

1R - 390

# REPORTS

DATE:

2003

December 31, 2003

NMOCD Environmental  
ATTN: Wayne Price  
Box 6429  
1220 S. Saint Francis Drive  
Santa Fe, NM 87504

RE: Pure Resources - Lovington  
Site: Pure 21 - Closure

Mr. Price:

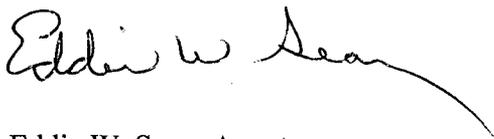
Pure Resources has completed excavation of the Pure 21 site, the bottom and sidewalls are within OCD guidelines for closure. Find analytical, photos and associated information within. Pure used a PID and conducted headspace test for BTEX, final were all below 25 ppm.

Pure excavated and hauled 1536 cu. yds. to C & C Landfarm. The remainder of the material is being remediated on an adjacent site, when the remediation pile reaches a level below 250 ppm chloride, pure will seek permission for OCD to use the soil for other purposes.

Pure would like to backfill the excavated area with clean soil, hauled from a site West of Lovington, cleanup area of trash and reseed with a mixture suitable to all parties.

If this satisfies the OCD and the City of Lovington, Pure would like to begin backfilling.

Thanks,



Eddie W. Seay, Agent  
City of Lovington  
601 W. Illinois  
Hobbs, NM 88242  
(505)392-2236

cc: Patrick McMahon, Attorney, City of Lovington  
OCD Hobbs

**NMOCD**

**PURE RESOURCES  
SITE: PURE 21  
LOVINGTON WATER FIELD**



**PROJECT PLAN (PIP)  
&  
SITE INVESTIGATION REPORT**

for the  
Injection Fluid Release  
associated with the

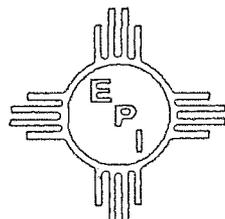
**LOVINGTON PADDOCK UNIT  
WELL #21 INJECTION LINE**

~7 mile south of Lovington  
Lea County, New Mexico  
UL-G SW<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub> Sec 36, T16S, R36E  
Latitude: 32°52'45.65"N Longitude: 103°18'22.77"W

February 2003

Prepared by

Environmental Plus, Inc.  
2100 Avenue O  
P.O. Box 1558  
Eunice, New Mexico 88231  
Tele 505•394•3481 FAX 505•394•2601



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# 1 LOVINGTON PADDOCK UNIT WELL #21 PROJECT PLAN (PJP)

This plan investigated the vertical extents of secondary injection fluid contamination, i.e., saline produced water and residual crude oil, at the Pure Resources Lovington Paddock Unit Well #21 release site approximately 7 miles south of Lovington, New Mexico. Five soil borings were advanced and discretely sampled at 5 feet below ground surface ('bgs) intervals and analyzed to identify concentration gradients for the "Constituents of Concern" (CoC), i.e., Total Petroleum Hydrocarbon using EPA Method 8015M (TPH<sup>8015m</sup>), Benzene, Toluene, Ethylbenzene, m,p,o-Xylenes, and Chloride. Acceptability of the delineation concentrations are based on thresholds and protocols provided by the New Mexico Oil Conservation Division (NMOCD) guidelines.

## 1.1 Site Description

The site is located - 7 miles south of Lovington, New Mexico on land owned by the City of Lovington. Annotated aerial and topographical maps are included in Attachment I.

### 1.1.1 Historical Use

This land surface is used for livestock grazing and oil and gas production facilities access roads.

### 1.1.2 Photographic documentation

Photographs of the site are included in Attachment II.

### 1.1.3 Ecological Description

The area is typical of the northern most extent of the Upper Chihuahuan Desert Biome consisting primarily of Honey Mesquite (*Prosopis glandulosa*) and typical desert grasses and weeds. Mammals present, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit (*Lepus californicus*), and the occasional Pronghorn Antelope. Reptiles, Amphibians, and Birds are numerous and typical of area. While a biotic survey was not conducted, Listed, Threatened, or Endangered species are not known to exist in this immediate area.

### 1.1.4 Environmental Media Characterization

Chemical parameters of the soil will be characterized consistent with the New Mexico Oil Conservation Division (NMOCD) guidelines published in the following documents;

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

Site Ranking and acceptable "Site Specific" thresholds for contaminants of concern (CoCs), i.e., soil TPH<sup>8015m</sup>, Benzene, BTEX (mass sum of Benzene, Toluene, Ethyl Benzene, and m, p, and o Xylenes), and soil Chloride, will be determined based on the following;

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

#### 1.1.4.1 Ground Water Level

The New Mexico State Engineer's Office (NMSEO) and the New Mexico Tech Geo-Information system ground water level on-line databases showed five wells in the southern half of Section 36 with an average water level of 51.14'bgs. The City of Lovington currently produce 2 wells approximately 0.5 miles northwest of the site and were drilled to a depth of 256 and 257'bgs. The water levels provided by the database are reported as the same and cannot be correct and are not used in the average calculation. A simple average of the ground water levels of the wells in Sections 36, 25, and 26 is 57.9'bgs.

Well Number	Source	Tws	Rng	Sec	Easting	Northing	Date	Well Depth	Water Level
L 01350 APPRO	Shallow	16S	36E	36	658945	3638695	1/11/1952	110	55
L 01371 APPRO	Shallow	16S	36E	36	658644	3638187	2/22/1952	115	45
L 01438 APPRO	Shallow	16S	36E	36	658545	3638288	5/8/1952	110	45
L 01557 APPRO	Shallow	16S	36E	36	657836	3638176	8/25/1952	110	40
L 04058 (EXPLORE)		16S	36E	36	657827	3639178		230	
L 04058 (EXPLORE)		16S	36E	36	657823	3639579		230	
L 04058 S-24	Shallow	16S	36E	36	657823	3639579	4/4/2000	257	257?
L 04058 S-25	Shallow	16S	36E	36	657827	3639178	4/10/2000	256	256?
8774		16S	36E	36			1961		72.69
8816		16S	36E	36			1961	150	70.94
L 02507 APPRO	Shallow	16S	36E	25	657705	3641089	3/8/1954	110	52
L 03031	Shallow	16S	36E	26	657415	3639772	11/23/1955	115	60
L 03627	Shallow	16S	36E	26	656609	3639757	7/30/1957	98	65
8896		16S	36E	25			1961	126	65.38
8945		16S	36E	25			1961		65.95
AVERAGE WATER LEVEL									57.905

#### 1.1.4.2 Depth to Ground Water Calculation

According to the NMOCD Guidelines, depth to ground water (D<sub>toGW</sub>) is defined as the “the vertical distance from the lowermost contaminants (LC) to the seasonal high water elevation of the ground water (WL).” TPH<sup>8015m</sup> above 1000 mg/Kg was detected down to 2’bgs; therefore, the calculated depth to ground water is 55.9’bgs.

$$57.9 \text{ ft}^{WL} - 2 \text{ ft}^{LC} = 55.9 \text{ ft}^{D_{toGW}}$$

#### 1.1.4.3 Ground Water Gradient

Based on available information, the gradient is to the east southeast.

#### 1.1.4.4 Wellhead Protection Area

There are no public water supply wells located within 1,000 horizontal feet of the site. There are two City of Lovington municipal water supply wells located within 2,500 feet to the north and west of the site.

#### 1.1.4.5 Distance to Nearest Surface Water Body

There are no naturally occurring surface water bodies located within a 1-mile radius of the site.

#### 1.1.4.6 Soil Assessment

Soil samples were collected at 5 strategically located locations within the spill pooling areas. The sample locations are noted on the site map included in Attachment I.

#### 1.1.4.7 Ground Water Assessment

The ground water level is conservatively estimated to occur at -58’bgs. The soil investigation did not warrant ground water assessment.

### 1.1.5 NMOCD Site Rank and Remedial Goals

Based on the site information, the site has a ranking of 10 points and the respective remedial goals/thresholds for the Constituents of Concern (CoCs). The Chloride remedial goal cannot

exceed a soil concentration capable of impacting ground water above the New Mexico Water Quality Control Commission (WQCC) standard of 250 mg/Liter.

1. Ground Water		2. Wellhead Protection Area		3. Distance to Surface Water Body	
If Depth to GW <50 feet: <i>20 points</i>		If <1000' from water source, or; <200' from private domestic water source: <i>20 points</i>		<200 horizontal feet: <i>20 points</i>	
If Depth to GW 50 to 99 feet: <i>10 points</i>				200-100 horizontal feet: <i>10 points</i>	
If Depth to GW >100 feet: <i>0 points</i>		If >1000' from water source, or; >200' from private domestic water source: <i>0 points</i>		>1000 horizontal feet: <i>0 points</i>	
<i>Ground water Score = 10</i>		<i>Wellhead Protection Area Score = 0</i>		<i>Surface Water Score = 0</i>	
<i>Site Rank (1+2+3) = = 10 points</i>					
Total Site Ranking Score and Acceptable Concentrations					
Parameter	>19 (Soil >8' bgs)	10-19 (Soil from 0 to 8' bgs)		0-9 (Not Applicable)	
Benzene'	10 ppm	10 ppm		10 ppm	
BTEX'	50 ppm	50 ppm		50 ppm	
TPH	100 ppm	1000 ppm		5000 ppm	
'100 ppm field VOC headspace measurement may be substituted for lab analysis					

## 2 LOVINGTON PADDOCK UNIT WELL #21 INVESTIGATION REPORT

On November 11, 2002, Environmental Plus, Inc. (EPI) personnel, with the assistance and direction of Pure Resources, implemented the Project Plan and collected subsurface soil samples at the Lovington Paddock Unit Well #21. The Borehole Map and annotated topographical and aerial maps of the Lovington Paddock Unit Well #21 site are included in Attachment I, photographs in Attachment II, and the original analytical reports are included in Attachment III along with a data summary.

### 2.1 Analytical Results

The soil borings were advanced in areas considered to be the most contaminated, i.e., fluid pooling areas with the longest residence times. The results are discussed and illustrated below. The analytical reports are summarized and included in Attachment III.

#### 2.1.1 Borehole #1 (BH1)

BH1 was advanced adjacent to the leak origin. TPH<sup>8015m</sup> was monitored at 1,240 mg/Kg from 0-2' bgs and 91.6 mg/Kg from 5-7' bgs. Benzene and BTEX were detected but not above the NMOCD remedial goals. Chloride was monitored at 10,637 mg/Kg in the 0-2' bgs sample and 736 mg/Kg in the 5-7' bgs sample. The 10-12' bgs and 15-17' bgs samples were <100 mg/Kg.

#### 2.1.2 Borehole #2 (BH2)

BH2 was advanced in a pooling area east of the leak origin between BH1 and BH3. TPH<sup>8015m</sup> was monitored at 143 mg/Kg from 0-2' bgs and non-detectable at 5-7' bgs. Benzene and BTEX were detected but nominally. Chloride was monitored at 19,594 mg/Kg in the 0-2' bgs sample and <250 mg/Kg at the other intervals to 17' bgs.

#### 2.1.3 Borehole #3 (BH3)

BH3 was advanced in a pooling area at the east extent of the spill area. TPH<sup>8015m</sup>, Benzene, and BTEX were not detected above the instrument detection limits down to 15' bgs. The Chloride gradient was monitored at 9,917 mg/Kg in the 0-2' bgs sample, 592 mg/Kg at the 10-12' bgs interval, and at 96 mg/Kg from 15-17' bgs.

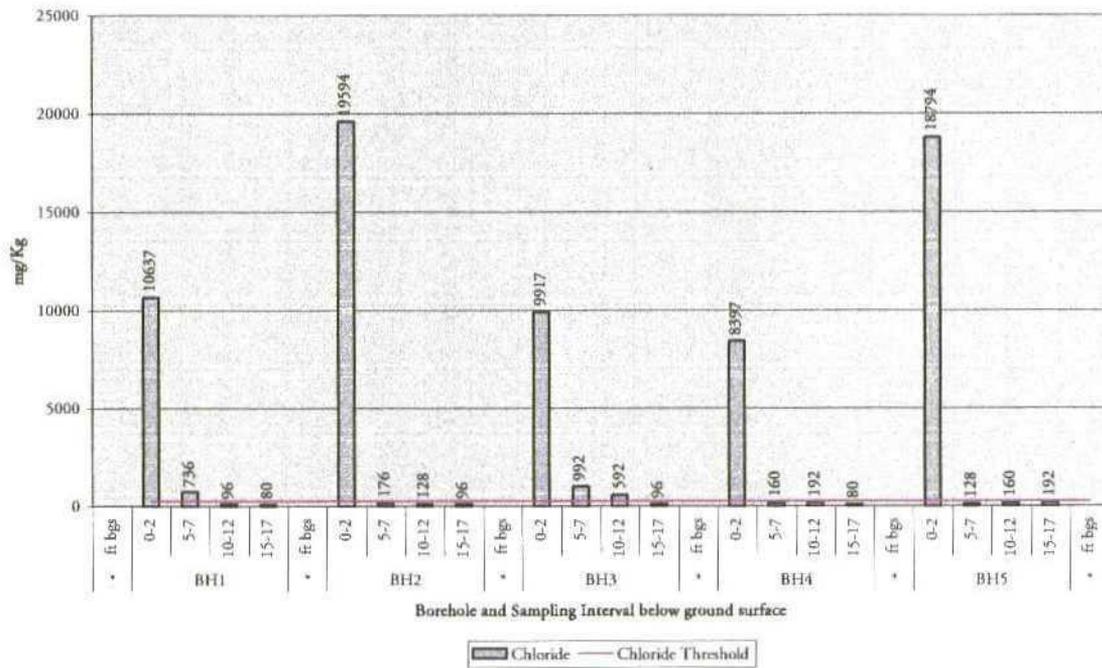
#### 2.1.4 Borehole #4 (BH4)

BH4 was advanced midway between BH1 and BH5 in the west flowpath pooling area. Nominal detections of TPH<sup>8015m</sup>, Benzene, and BTEX were monitored from 0-2' bgs and not detected at 5, 10, and 15' bgs. Chloride was monitored at 8,397 mg/Kg in the near surface, i.e., 0-2' bgs sample and <250 mg/Kg at 5, 10, and 15' bgs.

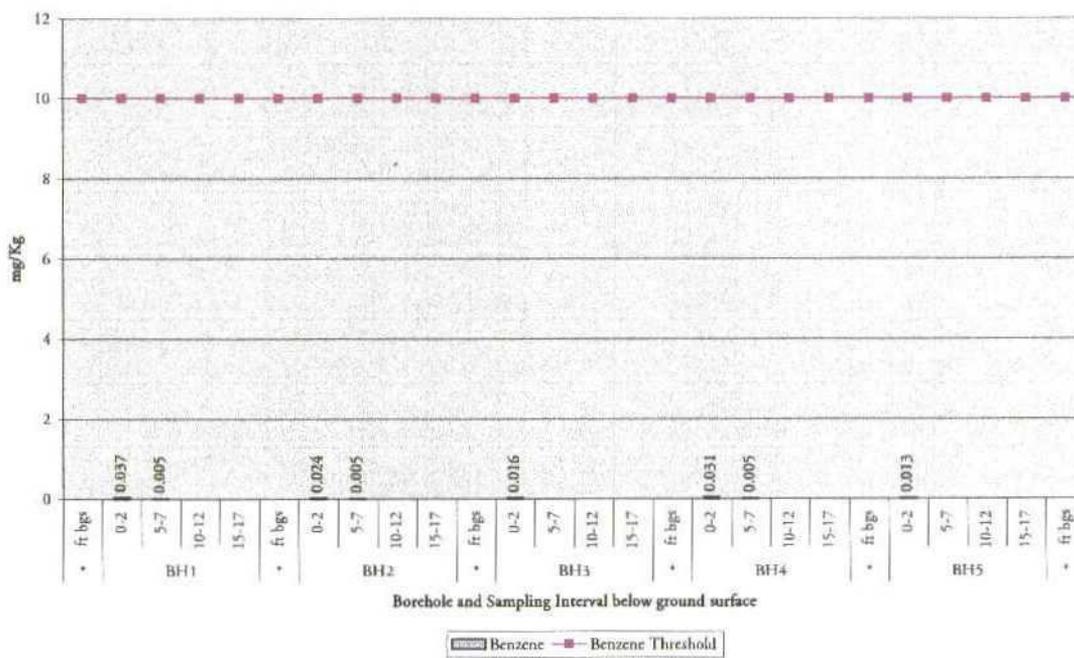
#### 2.1.5 Borehole #5 (BH5)

BH5 was advanced in the west most pooling area of the west flow path. TPH<sup>8015m</sup>, Benzene, and BTEX were not detected at the surface, 5, 10, or 15' bgs intervals. Chloride was monitored at 18,794 mg/Kg in the near surface, i.e., 0-2' bgs sample and <250 mg/Kg at 5, 10, and 15' bgs.

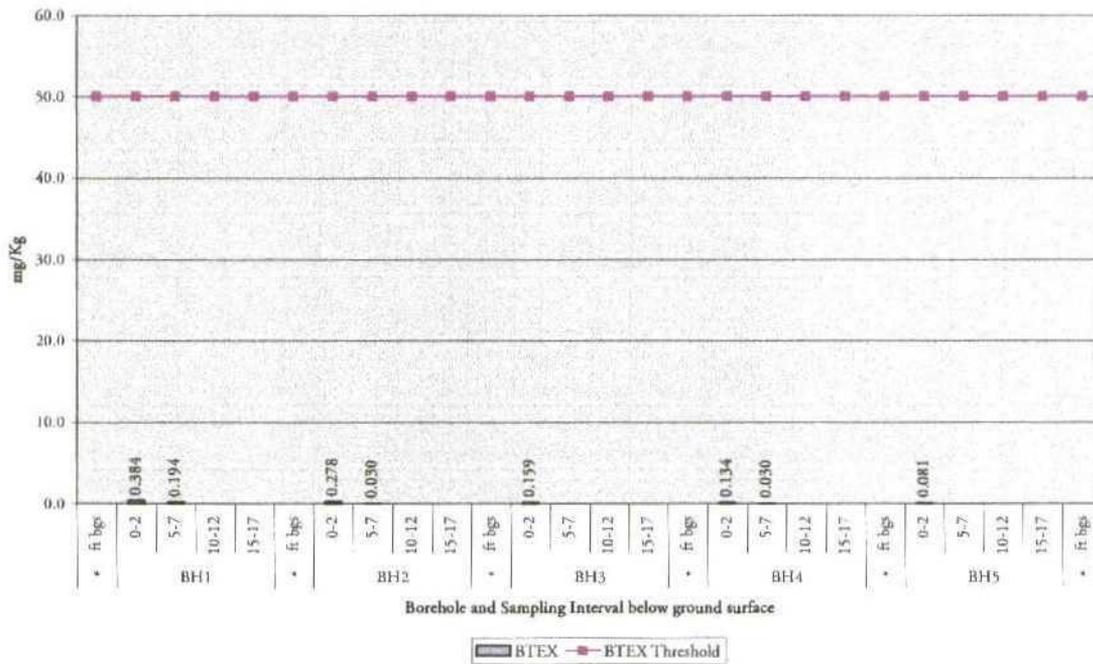
Pure Resources  
Lovington Paddock Unit #21  
Chloride Delineation



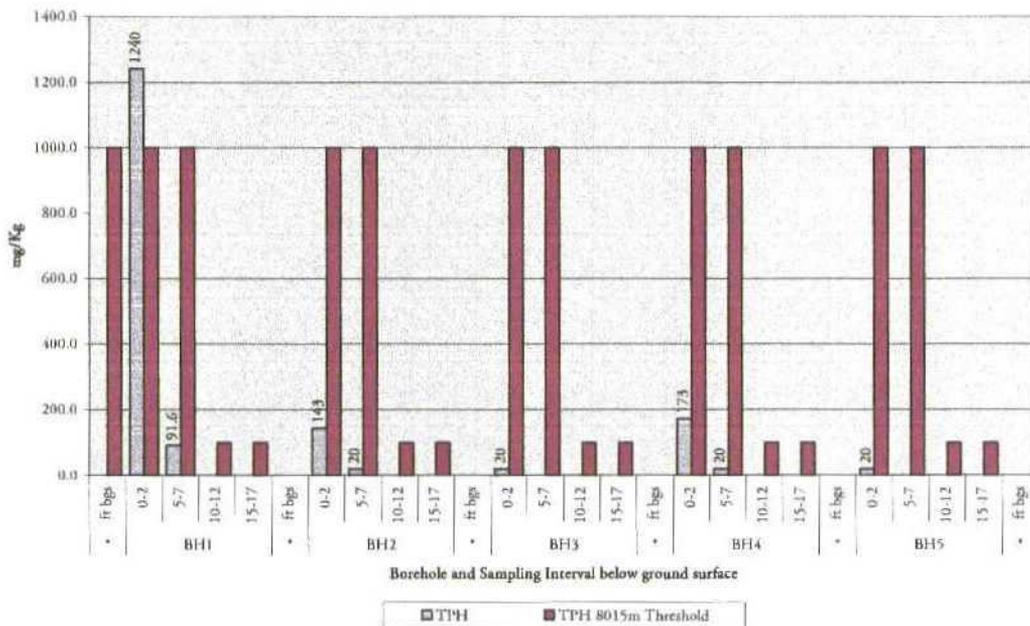
Pure Resources  
Lovington Paddock Unit #21  
Benzene Delineation



Pure Resources  
 Lovington Paddock Unit #21  
 BTEX Delineation



Pure Resources  
 Lovington Paddock Unit #21  
 TPH8015m Delineation



## 2.2 Discussion of Hydrocarbon Data

TPH<sup>8015m</sup> in the area of the leak origin exceeds the 1,000 mg/Kg NMOCD remedial goal at the 0-2'bgs interval at BH1. Benzene and BTEX were not detected above the remedial goals, i.e., 10 mg/Kg and 50 mg/Kg, respectively.

## 2.3 Discussion of Chloride Data

Chloride contamination concentrations >250 mg/Kg were monitored as follows;

- BH1 - 5-7'bgs
- BH2 - 0-2'bgs
- BH3 - 10-12'bgs
- BH4 - 0-2'bgs
- BH5 - 0-2'bgs

## 2.4 Conclusions

Based on the information collected during this investigation it is concluded that;

- TPH<sup>8015m</sup> contamination in excess of the NMOCD Guideline remedial goal of 1,000 mg/Kg occurs in BH1, the area of the leak origin, down to 2'bgs.
- Benzene and BTEX residuals at all locations are below the remedial goals of 10 and 50 mg/Kg, respectively.
- Chloride residual in excess of 250 mg/Kg occurs from the surface to 2'bgs through out the site, from the surface to 7'bgs in the area of BH1 near the leak origin, and from the surface to 12'bgs in the area of BH3.

## 2.5 Remediation Proposal

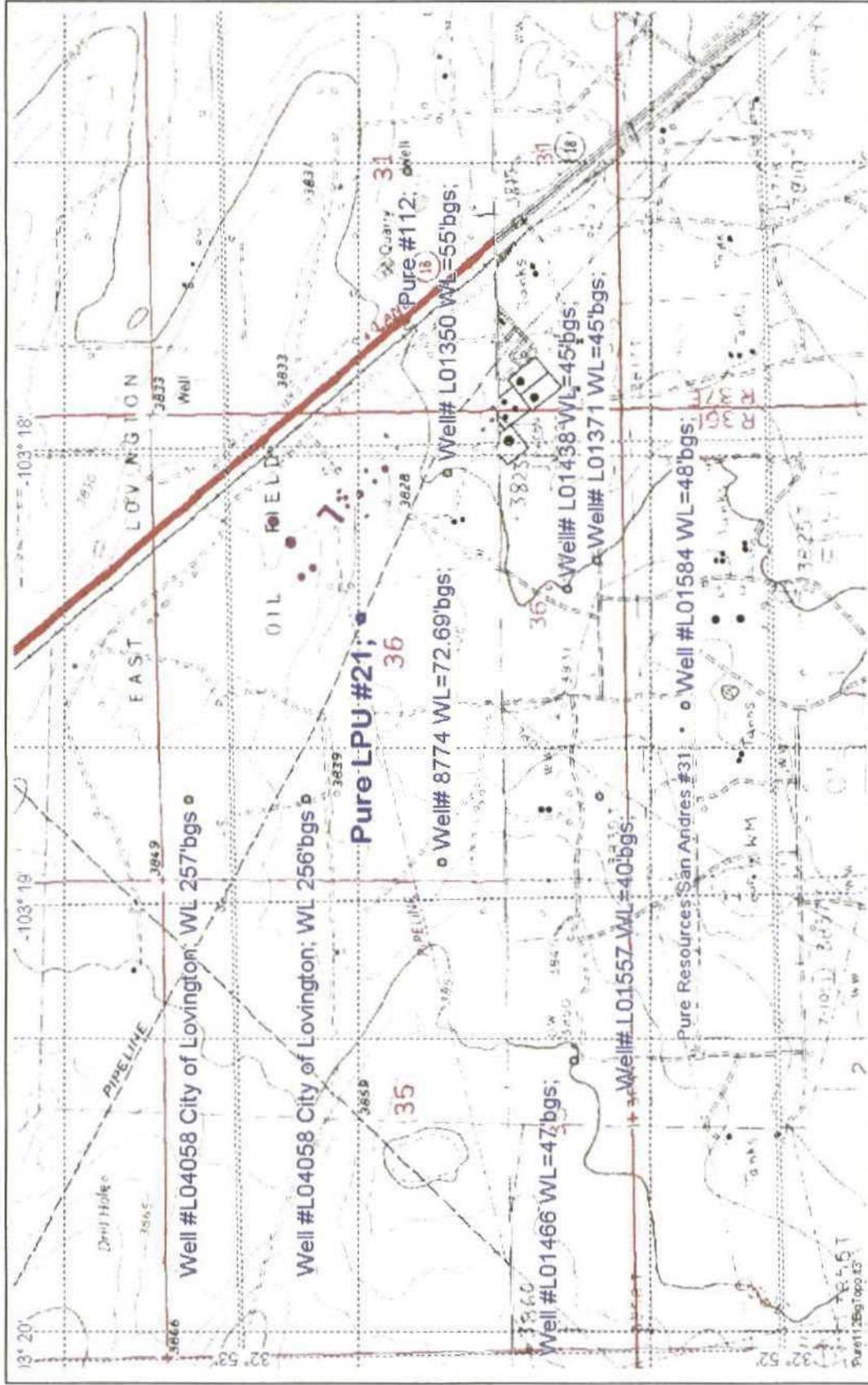
It is not feasible to blend the near surface soil with clean soil to achieve the remedial goals for the TPH<sup>8015m</sup> and Chloride source terms because of the extremely high Chloride concentrations and, given that the site is located within the City of Lovington's water well field, leaching or rinsing the Chloride into the subsurface to restore the surface is not feasible because of the potential to impact the ground water above the New Mexico Water Quality Control Commission standard of 250 mg/L.

It is proposed to excavate and dispose of the impacted soil down to 2'bgs. The remaining soil contaminated above the NMOCD remedial guidelines in the areas of BH1 and BH3 will be excavated and blended with local clean soil to acceptable levels and placed back into the excavated areas. Clean soil will be used to replace the hauled soil and bring the excavation to grade. After contouring the site will be reseeded.

## 2.6 Lovington Paddock Unit Well #21 Site Information and Metrics Summary

Pure Resources		Incident Date and NMOCD Notified?	
Site Information and Metrics		1-26-03	NMOCD notified immediately (on call pager)
SITE: Lovington Paddock Unit Well #21 Inj. Line		Assigned Site Reference #: 12603	
Company: Pure Resources, Inc.			
Street Address: Hobbs Highway south of Lovington, NM			
Mailing Address: P.O. Box 609			
City, State, Zip: Lovington, NM 88260			
Representative: Mike Northcutt			
Representative Telephone: 505.396.7503			
Telephone: 505.390.1090			
Fluid volume released (bbls): 230		Recovered (bbls): 130	
>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: Lovington Paddock Unit Well #21 Inj. Line			
Source of contamination: Steel Injection Water Line			
Land Owner, i.e., BLM, ST, Fee, Other: City of Lovington			
LSP Dimensions ~70' x 410'			
LSP Area: 19,286 ft <sup>2</sup>			
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32° 52' 45.65"N			
Longitude: 103° 18' 22.77"W			
Elevation above mean sea level: 3,835' amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼: SW¼ of the NE¼		Unit Letter: G	
Location- Section: 36			
Location- Township: 16S			
Location- Range: 36E			
Surface water body within 1000' radius of site: None			
Domestic water wells within 1000' radius of site: None			
Agricultural water wells within 1000' radius of site: none			
Public water supply wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site:			
Depth from land surface to ground water (DG) ~58' bgs			
Depth of contamination (DC) - 2' bgs			
Depth to ground water (DG - DC = D <sub>r</sub> GW) - 56' bgs			
1. Ground Water		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		If >1000' from water source, or, >200' from private domestic water source: 0 points	200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points		Wellhead Protection Area Score = 0	>1000 horizontal feet: 0 points
Ground water Score = 10			Surface Water Score = 0
Site Rank (1+2+3) = 10			
Total Site Ranking Score and Acceptable Concentrations			
Parameter	>19	10-19	0-9
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			

## Attachment I: Site Maps



PURE RESOURCES  
 LOVINGTON  
 PADDOCK UNIT  
 WELL #21  
 UL-G SEC 36  
 T16S R36E  
 AFFECTED AREA  
 ~19,286 SQFT



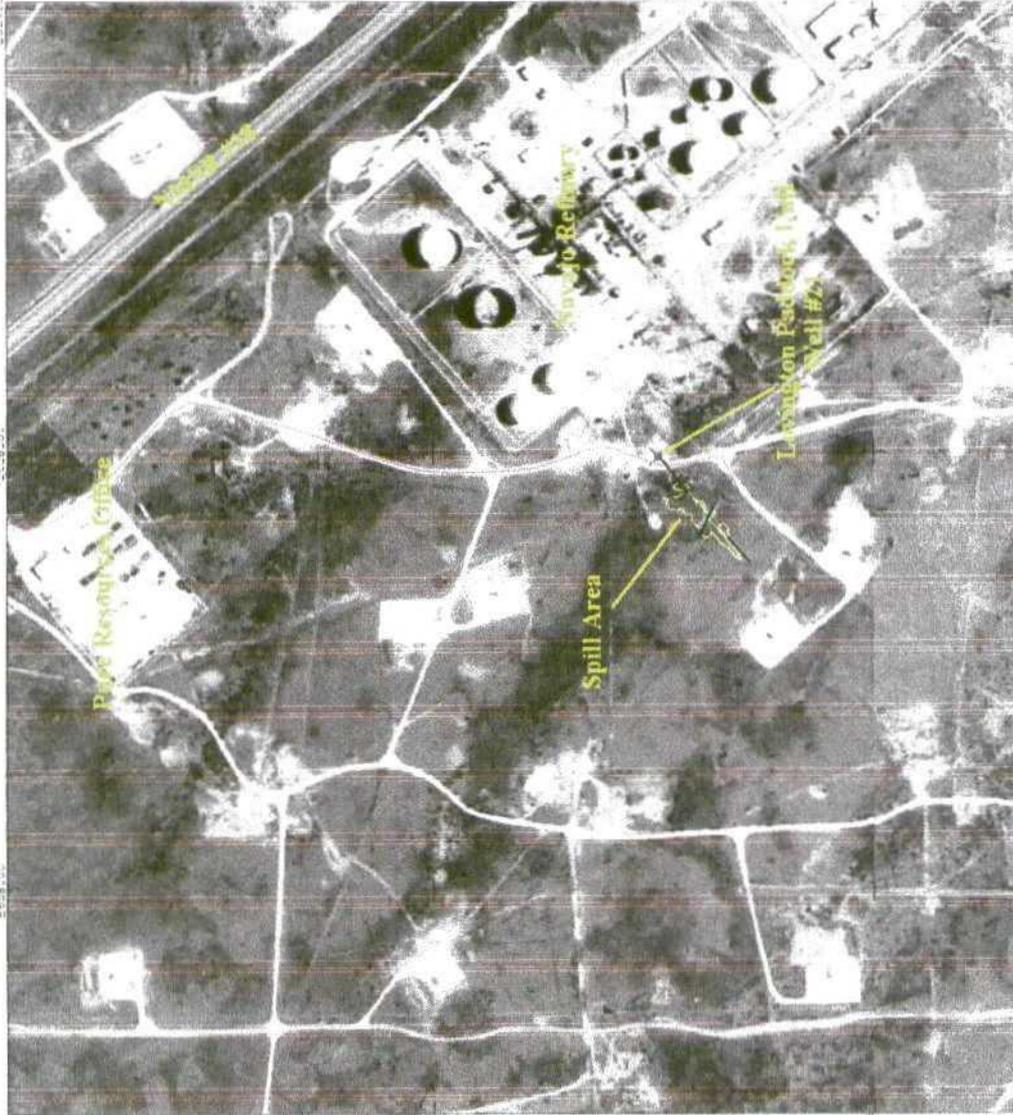
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FEET

AS PREPARED BY: JAMES BRANTNER  
 DATE: 05/27/15  
 15-0011

RD129204.DWG  
 1/5/2003



PURE RESOURCES  
 LOVINGTON  
 PADDOCK UNIT  
 WELL #21  
 INJECTION LINE  
 I-26-03  
 UL-G SEC 36  
 T16S R36E  
 AFFECTED AREA  
 ~19,286 SQFT  
 BOREHOLE  
 LOCATION MAP

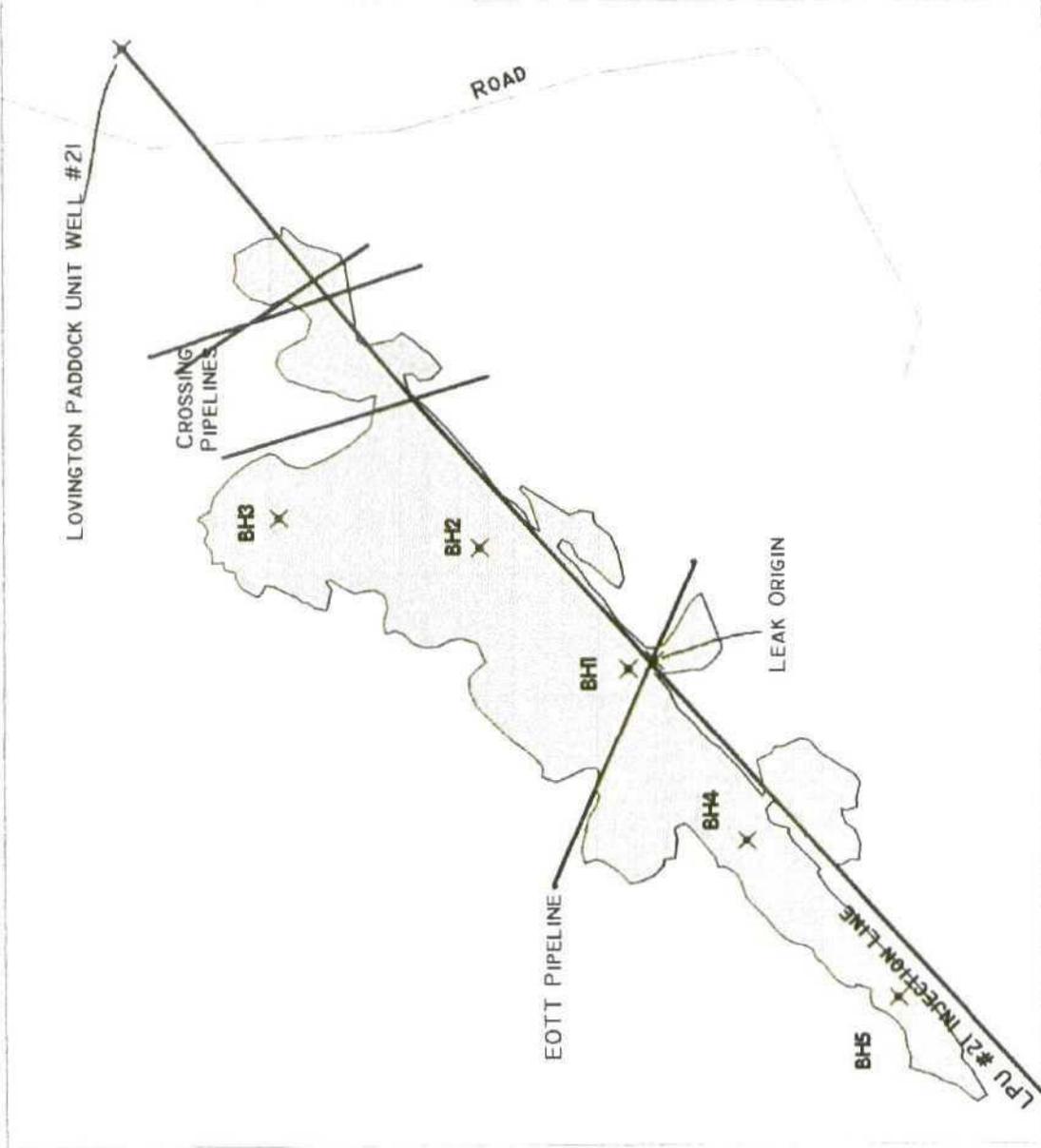


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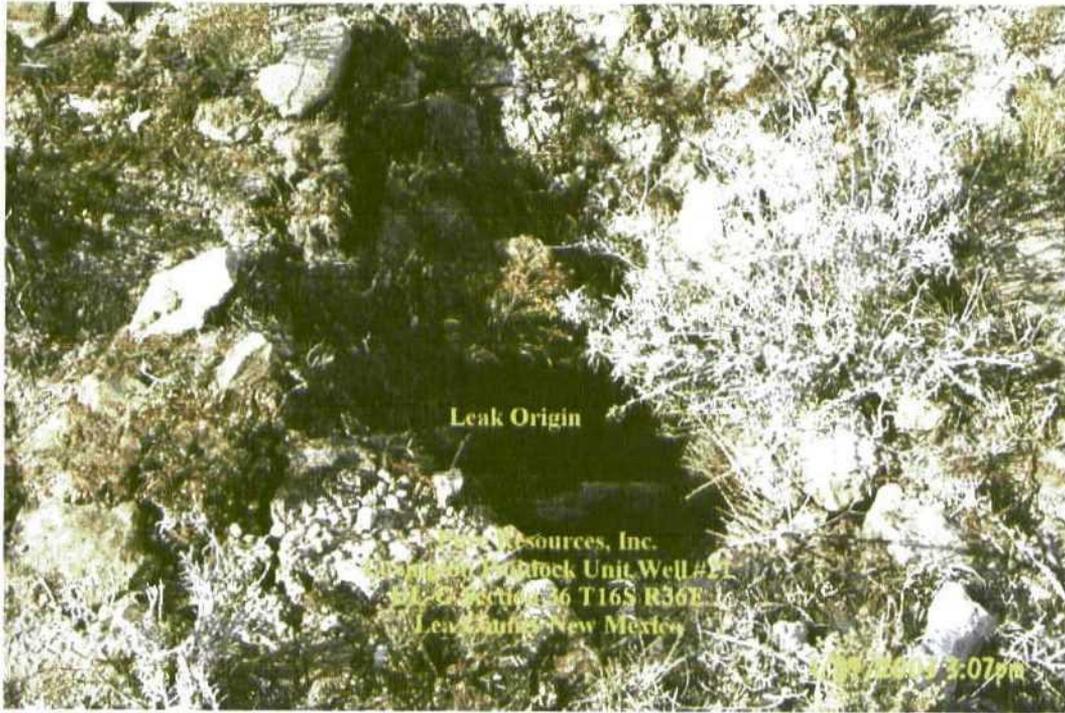


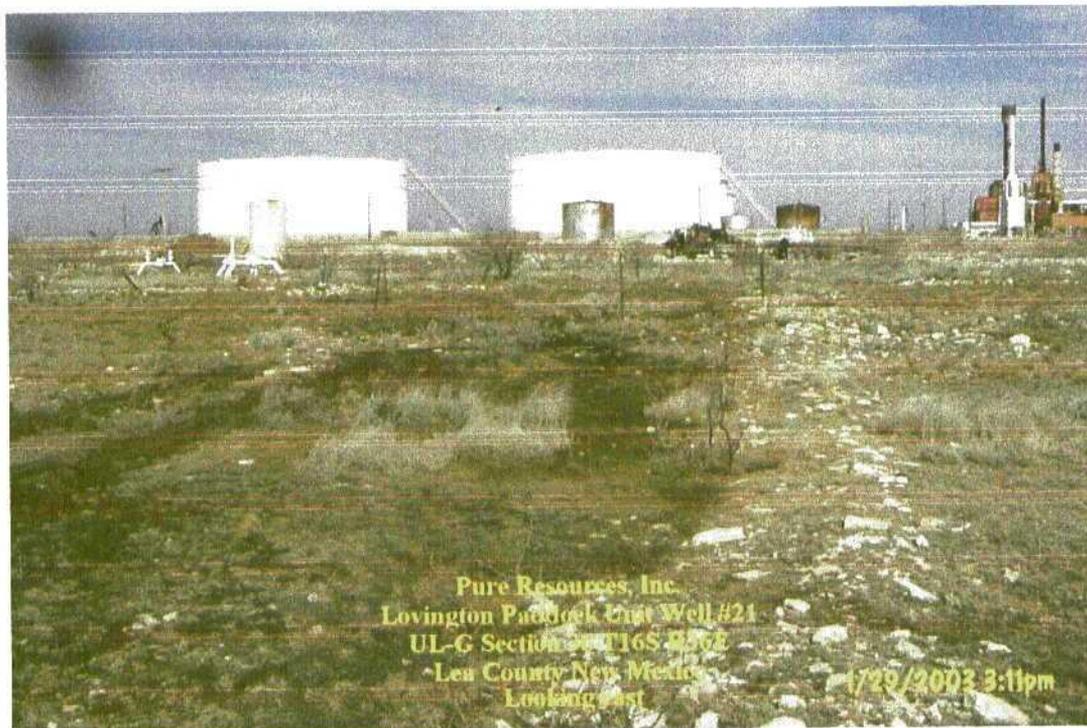
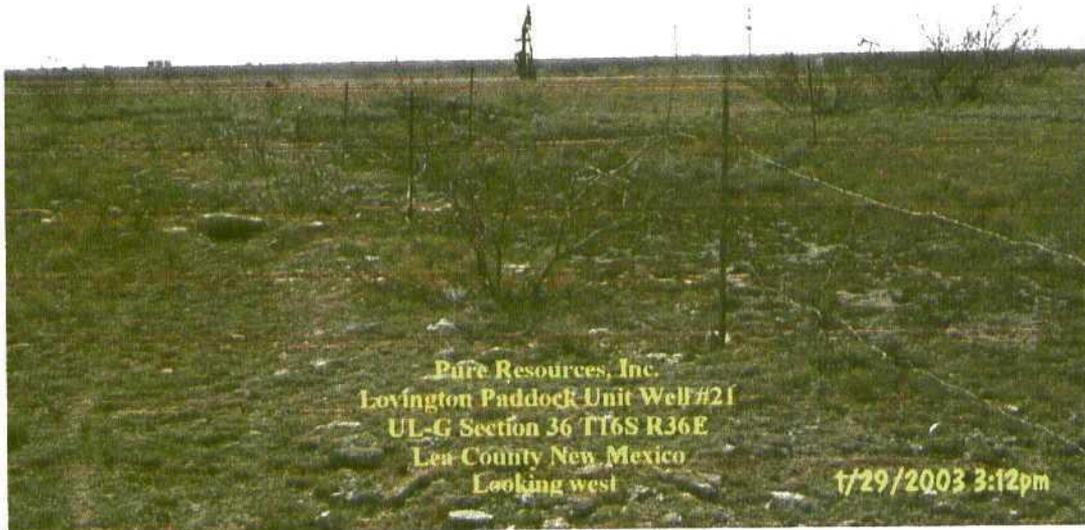
DATE: 2/4/2003  
 BY: [illegible]  
 FOR: [illegible]

RO12820A CDR  
 2/4/2003



## Attachment II: Photographs





## Attachment III: Analytical Reports

**PURE RESOURCES, INC.**

**Lovington Paddock Unit Well #21 Injection Line**

Sample Area	Sampling Interval (FT, BGS <sup>1</sup> )	SAMPLE ID#	Sample Date	Lithology	VOC Headspace	GRO <sup>3</sup> mg/Kg	DRO <sup>4</sup> mg/Kg	TPH <sup>5</sup> mg/Kg	Instrument Detection Limits and Units					Chloride mg/Kg	
									BTEX mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	m,p,o-Xylene mg/Kg		
BH1	0-2	SPRLP212703BH1-2'	2/7/2003	Tan sand/Indurated sandstone/Caliche	9.0	10	1230	1240	0.384	0.005	0.005	0.005	0.005	0.025	1.0
	5-7	SPRLP212703BH1-5'	2/7/2003	Tan sand/Indurated sandstone/Caliche	1.1	10	10	91.6	0.194	0.005	0.011	0.056	0.122	0.146	10637
	10-12	SPRLP212703BH1-10'	2/7/2003	Tan sand/Indurated sandstone/Caliche	2.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	96
	15-17	SPRLP212703BH1-15'	2/7/2003	Tan Sand Fine	3.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80
BH2	0-2	SPRLP212703BH2-2'	2/7/2003	Dark Brown Clayey Loam	1.6	10	133	143	0.278	0.024	0.086	0.069	0.099	0.099	19594
	5-7	SPRLP212703BH2-5'	2/7/2003	Tan sand/Indurated sandstone/Caliche	1.4	10	10	20	0.030	0.005	0.005	0.005	0.015	176	
	10-12	SPRLP212703BH2-10'	2/7/2003	Tan sand/Indurated sandstone/Caliche	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	128
	15-17	SPRLP212703BH2-15'	2/7/2003	Tan Sand Fine	1.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	96
BH3	0-2	SPRLP212703BH3-2'	2/7/2003	Tan sand/Indurated sandstone/Caliche	8.7	10	10	20	0.159	0.016	0.056	0.034	0.053	0.053	9917
	5-7	SPRLP212703BH3-5'	2/7/2003	Tan sand/Indurated sandstone/Caliche	2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	992
	10-12	SPRLP212703BH3-10'	2/7/2003	Tan Sand Fine	1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	592
	15-17	SPRLP212703BH3-15'	2/7/2003	Tan Sand Fine	0.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	96
BH4	0-2	SPRLP2121003BH4-2'	2/10/2003	Tan sand/Indurated sandstone/Caliche	6.5	10	163	173	0.134	0.031	0.053	0.021	0.029	8397	
	5-7	SPRLP2121003BH4-5'	2/10/2003	Tan sand/Indurated sandstone/Caliche	2.0	10	10	20	0.030	0.005	0.005	0.005	0.015	160	
	10-12	SPRLP2121003BH4-10'	2/10/2003	Fine Brown Sand	1.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	192
	15-17	SPRLP2121003BH4-15'	2/10/2003	Tan Sand Fine	0.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80
BH5	0-2	SPRLP2121003BH5-2'	2/10/2003	Tan sand/Indurated sandstone/Caliche	6.3	10	10	20	0.081	0.013	0.026	0.015	0.027	18794	
	5-7	SPRLP2121003BH5-5'	2/10/2003	Tan Sand Fine	3.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	128
	10-12	SPRLP2121003BH5-10'	2/10/2003	Fine Brown Sand	2.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	160
	15-17	SPRLP2121003BH5-15'	2/10/2003	Tan Sand Fine	1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	192

<sup>1</sup>BGS - below ground surface

<sup>2</sup>VOC-Volatile Organic Compounds/Constituents

<sup>3</sup>GRO-Gasoline Range Organics C<sub>6</sub>-C<sub>12</sub>

<sup>4</sup>DRO-Diesel Range Organics C<sub>10</sub>-C<sub>25</sub>

<sup>5</sup>TPH-Total Petroleum Hydrocarbon = GRO+DRO.

<sup>6</sup>Bolded values are in excess of the New Mexico Oil Conservation Division guideline threshold for the parameter

<sup>7</sup>ND - Indicates that the parameter was not detected above the instrument detection limit.

<sup>8</sup>N/A - Not Analyzed



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603  
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/11/03	Analysis Date: 02/12/03
Reporting Date: 02/12/03	Sampling Date: 02/07/03
Project Owner: PURE RESOURCES	Sample Type: SOIL
Project Name: LOVINGTON PADDOCK WELL #21	Sample Condition: COOL & INTACT
Project Location: NOT GIVEN	Sample Received By: AH
	Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H7469-1	SPRLP212703BH1-2	10637
H7469-2	SPRLP212703BH1-5	736
H7469-3	SPRLP212703BH1-10	96
H7469-4	SPRLP212703BH1-15	80
H7469-5	SPRLPW212703BH2-2	19594
H7469-6	SPRLPW212703BH2-5	176
H7469-7	SPRLPW212703BH2-10	128
H7469-8	SPRLPW212703BH2-15	96
H7469-9	SPRLPW212703BH3-2	9917
H7469-10	SPRLPW212703BH3-5	992
Quality Control		1030
True Value QC		1000
% Recovery		103
Relative Percent Difference		3.0

METHOD: Standard Methods 4500-Cl<sup>-</sup>B  
Note: Analyses performed on 1:4 w/v aqueous extracts.

Amy Hill  
Chemist

2-12-03  
Date

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H7469A



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

Receiving Date: 02/11/03

Reporting Date: 02/12/03

Project Owner: PURE RESOURCES

Project Name: LOVINGTON PADDOCK WELL #21

Project Location: NOT GIVEN

Analysis Date: 02/12/03

Sampling Date: 02/07-02/10/03

Sample Type: SOIL

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H7469-11	SPRLPW2121003BH4-2	8397
H7469-12	SPRLPW2121003BH4-5	160
H7469-13	SPRLPW2121003BH4-10	192
H7469-14	SPRLPW2121003BH4-15	80
H7469-15	SPRLPW2121003BH5-2	18794
H7469-16	SPRLPW2121003BH5-5	128
H7469-17	SPRLPW2121003BH5-10	160
H7469-18	SPRLPW2121003BH5-15	192
H7469-19	SPRLPW212703BH3-10	592
H7469-20	SPRLPW212703BH3-15	96
Quality Control		1030
True Value QC		1000
% Recovery		103
Relative Percent Difference		3.0

METHOD: Standard Methods 4500-ClB

Note: Analyses performed on 1:4 w/v aqueous extracts.

Amy Hill  
Chemist

2-12-03  
Date

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

Receiving Date: 02/11/03  
 Reporting Date: 02/12/03  
 Project Owner: PURE RESOURCES  
 Project Name: LOVINGTON PADDOCK WELL #21  
 Project Location: NOT GIVEN

Sampling Date: 02/07 & 02/10/03  
 Sample Type: SOIL  
 Sample Condition: COOL & INTACT  
 Sample Received By: AH  
 Analyzed By: BC

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		02/11/03	02/11/03	02/11/03	02/11/03	02/11/03	02/11/03
H7469-1	SPRLPW212703BH1-2'	<10.0	1230	0.037	0.101	0.100	0.146
H7469-2	SPRLPW212703BH1-5'	<10.0	91.6	<0.005	0.011	0.056	0.122
H7469-5	SPRLPW212703BH2-2'	<10.0	133	0.024	0.086	0.069	0.099
H7469-6	SPRLPW212703BH2-5'	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7469-9	SPRLPW212703BH3-2'	<10.0	<10.0	0.016	0.056	0.034	0.053
H7469-11	SPRLPW212703BH4-2'	<10.0	163	0.031	0.053	0.021	0.029
H7469-12	SPRLPW212703BH4-5'	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7469-15	SPRLPW212703BH5-2'	<10.0	<10.0	0.013	0.026	0.015	0.027
Quality Control		834	801	0.107	0.104	0.107	0.306
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		104	100	107	104	107	102
Relative Percent Difference		4.4	2.2	2.2	3.3	2.9	3.3

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

02/12/03  
 Date

H7469B.XLS

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 (915) 671-0001 FAX (915) 673-7020 (505) 393-2326 FAX (505) 393-2476

BILL 7

ANALYSIS REQUEST

Company Name: Fuller's  
 P.O. #:  
 Company:  
 Address:  
 City:  
 State:  
 Zip:  
 Phone #:  
 Fax #:  
 State: IA Zip: 50003  
 Address: 2100 Ave. C  
 City: Fuller  
 State: IA Zip: 50003  
 Project Owner: John Kesner  
 Project Name: Lovington Paddock Well #1  
 Well Location:  
 Sampler Name: Cardinal, Wellhead

Sample I.D.	MATRIX			PRESERV			SAMPLING		
	GROUNDWATER	WASTEWATER	SLUDGE OR SOL	OTHER	ACID/BASE	ICE/COOL	OTHER	DATE	TIME
17469-11								2-10-03	8:15
17469-12								2-10-03	8:30
17469-13								2-10-03	8:45
17469-14								2-10-03	9:15
17469-15								2-10-03	11:30
17469-16								2-10-03	12:00
17469-17								2-10-03	1:00
17469-18								2-10-03	8:00

Notes: All samples must be analyzed for any other safety hazards in addition to what is listed in the request for the analysis. All samples must be analyzed for any other safety hazards in addition to what is listed in the request for the analysis. All samples must be analyzed for any other safety hazards in addition to what is listed in the request for the analysis.

Received By: Andy Mills  
 Date: 2-10-03  
 Time: 2:07  
 Delivered By: Andy Mills  
 Date: 2/10/03  
 Time: 10:45  
 Sampler: UPS - Bus - Other:  
 Checked By: Andy Mills  
 (Initials)

Phone Result: 0 Yes 0 No  
 Fax Result: 0 Yes 0 No  
 Phone # 505-393-2326  
 Fax # 505-393-2476  
 Address 2111 De Moon, Auburn, IA 50003



Attachment IV: New Mexico Office of the  
State Engineer Water Level Reports

*New Mexico Office of the State Engineer*  
Well Reports and Downloads

Township: 16S Range: 36E Sections: 35,36

NAD27 X: Y: Zone: Search Radius

County: Basin: Number: Suffix

Owner Name: (First) (Last) Non-Domestic Domestic

• All

Well / Surface Data Report Avg Depth to Water Report

Water Column Report

Clear Form WATERS Menu Help

AVERAGE DEPTH OF WATER REPORT 12/12/2002

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
1	16S	36E	35				5	10	55	41
1	16S	36E	36				6	51	257	110

Record Count: 11

[http://seowaters.ose.state.nm.us/awdProd/awd.html?email\\_address=enviplus1@aol.com&...](http://seowaters.ose.state.nm.us/awdProd/awd.html?email_address=enviplus1@aol.com&...) 12/12/2002

New Mexico Office of the State Engineer  
Well Reports and Downloads

Township: 17S Range: 36E Sections: 1,2  
NAD27 X Y Zone: Search Radius:  
County: Basin: Number: Suffix:  
Owner Name: (First) (Last) Non-Domestic Domestic  
• All

Well / Surface Data Report Avg Depth to Water Report  
Water Column Report  
Clear Form WATERS Menu Help

AVERAGE DEPTH OF WATER REPORT 12/12/2002

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	17S	36E	01				4	48	48	48
L	17S	36E	02				6	48	50	60

Record Count: 10

TO: Eddi Deay  
392-6949

from tee @  
Pure Resources

**C & C LANDFARM, INC.**

BOX 55

MONUMENT, NEW MEXICO 88265

PHONE: (505) 397-2045

(505) 397-2860

(505) 392-2236

002175

COMPANY NAME Pure Resources

COMPANY REPRESENTATIVE NAME Mike Northcutt

LEASE NAME Well

SEC.	TOWNSHIP	RANGE
<u>36</u>	<u>165</u>	<u>36 E</u>

TRUCKING COMPANY NAME EA Walter Const

DRIVERS SIGNATURE [Signature]

TYPE OF MATERIAL BEING HAULED AND QUANTITY 1536 yds  
contaminated Soil

COPY OF ANALYSIS ATTACHED, IF REQUIRED \_\_\_\_\_

TPHC \_\_\_\_\_

BENZENE \_\_\_\_\_

TOLUENE \_\_\_\_\_

ETHYL BENZENE \_\_\_\_\_

PARA XYLENE \_\_\_\_\_

ATTENDANT ON DUTY [Signature]

DATE 11/04/03



# ARDINAL LABORATORIES

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

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ANALYTICAL RESULTS FOR  
EDDIE SEAY CONSULTING  
ATTN: EDDIE SEAY  
601 W. ILLINOIS  
HOBBS, NM 88242  
FAX TO:

Receiving Date: 10/16/03  
Reporting Date: 10/17/03  
Project Owner: PURE RESOURCES  
Project Name: PURE-LOVINGTON 21  
Project Location: LOVINGTON, NM

Sampling Date: 10/16/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE		10/16/03	10/16/03	10/17/03
H8091-1	<del>PURE-21-1</del>	<del>&lt;10:0</del>	<del>&lt;10:0</del>	2190
H8091-2	<del>PURE-21-2</del>	<del>&lt;10:0</del>	<del>&lt;10:0</del>	3360
H8091-3	<del>PURE-21-3</del>	<del>&lt;10:0</del>	<del>&lt;10:0</del>	4000
H8091-4	<del>PURE-21-4</del>	<del>&lt;10:0</del>	<del>&lt;10:0</del>	2800
Quality Control		802	761	1040
True Value QC		800	800	1000
% Recovery		100	95.1	104
Relative Percent Difference		1.7	7.4	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-ClB

\*Analyses performed on 1:4 w:v aqueous extracts.

  
Chemist

10/17/03  
Date

### H8091.XLS

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page \_\_\_\_\_ of \_\_\_\_\_

Company Name: <u>Eddie Seay Consulting</u>		BILL TO PO #:								
Project Manager: <u>Eddie Seay</u>		Company:								
Address: <u>601 W Illinois</u>		Attn: <u>Dave</u>								
City: <u>Hobe</u>		Address:								
Phone #: <u>2-2236</u>		City:								
Fax #:		State:								
Project #: <u>Pure 21</u>		Project Owner: <u>Pure Resources</u>								
Project Name: <u>Pure - Livingston 21</u>		Phone #:								
Project Location: <u>Livingston</u>		Fax #:								
FOR LAB USE ONLY										
LAB I.D.	Sample I.D.	# CONTAINERS		PRES.		SAMPLING				
		(GRAB OR COMB)	GROUNDWATER	WASTEWATER	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	
178091-1	Pure 21-1	1	✓	✓	✓	✓	10/16	2:00	✓	(8015) TPA (8015)
-2	Pure 21-2	1	✓	✓	✓	✓	"	2:20	✓	
-3	Pure 21-3	1	✓	✓	✓	✓	"	2:30	✓	
-4	Pure 21-4	1	✓	✓	✓	✓	"	2:50	✓	

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: <u>Eddie Seay</u>	Date: <u>10/16</u>	Received By: (Lab Staff) <u>Ann</u>	Checked By: (Initials) <u>DL</u>
Relinquished By:	Time: <u>3:40</u>	Sample Condition: <u>Cool Intact</u>	Checked By: (Initials)
Delivered By: (Circle One)	Date:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sampler - UPS - Bus - Other:	Time:	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Phone Result:  Yes  No Additional Fax #: \_\_\_\_\_  
 Fax Result:  Yes  No

REMARKS: Need Verbal ASAP  
390.2454

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.



# ARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR  
EDDIE SEAY CONSULTING  
ATTN: EDDIE SEAY  
601 W. ILLINOIS  
HOBBS, NM 88242  
FAX TO:

Receiving Date: 11/12/03  
Reporting Date: 11/13/03  
Project Number: PURE 21  
Project Name: PURE RESOURCES  
Project Location: LOVINGTON, NM

Analysis Date: 11/12/03  
Sampling Date: 11/12/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H8168-1	PURE 21-1	1310
H8168-2	<del>PURE 21-2</del>	<del>1112</del>
H8168-3	<del>PURE 21-3</del>	<del>224</del>
H8168-4	PURE 21-4	736
H8168-5	PURE R-A	512
H8168-6	PURE R-B	624
Quality Control		980
True Value QC		1000
% Recovery		98.0
Relative Percent Difference		3.1

METHOD: Std. Methods	4500-Cl <sup>-</sup> B
----------------------	------------------------

NOTE: Analyses performed on 1:4 w:v aqueous extracts.

*Burgess A. Cooke*  
Chemist

*11/13/03*  
Date

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H8168.XLS



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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page \_\_\_\_\_ of \_\_\_\_\_

Company Name: Eddie Seay Consulting  
 Project Manager: Eddie Seay  
 Address: 601 W Illinois State: Ala Zip: 35242  
 City: Hobbs  
 Phone #: 392-2236  
 Fax #: \_\_\_\_\_  
 Project #: 20021 Project Owner: City of Lov.  
 Project Name: Brown Resources  
 Project Location: Lovington  
 FOR LAB USE ONLY

Company: BILL TO PO #: \_\_\_\_\_

Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

LAB I.D.	Sample I.D.	(G)RAB OR (C)OMPL	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS REQUEST	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRES.				SAMPLING
48165-1	Pure 21-1		1								11/12	9:15	✓	Chloride
-2	Pure 21-2		1								11/12	9:30	✓	
-3	Pure 21-3		1								11/12	9:45	✓	
-4	Pure 21-4		1								11/12	10:00	✓	
-5	Pure R-A		1								11/12	10:15	✓	
-6	Pure R-B		1								11/12	10:30	✓	

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Sampler Relinquished: \_\_\_\_\_ Date: 11/12 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: 11:00

Delivered By: (Circle One) \_\_\_\_\_  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Received By: (Lab Staff) \_\_\_\_\_  
 Sample Condition: \_\_\_\_\_  
 Cool Intact:  Yes  No

Checked By: \_\_\_\_\_ (Initials)  
 Phone Result:  Yes  No Additional Fax #: \_\_\_\_\_  
 Fax Result:  Yes  No

REMARKS: Need verbal ASAP 390.2454

† Cardinal Laboratories, Inc. cannot accept verbal changes. Please fax written changes to 915-673-7020.



# CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**Company Name:** Eddie's Snow Consulting  
**Project Manager:** Eddie's Snow Consulting  
**Address:** 101 W Illinois  
**City:** Dallas  
**State:** TX  
**Zip:** 75201  
**Phone #:** 392-2236  
**Fax #:**  
**Project #:** Pura 21  
**Project Owner:** Pura Reso LLC  
**Project Name:** Pura 21 - City of Lov.  
**Project Location:** Louisa  
**Sampler Name:** Eddie's Snow

**FOR LAB USE ONLY**

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMB	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL			
18219-1	Pura 21 - 15	<input checked="" type="checkbox"/>	1			<input checked="" type="checkbox"/>						12/3	2:15	TPH (8015) Chloride
-2	Pura 21 - 25	<input checked="" type="checkbox"/>	1			<input checked="" type="checkbox"/>						"	2:35	
-3	Pura 21 - 35	<input checked="" type="checkbox"/>	1			<input checked="" type="checkbox"/>						"	2:55	
-4	Pura 21 - 45	<input checked="" type="checkbox"/>	1			<input checked="" type="checkbox"/>						"	3:10	

**DELIVERED BY:** (Circle One)  
 UPS - Buss - Other

**DELIVERED BY:** (Circle One)  
 UPS - Buss - Other

**RECEIVED BY:** (Lab Staff)  
 Received By: [Signature]  
 Date: 12/3  
 Time: 4:20

**RECEIVED BY:** (Client)  
 Received By: [Signature]  
 Date: 12/3  
 Time: 4:20

**REMARKS:**  
 S - Side wall

**PHONE RESULTS:**  
 Yes  No  
 Yes  No

**PLEASE NOTE:** Laboratory and Laboratory Cardiac's exclusive remedy for any claim arising thereafter based in contract or tort shall be limited to the amount paid by the client for the analysis. All data including those for reagents and any other order whatsoever shall be deemed void unless made in writing and received by Cardinal within 30 days after completion of the analysis. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of data, or loss of profits incurred by client, its subsidiaries, officers or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

**Terms and Conditions:** Highest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collection, including attorney's fees.

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



# ARDINAL LABORATORIES

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

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

ANALYTICAL RESULTS FOR  
EDDIE SEAY CONSULTING  
ATTN: EDDIE SEAY  
601 W. ILLINOIS  
HOBBS, NM 88242  
FAX TO:

Receiving Date: 12/03/03  
Reporting Date: 12/04/03  
Project Number: PURE 21  
Project Name: PURE 21-CITY OF LOVINGTON  
Project Location: LOVINGTON, NM

Sampling Date: 12/03/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl* (mg/Kg)
	ANALYSIS DATE	12/03/03	12/03/03	12/04/03
H8219-1	PURE-21-1S	<10:0	<10:0	464
H8219-2	PURE-21-2S	<10:0	<10:0	496
H8219-3	PURE-21-3S	<10:0	<10:0	272
H8219-4	PURE-21-4S	<10:0	<10:0	304
	Quality Control	764	779	1010
	True Value QC	800	800	1000
	% Recovery	95.5	97.4	101
	Relative Percent Difference	0.8	0.5	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-ClB

\*Analyses performed on 1:4 w.v aqueous extracts.

*Burjess & Cooke*  
Chemist

12/4/03  
Date

### H8219.XLS

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ANALYTICAL RESULTS FOR  
EDDIE SEAY CONSULTING  
ATTN: EDDIE SEAY  
601 W. ILLINOIS  
HOBBS, NM 88242  
FAX TO:

Receiving Date: 11/17/03  
Reporting Date: 11/17/03  
Project Number: PURE 21  
Project Name: PURE-CITY OF LOVINGTON  
Project Location: LOVINGTON

Analysis Date: 11/17/03  
Sampling Date: 11/17/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H8182-1	PURE 21-1	896
H8182-2	<del>PURE 21-4</del>	<del>224</del>
Quality Control		1000
True Value QC		1000
% Recovery		100
Relative Percent Difference		2.0

METHOD: Standard Methods      4500-Cl<sup>-</sup>B

Note: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill  
Chemist

11/17/03  
Date

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h8182





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

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ANALYTICAL RESULTS FOR  
 EDDIE SEAY CONSULTING  
 ATTN: EDDIE SEAY  
 601 W. ILLINOIS  
 HOBBS, NM 88242  
 FAX TO:

Receiving Date: 12/19/03  
 Reporting Date: 12/22/03  
 Project Owner: PURE RESOURCES  
 Project Name: PURE 21/CITY OF LOVINGTON  
 Project Location: LOVINGTON WATER FIELD

Analysis Date: 12/19/03  
 Sampling Date: 12/19/03  
 Sample Type: SOIL  
 Sample Condition: COOL & INTACT  
 Sample Received By: BC  
 Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H8276-1	<del>PURE 21-1</del>	<del>80</del>
H8276-2	PURE 21-1R	416
Quality Control		940
True Value QC		1000
% Recovery		94.0
Relative Percent Difference		7.4

METHOD: Standard Methods	4500-Cl <sup>-</sup> B
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Note: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill  
 Chemist

12/22/03  
 Date

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h8276





# ARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR  
EDDIE SEAY CONSULTING  
ATTN: EDDIE SEAY  
601 W. ILLINOIS  
HOBBS, NM 88242  
FAX TO:

Receiving Date: 12/19/03  
Reporting Date: 12/22/03  
Project Owner: PURE RESOURCES  
Project Name: PURE 21/CITY OF LOVINGTON  
Project Location: LOVINGTON WATER FIELD

Analysis Date: 12/19/03  
Sampling Date: 12/19/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H8277-1	<del>PURE-21.1-S</del>	<del>112</del>
H8277-2	<del>PURE-21.2-S</del>	<del>112</del>
H8277-3	<del>PURE-21.3-S</del>	<del>80</del>
H8277-4	<del>PURE-21.4-S</del>	<del>96</del>
Quality Control		940
True Value QC		1000
% Recovery		94.0
Relative Percent Difference		7.4

METHOD: Standard Methods	4500-Cl <sup>-</sup> B
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Note: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill  
Chemist

12/22/03  
Date

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h8277



**CARDINAL LABORATORIES, INC.**

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Edison Security Consulting P.O. #:

Project Manager: Edison Security Consulting Company:

Address: 101 W. Tillinghams Attn:

City: Hobbs State: NM zip: 88202 Address:

Phone #: 342. 2236 Fax #: Project Owner: Pura Resources City:

Project #: 10-21 Project Location: Lowrey's Sales Field State: Zip:

Project Name: Lowrey's Sales Field Phone #:

Sampler Name: Edison Security Consulting Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (COMP.)	# CONTAINERS	MATRIX						PRESERV.		SAMPLING	ANALYSIS REQUEST		
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL			OTHER :	
H8277-1	Pura 21 1-S	✓	1			✓						12/19	7:30	✓	Chloride
	Pura 21 2-S	✓	1			✓						"	7:45	✓	
	Pura 21 3-S	✓	1			✓						"	7:55	✓	
	Pura 21 4-S	✓	1			✓						"	8:15	✓	

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Sampler Relinquished: [Signature] Date: 12/19 Time: 10:05 Received By: (Lab Staff) [Signature] Phone Result:  Yes  No

Relinquished By: [Signature] Date: 10-05 Time: 10:05 Received By: (Lab Staff) [Signature] Fax Result:  Yes  No

Delivered By: (Circle One)  UPS  Buss  Other: Cardinal Sample condition:  Intact  Damaged Checked By: [Signature] (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.























 **PURE** RESOURCES

 **PURE** RESOURCES

LOVINGTON PADDOCK UNIT

WELL NO. 21 SW/NE SEC. 36 T16S R36E