

OCD-HOBBS

K-06-53
8/21/06

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No.
NM-02127-B NM 065314

6. If Indian, Allottee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER **NSL 5453**

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2. Name of Operator
Samson Resources (20165)

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

Lea Fed Unit Well No. 27

9. API Well No.

30-025-38290

3a. Address **Samson Plaza-Two W. 2nd St. Tulsa, OK 74103**

3b. Phone No. (include area code)
(918) 591-1822

10. Field and Pool, or Exploratory
Lea Bone Spring

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface **1150' FSL & 700' FEL**

At proposed prod. zone **Same Unit P**

11. Sec., T. R. M. or Blk. and Survey or Area

Sec. 11, T20S, R34E

14. Distance in miles and direction from nearest town or post office*

28 miles SW of Monument, NM

12. County or Parish

Lea

13. State

NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

700'

16. No. of acres in lease

480

17. Spacing Unit dedicated to this well

80

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

930'

19. Proposed Depth

10,600'

20. BLM/BIA Bond No. on file

NM-2037

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3652' GL

22. Approximate date work will start*
09/01/2006

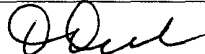
23. Estimated duration
5 weeks

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature 

Name (Printed Typed) **432-642-0457**
Don C. Deck 28-4401

Date
08/18/2006

Title

Right of Way Agent for Samson Resources

Approved by (Signature)

/s/ Don Peterson

Name (Printed Typed)

/s/ Don Peterson

Date
OCT - 4 2006

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

CAPTAN CONTROLLED WATER BASIN

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**Witness Surface &
Intermediate Casing**

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED**

K-06-53
8/21/06

DISTRICT I
1625 N. FRENCH DR., BOBBS, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-625-38290	Pool Code 37570	Pool Name Lea Bone Spring
Property Code 34342	Property Name LEA FEDERAL UNIT	Well Number 27
OGRID No. 20165	Operator Name SAMSON RESOURCES	Elevation 3652'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	11	20-S	34-E		1150	SOUTH	700	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 80 ✓	Joint or Infill	Consolidation Code	Order No. NSL 5453
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=576900.4 N X=749257.1 E</p> <p>LAT.=32°35'00.24" N LONG.=103°31'26.80" W</p> <p>LAT.=32.583399" N LONG.=103.524110" W</p>	<p>3649.0' 3651.1'</p> <p>600'</p> <p>600'</p> <p>3646.9' 3650.9'</p> <p>700'</p> <p>1150'</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Don C. Deck</i> 8-18-06</p> <p>Signature Date</p> <p>Printed Name Don C. Deck</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JUNE 12, 2006</p> <p>Date Surveyed LA</p> <p>Signature of GARY E. BURSON Professional Surveyor</p> <p>NEW MEXICO GARY E. BURSON 06.11.0995</p> <p>Certificate No. GARY E. BURSON 12641</p>
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APPLICATION FOR DRILLING

SAMSON RESOURCES

Lea Federal Unit, Well No. 27
1150' FSL & 700' FEL, Sec. 11-T20S-R34E

Lea County, New Mexico

Lease No. : NM-02127B · NW 06531A
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Samson Resources submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

Rustler	1,600'	Delaware	5,600'
Top of Salt	1,655'	Bone Spring	8,200'
Base of salt	3,150'	1 st Bone Spring Sand	9,500'
Yates	3,500'	Bone Spring Dolomite	9,600'
Capitan Reef	3,900'	T.D.	10,600'
Queen	4,655'		

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:
 Water: Surface water between 100' - 350'.
 Oil: Possible in the Delaware 5600' - 6000' and Bone Spring 8,200' - 9,800'.
 Gas: Possible in the Bone Spring below 8,200'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	J-55	BT&C	0' - 1,650'	Circ. 1350 sx "C" to surface
12 1/4"	9 5/8"	40.0#	N-80	BT&C	0' - 5,500'*	Circ. 2000 sx "C"
8 3/4"	5 1/2"	17.0#	P110	LT&C	0' - 10,600'	1,000 sx "C" TOC 5400'

5. Minimum Specifications for Pressure Control Equipment:

A NU 13 5/8" 10M Double Gate BOP over single 13 5/8" 5M Hydril annular preventer will be installed on the 13 3/8" before drilling 12 1/4" and 8 3/4" holes and operated as a 5000 psi system. Will perform a 3M test on the casing and BOP before drilling 12 1/4" hole and a 3M test before drilling the 8 3/4" hole.

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 1,650': Fresh water mud:	8.4 - 9.2 ppg	28 - 29	No W/L control
1,650' - 5,500': Brine mud:	10.0 - 10.4 ppg	26 - 29	No W/L control
	Will switch to fresh water if lost circulation encountered.		
5500' - 10,600': Cut brine:	9.2 - 9.5 ppg	29 - 42	No W/L control

7. Auxiliary Equipment: Blowout Preventer, flow sensors and stabbing valve.

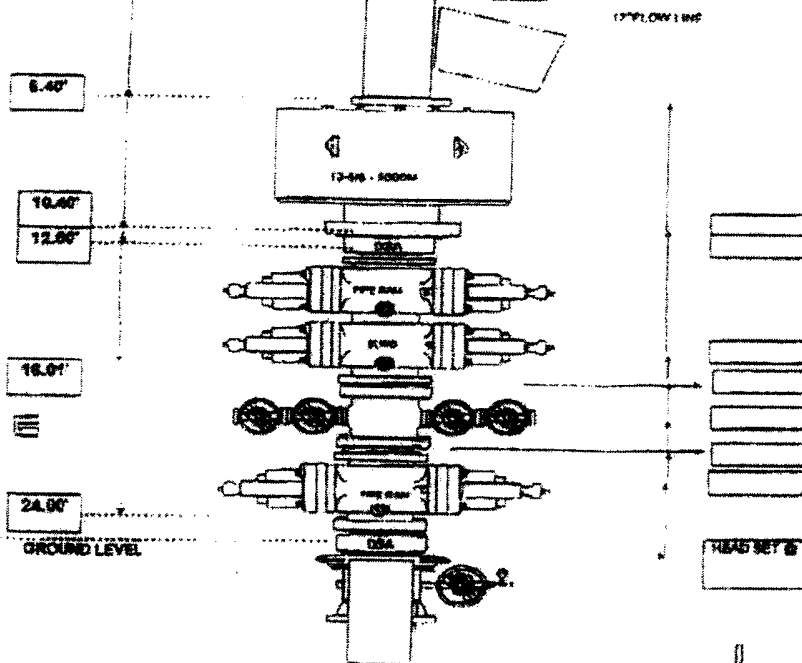
*IF LOST CIRCULATION OCCURS IN THE REEF THE OPERATOR WILL CHANGE DRILLING FLUID TO FRESH WATER AND CONTINUE DRILLING WITH FRESH WATER FROM THE LOST CIRCULATION ZONE TO THE BASE OF THE REEF AND SET INTERMEDIATE C. 5500' (PER 6/2/06 GEO. RPT / I.S. SIMITZ)

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.
Logging: 5,500' to T.D.: CNL-DNL w/GR-Cal.
5,500' to Surface: CNL-GR
Coring: Rotary sidewall if dictated by logs.

9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 4664 psi and surface pressure of 2332 psi with a temperature of 166°.
10. H₂S: None expected. None in existing wells in close vicinity, but the Mud Log Unit will be cautioned to use a gas trap to detect H₂S and if any is detected the mud weight will be increased along with H₂S inhibitors sufficient to control the gas.
11. Anticipated starting date: August 25, 2006.
Anticipated completion of drilling operations: Approximately 6 weeks.

PRICE 25.00



ANALOG = 15 PS - CHRYSLER, OK ANN
DOORLS = 18 PS - TIRE SHAFER AL (DRL) BOP
SHAFER = 15 PS - TIRE SHAFER AL FORLOK BOP
SHAFER = 17 PS
TIRE SHAFER = 2.175.10M
CHRYSLER VALVE = 4.175.10M

MANIFOLD SETUP

1 4 3 2 5 6 4 5 6 2

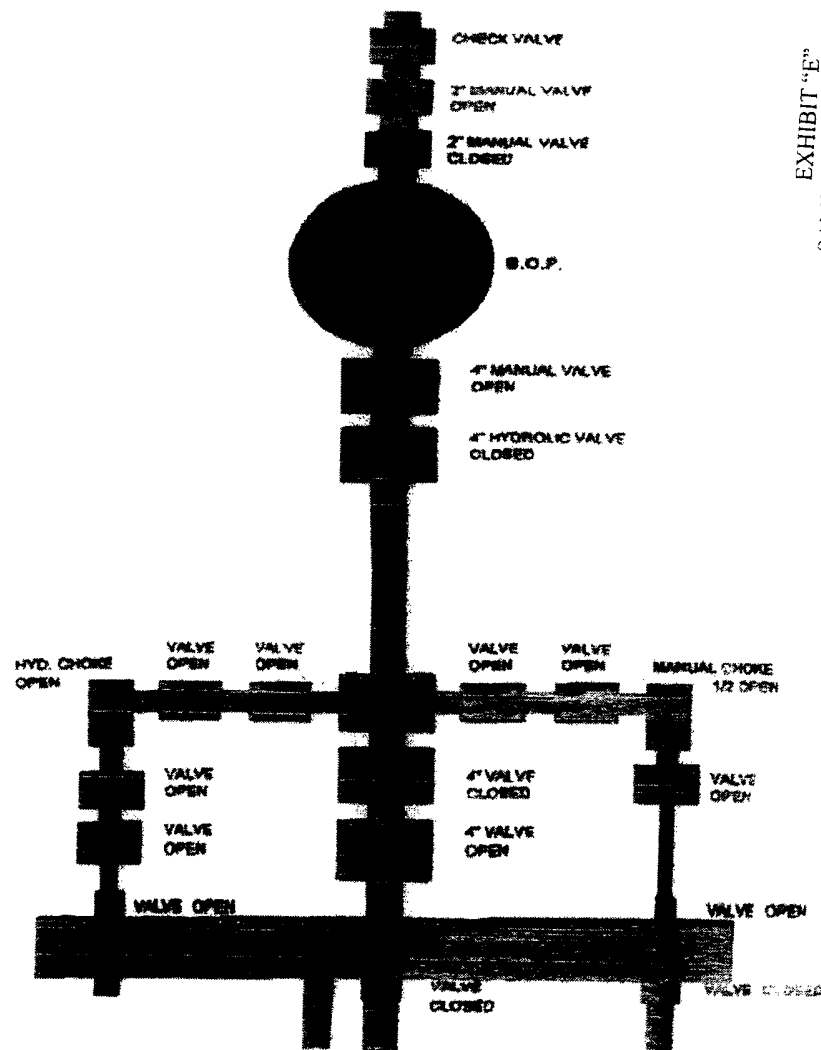


EXHIBIT "E"
SAMSON RESOURCES CO
Lea Federal Unit, Well No. 27
BOP Specifications

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Samson Resources
Well Name & No. 27-Lea Fed Unit
Location: 1150FSL, 700FEL, Section 11, T-20-S, R-34-E
Lease: NM 06531A

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5972 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 5-1/2 inch

C. BOP tests

2. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated prior to drilling into the Delaware Formation. A copy of the plan shall be posted at the drilling site. **Hydrogen Sulfide has been reported in Sec. 10 ranging from 0.5-500 ppm and in Sec. 11 measuring 300 ppm.**

3 Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. Recommend a Gamma-Ray/Neutron logs be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 13-3/8 inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite approximately 1650 feet**, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is **circulate cement to the surface**. Geological report states that should lost circulation occur in the reef, the operator will switch to fresh water and drill with fresh water to the base of the reef and set the intermediate casing at 5000'. Upon loss of circulation in the Capitan Reef, the operator will notify the PET staff at the Hobbs Field Station to arrange for witnessing the change to fresh water.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is **cement shall extend a minimum of 200 feet into the intermediate casing**.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 13-3/8 inch casing shall be 3M psi.
3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
 - The tests shall be done by an independent service company.
 - The results of the test shall be reported to the appropriate BLM office.
 - Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
 - Testing must be done in a safe workman-like manner. Hard line connections shall be required.

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 ☒

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

Operator: <u>Samson Resources Co.</u> Telephone: <u>(432) 683-7063</u> e-mail address: <u>gpetree@samson.com</u>				
Address: <u>200 N. Loraine St., Suite 1010</u> Midland, TX 79701				
Facility or well name: <u>Lea Unit #27</u> API #: _____ U/L or Qtr/Qtr <u>E 1/2, SE 1/4</u> Sec <u>11</u> T <u>20S</u> R <u>4E</u>				
County: <u>Lea</u> Latitude <u>32°35'00.24" N</u> Longitude <u>103°31'26.80" W</u> NAD: 1927 <input type="checkbox"/> 1983 <input type="checkbox"/>				
Surface Owner: Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input type="checkbox"/>				
<table border="1"> <tr> <td> Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12/20 mil</u> Clay <input type="checkbox"/> Pit Volume _____ bbl </td> <td> Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not: _____ </td> </tr> </table>			Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12/20 mil</u> Clay <input type="checkbox"/> Pit Volume _____ bbl	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not: _____
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Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more (0 points) <input checked="" type="checkbox"/>	10 pts -		
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No (0 points) <input checked="" type="checkbox"/>			
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more (0 points) <input checked="" type="checkbox"/>			
Ranking Score (Total Points)		0 Points 10		

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 ☐ 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: Work plan for closure pit. Pit contents will be mixed with earthen material to stiffen pit contents. Encapsulation trench will be constructed and lined with a 12 mil synthetic liner. Pit contents will be placed in a lined trench. A 20 mil synthetic liner will then be placed over the pit contents with a 5 ft not overlapping of the underlying pit area. The capping liner will have a minimum of 3 feet of top soil placed on top. Forty-eight hours notice will be provided to the Oil Conservation Division before pit closure actions begin.

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: October 12, 2006

Printed Name/Title Duke Roush / Surface Landman

Signature Duke Roush

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:

Printed Name/Title CHRIS WILLIAMS / DIST. SUPER

Signature Chris Williams

Date: 2/20/07