

**RECEIVED**

UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

OCD-107085

SECRETARY'S POTASH

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

ATS-08-156

Lease Serial No. **NM-01747A**

**NM-066426-B**

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work ☒ **DRILL** ☐ **REENTER**

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

2. Name of Operator  
**SAMSON RESOURCES COMPANY** **ATTN: BRAD P. HARGROVE**

3a. Address **Two West Second Street, Tulsa, OK 74103**  
3b. Phone No. (include area code) **(918) 583-1791**

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*  
At surface **660' FNL & 660' FEL** **See attached dated 12-13-07**  
At proposed prod. zone **same** **Capitan Controlled Wafer Basin**

8. Lease Name and Well No. **Lea Federal #28** **<34342>**

9. API Well No. **30-025-38718**

10. Field and Pool, or Exploratory  
**Lea Penn Gas**

11. Sec., T. R. M. or Blk. and Survey or Area  
**Section 24, T-20-S, R-34-E**

14. Distance in miles and direction from nearest town or post office\*  
**26 miles SW of Hobbs, 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) **660'**  
16. No. of acres in lease **80**  
17. Spacing Unit dedicated to this well **160 acres**

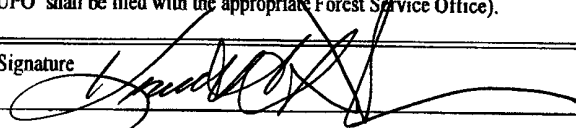
18. Distance from proposed location\* to nearest well, drilling, completed, applied for, on this lease, ft. **N/A**  
19. Proposed Depth **13,500'**  
20. BLM/BIA Bond No. on file **NM2037**

21. Elevations (Show whether DF, KDB, RT, GL, etc.) **3664' GL**  
22. Approximate date work will start\* **Upon approval**  
23. Estimated duration **35-40 days**

**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) **Kenneth C. Dickeson** Date **11/7/07**  
Title **Authorized Agent**

Approved by (Signature) **Tony J Herrell** Name (Printed/Typed) **Tony J Herrell** Date **JAN 16 2008**  
Title **For 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.

**APPROVAL FOR TWO YEARS**

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)

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED



"Duke Roush"  
<DROUSH@samson.com>

01/11/2008-10:50 AM

1-10-08

To <tessa\_cisneros@blm.gov>

cc

bcc

Subject Lea Federal Unit #28

We have reached an agreement with S&S inc. through contact with Patrick Sims concerning surface damages and use of their fee surface rights.

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0137  
Expires July 31, 2010

**SUNDRY NOTICES AND REPORTS ON WELLS**

**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Samson Resources Company

3a. Address

200 N. Loraine St., Ste 1010; Midland, TX 79701

3b. Phone No. (include area code)

(432) 683-7063

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

810' FNL & 810' FEL Sec. 24-20S-34E

5. Lease Serial No.

NM-066126-B

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Lea Federal #28

9. API Well No.

10. Field and Pool, or Exploratory Area

Lea;Penn (Gas)

11. County or Parish, State

Lea NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- |  |   |  |   |
|--|---|--|---|
| <input type="checkbox"/> Acidize                 | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Alter Casing            | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Casing Repair           | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input type="checkbox"/> Other _____    |
| <input checked="" type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       |   |
| <input type="checkbox"/> Convert to Injection    | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> Water Disposal            |   |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Change Location:

From: A; 24-20S-34E; 660' FNL & 660' FEL

To: A; 24-20S-34E; 810' FNL & 810' FEL

RECEIVED

JAN 22 2008

HOBBS OCD

14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

Duke Roush

Title Landman

Signature

*Duke Roush*

Date 12/13/07

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Tony J Herrell

Title

STATE DIRECTOR

Date

JAN 16 2008

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

NM STATE OFFICE

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

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

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

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

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-38718</b>	Pool Code <b>80040</b>	Pool Name <b>Lea, Penn (Gas)</b>
Property Code <b>34342</b>	Property Name <b>LEA FEDERAL</b>	Well Number <b>28</b>
OGRID No. <b>20165</b>	Operator Name <b>SAMSON RESOURCES</b>	Elevation <b>3665'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	20-S	34-E		810	NORTH	810	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 <b>160</b>	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

<p>DETAIL</p> <p>3664.0' 3663.4'</p> <p>600' 600'</p> <p>3665.0' 3663.3'</p> <p>SEE DETAIL</p> <p>810' 810'</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=569706.5 N X=754488.4 E</p> <p>LAT.=32.563516° N LONG.=103.507309° W</p>	<p><b>OPERATOR CERTIFICATION</b></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>Duke Roush</i> 12/1/07 Signature Date <b>Duke Roush</b> Printed Name</p> <p><b>SURVEYOR CERTIFICATION</b></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>DECEMBER 5, 2007 Date Surveyed Signature &amp; Seal of Professional Surveyor <i>Ronald J. Eidson</i> 12/06/07 Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>
--	---

**APPLICATION FOR DRILLING**

SAMSON RESOURCES COMPANY

<b>Lea Federal Well No. 28</b>
660' FNL & 660' FEL, Section 24, T20S, R34E, LEA COUNTY, NEW MEXICO
Lease No.: NM-066126-B
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Samson Resources Company 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	1600'
Yates	3560'
Seven Rivers	3920'
Delaware Sd	5475'
1 <sup>st</sup> Bone Spring Lime	8250'
1 <sup>st</sup> Bone Spring Sand (Pay1)	9500'
3 <sup>rd</sup> Bone Spring Sand	10970'
Wolfcamp	11050'
Strawn	12140'
Atoka	12600'
Morrow	12860'

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

3. 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 5600'- 6000'.
Gas:	Possible in the Atoka below 12,295' and Morrow 12,830'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QTY OF CEMENT	TOC
17 1/2"	13-3/8"	48.0#	H-40	BT&C	0-1650'	1500 sx 1480 total	Surface
12 1/4"	9-5/8"	40.0#	HCK-55	BT&C	1650-5475'	1250 sx 2170 total	Surface
8 3/4"	5 1/2"	20.0#	P-110	LT&C	5475-13500'	1000 sx 1310 total	5000'

5. Minimum Specifications for Pressure Control Equipment:

A NU 13-5/8" 10M Double Gate BOP over single w/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 5M test before drilling the 8 3/4" hole.

See COA

6. MUD PROGRAM:

DEPTH	DESCR	MUD WEIGHT	VISCOSITY	W/L CONTROL
0-1600'	Fresh water	8.4 ppg		
1600-5400'	Brine water	10.0 ppg		
5400-13900'	Cut Brine/Water	8.7-11.5 ppg		

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

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.  
Logging: 5,600' to T.D.: CNL-DNL w/GR-Cal. 5,600' 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 = 5856 psi and surface pressure of 2928 psi with a temperature of 193°.
10. H<sub>2</sub>S: None expected. None in existing wells in close vicinity, but the Mud Log Unit will be cautioned to use a gas trap to detect H<sub>2</sub>S and if any is detected the mud weight will be increased along with H<sub>2</sub>S inhibitors sufficient to control the gas.
11. Anticipated starting date: *Upon approval.*  
Anticipated completion of drilling operations: *Approximately 6 weeks.*

RECEIVED

JAN 22 2008

HOBBS OCD

RECEIVED

JAN 22 2008

HOBBS OCD

Mr. Wesley Ingram,

As a follow-up to your phone message this AM (voice message attached above), shown below is the additional information you have requested:

1. Type Cement and Yield

a. 13-5/8" Casing Cement Job  
i. Lead = Halliburton Light Premium Plus @ 12.5  
ppg;  
1.98 cubic ft/sx yield 920  
ii. Tail = Halliburton Premium Plus @ 14.8 ppg;  
1.35  
cubic ft/sx yield 460  
b. 9-5/8" Casing Cement Job DVT 1500'  
i. 1st Stage Lead = Halliburton Interfill C @  
11.5  
ppg; 2.76 cubic ft/sx yield 1410  
ii. 1st Stage Tail = Halliburton Premium Plus  
Cement  
@ 14.8 ppg; 1.32 cubic ft/sx yield 300  
iii. 2nd Stage Lead = Halliburton Interfill C @  
11.5  
ppg; 2.76 cubic ft/sx yield 400  
iv. 2nd Stage Tail = Halliburton Premium Plus  
Cement  
@ 14.8 ppg; 1.32 cubic ft/sx yield 60  
c. 5-1/2" Casing Cement Job  
i. Lead = Interfill H @ 11.9 ppg; 2.45 cubic  
ft/sx  
yield 620 ST  
ii. Tail = Super H Cement @ 13 ppg; 1.67 cubic  
ft/sx  
yield 690 ST

2. Casing Safety Factors (SF = Safety Factor)

a. 13-3/8" 54.5 lb/ft J-55 BTC Casing @ 1650'  
i. Burst SF = 3.00 (1/3 BHP @ 5475' using 9.5 ppg  
pore pressure)  
ii. Collapse SF = 1.46 (full evacuation with 9  
ppg  
on backside)  
iii. Tension SF = 9.48 (based on air weight of  
1650' of 13-3/8" casing)  
b. 9-5/8" 40# HCK-55 BTC Casing @ 5475'  
i. Burst SF = 1.53 (1/3 BHP @ 13500' using 11.0  
ppg  
pore pressure)  
ii. Collapse SF = 1.49 (full evacuation with 10  
ppg  
on backside)  
iii. Tension SF = 2.87 (based on air weight of

JAN 22 2008

# HOBBS OCD

5475'

of 9-5/8" casing)

c. 5-1/2" 20# P-110 LTC Casing @ 13,500'

i. Burst SF = 1.26 (10,000 psi maximum surface treating pressure during frac job)

ii. Collapse SF = 1.38 (fully-depleted gas well

with

11.5 ppg on backside)

iii. Tension SF = 2.02 (based on air weight of 13500' of 5-1/2" casing)

## 3. "BOP Testing Program During Day-to-Day Operations"

a. On-top of the 13-3/8" surface casing, nipple-up 13-5/8" 3M annular preventer (tested to 1500 psi high / 250 psi low)

and

13-5/8" 5M Double Gate BOP (top = pipe, bottom = blind;

tested

to 3000 psi high / 250 psi low).

i. Typically the time from initial test of

13-5/8"

BOP stack + related BOPE (after nipple-up) to drilling the 12-1/4" hole section to total depth at +/- 5475'

is

+/- 9 days. However, if for some unforeseen reason

there

is excessive trouble to the point where 30 days has elapsed after the initial BOP test and before the

12-1/4"

hole section is drilled to total depth at +/- 5475', another BOP test will be performed.

b. On-top of the 9-5/8" surface casing, nipple-up 11" 5M

annular

preventer (tested to 2500 psi high / 250 psi low) and 11"

10M

Double Gate BOP (top = pipe, bottom = blind; tested to 6500

psi

high / 250 psi low).

i. Typically the time from initial test of 11"

BOP

stack + related BOPE (after nipple-up) to drilling the 8-3/4" hole section to total depth at +/- 13,500' is

+/-

28 days. However, if 30 days elapse after the initial BOP test and before the 8-3/4" hole section is drilled

to

total depth at +/- 13,500', another BOP test will be performed.

## 4. More Legible BOP Schematic

a. Refer to attached file

Since the Lea Federal No. 28 is our next well, and we should be done with the existing well in +/- 10-12 days (Federal 11 Well #8), we need to get an approved APD ASAP so we can begin surface construction of road and location (which will take +/- 12 days) for the Lea Federal No. 28. If there is anything else you would want in addition to the above information which

see  
COA



you

have requested, we will be happy to provide it, but request that you at least give us approval to start building the surface road and location now.

The Lea Federal No. 28 well is in a location that the BLM does not allow rig operations from 3/15/08 to 6/15/08, therefore it is imperative that we

drill this well next on our drilling schedule with McVay rig #10 (or suffer loss of farm-out acreage).

Thank you in advance for your understanding and cooperation on this issue.

Do not hesitate to contact me at the below numbers if you need any clarification or additional supplemental information.

Mobile: 918-625-1380

Office: 918-591-1624

Regards,

David Stonestreet  
Senior Drilling Engineer  
Samson Resources

[attachment "Avt194D.WAV" deleted by Wesley W Ingram/CFO/NM/BLM/DOI]  
[attachment "BOP Schematic.pdf" deleted by Wesley W  
Ingram/CFO/NM/BLM/DOI]



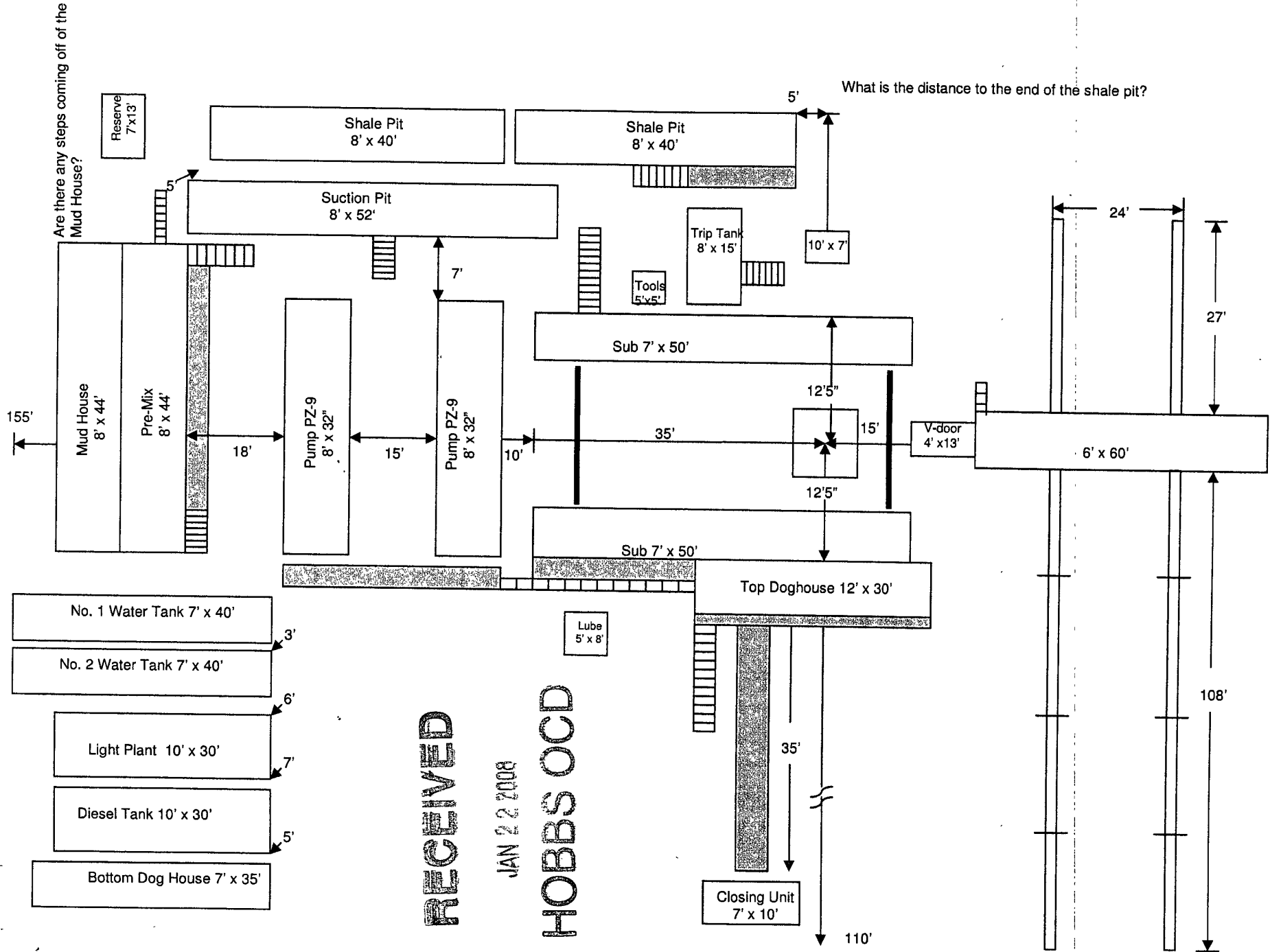
Choke Manifold.jpg

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

# McVay Drilling Rig No. 10



RECEIVED

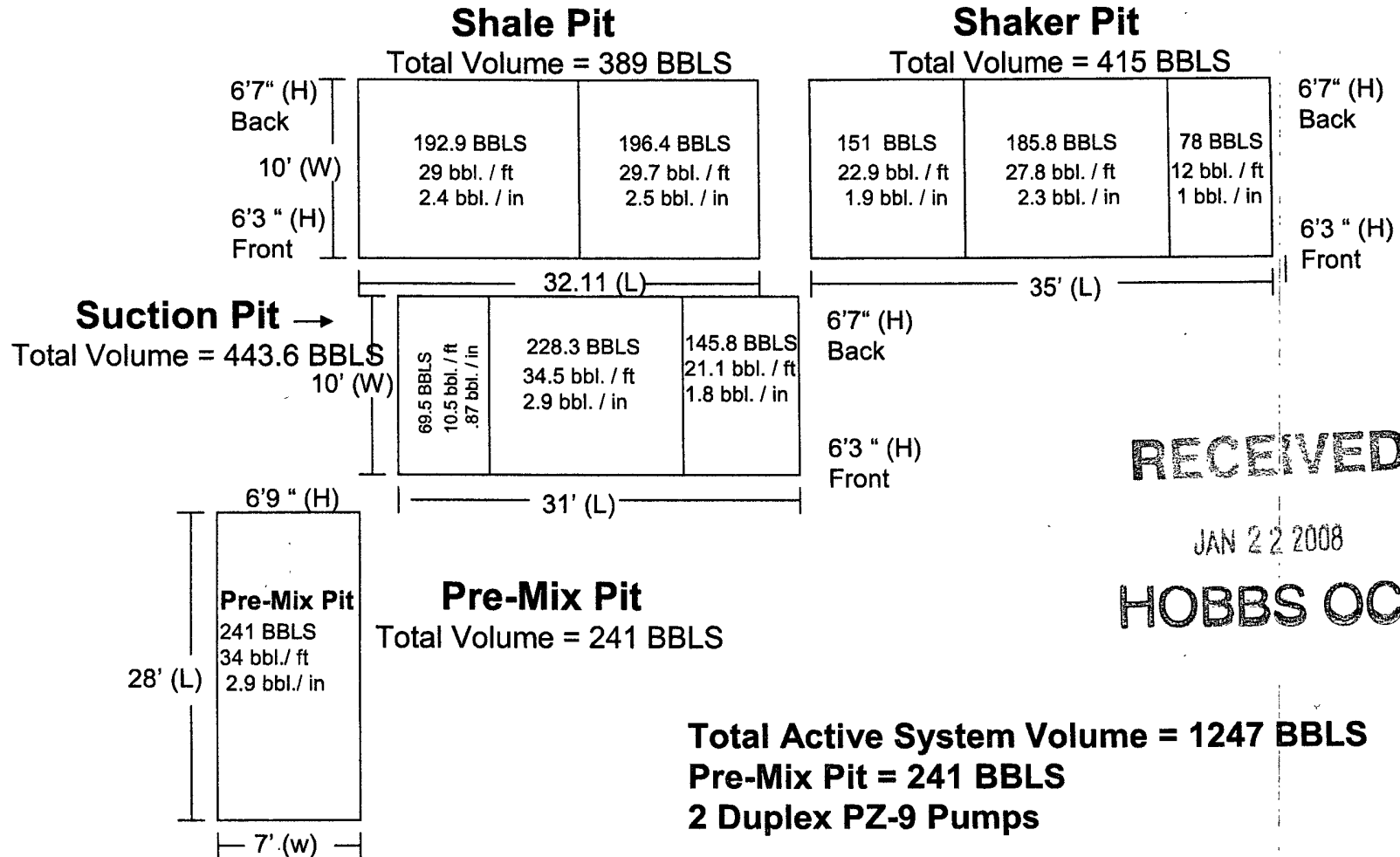
JAN 22 2008

HOBBS OGD

See CDA

# McVay Drilling Co.

## Rig # 10 – Pit System



RECEIVED

JAN 22 2008

HOBBS OCD

# EXHIBIT "A"

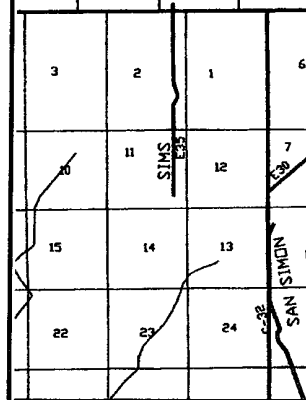
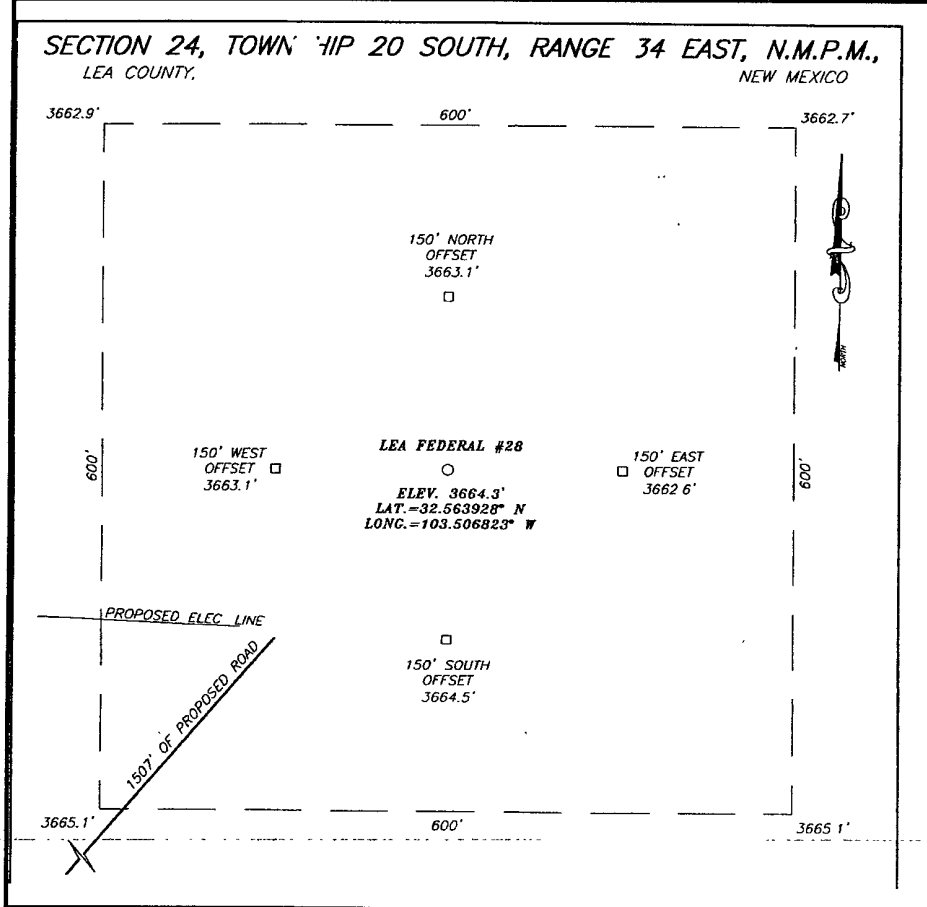
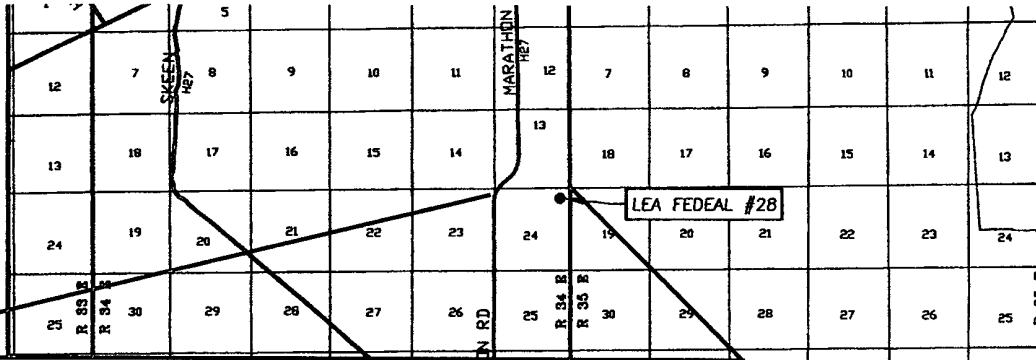
SAMSON RESOURCES COMPANY

RECEIVED

JAN 22 2008

HOBBS OCD

<b>Lea Federal Well No. 28</b>
660' FNL & 660' FEL, Section 24, T20S, R34E, LEA COUNTY, NEW MEXICO
Lease No.: NM-066126-B
(Development Well)



SCALE: 1" = 2 MILES

PROVIDING SURVEYING SERVICES  
SINCE 1946  
**WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

Well name: Lea Federal 28

Date: \_\_\_\_\_

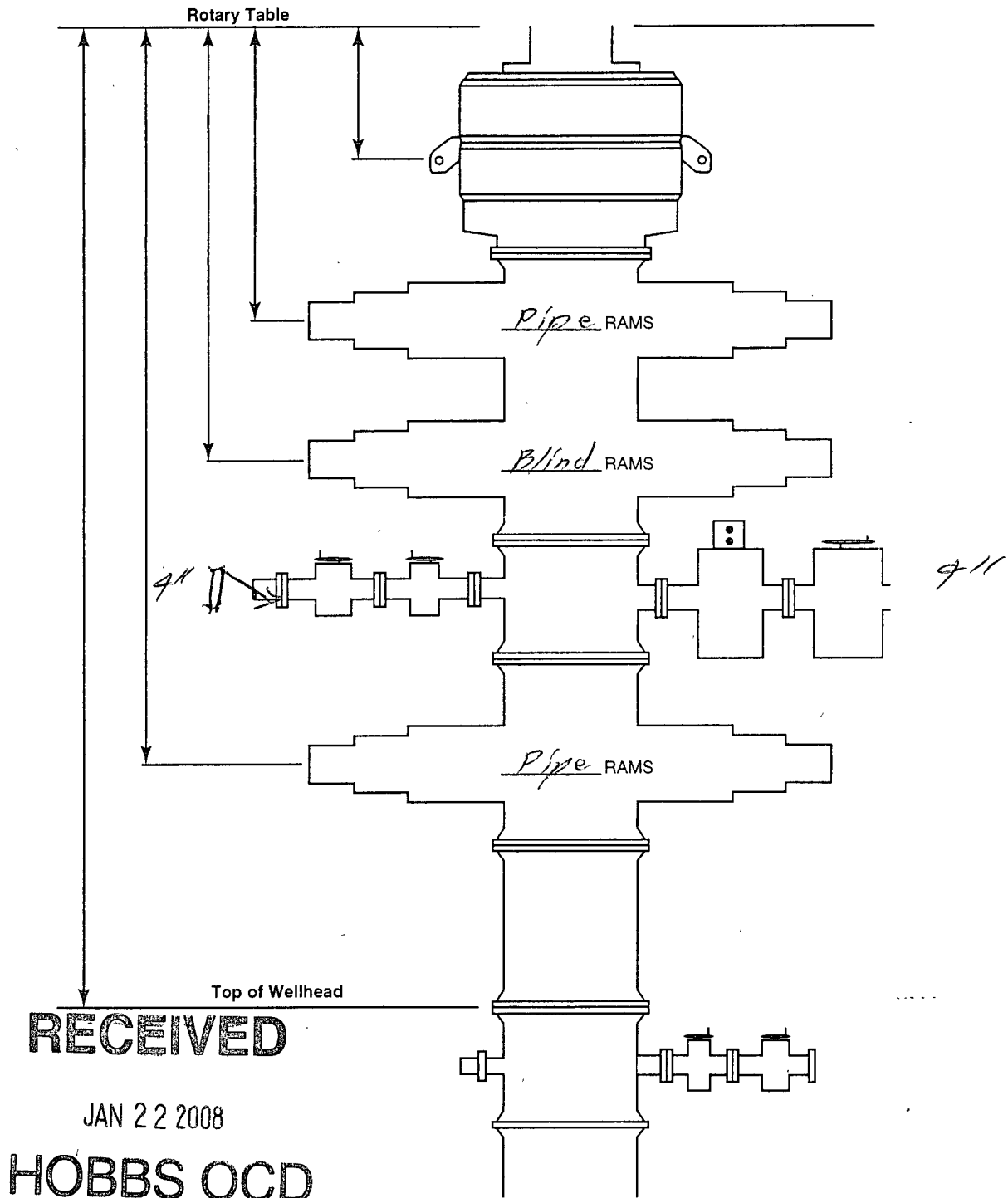
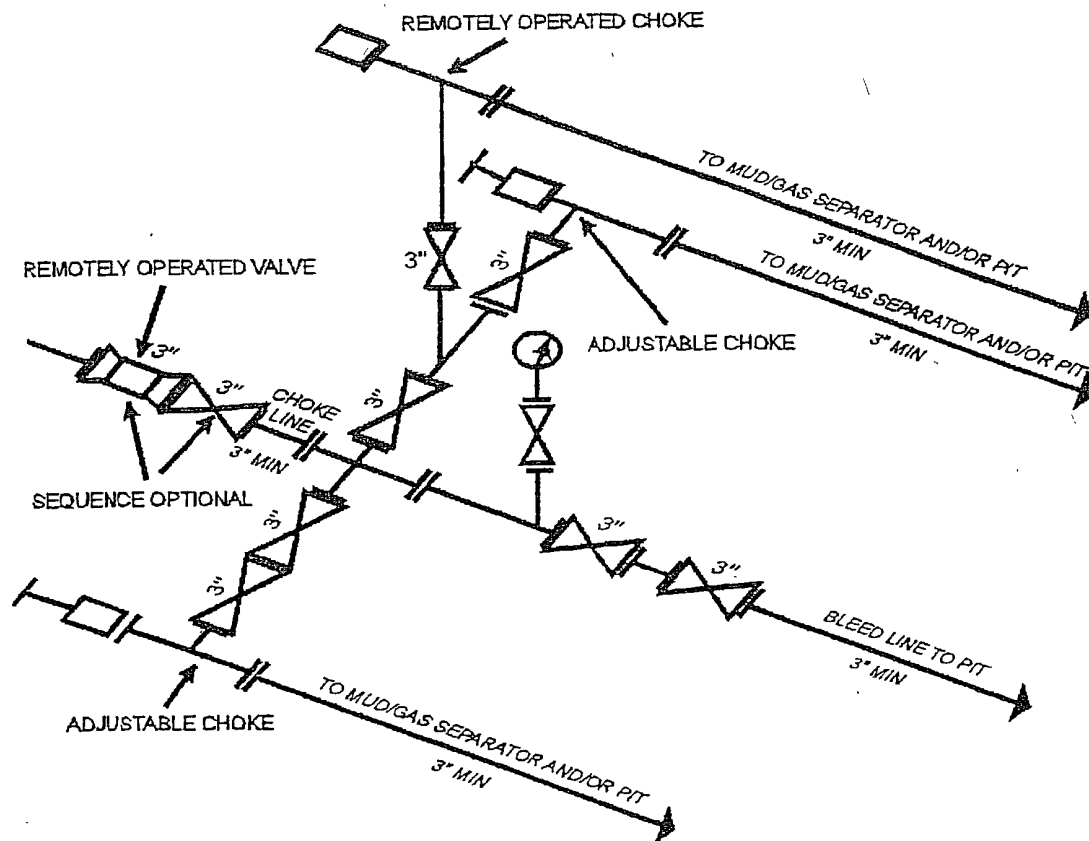
BOP Stack: 10 17

Figure 19—Example Illustration of Ram BOP Space Out



10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY  
 [53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

RECEIVED

JAN 22 2008

HOBBS OCD

# H<sub>2</sub>S Contingency Plan

SAMSON RESOURCES COMPANY  
*Lea Federal #28*

660 FNL & 660 FEL, Section 24, T20S, R34E,  
Lea County, New Mexico

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

## TABLE OF CONTENTS

Table of Contents	Page 2
Scope & Objectives	Page 3
General Emergency Plan	Page 4
SAMSON RESOURCES COMPANY emergency call out numbers	Page 5
Emergency notification numbers	Page 6
Map to location of well	Page 7
Emergency procedures of uncontrollable release of H <sub>2</sub> S gas	Page 8
Ignition procedures for uncontrollable well conditions	Page 9
Instructions for igniting the well	Page 10
Emergency equipment requirements	Pages 11 & 12
Toxic effects of H <sub>2</sub> S	Page 13
Physical affects	Page 14
Toxicity of Hydrogen Sulfide (H <sub>2</sub> S)	Page 15
SCBA Instructions	Page 16
H <sub>2</sub> S poisoning rescue and first aid	Page 17

**RECEIVED**

JAN 22 2008

**HOBBS OCD**



## SCOPE

This plan establishes the SAMSON RESOURCES COMPANY guidelines for all company and contract employees whose duties may involve exposure to hydrogen sulfide gas (H<sub>2</sub>S) on the *Lea Federal #28* location. This well is located 660 feet from the north line, 660 feet from the east line in Section 24 of Township 20 South, Range 34 East, Lea County, New Mexico. This plan also establishes procedure for isolation of the work site and evacuating the public on the condition that:

- A. There is a release of H<sub>2</sub>S that encompasses the radius of exposure (ROE) in this plan and,
- B. There are persons and/or rods within the ROE and,
- C. There is the endangerment of human and/or animal life within the ROE.

*\*\*There are no homes located within one (1) mile either direction of this particular location.\*\**

## OBJECTIVE

The objective of SAMSON RESOURCES COMPANY is to:

- A. Prevent any and all accidents, and to prevent the uncontrolled release of H<sub>2</sub>S into the atmosphere and,
- B. Provide proper evacuation procedures to cope with emergencies and,
- C. Provide immediate and adequate medical attention should an injury occur.

*It should be noted that SAMSON RESOURCES COMPANY does not expect there to be any release of H<sub>2</sub>S into the atmosphere but has taken the necessary steps to react properly to and control any hazards encountered on any of our facilities.*

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

## GENERAL EMERGENCY ACTION

*In the event of an emergency, the following action should be initiated:*

1. All personnel shall immediately evacuate to an upwind and uphill "safe breathing" area.
2. Those who must enter the hazard area must wear positive pressure self-containing breathing apparatus and must use other appropriate safety equipment as outlined on Page 10.
3. Isolate the well, if possible.
4. Use the "Buddy System" at all times.
5. Account for all personnel and take appropriate action as necessary for personnel safety.
6. Display the appropriate color warning flag to describe the type of emergency.
7. Contact SAMSON RESOURCES COMPANY personnel at the earliest time available according to the emergency call out list on Page 4.
  - The SAMSON RESOURCES COMPANY supervisor will assess the situation and assign duties to various persons to bring the situation under control.
  - Notification of local emergency response agencies and residents will be assigned by the SAMSON RESOURCES COMPANY supervisor.
  - Media inquiries are to be referred to:

SAMSON RESOURCES COMPANY  
200 N. Loraine, Suite 1010  
Midland, TX 79701

RECEIVED

JAN 22 2008

HOBBS OCD

**BC OPERATING, INC.**

**EMERGENCY CALL OUT NUMBERS**

<b>NAME</b>	<b>TITLE</b>	<b>OFFICE #</b>	<b>CELL #</b>
DUKE ROUSH	LANDMAN	(432) 686-6336	(432) 528-8264
DAVID STONESTREET	ENGINEER	(918) 591-1624	(918) 625-1380

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

Organization or Agency	Phone Number
New Mexico State Police	(505) 885-3137
Eddy County Sheriff's Department	(505) 887-7551
Emergency Medical Service (Ambulance)	911
Eddy County Emergency Management	(505) 887-9511
State Emergency Response Center (SERC) Max Johnson (Chairman)	(505) 476-9620
Carlsbad Fire Department	911 or (505) 885-3125
Oil Conservation Division (District II)	(505) 748-1283
National Response Center (NRC)	(800) 424-8802

**RECEIVED**

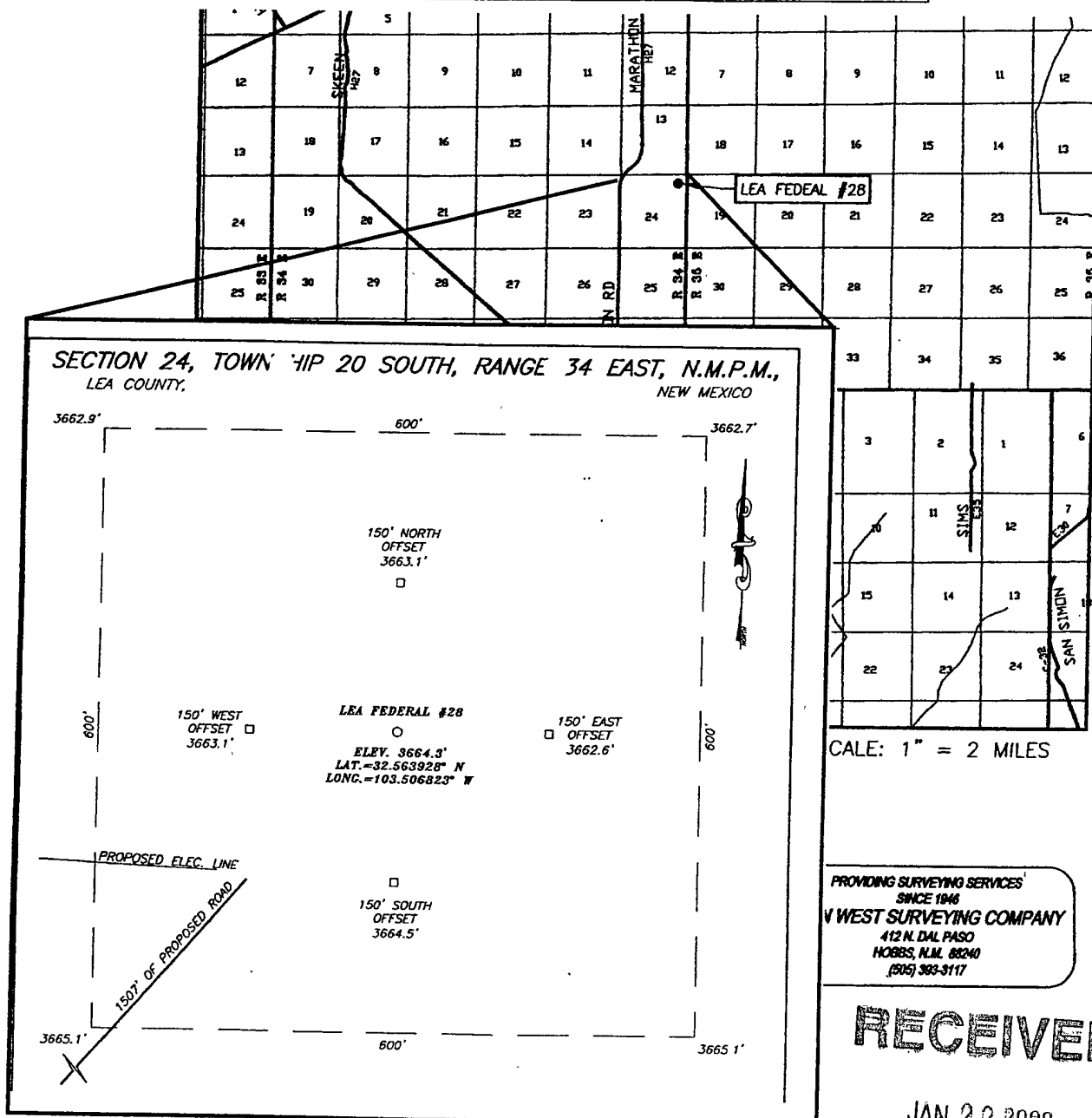
JAN 22 2008

**HOBBS OCD**

# EXHIBIT "A"

SAMSON RESOURCES COMPANY

<b>Lea Federal Well No. 28</b>
660' FNL & 660' FEL, Section 24, T20S, R34E, LEA COUNTY, NEW MEXICO
Lease No.: NM-066126-B
(Development Well)



RECEIVED

JAN 22 2008

HOBBS OCD

**EMERGENCY PROCEDURES FOR UNCONTROLLABLE RELEASE OF  
HYDROGEN SULFIDE GAS (H<sub>2</sub>S)**

1. Secure and don self-contained breathing apparatus.
2. Remove all personnel to an upwind and uphill "safe breathing" zone.
3. Contact all concerned employees and immediate supervisor for instructions.
4. Take steps to protect and/or remove the general public to an upwind area away from the source of H<sub>2</sub>S.
5. Deny entry to unnecessary personnel.
6. Notify necessary public safety personnel (for assistance in the evacuation of the general public and to help maintain roadblocks):
  - a. State Police if on or near a **state road**
  - b. Sheriff's Department if on or near a **county road**
7. Contact the Oil Conservation Division (OCD).
8. While attempting to control the release, maintain tight security and safety procedures.
9. Use the "Buddy System" when entering any hazardous areas.

*The responsibility of this plan is with the SAMSON RESOURCES COMPANY supervisor(s) who shall be in complete command during the emergency.*

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

The decision to ignite the well is the decision of the company supervisor(s). This decision should be made only as a last resort and in a situation where it is determined that:

- Human life and/or property are endangered
- There is no hope of controlling the blowout under the prevailing conditions at the well.

**RECEIVED**

JAN 22 2008

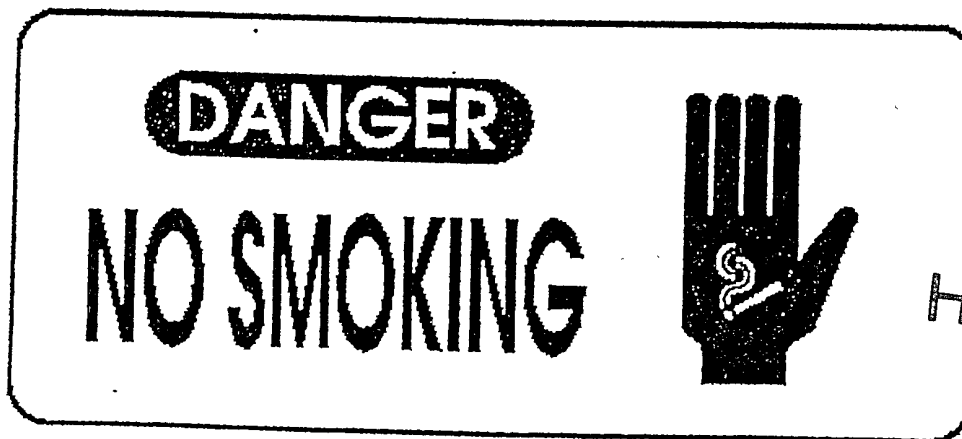
**HOBBS OCD**

2. All personnel are required for the ignition operation. They must wear positive pressure self-contained breathing apparatus and a D-ring style full body safety harness with a non-flammable safety rope attached. (Must be an OSHA approved body harness)

2. One (safety) person will test the atmosphere for explosive gases with an approved Triple-range ( $H_2S$ ,  $O_2$ , LFL) monitor. The other person (company supervisor) is responsible for igniting the well.
3. Primary method of ignition shall be with the 25mm flare gun with range of approximately 500 feet.
4. Ignite up-wind and do not approach any closer than is warranted.
5. Select a safe ignition site which offers ultimate egress.
6. Before activating flare gun, check for presence of combustible gas.
7. After ignition, continue emergency action and procedure as before.
8. All unassigned personnel will limit their actions to those directed by the company supervisor.

After the well is ignited, burning  $H_2S$  will produce  $SO_2$ , which is also highly toxic. Do not assume the area is safe after the well is ignited.

A NO SMOKING POLICY shall be strictly enforced on location at all times.



RECEIVED  
JAN 22 2008  
HOBBS OCD



- Rescue Units (SCBA's) : One (1) unit shall be placed at each briefing area and 2 shall be stored in the safety trailer.
- Work/EscapE Units: Four (4) units shall be stored on the rig floor connected to the safety trailer with sufficient hose to allow workers to adequately perform duties with minimal restriction.
- Emergency EscapE Units: Four (4) units shall be stored in the top dog house for emergency evacuation purposes.

## 2. Signs and Flags

- One (1) Condition Sign shall be placed at location entrance with the following language:

**DANGER**  
**H<sub>2</sub>S**

**POTENTIAL DANGER (Green)**

**MODERATE DANGER (Yellow)**

**EXTREME DANGER (Red)**

- Condition Flags shall be displayed at the sign in one of the following designations:  
Green / normal conditions    Yellow / potential danger    Red/ danger, H<sub>2</sub>S Present

3. Briefing Area: Two (2) briefing areas, designated by signs, shall be located perpendicular to each other and be easily visible and readily accessible.

4. Windsocks: Two (2) windsocks shall be strategically placed where they are easily visible from all points.

Master Marketing

11

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

in the top dog house. The H<sub>2</sub>S monitor shall be calibrated to alarm at 10PPM for the low alarm (visual alarm) and 15 PPM for the high alarm (audible alarm). Calibrations shall be checked every 30 days or as needed. The sensors shall be located as follows:

#1 – Rig floor

#2 – Bell Nipple

#3 – Flow line or where the well bore fluid is discharged

- A gas sampling pump, with detector tubes capable of measuring H<sub>2</sub>S gas, shall be located in the safety trailer.

#### 6. Additional Rescue Equipment

- One Hundred Feet (100') of 5/8" OSHA approved rope.
- Two (2) OSHA approved full body harness
- One (1) Stretcher

#### 7. Fire Extinguishers:

- One (1) 20#, Class ABC fire extinguisher shall be located in the safety trailer.

#### 8. Communication:

- Cellular Phones/Mobile Phones or two- way radios shall be available via the vehicles on location and on the rig floor.

RECEIVED

JAN 22 2008

HOBBS OCD

Master Marketing

Hydrogen sulfide ( $H_2S$ ) is extremely toxic. The acceptable ceiling concentration for an eight (8) hour exposure is 10 PPM, which is .001% by volume. Hydrogen sulfide ( $H_2S$ ) is colorless. Hydrogen Sulfide ( $H_2S$ ) is heavier than air, the specific gravity is equal to 1.19 which is 20% heavier than ambient temp air which is 1.00. Hydrogen sulfide ( $H_2S$ ) can form an explosive mixture with air between 4.3% and 46.0%. By volume hydrogen sulfide ( $H_2S$ ) is as toxic as hydrogen cyanide and is between 5-6 times more toxic than carbon monoxide.

### TOXICITY OF VARIOUS GASES

<i>Common Name</i>	<i>Chemical Formula</i>	<i>Specific Gravity</i>	<i>Threshold Limit<sup>1</sup></i>	<i>Hazardous Limit<sup>2</sup></i>	<i>Lethal Concentration<sup>3</sup></i>
Hydrogen Cyanide	HCN	0.94	10 PPM	150 PPM/Hr	300 PPM
Hydrogen Sulfide	$H_2S$	1.189	10 PPM <sup>4</sup> 15 PPM <sup>5</sup>	100 PPM/Hr	600 PPM
Sulfur Dioxide	$SO_2$	2.21	2 PPM	N/A	100 PPM
Chlorine	$Cl_2$	2.45	1 PPM	4 PPM/Hr	1000 PPM
Carbon Monoxide	CO	0.97	50 PPM	400 PPM/Hr	1000 PPM
Carbon Dioxide	$CO_2$	1.52	5000 PPM	5%	10%
Methane	$CH_4$	0.55	90,000 PPM	Combustible @ 5%	N/A

- (1) Threshold limit – Concentration at which it is believed that all workers may be repeatedly exposed, day after day with out adverse effects also referred to as Time Weighted Average (TWA).
- (2) Hazardous limit – Concentration that may cause death
- (3) Lethal concentration – Concentrations that will cause death with short-term exposure
- (4) Threshold limit – 10PPM – NIOSH guide to chemical hazards
- (5) Short- term threshold limit – Concentration higher than Threshold limit with limits placed on time one can be exposed. Exposure time is limited to 15 minutes followed by one (1) hour in fresh air. This cycle can be repeated for (4) times during a normal eight (8) hour work day.

**RECEIVED**

Master Marketing

13

JAN 22 2008

**HOBBS OCD**

*(Concentrations are calculated @ 15.00 psia and 60 degrees F.)*

Concentrations		Physical Effects
0.001%	10 PPM	Obvious & unpleasant odor. Safe for an eight (8) hour exposure
0.005%	50 PPM	Can cause some flu-like symptoms and can cause pneumonia.
0.01%	100 PPM	IDLH <sup>1</sup> . Kills the sense of smell in 3 to 15 minutes. May irritate eyes and throat.
0.02%	200 PPM	Kills the sense of smell rapidly. Severely irritates eyes and throat. Severe flu-like symptoms after 4 or more hours may cause lung damage and/or death.
0.06%	600 PPM	Loss of consciousness quickly, death will result if not rescued promptly.

(1) Immediately dangerous to life or health

RECEIVED

JAN 22 2008

HOBBS OCD

Master Marketing

# TOXICITY OF HYDROGEN SULFIDE

H <sub>2</sub> S Per Cent (PPM)	0 - 2 Minutes	0 - 15 Minutes	15 - 30 Minutes	30 Minutes to 1 Hour	1 - 4 Hours	4 - 8 Hours	8 - 48 Hours
0.005 (50 ppm) 0.010 (100 ppm)				Mild Conjunctivitis; Respiratory Tract Irritation			
0.010 (100 ppm) 0.015 (150 ppm)		Coughing; Irritation of Eyes; Loss of Sense of Smell	Disturbed Respiration; Pain in Eyes; Sleepiness	Throat	Salivation & Mucous Discharge; Sharp Pain in Eyes; Coughing	Increased Symptoms*	Hemorrhage & Death *
0.015 (150 ppm) 0.020 (200 ppm)		Loss of Sense of Smell	Throat & Eye Irritation	Throat & Eye Irritation	Difficult Breathing; Blurred Vision; Light & Shy	Serious Irritating Effects	Hemorrhage & Death *
0-025 (250 ppm) 0.035 (350 ppm)	Irritation of Eyes; Loss of Sense of Smell	Irritation of Eyes	Painful Secretion of Tears; Weariness	Light & Shy; Nasal Catarrh; Pain in Eyes; Difficult Breathing	Hemorrhage & Death		
0-035 (350 ppm)		Irritation of Eyes; Loss of Sense of Smell	Difficult Respiration Coughing; Irritation of Eyes	Increased Irritation of Eyes & Nasal Tract; Dull Pain Head; Weariness; Light & Shy	Dizziness Weakness; Increased Irritation; Death	Death *	
0-050 (500 ppm)	Coughing Collapse & Unconsciousness	Respiratory Disturbances; Irritation of Eyes; Collapse	Serious Eye Irritation; Palpitation of Heart; Few Cases of Death*	Severe Pain in Eyes and Head Dizziness; Trembling of Extremities; Great Weakness & Death *			
0.060 (600 ppm) 0.070 (700 ppm) 0.080 (800 ppm) 0.100 (1000 ppm) 1.150 (1500 ppm)	Collapse * Unconsciousness Death *	Collapse * Unconsciousness Death *					

\* Data secured from experiments of dogs, which have susceptibility similar to men/women. \*\*PPM parts per million

Master Marketing

RECEIVED

JAN 22 2013

HOBBS OCE

• SCBA should be worn when:

- Working near the top or on top of any tank.
- Disconnecting any line where H<sub>2</sub>S can reasonably be expected.
- Sampling air in the area to determine if toxic concentrations of H<sub>2</sub>S exist.
- Working in areas where over 10 PPM of H<sub>2</sub>S has been detected.
- At any time there is a doubt as to the H<sub>2</sub>S level in the area to be entered.

Air quality testing shall be continuous throughout the entire operation if a container is breeched or in a hazardous location.

All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.

Facial hair and standard eyeglasses are not allowed with SCBA use.

Contact lenses are never allowed with the use of SCBA.

The SCBA shall be inspected monthly.

After each use, the SCBA shall be cleaned, disinfected, serviced, inspected and refilled to proper specifications.

RECEIVED

JAN 22 2008

HOBBS OCD

Do not panic!

Remain calm and think with your head and not your heart.

Don breathing apparatus.

Protect yourself, then remove victim to fresh air as quickly as possible.  
When evacuating: walk not run, upwind and uphill from the source or  
crosswind to achieve upwind.

Notify emergency response personnel

Provide artificial respiration and /or CPR, as necessary.

Remove all contaminated clothing to avoid further exposure.

A minimum of two (2) personnel on location shall be trained in CPR and  
First Aid.

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Samson Resources Company
LEASE NO.:	NMNM01747A
WELL NAME & NO.:	Lea Federal No 28
SURFACE HOLE FOOTAGE:	810' FNL & 810' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 24, T. 20 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

## TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie Chicken
  - Raptor Nest
- ☒ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

**RECEIVED**

JAN 22 2008

**HOBBS OCD**



RECEIVED

## **I. GENERAL PROVISIONS**

JAN 22 2008

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

HOBBS OGD

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

### **I. Lesser Prairie-Chicken**

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 15 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

### **II. Raptor Nest**

Raptor nests will be avoided and left undisturbed during all phases of the project. This may result in a change of normal operations to avoid disturbance of the nest.

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (505) 393-3612 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

### **C. RESERVE PITS**

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 150' X 125' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

### **D. FEDERAL MINERAL MATERIALS PIT**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

**E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

**F. ON LEASE ACCESS ROADS**

**Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

**Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

**Ditching**

Ditching shall be required on both sides of the road.

**RECEIVED**

JAN 22 2008

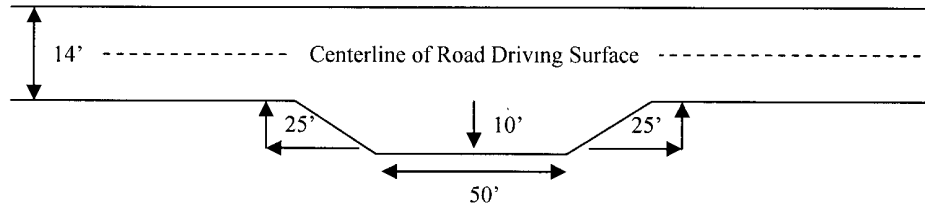
**HOBBS OGD**

JAN 22 2008

HOBBS OCD

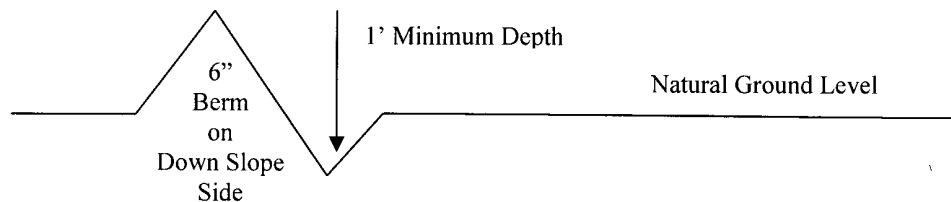
**Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

**Standard Turnout – Plan View****Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

**Cross Section of a Typical Lead-off Ditch**

All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

**Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

**Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

**Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

**Fence Requirement**

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**RECEIVED**

JAN 22 2008

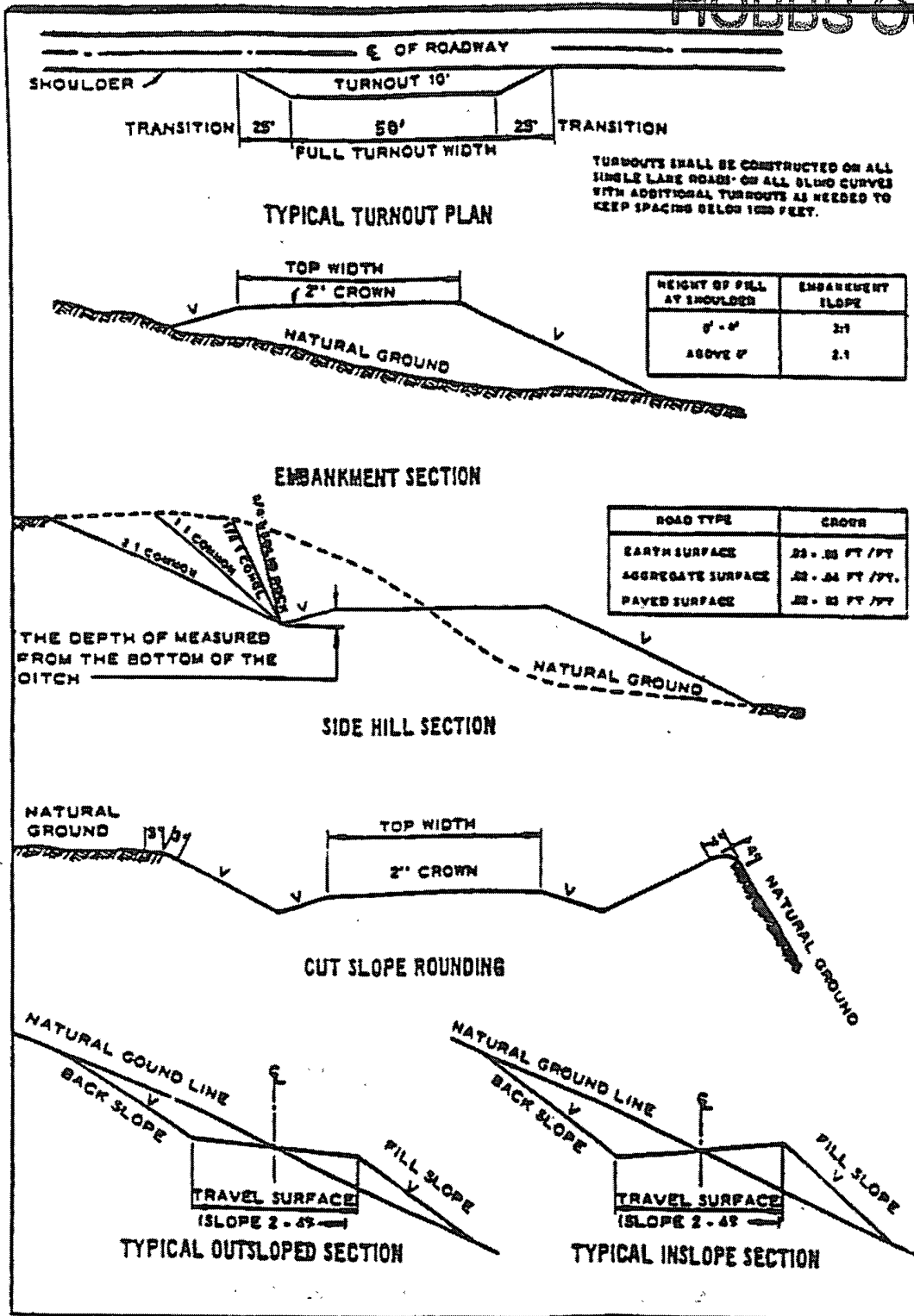
**HOBBS OCD**

RECEIVED

Figure 1 - Cross Sections and Plans For Typical Road Sections

JAN 22 2006

HOBBS OCD



RECEIVED

JAN 22 2008

HOBBS OCD

## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 393-3612

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated 500 feet prior to drilling into the **Delaware** formation. **Hydrogen Sulfide has been reported in the gas stream measuring 0.5-500 ppm and in STVs measuring 10 ppm.**
2. 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.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

### B. CASING – Changes in casing must be approved by submitting sundries.

1. The 13-3/8 inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite and above the salt at approximately 1650 feet** and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, **24 hours in the potash area**, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**



- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible lost circulation in the Red Beds, Capitan Reef, Delaware and Bone Spring formations.**

**Possible high pressure gas bursts in the Wolfcamp and over pressure through the Pennsylvanian Section.**

**Possible over pressured sour gas in the Canyon formation.**

**If the Capitan Reef is encountered while drilling the intermediate hole (indicated by a loss of circulation), the mud must be changed to a fresh water mud to the setting depth of the intermediate casing.**

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Both stages to circulate. Please provide WOC times to inspector for cement slurries.**

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.**

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Tie-back of 500 feet required in Secretary's Potash. Please provide WOC times to inspector for cement slurries.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

## **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with vent control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.

HOBBS OGD

JAN 22 2006

RECEIVED

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **10,000 (10M) psi. A 10M system requires a 10M annular, two pipe rams, and a blind ram.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
  - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days.** This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### **D. 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.

#### **E. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**Engineer on call phone (after hours):      Carlsbad: (575) 706-2779**

**WWI 011008**

**RECEIVED**  
JAN 22 2008  
**HOBBS OCD**

RECEIVED

JAN 22 2008

HOBBS OCD

## VIII. PRODUCTION (POST DRILLING)

### A. WELL STRUCTURES & FACILITIES

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

### B. ELECTRIC LINES

#### **STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the

release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

HOBBS OCD

JAN 22 2008

RECEIVED

is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

See attached reclamation plans.

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

## **IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

### **B. RESERVE PIT CLOSURE**

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

### Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

**RECEIVED**

JAN 22 2008

**HOBBS OCD**

\*\*Four-winged Saltbush 5lbs/A

\* This can be used around well pads and other areas where caliche cannot be removed.

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

### **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.