

OCD-HOBBS

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM <del>14791</del>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Samson Resources (20165)		7. If Unit or CA Agreement, Name and No.
3a. Address Samson Plaza Two W. 2nd St. Tulsa, OK 74103	3b. Phone No. (include area code) 918 591-1939	8. Lease Name and Well No. NM "B" Federal # 3 (9913)
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 3300' FSL & 660' FEL R-111-P Potash At proposed prod. zone 3300' FSL & 660' FEL		9. API Well No. 30-025-38293
14. Distance in miles and direction from nearest town or post office* 38 miles to Carlsbad, NM		10. Field and Pool, or Exploratory Hat Mesa Morrow (78240)
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 3, T21S, R32E
16. No. of acres in lease 2,282.84		12. County or Parish Lea
17. Spacing Unit dedicated to this well 320		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,866'		19. Proposed Depth 14,300
20. BLM/BIA Bond No. on file NM-2037		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3727 GL
22. Approximate date work will start* 09/15/2006		23. Estimated duration 6-8 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature 	Name (Printed Typed) Don C. Deck	Date 09/06/2006
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Title  
Right of Way Agent for Samson Resources

Approved by (Signature) /s/ Linda S.C. Rundell	Name (Printed Typed) /s/ Linda S.C. Rundell	Date JAN 03 2007
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Title  
STATE DIRECTOR

Office  
NM STATE 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.

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)

CARLSBAD CONTROLLED WATER BASIN

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

## State of New Mexico

## DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Revised October 12, 2005  
Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

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

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name Hat Mesa Morrow
Property Code	Property Name NM "B" FEDERAL	Well Number 3
OGRID No. 20165	Operator Name SAMSON RESOURCES	Elevation 3727'

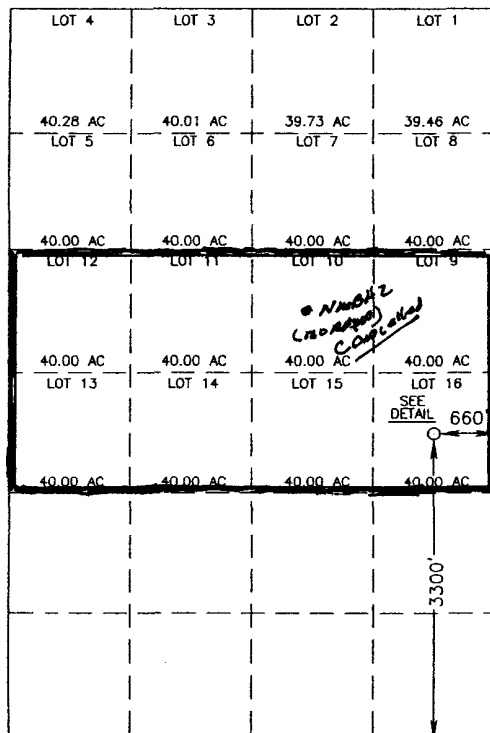
## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
16	3	21-S	32-E		3300	SOUTH	660	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 320	Joint or Infill	Consolidation Code	Order No.						

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

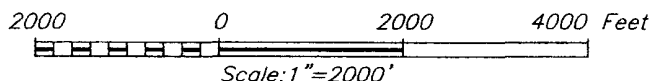
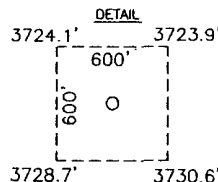


GEODETIC COORDINATES  
NAD 27 NME

Y=549756.9 N  
X=708901.9 E

LAT.=32.509567° N  
LONG.=103.655677° W

LAT.=32°30'34.44" N  
LONG.=103°39'20.44" W



## OPERATOR CERTIFICATION

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.

*[Signature]*  
Signature

9/6/06  
Date

Printed Name

Don C. Deek

## SURVEYOR CERTIFICATION

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.

JULY 24, 2006

Date Surveyed

MR

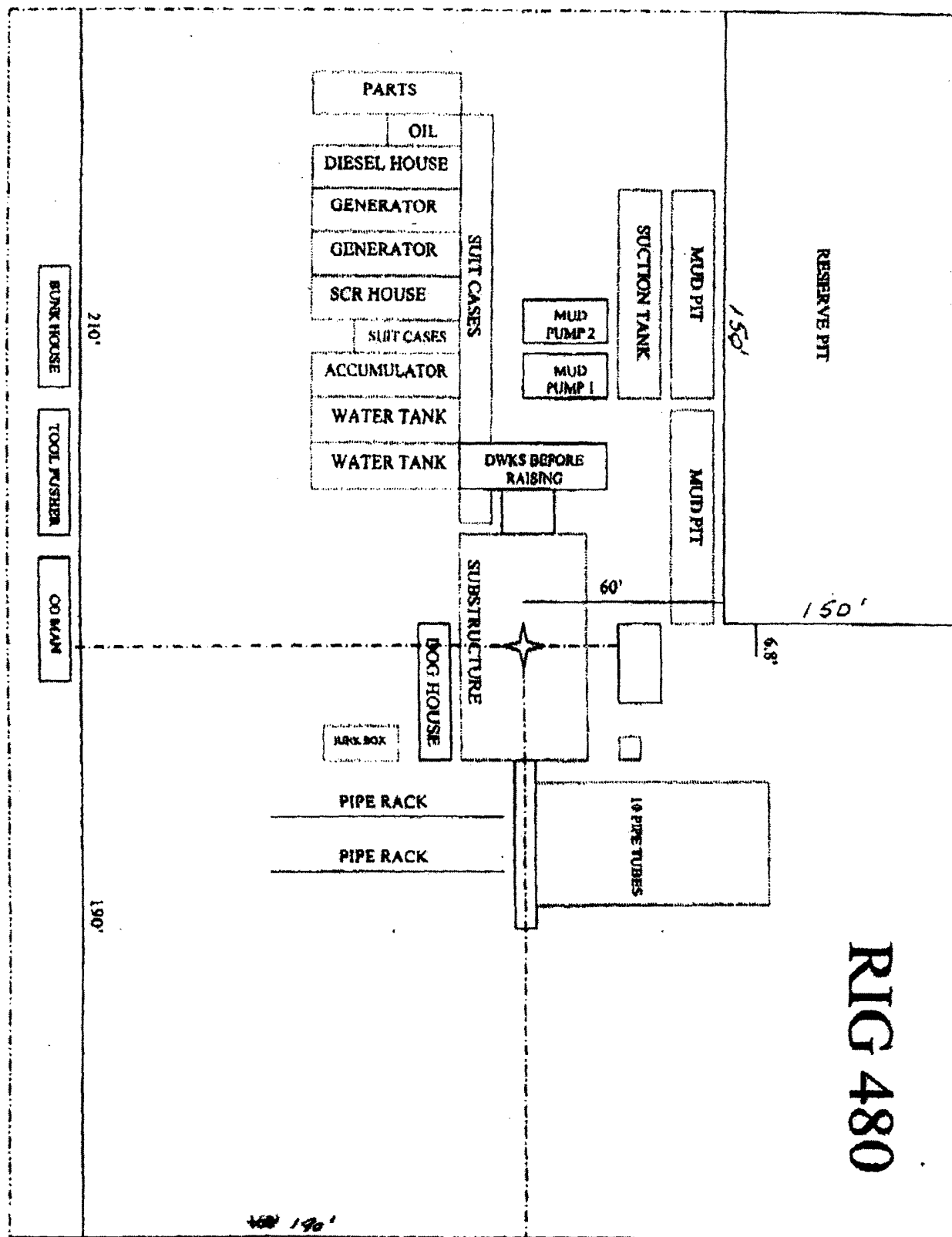
Signature & Seal of  
Professional Surveyor

*[Signature]*  
06.11.1252

Certificate No. GARY EIDSON

12641  
3239





RIG 480

EXHIBIT "D"

SAMSON RESOURCES

NM "B" Federal, Well No. 3

3300' FSL & 660' FEL, Sec. 3-T21S-R32E

Lea County, New Mexico

Pad & Pit Layout

4/25/99-505  
R. J. J. 11  
10-10-99

# APPLICATION FOR DRILLING

## SAMSON RESOURCES

NM "B" Federal No. 3  
Surface location 3300' FSL & 660' FEL, Sec. 3-T21S-R32E  
Lea County, New Mexico  
Lease No. NM-014791  
(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:

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

Rustler	1,400'	Wolfcamp mkr	11,200'
Yates	3,700'	Strawn	12,220'
Capitan	3,470'	Atoka	12,490'
Delaware	5,370'	Morrow	12,980'
Bone Spring	8,340'	Morrow Clastics	13,250'
Wolfcamp	10,970'	T.D.	14,300'

- The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: Surface water between 100'-300'.  
Oil: Possible in the Delaware below 5350'.  
Gas: Possible in Atoka below 12,490' and the Morrow below 12,980'.

- Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48.0#	H-40	BT&C	0'-1425'	Circ 1000sx "C" to surface.
12 1/4"	9 5/8"	40.0#	N-80	BT&C	0'-4950'	Circ. 2000sx. "H" to surface.
8 3/4"	5 1/2"	40.0#	P110	LT&C	0'-13,700'	1200-1800sx Super "H". TOC 4,700' 4300' CW

- Minimum Specifications for Pressure Control Equipment:

NU 21 3/4" 2M WP Hydril & test to 800 psi before drilling 14 3/4" hole.  
NU 13 5/8" 10M WP Shaffer, double over single w/ 12 1/4" 5M Hydril annular preventer before drilling the 10 5/8" & 7 7/8" holes. Perform 3M test before drilling 10 5/8" hole & 5M test before drilling 7 7/8" hole. See Exhibit "E".

- MUD PROGRAM:

	MUD WEIGHT	VIS.	W/L CONTROL
1482 0'-1425': Fresh water mud:	8.4-9.2 ppg	28-29	No W/L control
1425'-4,950': Brine (see note)	10.0-10.4 ppg	26-29	No W/L control
4,950'-14,300': Cut Brine/xcd Polymer	10.5-11.5 ppg	29-42	W/L control: <10cc at

T.D..

NOTE: If lost circulation is encountered in the Capitan Reeg, will switch to fresh water.

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

all marks  
per  
operator

**SAMSON RESOURCES**

NM "B" Federal, Well No. 3

Page 2

8. Testing, Logging, and Coring Program:
  - Drill Stem Tests: None unless conditions warrant.
  - Logging: 4,950' to T.D.: CNL-DNL w/GR-Cal.
  - 4,950' 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 = 6028 psi and surface pressure of 3014 psi with a temperature of 197%
10. H<sub>2</sub>S: None expected. The Mud Log Unit will be cautioned to use a gas trap to detect H<sub>2</sub>S inhibitors sufficient To control the gas.
11. Anticipated starting date: September 15, 2006.  
Anticipated completion of drilling operations: Approximately 6-8 weeks.

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  
March 12, 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 ☐

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

Operator: Samson Resources Telephone: (918) 591-1939 e-mail address: \_\_\_\_\_  
Address: Samson Plaza two W. Second St. Tulsa, OK 74103  
Facility or well name: NM "B" Federal No. 3 API #: \_\_\_\_\_ U/L or Qtr/Qtr \_\_\_\_\_ Sec 3 \_\_\_\_\_ T21S \_\_\_\_\_ R 32E \_\_\_\_\_  
County: Lea Latitude N32.509567 Longitude W103.655677 NAD: 1927 ☐ 1983 ☐ Surface Owner Federal ☐ State ☐ Private ☐  
Indian ☐

**Pit**

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☐ Thickness 12 mil Clay ☐ Volume  
\_\_\_\_\_ 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.) ~2100'

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

( 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

(20 points)

No

( 0 points)

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)

**Ranking Score (Total Points)**

**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:

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.

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: September 15, 2006

Printed Name/Title Don C. Deck, Agent

Signature [Signature]

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:

Date: 2/26/07

Printed Name/Title CHRIS WILLIAMS / DIST. SUPERV.

Signature [Signature]

## CONDITIONS OF APPROVAL - DRILLING

Well Name & No. NM B Federal 3  
Operator's Name: Samson Resources  
Location: 3300FSL, 0660FEL, Section 3, T-21-S, R-32-E  
Lease: NM 014791

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5972 or (505) 361-2822 - 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 (H<sub>2</sub>S) Drilling Plan should be activated prior to drilling into the Wolfcamp Formation. A copy of the plan shall be posted at the drilling site. **Hydrogen Sulfide has been reported in Sections 29, 31, and 34 with measurements ranging from 150-2000 ppm in STVs and 200-300 ppm in gas streams.**

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. Gamma-Ray/Neutron logs shall 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 1500 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.

**Possible loss of circulation in Delaware, Wolfcamp, and Bone Spring Formations.**

**Possible abnormal pressures in the Wolfcamp and high pressure gas down through the Pennsylvanian Section.**

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is circulate cement to the surface. 9-5/8 inch casing to be set approximately 5350 feet at the base of the Capitan Reef prior to drilling into the Delaware formation.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is cement shall circulate to surface.



4. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

### **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. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 10M 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.
- BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

### **IV. DRILLING MUD:**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp Formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

**WWI 100506**

**Engineer phone (on call): 505-706-2779**