

# BETWELL OIL AND GAS COMPANY

LANGLIE MATTIX WOOLWORTH UNIT #602

API 30-025-11248

## SITE REMEDIATION WORK PLAN

PROJECT REF: BET-LMWU-602

UL-M (SW $\frac{1}{4}$  OF THE SW $\frac{1}{4}$ ) OF SECTION 27 T24S R37E

LATITUDE: N32° 11.001'      LONGITUDE: 103° 09.493'

~4.7 MILES NE (BEARING 21°) OF JAL

LEA COUNTY, NEW MEXICO

April 12, 2007

PREPARED FOR BETWELL OIL AND GAS COMPANY BY:

**HUNGRY HORSE, LLC**  
ENVIRONMENTAL SERVICES

3709 S. Eunice Hwy, P.O. Box 1058, Hobbs, New Mexico 88241

(505) 393-3386; Fax (505) 391-4585; Mobile (505) 390-8149

RP# 1282

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## 1.0 Introduction and Background

This report addresses the crude oil and associated produced water component release which occurred near Betwell Oil and Gas Company's "Langlie Mattix Woolworth Unit #602" production well site. The release occurred on 3/20/07, releasing an estimated total volume of 40-bbl, with 3-bbl recovered.

The release site is located on private land (Becky Jo Doom); Unit Letter M, (SW $\frac{1}{4}$  of the SW $\frac{1}{4}$ ), Section 27, T24S, R37E. . The geographic location of the release site, determined by GPS is: Latitude: N32° 11.001'; Longitude: 103° 09.493'.

### CONTACT INFORMATION

Betwell Oil and Gas Company:

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Phone: 325-338-0610      email: rcbred@wtconnect.com  
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Hungry Horse, LLC:

Jerry Brian, General Manager/REM  
Phone: 505-393-3386      email: jrbrian@verizon.net  
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John Good, Environmental Manager  
Phone: 505-631-3277      email: jcgood4614@aol.com  
Mailing Address: P.O. Box 1058, Hobbs, NM 88241

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ON FIRST  
PAGE

## 2.0 Site Description

### *2.1 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 southern reaches of 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". (Nicholson & Clebsch - 1961). A notable feature of the area is the "Cheyenne Draw", a north-south drainage feature that bisects T24S R37E. The release location is approximately 1700-ft west of this drainage channel.

### *2.2 Ecological Description*

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Quercus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, 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.

### **2.3 Area Ground Water**

Based on available evidence, depth to ground water is projected to be ~200-feet below ground surface (bgs). 2  
1

### **2.4 Area Water Wells**

There are no recorded or observed water wells within 1000 horizontal feet of the site.

### **2.5 Area Surface Water Features**

No permanent surface water bodies exist within 1000 horizontal feet of the site. The "Cheyenne Draw" surface drainage feature extends north to south approximately 1700-ft east of the release location.

## **3.0 Contaminant and Size of Area**

The primary Contaminant of Concern (COC) is crude oil with associated produced water. The release affected area is approximately 20' X 123' extending SE to NW (*see Plate 4, Attachments*).

The crude oil and produced water associated with this release are considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

## **4.0 Vertical Extent of Contamination**

The vertical contamination extent beneath the release affected area will be determined during excavation. The depth is projected to be less than 5-ft below surface.

## **5.0 NMOCD Site Ranking Table**

Contaminant delineation and site evaluation work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water 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)*

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX<sup>8260</sup>), was determined based on the NMOCD Ranking Criteria as follows:

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

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 0 points with the soil remedial goals highlighted in the Site Ranking Table.

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1st pg

### SITE RANKING TABLE

1. GROUND WATER		2. WELLHEAD PROTECTION		3. DISTANCE TO SURFACE WATER	
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	
DEPTH TO GW 50 TO 99 FEET: 10 POINTS				200-1000 HORIZONTAL FEET: 10 POINTS	
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	
GROUND WATER SCORE = 0		WELLHEAD PROTECTION SCORE= 0		SURFACE WATER SCORE= 0	
SITE RANK (1+2+3) = 0 + 0 + 0 = 0 POINTS					
TOTAL SITE RANKING SCORE AND ACCEPTABLE REMEDIAL GOAL CONCENTRATIONS					
PARAMETER	20+	10	0		
BENZENE	10 PPM	10 PPM	10 PPM		
BTEX	50 PPM	50 PPM	50 PPM		
TPH	100 PPM	1000 PPM	1000 PPM		

## 6.0 Remediation Action Plan

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### • Excavation and Disposal

The release affected area of site will be excavated both horizontally and vertically to remove contaminated and/or saturated soils as defined in the Guidelines. Soil displaying TPH concentrations above 1000-ppm and/or Total Chloride concentrations above 250-ppm will be excavated and removed. Contaminant depth will be determined after the removal of the saturated surface soil by digging a sample trench. The excavated soil will be transported to Becky Jo Doom's land farm for disposal.

### • Sampling and Confirmation of Remedial Goals

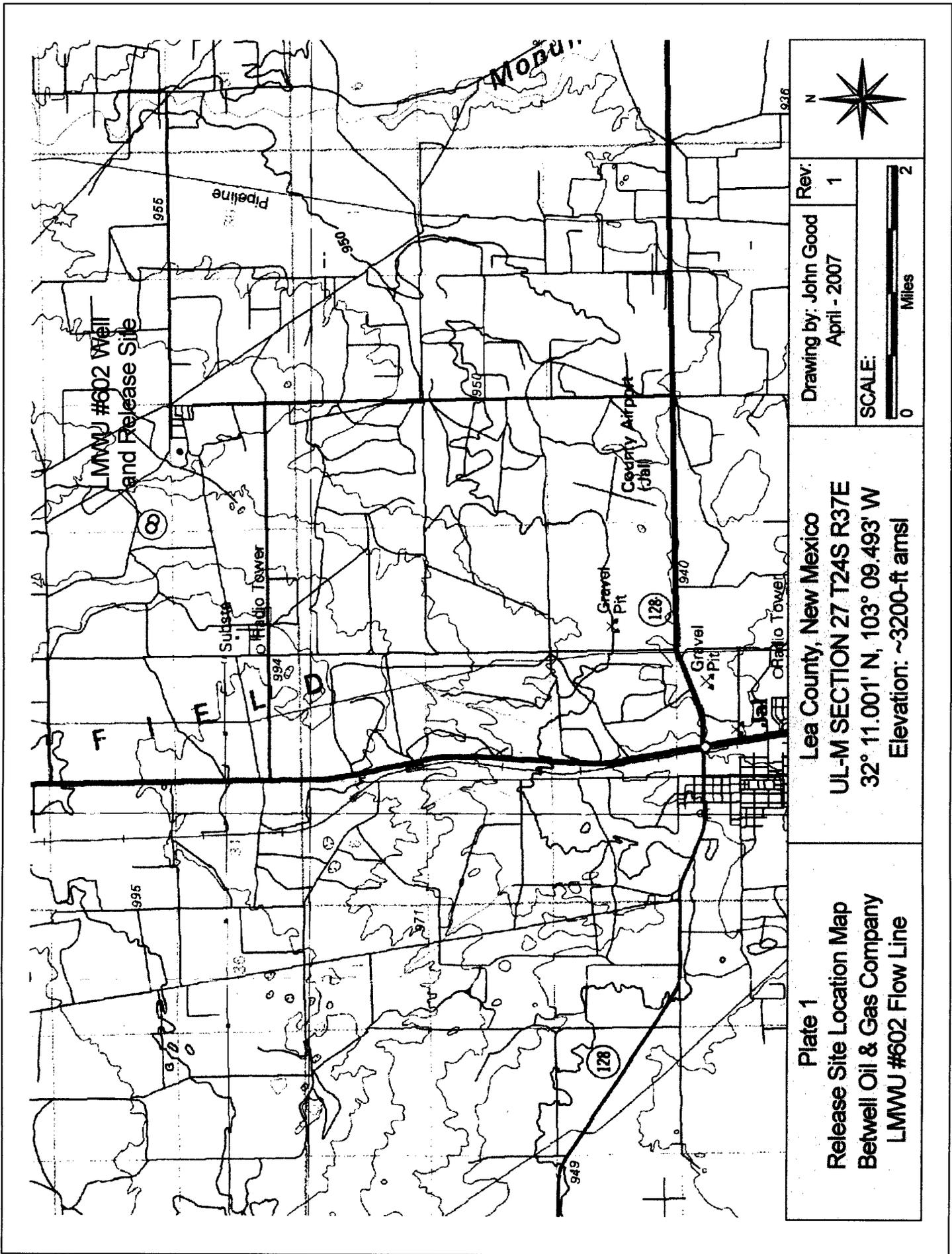
The bottom and sides of the excavation will be sampled at the final excavation depth and lateral extents. Five bottom points will be sampled along the length of the excavation; ten sidewall points will be sampled within the perimeter of the excavation. The soil samples collected will be preserved on ice and transported under Chain of Custody to Cardinal Laboratories, Hobbs, NM for analysis. The soil samples will be analyzed for Total Petroleum Hydrocarbons (EPA Method SW- 846-8015), BTEX (EPA Method SW-846-8260), and Total Chlorides (EPA Method 4500-Cl- B)

### • Backfill and Reseeding

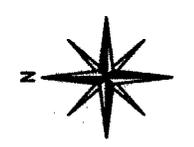
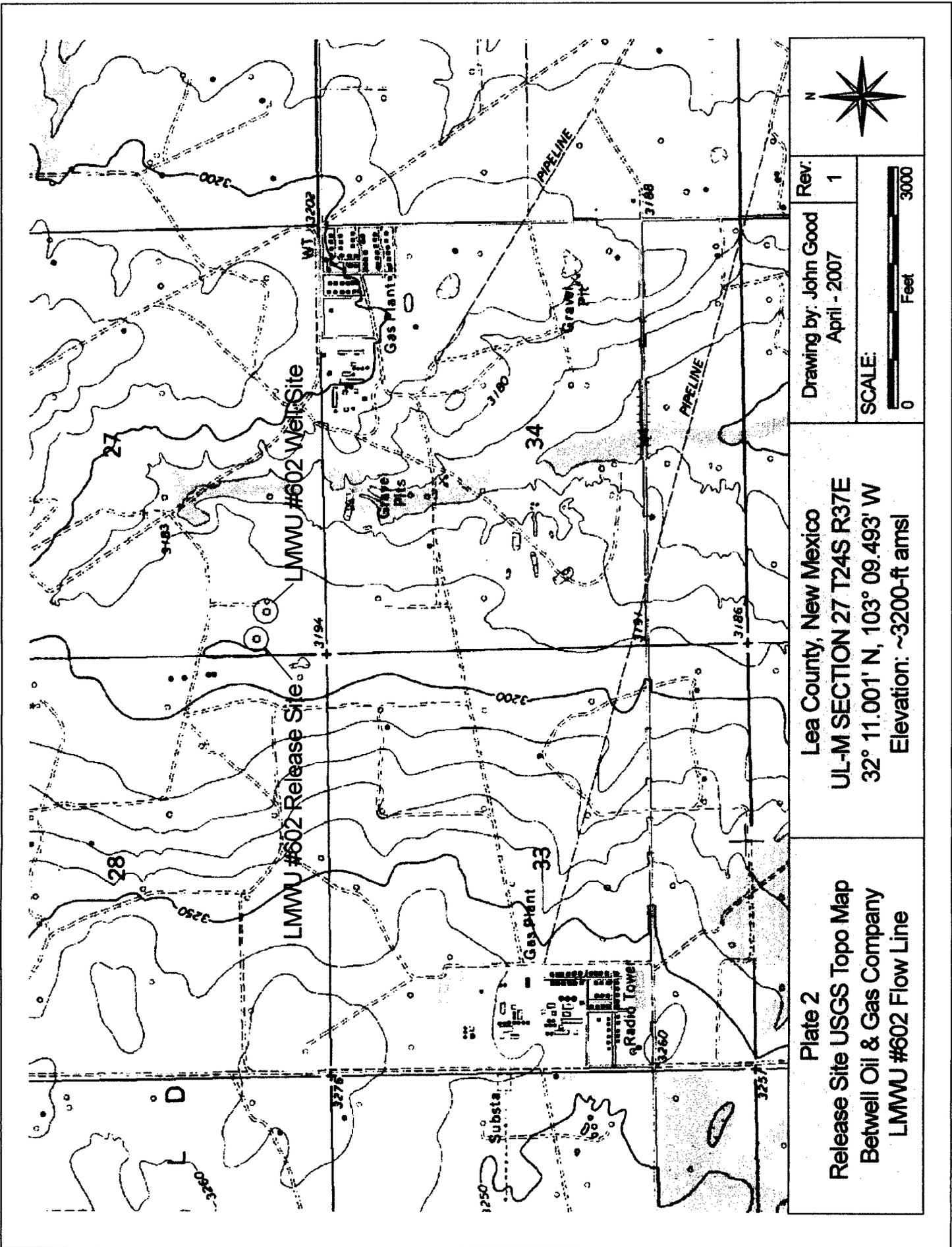
Once the laboratory analyses confirm the achievement of the above remedial goals, the excavation will be backfilled with clean caliche and a final 3-ft layer of clean topsoil. All backfill materials will be purchased from the landowner. Samples of the caliche and topsoil backfill will be submitted to Cardinal Laboratories for TPH and Chloride analyses. The excavated area and all damaged pasture areas will be reseeded with a seed blend preferred by the landowner.

**ATTACHMENTS**

Plate 1: Site Location Map .....	7
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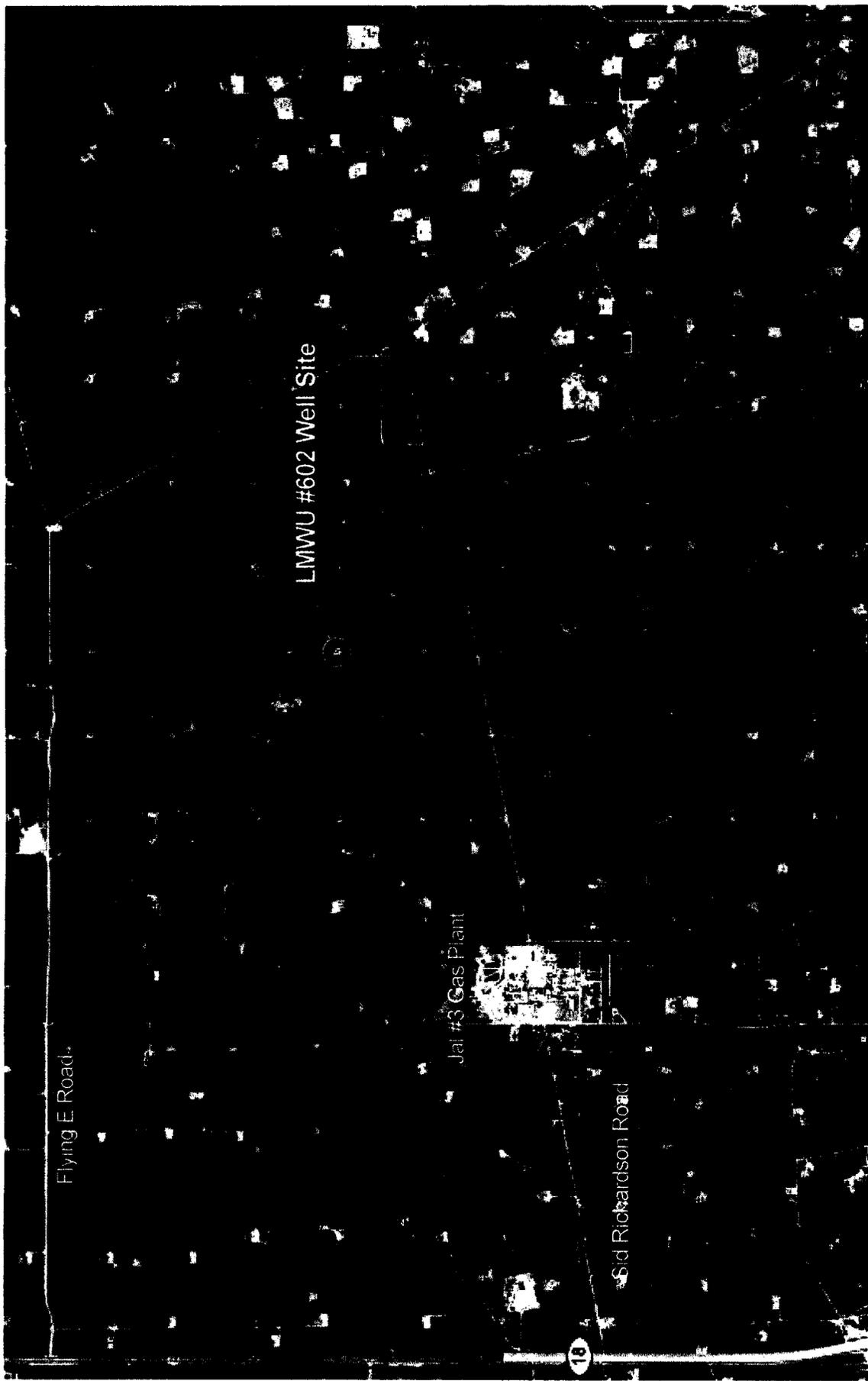
<b>Plate 1</b> <b>Release Site Location Map</b> <b>Betwell Oil &amp; Gas Company</b> <b>LMWU #602 Flow Line</b>	<b>Lea County, New Mexico</b> <b>UL-M SECTION 27 T24S R37E</b> <b>32° 11.001' N, 103° 09.493' W</b> <b>Elevation: ~3200-ft amsl</b>		 <b>SCALE:</b>  0 Miles
	<b>Drawing by: John Good</b> <b>April - 2007</b>	<b>Rev. 1</b>	



Drawing by: John Good  
 April - 2007  
 Rev: 1  
 SCALE:  
 0 Feet 3000

Lea County, New Mexico  
 UL-M SECTION 27 T24S R37E  
 32° 11.001' N, 103° 09.493' W  
 Elevation: ~3200-ft amsl

Plate 2  
 Release Site USGS Topo Map  
 Betwell Oil & Gas Company  
 LMWU #602 Flow Line



LMWU #602 Well Site

Flying E Road

Jai #3 Gas Plant

Sid Richardson Road

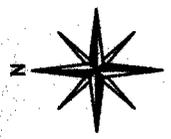
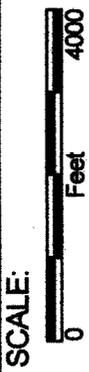
Plate 3

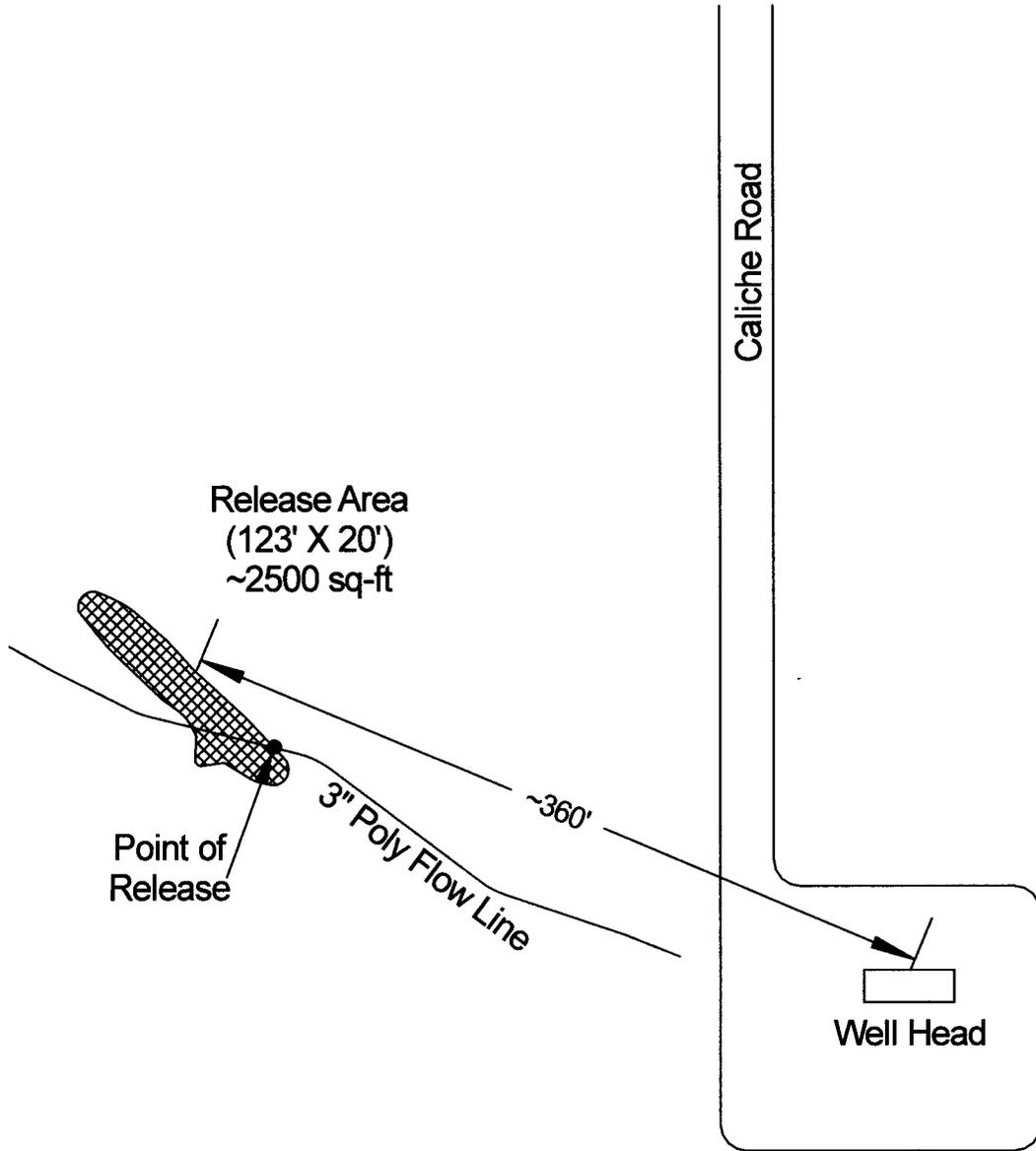
Release Site Aerial Map  
 Betwell Oil & Gas Company  
 LMWU #602 Flow Line

Lea County, New Mexico  
 UL-M SECTION 27 T24S R37E  
 32° 11.001' N, 103° 09.493' W  
 Elevation: ~3200-ft amsl

Drawing by: John Good  
 April - 2007

Rev. 1





Drawing by: John Good  
 April - 2007  
 Rev. 1

Scale:  

 0 200  
 Feet

Lea County, New Mexico  
 UL-M SECTION 27 T24S R37E  
 32° 11.001' N, 103° 09.493' W  
 Elevation: ~3200-ft amsl

Plate 4  
 Release Site Detail Drawing  
 Betwell Oil & Gas Company  
 LMWU #602 Flow Line

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

Form C-141

Revised June 10, 2003

Form C141

Revised October 10, 2003

Submit 2 Copies to appropriate

District Office in accordance

with Rule 116 on back

side of form.

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

LAST PAGE

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company	Betwell Oil & Gas Company	Contact	Robert Bredemeyer - Foreman
Address	PO BOX 22577 Hialeah, FL 33002	Telephone No.	(325)-338-0610
Facility Name	Langlie Mattix Woolworth Unit 602	Facility Type	Production Well Flow Line (3")

Surface Owner	Becky Jo Doom	Mineral Owner	Woolworth Estate	API No. :	30-025-11248
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude-W	Latitude-N	County
M	27	24S	37E	760	300	103deg 09.493'	32deg 11.001'	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil w/ associated Produced Water Component	estimated 40 bbl	3 bbl
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
3" Flow Line Release	3/20/2007	03/21/07
Was Immediate Notice Given?	If YES, To Whom?	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Not Required	NMOCD - Hobbs Office - Pat Caperton	
By Whom?	Date and Hour	
Cam Robbins (Pumper)	3/21/07 9:00 AM	
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse	
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	NA	

If a Watercourse was Impacted, Describe Fully\*

Describe Cause of Problem and Remedial Action Taken. \*

3" Poly pipe had split in it, possibly blockage. Left well down & shut in @ well & header.

Describe Area Affected and Cleanup Action Taken. \*

The area affected was approximately 2,500-ft<sup>2</sup> (20' X 123'). Recovered 3-bbl with vacuum truck; fenced release area to prevent livestock entry; notified land-owner. Obtained soil sample and transported to Cardinal Laboratory, Hobbs, NM. Hungry Horse LLC, Hobbs, NM contracted to remediate release site.

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:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: John Good	Approved by District Supervisor: <i>[Signature]</i>	
Title: Env. Manager - Hungry Horse, LLC	Approval Date: 4-13-07	Expiration Date: 6-13-07
E-Mail Address: jcgood4614@aol.com	Conditions of Approval:	
Date: 4/12/2007 Phone: 505-631-3277	SUBMIT FINAL C-141 & SAMPLE RESULTS	
		<input type="checkbox"/> Attached

incident - NPAC 0710347110  
HUNGRY HORSE, LLC  
application - NPAC 0710347229

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Betwell LMWU 602  
RPH 1282

Incident Date: 3/20/07 NMOCD Notified: 3/21/07

SITE: Langlie Mattix Woolworth Unit 602 Assigned Site Reference: BET-LMWU-602  
 Company: Betwell Oil & Gas Company  
 Street Address:  
 Mailing Address: PO BOX 22577  
 City, State, Zip: Hialeah, FL 33002  
 Representative: Robert Bredemeyer - Foreman  
 Representative Telephone: (325)-338-0610  
 Telephone: (305) 821-8300  
 Fluid Volume Released (bbl): ~ 40 Volume Recovered (bbl): ~ 3 Net Release: ~ 37

>25 bbl: Notify NMOCD verbally within 24 hours and submit C-141 within 15 days.

5-25 bbl: Submit Form C-141 within 15 days. (Also applies to unauthorized release of >50 mcf Natural Gas).

Leak, Spill, or Pit (LSP) Name: Langlie Mattix Woolworth Unit 602  
 Source of Contamination: 3" Flow Line Release  
 Land Owner, i.e. BLM, ST, Fee, Other: Becky Jo Doom  
 LSP Dimensions: ~ 123' X 20'  
 LSP Area ~ 2500 -ft<sup>2</sup>  
 Location of Reference Point (RP):  
 Location distance and direction from RP:  
 Latitude: North 32deg 11.001'  
 Longitude: West 103deg 09.493'  
 Elevation above mean sea level (amsl): 3200 feet 975 meters  
 Distance from South Section Line (feet): 760  
 Distance from West Section Line (feet): 300  
 Location - Unit Letter and 1/4 1/4: UL- M SW - 1/4 of SW - 1/4  
 Location - Section 27  
 Location - Township 24S  
 Location - Range 37E  
 Surface water body within 1000' radius of site: 0  
 Surface water body within 1000' radius of site: 0  
 Domestic water wells within 1000' radius of site: 0  
 Domestic water wells within 1000' radius of site: 0  
 Agricultural water wells within 1000' radius of site: 0  
 Agricultural water wells within 1000' radius of site: 0  
 Public water supply wells within 1000' radius of site: 0  
 Public water supply wells within 1000' radius of site: 0  
 Depth (feet) from land surface to Ground Water (DG): ~ 200  
 Depth (feet) of lowest contamination (DC): 5  
 Depth (feet) to Ground Water (DG - DC = DtGW): ~ 195

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water
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 100-feet: 10 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	200-1000 horizontal feet: 10 points
If Depth to GW >100-feet: 0 points		>1000 horizontal feet: 0 points
Ground Water Score: 0	Wellhead Protection Score: 0	Surface Water Score: 0
Site Ranking (1 + 2 + 3): 0		

**Total Site Ranking Score and Acceptable Concentrations**

Parameter	20 or >	10	0
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



