720	--	--	--	--	--	--	--	--	--	**1,000**	<25
E2-WSW (4')	4	12-Apr-06	In Situ	0 0	320	--	--	--	--	--	--	--	--	--	140	<25
E2-SSW (5')	5	13-Apr-06	In Situ	0 0	2,640	--	--	--	--	--	--	--	--	--	**2,900**	--
E2-BH-2 (12')	12	13-Apr-06	Excavated	0.0	1,120	--	--	--	--	--	--	--	--	--	**1,900**	--
E2-BH-3 (13 5')	13 5	13-Apr-06	In Situ	0 0	4,000	--	--	--	--	--	--	--	--	--	**17,000**	--
E3-BH-1 (6')	4	12-Apr-06	In Situ	0 0	160	--	--	--	--	--	--	--	--	--	<10	24
E3-SSW (4')	4	12-Apr-06	In Situ	0 0	240	--	--	--	--	--	--	--	--	--	<10	12
E3-ESW (4')	4	12-Apr-06	In Situ	0.0	160	--	--	--	--	--	--	--	--	--	<10	13
E3-NSW (4')	4	12-Apr-06	In Situ	0 0	240	--	--	--	--	--	--	--	--	--	<10	<5 0
E3-WSW (4')	4	12-Apr-06	In Situ	1.3	240	--	--	--	--	--	--	--	--	--	10	13
E4-SSW (1.5')	1 5	12-Apr-06	In Situ	0 0	400	--	--	--	--	--	--	--	--	--	**320**	--
E2-BH-1 (13')	13	22-May-06	In Situ	0 0	400	<0 005	<0 005	<0 005	<0 010	<0 025	<10 0	<10 0	<20 0	<40 0	180	36
E2-ESW (6')	6	22-May-06	In Situ	0 0	400	<0.005	<0 005	<0 005	<0 010	<0 025	<10 0	<10.0	<20.0	<40 0	**380**	11
E2-WSW (6')	6	22-May-06	In Situ	0 0	560	<0 005	<0 005	<0 005	<0 010	<0 025	<10 0	<10 0	<20 0	<40 0	**390**	10
E2-SSW (6')	6	22-May-06	In Situ	0 0	320	<0 005	<0 005	<0 005	<0 010	<0 025	<10 0	<10 0	<20 0	<40 0	90	41
NMOCD Remedial Thresholds				**100**		**10**				**50**				**5,000**	**250** [B]	**600** [B]

Bolded *values are in excess of the NMOCD 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

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Chesapeake/ Papagayo Fed. #1

Project Number: 160049

Location: UL-M, Sect. 27, T 23 S, R 34 E

Lab Order Number: 6B03016

Report Date: 02/10/06

Environmental Plus, Incorporated	Project. Chesapeake/ Papagayo Fed #1	Fax 505-394-2601
P.O. Box 1558	Project Number 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	02/10/06 17.48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 2'-3'	6B03016-01	Soil	02/02/06 11.15	02/03/06 11 40
SB-1 5'-6'	6B03016-02	Soil	02/02/06 11 20	02/03/06 11 40
SB-1 10'-11'	6B03016-03	Soil	02/02/06 11.30	02/03/06 11 40

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Environmental Plus, Incorporated	Project Chesapeake/ Papagayo Fed. #1	Fax 505-394-2601
P O Box 1558	Project Number 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	02/10/06 17 48

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 2'-3' (6B03016-01) Soil									
Gasoline Range Organics C6-C12	ND	10 0	mg/kg dry	1	EB60610	02/06/06	02/08/06	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*77.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*71.8 %*	*70-130*		"	"	"	"	
SB-1 5'-6' (6B03016-02) Soil									
Gasoline Range Organics C6-C12	ND	10 0	mg/kg dry	1	EB60610	02/06/06	02/08/06	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate. 1-Chlorooctane		*79.2 %*	*70-130*		"	"	"	"	
Surrogate. 1-Chlorooctadecane		*73.8 %*	*70-130*		"	"	"	"	

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Environmental Plus, Incorporated	Project. Chesapeake/ Papagayo Fed. #1	Fax 505-394-2601
P O Box 1558	Project Number 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	02/10/06 17.48

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 2'-3' (6B03016-01) Soil									
Chloride	**1060**	20 0	mg/kg	40	EB60803	02/06/06	02/08/06	EPA 300 0	
% Moisture	**1.0**	0.1	%	1	EB60703	02/06/06	02/07/06	% calculation	
Sulfate	**58.7**	20 0	mg/kg	40	EB60803	02/06/06	02/08/06	EPA 300.0	
SB-1 5'-6' (6B03016-02) Soil									
Chloride	**39.2**	5 00	mg/kg	10	EB60803	02/06/06	02/08/06	EPA 300 0	
% Moisture	**3.3**	0.1	%	1	EB60703	02/06/06	02/07/06	% calculation	
Sulfate	**25.0**	5.00	mg/kg	10	EB60803	02/06/06	02/08/06	EPA 300 0	
SB-1 10'-11' (6B03016-03) Soil									
Chloride	**34.6**	5 00	mg/kg	10	EB60804	02/06/06	02/09/06	EPA 300 0	

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Volatile Organic Compounds by EPA Method 8260B

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 2'-3' (6B03016-01) Soil									
Benzene	ND	25 0	ug/kg dry	25	EB60819	02/08/06	02/10/06	EPA 8260B	
Toluene	ND	25.0	"	"	"	"	"	"	
Ethylbenzene	ND	25 0	"	"	"	"	"	"	
Xylene (p/m)	ND	25 0	"	"	"	"	"	"	
Xylene (o)	ND	25.0	"	"	"	"	"	"	
Surrogate Dibromofluoromethane		*119 %*	*70-139*		"	"	"	"	
Surrogate 1,2-Dichloroethane-d4		*109 %*	*52-149*		"	"	"	"	
Surrogate Toluene-d8		*98 4 %*	*76-125*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*105 %*	*66-145*		"	"	"	"	
SB-1 5'-6' (6B03016-02) Soil									
Benzene	ND	25.0	ug/kg dry	25	EB60819	02/08/06	02/10/06	EPA 8260B	
Toluene	ND	25 0	"	"	"	"	"	"	
Ethylbenzene	ND	25.0	"	"	"	"	"	"	
Xylene (p/m)	ND	25.0	"	"	"	"	"	"	
Xylene (o)	ND	25.0	"	"	"	"	"	"	
Surrogate Dibromofluoromethane		*126 %*	*70-139*		"	"	"	"	
Surrogate 1,2-Dichloroethane-d4		*111 %*	*52-149*		"	"	"	"	
Surrogate Toluene-d8		*99.2 %*	*76-125*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*107 %*	*66-145*		"	"	"	"	

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 EB60610 - Solvent Extraction (GC)										
Blank (EB60610-BLK1)				Prepared 02/06/06 Analyzed 02/08/06						
Gasoline Range Organics C6-C12	ND	10 0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10 0	"							
Total Hydrocarbon C6-C35	ND	10 0	"							
Surrogate 1-Chlorooctane	*44 9*		*mg/kg*	*50 0*		*89 8*	*70-130*			
Surrogate 1-Chlorooctadecane	*46 1*		*"*	*50 0*		*92 2*	*70-130*			
LCS (EB60610-BS1)				Prepared. 02/06/06 Analyzed. 02/08/06						
Gasoline Range Organics C6-C12	434	10 0	mg/kg wet	500		86 8	75-125			
Diesel Range Organics >C12-C35	507	10 0	"	500		101	75-125			
Total Hydrocarbon C6-C35	940	10 0	"	1000		94.0	75-125			
Surrogate 1-Chlorooctane	*60 6*		*mg/kg*	*50 0*		*121*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		*"*	*50 0*		*98 8*	*70-130*			
Calibration Check (EB60610-CCV1)				Prepared. 02/06/06 Analyzed 02/08/06						
Gasoline Range Organics C6-C12	467		mg/kg	500		93 4	80-120			
Diesel Range Organics >C12-C35	515		"	500		103	80-120			
Total Hydrocarbon C6-C35	982		"	1000		98 2	80-120			
Surrogate 1-Chlorooctane	*61 7*		*"*	*50 0*		*123*	*70-130*			
Surrogate 1-Chlorooctadecane	*51 1*		*"*	*50 0*		*102*	*70-130*			
Matrix Spike (EB60610-MS1)	**Source: 6B03015-08**			Prepared· 02/06/06 Analyzed. 02/08/06						
Gasoline Range Organics C6-C12	473	10 0	mg/kg dry	513	ND	92 2	75-125			
Diesel Range Organics >C12-C35	533	10 0	"	513	ND	104	75-125			
Total Hydrocarbon C6-C35	1010	10 0	"	1030	ND	98 1	75-125			
Surrogate 1-Chlorooctane	*59 7*		*mg/kg*	*50 0*		*119*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 5*		*"*	*50 0*		*99 0*	*70-130*			
Matrix Spike Dup (EB60610-MSD1)	**Source: 6B03015-08**			Prepared. 02/06/06 Analyzed 02/08/06						
Gasoline Range Organics C6-C12	483	10 0	mg/kg dry	513	ND	94.2	75-125	2 09	20	
Diesel Range Organics >C12-C35	540	10 0	"	513	ND	105	75-125	1 30	20	
Total Hydrocarbon C6-C35	1020	10 0	"	1030	ND	99 0	75-125	0 985	20	
Surrogate 1-Chlorooctane	*60 1*		*mg/kg*	*50 0*		*120*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		*"*	*50 0*		*98 8*	*70-130*			

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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 EB60703 - General Preparation (Prep)										
Blank (EB60703-BLK1)				Prepared 02/06/06 Analyzed 02/07/06						
% Solids	100		%							
Duplicate (EB60703-DUP1)		**Source: 6B03010-01**		Prepared 02/06/06 Analyzed 02/07/06						
% Solids	99 4		%		99 6			0 201	20	
Duplicate (EB60703-DUP2)		**Source: 6B03015-09**		Prepared: 02/06/06 Analyzed. 02/07/06						
% Solids	97 6		%		97 1			0 514	20	
Duplicate (EB60703-DUP3)		**Source: 6B06002-12**		Prepared. 02/06/06 Analyzed 02/07/06						
% Solids	92 7		%		92 7			0 00	20	
Batch EB60803 - Water Extraction										
Blank (EB60803-BLK1)				Prepared 02/06/06 Analyzed· 02/08/06						
Sulfate	ND	0 500	mg/kg							
Chloride	ND	0 500	"							
LCS (EB60803-BS1)				Prepared. 02/06/06 Analyzed 02/08/06						
Chloride	8 66		mg/L	10 0		86 6	80-120			
Sulfate	9 80		"	10 0		98 0	80-120			
Calibration Check (EB60803-CCV1)				Prepared 02/06/06 Analyzed. 02/08/06						
Chloride	8 81		mg/L	10 0		88 1	80-120			
Sulfate	10 0		"	10 0		100	80-120			
Duplicate (EB60803-DUP1)		**Source: 6B03015-01**		Prepared. 02/06/06 Analyzed 02/08/06						
Chloride	69 5	20 0	mg/kg		74 0			6 27	20	
Sulfate	1390	20 0	"		1380			0 722	20	

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 EB60804.- Water Extraction										
Blank (EB60804-BLK1)				Prepared 02/07/06 Analyzed 02/08/06						
Chloride	ND	0 500	mg/kg							
LCS (EB60804-BS1)				Prepared. 02/07/06 Analyzed 02/08/06						
Chloride	8 78		mg/L	10 0		87 8	80-120			
Calibration Check (EB60804-CCV1)				Prepared. 02/07/06 Analyzed 02/08/06						
Chloride	8 73		mg/L	10 0		87.3	80-120			
Duplicate (EB60804-DUP1)	**Source: 6B06002-08**			Prepared. 02/07/06 Analyzed. 02/08/06						
Chloride	39 0	5 00	mg/kg		43 8			11 6	20	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB60819 - EPA 5030C (GCMS)										
Blank (EB60819-BLK1)				Prepared & Analyzed 02/08/06						
Benzene	ND	25 0	ug/kg wet							
Toluene	ND	25 0	"							
Ethylbenzene	ND	25 0	"							
Xylene (p/m)	ND	25 0	"							
Xylene (o)	ND	25 0	"							
Surrogate Dibromofluoromethane	*56 0*		*ug/kg*	*50 0*		*112*	*70-139*			
Surrogate 1,2-Dichloroethane-d4	*51 1*		*"*	*50 0*		*102*	*52-149*			
Surrogate Toluene-d8	*49 2*		*"*	*50 0*		*98 4*	*76-125*			
Surrogate 4-Bromofluorobenzene	*50 6*		*"*	*50 0*		*101*	*66-145*			
LCS (EB60819-BS1)				Prepared & Analyzed· 02/08/06						
Benzene	1180	25 0	ug/kg wet	1250		94 4	70-130			
Toluene	1340	25 0	"	1250		107	70-130			
Ethylbenzene	1360	25 0	"	1250		109	70-130			
Xylene (p/m)	2810	25 0	"	2500		112	70-130			
Xylene (o)	1460	25 0	"	1250		117	70-130			
Surrogate Dibromofluoromethane	*58 0*		*ug/kg*	*50 0*		*116*	*70-139*			
Surrogate 1,2-Dichloroethane-d4	*54 2*		*"*	*50 0*		*108*	*52-149*			
Surrogate Toluene-d8	*50 3*		*"*	*50 0*		*101*	*76-125*			
Surrogate 4-Bromofluorobenzene	*49 7*		*"*	*50 0*		*99 4*	*66-145*			
Calibration Check (EB60819-CCV1)				Prepared & Analyzed. 02/08/06						
Toluene	58 1		ug/kg	50 0		116	70-130			
Ethylbenzene	56 7		"	50 0		113	70-130			
Surrogate Dibromofluoromethane	*57 0*		*"*	*50 0*		*114*	*70-139*			
Surrogate 1,2-Dichloroethane-d4	*53 6*		*"*	*50 0*		*107*	*52-149*			
Surrogate Toluene-d8	*49 7*		*"*	*50 0*		*99 4*	*76-125*			
Surrogate 4-Bromofluorobenzene	*51 8*		*"*	*50 0*		*104*	*66-145*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB60819 - EPA 5030C (GCMS)										
Matrix Spike (EB60819-MS1)	**Source: 6B03005-01**			Prepared & Analyzed. 02/08/06						
Benzene	1210	25 0	ug/kg dry	1280	ND	94 5	70-130			
Toluene	1360	25 0	"	1280	ND	106	70-130			
Ethylbenzene	1350	25 0	"	1280	ND	105	70-130			
Xylene (p/m)	2870	25 0	"	2570	24 1	111	70-130			
Xylene (o)	1520	25 0	"	1280	ND	119	70-130			
Surrogate Dibromofluoromethane	*60 1*		*ug/kg*	*50 0*		*120*	*70-139*			
Surrogate 1,2-Dichloroethane-d4	*55 3*		*"*	*50 0*		*111*	*52-149*			
Surrogate Toluene-d8	*50 4*		*"*	*50 0*		*101*	*76-125*			
Surrogate 4-Bromofluorobenzene	*53 6*		*"*	*50 0*		*107*	*66-145*			
Matrix Spike Dup (EB60819-MSD1)	**Source: 6B03005-01**			Prepared & Analyzed. 02/08/06						
Benzene	1260	25 0	ug/kg dry	1280	ND	98 4	70-130	4 04	20	
Toluene	1410	25 0	"	1280	ND	110	70-130	3 70	20	
Ethylbenzene	1370	25 0	"	1280	ND	107	70-130	1 89	20	
Xylene (p/m)	2890	25 0	"	2570	24 1	112	70-130	0 897	20	
Xylene (o)	1530	25 0	"	1280	ND	120	70-130	0 837	20	
Surrogate Dibromofluoromethane	*61 8*		*ug/kg*	*50 0*		*124*	*70-139*			
Surrogate 1,2-Dichloroethane-d4	*55 2*		*"*	*50 0*		*110*	*52-149*			
Surrogate Toluene-d8	*50 8*		*"*	*50 0*		*102*	*76-125*			
Surrogate 4-Bromofluorobenzene	*50 9*		*"*	*50 0*		*102*	*66-145*			

Environmental Plus, Incorporated	Project. Chesapeake/ Papagayo Fed. #1	Fax 505-394-2601
P O Box 1558	Project Number. 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	02/10/06 17 48

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

Report Approved By: Raland K Tuttle Date: 2/10/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

LAB: ELT

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	George Blackburn

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D. (lab only)		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: CRUDE OIL	MATRIX: SLUDGE	MATRIX: OTHER:	PRESERV.: ACID/BASE	PRESERV.: ICE/COOL	PRESERV.: OTHER	SAMPLING: DATE	SAMPLING: TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
36305																									
-01	1	SB-1 (2'-3')	G	1			X					X		02-Feb-06	11:15	X	X	X	X							
-02	2	SB-1 (5'-6')	G	1			X					X		02-Feb-06	11:20	X	X	X	X							
-03	3	SB-1 (10'-11')	G	1			X					X		02-Feb-06	11:30	X	X	X	X							
-04	4	SB-1 (15'-16')	G	1			X					X		02-Feb-06	11:40	X	X	X	X							
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished: Iain Olness	Date: 2/3/06 Time: 0857	Received By:
Relinquished by:	Date: 2/3/06 Time: 1:40	Received By: (lab staff)
Delivered by:	Sample Cool & Intact: Yes / No	Checked By:

e-mail results to iolness@envplus.net

NOTES: Analyze subsequent samples in each soil boring for each analyte until two successive samples are ND for organics and <250 mg/Kg for chlorides and <600 mg/Kg for sulfates. ~~ANY QUESTIONS.~~

PLEASE CALL IAIN OLNESS AT (505) 394-3481. **PLEASE READ!!!**

1.5 label jar seal 4oz glass

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

Client: EPI

Date/Time: 2/3/16 11:40

Order #: 602030116

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.5 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?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
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:

Variance Documentation:

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

Regarding:

Corrective Action Taken:

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Chesapeake/ Papagayo Fed. #1

Project Number: 160049

Location: UL-M, Sect. 27, T 23 S, R 34 E

Lab Order Number: 6D04008

Report Date: 04/12/06

Environmental Plus, Incorporated	Project Chesapeake/ Papagayo Fed #1	Fax 505-394-2601
P.O Box 1558	Project Number 160049	**Reported:**
Eunice NM, 88231	Project Manager. Iain Olness	04/12/06 10 16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E1-BH-1 2'	6D04008-01	Soil	04/03/06 11.00	04/04/06 10 30
E1-BH-2 2'	6D04008-02	Soil	04/03/06 11.02	04/04/06 10 30
E1-BH-3 2'	6D04008-03	Soil	04/03/06 11:21	04/04/06 10.30
E1-BH-4 2'	6D04008-04	Soil	04/03/06 11.23	04/04/06 10.30
E1-BH-5 2'	6D04008-05	Soil	04/03/06 11:26	04/04/06 10.30
E1-BH-6 2'	6D04008-06	Soil	04/03/06 11 54	04/04/06 10 30
E1-SW-1 1'	6D04008-07	Soil	04/03/06 11.05	04/04/06 10 30
E1-SW-2 1'	6D04008-08	Soil	04/03/06 11.08	04/04/06 10.30
E1-SW-3 1'	6D04008-09	Soil	04/03/06 11 10	04/04/06 10 30
E1-SW-4 1'	6D04008-10	Soil	04/03/06 11.14	04/04/06 10 30
E1-SW-5 1'	6D04008-11	Soil	04/03/06 11.17	04/04/06 10.30
E1-SW-6 1'	6D04008-12	Soil	04/03/06 11.30	04/04/06 10.30
E1-SW-7 1'	6D04008-13	Soil	04/03/06 11 33	04/04/06 10.30
E1-SW-8 1'	6D04008-14	Soil	04/03/06 11.35	04/04/06 10 30
E1-SW-9 1'	6D04008-15	Soil	04/03/06 11.37	04/04/06 10 30
E1-SW-10 1'	6D04008-16	Soil	04/03/06 11 41	04/04/06 10.30
E1-SW-11 1'	6D04008-17	Soil	04/03/06 11.46	04/04/06 10.30
E1-SW-12 1'	6D04008-18	Soil	04/03/06 11 51	04/04/06 10.30
E2-BH-1 1'	6D04008-19	Soil	04/03/06 12.16	04/04/06 10 30
E2-BH-2 1'	6D04008-20	Soil	04/03/06 12 18	04/04/06 10.30

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-BH-1 2' (6D04008-01) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60620	04/06/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*85.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/07/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*74 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*73 2 %*	*70-130*		"	"	"	"	
E1-BH-2 2' (6D04008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*89.2 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*85.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*112 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
E1-BH-3 2' (6D04008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*90.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-BH-3 2' (6D04008-03) Soil									
Carbon Ranges C12-C28	ND	10 0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*119 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
E1-BH-4 2' (6D04008-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*86.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*87 5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*124 %*	*70-130*		"	"	"	"	
E1-BH-5 2' (6D04008-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*87 2 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*92 5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*92.4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*91.8 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated	Project Chesapeake/ Papagayo Fed. #1	Fax: 505-394-2601
P O Box 1558	Project Number 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	04/12/06 10.16

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-BH-6 2' (6D04008-06) Soil									
Benzene	**0.796**	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	**2.09**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**2.31**	0 0250	"	"	"	"	"	"	
Xylene (p/m)	**6.25**	0 0250	"	"	"	"	"	"	
Xylene (o)	**5.30**	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*265 %*	*80-120*		"	"	"	"	*S-04*
Surrogate 4-Bromofluorobenzene		*332 %*	*80-120*		"	"	"	"	*S-04*
Carbon Ranges C6-C12	**6740**	20 0	mg/kg dry	2	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	**16100**	20.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	**1400**	20.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**24200**	20.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*61.6 %*	*70-130*		"	"	"	"	*S-06*
Surrogate. 1-Chlorooctadecane		*139 %*	*70-130*		"	"	"	"	*S-04*
E1-SW-1 1' (6D04008-07) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*94 5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*82.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*123 %*	*70-130*		"	"	"	"	
E1-SW-2 1' (6D04008-08) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*87.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*90.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-2 1' (6D04008-08) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*116 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*118 %*	*70-130*		"	"	"	"	
E1-SW-3 1' (6D04008-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*85 8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*91 2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*121 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*118 %*	*70-130*		"	"	"	"	
E1-SW-4 1' (6D04008-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*85.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*83.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60512	04/05/06	04/06/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*117 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*116 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-5 1' (6D04008-11) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/07/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*88.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*85 8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*113 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
E1-SW-6 1' (6D04008-12) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/08/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*95.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*80 2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*88 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*86 6 %*	*70-130*		"	"	"	"	
E1-SW-7 1' (6D04008-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/08/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate· a,a,a-Trifluorotoluene		*98.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-7 1' (6D04008-13) Soil									
Carbon Ranges C12-C28	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*110 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*110 %*	*70-130*		"	"	"	"	
E1-SW-8 1' (6D04008-14) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*93.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*81.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*82.4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*84 0 %*	*70-130*		"	"	"	"	
E1-SW-9 1' (6D04008-15) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*90.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*81.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*87 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*87.8 %*	*70-130*		"	"	"	"	

Organics by GC

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-10 1' (6D04008-16) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*100 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*92.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*87.6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*87.6 %*	*70-130*		"	"	"	"	
E1-SW-11 1' (6D04008-17) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*94.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*90.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*84.2 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*82 6 %*	*70-130*		"	"	"	"	
E1-SW-12 1' (6D04008-18) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*91.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*86 2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	

Organics by GC

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-12 1' (6D04008-18) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*88.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*86.0 %*	*70-130*		"	"	"	"	
E2-BH-1 1' (6D04008-19) Soil									
Benzene	ND	0 0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0 0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate a,a,a-Trifluorotoluene		*92 0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*92 0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*107 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*105 %*	*70-130*		"	"	"	"	
E2-BH-2 1' (6D04008-20) Soil									
Benzene	ND	0.0250	mg/kg dry	25	ED60711	04/07/06	04/09/06	EPA 8021B	
Toluene	ND	0 0250	"	"	"	"	"	"	
Ethylbenzene	ND	0 0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0 0250	"	"	"	"	"	"	
Surrogate. a,a,a-Trifluorotoluene		*91.5 %*	*80-120*		"	"	"	"	
Surrogate. 4-Bromofluorobenzene		*82 8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	ED60511	04/05/06	04/05/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*114 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated	Project. Chesapeake/ Papagayo Fed. #1	Fax. 505-394-2601
P O Box 1558	Project Number. 160049	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	04/12/06 10.16

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-BH-1 2' (6D04008-01) Soil									
Chloride	**143**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**4.7**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**30.1**	0.500	mg/kg	"	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-BH-2 2' (6D04008-02) Soil									
Chloride	**949**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**3.9**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**4.40**	0.500	mg/kg	"	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-BH-3 2' (6D04008-03) Soil									
Chloride	**744**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**7.8**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**38.6**	10 0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-BH-4 2' (6D04008-04) Soil									
Chloride	**12.7**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**4.0**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**21.7**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-BH-5 2' (6D04008-05) Soil									
Chloride	**10.7**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**8.6**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**12.9**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-BH-6 2' (6D04008-06) Soil									
Chloride	**239**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**10.5**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**25.5**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-1 1' (6D04008-07) Soil									
Chloride	**661**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**3.5**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**68.4**	10 0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	

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General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-2 1' (6D04008-08) Soil									
Chloride	**59.6**	10 0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300.0	
% Moisture	**4.3**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**33.0**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-3 1' (6D04008-09) Soil									
Chloride	**84.3**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**6.3**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**43.9**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-4 1' (6D04008-10) Soil									
Chloride	**66.4**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300.0	
% Moisture	**2.3**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**21.6**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300.0	
E1-SW-5 1' (6D04008-11) Soil									
Chloride	**2200**	25.0	mg/kg	50	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**5.6**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**7.94**	0.500	mg/kg	"	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-6 1' (6D04008-12) Soil									
Chloride	**149**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**3.3**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**20.8**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-7 1' (6D04008-13) Soil									
Chloride	**11.9**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300.0	
% Moisture	**3.8**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**16.1**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-8 1' (6D04008-14) Soil									
Chloride	**22.5**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**2.9**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**19.9**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
E1-SW-9 1' (6D04008-15) Soil									
Chloride	**17.1**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**8.7**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**18.8**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-10 1' (6D04008-16) Soil									
Chloride	**18.6**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**7.4**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**16.1**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-11 1' (6D04008-17) Soil									
Chloride	**6.46**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**6.7**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**12.8**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E1-SW-12 1' (6D04008-18) Soil									
Chloride	**7.79**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**7.4**	0 1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**12.1**	5.00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E2-BH-1 1' (6D04008-19) Soil									
Chloride	**28.1**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**8.0**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**13.5**	5 00	mg/kg	10	ED60602	04/05/06	04/05/06	EPA 300 0	
E2-BH-2 1' (6D04008-20) Soil									
Chloride	**162**	10.0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	
% Moisture	**5.4**	0.1	%	1	ED60417	04/04/06	04/05/06	% calculation	
Sulfate	**32.6**	10 0	mg/kg	20	ED60602	04/05/06	04/05/06	EPA 300 0	

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 ED60511 - Solvent Extraction (GC)										
Blank (ED60511-BLK1)				Prepared & Analyzed 04/05/06						
Carbon Ranges C6-C12	ND	10 0	mg/kg wet							
Carbon Ranges C12-C28	ND	10 0	"							
Carbon Ranges C28-C35	ND	10 0	"							
Total Hydrocarbon C6-C35	ND	10 0	"							
Surrogate 1-Chlorooctane	*42 6*		*mg/kg*	*50 0*		*85 2*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 8*		*"*	*50 0*		*87 6*	*70-130*			
LCS (ED60511-BS1)				Prepared & Analyzed. 04/05/06						
Carbon Ranges C6-C12	546	10.0	mg/kg wet	500		109	75-125			
Carbon Ranges C12-C28	543	10 0	"	500		109	75-125			
Total Hydrocarbon C6-C35	1090	10 0	"	1000		109	75-125			
Surrogate 1-Chlorooctane	*56 5*		*mg/kg*	*50 0*		*113*	*70-130*			
Surrogate 1-Chlorooctadecane	*50 5*		*"*	*50 0*		*101*	*70-130*			
Calibration Check (ED60511-CCV1)				Prepared. 04/05/06 Analyzed 04/06/06						
Carbon Ranges C6-C12	254		mg/kg	250		102	80-120			
Carbon Ranges C12-C28	293		"	250		117	80-120			
Total Hydrocarbon C6-C35	547		"	500		109	80-120			
Surrogate 1-Chlorooctane	*52 1*		*"*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*47 3*		*"*	*50 0*		*94 6*	*70-130*			
Matrix Spike (ED60511-MS1)	**Source: 6D04008-11**			Prepared & Analyzed. 04/05/06						
Carbon Ranges C6-C12	555	10 0	mg/kg dry	530	ND	105	75-125			
Carbon Ranges C12-C28	539	10 0	"	530	ND	102	75-125			
Total Hydrocarbon C6-C35	1090	10 0	"	1060	ND	103	75-125			
Surrogate 1-Chlorooctane	*55 2*		*mg/kg*	*50 0*		*110*	*70-130*			
Surrogate 1-Chlorooctadecane	*47 0*		*"*	*50 0*		*94 0*	*70-130*			

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 ED60511 - Solvent Extraction (GC)										
Matrix Spike Dup (ED60511-MSD1)	**Source: 6D04008-11**			Prepared & Analyzed. 04/05/06						
Carbon Ranges C6-C12	561	10 0	mg/kg dry	530	ND	106	75-125	1 08	20	
Carbon Ranges C12-C28	534	10 0	"	530	ND	101	75-125	0 932	20	
Total Hydrocarbon C6-C35	1100	10 0	"	1060	ND	104	75-125	0 913	20	
Surrogate 1-Chlorooctane	*54 6*		*mg/kg*	*50 0*		*109*	*70-130*			
Surrogate 1-Chlorooctadecane	*46 7*		*"*	*50 0*		*93 4*	*70-130*			
Batch ED60512 - Solvent Extraction (GC)										
Blank (ED60512-BLK1)				Prepared. 04/05/06 Analyzed. 04/06/06						
Carbon Ranges C6-C12	ND	10 0	mg/kg wet							
Carbon Ranges C12-C28	ND	10 0	"							
Carbon Ranges C28-C35	ND	10 0	"							
Total Hydrocarbon C6-C35	ND	10 0	"							
Surrogate 1-Chlorooctane	*61 5*		*mg/kg*	*50 0*		*123*	*70-130*			
Surrogate 1-Chlorooctadecane	*63 0*		*"*	*50 0*		*126*	*70-130*			
LCS (ED60512-BS1)				Prepared· 04/05/06 Analyzed 04/06/06						
Carbon Ranges C6-C12	559	10 0	mg/kg wet	500		112	75-125			
Carbon Ranges C12-C28	542	10 0	"	500		108	75-125			
Total Hydrocarbon C6-C35	1100	10 0	"	1000		110	75-125			
Surrogate 1-Chlorooctane	*57 4*		*mg/kg*	*50 0*		*115*	*70-130*			
Surrogate 1-Chlorooctadecane	*50 9*		*"*	*50 0*		*102*	*70-130*			
Calibration Check (ED60512-CCV1)				Prepared 04/05/06 Analyzed 04/07/06						
Carbon Ranges C6-C12	267		mg/kg	250		107	80-120			
Carbon Ranges C12-C28	290		"	250		116	80-120			
Total Hydrocarbon C6-C35	557		"	500		111	80-120			
Surrogate 1-Chlorooctane	*54 4*		*"*	*50 0*		*109*	*70-130*			
Surrogate 1-Chlorooctadecane	*50 5*		*"*	*50 0*		*101*	*70-130*			

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 ED60512 - Solvent Extraction (GC)										
Matrix Spike (ED60512-MS1)	**Source: 6D04008-10**			Prepared. 04/05/06 Analyzed. 04/06/06						
Carbon Ranges C6-C12	540	10 0	mg/kg dry	512	ND	105	75-125			
Carbon Ranges C12-C28	583	10 0	"	512	ND	114	75-125			
Total Hydrocarbon C6-C35	1120	10 0	"	1020	ND	110	75-125			
Surrogate 1-Chlorooctane	*51 6*		*mg/kg*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 9*		*"*	*50 0*		*87 8*	*70-130*			
Matrix Spike Dup (ED60512-MSD1)	**Source: 6D04008-10**			Prepared. 04/05/06 Analyzed. 04/06/06						
Carbon Ranges C6-C12	539	10 0	mg/kg dry	512	ND	105	75-125	0 185	20	
Carbon Ranges C12-C28	598	10 0	"	512	ND	117	75-125	2 54	20	
Total Hydrocarbon C6-C35	1140	10 0	"	1020	ND	112	75-125	1 77	20	
Surrogate 1-Chlorooctane	*51 9*		*mg/kg*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 0*		*"*	*50 0*		*86.0*	*70-130*			
Batch ED60620 - EPA 5030C (GC)										
Blank (ED60620-BLK1)				Prepared & Analyzed. 04/06/06						
Benzene	ND	0 0250	mg/kg wet							
Toluene	ND	0 0250	"							
Ethylbenzene	ND	0 0250	"							
Xylene (p/m)	ND	0 0250	"							
Xylene (o)	ND	0 0250	"							
Surrogate a,a,a-Trifluorotoluene	*36 6*		*ug/kg*	*40 0*		*91 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 4*		*"*	*40 0*		*81 0*	*80-120*			
LCS (ED60620-BS1)				Prepared & Analyzed 04/06/06						
Benzene	1.06	0 0250	mg/kg wet	1 25		84 8	80-120			
Toluene	1 03	0 0250	"	1 25		82 4	80-120			
Ethylbenzene	1 40	0 0250	"	1 25		112	80-120			
Xylene (p/m)	2 42	0 0250	"	2 50		96 8	80-120			
Xylene (o)	1 17	0 0250	"	1 25		93 6	80-120			
Surrogate a,a,a-Trifluorotoluene	*33 3*		*ug/kg*	*40 0*		*83 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*37 4*		*"*	*40 0*		*93 5*	*80-120*			

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 ED60620 - EPA 5030C (GC)										
Calibration Check (ED60620-CCV1)				Prepared: 04/06/06 Analyzed. 04/07/06						
Benzene	41 6		ug/kg	50 0		83 2	80-120			
Toluene	40 4		"	50 0		80 8	80-120			
Ethylbenzene	44 0		"	50 0		88 0	80-120			
Xylene (p/m)	90 2		"	100		90.2	80-120			
Xylene (o)	44 6		"	50 0		89 2	80-120			
Surrogate a,a,a-Trifluorotoluene	*37 6*		"	*40 0*		*94.0*	*80-120*			
Surrogate 4-Bromofluorobenzene	*38 7*		"	*40 0*		*96 8*	*80-120*			
Matrix Spike (ED60620-MS1)	**Source: 6D04007-01**			Prepared 04/06/06 Analyzed 04/07/06						
Benzene	1 08	0 0250	mg/kg dry	1 33	ND	81 2	80-120			
Toluene	1 09	0 0250	"	1 33	ND	82 0	80-120			
Ethylbenzene	1 45	0 0250	"	1 33	ND	109	80-120			
Xylene (p/m)	2 53	0 0250	"	2 66	ND	95 1	80-120			
Xylene (o)	1 19	0 0250	"	1.33	ND	89 5	80-120			
Surrogate a,a,a-Trifluorotoluene	*38 3*		*ug/kg*	*40 0*		*95 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*38 2*		"	*40 0*		*95 5*	*80-120*			
Matrix Spike Dup (ED60620-MSD1)	**Source: 6D04007-01**			Prepared 04/06/06 Analyzed: 04/07/06						
Benzene	1 07	0 0250	mg/kg dry	1 33	ND	80 5	80-120	0 866	20	
Toluene	1 07	0 0250	"	1 33	ND	80 5	80-120	1 85	20	
Ethylbenzene	1 43	0 0250	"	1 33	ND	108	80-120	0 922	20	
Xylene (p/m)	2 50	0 0250	"	2 66	ND	94 0	80-120	1 16	20	
Xylene (o)	1 19	0 0250	"	1 33	ND	89 5	80-120	0 00	20	
Surrogate a,a,a-Trifluorotoluene	*37 8*		*ug/kg*	*40 0*		*94 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*35 6*		"	*40 0*		*89 0*	*80-120*			
Batch ED60711 - EPA 5030C (GC)										
Blank (ED60711-BLK1)				Prepared & Analyzed 04/07/06						
Benzene	ND	0 0250	mg/kg wet							
Toluene	ND	0 0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0 0250	"							
Xylene (o)	ND	0 0250	"							
Surrogate a,a,a-Trifluorotoluene	*33 8*		*ug/kg*	*40 0*		*84 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 7*		"	*40 0*		*81 8*	*80-120*			

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 ED60711 - EPA 5030C (GC)										
LCS (ED60711-BS1)				Prepared & Analyzed 04/07/06						
Benzene	0 0408	0 00100	mg/kg wet	0 0500		81.6	80-120			
Toluene	0 0406	0 00100	"	0 0500		81 2	80-120			
Ethylbenzene	0 0541	0 00100	"	0.0500		108	80-120			
Xylene (p/m)	0 0944	0 00100	"	0 100		94 4	80-120			
Xylene (o)	0 0464	0 00100	"	0 0500		92 8	80-120			
Surrogate a,a,a-Trifluorotoluene	*36 4*		*ug/kg*	*40 0*		*91 0*	*80-120*			
Surrogate 4-Bromofluorobenzene	*43 8*		*"*	*40 0*		*110*	*80-120*			
Calibration Check (ED60711-CCV1)				Prepared 04/07/06 Analyzed 04/09/06						
Benzene	50 3		ug/kg	50 0		101	80-120			
Toluene	50 2		"	50 0		100	80-120			
Ethylbenzene	51 2		"	50 0		102	80-120			
Xylene (p/m)	102		"	100		102	80-120			
Xylene (o)	50 8		"	50 0		102	80-120			
Surrogate a,a,a-Trifluorotoluene	*43 0*		*"*	*40 0*		*108*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 2*		*"*	*40 0*		*80 5*	*80-120*			
Matrix Spike (ED60711-MS1)	**Source: 6D04008-20**			Prepared 04/07/06 Analyzed 04/09/06						
Benzene	1 11	0 0250	mg/kg dry	1.32	ND	84 1	80-120			
Toluene	1 09	0 0250	"	1 32	ND	82 6	80-120			
Ethylbenzene	1 16	0 0250	"	1 32	ND	87 9	80-120			
Xylene (p/m)	2 38	0 0250	"	2 64	ND	90 2	80-120			
Xylene (o)	1 12	0 0250	"	1 32	ND	84 8	80-120			
Surrogate a,a,a-Trifluorotoluene	*40 4*		*ug/kg*	*40 0*		*101*	*80-120*			
Surrogate 4-Bromofluorobenzene	*36 6*		*"*	*40 0*		*91 5*	*80-120*			
Matrix Spike Dup (ED60711-MSD1)	**Source: 6D04008-20**			Prepared 04/07/06 Analyzed 04/09/06						
Benzene	1 11	0 0250	mg/kg dry	1 32	ND	84 1	80-120	0 00	20	
Toluene	1 11	0 0250	"	1 32	ND	84 1	80-120	1 80	20	
Ethylbenzene	1 16	0 0250	"	1 32	ND	87 9	80-120	0 00	20	
Xylene (p/m)	2 43	0 0250	"	2 64	ND	92 0	80-120	1 98	20	
Xylene (o)	1 15	0 0250	"	1 32	ND	87 1	80-120	2 68	20	
Surrogate a,a,a-Trifluorotoluene	*42 0*		*ug/kg*	*40 0*		*105*	*80-120*			
Surrogate 4-Bromofluorobenzene	*39 5*		*"*	*40 0*		*98 8*	*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 ED60417 - General Preparation (Prep)										
Blank (ED60417-BLK1)				Prepared 04/04/06 Analyzed 04/05/06						
% Solids	100		%							
Duplicate (ED60417-DUP1)		**Source: 6D04001-01**		Prepared. 04/04/06 Analyzed. 04/05/06						
% Solids	97 6		%		97 8			0 205	20	
Duplicate (ED60417-DUP2)		**Source: 6D04007-01**		Prepared 04/04/06 Analyzed 04/05/06						
% Solids	93 9		%		93 9			0 00	20	
Duplicate (ED60417-DUP3)		**Source: 6D04008-05**		Prepared 04/04/06 Analyzed 04/05/06						
% Solids	92 2		%		91 4			0 871	20	
Duplicate (ED60417-DUP4)		**Source: 6D04009-05**		Prepared 04/04/06 Analyzed. 04/05/06						
% Solids	93 8		%		94 1			0 319	20	
Duplicate (ED60417-DUP5)		**Source: 6D04012-01**		Prepared 04/04/06 Analyzed. 04/05/06						
% Solids	87 9		%		86 4			1 72	20	
Batch ED60602 - Water Extraction										
Blank (ED60602-BLK1)				Prepared & Analyzed. 04/05/06						
Chloride	ND	0 500	mg/kg							
Sulfate	ND	0 500	"							
LCS (ED60602-BS1)				Prepared & Analyzed 04/05/06						
Sulfate	9 76		mg/L	10.0		97 6	80-120			
Chloride	8 99		"	10 0		89 9	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 ED60602 - Water Extraction										
Calibration Check (ED60602-CCV1)				Prepared & Analyzed 04/05/06						
Sulfate	9 00		mg/L	10 0		90 0	80-120			
Chloride	8 97		"	10 0		89 7	80-120			
Duplicate (ED60602-DUP1)	**Source: 6D04008-05**			Prepared & Analyzed 04/05/06						
Chloride	9.66	5 00	mg/kg		10 7			10 2	20	
Sulfate	12 9	5 00	"		12 9			0 00	20	

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect
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: Raland K Tuttle Date: 4/12/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

LAB: ELT

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	George Blackburn

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D. 6D04008		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
-01	1	E1-BH-1 (2')	G	1			X					X		03-Apr-06	11:00	X	X	X	X							
-02	2	E1-BH-2 (2')	G	1			X					X		03-Apr-06	11:02	X	X	X	X							
-03	3	E1-BH-3 (2')	G	1			X					X		03-Apr-06	11:21	X	X	X	X							
-04	4	E1-BH-4 (2')	G	1			X					X		03-Apr-06	11:23	X	X	X	X							
-05	5	E1-BH-5 (2')	G	1			X					X		03-Apr-06	11:26	X	X	X	X							
-06	6	E1-BH-6 (2')	G	1			X					X		03-Apr-06	11:54	X	X	X	X							
-07	7	E1-SW-1 (1')	G	1			X					X		03-Apr-06	11:05	X	X	X	X							
-08	8	E1-SW-2 (1')	G	1			X					X		03-Apr-06	11:08	X	X	X	X							
-09	9	E1-SW-3 (1')	G	1			X					X		03-Apr-06	11:10	X	X	X	X							
-10	10	E1-SW-4 (1')	G	1			X					X		03-Apr-06	11:14	X	X	X	X							

Sampler Relinquished: [signature] Date: 4-4-06 Time: 10:30 Received By: [signature]

Relinquished by: [signature] Date: 4/4/06 Time: 10:30 Received By: (lab staff) [signature]

Delivered by:

Sample Cool & Intact: Yes / No

Checked By: [signature]

e-mail results to iolness@envplus.net

NOTES:
4 0
4oz glass
seal jar (labe)

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Chain of Custody Form

LAB: ELT

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	George Blackburn

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

LAB I.D. (@D04008)	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
-11 1	E1-SW-5 (1')	G	1			X					X		03-Apr-06	11:17	X	X	X	X							
-12 2	E1-SW-6 (1')	G	1			X					X		03-Apr-06	11:30	X	X	X	X							
-13 3	E1-SW-7 (1')	G	1			X					X		03-Apr-06	11:33	X	X	X	X							
-14 4	E1-SW-8 (1')	G	1			X					X		03-Apr-06	11:35	X	X	X	X							
-15 5	E1-SW-9 (1')	G	1			X					X		03-Apr-06	11:37	X	X	X	X							
-16 6	E1-SW-10 (1')	G	1			X					X		03-Apr-06	11:41	X	X	X	X							
-17 7	E1-SW-11 (1')	G	1			X					X		03-Apr-06	11:46	X	X	X	X							
-18 8	E1-SW-12 (1')	G	1			X					X		03-Apr-06	11:51	X	X	X	X							
-19 9	E2-BH-1 (1')	G	1			X					X		03-Apr-06	12:16	X	X	X	X							
-20 10	E2-BH-2 (1')	G	1			X					X		03-Apr-06	12:18	X	X	X	X							

Sampler Relinquished: Date 4-4-06 Time 700 Received By

Relinquished by: Date 4/4/06 Time 10:30 Received By: (lab staff)

Delivered by: Sample Cool & Intact Yes No Checked By:

e-mail results to iolness@envplus.net

NOTES:

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

Client: ENV. PLUS

Date/Time: 4/4/06 10:30

Order #: 6D04008

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	4.0 C
Shipping container/cooler in good condition?	~~Yes~~	No	
Custody Seals intact on shipping container/cooler?	Yes	No	~~Not present~~ Duct tape
Custody Seals intact on sample bottles?	~~Yes~~	No	Not present
Chain of custody present?	~~Yes~~	No	
Sample Instructions complete on Chain of Custody?	~~Yes~~	No	
Chain of Custody signed when relinquished and received?	~~Yes~~	No	
Chain of custody agrees with sample label(s)	~~Yes~~	No	
Container labels legible and intact?	~~Yes~~	No	
Sample Matrix and properties same as on chain of custody?	~~Yes~~	No	
Samples in proper container/bottle?	~~Yes~~	No	
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:

Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken:

argon laboratories

ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
EUNICE, NM 88231

REPORT DATE: 04/17/06
SAMPLE DATE: 04/12/06

ATTN: IAIN OLNESS
CLIENT PROJ. ID: 160049
Papagayo Fed. #1
UL-M, Sect. 27, T 23 S, R 34 E

AL JOB #: A04121

Project Summary:

On April 13, 2006, this laboratory received 14 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (505) 397-0295

Hiram Cueto
Lab Manager

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email: info@argonlabs.com

argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-1 (6') (A04121 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-1 (6') (A04121 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	ND	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery: 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-1 (6') (A04121 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	440	100	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	50	"	"	"	

Approved By
Argon Laboratories

QC Officer

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email. info@argonlabs.com

argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-2 (6') (A04122 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-2 (6') (A04122 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	0.016	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery. 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-BH-2 (6') (A04122 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	57	250	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	25	"	"	"	

Approved By
Argon Laboratories

QC Officer

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email: info@argonlabs.com

argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-SSW (4') (A04123 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-SSW (4') (A04123 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	0.009	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery: 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-SSW (4') (A04123 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	5.0	"	"	"	

Approved By
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Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-ESW (4') (A04124 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-ESW (4') (A04124 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	0.006	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery: 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-ESW (4') (A04124 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	32	5.0	"	"	"	

Approved By
Argon Laboratories

QC Officer

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Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-NSW (4') (A04125 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-NSW (4') (A04125 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	0.006	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery: 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-NSW (4') (A04125 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	17	5.0	"	"	"	

Approved By
Argon Laboratories

QC Officer

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argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Total Petroleum Hydrocarbons - EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-WSW (4') (A04126 Soil) Sampled: 04/12/06 Received: 04/13/06						
Gas Range Organics	ND	10	mg/Kg	04/13/06	8015M	
Diesel Range Organics	ND	"	"	"	"	
C_{29} - C_{35} Range Organics	ND	"	"	"	"	
Total Petroleum Hydrocarbons	ND	30	"	"	"	

Volatile Organics - EPA Method 8021B

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-WSW (4') (A04126 Soil) Sampled: 04/12/06 Received: 04/13/06						
Benzene	ND	0.005	mg/Kg	04/13/06	EPA 8021B	
Toluene	ND	"	"	"	"	
Ethyl Benzene	ND	"	"	"	"	
Xylenes	ND	0.010	"	"	"	

Surrogate Recovery: 106%

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E1-WSW (4') (A04126 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	130	50	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	25	"	"	"	

Approved By
Argon Laboratories

QC Officer

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argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E2-ESW (4') (A04127 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	110	20	mg/Kg	04/13/06	EPA 300.0	
Sulfate	27	10	"	"	"	
E2-NSW (4') (A04128 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	1,000	50	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	25	"	"	"	
E2-WSW (4') (A04129 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	140	50	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	25	"	"	"	
E3-BH-1 (6') (A04130 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	24	5.0	"	"	"	
E3-SSW (4') (A04131 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	12	5.0	"	"	"	

Approved By
Argon Laboratories

QC Officer

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Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E3-ESW (4') (A04132 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	13	5.0	"	"	"	
E3-NSW (4') (A04133 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	ND	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	ND	5.0	"	"	"	
E3-WSW (4') (A04134 Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	10	10	mg/Kg	04/13/06	EPA 300.0	
Sulfate	13	5.0	"	"	"	

Approved By
Argon Laboratories

QC Officer

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argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

TPH 8015M Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A04121*
TPH	92%	95%	3%	10	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCSID: LCS0413A*
TPH	110%	103%	7%	10	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits

BTEX 8021B - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A04121*
o-Xylene	114%	104%	11%	0.005	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCSID: LCS0413A*
Ethyl Benzene	109%	116%	7%	0.005	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

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Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04121

EPA 300.0 - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A04123*
Chloride	88%	92%	4%	10	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCSID: LCS0413A*
Chloride	95%	94%	1%	10	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

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email: info@argonlabs.com

Argon Laboratories Sample Receipt Checklist

Client Name: EPI | Date & Time Received: 4/13/2006 9:00

Project Name: Papagayo Fed #1 | Client Project Number: 160049

Received By: HC | Matrix: Water ☐ Soil ☑

Sample Carrier: Client ☑ Laboratory ☐ Fed Ex ☐ UPS ☐ Other ☐

Argon Labs Project Number: A04121

Shipper Container in good condition?	N/A ____	Yes ☑	No ☐	Samples received in proper containers?		Yes ☑	No ☐
				Samples received intact?		Yes ☑	No ☐
Samples received under refrigeration?		Yes ☑	No ☐	Sufficient sample volume for requested test		Yes ☑	No ☐
Chain of custody present?		Yes ☑	No ☐	Samples received within holding time?		Yes ☑	No ☐
Chain of Custody signed by all parties?		Yes ☑	No ☐	Do samples contain proper preservative?	N/A ☑	Yes ☐	No ☐
Chain of Custody matches all sample labels?		Yes ☑	No ☐	Do VOA vials contain zero headspace?	(None submitted ☑	Yes ☐	No ☐

ANY "No" RESPONSE MUST BE DETAILED IN THE COMMENTS SECTION BELOW

Date Client Contacted: _____ Person Contacted: _____

Contacted By: _____ Subject: _____

Comments: _____

Action Taken: _____

ADDITIONAL TEST(S) REQUEST / OTHER

Contacted By: _____ Date: _____ Time: _____

Call Received By: _____

Comments _____

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

Chain of Custody Form

LAB: Argon

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	Kirt Tyree

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>	PAH			
1	E1-BH-1 (6')	G	1			X					X		12-Apr-06	12:05	X	X	X	X							
2	E1-BH-2 (6')	G	1			X					X		12-Apr-06	12:10	X	X	X	X							
3	E1-SSW (4')	G	1			X					X		12-Apr-06	12:15	X	X	X	X							
4	E1-ESW (4')	G	1			X					X		12-Apr-06	12:20	X	X	X	X							
5	E1-NSW (4')	G	1			X					X		12-Apr-06	12:25	X	X	X	X							
6	E1-WSW (4')	G	1			X					X		12-Apr-06	12:30	X	X	X	X							
7	[illegible]	G	1			X					X		12-Apr-06	14:25			X								
8	[illegible]	G	1			X					X		12-Apr-06	14:30			X								
9	E2-ESW (4')	G	1			X					X		12-Apr-06	14:35			X								
10	E2-NSW (4')	G	1			X					X		12-Apr-06	14:40			X								

Sampler Relinquished: Kirt Tyree — Date 4/13/06 Time 07:14 — Received By: [signature]

Relinquished by: [signature] — Date 4/13/06 Time 09:00 — Received By: (lab staff) [signature]

Delivered by: — Sample Cool & Intact: Yes / No — Checked By:

e-mail results to iolness@envplus.net

NOTES: RUSH

Environmental Plus, Inc.

Chain of Custody Form

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

LAB: Argon

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	Kirt Tyree

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
1	E2-WSW (4')	G	1			X					X		12-Apr-06	14:45			X								
2	E3-BH-1 (6')	G	1			X					X		12-Apr-06	16:25			X								
3	E3-SSW (4')	G	1			X					X		12-Apr-06	16:30			X								
4	E3-ESW (4')	G	1			X					X		12-Apr-06	16:35			X								
5	E3-NSW (4')	G	1			X					X		12-Apr-06	16:40			X								
6	E3-WSW (4')	G	1			X					X		12-Apr-06	16:45			X								
7																									
8																									
9																									
10																									

Sampler Relinquished: Date 4/13/06 Time 0744 Received By:

Relinquished by: Date 4/13/06 Time 09:00 Received By: (lab staff)

Delivered by: Sample Cool & Intact Yes No Checked By:

e-mail results to iolness@envplus.net

NOTES: RUSH

argon laboratories

ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
EUNICE, NM 88231

REPORT DATE: 04/14/06
SAMPLE DATE(S): 04/12/06
04/13/06
AL JOB #: A04161

ATTN: IAIN OLNESS
CLIENT PROJ. ID: 160049
Papagayo Fed. #1
UL-M, Sect. 27, T 23 S, R 34 E

Project Summary:

On April 13, 2006, this laboratory received 4 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (505) 397-0295

Hiram Cueto
Lab Manager

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email: info@argonlabs.com

argon laboratories

Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04161

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Reporting Limit	Units	Analyzed	Method	Notes
E2-SSW (5') (A04161 Soil) Sampled: 04/13/06 Received: 04/13/06						
Chloride	2,900	500	mg/Kg	04/13/06	EPA 300.0	
E2-BH-2 (12') (A04162Soil) Sampled: 04/13/06 Received: 04/13/06						
Chloride	1,900	250	mg/Kg	04/13/06	EPA 300.0	
E2-BH-3 (13.5') (A04163Soil) Sampled: 04/13/06 Received: 04/13/06						
Chloride	17,000	2,000	mg/Kg	04/13/06	EPA 300.0	
E4-SSW (1.5') (A04164Soil) Sampled: 04/12/06 Received: 04/13/06						
Chloride	320	100	mg/Kg	04/13/06	EPA 300.0	

Approved By
Argon Laboratories

QC Officer

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email: info@argonlabs.com

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Environmenal Plus, Inc.	Project Number: 160049	
2100 Avenue O	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A04161

EPA Method 300.0 - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A04130*
Chloride	91%	87%	4%	10	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCS ID: LCS0413A*
Chloride	97%	98%	1%	10	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

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email: info@argonlabs.com

Argon Laboratories Sample Receipt Checklist

Client Name EPI Date & Time Received: 4/13/2006 18:00

Project Name Papagayo Fed. #1 Client Project Number 160049

Received By. HC Matrix: Water ☐ Soil ☑

Sample Carrier Client ☑ Laboratory ☐ Fed Ex ☐ UPS ☐ Other ☐

Argon Labs Project Number A04161

Shipper Container in good condition? N/A____	Yes ☑	No ☐	Samples received in proper containers?	Yes ☑	No ☐
			Samples received intact?	Yes ☑	No ☐
Samples received under refrigeration?	Yes ☑	No ☐	Sufficient sample volume for requested test	Yes ☑	No ☐
Chain of custody present?	Yes ☑	No ☐	Samples received within holding time?	Yes ☑	No ☐
Chain of Custody signed by all parties?	Yes ☑	No ☐	Do samples contain proper preservative?	N/A ☐ Yes ☐	No
Chain of Custody matches all sample labels?	Yes ☑	No ☐	Do VOA vials contain zero headspace? (None submitted	☑ Yes ☐	No ☐

ANY "No" RESPONSE MUST BE DETAILED IN THE COMMENTS SECTION BELOW

Date Client Contacted. _____ Person Contacted: _____

Contacted By: _____ Subject: _____

Comments _____

Action Taken. _____

ADDITIONAL TEST(S) REQUEST / OTHER

Contacted By _____ Date:_____ Time:_____

Call Received By. _____

Comments _____

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 *P.O. Box 1558, Eunice, NM 88231*
(505) 394-3481 FAX: (505) 394-2601

Chain of Custody Form

LAB: Argon

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	Kirt Tyree

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH
1	E2-SSW (5')	G	1			X					X		13-Apr-06	13:00			X					
2	E2-BH-2 (12')	G	1			X					X		13-Apr-06	13:05			X					
3	E2-BH-3 (13.5')	G	1			X					X		13-Apr-06	13:10			X					
4	E4-SSW (1/5')	G	1			X					X		12-Apr-06	18:30			X					
5																						
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished: Kirt Tyree	Date 4/13/06 Time 1650	Received By:	e-mail results to iolness@envplus.net
Relinquished by:	Date / Time	Received By. (lab staff)	NOTES: RUSH
Delivered by:	Sample Cool & Intact Yes No	Checked By:	

argon laboratories

ENVIRONMENTAL PLUS, INC.
2100 AVENUE O
EUNICE, NM 88231

REPORT DATE: 05/24/06
SAMPLE DATE: 05/22/06

ATTN: IAIN OLNESS
CLIENT PROJ. ID: 160049
PAPAGAYO FEDERAL #1

AL JOB #: A05241

Project Summary:

On May 23, 2006, this laboratory received 4 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (505) 397-0295

Hiram Cueto
Lab Manager

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email: info@argonlabs.com

argon laboratories

Environmental Plus, Inc.	Project Number: 160049	
PO Box 1558	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A05241

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Rep. Lim. @ D.F.=1	Units	Analyzed	Method	Notes
E2-BH-1 (13') (A05241) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Chloride	180	10	mg/Kg	05/24/06	EPA 300.0	
Sulfate	36	5.0	"	"		
E2-ESW (6') (A05242) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Chloride	380	10	mg/Kg	05/24/06	EPA 300.0	
Sulfate	11	5.0	"	"		
E2-WSW (6') (A05243) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Chloride	390	10	mg/Kg	05/24/06	EPA 300.0	
Sulfate	10	5.0	"	"		
E2-SSW (6') (A05244) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Chloride	90	10	mg/Kg	05/24/06	EPA 300.0	
Sulfate	41	5.0	"	"		

Approved By
Argon Laboratories

QC Officer

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argon laboratories

Environmental Plus, Inc.	Project Number: 160049	
P.O. Box 1558	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A05241

TPH 8015M - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A05244*
TPH	85%	89%	4%	40	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCS ID: LCS0524A*
TPH	90%	88%	2%	40	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

BTEX 8021B - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A05244*
m,p-Xylenes	104%	106%	2%	0.005	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCS ID: LCS0524A*
Ethyl Benzene	91%	94%	3%	0.005	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

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argon laboratories

Environmental Plus, Inc.	Project Number: 160048	
P.O. Box 1558	Project Name: Ciguena State #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A05241

EPA 300.0 - Quality Control

Analyte	MS Rec	MSD Rec	RPD	Reporting Limit	Units	Notes
Matrix Spike / Matrix Spike Duplicate						*Spiked Sample ID: A05201*
Chloride	107%	101%	6%	10	mg/Kg	

Analyte	LCS Rec	LCSD Rec	RPD	Reporting Limit	Units	Notes
Laboratory Control Spike / Laboratory Control Spike Duplicate						*LCS ID: LCS0524A*
Chloride	98%	104%	5%	10	mg/Kg	

Note: Daily method blank showed no contamination at or above the reporting limits.

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email: info@argonlabs.com

argon laboratories

Environmental Plus, Inc.	Project Number: 160049	
PO Box 1558	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A05241

TPH / BTEX
EPA Methods: 8015M / 8021B

Analyte	Result	Rep. Lim. @ D.F.=1	Units	Analyzed	Method	Notes
E2-BH-1 (13') (A05241) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Gas Range Organics	<10	10	mg/Kg	05/24/06	EPA 8015M	
Diesel Range Organics	<10	"	"	"	"	
C29-C35 Range Organics	<20	20	"	"	"	
Total Petroleum Hydrocarbons	<40	40	"	"	"	
Surr. Rec.: 89%						
Benzene	<0.005	0.005	mg/Kg	05/24/06	EPA 8021B	
Toluene	<0.005	"	"	"	"	
Ethyl Benzene	<0.005	"	"	"	"	
Xylenes	<0.010	0.010	"	"	"	
Surr. Rec.: 90%						
E2-ESW (6') (A05242) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Gas Range Organics	<10	10	mg/Kg	05/24/06	EPA 8015M	
Diesel Range Organics	<10	"	"	"	"	
C29-C35 Range Organics	<20	20	"	"	"	
Total Petroleum Hydrocarbons	<40	40	"	"	"	
Surr. Rec.: 92%						
Benzene	<0.005	0.005	mg/Kg	05/24/06	EPA 8021B	
Toluene	<0.005	"	"	"	"	
Ethyl Benzene	<0.005	"	"	"	"	
Xylenes	<0.010	0.010	"	"	"	
Surr. Rec.: 94%						
E2-WSW (6') (A05243) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Gas Range Organics	<10	10	mg/Kg	05/24/06	EPA 8015M	
Diesel Range Organics	<10	"	"	"	"	
C29-C35 Range Organics	<20	20	"	"	"	
Total Petroleum Hydrocarbons	<40	40	"	"	"	
Surr. Rec.: 94%						
Benzene	<0.005	0.005	mg/Kg	05/24/06	EPA 8021B	
Toluene	<0.005	"	"	"	"	
Ethyl Benzene	<0.005	"	"	"	"	
Xylenes	<0.010	0.010	"	"	"	
Surr. Rec.: 100%						

Approved By
Argon Laboratories

QC Officer

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email: info@argonlabs.com

argon laboratories

Environmental Plus, Inc.	Project Number: 160049	
PO Box 1558	Project Name: Papagayo Fed. #1	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A05241

TPH / BTEX

EPA Methods: 8015M / 8021B

Analyte	Result	Rep. Lim. @ D.F.=1	Units	Analyzed	Method	Notes
E2-SSW (6') (A05244) Soil	**Sampled: 05/22/06**	**Received: 05/23/06**				
Gas Range Organics	<10	10	mg/Kg	05/24/06	EPA 8015M	
Diesel Range Organics	<10	"	"	"	"	
C29-C35 Range Organics	<20	20	"	"	"	
Total Petroleum Hydrocarbons	<40	40	"	"	"	
Surr. Rec.: *94%*						
Benzene	<0.005	0.005	mg/Kg	05/24/06	EPA 8021B	
Toluene	<0.005	"	"	"	"	
Ethyl Benzene	<0.005	"	"	"	"	
Xylenes	<0.010	0.010	"	"	"	
Surr. Rec.: *92%*						

Approved By
Argon Laboratories

QC Officer

2126 W. Marland Ave., Hobbs, NM 88240 • Phone (505) 397-0295 • Fax (505) 397-0296
email: info@argonlabs.com

Argon Laboratories Sample Receipt Checklist

Client Name: Environmental Plus, Inc. Date & Time Received: 05/23/06 15:08

Project Name: Papagayo Fed. #1 Client Project Number: 160049

Received By: Pat Matrix: Water ☐ Soil ☑

Sample Carrier: Client ☑ Laboratory ☐ Fed Ex ☐ UPS ☐ Other ☐

Argon Labs Project Number: A05241

Shipper Container in good condition? N/A____ Yes ☑ No ☐

Samples received in proper containers? Yes ☑ No ☐

Samples received intact? Yes ☑ No ☐

Samples received under refrigeration? Yes ☑ No ☐

Sufficient sample volume for requested tests? Yes ☑ No ☐

Chain of custody present? Yes ☑ No ☐

Samples received within holding time? Yes ☑ No ☐

Chain of Custody signed by all parties? Yes ☑ No ☐

Do samples contain proper preservative? N/A ☑ Yes ☐ No ☐

Chain of Custody matches all sample labels? Yes ☑ No ☐

Do VOA vials contain zero headspace? (None submitted ☑) Yes ☐ No ☐

ANY "No" RESPONSE MUST BE DETAILED IN THE COMMENTS SECTION BELOW

Date Client Contacted: _____ Person Contacted: _____

Contacted By: _____ Subject: _____

Comments: _____

Action Taken: _____

ADDITIONAL TEST(S) REQUEST / OTHER

Contacted By: _____ Date: _____ Time: _____

Call Received By: _____

Comments: _____

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(505) 394-3481 FAX: (505) 394-2601

Chain of Custody Form

LAB: Argon

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Chesapeake Energy
Facility Name	Papagayo Fed. #1
Location	UL-M, Sect. 27, T 23 S, R 34 E
Project Reference	160049
EPI Sampler Name	Kirt Tyree

Bill To

Attn: Iain Olness
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

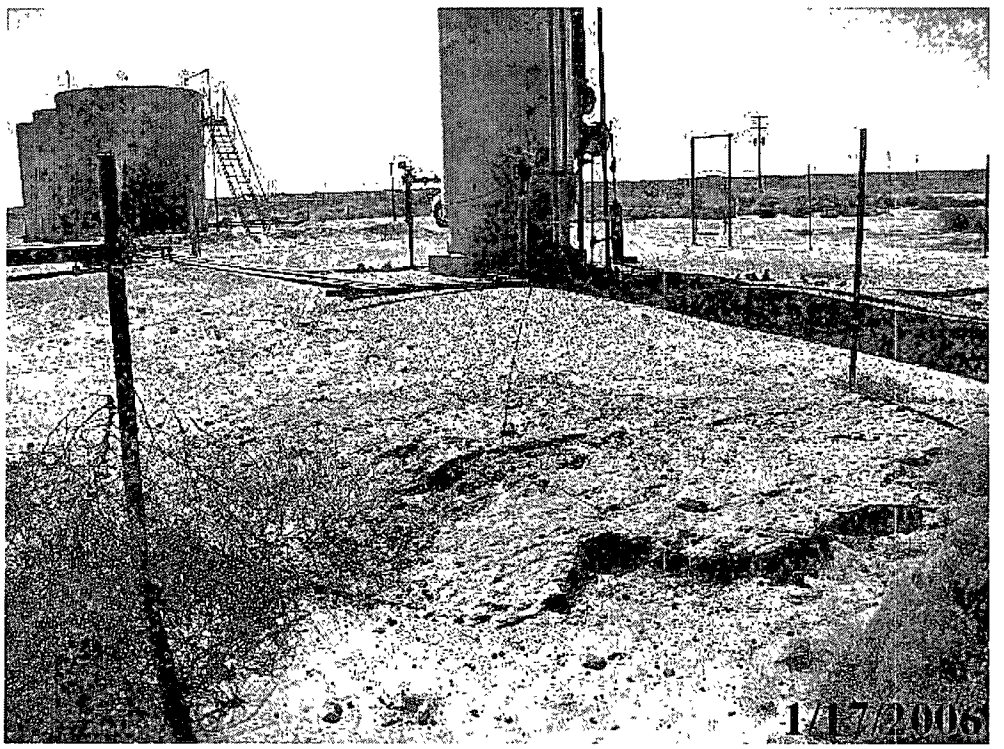
LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
1	E2-BH-1 (13')	G	1			X					X		22-May-06	15:00	X	X	X	X							
2	E2-ESW (6')	G	1			X					X		22-May-06	15:05	X	X	X	X							
3	E2-WSW (6')	G	1			X					X		22-May-06	15:10	X	X	X	X							
4	E2-SSW (6')	G	1			X					X		22-May-06	15:15	X	X	X	X							
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished: Iain Olness	Date 5/23/06 Time 1432	Received By: Aaron Boone	e-mail results to iolness@envplus.net
Relinquished by: Aaron Boone	Date 5-23-06 Time 15:08	Received By: (lab staff) Pat Dos	NOTES: RUSH
Delivered by	Sample Cool & Intact Yes No	Checked By.	

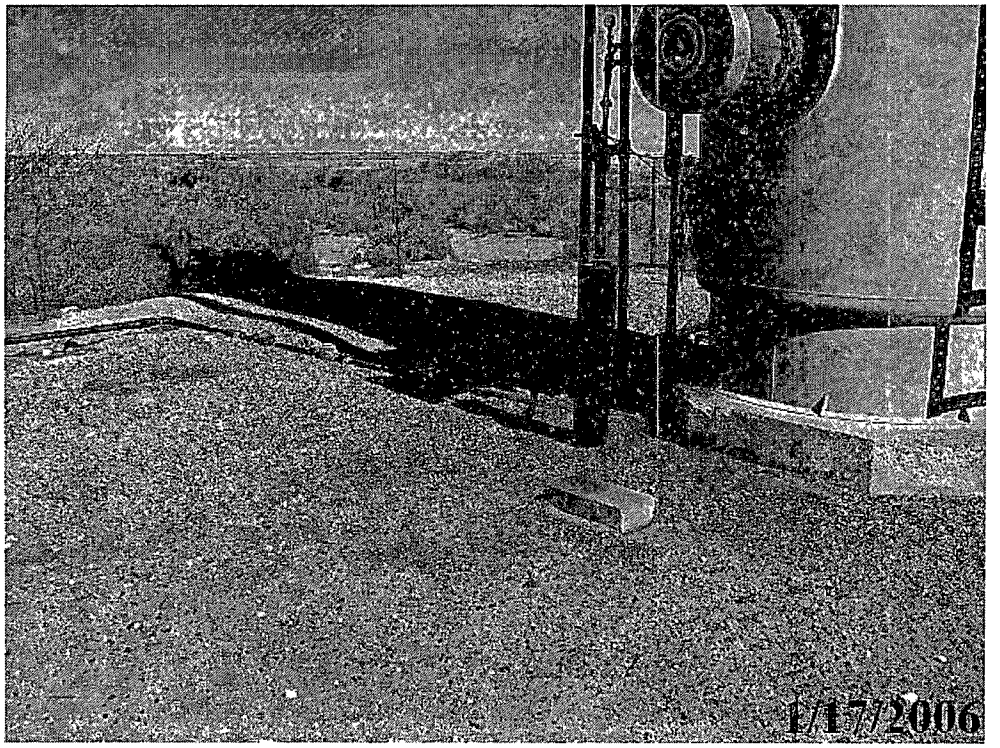
APPENDIX II

PROJECT PHOTOGRAPHS

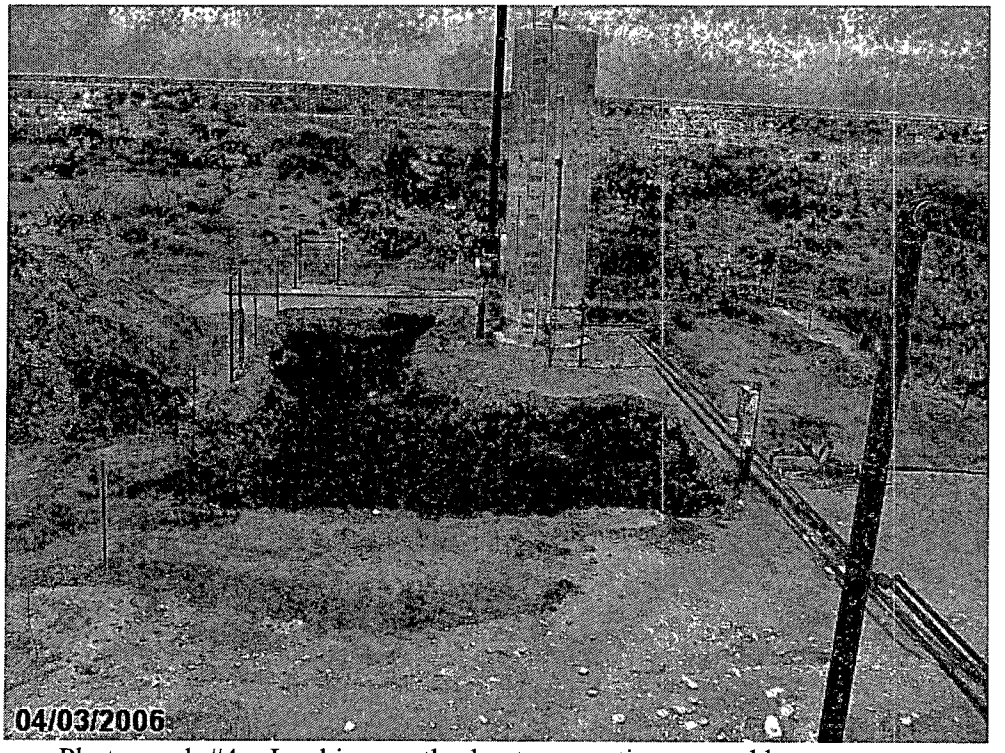
Photograph #1 – Lease Sign



Photograph #2 – Looking southwesterly at release area.

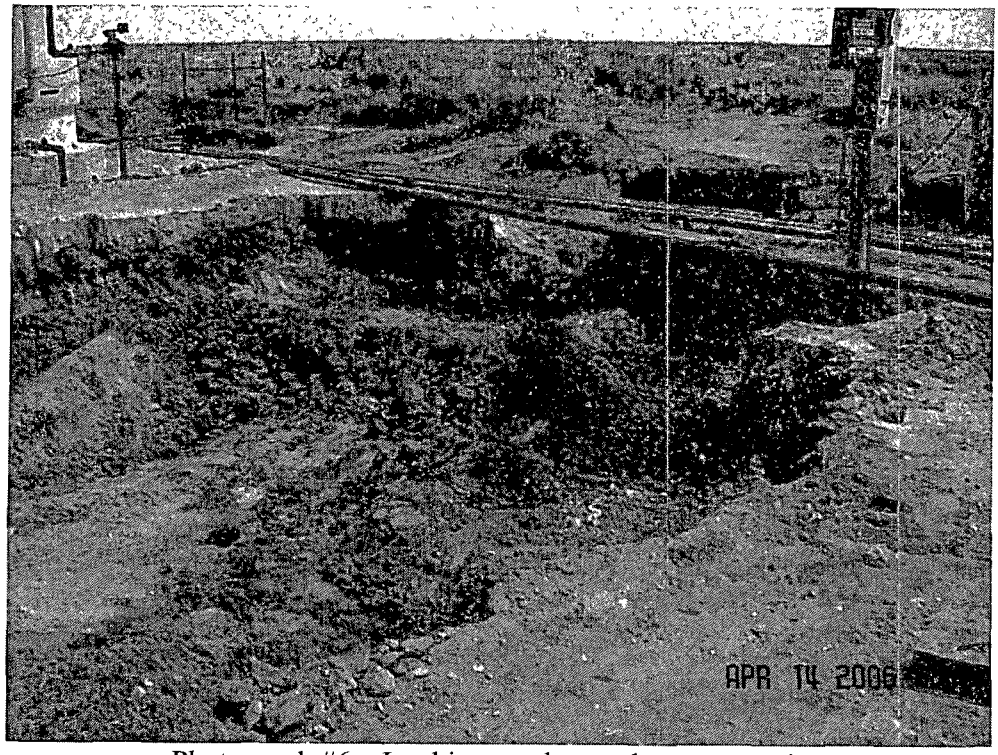


Photograph #3 – Looking northeasterly at release area.



Photograph #4 – Looking northerly at excavation around heater treater.

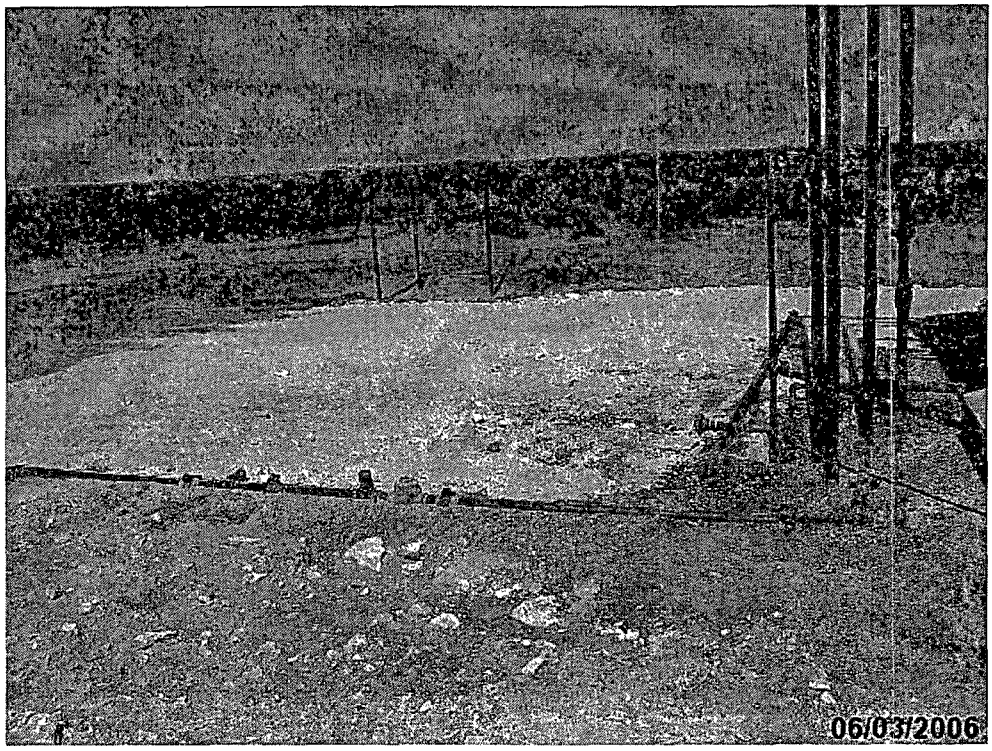
Photograph #5 – Looking southwesterly at excavation around heater treater



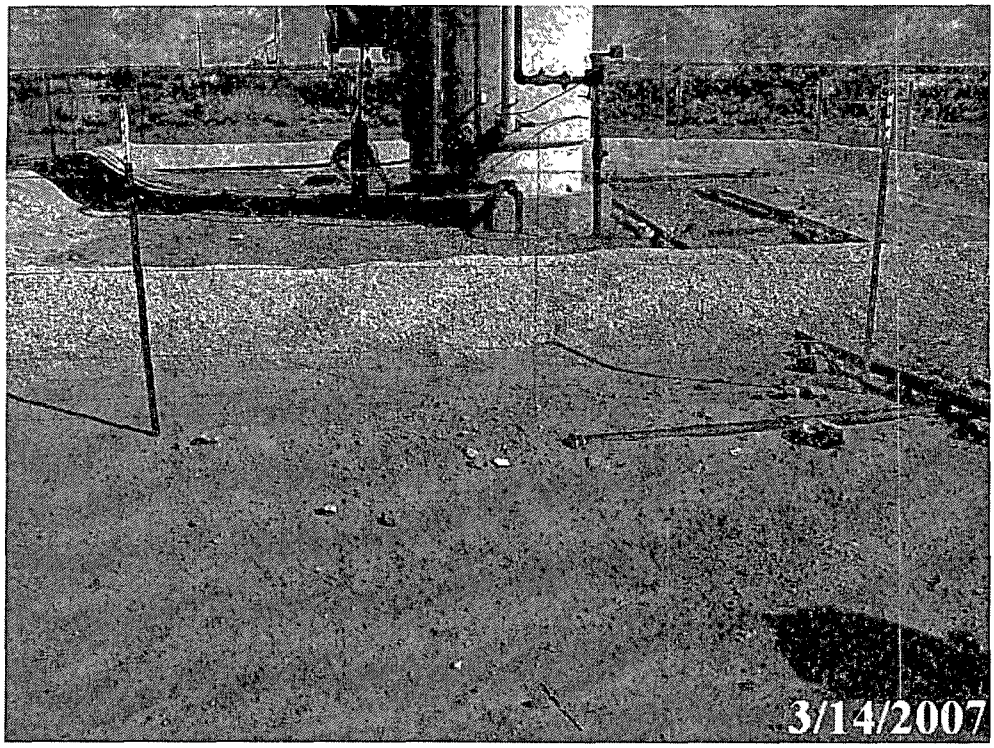
Photograph #6 – Looking northeasterly at excavation

Photograph #7 – Installation of liner

Photograph #8 – Backfilling excavation



Photograph #9 – Remediated site



Photograph #10 – Remediated site

APPENDIX III
SOIL BORING LOG

Log Of Test Borings

ENVIRONMENTAL PLUS, INC.
CONSULTING AND
REMEDIAL CONSTRUCTION
EUNICE, NEW MEXICO
505-394-3481

Project Number: 160049

Project Name: Chesapeake Energy - Papagayo Federal #1

Location: UL-M, Section 27, Township 23 South, Range 34 East

Boring Number: SB-1 | Surface Elevation: 3,472-feet amsl

Start Date: 2-2-06 Time: 1115 hrs

Completion Date: 2-2-06 Time: 1150 hrs

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
1115				.5	640			2' SAND, Red/brown
1120				.5	160		5	5' SAND, Reddish
1130				.6	160		10	10' CALICHE, Tan
1140				.6	160		15	15' CALICHE, Whitish/tan
								End of Soil Boring at 16' bgs
							20	
							25	
							30	

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-in Depth	Water Level
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Drilling Method: Straub

Backfill Method: Bentonite

Field Representative: GB

APPENDIX IV
INFORMATION AND METRICS FORM
INITIAL AND FINAL
NMOCD FORM C-141

Chesapeake
Information and Metrics

Incident Date: Historical	**NMOCD Notified:**

Site: Papagayo Federal #1	**Assigned Site Reference :** #160049
Company: Chesapeake Energy	
Street Address: 1616 West Bender	
Mailing Address: P.O. Box 190	
City, State, Zip: Hobbs, New Mexico 88240	
Representative: Bradley Blevins	
Representative Telephone: (505) 391-1462 ext. 6224	
Telephone:	
Fluid volume released (bbls): >5 bbls	**Recovered (bbls):** 0 bbls
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)	
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)	
Leak, Spill, or Pit (LSP) Name: Papagayo Federal #1	
Source of contamination:	
Land Owner, i.e., BLM, ST, Fee, Other: Federal	
LSP Dimensions: 10 feet by 70 feet, 10 feet by 20 feet	
LSP Area: ~700 ft^2, ~200 ft^2	
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: N 32° 16' 12.55"	
Longitude: W 103° 27' 51.63"	
Elevation above mean sea level: 3,472 feet	
Feet from South Section Line: 660	
Feet from West Section Line: 660	
Location- Unit or ¼¼: SW¼ of the SW¼	**Unit Letter:** M
Location- Section: 27	
Location- Township: T23S	
Location- Range: R34E	
Surface water body within 1000 ' radius of site: none	
Domestic water wells within 1000' radius of site: none	
Agricultural water wells within 1000' radius of site: none	
Public water supply wells within 1000' radius of site: none	
Depth from land surface to groundwater (DG): ~265 feet	
Depth of contamination (DC): unknown	
Depth to groundwater (DG – DC = DtGW): ~265 feet	

1. Groundwater	2. Wellhead Protection Area	3. Distance to Surface Water Body
If Depth to GW <50 feet: *20 points*	If <1000' from water source, or;<200' from private domestic water source: *20 points*	<200 horizontal feet: *20 points*
If Depth to GW 50 to 99 feet: *10 points*		200-1000 horizontal feet: *10 points*
If Depth to GW >100 feet: *0 points*	If >1000' from water source, or; >200' from private domestic water source: *0 points*	>1000 horizontal feet: *0 points*
Site Rank (1+2+3) = 0		

Total Site Ranking Score and Acceptable Concentrations

Parameter	>19	10-19	0-9
Benzene[1]	10 ppm	10 ppm	10 ppm
BTEX[1]	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm

[1]100 ppm field VOC headspace measurement may be substituted for lab analysis

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

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

Surface Owner: Federal	**Mineral Owner:**	**Lease No.:** LC071949

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	27	23S	34E	660	S	660	W	Lea

Latitude: N 32° 16' 12.55" **Longitude:** W 103° 27' 51.63"

NATURE OF RELEASE

Discovered 1-6-06

Type of Release: Petroleum and/or production fluids	**Volume of Release:** > 5bbls	**Volume Recovered:** 0 bbls
Source of Release: Various sources	**Date and Hour of Occurrence:** Historical	**Date and Hour of Discovery:**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	**If YES, To Whom?**	
By Whom? Bradley Blevins	**Date and Hour:**	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** Not Applicable	

Depth to water? ~265 ft bgs

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

Describe Cause of Problem and Remedial Action Taken.* The release is historical from various sources.

Describe Area Affected and Cleanup Action Taken.* Approximately 900 square-feet of surface area was impacted by the release. Soil borings were advanced to collect soil samples to delineate extent of impacted soil. A remediation proposal will be developed based on soil sample analyses.

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: Bradley Blevins

Printed Name: Bradley Blevins

Title: Field Supervisor

E-mail Address: bblevins@chkenergy.com

Date: 1-5-06 **Phone:** (505) 391-1462 ext. 6224

OIL CONSERVATION DIVISION

Approved by District Supervisor: Environ Engr

Approval Date: 7.19.07 **Expiration Date:** -

Conditions of Approval:

Attached ☐

*** Attach Additional Sheets If Necessary**

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner: Federal	**Mineral Owner:**	**Lease No.:** LC071949

LOCATION OF RELEASE

WTR > 250'

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	27	23S	34E	660	S	660	W	Lea

Latitude: N 32° 16' 12.55" **Longitude:** W 103° 27' 51.63"

RP-808

NATURE OF RELEASE

Type of Release: Petroleum and/or production fluids	**Volume of Release:** > 5bbls	**Volume Recovered:** 0 bbls
Source of Release: Various sources	**Date and Hour of Occurrence:** Historical	**Date and Hour of Discovery:**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	**If YES, To Whom?**	
By Whom? Bradley Blevins	**Date and Hour:**	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** Not Applicable	

Depth to water? ~265 ft bgs

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

Describe Cause of Problem and Remedial Action Taken.* The release is historical from various sources.

Describe Area Affected and Cleanup Action Taken.* Approximately 900 square-feet of surface area was impacted by the release. A soil boring was advanced to collect soil samples to delineate extent of impacted soil. Excavated contaminated soil above NMOCD remedial goals with repository at Sundance Services, Inc. Laboratory analyses confirmed removal of impacted soil above NMOCD remedial threshold goals. Excavation backfilled with caliche to original ground surface. Graded area to a smooth, level surface allowing natural drainage

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

Signature: Bradley Blevins	OIL CONSERVATION DIVISION
Printed Name: Bradley Blevins	**Approved by District Supervisor:** ENVIRO ENGR
Title: Field Supervisor	**Approval Date:** 7.19.07 **Expiration Date:**
E-mail Address: bblevins@chkenergy.com	**Conditions of Approval:** **Attached** ☐
Date: 7-18-07 **Phone:** (505) 391-1462 ext. 6224	

*** Attach Additional Sheets If Necessary**

*RBC