

**1R - 412**

# **REPORTS**

**DATE:**

**4/2004**



# CLAY OSBORN RANCH SITES

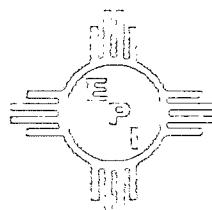
## SUMMARY APRIL 2004

JALMAT #1 2000-10606  
GROUND WATER MONITORING

Prepared By:

*Environmental Plus, Inc.*

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



# SITE MAPS

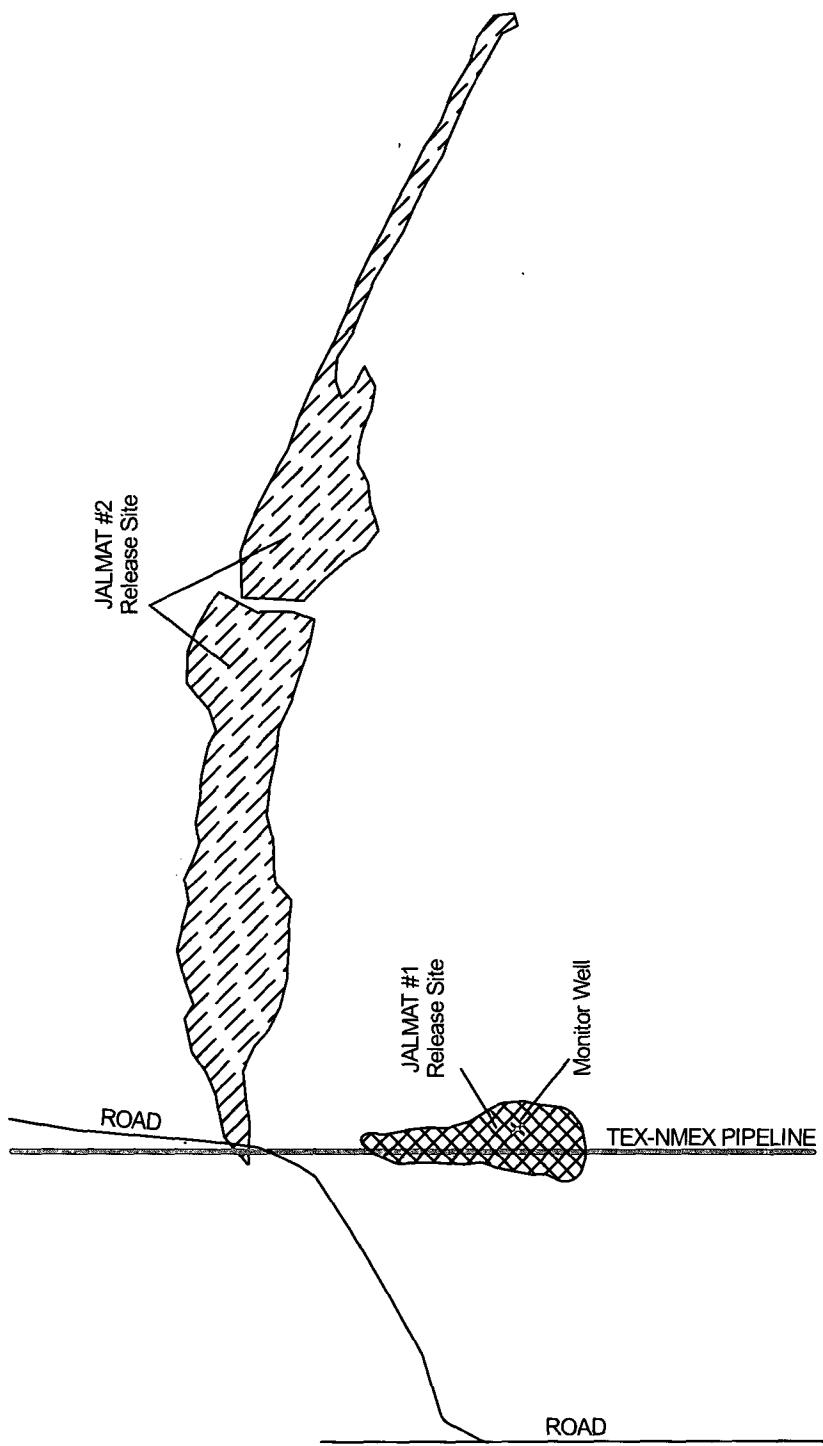
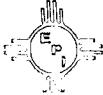


Plate 2 - Site GPS Demarcation LINK Energy LLC Clay Osborn Jalmat #1 2000-10606	Lea County, New Mexico UL-M Section 7 T25S R37E N32° 08' 25" W103° 12' 38" Elevation: 3154-ft amsl	DWG BY: John Good April - 2004	REVISED: 0	N 250 Feet
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# Analytical Results Summary Table

Link Energy LLC - Clay Osborn Jalmat #1 2000-10606 - Ground Water Monitoring															
Sample Date	Sampling Area	Water Depth (ft - btc <sup>1</sup> )	SAMPLE ID#	VOC <sup>2</sup> ppm	GRO <sup>3</sup> mg/Kg	DRO <sup>4</sup> mg/Kg	TPH <sup>5</sup> mg/Kg	BTEX <sup>6</sup> mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Total Xylenes mg/Kg	Cl <sup>-</sup> mg/Kg	TDS mg/Kg	Hg mg/Kg
7/10/01	Monitor Well	52.33	EJM171001MW		<0.25	<0.02	<0.25	0.006	0.001	0.001	< 0.001	0.004	2040	4590	0.0120
10/24/01	Monitor Well		EJM1102401MW1		<0.5	<0.5	<0.5	< 0.002	< 0.001	< 0.001	< 0.001	< 0.002	1940	4790	<0.0002
1/23/02	Monitor Well		WECOJM112302MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002	1630	4620	
4/16/02	Monitor Well		WECOJM141602MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002			
7/8/02	Monitor Well	52.8	WECOJM17802MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002	1880	4330	
10/5/02	Monitor Well	52.91	WEJMV0502MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002			
2/19/03	Monitor Well	52.76	WEJMV121903MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002			
10/6/03	Monitor Well	53.19	WLE10603JM1MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002			
1/27/04	Monitor Well	53.16	WLECOJMI12704MW					< 0.002	< 0.001	< 0.001	< 0.001	< 0.002			

<sup>1</sup>btc = below top of casing (~4-ft)    <sup>2</sup>VOC = Volatile Organic Constituents; (note: 100 ppm Isobutylene calibration gas = 101 ppm)<sup>3</sup>GRO - Gasoline Range Organics (Detection Limit = 5 mg/Kg)    <sup>4</sup>DRO - Diesel Range Organics (Detection Limit = 2.5 mg/Kg)<sup>5</sup>TPH - Total Petroleum Hydrocarbon (GRO+DRO)    <sup>6</sup>BTEX = Sum of CoC's (Detection Limits = 0.001 mg/Kg; 0.002 mg/Kg for total Xylenes)



ENVIRONMENTAL PLUS, INC. Micro-Blaze Micro-Blaze Out™

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

28 April 2004

Mr. Ed Martin  
NM Energy, Minerals, and Natural Resources Department  
New Mexico Oil Conservation Division – Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Annual Monitoring Report Link Energy Clay Osborn Jalmat #1 #2000-10606  
UL-P Section 7 T25S R36E, Lea County, New Mexico  
Landowner: Clay and Gerry Osborn

Dear Mr. Martin,

Environmental Plus, Inc. (EPI), on behalf of Mr. Frank Hernandez, Link Energy, submits for your consideration this *Annual Monitoring Report* for the above-referenced site. Based on data collected during the past year, Link Energy recommends that the groundwater monitoring well network be sealed and the groundwater investigation at this site be terminated. In addition, Link Energy is recommending that a remediation plan be developed to address the impacted soils identified during site delineation activities.

Should you have any questions or comments please call Mr. Ben Miller or myself at EPI's offices, or at 505-390-2088 or 505-390-7306 respectively. Mr. Hernandez may be contacted through Link's Midland office at 915-638-3799 or 505-631-3095.

All official correspondence should be addressed to:

Mr. Frank Hernandez  
Link Energy  
P.O. Box 1660  
5805 East Highway 80  
Midland, Texas 79703

Sincerely,

ENVIRONMENTAL PLUS, INC.



Iain Olness, P.G.  
Hydrogeologist

cc: Larry W. Johnson, NMOCD – Hobbs District Office  
Frank Hernandez, Link Energy – Midland  
Jeff Dann, Link Energy – Houston  
Sherry Miller, EPI President  
Ben Miller, EPI Vice President and General Manager



## ANNUAL MONITORING REPORT

CLAY OSBORN JALMAT #1

LINK REF: 2000-10606

1R-412

SW $\frac{1}{4}$  OF THE SW $\frac{1}{4}$  OF SECTION 7, TOWNSHIP 25 SOUTH, RANGE 36 EAST  
LEA COUNTY, NEW MEXICO

~1.88 MILES NORTHWEST (309°) OF  
JAL, LEA COUNTY, NEW MEXICO

LATITUDE: N32° 08' 25"

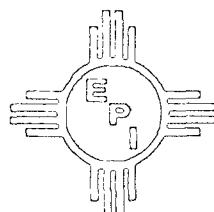
LONGITUDE: W103° 12' 38"

APRIL 21, 2004

PREPARED BY:

*Environmental Plus, Inc.*

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



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Table 2	Summary of Groundwater Analytical Results

## APPENDIX

Appendix A	Groundwater Laboratory Analytical Results and Chain-of-Custody Forms
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## I. Background

The "Clay Osborn Jalmat #1" (2000-10606) release site is located approximately 1.9 miles northwest of Jal in Lea County, New Mexico, at an elevation of approximately 3,145 feet above mean sea level (reference Figures 1 and 2). The site is located in the southwest quarter of the southwest quarter of section 7, range 37 east, township 25 south. There are no residences or surface water bodies within a 1,000-foot radius of the leak site. The release is historical with no information available regarding the volume released or recovered. The release covered approximately 5,550 square feet of pipeline right-of-way and pasture land owned by Clay and Gerry Osborn (reference Figure 3).

Initial investigative activities, completed between June 21 and 26, 2000, consisted of advancing 9 soil borings to depths ranging from 15 to 45 feet below ground surface (BGS). During the advancement of the soil borings, samples were collected at five foot intervals. The samples were split with a portion being immediately placed in laboratory provided containers and placed on ice in a cooler for later transport to an independent laboratory. The remainder of the sample was placed in zip lock bag for field analysis of organic vapors utilizing an Ultra Rae photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The investigation delineated subsurface contamination present above the New Mexico Oil Conservation Division (NMOCD) remedial thresholds (*Site Investigation and Remediation Proposal* dated December 8, 2001).

Soil boring SB-5 was advanced until groundwater was encountered and completed as a temporary groundwater monitoring well. Analytical results indicated the presence of low levels of hydrocarbons and elevated levels of chloride and total dissolved solids (TDS) present in the groundwater. In addition, elevated concentrations of arsenic, chromium, lead and mercury were detected, with mercury concentrations reported in excess of the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards of 0.002 milligrams per liter.

Based on this information, a permanent groundwater monitoring well was installed and monitored on a quarterly basis. Analytical results for the samples collected from the groundwater monitoring well were below the laboratory method detection limits (MDL) for all analytes for all sampling events, including mercury, arsenic and chromium. The only exception was the presence of chlorides and TDS, which were reported above the NMWQCC Groundwater Standards of 250 milligrams per liter (mg/L) and 1,000 mg/L, respectively.

## II. Field Activities

The groundwater monitoring well was sampled on February 19, September 2 and October 6, 2003. The samples were submitted to an independent laboratory for the quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX). In addition, the groundwater samples collected on September 2, 2003 were submitted for quantification of total petroleum hydrocarbons as gasoline (TPH as gasoline), total petroleum hydrocarbons as diesel (TPH as diesel), chlorides and TDS.

### **III. Groundwater Elevation and PSH Thickness**

The groundwater monitoring well was gauged prior to bailing to determine the depth to groundwater and the thickness of any PSH. Measurements of groundwater levels during this phase of the investigation indicate that water levels have increased slightly. PSH have not been detected in the groundwater monitoring well since it was installed. A summary of groundwater elevations is included in Table 1.

### **IV. PSH Recovery**

PSH have not been detected in the groundwater monitoring well since it was installed.

### **V. Groundwater Sampling**

The groundwater monitoring well network was sampled on February 19, September 2 and October 6, 2003. The samples were submitted to an independent laboratory for the quantification BTEX via EPA Method 8260b. In addition, the groundwater samples collected on September 2, 2003 were submitted for quantification of TPH as gasoline and TPH as diesel via EPA Method 8015 modified, chlorides via EPA Method 325.2 & 9251 and TDS via EPA Method 160.1. The wells were purged a minimum of three well volumes or dry and samples collected utilizing dedicated or disposable sample bailers. Samples were then placed on ice and shipped to an independent laboratory under chain-of-custody for analyses.

### **VI. Groundwater Analytical Results**

Analytical results for the samples collected on February 19, September 2 and October 6, 2003, were below the laboratory method detection limits (MDL) for BTEX and TPH.

A summary of groundwater analytical results is included as Table 2 and copies of the analytical results for samples collected on February 19, September 2 and October 6, 2003, are included as Appendix A.

### **VII. Recommendations**

Based on field monitoring and analytical results collected during the past year and analyzed in conjunction with data collected during the initial investigation, the following recommendations are made:

- 1) Due to the fact that no contaminants have been detected in the on-site groundwater monitoring well since July 2001, it is recommended that the groundwater monitoring well be sealed and the groundwater investigation at this site be terminated. Link Energy requests that the NMOCD issue a "*No Further Action*" letter regarding the groundwater conditions at the site based on the groundwater monitoring results.
- 2) It is recommended that a remedial action plan be developed to address the impacted soils identified during site delineation activities.

## **FIGURES**

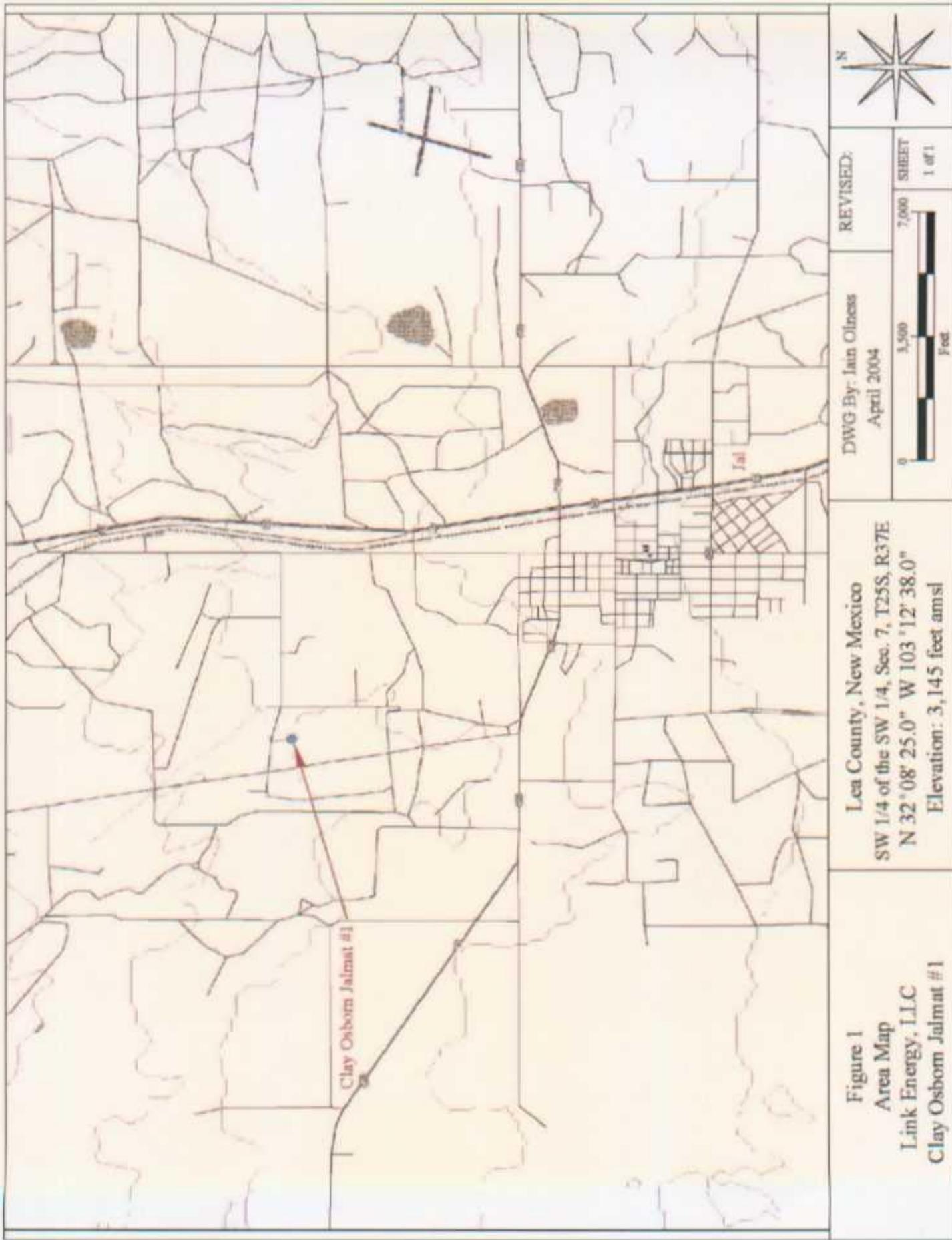


Figure 1  
 Area Map  
 Link Energy, LLC  
 Clay Ostrom Jalmat #1

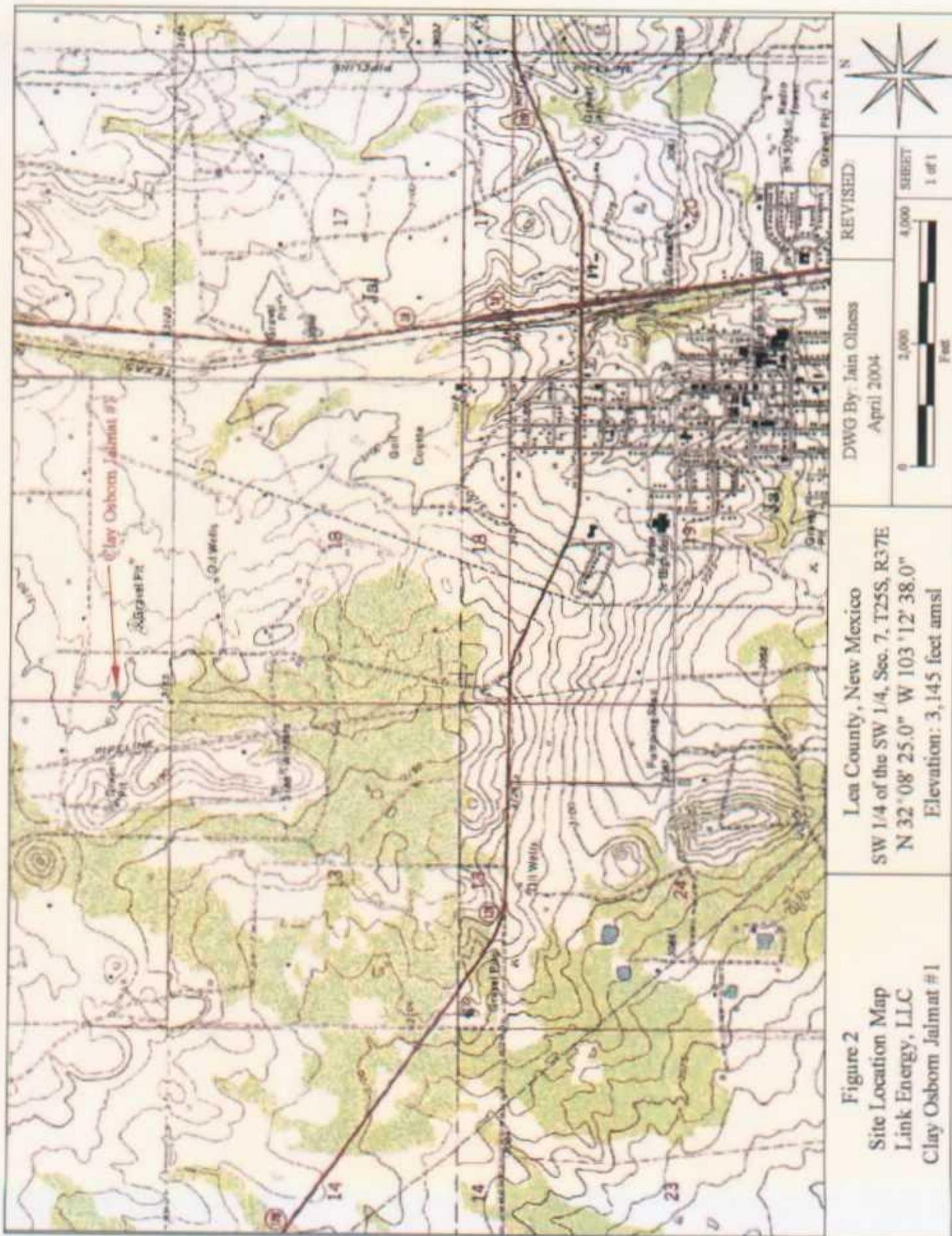
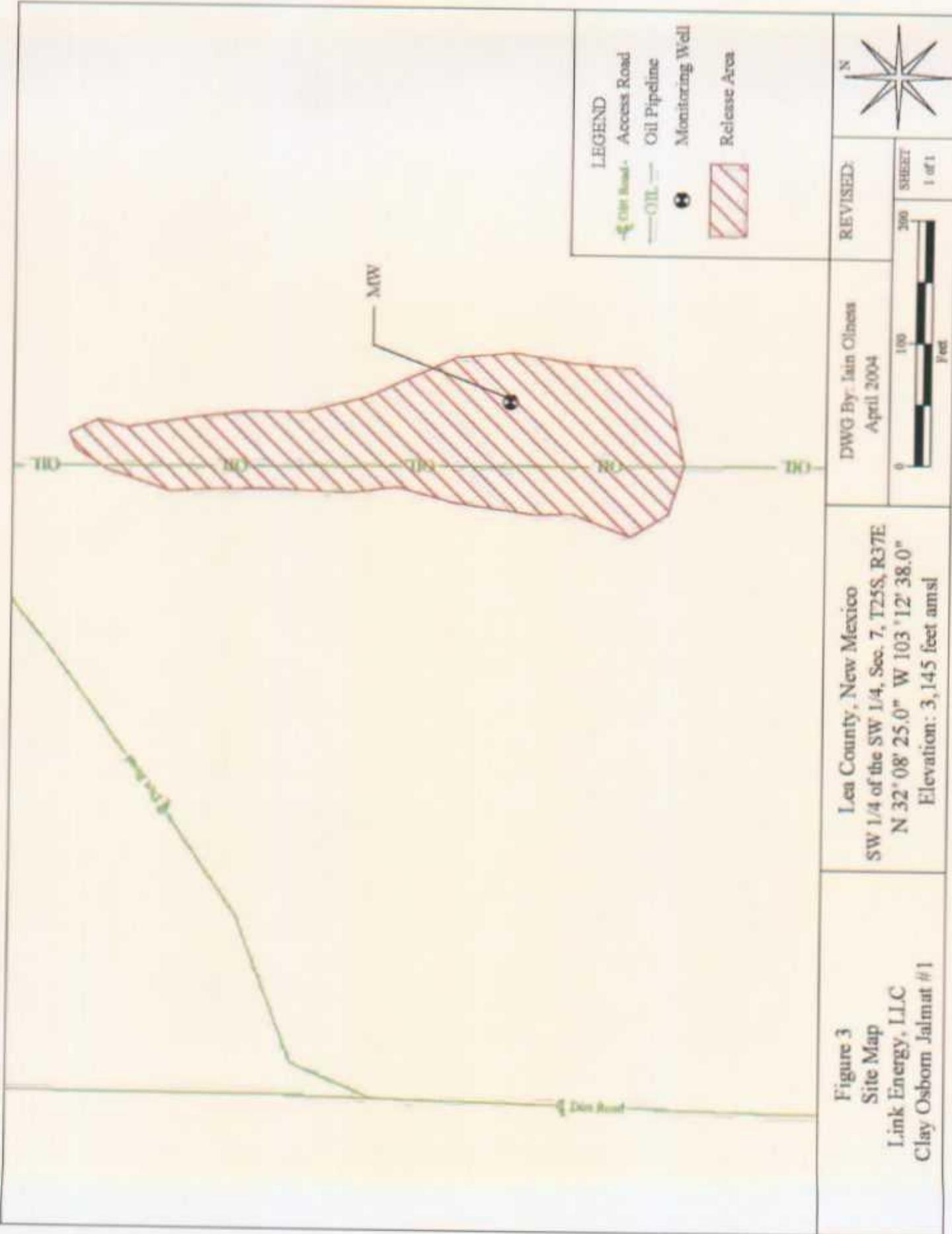


Figure 2  
 Site Location Map  
 Link Energy, LLC  
 Clay Ostrom Jailmat #1



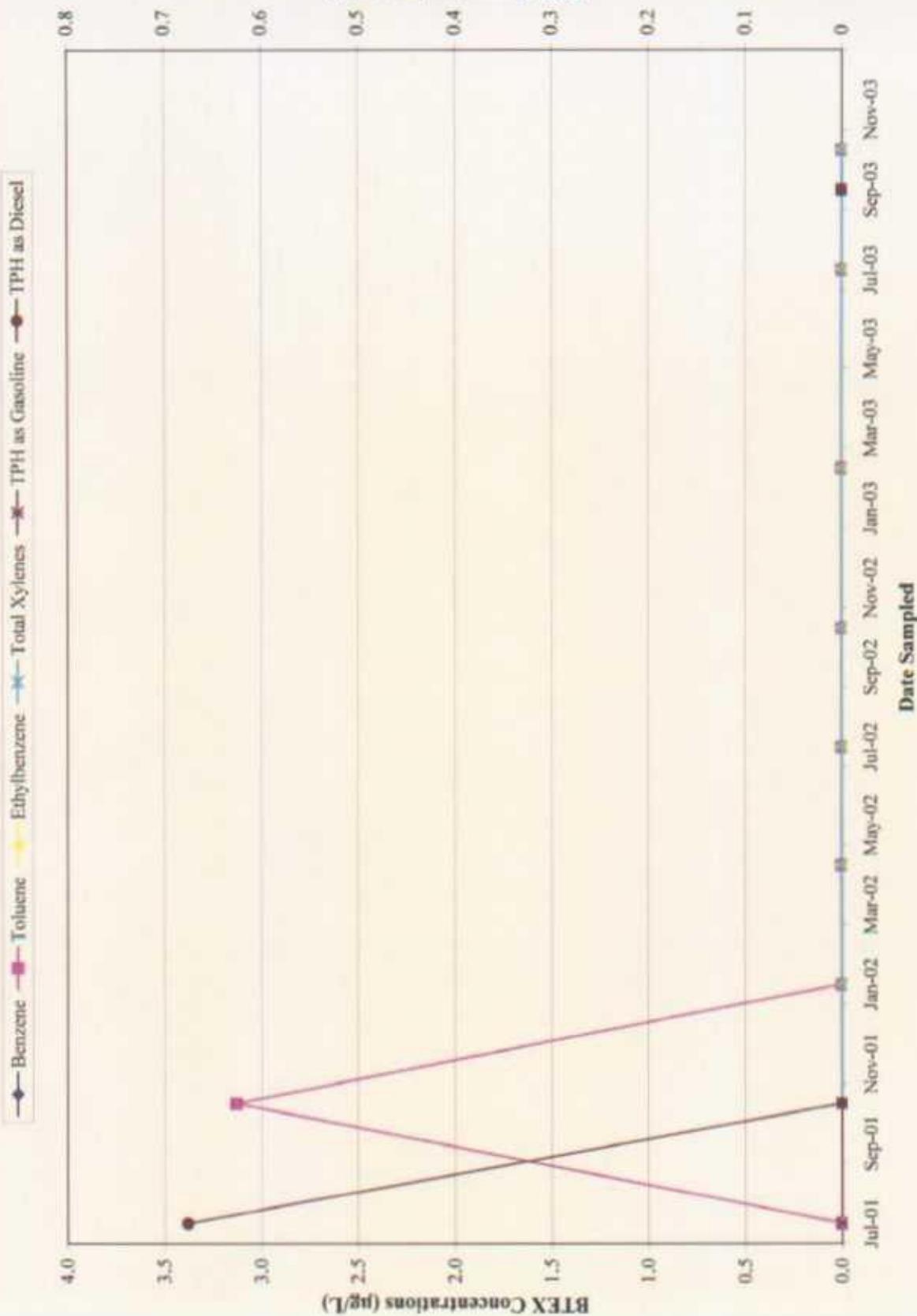


Figure 4: TPH and BTEX Concentrations in Groundwater Monitoring Well SMW from 07/03/01 through 10/06/03, Link Energy Clay Osborn 6" Shell North, Lea County, New Mexico.

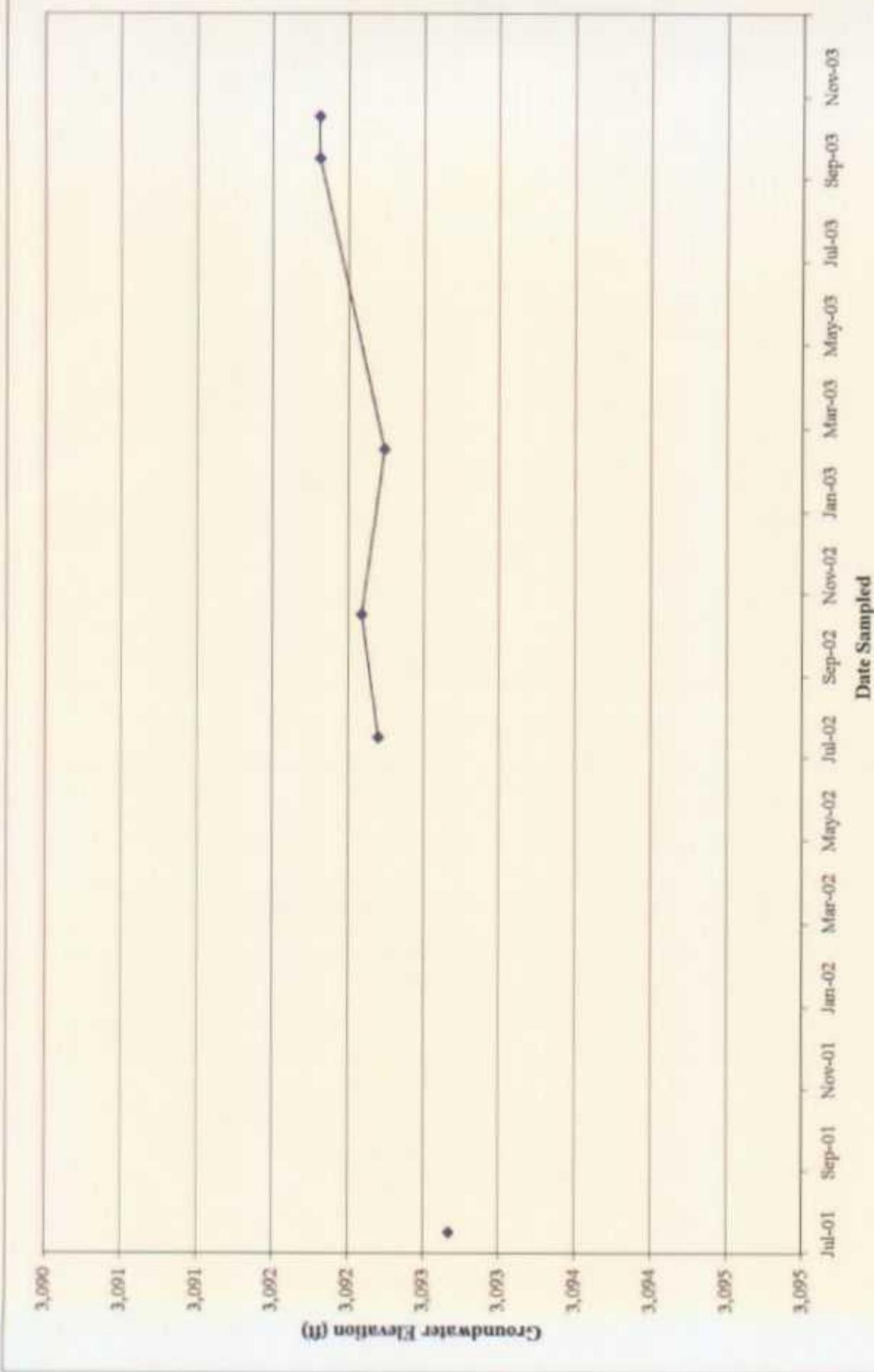


Figure 5: Hydrograph for Monitoring Well MW, Link Energy Clay Osborn Jalmat #1, Lea County, New Mexico from 07/1/001 through 10/06/03.

## **TABLES**

**TABLE 1**

**RELATIVE GROUNDWATER ELEVATIONS AND  
PHASE SEPARATED HYDROCARBON THICKNESSES**

**Clay Osborn Jalmat #1 - Ref #2000-10606**

Monitor Well	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)**	Phase Separated Hydrocarbon Thickness (feet)
<b>Temporary Well</b>	10-Jul-01	3,145	--	52.33	3,092.67	--
MW	24-Oct-01	3,145				
	23-Jan-02					
	16-Apr-02					
	8-Jul-02		--	52.80	3,092.20	--
	5-Oct-02		--	52.91	3,092.09	--
	19-Feb-03		--	52.76	3,092.24	--
	2-Sep-03		--	53.19	3,091.81	--
	6-Oct-03		--	53.19	3,091.81	--

\* = Top of casing elevation set from USGS Topographical map

\*\* Corrected Groundwater Elevation = Top of Casing Elevation - (Depth to Water Below Top of Casing - (SG)(PSH Thickness))

-- = Not detected

If cell is blank, the well was not gauged

TABLE 2

Summary of Groundwater Analytical Results

## Clay Osborn #1 - Ref #2000-10606

Monitor Well Location	Date	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethy-benzene ( $\mu\text{g/L}$ )	m,p-Xylenes ( $\mu\text{g/L}$ )	o-Xylene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	Chloride ( $\text{mg/L}$ )	Dissolved Solids ( $\text{mg/L}$ )	Total TPH as Gasoline ( $\text{mg/L}$ )	TPH as Diesel ( $\text{mg/L}$ )	Mercury ( $\text{mg/L}$ )	Arsenic ( $\text{mg/L}$ )	Chromium ( $\text{mg/L}$ )
Temporary Well	10-Jul-01	1.13	1.28	<1	2.24	1.64	3.88	2,040	4,590	<0.25	<0.02	<0.27	0.012	0.0106
MW	24-Oct-01	<1	<1	<1	<1	<1	<1	<2	1,940	4,790	<0.5	<0.5	<1.0	<0.0002
	23-Jan-02	<1	<1	<1	<1	<1	<1	<2	1,630	4,620				<0.02
	16-Apr-02	<1	<1	<1	<1	<1	<1	<2						<0.005
	8-Jul-02	<1	<1	<1	<1	<1	<1	<2	1,880	4,330				
	5-Oct-02	<1	<1	<1	<1	<1	<1	<2						
	19-Feb-03	<1	<1	<1	<1	<1	<1	<2						
	2-Sep-03	<1	<1	<1	<1	<1	<1	<2	1,790	4,010	<0.5	<0.5	<1.0	
	6-Oct-03	<1	<1	<1	<1	<1	<1	<2						
NMOC/CD Remedial Thresholds	10	750	750					620	250	1,000			0.002	0.1
														0.05

Bolded values are in excess of the NMOC/CD Remediation Thresholds or Other Standards for Domestic Water Supply.

If cell is blank, that parameter was not analyzed

## **APPENDICES**

**APPENDIX A**

**GROUNDWATER ANALYTICAL RESULTS**

**AND**

**CHAIN-OF-CUSTODY FORMS**

**ANALYSIS**

Client: Environmental Plus, Inc.  
Attn: Pat McCasland  
Address: 2100 Ave. O  
Eunice  
Phone: (505) 394-3481 FAX: (505) 394-2601

**REPORT OF ANALYSIS**

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
Volatile organics-8260b/BTEX	...	...	...	...	02/28/03	8260b	...	...	...	...	...
Benzene	<1	µg/L	1	<1	02/28/03	8260b	...	2	71.1	87.5	70
Ethylbenzene	<1	µg/L	1	<1	02/28/03	8260b	...	2.8	98.6	101.9	107.5
m,p-Xylenes	<1	µg/L	1	<1	02/28/03	8260b	...	2.1	101.1	102.6	111.1
o-Xylene	<1	µg/L	1	<1	02/28/03	8260b	...	1.2	108.5	101.7	109
Toluene	<1	µg/L	1	<1	02/28/03	8260b	...	1	93.6	84.3	85.5

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*  
Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ('<') values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD and PDS recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Report#Lab ID#: 139822 Report Date: 03/03/03

Project ID: 2000-10606

Sample Name: WEJM12/1903MW

Sample Matrix: water

Date Received: 02/26/2003 Time: 14:15

Date Sampled: 02/19/2003 Time: 03:00

**QUALITY ASSURANCE DATA<sup>1</sup>**

**CHIKEYS**  
WIC.

3512 Montopolis Drive, Austin, TX 78744 &  
2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland

**Project ID:** 2000-10606  
**Sample Name:** WEJM121903MW

**Report#/Lab ID#:** 139822  
**Sample Matrix:** water

#### **REPORT OF SURROGATE RECOVERY**

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1,2-Dichloroethane-d4	8260b	105	80-120	---
Toluene-d8	8260b	110	88-110	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.

# AIN-OF-CUSTODY

I Reports To:

Company Name Environmental Plus  
Address 2100 Bee C  
State TX Zip 78744

Bill to (if different):

Company Name Env Energy  
Address 5805 Hwy 50  
City Giddens State TX Zip 77201  
ATTN: Frank Hernandez  
Phone 956-638-3779 Fax 956-3779

Status (must be confirmed with lab mgr.):  
Spec Name/PO#: 200-1006 Sampler: Brendy B.

4221 Friedrich Lane, Suite 190, Austin, TX 78744  
(512) 444-5896

**Analyses Requested (1)**  
Please attach explanatory information as required

Client Sample No.  
Description/Identification

Date Sampled Time  
2/19/23 3:00

No. of Containers Soil Water Waste  
2 X

Lab I.D. #  
139822 X

Comments

As specifically requested otherwise on this Chain-of-custody and/or attached documentation, all analyses will be conducted using ASI's method of choice and all data will be reported to ASI's normal reporting MDL/PQL. For GC/MS volatiles and extractables, unless specific analytical parameter lists are specified on this chain-of-custody or attached to this chain-of-custody, ASI will default to Priority Pollutants or ISL list at ASI's option. Specific compound lists must be supplied for all GC procedures.

## Sample Relinquished By

Name	Affiliation	Date	Time	Name	Affiliation	Date	Time
<u>Brendy B.</u>	<u>Environmental Plus</u>			<u>Melanie Humphrey</u>	<u>ASI</u>	<u>2/20/03</u>	<u>4:15</u>

## Sample Received By

Name	Comments
	<u>T-4 7°C</u>

Delivery of above described samples to AnalySys, Inc. for analytical testing constitutes agreement by buyer/sampler to AnalySys, Inc.'s standard terms.]



3512 Montopolis Drive, Austin, TX 78744 &  
 2209 N. Padre Island Dr., Corpus Christi, TX 78408  
 (512) 385-5886 • FAX (512) 385-7411

**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481      **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
Total dissolved solids	4010	mg/L	1	<1	09/08/03	160.1	---	1.17	-NA-	-NA-	-NA-
TPH by GC (as diesel)	<0.5	mg/L	0.5	<0.5	09/09/03	8015 mod.	---	4.1	98.7	122.9	98.7
TPH by GC (as diesel-ext)	---	mg/L	---	---	09/09/03	3510	---	---	---	---	---
TPH by GC (as gasoline)	<0.5	mg/L	0.5	<0.5	09/09/03	8015 mod.	---	5.2	97.5	121.1	100.1
Chloride	1790	mg/L	25	<25	09/08/03	3225.2&#9251	---	2.44	81.96	107.27	97.39
Volatile organics-8260b/BTEX	---	---	---	---	09/09/03	8260b	---	---	---	---	---
Benzene	<1	µg/L	1	<1	09/09/03	8260b	---	3.8	89.6	100.3	91.2
Ethylbenzene	<1	µg/L	1	<1	09/09/03	8260b	---	3.4	113.4	115.5	118.4
m,p-Xylenes	<1	µg/L	1	<1	09/09/03	8260b	---	4.8	111.7	111.9	115.5
o-Xylene	<1	µg/L	1	<1	09/09/03	8260b	---	5.8	113	113.8	117.1
Toluene	<1	µg/L	1	<1	09/09/03	8260b	---	6.1	92.1	105.4	98.4

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,  
*Richard Lester*  
 Richard Lester

Richard Lester

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard on matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 =MS and/or MSD recovery exceed advisory limits. S2 =Post digestion spike (PDS) recovery exceeds advisory limit. S3 =MS and/or MSD recoveries exceed advisory limits. P =Precision higher than advisory limit. M =Matrix interference.

**ENVIRONMENTAL**  
SOLUTIONS  
INC.

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2209 N. Padre Island Dr., Corpus Christi, TX 78408  
(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2000-10606  
Sample Name: WECOJMI9203MW

Report#/Lab ID#: 146884  
Sample Matrix: water

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1-Chlorooctane	8015 mod.	76.7	50-150	---
p-Terphenyl	8015 mod.	87.5	50-150	---
1,2-Dichloroethane-d4	8260b	95.6	80-120	---
Toluene-d8	8260b	110	88-110	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.





**Client:** Environmental Plus, Inc.  
**Attn:** Pat McCasland  
**Address:** 2100 Ave. O  
 Eunice  
**Phone:** (505) 394-3481    **FAX:** (505) 394-2601

#### REPORT OF ANALYSIS

Parameter	Result	Units	RQL <sup>5</sup>	Blank	Date	Method <sup>6</sup>	Data Qual <sup>7</sup>	Prec. <sup>2</sup>	Recov. <sup>3</sup>	CCV <sup>4</sup>	LCS <sup>4</sup>
Volatile organics-8260b/BTEX	---	---	---	<1	10/09/03	8260b(5030/5035)	---	---	---	---	---
Benzene	<1	µg/L	1	<1	10/09/03	8260b	---	3.5	87.8	90.3	86.9
Ethylbenzene	<1	µg/L	1	<1	10/09/03	8260b	---	0.2	108	111	110.9
m,p-Xylenes	<1	µg/L	1	<1	10/09/03	8260b	---	0.1	109.7	114.3	111.8
o-Xylene	<1	µg/L	1	<1	10/09/03	8260b	---	0	116	119.5	117.8
Toluene	<1	µg/L	1	<1	10/09/03	8260b	---	4.2	93.6	98.7	92.2

This analytical report is respectfully submitted by AnalySys, Inc. The enclosed results have been carefully reviewed and, to the best of my knowledge, the analytical results are consistent with AnalySys, Inc.'s Quality Assurance/Quality Control Program. © Copyright 2000, AnalySys, Inc., Austin, TX. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without the express written consent of AnalySys, Inc.

Respectfully Submitted,

*Richard Laster*

Richard Laster

1. Quality assurance data is for the sample batch which included this sample. 2. Precision (PREC) is the absolute value of the relative percent (%) difference between duplicate measurements. 3. Recovery (Recov.) is the percent (%) of analyte recovered from a spiked sample. 4. Calibration Verification (CCV) and Laboratory Control Sample (LCS) results are expressed as the percent (%) recovery of analyte from a known standard or matrix. 5. Reporting Quantitation Limits (RQL), typically at or above the Practical Quantitation Limit (PQL) of the analytical method. 6. Method numbers typically denote USEPA procedures. Less than ("<") values reflect nominal quantitation limits adjusted for any required dilutions. 7. Data Qualifiers are J = analyte potentially present between the PQL and the MDL. B = Analyte detected in associated method blank(s). S1 = MS and/or MSD recovery exceed advisory limits. S2 = Post digestion spike (PDS) recovery exceeds advisory limit. S3 = MS and/or MSD and PDS recoveries exceed advisory limits. P = Precision higher than advisory limit. M = Matrix interference.

**Q** **R** **I** **T** **L** **S** **S**  
sys  
ME.

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(512) 385-5886 • FAX (512) 385-7411

Client: Environmental Plus, Inc.  
Attn: Pat McCasland

Project ID: 2000-10606  
Sample Name: WLE10603JMJ1MW

Report# /Lab ID#: 147949  
Sample Matrix: water

#### REPORT OF SURROGATE RECOVERY

Surrogate Compound	Method	Recovery	Recovery Limit	Data Qualifiers
1,2-Dichloroethane-d4	8260b	113	80-120	---
Toluene-d8	8260b	97.5	88-110	---

Data Qualifiers: D= Surrogates diluted and X= Surrogates outside advisory recovery limits.



# E.O.T.T. ENERGY CORPORATION

## SITE INVESTIGATION AND REMEDIATION PROPOSAL

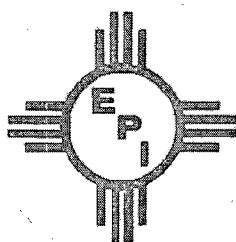
CLAY OSBORN JALMAT #1  
Ref. # 2000-10606

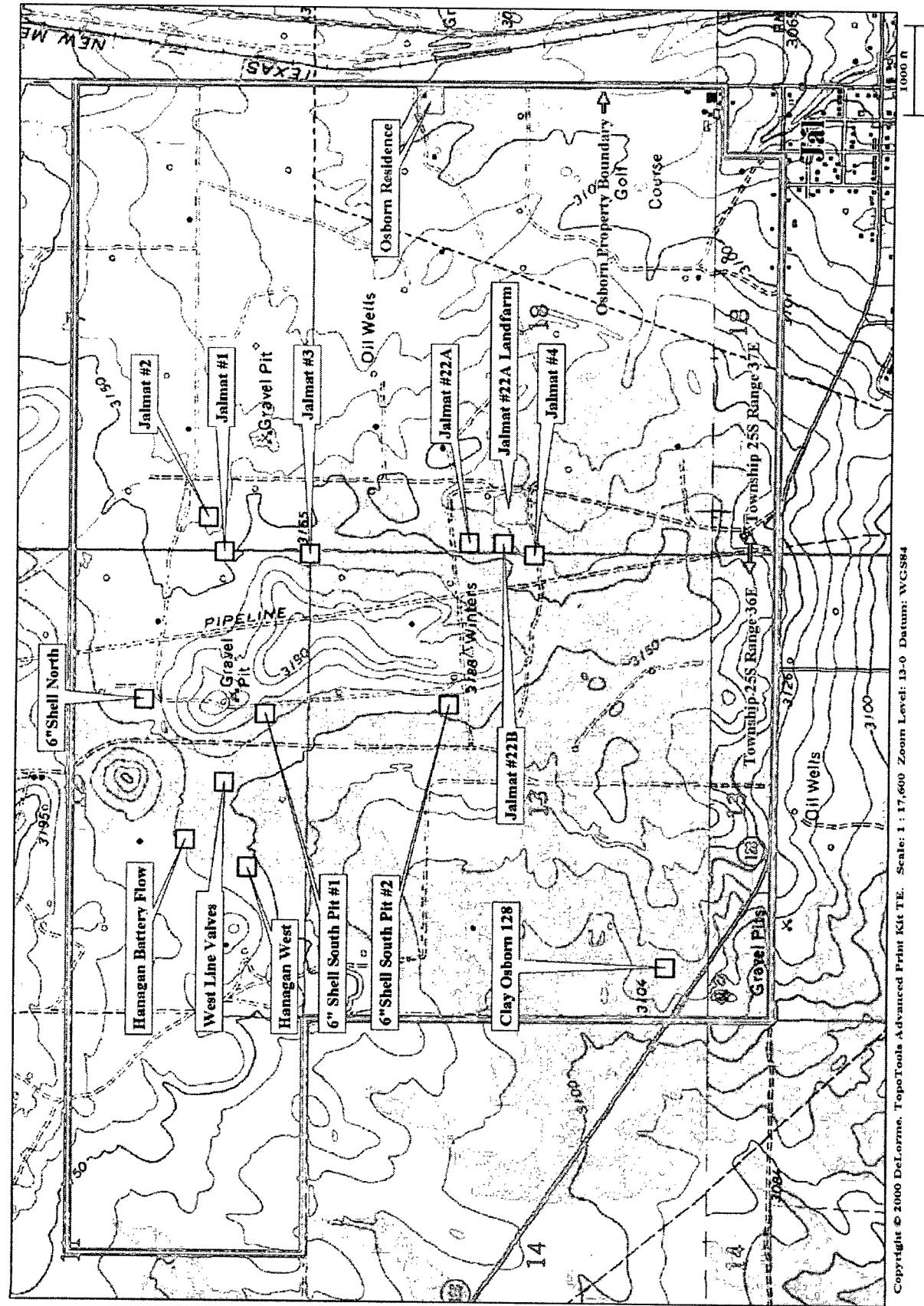
SW $\frac{1}{4}$  SW $\frac{1}{4}$  UL-M Section 7 T25S R37E  
~ $\frac{1}{2}$  mile Northwest of Jal  
Lea County, New Mexico  
Latitude: 32°08'25"N      Longitude: 103°12'38"W

December 8, 2001

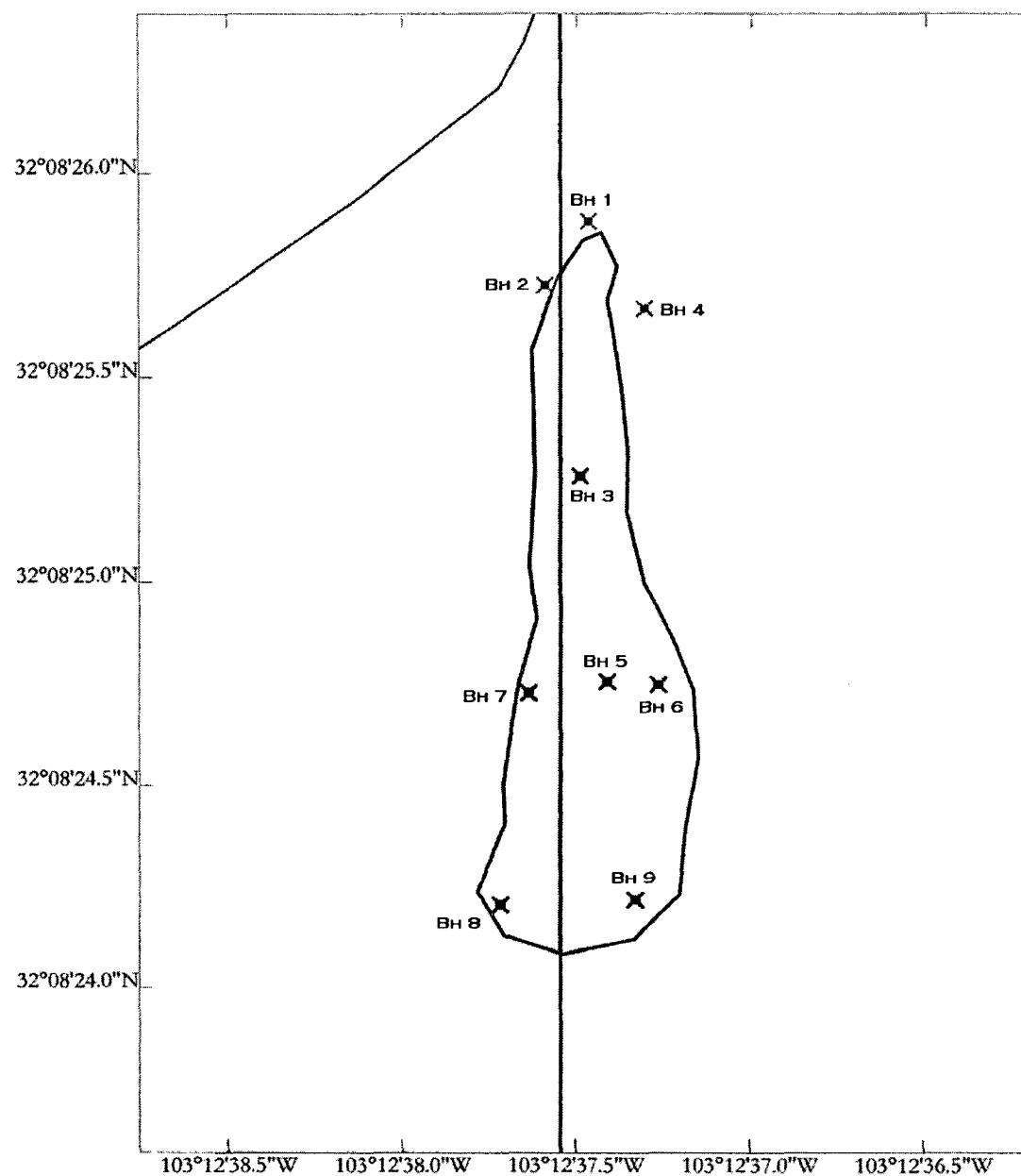
Prepared by

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## Clay Osborn Jalmat #1

Lat/Long  
WGS 1984



Scale 1:500  
0 0.010  
Miles

Multiple Files  
11/9/2001  
GPS Pathfinder® Office  


**E.O.T.T. Energy Pipeline**  
**Clay Osborn Jalmat #1 Monitor Well & Pond Well Ground Water Data**

Parameter	Units	Clay Osborn Jalmat #1 Monitor Well		New Mexico Water Quality Control Commission Standards 20 NMAC 6.2.3103	Background Concentrations Clay Osborn Pond Monitor Reference Well	
		EJM171001MW 7/10/2001	EJM1102401MW1 10/24/2001		ETNMMW102401 7/10/2001	ETNMMW102401 10/24/2001
TPH <sup>1</sup> (GRO) <sup>2</sup>	mg/L	<0.25		no standard	<0.25	
TPH (DRO) <sup>3</sup>	mg/L	<0.02		no standard	<0.02	
TPH (DRO+GRO)	mg/L	<0.25		no standard	<0.25	
Benzene	µg/L	1.1	<1	10.0	<1.00	<1
Toluene	µg/L	1.3	<1	750.0	<1.00	<1
Ethyl Benzene	µg/L	<1	<1	750.0	<1.00	<1
m, p-XYLENE	µg/L	2.2	<1		<1.00	<1
o-XYLENE	µg/L	1.6	<1		<1.00	<1
Total Xylene <sup>4</sup>	µg/L	3.88	<1	620.00	<1.00	<1
Naphthalene	µg/L	0.061			<0.05	
Acenaphthylene	µg/L	<0.05			<0.05	
Acenaphthene	µg/L	<0.05			<0.05	
Fluorene	µg/L	<0.05			<0.05	
Phenanthrene	µg/L	<0.05			<0.05	
Anthracene	µg/L	<0.05			<0.05	
Fluoranthene	µg/L	<0.05			<0.05	
Pyrene	µg/L	<0.05			<0.05	
Benzo[a]anthracene	µg/L	<0.05			<0.05	
Chrysene	µg/L	<0.05			<0.05	
Benzo[b]fluoranthene	µg/L	<0.05			<0.05	
Benzo[j,k]fluoranthene	µg/L	<0.05			<0.05	
Benzo[a]pyrene	µg/L	<0.05		0.700	<0.05	
Indeno[1,2,3-cd]pyrene	µg/L	<0.05			<0.05	
Dibenz[a,h]anthracene	µg/L	<0.05			<0.05	
Benzo[g,h,I]perylene	µg/L	<0.05			<0.05	
PAH's: Total naphthalene plus m-anisomethylnaphthalenes	µg/L	0.061		30.000	<0.05	
Aluminum (Al)	mg/L	16.20		5.0	7.6	
Antimony (Sb)	mg/L		0.013	0.0		0.0
Arsenic (As)	mg/L	0.01	<0.02	0.1	<0.05	<0.02
Barium (Ba)	mg/L	0.259	0.033	1.0	0.2	0.1
Beryllium (Be)	mg/L		<0.001	0.0		<0.001
Boron (B)	mg/L	1.370		0.8	0.4	
Cadmium (Cd)	mg/L	<0.005	<0.002	0.0	<0.005	<0.002
Chromium (Cr)	mg/L	0.015	<0.005	0.1	<0.01	<0.005
Cobalt (Co)	mg/L	<0.02		0.1	<0.02	
Copper (Cu)	mg/L	<0.02		1.0	<0.02	
Iron (Fe)	mg/L	9.84		1.0	5.1	
Lead (Pb)	mg/L	0.002	<0.01	0.1	<0.02	<0.01
Magnesium (Mg)	mg/L	145.00			61.7	
Manganese (Mn)	mg/L	0.544		0.2	0.1	
Mercury (Hg)	mg/L	0.01	<0.0002	0.0	<0.0002	<0.0002
Molybdenum (Mo)	mg/L	<0.02		1.0	<0.02	
Nickel (Ni)	mg/L	<0.02	<0.01	0.2	<0.02	<0.01
Potassium (K)	mg/L	14.200			7.5	
Selenium (Sn)	mg/L	<0.002	<0.02	0.1	<0.05	<0.02
Silver (Ag)	mg/L	<0.002		0.1	0.0	
Thallium (Tl)	mg/L		<0.002	0.0		<0.002
Zinc (Zn)	mg/L	0.033		10.0	<0.01	
Calcium (Ca)	mg/L	379.00			188.0	
Sodium (Na)	mg/L	949.000			83.1	
Nitrate/Nitrite - N	mg/L	0.11		10.0	0.7	
Fluoride (F)	mg/L	1.900		1.6	1.7	
Chloride (Cl)	mg/L	2040.00	1940.00	250.0	239.0	4.26 (? decimal)
Sulfate (SO <sub>4</sub> )	mg/L	638.000		600.0	325.0	
Total Alkalinity	mg/L	280.00			290.0	
Total Dissolved Solids (TDS)	mg/L	4590.000	4790.000	1000.0	1280.0	297.0
Conductivity (micromhos/cm)	µmhos/cm	5500.00	6500.00		1500.0	610.0
pH	SU	6.800	6.800	6.0 - 9.0	7.0	7.0

<sup>1</sup>TPH - Total Petroleum Hydrocarbon<sup>2</sup>GRO - Gasoline Range Organics C<sub>6</sub>-C<sub>10</sub><sup>3</sup>DRO - Diesel Range Organics C<sub>10</sub>-C<sub>20</sub><sup>4</sup>Total Xylene - Sum of the m, p, and o - Xylene values.<sup>5</sup>NA - Not Analyzed

## E.O.T.T. Energy Pipeline Jalmat 1

Borehole	Sampling Interval (Ft. BGS <sup>b</sup> )	SAMPLE ID#	Date Taken	Lithology	HEADSPACE (ppm)	GRO <sup>c</sup> mg/Kg	DRO <sup>d</sup> mg/Kg	TPH <sup>e</sup> mg/Kg	BTEX mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	m,p-Xylene mg/Kg	o-Xylene mg/Kg
5	2	EJMPGP5-02		Sand	0.0	20	20	40	0.5	0.100	0.100	0.100	0.100	0.100
	5	EJMPGP5-05		Sand	0.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	10	EJMPGP5-10		Sand	1.7	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	15	EJMPGP5-15		Sand	600.0	1032	2941	3973	20.92	0.100	4.340	3.000	9.080	4.400
	20	EJMPGP5-20		Sand	418.0	104	2296	2400	3.493	0.100	0.245	0.452	1.700	0.996
	25	EJMPGP5-25		Sand	500.0	1123	3483	4606	57.25	0.100	12.300	10.200	25.800	8.850
	30	EJMPGP5-30		Sand	400.0	1171	4655	5826	30.45	0.100	5.040	5.490	14.100	5.720
	35	EJMPGP5-35		Sand	400.0	1813	4819	6632	180	0.100	35.100	37.900	80.400	26.500
	40	EJMPGP5-40		Sand	200.0	2183	6109	8292	141.6	0.100	18.300	29.500	70.900	22.800
	45	EJMPGP5-45		Sand	500.0	4489	7321	11810	272.19	6.090	88.100	56.600	86.600	34.800
6	2	EJMPGP6-02		Sand	0.0	50	93	143	2.486	0.100	0.979	0.390	0.735	0.282
	5	EJMPGP6-05		Sand	0.0	10	10	20	1.895	0.100	0.100	0.134	1.110	0.451
	10	EJMPGP6-10		Sand	0.0	10	10	20	0.553	0.100	0.100	0.100	0.153	0.100
	15	EJMPGP6-15		Sand	0.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	2	EJMPGP7-02		Sand	51.0	10	86	96	0.5	0.100	0.100	0.100	0.100	0.100
7	5	EJMPGP7-05		Sand	600.0	302	804	1106	48.7	0.100	3.280	4.520	28.700	12.100
	10	EJMPGP7-10		Sand	10.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	15	EJMPGP7-15		Sand	300.0	10	71	81	0.536	0.100	0.136	0.100	0.100	0.100
	20	EJMPGP7-20		Sand	0.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	25	EJMPGP7-25		Sand	0.0	10	10	20	0.829	0.100	0.100	0.100	0.383	0.146
8	2	EJMPGP8-02		Sand	100.0	741	11546	12287	0.682	0.100	0.100	0.100	0.134	0.248
	5	EJMPGP8-05		Sand	800.0	2411	6298	8709	144.4	0.100	13.100	18.800	88.700	23.700
	10	EJMPGP8-10		Sand	40.0	10	158	168	1.075	0.100	0.100	0.137	0.528	0.210
	15	EJMPGP8-15		Sand	7.3	10	10	20	3.073	0.100	0.381	0.306	1.390	0.896
	20	EJMPGP8-20		Sand	5.0	10	10	20	3.645	0.100	0.456	0.379	1.690	1.020
9	2	EJMPGP9-02		Sand	0.0	10	10	20	8.716	0.100	2.440	0.866	3.350	1.960
	5	EJMPGP9-05		Sand	0.0	10	10	20	0.51	0.100	0.110	0.100	0.100	0.100
	10	EJMPGP9-10		Sand	0.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
	15	EJMPGP9-15		Sand	0.0	10	10	20	0.5	0.100	0.100	0.100	0.100	0.100
100 ppm Isobutylene calibration gas = 101 ppm														

<sup>b</sup> bgs - below ground surface<sup>c</sup> VOC-Volatile Organic Contaminants/Constituents<sup>d</sup> GRO-Gasoline Range Organics<sup>e</sup> DRO-Diesel Range Organics<sup>f</sup> TPH-Total Petroleum Hydrocarbon = GRO+DRO<sup>g</sup> Bolded values are in excess of the New Mexico Oil Conservation Division guideline threshold for the parameter<sup>h</sup> Italicized values are < the instrument detection limit.<sup>i</sup> N/A Not Analyzed

Reported detection limits are considered "de minimus" values and are included in the GRO/DRO and BTEX summations.