

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-144  
June 1, 2004

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

For drilling and production facilities, submit to  
appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe  
office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

WFS CLOSURE

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: BURLINGTON RESOURCES OIL & GAS CO Telephone: \_\_\_\_\_ e-mail address: \_\_\_\_\_  
Address: 801 CHERRY ST. FORT WORTH, TX 76102  
Facility or well name: RICHARDSON #003 API #: 30-045-10612 U/L or Qtr/Qtr C SEC 22 T 31N R 2W  
County: SAN JUAN Latitude 36 53.294 N Longitude 108 05.105 W NAD: 1927 ☒ 1983 ☐  
Surface Owner: Federal ☒ State ☐ Private ☐ Indian ☐

**Pit**

Type: Drilling ☐ Production ☒ Disposal ☐

Workover ☐ Emergency ☐

Lined ☐ Unlined ☒

Liner Type: Synthetic ☒ Thickness \_\_\_\_\_ mil Clay ☒

Pit Volume \_\_\_\_\_ 60 bbl

**Below-grade tank**

Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_

Construction Material: \_\_\_\_\_

Double-walled, with leak detection? Yes ☒ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet  
50 feet or more, but less than 100 feet  
100 feet or more

(20 points)  
(10 points)  
(0 points)

0

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes  
No

(20 points)  
(0 points)

0

Distance to surface water: (Horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet  
200 feet to 1,000 feet  
Greater than 1,000 feet

(20 points)  
(10 points)  
(0 points)

0

**Ranking Score (TOTAL POINTS):**

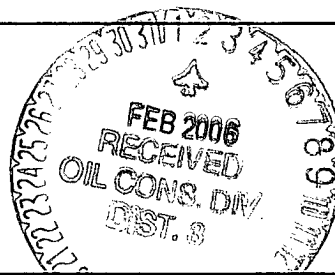
0

**If this is a pit closure:** (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☒ offsite ☐ If offsite, name of facility \_\_\_\_\_. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

Meter: 34173

*Bedrock*



I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒, or an (attached) alternative OCD-approved plan ☒

Date: 10/3/05

Printed Name/Title Mark Harvey for Williams Field Services

Signature *Mark Harvey* FOR WFS

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

DEPUTY OIL & GAS INSPECTOR, DIST. 8

Printed Name/Title

Signature *Jerry Zarf*

Date: FEB 02 2006

## ADDENDUM TO OCD FORM C-144

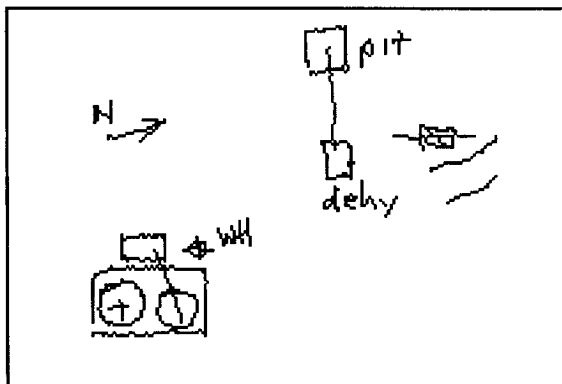
**Operator:** BURLINGTON RESOURCES OIL & GAS COMPANY LP

**API** 30-045-10612

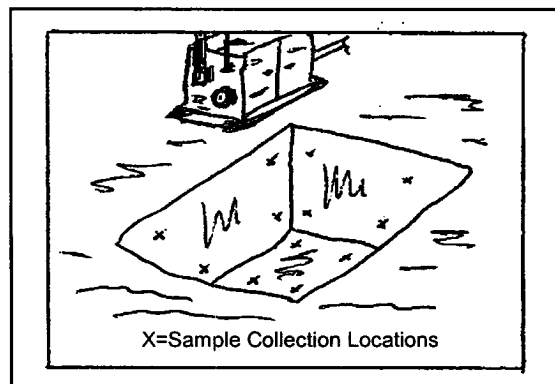
**Well Name:** RICHARDSON #003

**Meter:** 34173

**Facility Diagram:**



**Sampling Diagram:**



**Pit Dimensions**

Length 15 Ft.

Width 15 Ft.

Depth 1.5 Ft.

**Location of Pit Center**

Latitude 36 53.305 N

Longitude 08 05.103 W

(NAD 1927)

**Pit ID**

341731

**Pit Type**

Glycol Dehydrator

**Date Closure Started:** 1/25/05

**Date Closure Completed:** 1/25/05

**Closure Method:** Excavated, Blended, Treated Soil Returned

**Bedrock Encountered ?** ☒

**Cubic Yards Excavated:** 67

**Vertical Extent of Equipment Reached ?** ☐

**Description Of Closure Action:**

Contaminated soil was removed and treated then returned to the excavation following sampling of the walls and floor.

BEDROCK limited vertical excavation and/or prevented sampling. This condition limits deleterious environmental effects.

**Pit Closure Sampling:**

Sample ID	Sample Date	Head Space	BTEX Total (mg/kg)	Benzene (mg/kg)	TPH DRO (mg/kg)	Purpose	Location	Depth	
095123JAN05	1/23/05		175.1	16	290	ASSESS	Flr	3.5	
134525JAN05	1/25/05	113	0.18	0	0	EX Confirm	Walls	7	See Risk Analysis
134825JAN05	1/25/05	162	199.7	24	450	EX Confirm	Flr	8	See Risk Analysis

Lab Project Number: 6091199  
Client Project ID: NM Pits

Lab Sample No: 607850062 Project Sample Number: 6091199-012 Date Collected: 01/23/05 09:51  
Client Sample ID: 095123JAN05 Matrix: Soil Date Received: 01/26/05 09:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
<b>GC Semivolatiles</b>									
Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1			
Jet Fuel	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1			
Kerosene	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1			
Diesel Fuel	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1	68334-30-5		
Fuel Oil	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1	68334-30-5		
Motor Oil	ND	mg/kg	11.	1.1	02/02/05 05:13	RMN1			
Total Petroleum Hydrocarbons	290	mg/kg	11.	1.1	02/02/05 05:13	RMN1		1	
n-Tetracosane (S)	107	%		1.0	02/02/05 05:13	RMN1	646-31-1		
p-Terphenyl (S)	124	%		1.0	02/02/05 05:13	RMN1	92-94-4		
Date Extracted	01/31/05				01/31/05				

#### Organics Prep

Percent Moisture	Method: SM 2540G								
Percent Moisture	14.4	%		1.0	01/31/05	ALJ1			

#### GC Volatiles

Aromatic Volatile Organics	Prep/Method: EPA 5030 Medium Soil / EPA 8021								
Benzene	16000	ug/kg	2900	58.4	01/27/05 15:07		71-43-2		
Ethylbenzene	5100	ug/kg	2900	58.4	01/27/05 15:07		100-41-4		
Toluene	90000	ug/kg	2900	58.4	01/27/05 15:07		108-88-3		
Xylene (Total)	64000	ug/kg	7600	58.4	01/27/05 15:07		1330-20-7		
a,a,a-Trifluorotoluene (S)	114	%		1.0	01/27/05 15:07		98-08-8		

## REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6091534  
Client Project ID: N. Mex Pit Program

Lab Sample No: 607876315      Project Sample Number: 6091534-005      Date Collected: 01/25/05 13:45  
Client Sample ID: 134525JAN05      Matrix: Soil      Date Received: 02/04/05 09:10

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
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### GC Semivolatiles

Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1			
Jet Fuel	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1			
Kerosene	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1			
Diesel Fuel	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1	68334-30-5		
Fuel Oil	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1	68334-30-5		
Motor Oil	ND	mg/kg	11.	1.1	02/08/05 13:12	RMN1			
n-Tetracosane (S)	86	%		1.0	02/08/05 13:12	RMN1	646-31-1		
p-Terphenyl (S)	94	%		1.0	02/08/05 13:12	RMN1	92-94-4		
Date Extracted	02/07/05				02/07/05				

### Organics Prep

Percent Moisture	Method: SM 2540G								
Percent Moisture	6.5	%		1.0	02/07/05	ALJ1			

### GC Volatiles

Aromatic Volatile Organics	Prep/Method: EPA 5030 Medium Soil / EPA 8021								
Benzene	ND	ug/kg	53.	1.1	02/05/05 09:23		71-43-2		
Ethylbenzene	ND	ug/kg	53.	1.1	02/05/05 09:23		100-41-4		
Toluene	ND	ug/kg	53.	1.1	02/05/05 09:23		108-88-3		
Xylene (Total)	180	ug/kg	140	1.1	02/05/05 09:23		1330-20-7		
a,a,a-Trifluorotoluene (S)	106	%		1.0	02/05/05 09:23		98-08-8		

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Lab Project Number: 6091534  
Client Project ID: N. Mex Pit Program

Lab Sample No: 607876323 Project Sample Number: 6091534-006 Date Collected: 01/25/05 13:48  
Client Sample ID: 134825JAN05 Matrix: Soil Date Received: 02/04/05 09:10

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
<b>GC Semivolatiles</b>									
Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1			
Jet Fuel	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1			
Kerosene	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1			
Diesel Fuel	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1	68334-30-5		
Fuel Oil	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1	68334-30-5		
Motor Oil	ND	mg/kg	11.	1.1	02/08/05 19:55	RMN1			
Total Petroleum Hydrocarbons	450	mg/kg	11.	1.1	02/08/05 19:55	RMN1		1	
n-Tetracosane (S)	90	%		1.0	02/08/05 19:55	RMN1	646-31-1		
p-Terphenyl (S)	107	%		1.0	02/08/05 19:55	RMN1	92-94-4		
Date Extracted	02/07/05				02/07/05				

#### Organics Prep

Percent Moisture Method: SM 2540G  
Percent Moisture 11.3 % 1.0 02/07/05 ALJ1

#### GC Volatiles

Aromatic Volatile Organics Prep/Method: EPA 5030 Medium Soil / EPA 8021

Benzene	24000	ug/kg	1100	21.3	02/05/05 09:50	71-43-2
Ethylbenzene	6700	ug/kg	1100	21.3	02/05/05 09:50	100-41-4
Toluene	69000	ug/kg	1100	21.3	02/05/05 09:50	108-88-3
Xylene (Total)	100000	ug/kg	2800	21.3	02/05/05 09:50	1330-20-7
a,a,a-Trifluorotoluene (S)	102	%		1.0	02/05/05 09:50	98-08-8

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Environmental Services  
188 CR 4900  
Bloomfield, NM 8413

### Pit Closure and Retirement Addendum- Risk Assessment

This site is located in the NMOCD / USBLM defined "Non Vulnerable Area". These agencies have predetermined that historical use of unlined pits in this area have limited potential to adversely affect ground water. This is primarily due to the depth to ground water, lack of vertical migration of contaminants, and distant proximity to river drainages.

The sample analyzed for confirmation at this site exhibited elevated levels of total petroleum hydrocarbons (TPH) and / or BTEX. Toxicity information indicates that the measured levels pose little risk to human health and the environment. This conclusion is based in part on the information below:

#### Toxicity Information

Toxicity values for TPH have not been established due to the variability of the chemical makeup of TPH. Normally, the toxicity is based on the toxicity of particular constituents of concern that may be present and which are evaluated based on health-based standards. The most common constituents examined include benzene, ethylbenzene, toluene, and xylene.

In the absence of constituents of concern or when the concentrations of the constituents of concern are low, the acceptable level of TPH is established by considering the following:

- No liquid product should remain in the soil
- The TPH should not harm vegetation
- The TPH concentrations should not create an odor nuisance
- Hydrocarbon vapors which may emanate from the impacted soil should not generate harmful or explosive vapors
- Site monitoring should indicate that TPH levels are stable or declining

#### Environmental and Site Conditions

Based on an evaluation of site topography and available well data, this site is believed to have ground water greater than 100' below ground surface. The absence of continuous transport mechanisms limits continued migration of contaminants in soil. Notwithstanding, bedrock was discovered at the pit (i.e. excavation) bottom. This condition retards vertical migration of contaminants and serves to significantly limit potential groundwater impact.

While residual TPH and/or BTEX exists at this site, closure of this site is warranted for the following reasons:

1. The majority of soils that exhibited high levels of TPH and BTEX have been treated to enhance degradation in-situ.
2. Residual TPH concentrations are below levels considered problematic based on the criteria above.
3. Discharge at the site has been eliminated to prevent any future impacts to soils.
4. Depth to groundwater is estimated at greater than 100'.
5. Vertical migration of contamination is limited due to bedrock.
6. TPH / BTEX concentrations will not increase and will degrade over time from natural and enhanced processes occurring in-situ.
7. Further excavation at the site is not practicable due to bedrock.

Since there are no nearby receptors or domestic water sources, this site poses little risk to human health and the environment. Closure is justified based on the relatively low total petroleum hydrocarbon (TPH) concentration and the fact that all closure criteria cannot be practically attained. Additional information may be found in the Technical Background Document titled: *Risk Based Closure of Unlined Surface Impoundment Sites, San Juan Basin, New Mexico*.