FINAL CLOSURE REPORT

E.W. WALDEN NO. 4 SWD UNIT K

NMOCD REF: 1RP #873
EPI REF: #160053

UL-K (NE¼ OF THE SW¼) OF SECTION 15, T22S, R37E
~3 MILES SOUTH OF EUNICE
LEA COUNTY, NEW MEXICO
LATITUDE: N 32° 23' 28.70" LONGITUDE: W 103° 09' 05.96"

JULY 2007

PREPARED BY:

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

PREPARED FOR:

Chesapeake

Distribution List

Closure Report

E.W. Walden No. 4 SWD Unit K

NMOCD Ref: 1RP #873

EPI Ref. #160053

Name	Title	Company or Agency	Mailing Address	e-mail
Chris Williams	District I Supervisor	NMOCD - 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
Harlan Brown	Senior Environmental Representative	Chesapeake Energy	6100 N. Western Avenue Oklahoma City, OK 73118	hbrown@chkenergy.com
Irvin Boyd	Land Owner	- -	P.O. Box 121 Eunice, NM 88231	- -
File	- -	Environmental Plus, Inc.	P.O. Box 1558 Eunice, NM 88231-1558	dduncan@envplus.net

STANDARD OF CARE

Closure Report

E.W. Walden No. 4 SWD Unit K

NMOCD Ref: 1RP #873

EPI Ref. #160053

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.

Prepared by:

Brandon Farrar
Environmental Consultant

Date

Reviewed by:

David P. Duncan
Civil Engineer

Date

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1.0 PROJECT SYNOPSIS

Site Specific:

- ***Company Name:*** Chesapeake Operating, Inc.
- ***Facility Name:*** E.W. Walden No. 4 SWD Unit K
- ***Project Reference:*** NMOCD Ref. 1RP #873; EPI Ref.#160053
- ***Company Contacts:*** Bradley Blevins
- ***Site Location:*** WGS84 N32° 23' 28.70"; W103° 09' 05.96"
- ***Legal Description:*** Unit Letter-K, (NE¼ of the SW¼), Section 15, T 22S, R 37E
- ***General Location:*** Approximately 3-miles south of Eunice, New Mexico
- ***Elevation:*** 3,393-ft amsl
- ***Depth to Ground Water:*** approximately 80-ft bgs
- ***Land Ownership:*** Irvin Boyd
- ***EPI Personnel:*** Project Consultant – Iain Olness; Site Foreman – Kirt Tyree

Release Specific:

- ***Product Released:*** Produced water
- ***Volume Released:*** ~ 50 bbls ***Volume Recovered:*** ~ 25-30 bbls
- ***Time of Occurrence:*** 6 April 2006 ***Time of Discovery:*** 6 April 2006
- ***Release Source:*** Produced water line failure
- ***Initial Surface Area Affected:*** ~ 39,160 ft^2

Remediation Specific:

- ***Final Vertical extent of contamination:*** 20-ft bgs
- ***Water wells within 1,000-ft:*** Zero (0)
- ***Private domestic water sources within 200-ft:*** Zero (0)
- ***Surface water bodies within 1,000-ft:*** Zero (0)
- ***NMOCD Site Ranking Index:*** 10 points
- ***Remedial goals for Soil:*** TPH – 1,000 mg/Kg; BTEX – 50 mg/Kg; Benzene – 10 mg/Kg
- ***RCRA Waste Classification:*** Exempt
- ***Remediation Option Selected:*** a) Excavated soil impacted above NMOCD remedial goals with disposal at Sundance Services, Inc.; b) laboratory analyses confirmed removal of highly impacted soils above NMOCD remedial threshold goals in sidewalls and bottom of the excavation areas; c) backfilled excavation areas with clean top soil and caliche purchased from an off-site source; d) contoured disturbed area to provide natural drainage; and e) selected areas were seeded with a blend preferred by the land owner.
- ***Treatment/Disposal Facility:*** Sundance Services, Inc. – Hobbs, New Mexico
- ***Volume disposed:*** approximately 1,162 yds^3
- ***Project Completion Date:*** October 26, 2006

2.0 SITE AND RELEASE INFORMATION

2.1 Describe the land use and pertinent geographic features within 1,000 feet of the site
Land surrounding the area is pastureland and utilized for livestock grazing.

2.2 Identify and describe the source or suspected source(s) of the release.
A produced water line failed due to vehicular traffic.

2.3 What is the volume of the release? (if known): ~ 50 ***barrels of*** Produced water

2.4 What is the volume recovered? (if any:) ~ 25-30 ***barrels of*** Produced water

2.5 When did the release occur? (if known): 6 April 2006

2.6 Geological Description
The United States Geological Survey (USGS) Ground-Water Report 6, *"Geology and Ground-water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961*, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments (i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation). Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil."

The release site is located in the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2 to 5 feet in most areas to as much as 20-30 feet in drift areas.

2.7 Ecological Description
Vegetation in the High Plains consists primarily of short prairie grasses interspersed with Honey Mesquite (*Prosopis glandulosa*), 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 area. A survey of *Listed*, *Threatened*, or *Endangered* species was not conducted.

2.8 Area Groundwater
The unconfined groundwater aquifer at this site is projected to be approximately 80-ft 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 a 1,000-foot radius of the release site. However, there are twenty-three (23) water supply wells located within a 1.0-mile radius of the release site (reference *Figure 2*).

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

3.0 NMOCD SITE RANKING

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

- ***Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)***
- ***Unlined Surface Impoundment Closure Guidelines (February, 1993)***
- ***Pit and Below-Grade Tank Guidelines (November, 2004)***

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

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

Based on the proximity of the site to protectable area water wells, surface water bodies, and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is ten (10) 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) = 10 + 0 + 0 = 10 points		

Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
Ranking Score	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: June 6, 2006 through June 9, 2006; July 18, 2006 through July 19, 2006

Total volume removed: ~ 1,162 yds^3

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

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

Name and location of treatment/disposal facility:
Sundance Services, Inc. – Hobbs, New Mexico

5.0 SAMPLING INFORMATION

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

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

Chloride Concentrations – A La Motte Chloride Test Kit (titration method) was utilized for field analyses of chloride concentration.

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

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

5.3 Discuss sample locations and provide rationale for their locations.

Pooling Area #1: Soil samples were collected within the release area On May 31, 2006 (5 ea) and on June 6, 2006 (4 ea) to delineate horizontal/vertical extent of impacted soil. (Reference *Figure 4*)

Pooling Area #3 – Excavation 1: Soil samples were collected within the release area on June 7, 2006 (12 ea) and from July 18 - July 21, 2006 (10 ea) to delineate horizontal/vertical extent of impacted soil. (Reference *Figure 5*)

Pooling Area #3 – Excavation 2: Soil samples were collected within the release area on June 9, 2006 (7 ea) and on July 17, 2006 (2 ea) to delineate horizontal/vertical extent of impacted soil. (Reference *Figure 6*)

Soil sample locations were chosen to provide the best representative example of soil throughout the release area.

6.0 ANALYTICAL RESULTS

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

Pooling Area #1: Laboratory data for soil samples collected from the excavation floor on May 31, 2006 indicated BTEX and TPH concentrations were non-detectable (ND) at or above each analytes respective laboratory analytical method detection limits (MDL). Chloride concentrations ranged from 13 mg/Kg (PA1-NEBH @ 5-ft bgs) to 112 mg/Kg (PA1-NWBH @ 5-ft bgs). Sulfate concentrations ranged from 25.6 mg/Kg (PA1-CBH @ 5-ft bgs) to 50.6 mg/Kg (PA1-SEBH @ 5-ft bgs). Laboratory analyses of soil samples collected from the sidewalls of the excavation on June 7, 2006 indicated BTEX and TPH concentrations were ND at or above each analytes respective laboratory analytical MDL. Chloride concentrations ranged from 20.1 mg/Kg (PA1-SW-4 @ 2-ft bgs) to 1,300 mg/Kg (PA1-SW-2 @ 2-ft bgs). Sulfate concentrations ranged from 38.4 mg/Kg (PA1-SW-1 @ 2-ft bgs) to 111 mg/Kg (PA1-SW-2 @ 2-ft bgs) (Reference *Table 2*).

Pooling Area #3 – Excavation 1: Laboratory data of soil samples collected from the sidewalls and excavation floor on June 7, 2006 indicated BTEX and TPH concentrations were ND at or above each analytes respective laboratory analytical MDL. Chloride concentrations ranged from 12.2 mg/Kg (PA2-SW-1 @ 2-ft bgs) to 520 mg/Kg (PA2-BH-5 @ 2-ft bgs). Sulfate concentrations ranged from 19 mg/Kg (PA2-SW-1 @ 2-ft bgs) to 724 mg/Kg (PA2-BH-5 @ 2-ft bgs). Laboratory analyses of soil samples collected from the excavation floor on July 18, 2006 through July 21, 2006 indicated chloride concentrations ranged from <10.0 mg/Kg (PA2-BH-7A @ 4-ft bgs) to 1,500 mg/Kg (PA2-BH-5B @ 15-ft bgs). BTEX, TPH, and Sulfate concentrations were not analyzed (Reference *Table 2*).

Pooling Area #3 - Excavation 2: Laboratory data of soil samples collected from the sidewalls and excavation floor on June 9, 2006 indicated BTEX and TPH concentrations were ND at or above each analytes respective laboratory analytical MDL. Chloride concentrations ranged from 13 mg/Kg (PA3-SW-2 @ 3-ft bgs) to 406 mg/Kg (PA3-BH-1 @ 3-ft bgs). Sulfate concentrations ranged from 19.6 mg/Kg (PA3-SW-2 @ 3-ft bgs) to 136 mg/Kg (PA3-BH-2 (3-ft bgs). Laboratory analyses of soil samples collected from the excavation floor on July 17, 2006 indicated chloride concentrations ranged from 141 mg/Kg (PA3-BH-2A @ 10-ft bgs) to 168 mg/Kg (PA3-BH-1A @ 10-ft bgs) (Reference *Table 2*).

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

☐ *yes* ☒ *no*

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

7.0 DISCUSSION

7.1 Discuss the risks associated with the remaining soil contamination:

Remaining in situ chloride residuals are unlikely to impact local groundwater. With approximately 60 vertical feet of depth between known chloride residuals in the excavated area (900 mg/Kg in PH2BH-5B @ 20-ft. bgs) and groundwater (~80-ft. bgs), migration through the strata would greatly dissipate concentrations.

7.2 Discuss the risks associated with the impacted groundwater: Not applicable

7.3 Discuss other concerns not mentioned above: Not applicable

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.***

Pooling Area #1: Laboratory analyses confirmed removal of impacted soil above NMOCD remedial threshold goals in the bottom of the excavation area. Chloride impacted soil in the sidewalls remain in situ (reference *Figure 4*). However, due to physical barriers, horizontal excavations of chloride impacted areas were limited (reference *Photograph #6*). As discussed in *Section 7.1* above, remaining in situ chloride residuals are unlikely to impact local groundwater.

Pooling Area #2: No excavation activities were undertaken in this area. As the release fluid traversed a caliche lease road and pooled on the production well caliche pad, the land owner (Irvin Boyd) did not want the lease road or well pad excavated as it would impair access to the location.

Pooling Area #3 – Excavation 1: Laboratory analyses confirmed removal of impacted soil above NMOCD remedial threshold goals in the bottom and sidewalls of the excavation area, with exception of a chloride concentration of 900 mg/Kg in PA2BH-5B @ 20-ft bgs. However, it appears to be an anomaly and not consistent with the chloride concentrations in the surrounding area. Furthermore, as discussed in *Section 7.1*, remaining in situ chloride residuals are unlikely to impact local groundwater.

Pooling Area #3 – Excavation 2: Laboratory analyses confirmed removal of impacted soil above NMOCD remedial threshold goals in the bottom and sidewalls of the excavation area.

Contaminated soils excavated from the Pooling Areas were transported to Sundance Services Inc. for disposal. Excavated areas were backfilled with approximately 1,092 yds^3 of clean top soil and caliche purchased from an off-site source. The entire disturbed areas were contoured to allow natural drainage. Appropriate areas were seeded with a blend preferred by the land owner.

8.3 ***If additional groundwater 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

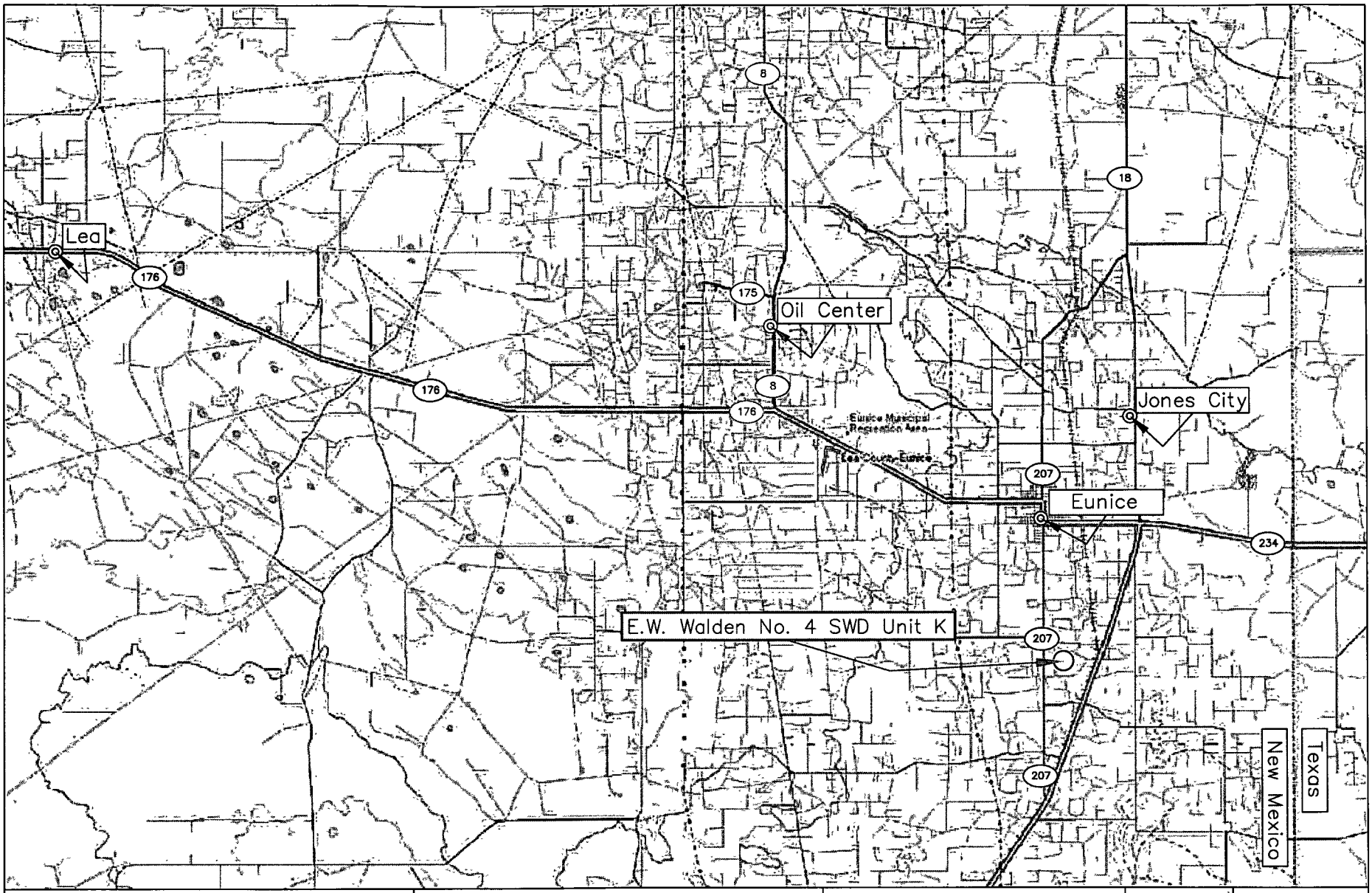

Figure 1 Area Map Chesapeake Energy E.W. Walden No. 4 SWD Unit K	Lea County, New Mexico NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E N 32° 23' 28.70" W 103° 09' 05.96" Elevation: 3,393 feet amsl	DWG By: Daniel Dominguez April 2006 0 3 6 Miles	REVISED: SHEET 1 of 1

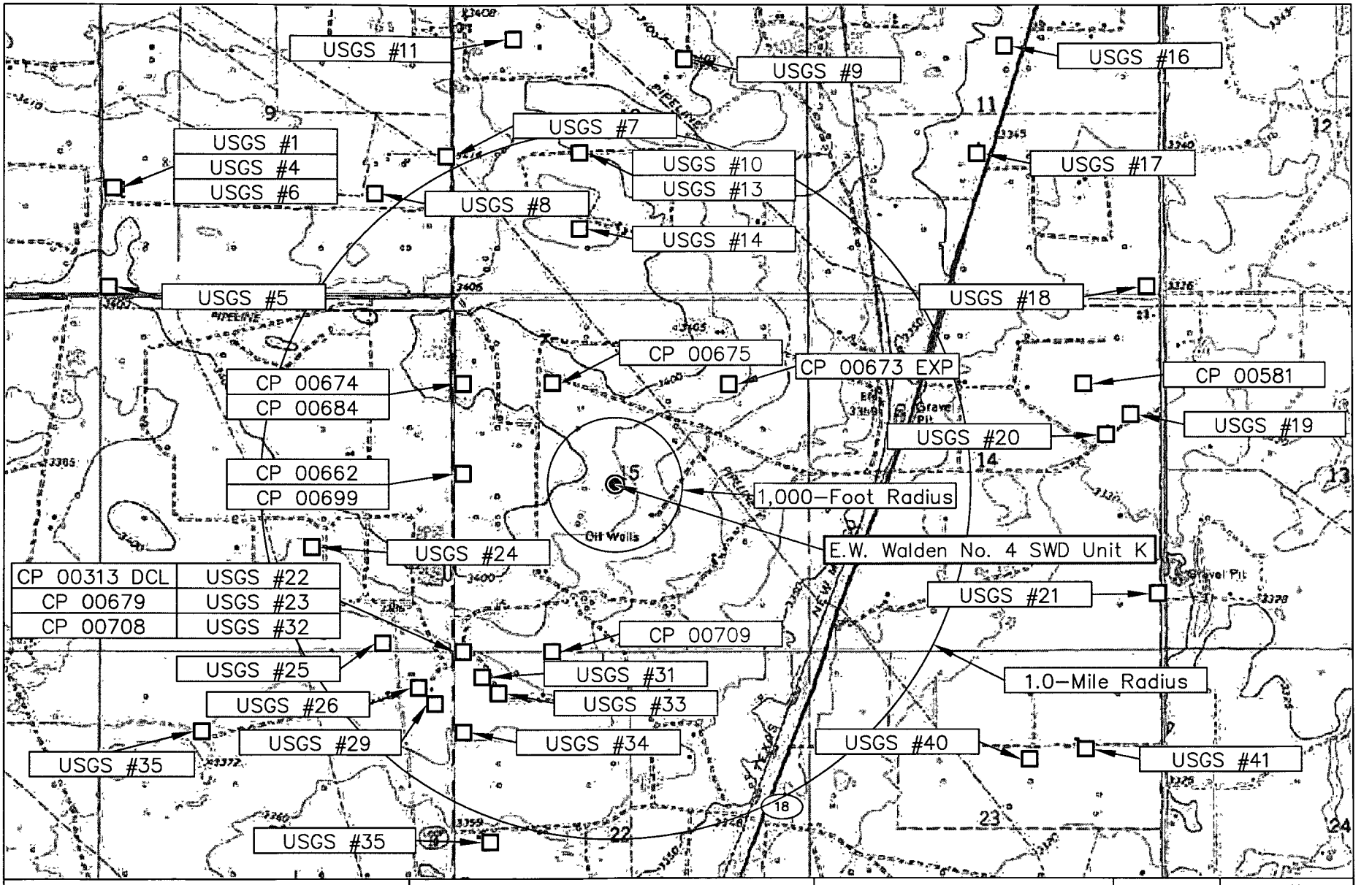

Figure 2 Site Location Map Chesapeake Energy E.W. Walden No. 4 SWD Unit K	Lea County, New Mexico NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E N 32° 23' 28.70" W 103° 09' 05.96" Elevation: 3,393 feet amsl	DWG By: Daniel Dominguez April 2006 0 2000 4000 Feet	REVISED: SHEET 1 of 1

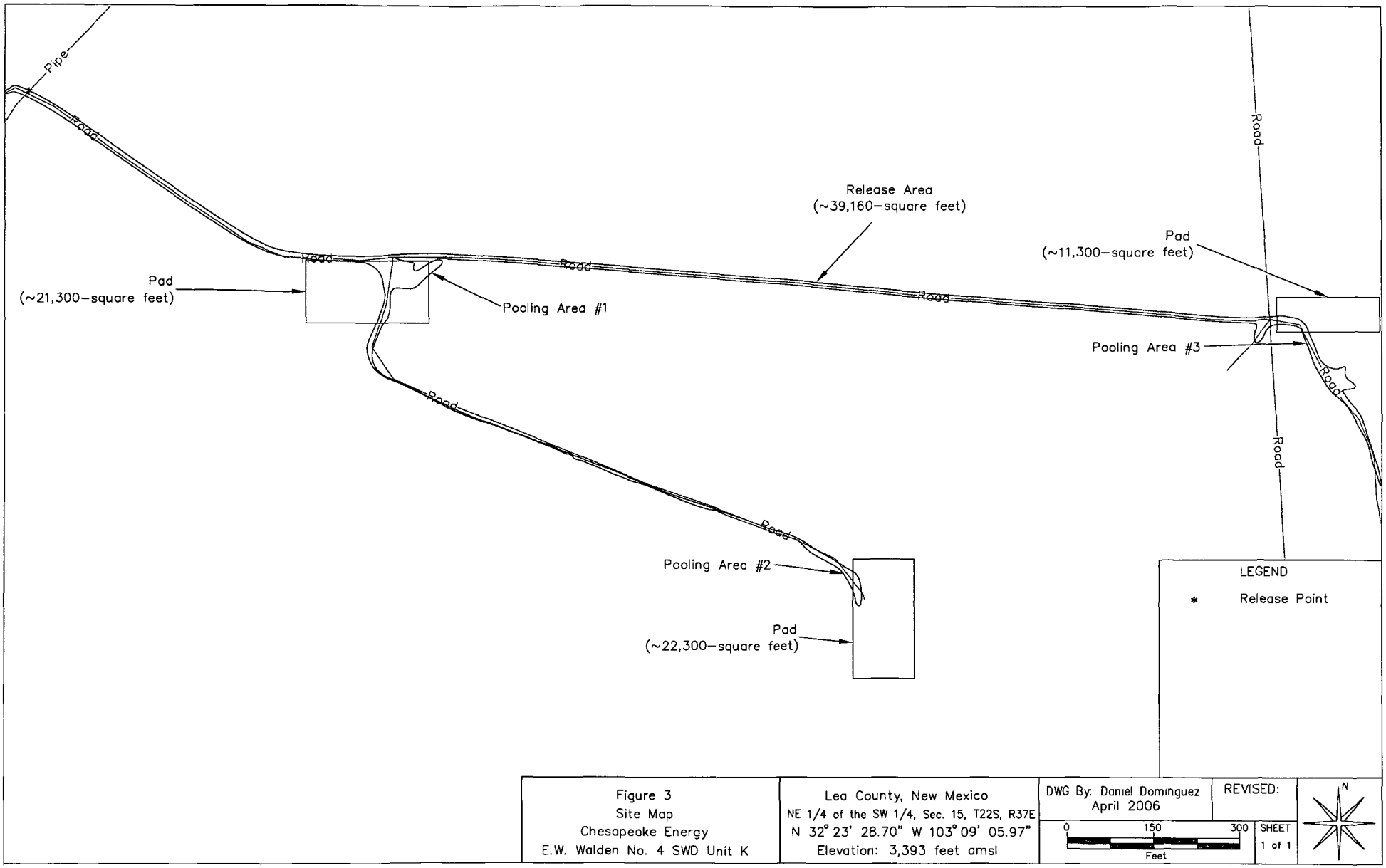

Figure 3 Site Map Chesapeake Energy E.W. Walden No. 4 SWD Unit K	Lea County, New Mexico NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E N 32° 23' 28.70" W 103° 09' 05.97" Elevation: 3,393 feet amsl	DWG By: Daniel Dominguez April 2006 0 150 300 Feet	REVISED: SHEET 1 of 1

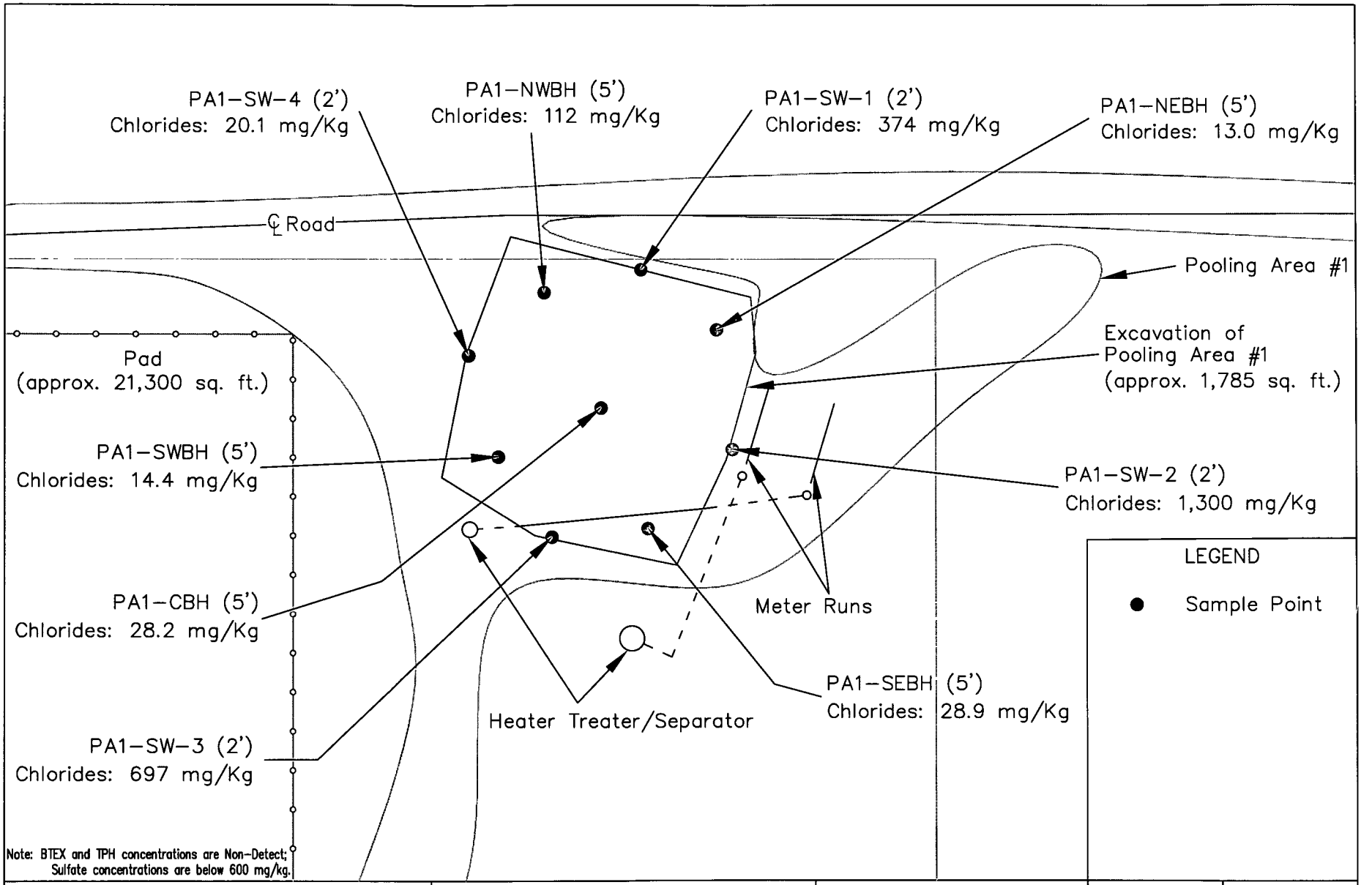

Figure 4
Pooling Area 1 Excavation
and Sample Location Map
Chesapeake Energy
E.W. Walden No. 4 SWD Unit K

Lea County, New Mexico
NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E
N 32° 23' 28.70" W 103° 09' 05.97"
Elevation: 3,393 feet amsl

DWG By: Daniel Dominguez
April 2006

REVISED:
Sept 2006

0 20 40
Feet

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1 of 1

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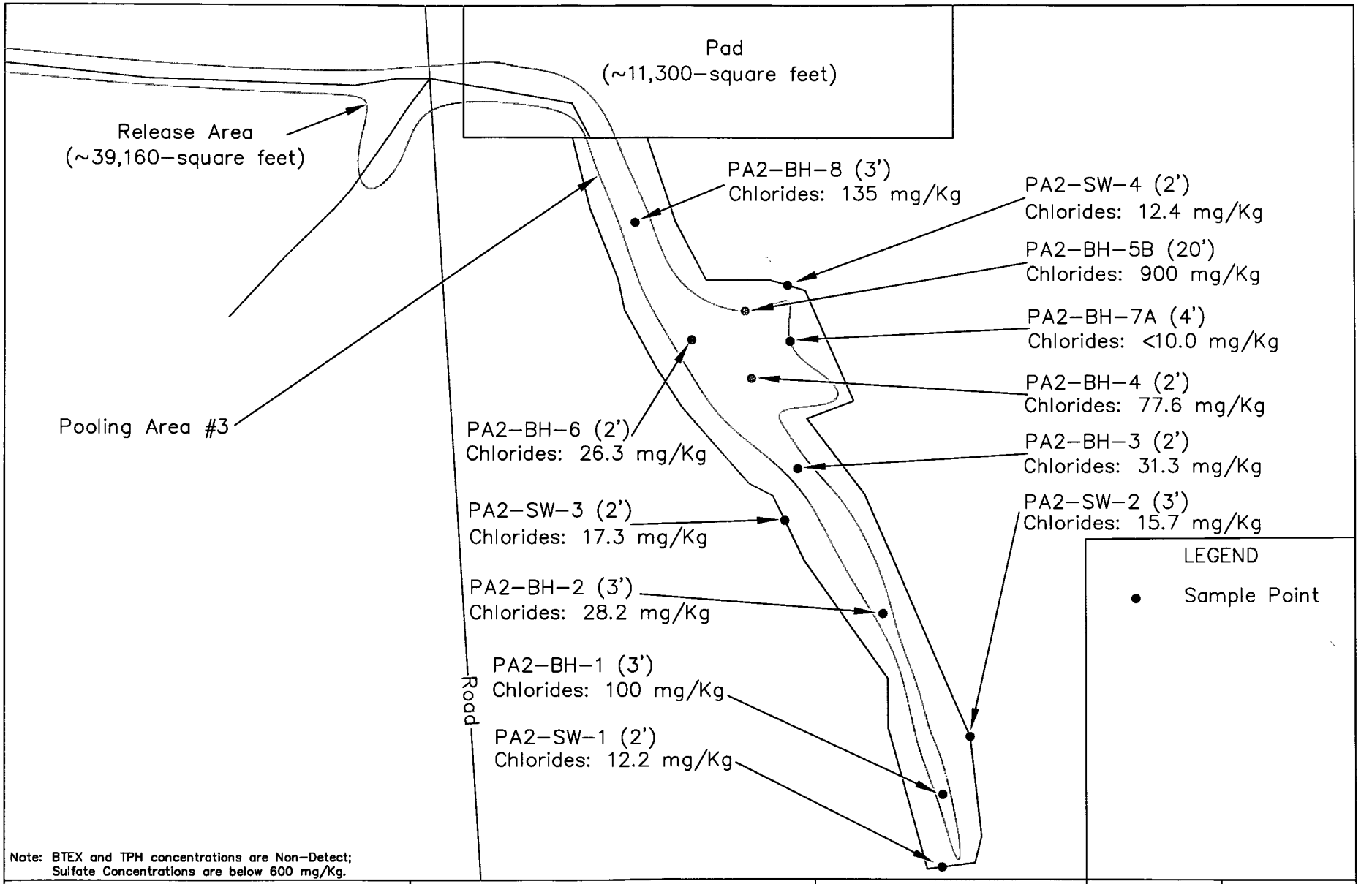


Figure 5
Pooling Area 3 Excavation 1
and Sample Location Map
Chesapeake Energy
E.W. Walden No. 4 SWD Unit K

Lea County, New Mexico
NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E
N 32° 23' 28.70" W 103° 09' 05.97"
Elevation: 3,393 feet amsl

DWG By: Daniel Dominguez
April 2006

REVISED:

SHEET
1 of 1

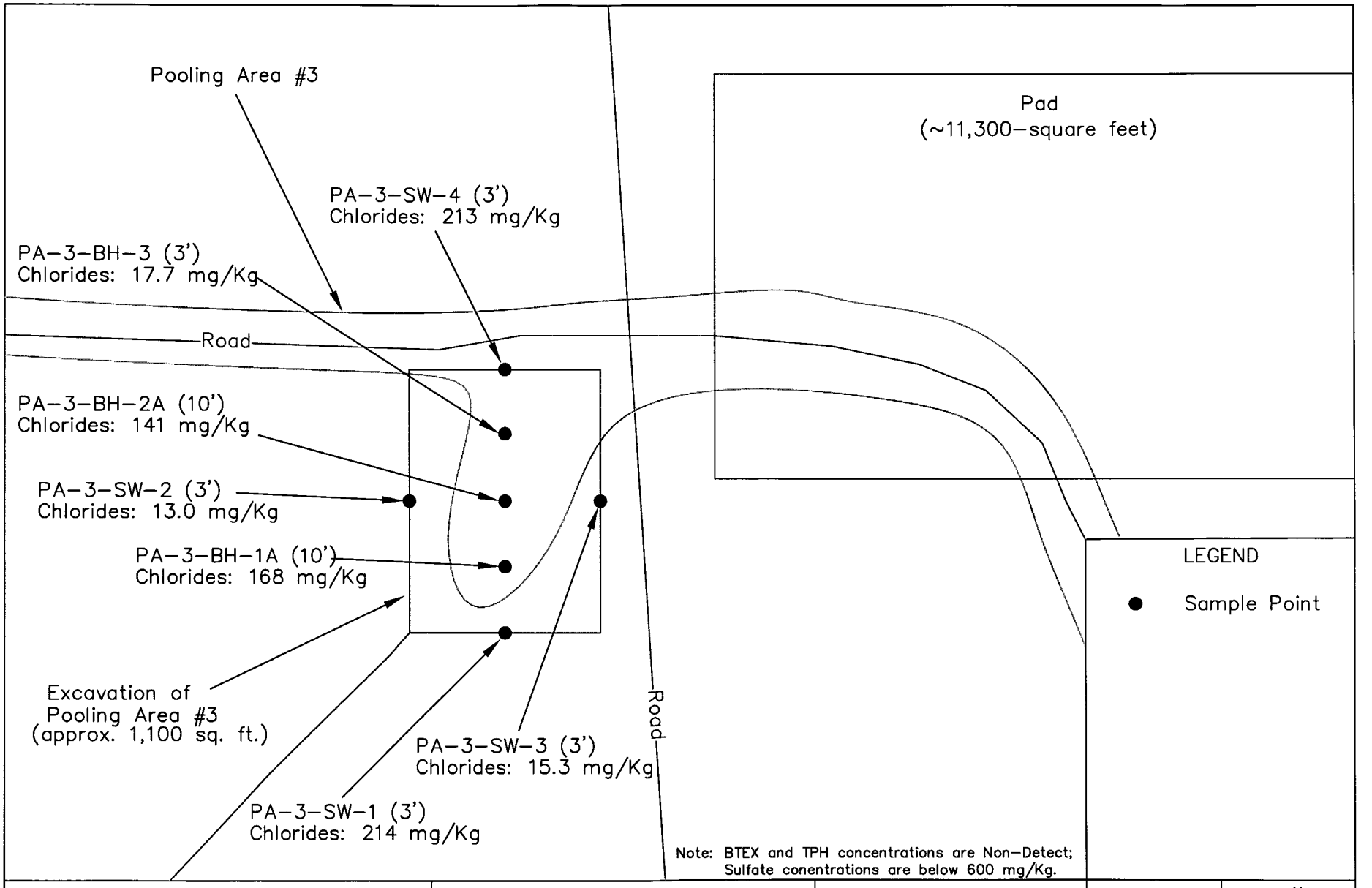


Figure 6 Pooling Area 3 Excavation 2 and Sample Location Map Chesapeake Energy E.W. Walden No. 4 SWD Unit K	Lea County, New Mexico NE 1/4 of the SW 1/4, Sec. 15, T22S, R37E N 32° 23' 28.70" W 103° 09' 05.97" Elevation: 3,393 feet amsl	DWG By: Daniel Dominguez April 2006	REVISED:	N
		0 20 40 Feet	SHEET 1 of 1	

TABLES

TABLE 1

Well Data

Chesapeake Energy E.W. Walden No. 4 SWD Unit K (Ref. #160053)

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 00313 DCL	0	WILLIE P. SIMS	STK	22S	37E	15 3 3 3	N32° 23' 4.17"	W103° 09' 32.14"		3,385	
CP 00662	3	GEORGE SCHELLER	DOM	22S	37E	15 1 3 3	N32° 23' 30.26"	W103° 09' 32 15"	20-Jul-83	3,406	150
CP 00673 EXP	0	PAUL E. & MARY HUGHES	DOM	22S	37E	15 2 2	N32° 23' 43 32"	W103° 08' 46 04"		3,397	
CP 00674	3	WARREN & VERNA HUGHES	DOM	22S	37E	15 1 1	N32° 23' 43 31"	W103° 09' 32 15"	27-Mar-85	3,406	75
CP 00675	3	FRED FERBRACHE	DOM	22S	37E	15 1 2 2	N32° 23' 43.31"	W103° 09' 16 78"	12-Apr-85	3,402	
CP 00679	3	FRED FERBRACHE	DOM	22S	37E	15 3 3	N32° 23' 4 17"	W103° 09' 32 14"	20-May-85	3,385	98
CP 00684	3	WARREN & VUNA HUGHES	MUL	22S	37E	15 1 1	N32° 23' 43.31"	W103° 09' 32.15"	01-Aug-85	3,406	180
CP 00699	3	MARTIN CARRASCO	DOM	22S	37E	15 1	N32° 23' 30 26"	W103° 09' 32.15"	02-Jun-86	3,406	100
CP 00708	3	ROBERT A. CUETO	DOM	22S	37E	15	N32° 23' 4 17"	W103° 09' 32.14"	15-Apr-87	3,385	185
CP 00709	3	JAMES D. SMITH	DOM	22S	37E	15 3 4 2	N32° 23' 4 17"	W103° 09' 16 78"	29-Apr-87	3,389	87
CP 00756	3	CHARLIE BETTIS	DOM	22S	37E	9 4 4 2	N32° 23' 56.34"	W103° 09' 47 53"	30-Oct-90	3,411	85
CP 00871	3	BILL OR BARBARA TRULL	DOM	22S	37E	9 3	N32° 23' 56 30"	W103° 10' 33.67"	29-Sep-97	3,405	94
CP 00581	3	NORTHERN NATURAL GAS CO.	SAN	22S	37E	14 2 2 2	N32° 23' 43.32"	W103° 07' 44.48"	4/18/1979	3,337	65
CP 00503	3	TOMMY HENDERSON	DOM	22S	37E	21 4 4	N32° 22' 11.98"	W103° 09' 47 49"	15-Sep-72	3,356	65
USGS #1				22S	37E	9 3 1 3			07-Mar-68	3,405	81.69
USGS #4				22S	37E	9 3 1 3			29-Sep-53	3,405	72.74
USGS #5				22S	37E	9 3 3 3			08-Mar-96	3,400	74 66
USGS #6				22S	37E	9 3 1 3			07-Mar-68	3,406	71 68
USGS #7				22S	37E	9 4 2 2			02-May-91	3,416	81 1
USGS #8				22S	37E	9 4 2 3			29-Sep-53	3,415	85.51
USGS #9				22S	37E	10 2 3 2			27-Jan-76	3,403	54.44
USGS #10				22S	37E	10 3 2 1			27-Jan-76	3,400	69.54
USGS #11				22S	37E	10 1 3 2			27-Jan-76	3,405	65 59
USGS #13				22S	37E	10 3 2 1			3/817/1981	3,400	66.05
USGS #14				22S	37E	10 3 4 1			15-Feb-96	3,411	91.64
USGS #16				22S	37E	11 2 3 1			30-Jun-76	3,348	20 51
USGS #17				22S	37E	11 3 2 2			08-Mar-96	3,348	38 97
USGS #18				22S	37E	11 4 4 4			25-Apr-91	3,336	57 98
USGS #19				22S	37E	14 2 4 2			16-Mar-81	3,335	60.76
USGS #20				22S	37E	14 2 4 3			26-Oct-65	3,335	68
USGS #21				22S	37E	14 4 4 2			14-Feb-96	3,325	54 06
USGS #22				22S	37E	15 3 3 3			27-Feb-86	3,378	81.53
USGS #23				22S	37E	15 3 3 3			27-Feb-86	3,378	80.84
USGS #24				22S	37E	16 4 1 3			27-Feb-96	3,389	82 23

TABLE 1

Well Data

Chesapeake Energy E.W. Walden No. 4 SWD Unit K (Ref. #160053)

Well Number	Diversion[A]	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation[B]	Depth to Water (ft bgs)
USGS #25				22S	37E	16 4 4 3			28-Sep-53	3,375	79 93
USGS #26				22S	37E	21 2 2 2			02-Dec-70	3,373	79 97
USGS #28				22S	37E	21 1 2 3			01-May-91	3,369	68.31
USGS #29				22S	37E	21 2 2 4			28-Feb-86	3,372	76.59
USGS #31				22S	37E	22 1 1 1			21-Apr-66	3,375	59 25
USGS #32				22S	37E	22 1 1 1			21-Apr-66	3,378	59 95
USGS #33				22S	37E	22 1 1 1			02-May-91	3,373	75 33
USGS #34				22S	37E	22 1 1 3			26-Apr-66	3,369	89.86
USGS #35				22S	37E	22 3 1 1			29-Jan-76	3,359	74 03
USGS #40				22S	37E	23 2 3 1			14-Oct-53	3,325	54 95
USGS #41				22S	37E	23 2 4 2			16-Jan-76	3,325	54 64
USGS #2				22S	37E	9 2 1 2			17-Mar-81		76.2
USGS #3				22S	37E	9 2 2 3			22-Jan-76		78.57
USGS #12				22S	37E	10 2 1 4			27-Jan-76		41.88
USGS #15				22S	37E	11 2 2 4			26-Apr-91		54.87
USGS #27				22S	37E	21 4 2 4			02-Dec-70		69.6
USGS #30				22S	37E	21 4 2 1			02-Dec-70		66.14
USGS #36				22S	37E	22 3 1 3			29-Jan-76		72.54
USGS #37				22S	37E	22 3 1 3			28-Feb-86		70.17
USGS #38				22S	37E	22 3 1 3			27-Feb-96		67.06
USGS #39				22S	37E	22 3 3 3			02-Dec-70		66.81
USGS #42				22S	37E	23 4 2 3			15-Jan-76		55.55
USGS #43				22S	37E	23 4 2 3			25-Apr-91		53.45
USGS #44				22S	37E	23 4 2 3			12-Oct-53		55.17
USGS #45				22S	37E	23 4 2 3			15-Jan-76		53.95
USGS #46				22S	37E	23 4 2 3			15-Jan-76		56.23

* = Data obtained from the New Mexico Office of the State Engineer Website (http //iwaters ose state nm us 7001/iWATERS/wr_RegisServlet) and the USGS website (http //waterdata usgs gov/nwis/)

Shaded areas indicate well locations not shown on Figure 2

[A] = in acre feet per annum

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

STK = Livestock Watering

MUL = 72-12-1 Multiple Domestic Households

DOM = 72-12-1 Domestic One Household

SAN = 72-12-1 Sanitary in Conjunction with a Commercial Use

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

TABLE 2

Summary of Excavation Soil Sample Analytical Results

Chesapeake - E. W. Walden No. 4 SWD (Ref. #160053)

Soil Sample I.D.	Depth (feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analysis (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon Ranges (C6-C12) (mg/Kg)	Carbon Ranges (C12-C28) (mg/Kg)	Carbon Ranges (C28-C35) (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
PA1-SEBH (5')	5	31-May-06	*In Situ*	0 3	320	<0.0250	<0.0250	<0 0250	<0.050	<0.125	<10 0	<10.0	<10.0	<10 0	28 9	50 6
PA1-CBH (5')	5	31-May-06	*In Situ*	0 0	260	<0 0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0	28.2	25 6
PA1-SWBH (5')	5	31-May-06	*In Situ*	0.1	280	<0.0250	<0.0250	<0 0250	<0 050	<0.125	<10.0	<10 0	<10 0	<10.0	14.4	27 6
PA1-NWBH (5')	5	31-May-06	*In Situ*	0.0	380	<0.0250	<0.0250	<0.0250	<0 050	<0 125	<10.0	<10.0	<10 0	<10 0	112	27 6
PA1-NEBH (5')	5	31-May-06	*In Situ*	0.6	240	<0.0250	<0 0250	<0.0250	<0.050	<0 125	<10 0	<10.0	<10.0	<10 0	13	26.3
PA1-SW-1 (2')	2	07-Jun-06	*In Situ*	19.3	880	<0 0250	<0.0250	<0.0250	<0.050	<0.125	<10 0	<10.0	<10.0	<10 0	**374**	38.4
PA1-SW-2 (2')	2	07-Jun-06	*In Situ*	11.8	820	<0 0250	<0.0250	<0 0250	<0.050	<0.125	<10 0	<10.0	<10.0	<10.0	**1,300**	111
PA1-SW-3 (2')	2	07-Jun-06	*In Situ*	10 7	1,200	<0.0250	<0.0250	<0.0250	<0 050	<0.125	<10.0	<10 0	<10 0	<10.0	**697**	74.1
PA1-SW-4 (2')	2	07-Jun-06	*In Situ*	11 3	160	<0.0250	<0.0250	<0 0250	<0.050	<0.125	<10.0	<10 0	<10.0	<10.0	20 1	38.5
PA2-BH-1 (3')	3	07-Jun-06	*In Situ*	0 8	400	<0.0250	<0.0250	<0 0250	<0 050	<0 125	<10.0	<10.0	<10 0	<10 0	100	34.5
PA2-BH-2 (3')	3	07-Jun-06	*In Situ*	0.4	320	<0.0250	<0 0250	<0.0250	<0.050	<0.125	<10 0	<10 0	<10.0	<10.0	28 2	28
PA2-BH-3 (2')	2	07-Jun-06	*In Situ*	0 2	240	<0.0250	<0.0250	<0.0250	<0 050	<0.125	<10 0	<10.0	<10.0	<10.0	31 3	234
PA2-BH-4 (2')	2	07-Jun-06	*In Situ*	0 6	320	<0.0250	<0.0250	<0.0250	<0 050	<0.125	<10 0	<10.0	<10.0	<10 0	77 6	543
PA2-BH-5 (2')	2	07-Jun-06	*Excavated*	19.4	400	<0 0250	<0 0250	<0.0250	<0 050	<0.125	<10.0	<10.0	<10 0	<10 0	**520**	724
PA2-BH-6 (2')	2	07-Jun-06	*In Situ*	21 2	360	<0.0250	<0.0250	<0.0250	<0.050	<0 125	<10.0	<10.0	<10.0	<10 0	26.3	559
PA2-BH-7 (2')	2	07-Jun-06	*Excavated*	20 1	560	<0.0250	<0.0250	<0 0250	<0.050	<0 125	<10.0	<10 0	<10 0	<10.0	**332**	74.3
PA2-BH-8 (3')	3	07-Jun-06	*In Situ*	19.7	280	<0 0250	<0.0250	<0.0250	<0 050	<0 125	<10 0	<10.0	<10.0	<10.0	135	158
PA2-SW-1 (2')	2	07-Jun-06	*In Situ*	15 8	260	<0.0250	<0.0250	<0.0250	<0 050	<0.125	<10 0	<10.0	<10.0	<10 0	12.2	19
PA2-SW-2 (3')	3	07-Jun-06	*In Situ*	22 2	400	<0.0250	<0.0250	<0.0250	<0 050	<0.125	<10 0	<10 0	<10 0	<10 0	15.7	24 4
PA-2-SW-3 (2')	2	07-Jun-06	*In Situ*	22.6	320	<0.0250	<0.0250	<0.0250	<0.050	<0 125	<10.0	<10 0	<10 0	<10 0	17 8	471
PA2-SW-4 (2')	2	07-Jun-06	*In Situ*	0 1	400	<0.0250	<0.0250	<0.0250	<0.050	<0.125	<10.0	<10.0	<10.0	<10.0	12 4	232

TABLE 2

Summary of Excavation Soil Sample Analytical Results

Chesapeake - E. W. Walden No. 4 SWD (Ref. #160053)

Soil Sample I.D.	Depth (feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analysis (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon Ranges (C6-C12) (mg/Kg)	Carbon Ranges (C12-C28) (mg/Kg)	Carbon Ranges (C28-C35) (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
PA2-BH-5A (5')	5	18-Jul-06	*Excavated*	--	240	--	--	--	--	--	--	--	--	--	**410**	--
PA2-BH-7A (4')	4	18-Jul-06	*In Situ*	--	200	--	--	--	--	--	--	--	--	--	<10.0	--
PA2-BH-5B (6')	6	20-Jul-06	*Excavated*	--	480	--	--	--	--	--	--	--	--	--	**670**	--
PA2-BH-5B (7')	7	20-Jul-06	*Excavated*	--	560	--	--	--	--	--	--	--	--	--	**740**	--
PA2-BH-5B (8')	8	20-Jul-06	*Excavated*	--	1,000	--	--	--	--	--	--	--	--	--	**1,000**	--
PA2-BH-5B (9')	9	20-Jul-06	*Excavated*	--	1,080	--	--	--	--	--	--	--	--	--	**1,100**	--
PA2-BH-5B (10')	10	20-Jul-06	*Excavated*	--	1,360	--	--	--	--	--	--	--	--	--	**1,000**	--
PA2-BH-5B (15')	15	21-Jul-06	*Excavated*	--	1,600	--	--	--	--	--	--	--	--	--	**1,500**	--
PA2-BH-5B (18')	18	21-Jul-06	*Excavated*	--	1,520	--	--	--	--	--	--	--	--	--	**1,400**	--
PA2-BH-5B (20')	20	21-Jul-06	*In Situ*	--	1,280	--	--	--	--	--	--	--	--	--	**900**	--
PA3-BH-1 (3')	3	09-Jun-06	*Excavated*	0.7	560	<0.0250	<0.0250	<0 0250	<0.050	<0 125	<10.0	<10.0	<10 0	<10.0	**406**	127
PA3-BH-2 (3')	3	09-Jun-06	*Excavated*	0 1	480	<0.0250	<0 0250	<0.0250	<0 050	<0.125	<10.0	<10.0	<10.0	<10 0	**412**	136
PA3-BH-3 (3')	3	09-Jun-06	*Excavated*	0 0	320	<0 0250	<0.0250	<0.0250	<0 050	<0.125	<10 0	<10.0	<10 0	<10 0	17.7	28.1
PA3-SW-1 (3')	3	09-Jun-06	*In Situ*	0.1	480	<0 0250	<0.0250	<0.0250	<0.050	<0 125	<10.0	<10.0	<10 0	<10 0	214	84
PA3-SW-2 (3')	3	09-Jun-06	*In Situ*	0 3	320	<0.0250	<0.0250	<0.0250	<0.050	<0 125	<10.0	<10.0	<10.0	<10.0	13	19.6
PA3-SW-3 (3')	3	09-Jun-06	*In Situ*	0.2	480	<0 0250	<0.0250	<0.0250	<0.050	<0 125	<10.0	<10 0	<10.0	<10.0	15 3	24
PA3-SW-4 (3')	3	09-Jun-06	*In Situ*	0.1	400	<0.0250	<0.0250	<0 0250	<0.050	<0 125	<10 0	<10.0	<10 0	<10 0	213	101
PA3-BH-1A (10')	10	17-Jul-06	*In Situ*	--	320	--	--	--	--	--	--	--	--	--	168	--
PA3-BH-2A (10')	10	17-Jul-06	*In Situ*	--	240	--	--	--	--	--	--	--	--	--	141	--
NMOCD Remedial Thresholds				**100**		**10**				**50**				**1,000**	**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*

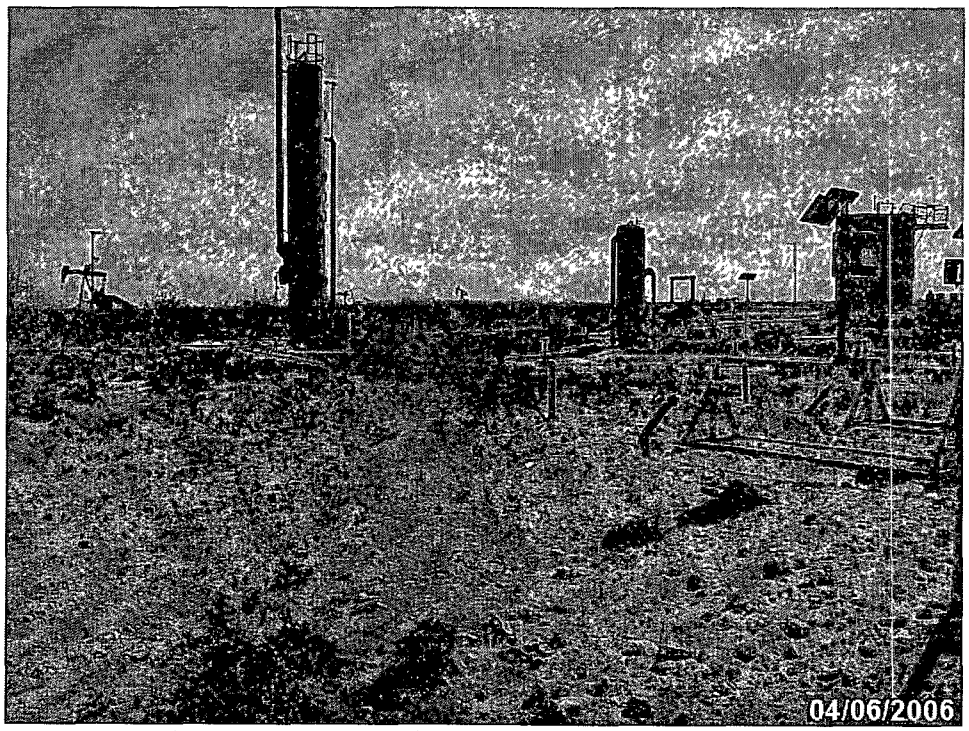
[B] *Chloride and sulfate residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 ppm and 600 ppm, respectively*

APPENDICES

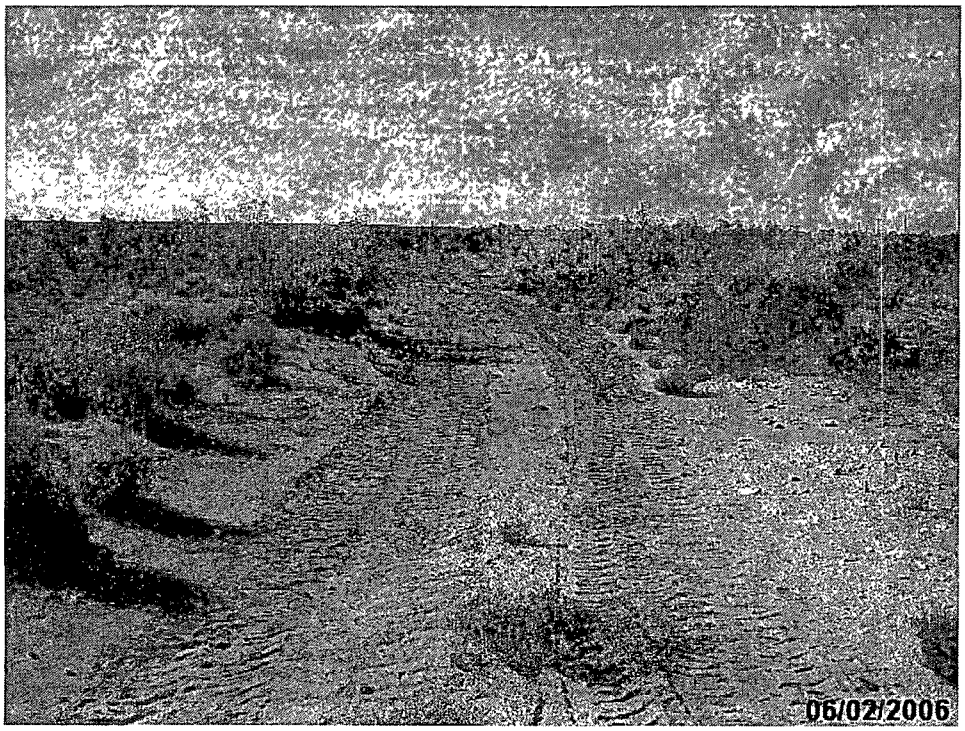
APPENDIX I

PROJECT PHOTOGRAPHS

Photograph #1 – Lease sign

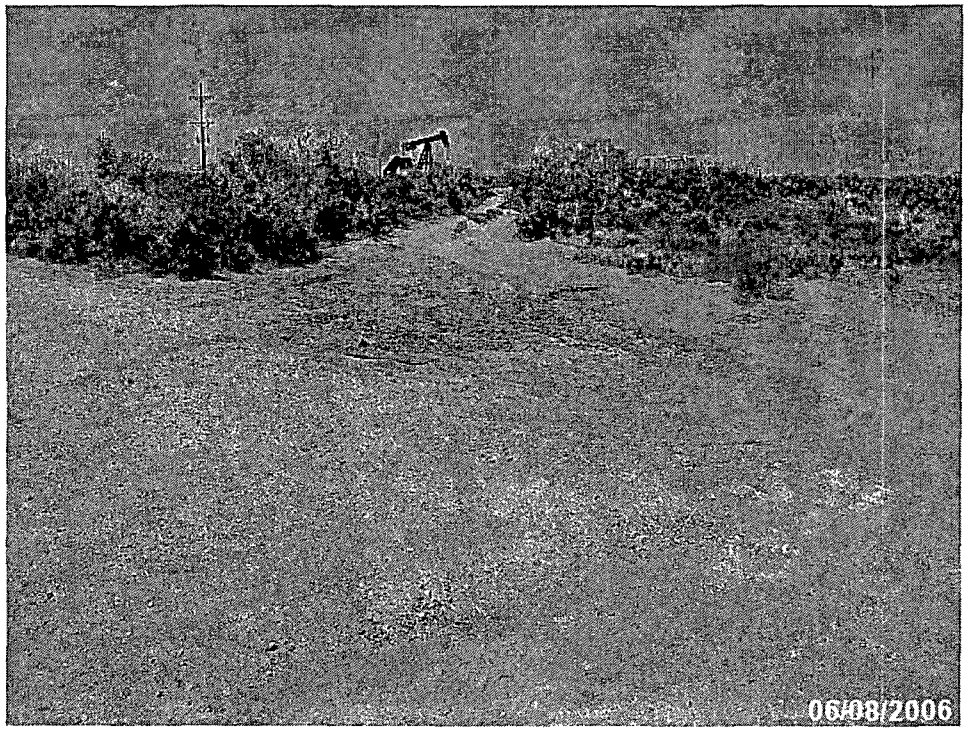


Photograph #2 – Looking southerly at Pooling Area 1

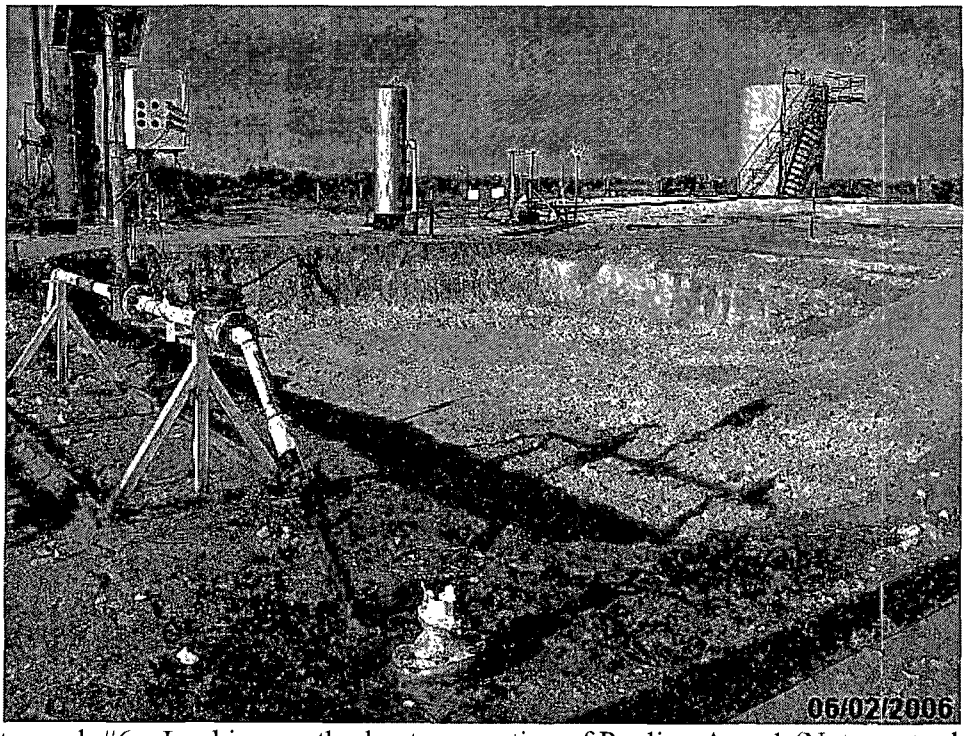


Photograph #3 – Looking northerly at Pooling Area 3

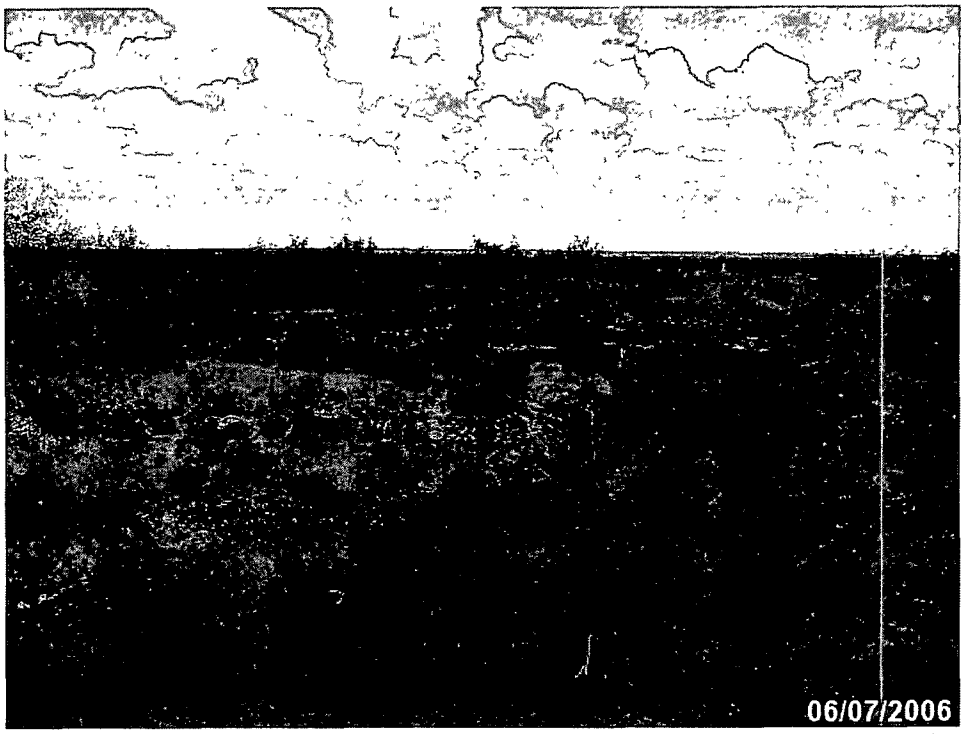
Photograph #4 – Looking southerly at Pooling Area 3



Photograph #5 – Looking northerly at Pooling Area 3

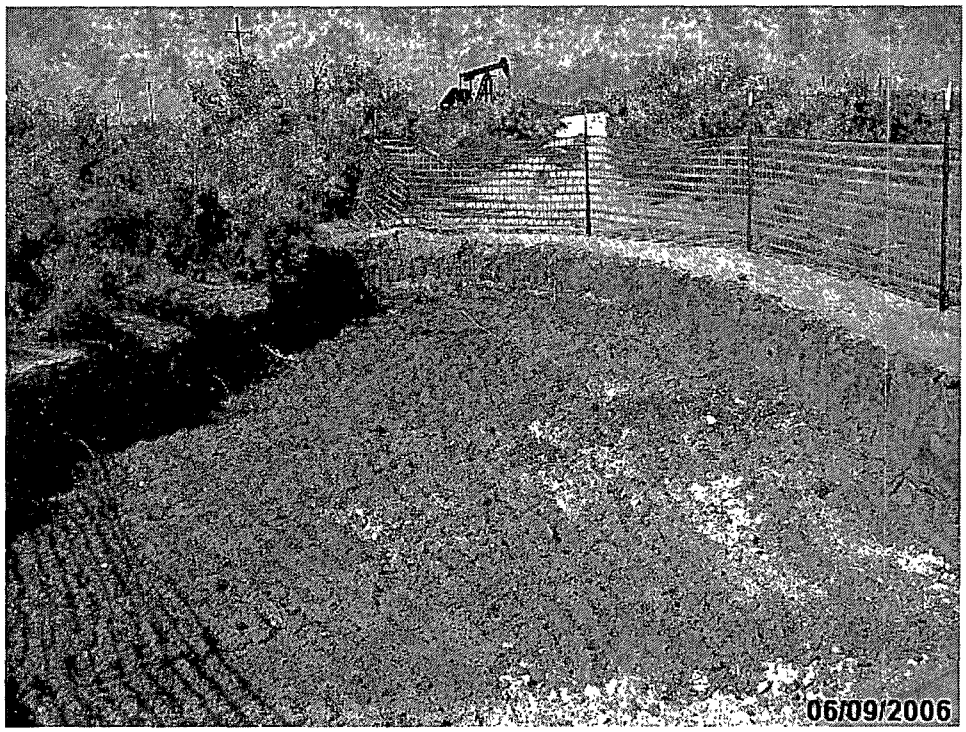


Photograph #6 – Looking southerly at excavation of Pooling Area 1 (Note-meter loop, heater treater/separator adjacent to excavation)

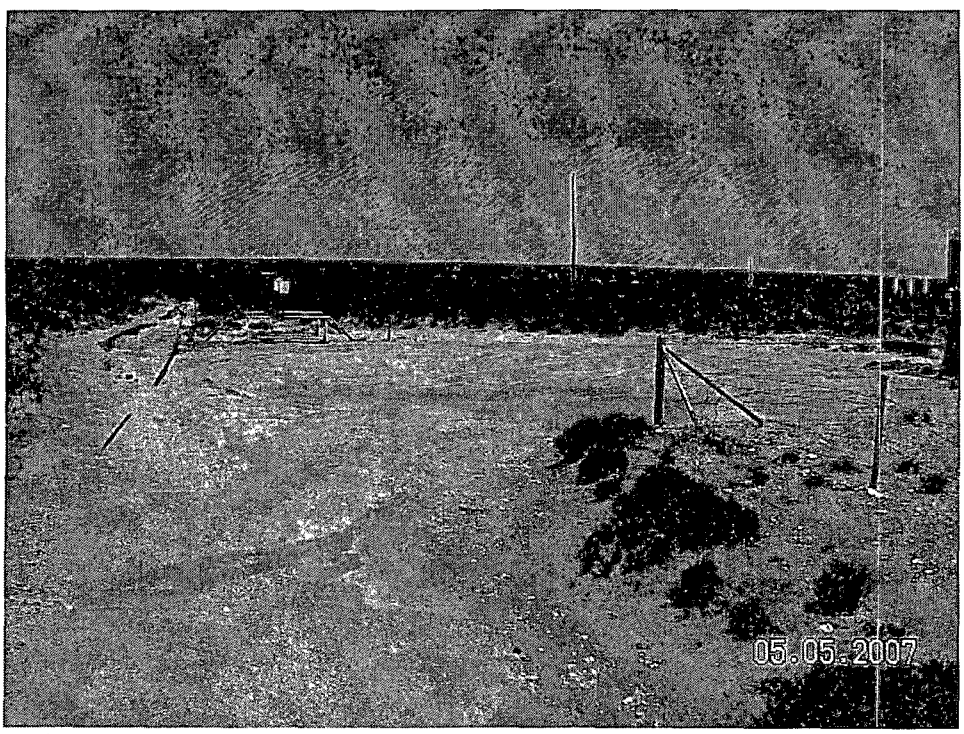


Photograph #7 - Looking southerly at excavation of Pooling Area 3 – Excavation 1

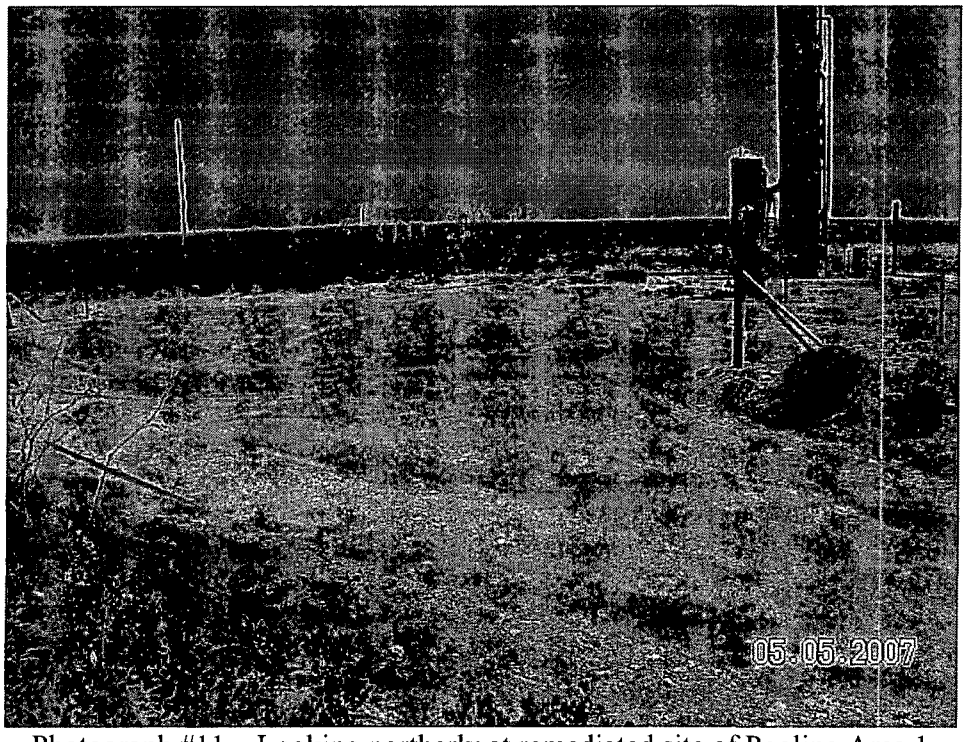
Photograph #8 - Looking southerly at excavation of Pooling Area 3 – Excavation 1



Photograph #9 – Looking northeasterly at excavation of Pooling Area 3 – Excavation 2

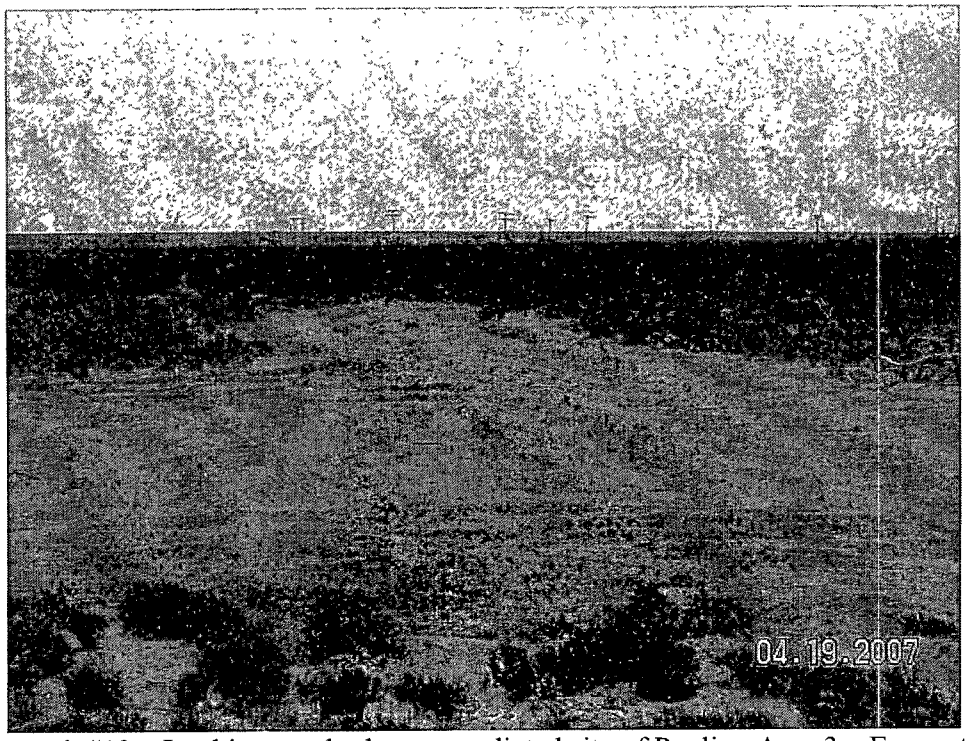


Photograph # 10 – Looking northerly at remediated site of Pooling Area 1

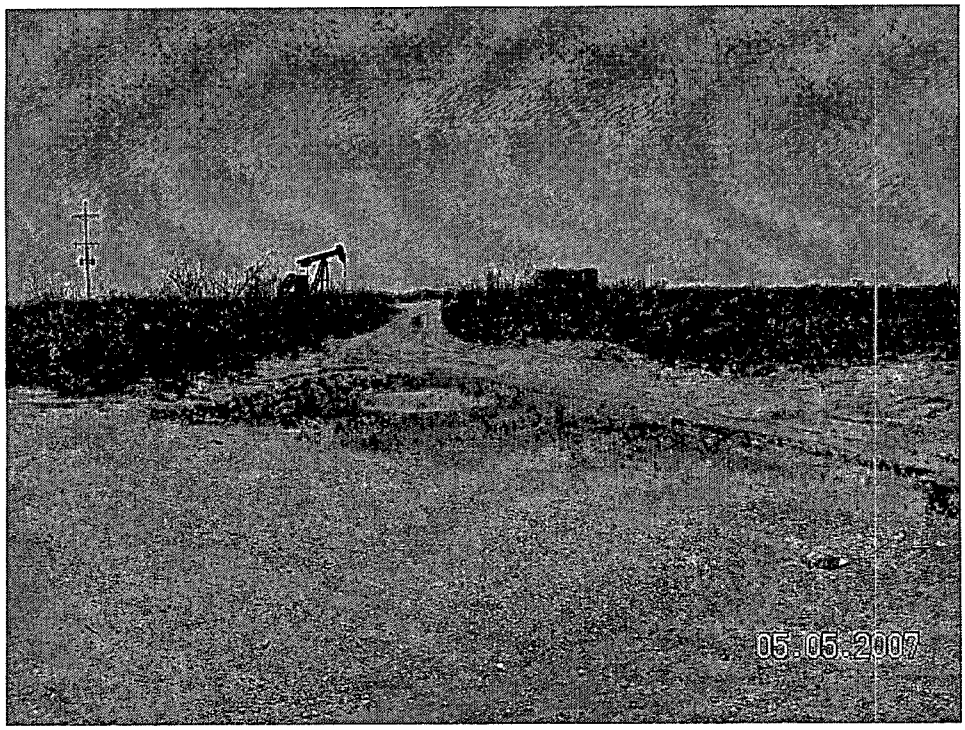


Photograph #11 – Looking northerly at remediated site of Pooling Area 1

Photograph #12 – Looking southerly at remediated site of Pooling Area 3 – Excavation 1



Photograph #13 – Looking southerly at remediated site of Pooling Area 3 – Excavation 1



Photograph #14 – Looking northerly at remediated site of Pooling Area 3 – Excavation 2

APPENDIX II
LABORATORY ANALYTICAL REPORTS
CHAIN-OF-CUSTODY FORMS

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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec. 15, T 22 S, R 37 E

Lab Order Number: 6F01008

Report Date: 06/08/06

Environmental Plus. Incorporated	Project	Chesapeake/ E W. Walden No 4 SWD	Fax 505-394-2601
P.O. Box 1558	Project Number	160053	**Reported:**
Eunice NM, 88231	Project Manager	Iain Olness	06/08/06 16 55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA1- SEBH 5'	6F01008-01	Soil	05/31/06 07 30	06/01/06 09 10
PA1- CBH 5'	6F01008-02	Soil	05/31/06 08.00	06/01/06 09 10
PA1- SWBH 5'	6F01008-03	Soil	05/31/06 08.15	06/01/06 09.10
PA1- NWBH 5'	6F01008-04	Soil	05/31/06 08 30	06/01/06 09 10
PA1- NEBH 5'	6F01008-05	Soil	05/31/06 08.51	06/01/06 09 10

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
PA1- SEBH 5' (6F01008-01) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF60507	06/05/06	06/06/06	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		*103 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*97.8 %*	*70-130*		"	"	"	"	
Surrogate· 1-Chlorooctadecane		*101 %*	*70-130*		"	"	"	"	
PA1- CBH 5' (6F01008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60507	06/05/06	06/06/06	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 5 %*	*80-120*		"	"	"	"	
Surrogate· 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*97 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*99.4 %*	*70-130*		"	"	"	"	
PA1- SWBH 5' (6F01008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60507	06/05/06	06/06/06	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		*96.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA1- SWBH 5' (6F01008-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*95.8 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*98.2 %*	*70-130*		"	"	"	"	
PA1- NWBH 5' (6F01008-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60507	06/05/06	06/06/06	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		*99 0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*94 2 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*96.8 %*	*70-130*		"	"	"	"	
PA1- NEBH 5' (6F01008-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60507	06/05/06	06/06/06	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		*88.8 %*	*80-120*		"	"	"	"	
Surrogate· 4-Bromofluorobenzene		*97.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60223	06/02/06	06/03/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*97 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*99.2 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated	Project Chesapeake/ E.W Walden No 4 SWD	Fax. 505-394-2601
P.O Box 1558	Project Number. 160053	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	06/08/06 16.55

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA1- SEBH 5' (6F01008-01) Soil									
Chloride	**28.9**	5 00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
% Moisture	**11.9**	0 1	%	1	EF60213	06/02/06	06/02/06	% calculation	
Sulfate	**50.6**	5 00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300.0	
PA1- CBH 5' (6F01008-02) Soil									
Chloride	**28.2**	5.00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
% Moisture	**14.1**	0.1	%	1	EF60213	06/02/06	06/02/06	% calculation	
Sulfate	**25.6**	5 00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
PA1- SWBH 5' (6F01008-03) Soil									
Chloride	**14.4**	5.00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
% Moisture	**11.2**	0.1	%	1	EF60213	06/02/06	06/02/06	% calculation	
Sulfate	**27.6**	5.00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
PA1- NWBH 5' (6F01008-04) Soil									
Chloride	**112**	5 00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300.0	
% Moisture	**12.1**	0 1	%	1	EF60213	06/02/06	06/02/06	% calculation	
Sulfate	**27.6**	5.00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
PA1- NEBH 5' (6F01008-05) Soil									
Chloride	**13.0**	5 00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	
% Moisture	**13.3**	0.1	%	1	EF60213	06/02/06	06/02/06	% calculation	
Sulfate	**26.3**	5.00	mg/kg	10	EF60305	06/01/06	06/01/06	EPA 300 0	

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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 EF60223 - Solvent Extraction (GC)										
Blank (EF60223-BLK1)				Prepared. 06/02/06 Analyzed 06/03/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*53 4*		*mg/kg*	*50 0*		*107*	*70-130*			
Surrogate 1-Chlorooctadecane	*57 4*		*"*	*50 0*		*115*	*70-130*			
LCS (EF60223-BS1)				Prepared 06/02/06 Analyzed 06/03/06						
Carbon Ranges C6-C12	580	10 0	mg/kg wet	500		116	75-125			
Carbon Ranges C12-C28	593	10 0	"	500		119	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0 00			75-125			
Total Hydrocarbon nC6-nC35	1170	10 0	"	1000		117	75-125			
Surrogate 1-Chlorooctane	*61 9*		*mg/kg*	*50 0*		*124*	*70-130*			
Surrogate 1-Chlorooctadecane	*63 9*		*"*	*50 0*		*128*	*70-130*			
Calibration Check (EF60223-CCV1)				Prepared 06/02/06 Analyzed. 06/03/06						
Carbon Ranges C6-C12	286		mg/kg	250		114	80-120			
Carbon Ranges C12-C28	286		"	250		114	80-120			
Total Hydrocarbon nC6-nC35	572		"	500		114	80-120			
Surrogate 1-Chlorooctane	*54 5*		*"*	*50 0*		*109*	*70-130*			
Surrogate 1-Chlorooctadecane	*64 0*		*"*	*50 0*		*128*	*70-130*			
Matrix Spike (EF60223-MS1)	**Source: 6F01008-01**			Prepared 06/02/06 Analyzed. 06/03/06						
Carbon Ranges C6-C12	585	10 0	mg/kg dry	568	ND	103	75-125			
Carbon Ranges C12-C28	600	10 0	"	568	ND	106	75-125			
Carbon Ranges C28-C35	ND	10 0	"	0 00	ND		75-125			
Total Hydrocarbon nC6-nC35	1190	10 0	"	1140	ND	104	75-125			
Surrogate 1-Chlorooctane	*52 2*		*mg/kg*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		*"*	*50 0*		*98 8*	*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 EF60223 - Solvent Extraction (GC)										
Matrix Spike Dup (EF60223-MSD1)	**Source: 6F01008-01**			Prepared. 06/02/06 Analyzed 06/03/06						
Carbon Ranges C6-C12	579	10 0	mg/kg dry	568	ND	102	75-125	1 03	20	
Carbon Ranges C12-C28	596	10 0	"	568	ND	105	75-125	0 669	20	
Carbon Ranges C28-C35	ND	10 0	"	0 00	ND		75-125		20	
Total Hydrocarbon nC6-nC35	1180	10 0	"	1140	ND	104	75-125	0 844	20	
Surrogate 1-Chlorooctane	*51 7*		*mg/kg*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 0*		*"*	*50 0*		*98 0*	*70-130*			
Batch EF60507 - EPA 5030C (GC)										
Blank (EF60507-BLK1)				Prepared 06/05/06 Analyzed 06/06/06						
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	*39 3*		*ug/kg*	*40 0*		*98.2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*44 8*		*"*	*40 0*		*112*	*80-120*			
LCS (EF60507-BS1)				Prepared. 06/05/06 Analyzed. 06/06/06						
Benzene	1 23	0 0250	mg/kg wet	1 25		98 4	80-120			
Toluene	1 26	0 0250	"	1 25		101	80-120			
Ethylbenzene	1 18	0 0250	"	1 25		94 4	80-120			
Xylene (p/m)	2 63	0.0250	"	2 50		105	80-120			
Xylene (o)	1 43	0 0250	"	1 25		114	80-120			
Surrogate a,a,a-Trifluorotoluene	*40 2*		*ug/kg*	*40 0*		*100*	*80-120*			
Surrogate 4-Bromofluorobenzene	*47 8*		*"*	*40 0*		*120*	*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 EF60507 - EPA 5030C (GC)										
Calibration Check (EF60507-CCV1)				Prepared 06/05/06 Analyzed 06/06/06						
Benzene	50 9		ug/kg	50 0		102	80-120			
Toluene	48 9		"	50 0		97 8	80-120			
Ethylbenzene	53 0		"	50 0		106	80-120			
Xylene (p/m)	99 5		"	100		99 5	80-120			
Xylene (o)	54 3		"	50 0		109	80-120			
Surrogate a,a,a-Trifluorotoluene	*37 1*		"	*40 0*		*92 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*45 3*		"	*40 0*		*113*	*80-120*			
Matrix Spike (EF60507-MS1)	**Source: 6E31006-06**			Prepared 06/05/06 Analyzed 06/07/06						
Benzene	1 25	0 0250	mg/kg dry	1 35	ND	92 6	80-120			
Toluene	1 21	0 0250	"	1 35	ND	89 6	80-120			
Ethylbenzene	1 15	0 0250	"	1.35	ND	85 2	80-120			
Xylene (p/m)	2.56	0 0250	"	2 70	ND	94.8	80-120			
Xylene (o)	1 39	0 0250	"	1.35	ND	103	80-120			
Surrogate a,a,a-Trifluorotoluene	*35 9*		*ug/kg*	*40 0*		*89 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*41 9*		"	*40 0*		*105*	*80-120*			
Matrix Spike Dup (EF60507-MSD1)	**Source: 6E31006-06**			Prepared 06/05/06 Analyzed 06/07/06						
Benzene	1 28	0 0250	mg/kg dry	1 35	ND	94 8	80-120	2 35	20	
Toluene	1 34	0 0250	"	1 35	ND	99 3	80-120	10.3	20	
Ethylbenzene	1 31	0 0250	"	1 35	ND	97 0	80-120	13 0	20	
Xylene (p/m)	2 80	0 0250	"	2 70	ND	104	80-120	9 26	20	
Xylene (o)	1 52	0 0250	"	1.35	ND	113	80-120	9 26	20	
Surrogate a,a,a-Trifluorotoluene	*36 4*		*ug/kg*	*40 0*		*91 0*	*80-120*			
Surrogate 4-Bromofluorobenzene	*44 1*		"	*40 0*		*110*	*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 EF60213 - General Preparation (Prep)										
Blank (EF60213-BLK1)				Prepared & Analyzed. 06/02/06						
% Solids	100		%							
Duplicate (EF60213-DUP1)		**Source: 6F01001-01**		Prepared & Analyzed 06/02/06						
% Solids	89 7		%		90 1			0 445	20	
Duplicate (EF60213-DUP2)		**Source: 6F01006-02**		Prepared & Analyzed. 06/02/06						
% Solids	93 9		%		94 4			0 531	20	
Duplicate (EF60213-DUP3)		**Source: 6F01009-10**		Prepared & Analyzed. 06/02/06						
% Solids	95 3		%		95 4			0 105	20	
Batch EF60305 - Water Extraction										
Blank (EF60305-BLK1)				Prepared & Analyzed 06/01/06						
Chloride	ND	0.500	mg/kg							
Sulfate	ND	0 500	"							
LCS (EF60305-BS1)				Prepared & Analyzed 06/01/06						
Sulfate	8 56		mg/L	10 0		85.6	80-120			
Chloride	10 2		"	10.0		102	80-120			
Calibration Check (EF60305-CCV1)				Prepared & Analyzed. 06/01/06						
Chloride	10 9		mg/L	10 0		109	80-120			
Sulfate	9 13		"	10 0		91 3	80-120			
Duplicate (EF60305-DUP1)		**Source: 6F01002-01**		Prepared & Analyzed. 06/01/06						
Chloride	829	10 0	mg/kg		837			0 960	20	
Sulfate	111	10 0	"		111			0 00	20	

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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 EF60305 - Water Extraction										
Duplicate (EF60305-DUP2)	**Source: 6F01009-01**			Prepared & Analyzed. 06/01/06						
Chloride	1090	25 0	mg/kg		1010			7 62	20	
Sulfate	107	25 0	"		105			1 89	20	
Matrix Spike (EF60305-MS1)	**Source: 6F01002-01**			Prepared & Analyzed 06/01/06						
Chloride	1130	10 0	mg/kg	200	837	146	80-120			S-07
Sulfate	257	10 0	"	200	111	73 0	80-120			S-07
Matrix Spike (EF60305-MS2)	**Source: 6F01009-01**			Prepared & Analyzed. 06/01/06						
Chloride	1860	25 0	mg/kg	500	1010	170	80-120			S-07
Sulfate	423	25 0	"	500	105	63 6	80-120			S-07

Notes and Definitions

S-07	Recovery outside Laboratory historical or method prescribed limits
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: 6/8/2006

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Sebastian Romero

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

ANALYSIS REQUEST

LAB I.D. (LCF01008)	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			
-01	1 PA1-SEBH (5')	X	1			X					X		31-May-06	7:30	X	X	X	X							
-02	2 PA1-CBH (5')	X	1			X					X		31-May-06	8:00	X	X	X	X							
-03	3 PA1-SWBH (5')	X	1			X					X		31-May-06	8:15	X	X	X	X							
-04	4 PA1-NWBH (5')	X	1			X					X		31-May-06	8:30	X	X	X	X							
-05	5 PA1-NEBH (5')	X	1			X					X		31-May-06	8:51	X	X	X	X							
	6																								
	7																								
	8																								
	9																								
	10																								

Sampler Relinquished: Iain Olness	Date: 6 June 06 Time: 0623	Received By:	E-mail results to: iolness@envplus.net
Relinquished by:	Date: 6/01/06 Time: 9:10	Received By. (lab staff)	REMARKS:
Delivered by: 4oz glass w/labels -0.5C	Sample Cool & Intact: (Yes) No	Checked By: JMM	

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

Client: EPI

Date/Time: 6/1/06 9:10

Order #: 606008

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	-0.5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agress 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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec. 15, T 22 S, R 37 E

Lab Order Number: 6F09011

Report Date: 06/14/06

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

Project. Chesapeake/ E W Walden No 4 SWD
Project Number. 160053
Project Manager Iain Olness

Fax 505-394-2601

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA2-BH-1 3'	6F09011-01	Soil	06/07/06 09.05	06/09/06 11:00
PA2-BH-2 3'	6F09011-02	Soil	06/07/06 09:20	06/09/06 11.00
PA2-BH-3 2'	6F09011-03	Soil	06/07/06 09 35	06/09/06 11.00
PA2-BH-4 2'	6F09011-04	Soil	06/07/06 09 50	06/09/06 11 00
PA2-BH-5 2'	6F09011-05	Soil	06/07/06 10 20	06/09/06 11 00
PA2-BH-6 2'	6F09011-06	Soil	06/07/06 10 35	06/09/06 11 00
PA2-BH-7 2'	6F09011-07	Soil	06/07/06 10.50	06/09/06 11.00
PA2-BH-8 3'	6F09011-08	Soil	06/07/06 14 50	06/09/06 11.00
PA2-SW-1 2'	6F09011-09	Soil	06/07/06 13 30	06/09/06 11.00
PA2-SW-2 3'	6F09011-10	Soil	06/07/06 13.45	06/09/06 11:00
PA2-SW-3 2'	6F09011-11	Soil	06/07/06 14.10	06/09/06 11 00
PA2-SW-4 2'	6F09011-12	Soil	06/07/06 14 25	06/09/06 11:00

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-1 3' (6F09011-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*80.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*81.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*84 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*84.4 %*	*70-130*		"	"	"	"	
PA2-BH-2 3' (6F09011-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*83 8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*83.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*73 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*74.8 %*	*70-130*		"	"	"	"	
PA2-BH-3 2' (6F09011-03) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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	EF60931	06/09/06	06/11/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-3 2' (6F09011-03) Soil									
Carbon Ranges C12-C28	ND	10 0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*79 8 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*80 2 %*	*70-130*		"	"	"	"	
PA2-BH-4 2' (6F09011-04) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*81 5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*79 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*80 2 %*	*70-130*		"	"	"	"	
PA2-BH-5 2' (6F09011-05) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*84 0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84 8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate. 1-Chlorooctane		*72 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*72.2 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-6 2' (6F09011-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*88.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*74 6 %*	*70-130*		"	"	"	"	
Surrogate. 1-Chlorooctadecane		*75.8 %*	*70-130*		"	"	"	"	
PA2-BH-7 2' (6F09011-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*90.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*71.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*71.2 %*	*70-130*		"	"	"	"	
PA2-BH-8 3' (6F09011-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*92.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*90 5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-8 3' (6F09011-08) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*81 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*82 0 %*	*70-130*		"	"	"	"	
PA2-SW-1 2' (6F09011-09) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*85.2 %*	*80-120*		"	"	"	"	
Surrogate· 4-Bromofluorobenzene		*81.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*85.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*84.4 %*	*70-130*		"	"	"	"	
PA2-SW-2 3' (6F09011-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*84.8 %*	*80-120*		"	"	"	"	
Surrogate. 4-Bromofluorobenzene		*82 2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*82 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*81.2 %*	*70-130*		"	"	"	"	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-SW-3 2' (6F09011-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*94.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*86 0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate. 1-Chlorooctane		*81 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*81.8 %*	*70-130*		"	"	"	"	
PA2-SW-4 2' (6F09011-12) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*97 5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*92.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*83 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*87.4 %*	*70-130*		"	"	"	"	

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Project Number 160053
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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
PA2-BH-1 3' (6F09011-01) Soil									
Chloride	**100**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.3**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**34.5**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-2 3' (6F09011-02) Soil									
Chloride	**28.2**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**1.6**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**28.0**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-3 2' (6F09011-03) Soil									
Chloride	**31.3**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**3.3**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**234**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-4 2' (6F09011-04) Soil									
Chloride	**77.6**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**6.5**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**543**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-5 2' (6F09011-05) Soil									
Chloride	**520**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300.0	
% Moisture	**8.5**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**724**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-6 2' (6F09011-06) Soil									
Chloride	**26.3**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.5**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**559**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300.0	
PA2-BH-7 2' (6F09011-07) Soil									
Chloride	**332**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.1**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**74.3**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	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
PA2-BH-8 3' (6F09011-08) Soil									
Chloride	**135**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**5.2**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**158**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-1 2' (6F09011-09) Soil									
Chloride	**12.2**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.2**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**19.0**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-2 3' (6F09011-10) Soil									
Chloride	**15.7**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**3.9**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**24.4**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300.0	
PA2-SW-3 2' (6F09011-11) Soil									
Chloride	**17.8**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**6.0**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**471**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-4 2' (6F09011-12) Soil									
Chloride	**12.4**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**1.8**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**232**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	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 EF60931 - Solvent Extraction (GC)										
Blank (EF60931-BLK1)				Prepared 06/09/06 Analyzed 06/10/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*37 7*		*mg/kg*	*50 0*		*75 4*	*70-130*			
Surrogate 1-Chlorooctadecane	*39 5*		*"*	*50 0*		*79 0*	*70-130*			
LCS (EF60931-BS1)				Prepared 06/09/06 Analyzed 06/10/06						
Carbon Ranges C6-C12	502	10 0	mg/kg wet	500		100	75-125			
Carbon Ranges C12-C28	538	10 0	"	500		108	75-125			
Total Hydrocarbon nC6-nC35	1040	10 0	"	1000		104	75-125			
Surrogate 1-Chlorooctane	*58 2*		*mg/kg*	*50 0*		*116*	*70-130*			
Surrogate 1-Chlorooctadecane	*58 2*		*"*	*50 0*		*116*	*70-130*			
Calibration Check (EF60931-CCV1)				Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	269		mg/kg	250		108	80-120			
Carbon Ranges C12-C28	290		"	250		116	80-120			
Total Hydrocarbon nC6-nC35	559		"	500		112	80-120			
Surrogate 1-Chlorooctane	*51 4*		*"*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*54 3*		*"*	*50 0*		*109*	*70-130*			
Matrix Spike (EF60931-MS1)	**Source: 6F09002-40**			Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	670	10 0	mg/kg dry	639	ND	105	75-125			
Carbon Ranges C12-C28	691	10 0	"	639	ND	108	75-125			
Total Hydrocarbon nC6-nC35	1360	10 0	"	1280	ND	106	75-125			
Surrogate 1-Chlorooctane	*46 7*		*mg/kg*	*50 0*		*93 4*	*70-130*			
Surrogate 1-Chlorooctadecane	*42 8*		*"*	*50 0*		*85 6*	*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 EF60931 - Solvent Extraction (GC)										
Matrix Spike Dup (EF60931-MSD1)	**Source: 6F09002-40**			Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	668	10 0	mg/kg dry	639	ND	105	75-125	0 299	20	
Carbon Ranges C12-C28	697	10 0	"	639	ND	109	75-125	0 865	20	
Total Hydrocarbon nC6-nC35	1360	10 0	"	1280	ND	106	75-125	0 00	20	
Surrogate 1-Chlorooctane	*46 4*		*mg/kg*	*50 0*		*92 8*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 6*		*"*	*50 0*		*87 2*	*70-130*			
Batch EF60932 - Solvent Extraction (GC)										
Blank (EF60932-BLK1)				Prepared. 06/09/06 Analyzed 06/11/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*38 4*		*mg/kg*	*50 0*		*76 8*	*70-130*			
Surrogate 1-Chlorooctadecane	*40 2*		*"*	*50 0*		*80 4*	*70-130*			
LCS (EF60932-BS1)				Prepared. 06/09/06 Analyzed: 06/11/06						
Carbon Ranges C6-C12	518	10 0	mg/kg wet	500		104	75-125			
Carbon Ranges C12-C28	552	10 0	"	500		110	75-125			
Total Hydrocarbon nC6-nC35	1070	10 0	"	1000		107	75-125			
Surrogate 1-Chlorooctane	*59 5*		*mg/kg*	*50 0*		*119*	*70-130*			
Surrogate 1-Chlorooctadecane	*58 7*		*"*	*50 0*		*117*	*70-130*			
Calibration Check (EF60932-CCV1)				Prepared. 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	267		mg/kg	250		107	80-120			
Carbon Ranges C12-C28	297		"	250		119	80-120			
Total Hydrocarbon nC6-nC35	564		"	500		113	80-120			
Surrogate 1-Chlorooctane	*51 5*		*"*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*54 7*		*"*	*50 0*		*109*	*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 EF60932 - Solvent Extraction (GC)										
Matrix Spike (EF60932-MS1)	**Source: 6F09011-11**			Prepared 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	551	10 0	mg/kg dry	532	ND	104	75-125			
Carbon Ranges C12-C28	588	10 0	"	532	ND	111	75-125			
Total Hydrocarbon nC6-nC35	1140	10 0	"	1060	ND	108	75-125			
Surrogate 1-Chlorooctane	*51 3*		*mg/kg*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		*"*	*50 0*		*98 8*	*70-130*			
Matrix Spike Dup (EF60932-MSD1)	**Source: 6F09011-11**			Prepared. 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	558	10 0	mg/kg dry	532	ND	105	75-125	1 26	20	
Carbon Ranges C12-C28	591	10 0	"	532	ND	111	75-125	0 509	20	
Total Hydrocarbon nC6-nC35	1150	10 0	"	1060	ND	108	75-125	0 873	20	
Surrogate 1-Chlorooctane	*52 0*		*mg/kg*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 9*		*"*	*50 0*		*99 8*	*70-130*			
Batch EF61305 - EPA 5030C (GC)										
Blank (EF61305-BLK1)				Prepared & Analyzed 06/13/06						
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	*32 1*		*ug/kg*	*40 0*		*80 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 7*		*"*	*40 0*		*81 8*	*80-120*			
LCS (EF61305-BS1)				Prepared & Analyzed 06/13/06						
Benzene	1 13	0 0250	mg/kg wet	1 25		90 4	80-120			
Toluene	1 21	0 0250	"	1 25		96 8	80-120			
Ethylbenzene	1 08	0 0250	"	1 25		86 4	80-120			
Xylene (p/m)	2 47	0 0250	"	2 50		98 8	80-120			
Xylene (o)	1 30	0 0250	"	1 25		104	80-120			
Surrogate a,a,a-Trifluorotoluene	*38 9*		*ug/kg*	*40 0*		*97 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*39 9*		*"*	*40 0*		*99 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 EF61305 - EPA 5030C (GC)										
Calibration Check (EF61305-CCV1)				Prepared 06/13/06 Analyzed 06/14/06						
Benzene	0.0469		mg/kg wet	0 0500		93 8	80-120			
Toluene	0 0490		"	0 0500		98.0	80-120			
Ethylbenzene	0.0521		"	0 0500		104	80-120			
Xylene (p/m)	0 0979		"	0 100		97 9	80-120			
Xylene (o)	0 0528		"	0 0500		106	80-120			
Surrogate a,a,a-Trifluorotoluene	*35 9*		*ug/kg*	*40 0*		*89 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*41 9*		*"*	*40 0*		*105*	*80-120*			
Matrix Spike (EF61305-MS1)	**Source: 6F09002-40**			Prepared 06/13/06 Analyzed. 06/14/06						
Benzene	1 53	0 0250	mg/kg dry	1 60	ND	95.6	80-120			
Toluene	1 47	0 0250	"	1 60	ND	91 9	80-120			
Ethylbenzene	1 35	0 0250	"	1 60	ND	84 4	80-120			
Xylene (p/m)	2.98	0 0250	"	3 19	ND	93.4	80-120			
Xylene (o)	1 57	0 0250	"	1 60	ND	98 1	80-120			
Surrogate a,a,a-Trifluorotoluene	*37 7*		*ug/kg*	*40 0*		*94 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*37 9*		*"*	*40 0*		*94 8*	*80-120*			
Matrix Spike Dup (EF61305-MSD1)	**Source: 6F09002-40**			Prepared 06/13/06 Analyzed 06/14/06						
Benzene	1 56	0 0250	mg/kg dry	1 60	ND	97 5	80-120	1 97	20	
Toluene	1 65	0 0250	"	1 60	ND	103	80-120	11.4	20	
Ethylbenzene	1 51	0.0250	"	1 60	ND	94 4	80-120	11.2	20	
Xylene (p/m)	3.33	0 0250	"	3 19	ND	104	80-120	10 7	20	
Xylene (o)	1 75	0 0250	"	1 60	ND	109	80-120	10 5	20	
Surrogate a,a,a-Trifluorotoluene	*39 1*		*ug/kg*	*40.0*		*97 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*38 4*		*"*	*40 0*		*96 0*	*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 EF61006 - Water Extraction										
Blank (EF61006-BLK1)				Prepared & Analyzed 06/10/06						
Sulfate	ND	0 500	mg/kg							
Chloride	ND	0 500	"							
LCS (EF61006-BS1)				Prepared & Analyzed. 06/10/06						
Chloride	10 2	0 500	mg/kg	10.0		102	80-120			
Sulfate	8 94	0 500	"	10 0		89 4	80-120			
Calibration Check (EF61006-CCV1)				Prepared & Analyzed. 06/10/06						
Chloride	9 81		mg/L	10 0		98 1	80-120			
Sulfate	8 74		"	10 0		87 4	80-120			
Duplicate (EF61006-DUP1)	**Source: 6F09006-01**			Prepared & Analyzed. 06/10/06						
Sulfate	66 3	5 00	mg/kg		64 8			2 29	20	
Chloride	375	5 00	"		363			3 25	20	
Duplicate (EF61006-DUP2)	**Source: 6F09011-06**			Prepared & Analyzed. 06/10/06						
Sulfate	584	10 0	mg/kg		559			4 37	20	
Chloride	22 7	10 0	"		26 3			14 7	20	
Matrix Spike (EF61006-MS1)	**Source: 6F09006-01**			Prepared & Analyzed 06/10/06						
Chloride	472	5 00	mg/kg	100	363	109	80-120			
Sulfate	125	5 00	"	100	64 8	60.2	75-125			QS-1
Matrix Spike (EF61006-MS2)	**Source: 6F09011-06**			Prepared & Analyzed 06/10/06						
Sulfate	694	10.0	mg/kg	200	559	67.5	75-125			QS-1
Chloride	203	10 0	"	200	26 3	88 4	80-120			

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

Project. Chesapeake/ E W Walden No 4 SWD
Project Number. 160053
Project Manager Iain Olness

Fax 505-394-2601

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 EF61101 - General Preparation (Prep)										
Blank (EF61101-BLK1)				Prepared. 06/10/06 Analyzed 06/11/06						
% Solids	100		%							
Duplicate (EF61101-DUP1)		**Source: 6F08014-01**		Prepared 06/10/06 Analyzed. 06/11/06						
% Solids	88 3		%		88 8			0 565	20	
Duplicate (EF61101-DUP2)		**Source: 6F09002-02**		Prepared. 06/10/06 Analyzed 06/11/06						
% Solids	99 2		%		99.0			0.202	20	
Duplicate (EF61101-DUP3)		**Source: 6F09002-22**		Prepared 06/10/06 Analyzed. 06/11/06						
% Solids	95.8		%		95 1			0.733	20	
Duplicate (EF61101-DUP4)		**Source: 6F09007-02**		Prepared: 06/10/06 Analyzed 06/11/06						
% Solids	91 0		%		90 4			0 662	20	
Duplicate (EF61101-DUP5)		**Source: 6F09012-01**		Prepared 06/10/06 Analyzed 06/11/06						
% Solids	90 6		%		90 9			0 331	20	

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

Project Chesapeake/ E W Walden No 4 SWD
Project Number 160053
Project Manager Iain Olness

Fax 505-394-2601

Notes and Definitions

QS-1	The spike recovery value is outside Laboratory historical or method prescribed QC limits
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: 6/14/2006

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Sebastian Romero

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

ANALYSIS REQUEST

LAB I.D.	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			
0F09041																									
-01	1 PA2-BH-1 (3')	X	1			X					X		07-Jun-06	9:05	X	X	X	X							
-02	2 PA2-BH-2 (3')	X	1			X					X		07-Jun-06	9:20	X	X	X	X							
-03	3 PA2-BH-3 (2')	X	1			X					X		07-Jun-06	9:35	X	X	X	X							
-04	4 PA2-BH-4 (2')	X	1			X					X		07-Jun-06	9:50	X	X	X	X							
-05	5 PA2-BH-5 (2')	X	1			X					X		07-Jun-06	10:20	X	X	X	X							
-06	6 PA2-BH-6 (2')	X	1			X					X		07-Jun-06	10:35	X	X	X	X							
-07	7 PA2-BH-7 (2')	X	1			X					X		07-Jun-06	10:50	X	X	X	X							
-08	8 PA2-BH-8 (3')	X	1			X					X		07-Jun-06	14:50	X	X	X	X							
-09	9 PA2-SW-1 (2')	X	1			X					X		07-Jun-06	13:30	X	X	X	X							
-10	10 PA2-SW-2 (3')	X	1			X					X		07-Jun-06	13:45	X	X	X	X							

Sampler Relinquished: Iain Olness — Date: 9 June 06 — Time: 0719 — Received By: Aaron Boone

Relinquished by: Aaron Boone — Date: 6/9/06 — Time: 11:00 — Received By: (lab staff) Carri Wall

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

E-mail results to: iolness@envplus.net

REMARKS:

30 4oz glass w/ labels

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Sebastian Romero

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

ANALYSIS REQUEST

LAB I.D. 6F09011		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	PA2-SW-3 (2')	X	1			X					X		07-Jun-06	14:10	X	X	X	X							
-12	2	PA2-SW-4 (2')	X	1			X					X		07-Jun-06	14:25	X	X	X	X							
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished: Iain Olness
Date: 7 June 06 Time: 0719
Received By: Jason Boone

Relinquished by: Jason Boone
Date: 06/9/06 Time: 7:00
Received By: (lab staff) Carol Kelly

Delivered by:

Sample Cool & Intact (Yes) No

Checked By:

E-mail results to: iolness@envplus.net

REMARKS:

w/ label

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

:n: EPI

:e Time 6/9/06 11:00

:der # 6F09011

als CK

Sample Receipt Checklist

:perature of container/cooler?	Yes	No	3.0 C
pping container/cooler in good condition?	(Yes)	No	
stody Seals intact on shipping container/cooler?	Yes	No	(Not present)
stody Seals intact on sample bottles?	Yes	No	(Not present)
ain of custody present?	(Yes)	No	
mple Instructions complete on Chain of Custody?	(Yes)	No	
ain of Custody signed when relinquished and received?	(Yes)	No	
ain of custody agrees with sample label(s)	(Yes)	No	
ntainer labels legible and intact?	(Yes)	No	
mple Matrix and properties same as on chain of custody?	(Yes)	No	
mples in proper container/bottle?	(Yes)	No	
mples properly preserved?	(Yes)	No	
mple bottles intact?	(Yes)	No	
eservations documented on Chain of Custody?	(Yes)	No	
ntainers documented on Chain of Custody?	(Yes)	No	
fficient sample amount for indicated test?	(Yes)	No	
samples received within sufficient hold time?	(Yes)	No	
)C samples have zero headspace?	(Yes)	No	Not Applicable

:her observations:

Variance Documentation:

cntact Person: - ______ Date/Time: ______ Contacted by: ______

egarding:

orrective 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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec. 15, T 22 S, R 37 E

Lab Order Number: 6F09012

Report Date: 06/13/06

Environmental Plus, Incorporated	Project Chesapeake/ E W Walden No 4 SWD	Fax 505-394-2601
P O Box 1558	Project Number 160053	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	06/13/06 10 39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA1-SW-1 2'	6F09012-01	Soil	06/07/06 14 15	06/09/06 11.00
PA1-SW-2 2'	6F09012-02	Soil	06/07/06 14:17	06/09/06 11 00
PA1-SW-3 2'	6F09012-03	Soil	06/07/06 14.21	06/09/06 11.00
PA1-SW-4 2'	6F09012-04	Soil	06/07/06 14 25	06/09/06 11.00

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
PA1-SW-1 2' (6F09012-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61210	06/12/06	06/12/06	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		*95.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*76.8 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*79.0 %*	*70-130*		"	"	"	"	
PA1-SW-2 2' (6F09012-02) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61210	06/12/06	06/12/06	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		*81 0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*94.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*78.0 %*	*70-130*		"	"	"	"	
Surrogate. 1-Chlorooctadecane		*78 2 %*	*70-130*		"	"	"	"	
PA1-SW-3 2' (6F09012-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61210	06/12/06	06/12/06	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		*88.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*95 8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA1-SW-3 2' (6F09012-03) Soil									
Carbon Ranges C12-C28	ND	10 0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*83 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*83 2 %*	*70-130*		"	"	"	"	
PA1-SW-4 2' (6F09012-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61210	06/12/06	06/12/06	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		*82 2 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*91.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*78.2 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*79.2 %*	*70-130*		"	"	"	"	

Environmental Plus, Incorporated	Project. Chesapeake/ E.W. Walden No 4 SWD	Fax 505-394-2601
P O. Box 1558	Project Number. 160053	**Reported:**
Eunice NM, 88231	Project Manager Iain Olness	06/13/06 10 39

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA1-SW-1 2' (6F09012-01) Soil									
Chloride	**374**	10 0	mg/kg	20	EF61007	06/10/06	06/10/06	EPA 300 0	
% Moisture	**9.1**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**38.4**	10 0	mg/kg	20	EF61007	06/10/06	06/10/06	EPA 300 0	
PA1-SW-2 2' (6F09012-02) Soil									
Chloride	**1300**	25 0	mg/kg	50	EF61007	06/10/06	06/10/06	EPA 300 0	
% Moisture	**14.5**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**111**	25.0	mg/kg	50	EF61007	06/10/06	06/10/06	EPA 300.0	
PA1-SW-3 2' (6F09012-03) Soil									
Chloride	**697**	10 0	mg/kg	20	EF61007	06/10/06	06/10/06	EPA 300 0	
% Moisture	**10.5**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**74.1**	10 0	mg/kg	20	EF61007	06/10/06	06/10/06	EPA 300 0	
PA1-SW-4 2' (6F09012-04) Soil									
Chloride	**20.1**	5.00	mg/kg	10	EF61007	06/10/06	06/10/06	EPA 300.0	
% Moisture	**4.1**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**38.5**	5 00	mg/kg	10	EF61007	06/10/06	06/10/06	EPA 300.0	

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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 EF60932 - Solvent Extraction (GC)										
Blank (EF60932-BLK1)				Prepared. 06/09/06 Analyzed 06/11/06						
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 nC6-nC35	ND	10.0	"							
Surrogate 1-Chlorooctane	*38 4*		*mg/kg*	*50 0*		*76 8*	*70-130*			
Surrogate 1-Chlorooctadecane	*40 2*		"	*50 0*		*80 4*	*70-130*			
LCS (EF60932-BS1)				Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	518	10 0	mg/kg wet	500		104	75-125			
Carbon Ranges C12-C28	552	10 0	"	500		110	75-125			
Total Hydrocarbon nC6-nC35	1070	10 0	"	1000		107	75-125			
Surrogate 1-Chlorooctane	*59 5*		*mg/kg*	*50 0*		*119*	*70-130*			
Surrogate 1-Chlorooctadecane	*58 7*		"	*50 0*		*117*	*70-130*			
Calibration Check (EF60932-CCV1)				Prepared. 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	267		mg/kg	250		107	80-120			
Carbon Ranges C12-C28	297		"	250		119	80-120			
Total Hydrocarbon nC6-nC35	564		"	500		113	80-120			
Surrogate 1-Chlorooctane	*51.5*		"	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*54 7*		"	*50 0*		*109*	*70-130*			
Matrix Spike (EF60932-MS1)	**Source: 6F09011-11**			Prepared 06/09/06 Analyzed. 06/12/06						
Carbon Ranges C6-C12	551	10 0	mg/kg dry	532	ND	104	75-125			
Carbon Ranges C12-C28	588	10 0	"	532	ND	111	75-125			
Total Hydrocarbon nC6-nC35	1140	10.0	"	1060	ND	108	75-125			
Surrogate 1-Chlorooctane	*51 3*		*mg/kg*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		"	*50 0*		*98 8*	*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 EF60932 - Solvent Extraction (GC)										
Matrix Spike Dup (EF60932-MSD1)	**Source: 6F09011-11**			Prepared 06/09/06 Analyzed: 06/12/06						
Carbon Ranges C6-C12	558	10 0	mg/kg dry	532	ND	105	75-125	1.26	20	
Carbon Ranges C12-C28	591	10 0	"	532	ND	111	75-125	0.509	20	
Total Hydrocarbon nC6-nC35	1150	10 0	"	1060	ND	108	75-125	0 873	20	
Surrogate 1-Chlorooctane	*52 0*		*mg/kg*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*49.9*		"	*50 0*		*99 8*	*70-130*			
Batch EF61210 - EPA 5030C (GC)										
Blank (EF61210-BLK1)				Prepared & Analyzed. 06/12/06						
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 3*		*ug/kg*	*40 0*		*90 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*39 6*		"	*40 0*		*99 0*	*80-120*			
LCS (EF61210-BS1)				Prepared & Analyzed 06/12/06						
Benzene	1 14	0 0250	mg/kg wet	1.25		91 2	80-120			
Toluene	1 13	0 0250	"	1 25		90 4	80-120			
Ethylbenzene	1 08	0 0250	"	1.25		86 4	80-120			
Xylene (p/m)	2 41	0 0250	"	2 50		96 4	80-120			
Xylene (o)	1 29	0.0250	"	1 25		103	80-120			
Surrogate a,a,a-Trifluorotoluene	*33 1*		*ug/kg*	*40 0*		*82 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*42 6*		"	*40 0*		*106*	*80-120*			
Calibration Check (EF61210-CCV1)				Prepared. 06/12/06 Analyzed. 06/13/06						
Benzene	46 7		ug/kg	50 0		93 4	80-120			
Toluene	45.9		"	50 0		91 8	80-120			
Ethylbenzene	47.1		"	50 0		94 2	80-120			
Xylene (p/m)	83.2		"	100		83 2	80-120			
Xylene (o)	45 9		"	50 0		91 8	80-120			
Surrogate a,a,a-Trifluorotoluene	*32 2*		"	*40 0*		*80 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*33 2*		"	*40 0*		*83 0*	*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 EF61210 - EPA 5030C (GC)										
Matrix Spike (EF61210-MS1)	**Source: 6F09002-38**			Prepared 06/12/06 Analyzed: 06/13/06						
Benzene	1 27	0 0250	mg/kg dry	1 34	ND	94 8	80-120			
Toluene	1 32	0 0250	"	1 34	ND	98.5	80-120			
Ethylbenzene	1 20	0 0250	"	1 34	ND	89 6	80-120			
Xylene (p/m)	2 71	0 0250	"	2 69	ND	101	80-120			
Xylene (o)	1 42	0 0250	"	1 34	ND	106	80-120			
Surrogate a,a,a-Trifluorotoluene	*37 6*		*ug/kg*	*40 0*		*94 0*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 9*		"	*40 0*		*82 2*	*80-120*			
Matrix Spike Dup (EF61210-MSD1)	**Source: 6F09002-38**			Prepared 06/12/06 Analyzed: 06/13/06						
Benzene	1.33	0 0250	mg/kg dry	1 34	ND	99 3	80-120	4 64	20	
Toluene	1.27	0 0250	"	1 34	ND	94 8	80-120	3 83	20	
Ethylbenzene	1 12	0 0250	"	1 34	ND	83 6	80-120	6 93	20	
Xylene (p/m)	2 52	0 0250	"	2 69	ND	93 7	80-120	7 50	20	
Xylene (o)	1 35	0 0250	"	1 34	ND	101	80-120	4 83	20	
Surrogate a,a,a-Trifluorotoluene	*38 7*		*ug/kg*	*40 0*		*96.8*	*80-120*			
Surrogate. 4-Bromofluorobenzene	*38 3*		"	*40 0*		*95 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 EF61007 - Water Extraction										
Blank (EF61007-BLK1)				Prepared & Analyzed 06/10/06						
Sulfate	ND	0 500	mg/kg							
Chloride	ND	0 500	"							
LCS (EF61007-BS1)				Prepared & Analyzed. 06/10/06						
Sulfate	8 18	0 500	mg/kg	10 0		81 8	80-120			
Chloride	9 62	0 500	"	10 0		96 2	80-120			
Calibration Check (EF61007-CCV1)				Prepared & Analyzed 06/10/06						
Chloride	9.80		mg/L	10 0		98 0	80-120			
Sulfate	8 38		"	10 0		83 8	80-120			
Duplicate (EF61007-DUP1)	**Source: 6F09012-01**			Prepared & Analyzed. 06/10/06						
Sulfate	38 4	10 0	mg/kg		38 4			0 00	20	
Chloride	380	10.0	"		374			1 59	20	
Matrix Spike (EF61007-MS1)	**Source: 6F09012-01**			Prepared & Analyzed. 06/10/06						
Chloride	601	10 0	mg/kg	200	374	114	80-120			
Batch EF61101 - General Preparation (Prep)										
Blank (EF61101-BLK1)				Prepared 06/10/06 Analyzed: 06/11/06						
% Solids	100		%							
Duplicate (EF61101-DUP1)	**Source: 6F08014-01**			Prepared 06/10/06 Analyzed. 06/11/06						
% Solids	88 3		%		88 8			0 565	20	
Duplicate (EF61101-DUP2)	**Source: 6F09002-02**			Prepared 06/10/06 Analyzed 06/11/06						
% Solids	99 2		%		99.0			0 202	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 EF61101 - General Preparation (Prep)										
Duplicate (EF61101-DUP3)	**Source: 6F09002-22**			Prepared. 06/10/06 Analyzed 06/11/06						
% Solids	95 8		%		95 1			0 733	20	
Duplicate (EF61101-DUP4)	**Source: 6F09007-02**			Prepared. 06/10/06 Analyzed. 06/11/06						
% Solids	91 0		%		90 4			0 662	20	
Duplicate (EF61101-DUP5)	**Source: 6F09012-01**			Prepared. 06/10/06 Analyzed 06/11/06						
% Solids	90 6		%		90 9			0 331	20	

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: 6/13/2006

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.

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Jacob Melancon

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

ANALYSIS REQUEST

LAB I.D. (lab FO902)		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	PA1-SW-1 (2')	X	1			X					X		07-Jun-06	14:15	X	X	X	X							
-02	2	PA1-SW-2 (2')	X	1			X					X		07-Jun-06	14:17	X	X	X	X							
-03	3	PA1-SW-3 (2')	X	1			X					X		07-Jun-06	14:21	X	X	X	X							
-04	4	PA1-SW-4 (2')	X	1			X					X		07-Jun-06	14:25	X	X	X	X							
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished: Iain Olness — Date: 7 June 06 Time: 0719 — Received By: Jason Boone

Relinquished by: Jason Boone — Date: 6/9/06 Time: 1:06 — Received By: (lab staff) Carrie Kelly

Delivered by:

Sample Cool & Intact: Yes / No

Checked By:

E-mail results to: iolness@envplus.net

REMARKS: RUSH as per Iain Olness 06 12-06@ 3.0 4oz glass w/ label

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

Client: EPI

Date/Time: 06/9/06 11:00

Order #: 6F0902

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	3.0 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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec. 15, T 22 S, R 37 E

Lab Order Number: 6F09011

Report Date: 06/14/06

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

Project Chesapeake/ E.W Walden No 4 SWD
Project Number 160053
Project Manager Iain Olness

Fax 505-394-2601

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA2-BH-1 3'	6F09011-01	Soil	06/07/06 09.05	06/09/06 11 00
PA2-BH-2 3'	6F09011-02	Soil	06/07/06 09 20	06/09/06 11 00
PA2-BH-3 2'	6F09011-03	Soil	06/07/06 09.35	06/09/06 11 00
PA2-BH-4 2'	6F09011-04	Soil	06/07/06 09 50	06/09/06 11:00
PA2-BH-5 2'	6F09011-05	Soil	06/07/06 10 20	06/09/06 11:00
PA2-BH-6 2'	6F09011-06	Soil	06/07/06 10 35	06/09/06 11 00
PA2-BH-7 2'	6F09011-07	Soil	06/07/06 10 50	06/09/06 11.00
PA2-BH-8 3'	6F09011-08	Soil	06/07/06 14 50	06/09/06 11 00
PA2-SW-1 2'	6F09011-09	Soil	06/07/06 13.30	06/09/06 11:00
PA2-SW-2 3'	6F09011-10	Soil	06/07/06 13.45	06/09/06 11.00
PA2-SW-3 2'	6F09011-11	Soil	06/07/06 14 10	06/09/06 11 00
PA2-SW-4 2'	6F09011-12	Soil	06/07/06 14.25	06/09/06 11.00

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

Project Chesapeake/ E W Walden No 4 SWD
Project Number 160053
Project Manager Iain Olness

Fax. 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-1 3' (6F09011-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*80 0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*81.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*84.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*84.4 %*	*70-130*		"	"	"	"	
PA2-BH-2 3' (6F09011-02) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*83 8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*83.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*73.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*74 8 %*	*70-130*		"	"	"	"	
PA2-BH-3 2' (6F09011-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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	EF60931	06/09/06	06/11/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-3 2' (6F09011-03) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*79 8 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*80.2 %*	*70-130*		"	"	"	"	
PA2-BH-4 2' (6F09011-04) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*81.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*79 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*80.2 %*	*70-130*		"	"	"	"	
PA2-BH-5 2' (6F09011-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*84 0 %*	*80-120*		"	"	"	"	
Surrogate· 4-Bromofluorobenzene		*84.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*72.0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*72 2 %*	*70-130*		"	"	"	"	

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-6 2' (6F09011-06) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*88.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*84.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*74 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*75.8 %*	*70-130*		"	"	"	"	
PA2-BH-7 2' (6F09011-07) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*90.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*71.6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*71.2 %*	*70-130*		"	"	"	"	
PA2-BH-8 3' (6F09011-08) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*92.8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*90.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	

Organics by GC

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-BH-8 3' (6F09011-08) Soil									
Carbon Ranges C12-C28	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*81 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*82 0 %*	*70-130*		"	"	"	"	
PA2-SW-1 2' (6F09011-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*85.2 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*81 0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*85 0 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*84.4 %*	*70-130*		"	"	"	"	
PA2-SW-2 3' (6F09011-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*84 8 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*82.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60931	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*82 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*81 2 %*	*70-130*		"	"	"	"	

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA2-SW-3 2' (6F09011-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*94.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*81.4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*81.8 %*	*70-130*		"	"	"	"	
PA2-SW-4 2' (6F09011-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61305	06/13/06	06/14/06	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		*97.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*92.5 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF60932	06/09/06	06/11/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*83.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*87.4 %*	*70-130*		"	"	"	"	

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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
PA2-BH-1 3' (6F09011-01) Soil									
Chloride	**100**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.3**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**34.5**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-2 3' (6F09011-02) Soil									
Chloride	**28.2**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**1.6**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**28.0**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-3 2' (6F09011-03) Soil									
Chloride	**31.3**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**3.3**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**234**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-4 2' (6F09011-04) Soil									
Chloride	**77.6**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**6.5**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**543**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-5 2' (6F09011-05) Soil									
Chloride	**520**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**8.5**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**724**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300.0	
PA2-BH-6 2' (6F09011-06) Soil									
Chloride	**26.3**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.5**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**559**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-BH-7 2' (6F09011-07) Soil									
Chloride	**332**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.1**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**74.3**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	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
PA2-BH-8 3' (6F09011-08) Soil									
Chloride	**135**	10.0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300.0	
% Moisture	**5.2**	0.1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**158**	10 0	mg/kg	20	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-1 2' (6F09011-09) Soil									
Chloride	**12.2**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**4.2**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**19.0**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-2 3' (6F09011-10) Soil									
Chloride	**15.7**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**3.9**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**24.4**	5 00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-3 2' (6F09011-11) Soil									
Chloride	**17.8**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**6.0**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**471**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
PA2-SW-4 2' (6F09011-12) Soil									
Chloride	**12.4**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	EPA 300 0	
% Moisture	**1.8**	0 1	%	1	EF61101	06/10/06	06/11/06	% calculation	
Sulfate	**232**	5.00	mg/kg	10	EF61006	06/10/06	06/10/06	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 EF60931 - Solvent Extraction (GC)										
Blank (EF60931-BLK1)				Prepared 06/09/06 Analyzed 06/10/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*37 7*		*mg/kg*	*50 0*		*75 4*	*70-130*			
Surrogate 1-Chlorooctadecane	*39 5*		*"*	*50 0*		*79 0*	*70-130*			
LCS (EF60931-BS1)				Prepared 06/09/06 Analyzed 06/10/06						
Carbon Ranges C6-C12	502	10 0	mg/kg wet	500		100	75-125			
Carbon Ranges C12-C28	538	10 0	"	500		108	75-125			
Total Hydrocarbon nC6-nC35	1040	10.0	"	1000		104	75-125			
Surrogate 1-Chlorooctane	*58 2*		*mg/kg*	*50 0*		*116*	*70-130*			
Surrogate 1-Chlorooctadecane	*58 2*		*"*	*50 0*		*116*	*70-130*			
Calibration Check (EF60931-CCV1)				Prepared. 06/09/06 Analyzed. 06/11/06						
Carbon Ranges C6-C12	269		mg/kg	250		108	80-120			
Carbon Ranges C12-C28	290		"	250		116	80-120			
Total Hydrocarbon nC6-nC35	559		"	500		112	80-120			
Surrogate 1-Chlorooctane	*51 4*		*"*	*50 0*		*103*	*70-130*			
Surrogate. 1-Chlorooctadecane	*54 3*		*"*	*50 0*		*109*	*70-130*			
Matrix Spike (EF60931-MS1)	**Source: 6F09002-40**			Prepared· 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	670	10 0	mg/kg dry	639	ND	105	75-125			
Carbon Ranges C12-C28	691	10 0	"	639	ND	108	75-125			
Total Hydrocarbon nC6-nC35	1360	10.0	"	1280	ND	106	75-125			
Surrogate 1-Chlorooctane	*46 7*		*mg/kg*	*50 0*		*93 4*	*70-130*			
Surrogate 1-Chlorooctadecane	*42 8*		*"*	*50 0*		*85.6*	*70-130*			

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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 EF60931 - Solvent Extraction (GC)										
Matrix Spike Dup (EF60931-MSD1)	**Source: 6F09002-40**			Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	668	10 0	mg/kg dry	639	ND	105	75-125	0 299	20	
Carbon Ranges C12-C28	697	10 0	"	639	ND	109	75-125	0 865	20	
Total Hydrocarbon nC6-nC35	1360	10 0	"	1280	ND	106	75-125	0 00	20	
Surrogate 1-Chlorooctane	*46 4*		*mg/kg*	*50 0*		*92.8*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 6*		*"*	*50 0*		*87.2*	*70-130*			
Batch EF60932 - Solvent Extraction (GC)										
Blank (EF60932-BLK1)				Prepared: 06/09/06 Analyzed. 06/11/06						
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 nC6-nC35	ND	10.0	"							
Surrogate 1-Chlorooctane	*38 4*		*mg/kg*	*50 0*		*76 8*	*70-130*			
Surrogate 1-Chlorooctadecane	*40 2*		*"*	*50 0*		*80 4*	*70-130*			
LCS (EF60932-BS1)				Prepared. 06/09/06 Analyzed 06/11/06						
Carbon Ranges C6-C12	518	10.0	mg/kg wet	500		104	75-125			
Carbon Ranges C12-C28	552	10 0	"	500		110	75-125			
Total Hydrocarbon nC6-nC35	1070	10 0	"	1000		107	75-125			
Surrogate 1-Chlorooctane	*59 5*		*mg/kg*	*50 0*		*119*	*70-130*			
Surrogate 1-Chlorooctadecane	*58 7*		*"*	*50 0*		*117*	*70-130*			
Calibration Check (EF60932-CCV1)				Prepared: 06/09/06 Analyzed: 06/12/06						
Carbon Ranges C6-C12	267		mg/kg	250		107	80-120			
Carbon Ranges C12-C28	297		"	250		119	80-120			
Total Hydrocarbon nC6-nC35	564		"	500		113	80-120			
Surrogate 1-Chlorooctane	*51 5*		*"*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*54 7*		*"*	*50.0*		*109*	*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 EF60932 - Solvent Extraction (GC)										
Matrix Spike (EF60932-MS1)	**Source: 6F09011-11**			Prepared 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	551	10 0	mg/kg dry	532	ND	104	75-125			
Carbon Ranges C12-C28	588	10 0	"	532	ND	111	75-125			
Total Hydrocarbon nC6-nC35	1140	10 0	"	1060	ND	108	75-125			
Surrogate 1-Chlorooctane	*51 3*		*mg/kg*	*50 0*		*103*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 4*		*"*	*50 0*		*98 8*	*70-130*			
Matrix Spike Dup (EF60932-MSD1)	**Source: 6F09011-11**			Prepared. 06/09/06 Analyzed 06/12/06						
Carbon Ranges C6-C12	558	10 0	mg/kg dry	532	ND	105	75-125	1 26	20	
Carbon Ranges C12-C28	591	10 0	"	532	ND	111	75-125	0 509	20	
Total Hydrocarbon nC6-nC35	1150	10 0	"	1060	ND	108	75-125	0.873	20	
Surrogate 1-Chlorooctane	*52 0*		*mg/kg*	*50 0*		*104*	*70-130*			
Surrogate 1-Chlorooctadecane	*49 9*		*"*	*50.0*		*99 8*	*70-130*			
Batch EF61305 - EPA 5030C (GC)										
Blank (EF61305-BLK1)				Prepared & Analyzed 06/13/06						
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	*32.1*		*ug/kg*	*40 0*		*80.2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 7*		*"*	*40 0*		*81 8*	*80-120*			
LCS (EF61305-BS1)				Prepared & Analyzed 06/13/06						
Benzene	1 13	0 0250	mg/kg wet	1 25		90 4	80-120			
Toluene	1 21	0 0250	"	1 25		96.8	80-120			
Ethylbenzene	1 08	0 0250	"	1 25		86 4	80-120			
Xylene (p/m)	2.47	0 0250	"	2 50		98 8	80-120			
Xylene (o)	1.30	0 0250	"	1 25		104	80-120			
Surrogate a,a,a-Trifluorotoluene	*38 9*		*ug/kg*	*40 0*		*97 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*39 9*		*"*	*40 0*		*99 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 EF61305 - EPA 5030C (GC)										
Calibration Check (EF61305-CCV1)				Prepared. 06/13/06 Analyzed 06/14/06						
Benzene	0 0469		mg/kg wet	0 0500		93 8	80-120			
Toluene	0 0490		"	0 0500		98 0	80-120			
Ethylbenzene	0 0521		"	0 0500		104	80-120			
Xylene (p/m)	0 0979		"	0 100		97 9	80-120			
Xylene (o)	0.0528		"	0 0500		106	80-120			
Surrogate a,a,a-Trifluorotoluene	*35 9*		*ug/kg*	*40 0*		*89 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*41 9*		*"*	*40 0*		*105*	*80-120*			
Matrix Spike (EF61305-MS1)	**Source: 6F09002-40**			Prepared. 06/13/06 Analyzed 06/14/06						
Benzene	1 53	0 0250	mg/kg dry	1 60	ND	95 6	80-120			
Toluene	1 47	0 0250	"	1.60	ND	91 9	80-120			
Ethylbenzene	1 35	0.0250	"	1 60	ND	84 4	80-120			
Xylene (p/m)	2 98	0 0250	"	3 19	ND	93 4	80-120			
Xylene (o)	1 57	0 0250	"	1 60	ND	98 1	80-120			
Surrogate a,a,a-Trifluorotoluene	*37 7*		*ug/kg*	*40 0*		*94 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*37 9*		*"*	*40 0*		*94 8*	*80-120*			
Matrix Spike Dup (EF61305-MSD1)	**Source: 6F09002-40**			Prepared. 06/13/06 Analyzed 06/14/06						
Benzene	1 56	0 0250	mg/kg dry	1 60	ND	97 5	80-120	1 97	20	
Toluene	1 65	0 0250	"	1 60	ND	103	80-120	11 4	20	
Ethylbenzene	1 51	0 0250	"	1 60	ND	94 4	80-120	11 2	20	
Xylene (p/m)	3 33	0 0250	"	3 19	ND	104	80-120	10.7	20	
Xylene (o)	1 75	0 0250	"	1 60	ND	109	80-120	10 5	20	
Surrogate a,a,a-Trifluorotoluene	*39 1*		*ug/kg*	*40 0*		*97.8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*38 4*		*"*	*40 0*		*96 0*	*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 EF61006 - Water Extraction										
Blank (EF61006-BLK1)				Prepared & Analyzed 06/10/06						
Sulfate	ND	0 500	mg/kg							
Chloride	ND	0 500	"							
LCS (EF61006-BS1)				Prepared & Analyzed 06/10/06						
Chloride	10 2	0 500	mg/kg	10 0		102	80-120			
Sulfate	8 94	0 500	"	10 0		89 4	80-120			
Calibration Check (EF61006-CCV1)				Prepared & Analyzed 06/10/06						
Chloride	9 81		mg/L	10 0		98 1	80-120			
Sulfate	8 74		"	10 0		87 4	80-120			
Duplicate (EF61006-DUP1)	**Source: 6F09006-01**			Prepared & Analyzed 06/10/06						
Sulfate	66.3	5 00	mg/kg		64 8			2 29	20	
Chloride	375	5 00	"		363			3 25	20	
Duplicate (EF61006-DUP2)	**Source: 6F09011-06**			Prepared & Analyzed. 06/10/06						
Sulfate	584	10.0	mg/kg		559			4 37	20	
Chloride	22 7	10 0	"		26 3			14 7	20	
Matrix Spike (EF61006-MS1)	**Source: 6F09006-01**			Prepared & Analyzed: 06/10/06						
Chloride	472	5 00	mg/kg	100	363	109	80-120			
Sulfate	125	5 00	"	100	64 8	60 2	75-125			QS-1
Matrix Spike (EF61006-MS2)	**Source: 6F09011-06**			Prepared & Analyzed 06/10/06						
Sulfate	694	10.0	mg/kg	200	559	67 5	75-125			QS-1
Chloride	203	10 0	"	200	26 3	88 4	80-120			

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

Project Chesapeake/ E.W. Walden No 4 SWD
Project Number 160053
Project Manager Iain Olness

Fax 505-394-2601

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 EF61101 - General Preparation (Prep)										
Blank (EF61101-BLK1)				Prepared. 06/10/06 Analyzed. 06/11/06						
% Solids	100		%							
Duplicate (EF61101-DUP1)		**Source: 6F08014-01**		Prepared 06/10/06 Analyzed 06/11/06						
% Solids	88 3		%		88 8			0 565	20	
Duplicate (EF61101-DUP2)		**Source: 6F09002-02**		Prepared: 06/10/06 Analyzed 06/11/06						
% Solids	99 2		%		99.0			0 202	20	
Duplicate (EF61101-DUP3)		**Source: 6F09002-22**		Prepared. 06/10/06 Analyzed 06/11/06						
% Solids	95 8		%		95 1			0 733	20	
Duplicate (EF61101-DUP4)		**Source: 6F09007-02**		Prepared 06/10/06 Analyzed. 06/11/06						
% Solids	91 0		%		90.4			0 662	20	
Duplicate (EF61101-DUP5)		**Source: 6F09012-01**		Prepared. 06/10/06 Analyzed. 06/11/06						
% Solids	90 6		%		90 9			0 331	20	

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Project Number 160053
Project Manager Iain Olness

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Notes and Definitions

QS-1	The spike recovery value is outside Laboratory historical or method prescribed QC limits
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. 6/14/2006

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.

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Sebastian Romero

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

LAB I.D. 6F09011		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^{2-})	pH	TCLP	OTHER >>>	PAH			
-01	1	PA2-BH-1 (3')	X	1			X					X		07-Jun-06	9:05	X	X	X	X							
-02	2	PA2-BH-2 (3')	X	1			X					X		07-Jun-06	9:20	X	X	X	X							
-03	3	PA2-BH-3 (2')	X	1			X					X		07-Jun-06	9:35	X	X	X	X							
-04	4	PA2-BH-4 (2')	X	1			X					X		07-Jun-06	9:50	X	X	X	X							
-05	5	PA2-BH-5 (2')	X	1			X					X		07-Jun-06	10:20	X	X	X	X							
-06	6	PA2-BH-6 (2')	X	1			X					X		07-Jun-06	10:35	X	X	X	X							
-07	7	PA2-BH-7 (2')	X	1			X					X		07-Jun-06	10:50	X	X	X	X							
-08	8	PA2-BH-8 (3')	X	1			X					X		07-Jun-06	14:50	X	X	X	X							
-09	9	PA2-SW-1 (2')	X	1			X					X		07-Jun-06	13:30	X	X	X	X							
-10	10	PA2-SW-2 (3')	X	1			X					X		07-Jun-06	13:45	X	X	X	X							

Sampler Relinquished: Iain Olness	Date: 9 June 06 Time: 0719	Received By: Jaron Boone	E-mail results to: iolness@envplus.net
Relinquished by: Jaron Boone	Date: 6/9/06 Time: 11:00	Received By (lab staff): Carrie [illegible]	REMARKS: 30 4oz glass w/ labels
Delivered by:	Sample Cool & Intact: (Yes) No	Checked By:	

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	Sebastian Romero

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

LAB I.D. (6F09011)	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	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>	PAH
1	PA2-SW-3 (2')	X	1			X					X		07-Jun-06	14:10	X	X	X	X				
2	PA2-SW-4 (2')	X	1			X					X		07-Jun-06	14:25	X	X	X	X				
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished: Iain Olness	Date: 9 June 06 Time: 0719	Received By: Aaron Boone
Relinquished by: Aaron Boone	Date: 09/06/06 Time: 11:00	Received By: (lab staff) Carol Kelly
Delivered by:	Sample Cool & Intact (Yes) No	Checked By:

E-mail results to: iolness@envplus.net
REMARKS:

w/ label

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

:·· EPI

:e Time 6/9/06 11:00

:ler # 6F09011

als CK

Sample Receipt Checklist

:perature of container/cooler?	Yes	No	3.0 C
pping container/cooler in good condition?	(Yes)	No	
stody Seals intact on shipping container/cooler?	Yes	No	(Not present)
stody Seals intact on sample bottles?	Yes	No	(Not present)
ain of custody present?	(Yes)	No	
mple Instructions complete on Chain of Custody?	(Yes)	No	
ain of Custody signed when relinquished and received?	(Yes)	No	
ain of custody agrees with sample label(s)	(Yes)	No	
ntainer labels legible and intact?	(Yes)	No	
mple Matrix and properties same as on chain of custody?	(Yes)	No	
mples in proper container/bottle?	(Yes)	No	
mples properly preserved?	(Yes)	No	
mple bottles intact?	(Yes)	No	
eservations documented on Chain of Custody?	(Yes)	No	
ntainers documented on Chain of Custody?	(Yes)	No	
fficient sample amount for indicated test?	(Yes)	No	
samples received within sufficient hold time?	(Yes)	No	
OC samples have zero headspace?	(Yes)	No	Not Applicable

:her observations:

Variance Documentation:

ontact Person: ______ Date/Time: ______ Contacted by: ______

egarding:

orrective 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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sect. 15, T 22 S, R 37 E

Lab Order Number: 6F13008

Report Date: 06/19/06

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

Project Chesapeake/ E W Walden No 4 SWD
Project Number 160053
Project Manager. Iain Olness

Fax 505-394-2601

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA3-BH-1 3'	6F13008-01	Soil	06/09/06 07 35	06/13/06 10.35
PA3-BH-2 3'	6F13008-02	Soil	06/09/06 07 50	06/13/06 10 35
PA3-BH-3 3'	6F13008-03	Soil	06/09/06 08 05	06/13/06 10.35
PA3-SW-1 3'	6F13008-04	Soil	06/09/06 08 20	06/13/06 10 35
PA3-SW-2 3'	6F13008-05	Soil	06/09/06 08 45	06/13/06 10 35
PA3-SW-3 3'	6F13008-06	Soil	06/09/06 09.00	06/13/06 10.35
PA3-SW-4 3'	6F13008-07	Soil	06/09/06 09 15	06/13/06 10·35

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

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

Project: Chesapeake/ E.W Walden No. 4 SWD
Project Number: 160053
Project Manager: Iain Olness

Fax 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA3-BH-1 3' (6F13008-01) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61420	06/14/06	06/14/06	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		*83.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*108 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*113 %*	*70-130*		"	"	"	"	
PA3-BH-2 3' (6F13008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61420	06/14/06	06/14/06	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		*80.5 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*80.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF61428	06/14/06	06/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*118 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*116 %*	*70-130*		"	"	"	"	
PA3-BH-3 3' (6F13008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61420	06/14/06	06/14/06	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		*83 2 %*	*80-120*		"	"	"	"	
Surrogate. 4-Bromofluorobenzene		*81.0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA3-BH-3 3' (6F13008-03) Soil									
Carbon Ranges C12-C28	ND	10 0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C28-C35	ND	10 0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*95 6 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*101 %*	*70-130*		"	"	"	"	
PA3-SW-1 3' (6F13008-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61420	06/14/06	06/15/06	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		*80.8 %*	*80-120*		"	"	"	"	
Surrogate. 4-Bromofluorobenzene		*81.2 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10 0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*98.4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*104 %*	*70-130*		"	"	"	"	
PA3-SW-2 3' (6F13008-05) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61420	06/14/06	06/15/06	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		*84.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10 0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*105 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*111 %*	*70-130*		"	"	"	"	

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

Project. Chesapeake/ E W Walden No 4 SWD
Project Number. 160053
Project Manager Iain Olness

Fax 505-394-2601

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA3-SW-3 3' (6F13008-06) Soil									
Benzene	ND	0 0250	mg/kg dry	25	EF61420	06/14/06	06/15/06	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		*81.0 %*	*80-120*		"	"	"	"	
Surrogate 4-Bromofluorobenzene		*83 0 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10 0	"	"	"	"	"	"	
Surrogate. 1-Chlorooctane		*107 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*112 %*	*70-130*		"	"	"	"	
PA3-SW-4 3' (6F13008-07) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF61421	06/14/06	06/15/06	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		*92.2 %*	*80-120*		"	"	"	"	
Surrogate· 4-Bromofluorobenzene		*82.8 %*	*80-120*		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EF61314	06/13/06	06/14/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	10.0	"	"	"	"	"	"	
Surrogate 1-Chlorooctane		*95 4 %*	*70-130*		"	"	"	"	
Surrogate 1-Chlorooctadecane		*100 %*	*70-130*		"	"	"	"	

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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
PA3-BH-1 3' (6F13008-01) Soil									
Chloride	**406**	10 0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300.0	
% Moisture	**9.1**	0 1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**127**	10 0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	
PA3-BH-2 3' (6F13008-02) Soil									
Chloride	**412**	10.0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**8.8**	0 1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**136**	10 0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	
PA3-BH-3 3' (6F13008-03) Soil									
Chloride	**17.7**	5 00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**7.0**	0 1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**28.1**	5 00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
PA3-SW-1 3' (6F13008-04) Soil									
Chloride	**214**	10 0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**2.6**	0.1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**84.0**	10 0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300.0	
PA3-SW-2 3' (6F13008-05) Soil									
Chloride	**13.0**	5 00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**1.0**	0.1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**19.6**	5.00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
PA3-SW-3 3' (6F13008-06) Soil									
Chloride	**15.3**	5 00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**2.4**	0.1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**24.0**	5.00	mg/kg	10	EF61609	06/16/06	06/16/06	EPA 300 0	
PA3-SW-4 3' (6F13008-07) Soil									
Chloride	**213**	10.0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	
% Moisture	**5.1**	0.1	%	1	EF61407	06/13/06	06/14/06	% calculation	
Sulfate	**101**	10.0	mg/kg	20	EF61609	06/16/06	06/16/06	EPA 300 0	

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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 EF61314 - Solvent Extraction (GC)										
Blank (EF61314-BLK1)				Prepared 06/13/06 Analyzed 06/14/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*41.6*		*mg/kg*	*50 0*		*83 2*	*70-130*			
Surrogate 1-Chlorooctadecane	*43 0*		*"*	*50 0*		*86 0*	*70-130*			
LCS (EF61314-BS1)				Prepared. 06/13/06 Analyzed 06/14/06						
Carbon Ranges C6-C12	519	10 0	mg/kg wet	500		104	75-125			
Carbon Ranges C12-C28	535	10 0	"	500		107	75-125			
Total Hydrocarbon nC6-nC35	1050	10 0	"	1000		105	75-125			
Surrogate 1-Chlorooctane	*61.0*		*mg/kg*	*50 0*		*122*	*70-130*			
Surrogate. 1-Chlorooctadecane	*61 0*		*"*	*50 0*		*122*	*70-130*			
Calibration Check (EF61314-CCV1)				Prepared. 06/13/06 Analyzed 06/14/06						
Carbon Ranges C6-C12	253		mg/kg	250		101	80-120			
Carbon Ranges C12-C28	256		"	250		102	80-120			
Total Hydrocarbon nC6-nC35	509		"	500		102	80-120			
Surrogate 1-Chlorooctane	*48 5*		*"*	*50 0*		*97 0*	*70-130*			
Surrogate 1-Chlorooctadecane	*50 3*		*"*	*50 0*		*101*	*70-130*			
Matrix Spike (EF61314-MS1)	**Source: 6F13008-01**			Prepared. 06/13/06 Analyzed 06/14/06						
Carbon Ranges C6-C12	578	10.0	mg/kg dry	550	ND	105	75-125			
Carbon Ranges C12-C28	608	10 0	"	550	ND	111	75-125			
Total Hydrocarbon nC6-nC35	1190	10.0	"	1100	ND	108	75-125			
Surrogate 1-Chlorooctane	*59.0*		*mg/kg*	*50 0*		*118*	*70-130*			
Surrogate 1-Chlorooctadecane	*52 3*		*"*	*50.0*		*105*	*70-130*			

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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 EF61314 - Solvent Extraction (GC)										
Matrix Spike Dup (EF61314-MSD1)	**Source: 6F13008-01**			Prepared 06/13/06 Analyzed 06/14/06						
Carbon Ranges C6-C12	584	10 0	mg/kg dry	550	ND	106	75-125	1 03	20	
Carbon Ranges C12-C28	611	10 0	"	550	ND	111	75-125	0 492	20	
Total Hydrocarbon nC6-nC35	1200	10 0	"	1100	ND	109	75-125	0 837	20	
Surrogate 1-Chlorooctane	*59.7*		*mg/kg*	*50 0*		*119*	*70-130*			
Surrogate 1-Chlorooctadecane	*52 4*		*"*	*50 0*		*105*	*70-130*			
Batch EF61420 - EPA 5030C (GC)										
Blank (EF61420-BLK1)				Prepared. 06/14/06 Analyzed. 06/15/06						
Benzene	ND	0 0250	mg/kg wet							
Toluene	ND	0 0250	"							
Ethylbenzene	ND	0 0250	"							
Xylene (p/m)	ND	0 0250	"							
Xylene (o)	ND	0 0250	"							
Surrogate a,a,a-Trifluorotoluene	*37 4*		*ug/kg*	*40 0*		*93 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*32 5*		*"*	*40 0*		*81 2*	*80-120*			
LCS (EF61420-BS1)				Prepared & Analyzed. 06/14/06						
Benzene	1.13	0 0250	mg/kg wet	1 25		90 4	80-120			
Toluene	1 11	0 0250	"	1 25		88 8	80-120			
Ethylbenzene	1 05	0 0250	"	1 25		84 0	80-120			
Xylene (p/m)	2 41	0.0250	"	2 50		96 4	80-120			
Xylene (o)	1 29	0 0250	"	1 25		103	80-120			
Surrogate a,a,a-Trifluorotoluene	*34 6*		*ug/kg*	*40 0*		*86 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*43 0*		*"*	*40 0*		*108*	*80-120*			
Calibration Check (EF61420-CCV1)				Prepared 06/14/06 Analyzed. 06/15/06						
Benzene	46.8		ug/kg	50 0		93 6	80-120			
Toluene	45 0		"	50 0		90 0	80-120			
Ethylbenzene	48 7		"	50.0		97.4	80-120			
Xylene (p/m)	86 9		"	100		86.9	80-120			
Xylene (o)	47 5		"	50 0		95 0	80-120			
Surrogate a,a,a-Trifluorotoluene	*36 1*		*"*	*40 0*		*90 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*34 8*		*"*	*40 0*		*87 0*	*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 EF61420 - EPA 5030C (GC)										
Matrix Spike (EF61420-MS1)	**Source: 6F13007-01**			Prepared 06/14/06 Analyzed 06/15/06						
Benzene	1 39	0 0250	mg/kg dry	1 42	ND	97 9	80-120			
Toluene	1.34	0 0250	"	1 42	ND	94 4	80-120			
Ethylbenzene	1 20	0 0250	"	1 42	ND	84 5	80-120			
Xylene (p/m)	2 66	0 0250	"	2 84	ND	93 7	80-120			
Xylene (o)	1 42	0 0250	"	1.42	ND	100	80-120			
Surrogate a,a,a-Trifluorotoluene	*39 7*		*ug/kg*	*40 0*		*99 2*	*80-120*			
Surrogate 4-Bromofluorobenzene	*38 4*		"	*40 0*		*96 0*	*80-120*			
Matrix Spike Dup (EF61420-MSD1)	**Source: 6F13007-01**			Prepared 06/14/06 Analyzed 06/15/06						
Benzene	1 31	0 0250	mg/kg dry	1 42	ND	92.3	80-120	5 89	20	
Toluene	1 28	0 0250	"	1 42	ND	90 1	80-120	4.66	20	
Ethylbenzene	1.15	0 0250	"	1.42	ND	81 0	80-120	4 23	20	
Xylene (p/m)	2 55	0 0250	"	2 84	ND	89 8	80-120	4 25	20	
Xylene (o)	1 37	0 0250	"	1 42	ND	96 5	80-120	3.56	20	
Surrogate a,a,a-Trifluorotoluene	*33 1*		*ug/kg*	*40 0*		*82 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*37 5*		"	*40 0*		*93 8*	*80-120*			
Batch EF61421 - EPA 5030C (GC)										
Blank (EF61421-BLK1)				Prepared 06/14/06 Analyzed 06/15/06						
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	*40 4*		*ug/kg*	*40 0*		*101*	*80-120*			
Surrogate 4-Bromofluorobenzene	*36 9*		"	*40 0*		*92 2*	*80-120*			

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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 EF61421 - EPA 5030C (GC)										
LCS (EF61421-BS1)				Prepared. 06/14/06 Analyzed. 06/15/06						
Benzene	1 16	0 0250	mg/kg wet	1 25		92 8	80-120			
Toluene	1 22	0 0250	"	1 25		97 6	80-120			
Ethylbenzene	1 03	0 0250	"	1 25		82 4	80-120			
Xylene (p/m)	2 44	0 0250	"	2 50		97 6	80-120			
Xylene (o)	1 29	0 0250	"	1.25		103	80-120			
Surrogate a,a,a-Trifluorotoluene	*40 9*		*ug/kg*	*40 0*		*102*	*80-120*			
Surrogate 4-Bromofluorobenzene	*34 8*		*"*	*40 0*		*87 0*	*80-120*			
Calibration Check (EF61421-CCV1)				Prepared. 06/14/06 Analyzed. 06/15/06						
Benzene	43.3		ug/kg	50 0		86 6	80-120			
Toluene	43 5		"	50 0		87 0	80-120			
Ethylbenzene	42 8		"	50 0		85 6	80-120			
Xylene (p/m)	84 8		"	100		84 8	80-120			
Xylene (o)	46 7		"	50 0		93 4	80-120			
Surrogate a,a,a-Trifluorotoluene	*36 7*		*"*	*40 0*		*91 8*	*80-120*			
Surrogate 4-Bromofluorobenzene	*37 8*		*"*	*40 0*		*94 5*	*80-120*			
Matrix Spike (EF61421-MS1)	**Source: 6F13009-12**			Prepared. 06/14/06 Analyzed. 06/15/06						
Benzene	1 24	0 0250	mg/kg dry	1 35	ND	91 9	80-120			
Toluene	1 22	0 0250	"	1 35	ND	90 4	80-120			
Ethylbenzene	1 25	0 0250	"	1 35	ND	92 6	80-120			
Xylene (p/m)	2 51	0 0250	"	2 71	ND	92 6	80-120			
Xylene (o)	1 37	0 0250	"	1 35	ND	101	80-120			
Surrogate a,a,a-Trifluorotoluene	*38 6*		*ug/kg*	*40 0*		*96 5*	*80-120*			
Surrogate 4-Bromofluorobenzene	*40 8*		*"*	*40 0*		*102*	*80-120*			
Matrix Spike Dup (EF61421-MSD1)	**Source: 6F13009-12**			Prepared: 06/14/06 Analyzed 06/15/06						
Benzene	1.12	0 0250	mg/kg dry	1 35	ND	83 0	80-120	10 2	20	
Toluene	1.13	0 0250	"	1 35	ND	83 7	80-120	7 70	20	
Ethylbenzene	1 17	0 0250	"	1 35	ND	86 7	80-120	6 58	20	
Xylene (p/m)	2 22	0 0250	"	2 71	ND	81.9	80-120	12 3	20	
Xylene (o)	1 18	0 0250	"	1 35	ND	87 4	80-120	14 4	20	
Surrogate a,a,a-Trifluorotoluene	*33 2*		*ug/kg*	*40 0*		*83.0*	*80-120*			
Surrogate 4-Bromofluorobenzene	*34 6*		*"*	*40 0*		*86 5*	*80-120*			

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Organics by GC - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF61428 - Solvent Extraction (GC)										
Blank (EF61428-BLK1)				Prepared 06/14/06 Analyzed 06/15/06						
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 nC6-nC35	ND	10 0	"							
Surrogate 1-Chlorooctane	*42.2*		*mg/kg*	*50 0*		*84 4*	*70-130*			
Surrogate 1-Chlorooctadecane	*45 7*		*"*	*50 0*		*91 4*	*70-130*			
LCS (EF61428-BS1)				Prepared 06/14/06 Analyzed. 06/15/06						
Carbon Ranges C6-C12	506	10 0	mg/kg wet	500		101	75-125			
Carbon Ranges C12-C28	516	10 0	"	500		103	75-125			
Total Hydrocarbon nC6-nC35	1020	10 0	"	1000		102	75-125			
Surrogate 1-Chlorooctane	*49.0*		*mg/kg*	*50 0*		*98 0*	*70-130*			
Surrogate 1-Chlorooctadecane	*48 3*		*"*	*50 0*		*96 6*	*70-130*			
Calibration Check (EF61428-CCV1)				Prepared 06/14/06 Analyzed. 06/15/06						
Carbon Ranges C6-C12	208		mg/kg	250		83 2	80-120			
Carbon Ranges C12-C28	289		"	250		116	80-120			
Total Hydrocarbon nC6-nC35	497		"	500		99.4	80-120			
Surrogate 1-Chlorooctane	*62 2*		*"*	*50 0*		*124*	*70-130*			
Surrogate 1-Chlorooctadecane	*60 1*		*"*	*50 0*		*120*	*70-130*			
Matrix Spike (EF61428-MS1)	**Source: 6F13009-15**			Prepared: 06/14/06 Analyzed. 06/15/06						
Carbon Ranges C6-C12	455	10 0	mg/kg dry	504	ND	90 3	75-125			
Carbon Ranges C12-C28	476	10 0	"	504	ND	94.4	75-125			
Total Hydrocarbon nC6-nC35	931	10 0	"	1010	ND	92 2	75-125			
Surrogate 1-Chlorooctane	*60 9*		*mg/kg*	*50 0*		*122*	*70-130*			
Surrogate 1-Chlorooctadecane	*55 3*		*"*	*50 0*		*111*	*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 EF61428 - Solvent Extraction (GC)										
Matrix Spike Dup (EF61428-MSD1)	**Source: 6F13009-15**			Prepared 06/14/06 Analyzed 06/16/06						
Carbon Ranges C6-C12	479	10 0	mg/kg dry	504	ND	95 0	75-125	5 14	20	
Carbon Ranges C12-C28	494	10 0	"	504	ND	98 0	75-125	3 71	20	
Total Hydrocarbon nC6-nC35	973	10 0	"	1010	ND	96 3	75-125	4 41	20	
Surrogate 1-Chlorooctane	*60 9*		*mg/kg*	*50 0*		*122*	*70-130*			
Surrogate 1-Chlorooctadecane	*59 1*		*"*	*50 0*		*118*	*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 EF61407 - General Preparation (Prep)										
Blank (EF61407-BLK1)				Prepared 06/13/06 Analyzed 06/14/06						
% Solids	100		%							
Duplicate (EF61407-DUP1)		**Source: 6F12025-01**		Prepared 06/13/06 Analyzed 06/14/06						
% Solids	95 0		%		95 1			0 105	20	
Duplicate (EF61407-DUP2)		**Source: 6F13004-02**		Prepared. 06/13/06 Analyzed 06/14/06						
% Solids	92 3		%		92 5			0 216	20	
Duplicate (EF61407-DUP3)		**Source: 6F13009-02**		Prepared. 06/13/06 Analyzed. 06/14/06						
% Solids	94.4		%		94 4			0.00	20	
Duplicate (EF61407-DUP4)		**Source: 6F13009-22**		Prepared. 06/13/06 Analyzed: 06/14/06						
% Solids	94 8		%		94 0			0 847	20	
Duplicate (EF61407-DUP5)		**Source: 6F13013-04**		Prepared 06/13/06 Analyzed 06/14/06						
% Solids	89 4		%		89 4			0 00	20	
Batch EF61609 - General Preparation (WetChem)										
Blank (EF61609-BLK1)				Prepared & Analyzed. 06/16/06						
Sulfate	ND	0 500	mg/kg							
Chloride	ND	0 500	"							
LCS (EF61609-BS1)				Prepared & Analyzed 06/16/06						
Chloride	11 1		mg/L	10.0		111	80-120			
Sulfate	10 2		"	10 0		102	80-120			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF61609 - General Preparation (WetChem)										
Calibration Check (EF61609-CCV1)				Prepared & Analyzed 06/16/06						
Chloride	11 4		mg/L	10 0		114	80-120			
Sulfate	11 2		"	10 0		112	80-120			
Duplicate (EF61609-DUP1)	**Source: 6F13001-03**			Prepared & Analyzed 06/16/06						
Sulfate	323	50 0	mg/kg		329			1 84	20	
Chloride	2430	50 0	"		2400			1 24	20	
Duplicate (EF61609-DUP2)	**Source: 6F13009-07**			Prepared & Analyzed 06/16/06						
Sulfate	49 1	5 00	mg/kg		48 4			1 44	20	
Chloride	80 2	5 00	"		88 9			10.3	20	
Matrix Spike (EF61609-MS1)	**Source: 6F13001-03**			Prepared & Analyzed. 06/16/06						
Chloride	3110	50 0	mg/kg	1000	2400	71 0	80-120			S-07
Sulfate	735	50 0	"	1000	329	40.6	80-120			S-07
Matrix Spike (EF61609-MS2)	**Source: 6F13009-07**			Prepared & Analyzed 06/16/06						
Chloride	210	5 00	mg/kg	100	88 9	121	80-120			S-07
Sulfate	132	5 00	"	100	48 4	83 6	80-120			

Notes and Definitions

S-07	Recovery outside Laboratory historical or method prescribed limits.
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: 6/19/2006

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

		Bill To
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	E. W. Walden No. 4 SWD	
Location	UL-K, Sec. 15, T 22 S, R 37 E	Attn: Iain Olness
Project Reference	160053	PO Box 1558,
EPI Sampler Name	Sebastian Romero	Eunice, NM 88231-1558

LAB I.D. WF13008		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	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
-01	1	PA3-BH-1 (3')	X	1			X					X		09-Jun-06	7:35	X	X	X	X							
-02	2	PA3-BH-2 (3')	X	1			X					X		09-Jun-06	7:50	X	X	X	X							
-03	3	PA3-BH-3 (3')	X	1			X					X		09-Jun-06	8:05	X	X	X	X							
-04	4	PA3-SW-1 (3')	X	1			X					X		09-Jun-06	8:20	X	X	X	X							
-05	5	PA3-SW-2 (3')	X	1			X					X		09-Jun-06	8:45	X	X	X	X							
-06	6	PA3-SW-3 (3')	X	1			X					X		09-Jun-06	9:00	X	X	X	X							
-07	7	PA3-SW-4 (3')	X	1			X					X		09-Jun-06	9:15	X	X	X	X							
	8																									
	9																									
	10																									

Sampler Relinquished: [illegible]	Date 13 June 06 Time 0726	Received By: [illegible]	E-mail results to: iolness@envplus.net
Relinquished by: [illegible]	Date 6/13/06 Time 10:35	Received By: (lab staff) [illegible]	REMARKS: 4oz glass w/ label. 05
Delivered by:	Sample Cool & Intact (Yes) No	Checked By:	

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

Client: EPI

Date/Time: 6/13/06

Order #: 6F13008

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	0.5 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec, 15, T 22S, R 37 E

Lab Order Number: 6G18010

Report Date: 07/19/06

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

Project Chesapeake/ E W Walden No 4 SWD
Project Number 160053
Project Manager Iain Olness

Fax. 505-394-2601

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PA3-BH-1A 10'	6G18010-01	Soil	07/17/06 15 20	07/18/06 14.05
PA3-BH-2A 10'	6G18010-02	Soil	07/17/06 15.22	07/18/06 14.05

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

Environmental Plus, Incorporated	Project Chesapeake/ E W. Walden No. 4 SWD	Fax 505-394-2601
P O Box 1558	Project Number 160053	
Eunice NM, 88231	Project Manager. Iain Olness	

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 EG61912 - General Preparation (WetChem)										
Blank (EG61912-BLK1)				Prepared & Analyzed 07/19/06						
Chloride	ND	0 500	mg/kg							
LCS (EG61912-BS1)				Prepared & Analyzed 07/19/06						
Chloride	10 2	0 500	mg/kg	10 0		102	80-120			
Calibration Check (EG61912-CCV1)				Prepared & Analyzed. 07/19/06						
Chloride	10 3		mg/L	10 0		103	80-120			
Duplicate (EG61912-DUP1)	**Source: 6G18010-01**			Prepared & Analyzed 07/19/06						
Chloride	170	5 00	mg/kg		168			1 18	20	
Matrix Spike (EG61912-MS1)	**Source: 6G18010-01**			Prepared & Analyzed 07/19/06						
Chloride	287	5 00	mg/kg	100	168	119	80-120			

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

Environmental Plus, Incorporated	Project. Chesapeake/ E W Walden No 4 SWD	Fax 505-394-2601
P O Box 1558	Project Number. 160053	
Eunice NM, 88231	Project Manager Iain Olness	

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: 7/19/2006

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: ELI

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	David Robinson

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

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	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl⁻)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH			
0649010																										
-01	1	PA3-BH-1A (10')	X	1			X					X		17-Jul-06	15:20	~~X~~	~~X~~	X	~~X~~							
-02	2	PA3-BH-2A (10')	X	1			X					X		17-Jul-06	15:22	~~X~~	~~X~~	X	~~X~~							
	3																									
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									

Sampler Relinquished: Iain Olness	Date: 18 July 06 Time: 10:07	Received By: Aaron Boone
Relinquished by: Aaron Boone	Date: 7/18/06 Time: 14:05	Received By: (lab staff) Carrie [illegible]
Delivered by:	Sample Cool & Intact: Yes (circled) / No	Checked By:

E-mail results to: iolness@envplus.net

REMARKS

Chloride only
Iain Olness

RUSH as per Iain 7-19-06 1010

the plastic bags

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

Client: EPI

Date/Time: 7/18/06 14:05

Order #: 606180/0

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.0 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	ID on bag
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 Apolicable

Other observations:

Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken:

argon laboratories

Environmental Plus, Inc. PO Box 1558 Eunice, NM 88231	Project Number: 160053 Project Name: E.W.Walden #4 SWD Project Manager: Iain Olness	Work Order #: A07031

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Rep Lim. @ D.F.=1	Units	Analyzed	Method	Notes
PA2-BH-5A (5') (A07031) Soil	**Sampled: 07/18/06**	**Received: 07/19/06**				
Chloride	410	10	mg/Kg	07/20/06	EPA 300.0	
PA2-BH-7A (4') (A07032) Soil	**Sampled: 07/18/06**	**Received: 07/19/06**				
Chloride	<10	10	mg/Kg	07/20/06	EPA 300 0	

Approved By
Argon Laboratories

QC Officer

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

AO7031

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	David Robinson

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

LAB I.D.	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			
AO7031 1	PA2-BH-5A (5')	X	1			X					X		18-Jul-06	10:45			X								
7032 2	PA2-BH-7A (4')	X	1			X					X		18-Jul-06	8:00			X								
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Sampler Relinquished: Iain Olness
Relinquished by: [signature]
Delivered by:

Date: 7-7-06 Time: 0650
Received By: Aaron Boone
Date: 7-7-06 Time: 12.15
Received By: (lab staff)

Sample Cool & Intact: Yes No
Checked By

E-mail results to: iolness@envplus.net

REMARKS: **RUSH**

analyze for Cl^- only

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/ E.W. Walden No. 4 SWD

Project Number: 160053

Location: UL-K, Sec, 15, T 22S, R 37 E

Lab Order Number: 6G18010

Report Date: 07/19/06

Environmental Plus, Incorporated	Project Chesapeake/ E.W Walden No 4 SWD	Fax· 505-394-2601
P O Box 1558	Project Number 160053	
Eunice NM, 88231	Project Manager Iain Olness	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PA3-BH-1A 10' (6G18010-01) Soil									
Chloride	**168**	5 00	mg/kg	10	EG61912	07/19/06	07/19/06	EPA 300 0	
PA3-BH-2A 10' (6G18010-02) Soil									
Chloride	**141**	5.00	mg/kg	10	EG61912	07/19/06	07/19/06	EPA 300 0	

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

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: 7/19/2006

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

Client: EPI

Date/Time: 7/18/06 14:05

Order #: 6G1801

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	11.0 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	Ice on bag
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.	Project Number: 160053	
PO Box 1558	Project Name: E W.Walden #4 SWD	Work Order #:
Eunice, NM 88231	Project Manager: Iain Olness	A07031

Anions by Ion Chromatography - EPA Method 300.0

Analyte	Result	Rep Lim. @ D.F.=1	Units	Analyzed	Method	Notes
PA2-BH-5A (5') (A07031) Soil	**Sampled: 07/18/06**	**Received: 07/19/06**				
Chloride	410	10	mg/Kg	07/20/06	EPA 300.0	
PA2-BH-7A (4') (A07032) Soil	**Sampled: 07/18/06**	**Received: 07/19/06**				
Chloride	<10	10	mg/Kg	07/20/06	EPA 300 0	

Approved By
Argon Laboratories

QC Officer

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

A07031

Lab: [illegible] 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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	David Robinson

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

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
A07031	1	PA2-BH-5A (5')	X	1			X					X		18-Jul-06	10:45	[illegible]	[illegible]	X	[illegible]				
7032	2	PA2-BH-7A (4')	X	1			X					X		18-Jul-06	8:00	[illegible]	[illegible]	X	[illegible]				
	3																						
	4																						
	5																						
	6																						
	7																						
	8																						
	9																						
	10																						

Sampler Relinquished: Iain Olness — Date: 19 July 06 — Time: 0653 — Received By: Aaron Boone

Relinquished by: [signature] — Date: 19-7-06 — Time: 12.15 — Received By: (lab staff)

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

E-mail results to: iolness@envplus.net

REMARKS: **RUSH**

analyze for Cl^- only

Note: Laboratory Analytical Results Not Available For Soil Samples Collected On 7/20/06

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	E. W. Walden No. 4 SWD
Location	UL-K, Sec. 15, T 22 S, R 37 E
Project Reference	160053
EPI Sampler Name	David Robinson

Bill To

Attn: Iain Olness
PO Box 1558,
Eunice, NM 88231-1558

ANALYSIS REQUEST

LAB I.D.	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			
1	PA2-BH-5B (6')	X	1			X					X		20-Jul-06	14:30			X								
2	PA2-BH-5B (7')	X	1			X					X		20-Jul-06	14:45			X								
3	PA2-BH-5B (8')	X	1			X					X		20-Jul-06	15:00			X								
4	PA2-BH-5B (9')	X	1			X					X		20-Jul-06	15:15			X								
5	PA2-BH-5B (10')	X	1			X					X		20-Jul-06	15:35			X								
6	PA2-BH-5B (15')	X	1			X					X		21-Jul-06	7:55			X								
7	PA2-BH-5B (18')	X	1			X					X		21-Jul-06	8:30			X								
8	PA2-BH-5B (20')	X	1			X					X		21-Jul-06	9:00			X								
9																									
10																									

Sampler Relinquished.	Date / Time	Received By	E-mail results to: iolness@envplus.net REMARKS
Relinquished by	Date / Time	Received By (lab staff)	
Delivered by	Sample Cool & Intact Yes No	Checked By	

APPENDIX III

SITE INFORMATION AND METRICS FORM

INITIAL NMOCD FORM C-141

FINAL NMOCD FORM C-141

Chesapeake
Information and Metrics

Incident Date: 6 April 2006	**NMOCD Notified:** 6 April 2006

Site: E. W. Walden No. 4 SWD Unit K	**Assigned Site Reference :** #160053
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): ~50 bbls	**Recovered (bbls):** ~25-30 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: E. W. Walden No. 4 SWD Unit K	
Source of contamination: Produced water line	
Land Owner, i.e., BLM, ST, Fee, Other: Irvin Boyd	
LSP Dimensions: variable	
LSP Area: ~39,160 ft^2	
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: N 32° 23' 28.70"	
Longitude: W 103° 09' 05.96"	
Elevation above mean sea level: 3,393 feet	
Feet from North Section Line:	
Feet from East Section Line:	
Location- Unit or ¼¼: NE¼ of the SW¼	**Unit Letter:** K
Location- Section: 15	
Location- Township: T22S	
Location- Range: R37E	
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: one	
Public water supply wells within 1000' radius of site: none	
Depth from land surface to groundwater (DG): ~80 feet	
Depth of contamination (DC): unknown	
Depth to groundwater (DG – DC = DtGW): estimated to be between 50 and 100 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) = 10		

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, Hobbs, NM 88240-0190	**Telephone No.:** (505) 391-1462 ext. 6224
Facility Name: E.W. Walden No. 4 SWD Unit K	**Facility Type:** Produced water line

Surface Owner: Irvin Boyd	**Mineral Owner:**	**Lease No.:**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	15	22S	37E					Lea

Latitude: N 32° 23' 28.70" **Longitude:** W 103° 09' 05.96"

NATURE OF RELEASE

Type of Release: Produced water	**Volume of Release:** ~50 bbls	**Volume Recovered:** ~25-30 bbls
Source of Release: Produced water line failed due to vehicular traffic.	**Date and Hour of Occurrence:** 6 April 2006	**Date and Hour of Discovery:** 6 April 2006 @1015 hrs
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** Buddy Hill, NMOCD - Hobbs	
By Whom? Dax Kimble - Chesapeake	**Date and Hour:** 6 April 2006 @ 1030 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** NA	

If a Watercourse was Impacted, Describe Fully.* NA

Depth to Groundwater: ~80 feet

Describe Cause of Problem and Remedial Action Taken.* A 3" pvc line beneath the road failed due to vehicular traffic. The line was replaced and sleeved with a 4" steel line and fresh caliche brought in to cover the line to proper depth.

Describe Area Affected and Cleanup Action Taken.* Approximately 39,160 square-feet of surface area was impacted by the release. A vacuum truck was brought in and recovered 25-30 bbls of standing water. It is proposed to remove surficial chloride impacted soil from the roadbeds and to delineate impacts associated with the three pooling areas. Upon completion of delineation activities, a remediation plan will be developed and submitted to the NMOCD and landowner for approval.

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:**	
Title: Field Supervisor	**Approval Date:**	**Expiration Date:**
E-mail Address: bblevins@chkenergy.com	**Conditions of Approval:**	**Attached** ☐
Date: 4-10-2006 **Phone:** (505) 391-1462 ext. 6224		

*** Attach Additional Sheets If Necessary**

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Release Notification and Corrective Action

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RP 873

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By Whom? Dax Kimble - Chesapeake	**Date and Hour:** 6 April 2006 @ 1030 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse:** NA	

If a Watercourse was Impacted, Describe Fully.* NA

Depth to Groundwater: ~80 feet

Describe Cause of Problem and Remedial Action Taken.* A 3" dia. PVC line beneath a lease road failed due to vehicular traffic. The line was replaced and sleeved with a 4" steel carrier pipe. Caliche was used to bury the steel carrier pipe line to proper depth

Describe Area Affected and Cleanup Action Taken.* Approximately 39,160 square-feet of surface area was impacted by the release. A vacuum truck recovered 25-30 bbls of standing water. a) Excavated soil impacted above NMOCD remedial goals and disposed at Sundance Services, Inc.; b) laboratory analyses confirmed removal of highly impacted soil above NMOCD remedial threshold goals in sidewalls and bottom of the excavation areas; c) backfilled excavation areas with clean top soil and caliche purchased from an off-site source; d) contoured disturbed area to provide natural drainage, and e) selected areas were seeded with a blend preferred by the land owner.

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~~:** ENVIRONMENTAL
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**