

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-144
June 1, 2004

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: CAULKINS OIL CO Telephone: _____ e-mail address: _____
Address: 1409 W AZTEC BLVD AZTEC, NM 87410
Facility or well name: BREECH C #644 API #: 30-039-21530 U/L or Qtr/Qtr A SEC 12 T 26N R 6W
County: RIO ARRIBA Latitude 36.5066 Longitude -107.41375 NAD: 1927 ☒ 1983 ☐
Surface Owner: Federal ☒ State ☐ Private ☐ Indian ☐

Pit

Type: Drilling ☐ Production ☒ Disposal ☐

Workover ☐ Emergency ☐

Lined ☐ Unlined ☒

Liner Type: Synthetic ☒ Thickness _____ mil Clay ☐

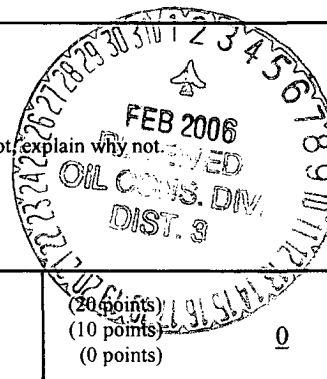
Pit Volume 35 bbl

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
(0 points)

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
(0 points)

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: 33335

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. 3

Printed Name/Title _____

Signature Deputy Inspector

FEB 02 2006
Date: _____

ADDENDUM TO OCD FORM C-144

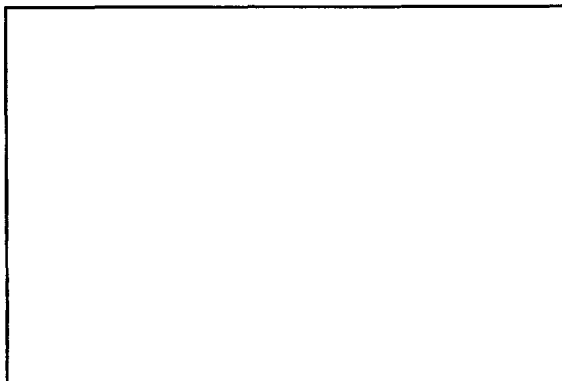
Operator: CAULKINS OIL CO

API 30-039-21530

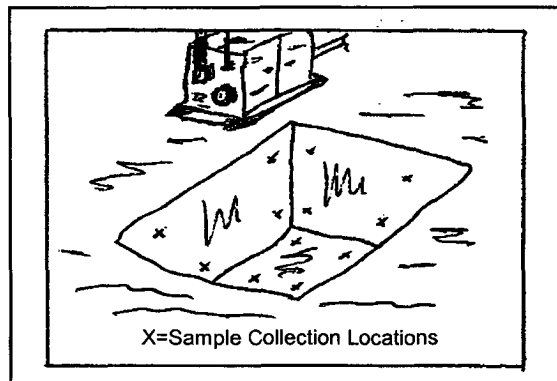
Well Name: BREECH C #644

Meter: 33335

Facility Diagram:



Sampling Diagram:



Pit Dimensions

Length 14 Ft.

Width 14 Ft.

Depth 1 Ft.

Location of Pit Center

Latitude 36.50662

Longitude -107.41419

(NAD 1927)

Pit ID

333351

Pit Type

Glycol Dehydrator

Date Closure Started: 8/29/05

Date Closure Completed: 8/29/05

Closure Method: Excavated, Blended, Treated Soil Returned

Bedrock Encountered ? ☒

Cubic Yards Excavated: 29

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	
130229AUG05	8/29/05	0			140	EX Confirm	Walls	4	
131029AUG05	8/29/05			67.0	3900	EX Confirm	Flr	4	See Risk Analysis
181921MAY04	5/21/04		300	0	4500	ASSESS	Flr	3.5	

Lab Project Number: 6099307
Client Project ID: N. Mex Pit Program Summer 2005

Lab Sample No: 608514667 Project Sample Number: 6099307-022 Date Collected: 08/29/05 13:02
Client Sample ID: 130229AUG05 Matrix: Soil Date Received: 09/02/05 08:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	ReqLmt
------------	---------	-------	--------------	----	----------	----	---------	------	--------

GC Semivolatiles

Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR				
Jet Fuel	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR		94114-58-6		
Kerosene	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR				
Diesel Fuel	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR		68553-00-4		
Fuel Oil	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR		68553-00-4		
Motor Oil	ND	mg/kg	11.	1.1	09/07/05 13:38 CPR				
Total Petroleum Hydrocarbons	140	mg/kg	11.	1.1	09/07/05 13:38 CPR			6	
n-Tetracosane (S)	123	%		1.0	09/07/05 13:38 CPR		646-31-1		
p-Terphenyl (S)	74	%		1.0	09/07/05 13:38 CPR		92-94-4	1	
Date Extracted	09/07/05				09/07/05				

Organics Prep

Percent Moisture	Method: SM 2540G								
Percent Moisture	6.6	%		1.0	09/06/05	JDM			

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Lab Project Number: 6099307

Client Project ID: N. Mex Pit Program Summer 2005

Lab Sample No: 608514717	Project Sample Number: 6099307-023	Date Collected: 08/29/05 13:10
Client Sample ID: 131029AUG05	Matrix: Soil	Date Received: 09/02/05 08:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
------------	---------	-------	--------------	----	----------	----	---------	------	--------

GC Semivolatiles

Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR			
Jet Fuel	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR	94114-58-6		
Kerosene	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR			
Diesel Fuel	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR	68553-00-4		
Fuel Oil	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR	68553-00-4		
Motor Oil	ND	mg/kg	22.	2.2	09/08/05 10:23	CPR			
Total Petroleum Hydrocarbons	3900	mg/kg	22.	2.2	09/08/05 10:23	CPR		8	
n-Tetracosane (S)	673	%		1.0	09/08/05 10:23	CPR	646-31-1	9	
p-Terphenyl (S)	110	%		1.0	09/08/05 10:23	CPR	92-94-4		
Date Extracted	09/07/05				09/07/05				

Organics Prep

Percent Moisture	Method: SM 2540G								
Percent Moisture	11.8	%		1.0	09/06/05	JDM			

GC Volatiles

Aromatic Volatile Organics	Prep/Method: EPA 5030 Medium Soil / EPA 8021								
Benzene	ND	ug/kg	1800	36.8	09/06/05 20:29	SHF	71-43-2		
Ethylbenzene	3800	ug/kg	1800	36.8	09/06/05 20:29	SHF	100-41-4		
Toluene	8200	ug/kg	1800	36.8	09/06/05 20:29	SHF	108-88-3		
Xylene (Total)	55000	ug/kg	4800	36.8	09/06/05 20:29	SHF	1330-20-7		
a,a,a-Trifluorotoluene (S)	92	%		1.0	09/06/05 20:29	SHF	98-08-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Lab Project Number: 6082900
Client Project ID: NM PITS

Lab Sample No: 607145687 Project Sample Number: 6082900-011 Date Collected: 05/21/04 18:19
Client Sample ID: 181921MAY04 Matrix: Soil Date Received: 05/26/04 09:25

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
Total Extractable Hydrocarbons	Prep/Method: OA2 / OA2								
Mineral Spirits	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1			
Jet Fuel	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1			
Kerosene	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1			
Diesel Fuel	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1	68334-30-5		
Fuel Oil	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1	68334-30-5		
Motor Oil	ND	mg/kg	13.	1.3	06/01/04 22:01	RMN1			
Total Petroleum Hydrocarbons	4500	mg/kg	13.	1.3	06/01/04 22:01	RMN1		9	
n-Tetracosane (S)	1750	%		1.0	06/01/04 22:01	RMN1	646-31-1	11	
p-Terphenyl (S)	112	%		1.0	06/01/04 22:01	RMN1	92-94-4		
Date Extracted	06/01/04				06/01/04				

Organics Prep

Percent Moisture	Method: SM 2540G								
Percent Moisture	23.9	%		1.0	05/27/04	DPB			

GC Volatiles

Aromatic Volatile Organics	Prep/Method: EPA 5030 Medium Soil / EPA 8021								
Benzene	ND	ug/kg	6600	131	06/01/04 09:07	ARF	71-43-2		
Ethylbenzene	20000	ug/kg	6600	131	06/01/04 09:07	ARF	100-41-4		
Toluene	ND	ug/kg	6600	131	06/01/04 09:07	ARF	108-88-3		
Xylene (Total)	280000	ug/kg	17000	131	06/01/04 09:07	ARF	1330-20-7		
a,a,a-Trifluorotoluene (S)	0	%		1.0	06/01/04 09:07	ARF	98-08-8	2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.



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.*