ATS-08-585

Form 3160-3
(April 2004)

BLM-CARLSBAD FIELD OFFICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

NO ALLOT NO ALLOT NO TOS

5. Lease Serial No.
LC NM-065375A

6. If Indian, Allotee or Tribe Name

1a Type of work: [X] DRILL [ ] REENTER

7 If Unit or CA Agreement, Name and No

1b. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone

8 Lease Name and Well No. Unit (34342)
Lea Federal #23

2. Name of Operator
SAMSON RESOURCES COMPANY (20165) Attn: Duke Roush

9 API Well No.
30-025-39128

3a Address
Two West Second Street, Tulsa, OK 74103

3b. Phone No. *(include area code)*
(918) 583-1791

10 Field and Pool, or Exploratory
Lea Bone Springs

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 330' FNL & ~~790~~ 330' FWL Unit D
At proposed prod. zone same Lot 1

11. Sec., T. R. M. or Blk. and Survey or Area
Section 18, T-20-S, R-35-E

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

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)	16. No of acres in lease	17. Spacing Unit dedicated to this well
330'	80	80 acres
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
N/A	11,200'	NM2037
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3669' GL	Upon Approval	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: 3/27/08

Title: Authorized Agent

Approved by *(Signature)* — Name *(Printed/Typed)*: /s/ Don Peterson — Date: 7/16/08

Title: 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 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)

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Capitan Controlled Water Basin

Witness Surface & Intermediate Casing

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

BLM-CARLSBAD FIELD OFFICE

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT-" for such proposals

5. Lease Designation and Serial No.
NM-065375A

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE

7. If Unit or CA, Agreement Designation

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
Lea Federal #23

2. Name of Operator
Samson Resources Company (432) 686-6336

9. API Well No.
30-025-39128

3. Address and Telephone No.
200 N. Loraine Street, Suite 1010, Midland, TX 79701

10. Field and Pool, or Exploratory Area
Lea Bone Springs

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
330' FNL & 790' FWL, Section 18, T20S, R35E,
Lea County, NM

11. County or Parish, State
Lea County, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[X] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[ ] Other _____	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinet details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markders and zones pertinent to this work.)*

Moving location per request of the BLM (to get out of sand dunes); new location is:

330' FNL & 330' FWL, Section 18, T20S, R35E,
Lea County, NM

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7-18-08

14. I hereby certify that the foregoing is true and correct
Signed Kimberly Barker Title KIMBERLY BARKER, AGENT Date 6/24/08

(This space for Federal or State office use)
Approved by _____ Title for FIELD MANAGER Date 7/26/08
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, 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.

Samson

Centennial Tower
200 N. Loraine, Suite 1010
Midland, TX 79701
USA
432/683-7063
Fax 432/683-6847

July 10, 2008

Bureau of Land Management
Attn: Ms. Trisha Badbear
414 W. Taylor
Hobbs, New Mexico 88240-1157

Re: Lea Federal #23
330' FNL & 330' FWL
Section 18, T-20-S, R-35-E
Lea County, New Mexico

Gentlemen:

Please be advised that we have reached an agreement with the surface owner concerning our surface usage associated with the captioned well.

If we can be of any assistance, please advise.

Very truly yours,

Duke Roush
Senior Landman

DR/hd

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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

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WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-39128	37570	Lea Bone Spring

Property Code	Property Name	Well Number
34342	LEA FEDERAL Unit	23

OGRID No.	Operator Name	Elevation
20165	SAMSON RESOURCES	3664'

Surface Location

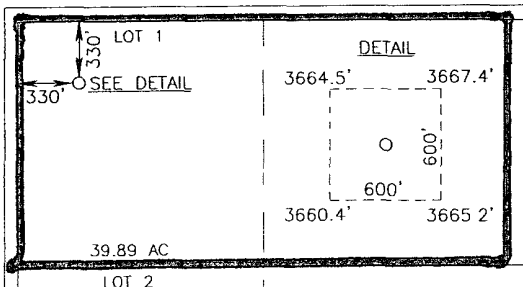
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	18	20-S	35-E		330	NORTH	330	WEST	LEA

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	Joint or Infill	Consolidation Code	Order No.
80			NSL-5902

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=575473.3 N
X=755584.7 E

LAT.=32.579343° N
LONG.=103.503605° 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 6/24/08 Date

KIMBERLY BARKER, AGENT
Printed Name

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.

RONALD J. EIDSON
MAY 28, 2008
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

Date Surveyed MAY 28, 2008 AR

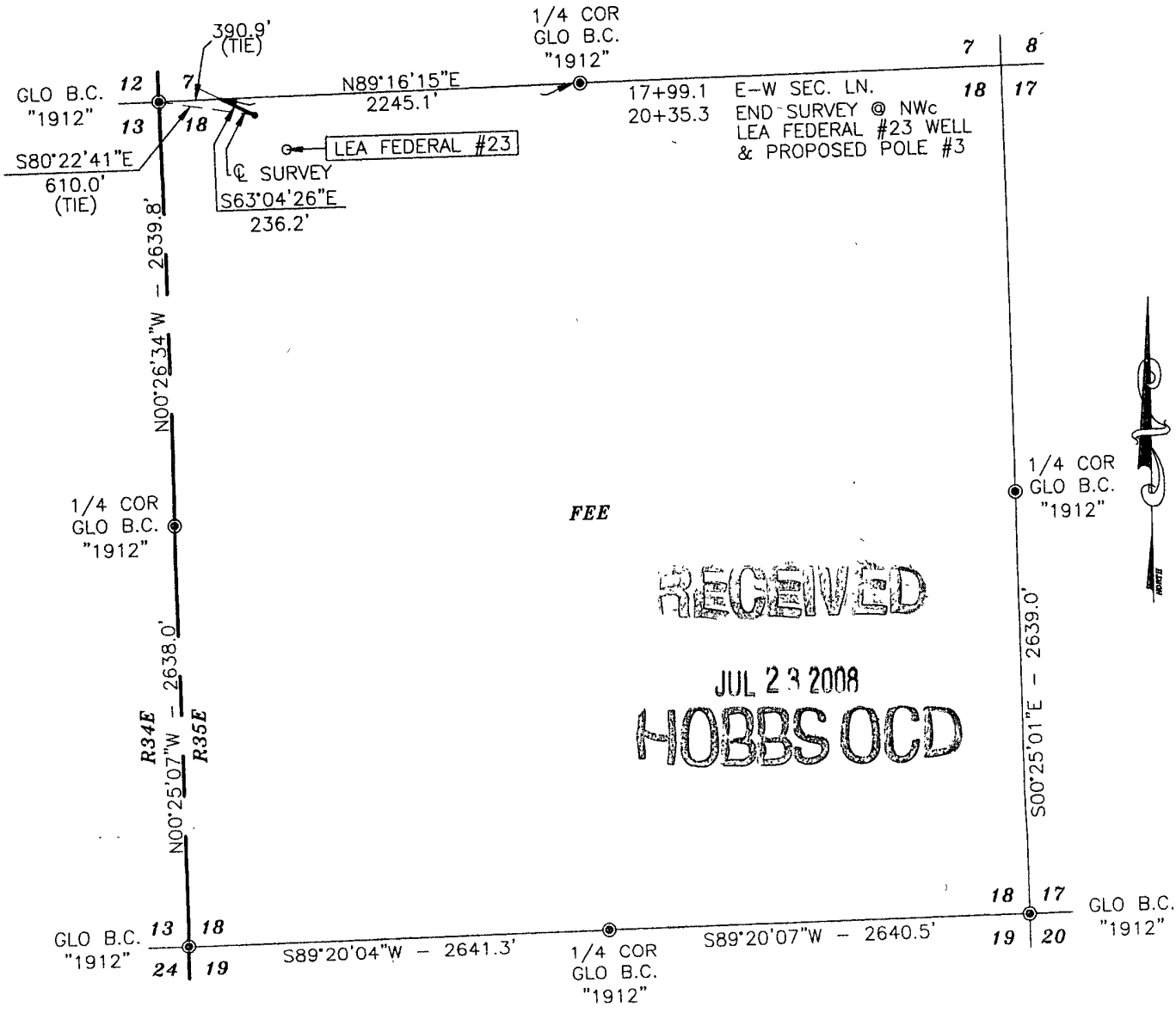
Signature & Seal of Professional Surveyor

Ronald J. Eidson 6/02/08

08.11.0818

Certificate No. GARY EIDSON 12641
RONALD J EIDSON 3239

SECTION 18, TOWNSHIP 20 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



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DESCRIPTION

CENTERLINE SURVEY OF AN ELECTRIC LINE EASEMENT CROSSING SECTION 18, TOWNSHIP 20 SOUTH, RANGE 35 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION, WHICH LIES N89°16'15"E 390.9 FEET FROM THE NORTHWEST CORNER OF SAID SECTION; THEN S63°04'26"E 236.2 FEET TO A POINT IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION, WHICH LIES S80°22'41"E 610.0 FEET FROM THE NORTHWEST CORNER OF SAID SECTION.

TOTAL LENGTH EQUALS 236.2 FEET OR 14.32 RODS

NOTE: BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES

EXHIBIT "A"

SAMSON RESOURCES COMPANY

Lea Federal No. 23
330' FNL & ~~790'~~ FWL, Section 18, T20S, R35E, LEA COUNTY, NEW MEXICO
Lease No.: NM-065375A
(Development Well)

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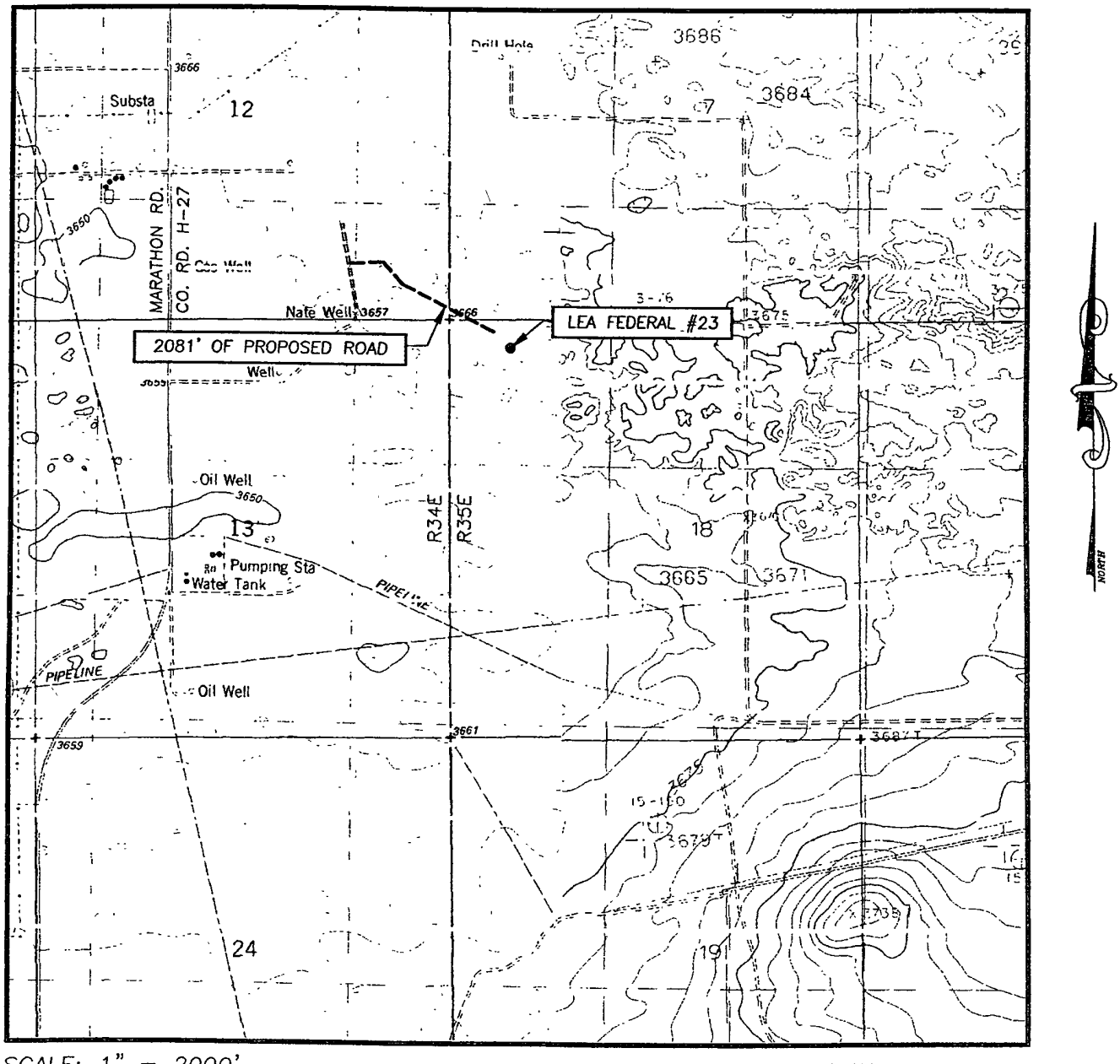


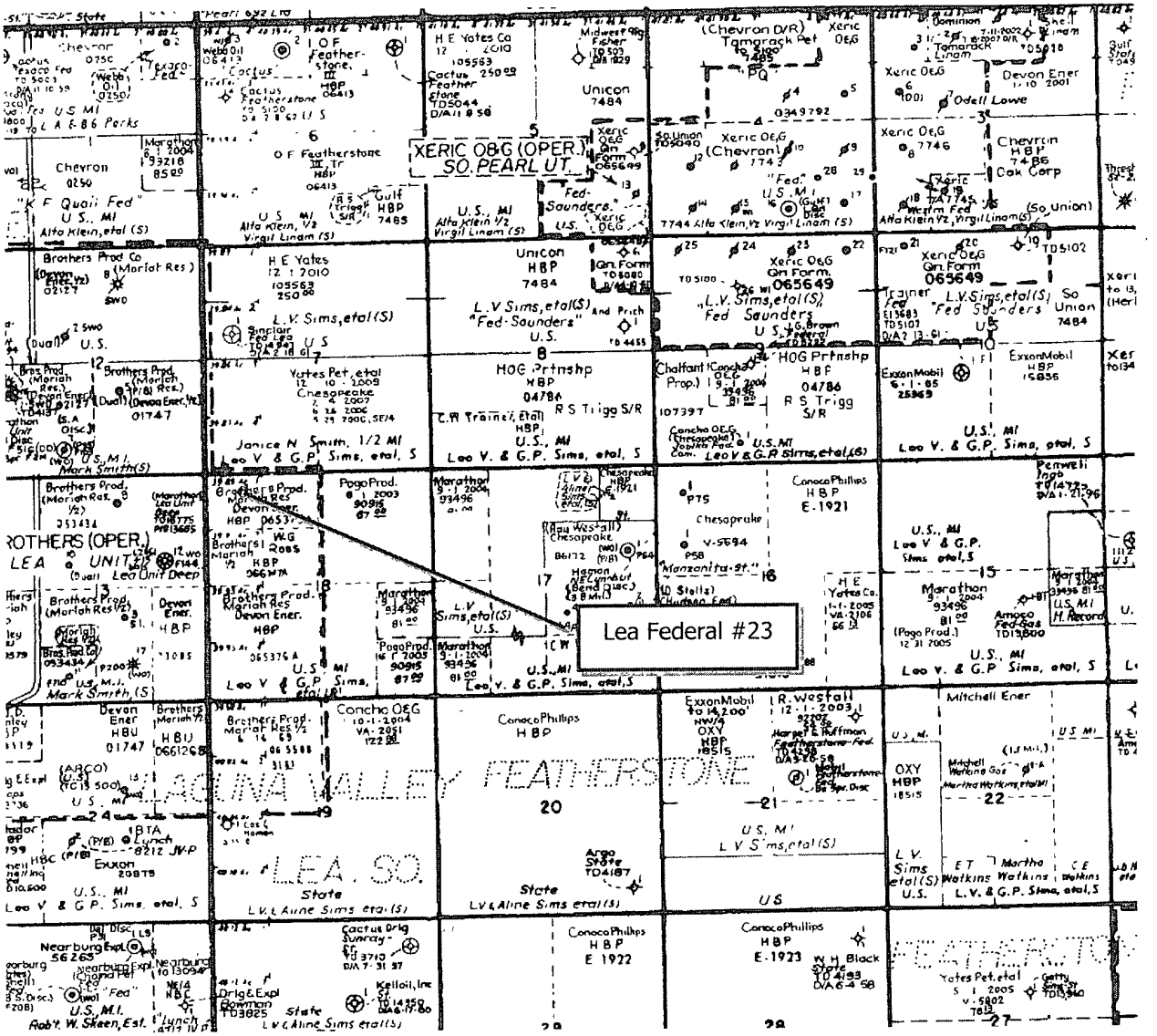
SCALE: 1" = 2000'

CONTOUR INTERVAL:
LEA, N.M. – 10'
MONUMENT SW, N.M. – 5'

EXHIBIT "C"

SAMSON RESOURCES COMPANY

~~790~~ Lea Federal No. 23
330' FNL & ~~790'~~ FWL, Section 18, T20S, R35E, LEA COUNTY, NEW MEXICO
Lease No.: NM-065375A
(Development Well)



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APPLICATION FOR DRILLING

SAMSON RESOURCES COMPANY

Lea Federal No. 23
330' FNL & ~~790'~~ 330' FWL, Section 18, T20S, R35E, LEA COUNTY, NEW MEXICO
Lease No.: NM-065375A
(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	3500'
Seven Rivers	3920'
Delaware Sd	5475'
Bone Spring	8200'
Wolfcamp	11000'

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'.

4. Proposed Casing Program: See revisions 6/25/09 mr

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QTY OF CEMENT	TOC
17 ½"	13-3/8"	48.0#	~~H-40~~	BT&C	0-1650'	~~1500 sx~~	Surface
12 ¼"	9-5/8"	~~40.0#~~	HCK-55	BT&C	~~1650-5475'~~	1250 sx	Surface
8 ¾"	~~5 ½"~~	17.0#	P-110	LT&C	5475-11200'	~~800 sx~~	~~5000'~~

5. Minimum Specifications for Pressure Control Equipment: See COA

A NU 13-5/8" ~~5M~~ Double Gate BOP over single w/13 5/8" ~~3M~~ Hydril annular preventer will be installed on the 13-3/8" before drilling ~~12 ¼~~" and 8 ¾" holes and operated as a 5000 psi system.

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6. MUD PROGRAM:

DEPTH	DESCR	MUD WEIGHT	VISCOSITY	W/L CONTROL
0-~~1600'~~ 1650	Fresh water	8.4 ppg	28-29	No W/L control
1650 1600-~~5400'~~ 5475'	Brine water	10.0 ppg	26-29	No W/L control
~~5400~~-11200' 5475	Cut Brine/Water	8.4-9.5 ppg	26-29	No W/L control

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_2S: 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_2S and if any is detected the mud weight will be increased along with H_2S inhibitors sufficient to control the gas.

11. Anticipated starting date: *Upon approval.*
Anticipated completion of drilling operations: *Approximately 6 weeks.*

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CEMENT PROGRAM

Type Cement and Yield

a. 13-5/8" Casing Cement Job

800 sx i. Lead = Halliburton Light Premium Plus @ 12.5 ppg; 1.98 cubic ft/sx yield

400 sx ii. Tail = Halliburton Premium Plus @ 14.8 ppg; 1.35 cubic ft/sx yield

b. 9-5/8" Casing Cement Job

per operator 6/13/08 MWL

1350 sx i. 1st Stage Lead = Halliburton Interfill C @ 11.5 ppg; 2.76 cubic ft/sx yield

450 sx ii. 1st Stage Tail = Halliburton Premium Plus Cement @ 14.8 ppg; 1.32 cubic ft/sx yield

250 sx iii. 2nd Stage Lead = Halliburton Interfill C @ 11.5 ppg; 2.76 cubic ft/sx yield

50 sx iv. 2nd Stage Tail = Halliburton Premium Plus Cement @ 14.8 ppg; 1.32 cubic ft/sx yield

c. 5-1/2' Casing Cement Job

i. Lead = Interfill H @ 11.9 ppg; 2.45 cubic ft/sx yield

ii. Tail = Super H Cement @ 13 ppg; 1.67 cubic ft/sx yield

DV Tool @ 1550' per operator 6/13/08 MWL See COA

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CASING PROGRAM

New Casing will be used: See below 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# L-80 BTC Casing @ 5475'
   i. Burst SF = 3.45 (1/3 BHP @ 11300' using 8.6 ppg pore pressure)
   ii. Collapse SF = 1.09 (full evacuation with 10 ppg on backside)
   iii. Tension SF = 2.87 (based on air weight of 5475' of 9-5/8" casing)

c. 5-1/2" 20# P-110 LTC Casing @ 11,300'
   i. Burst SF = 1.68 (7,500 psi maximum surface treating pressure during frac job)
   ii. Collapse SF = 2.07 (fully-depleted gas well with 9.1 ppg on backside)
   iii. Tension SF = 2.83 (based on air weight of 11300' of 5-1/2" casing)

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PRESSURE CONTROL PROGRAM

"BOP Testing Program During Day-to-Day Operations"

a. On-top of the 13-3/8" surface casing, nipple-up 13-5/8" 5M annular preventer (tested to 2500 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 13-5/8" 5M annular preventer (tested to 2500 psi high / 250 psi low) and 13-5/8" 5M Double Gate BOP (top = pipe, bottom = blind; tested to 5000 psi high / 250 psi low).
    ii. Typically the time from initial test of 13-5/8" BOP stack + related BOPE (after nipple-up) to drilling the 8-3/4" hole section to total depth at +/- 11,300' is +/- 11 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 +/- 11,300', another BOP test will be performed.

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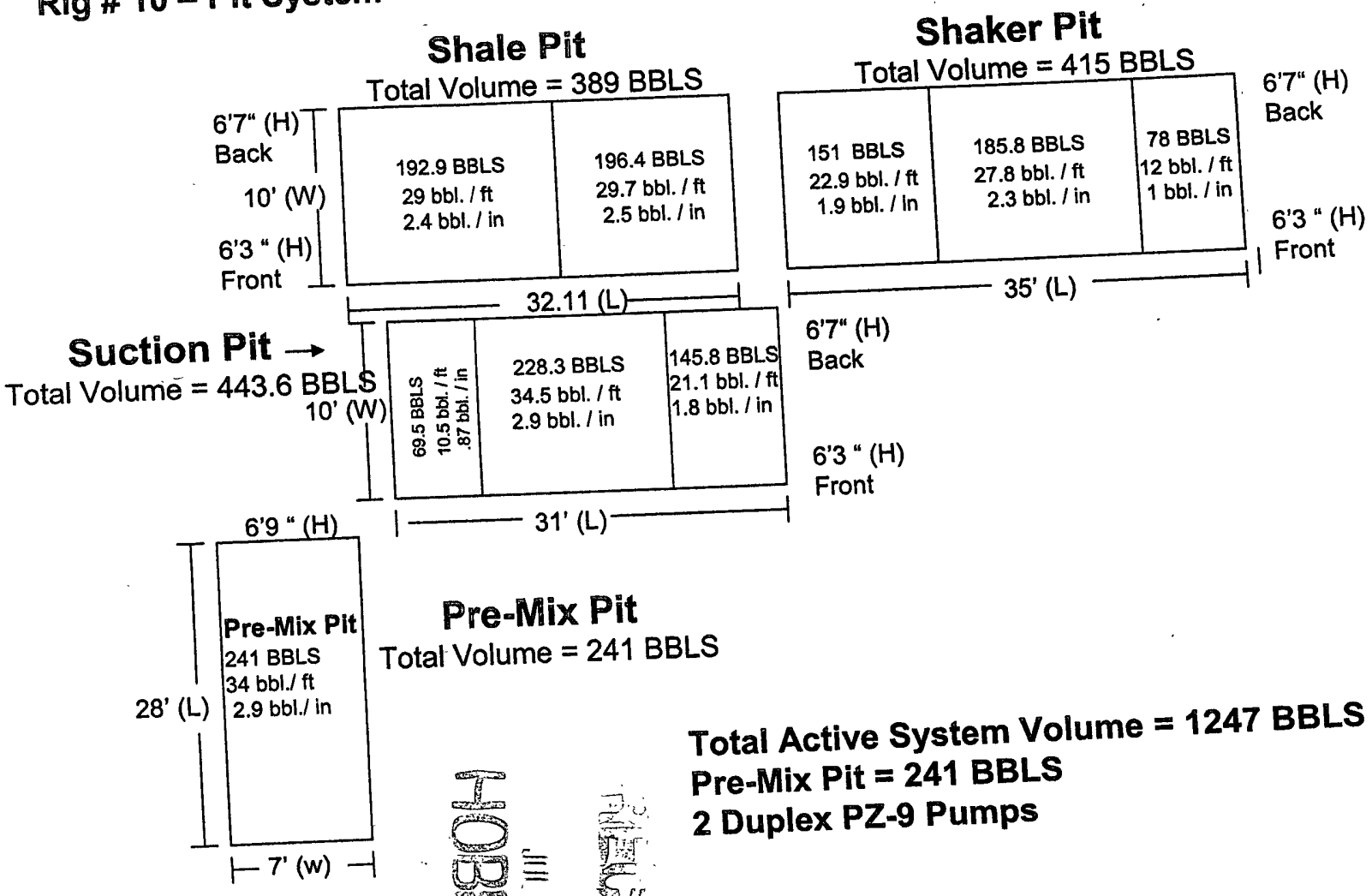
McVay Drilling Co.

Rig # 10 – Pit System



Total Active System Volume = 1247 BBLS
Pre-Mix Pit = 241 BBLS
2 Duplex PZ-9 Pumps

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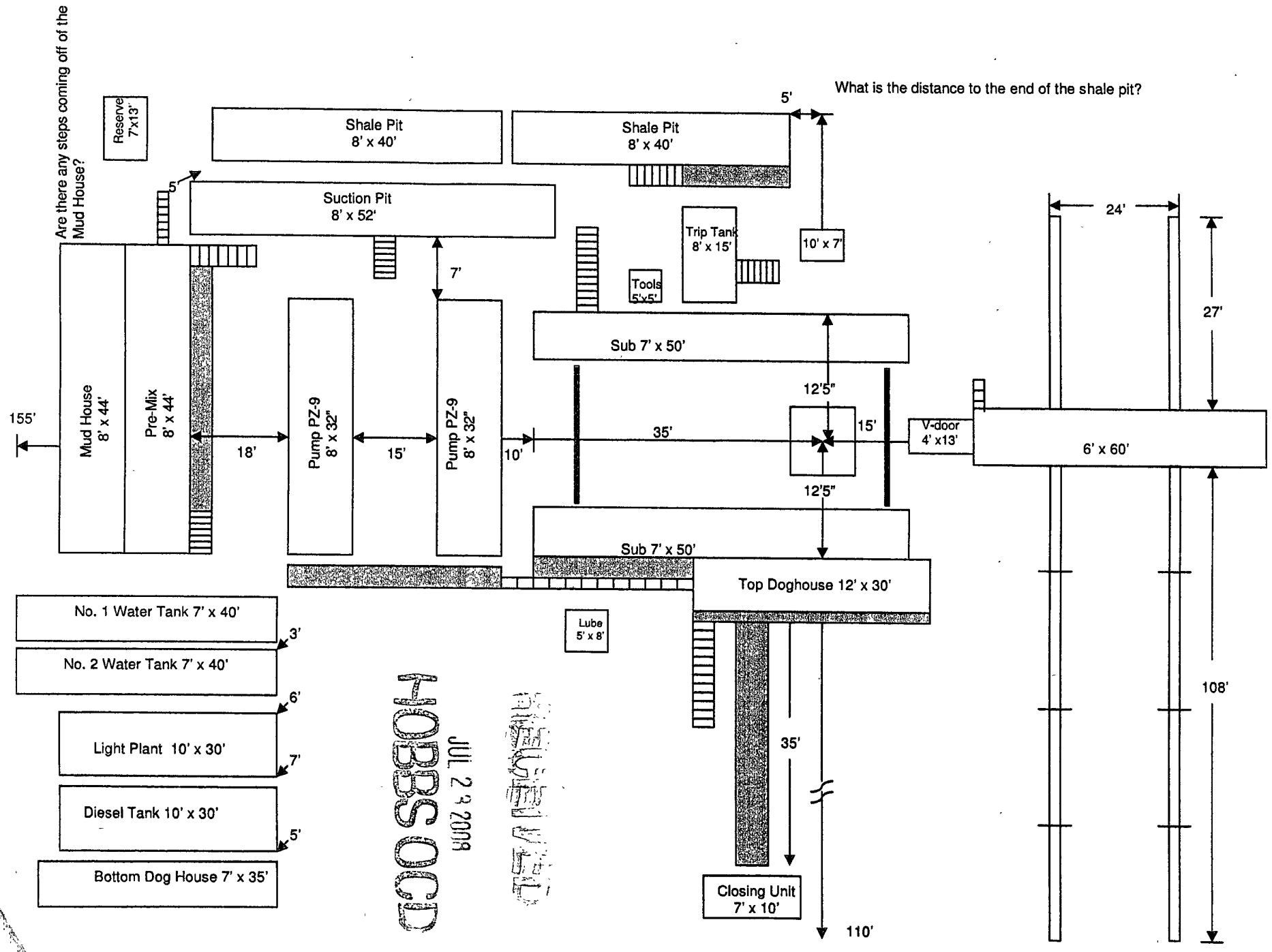
McVay Drilling Rig No. 10



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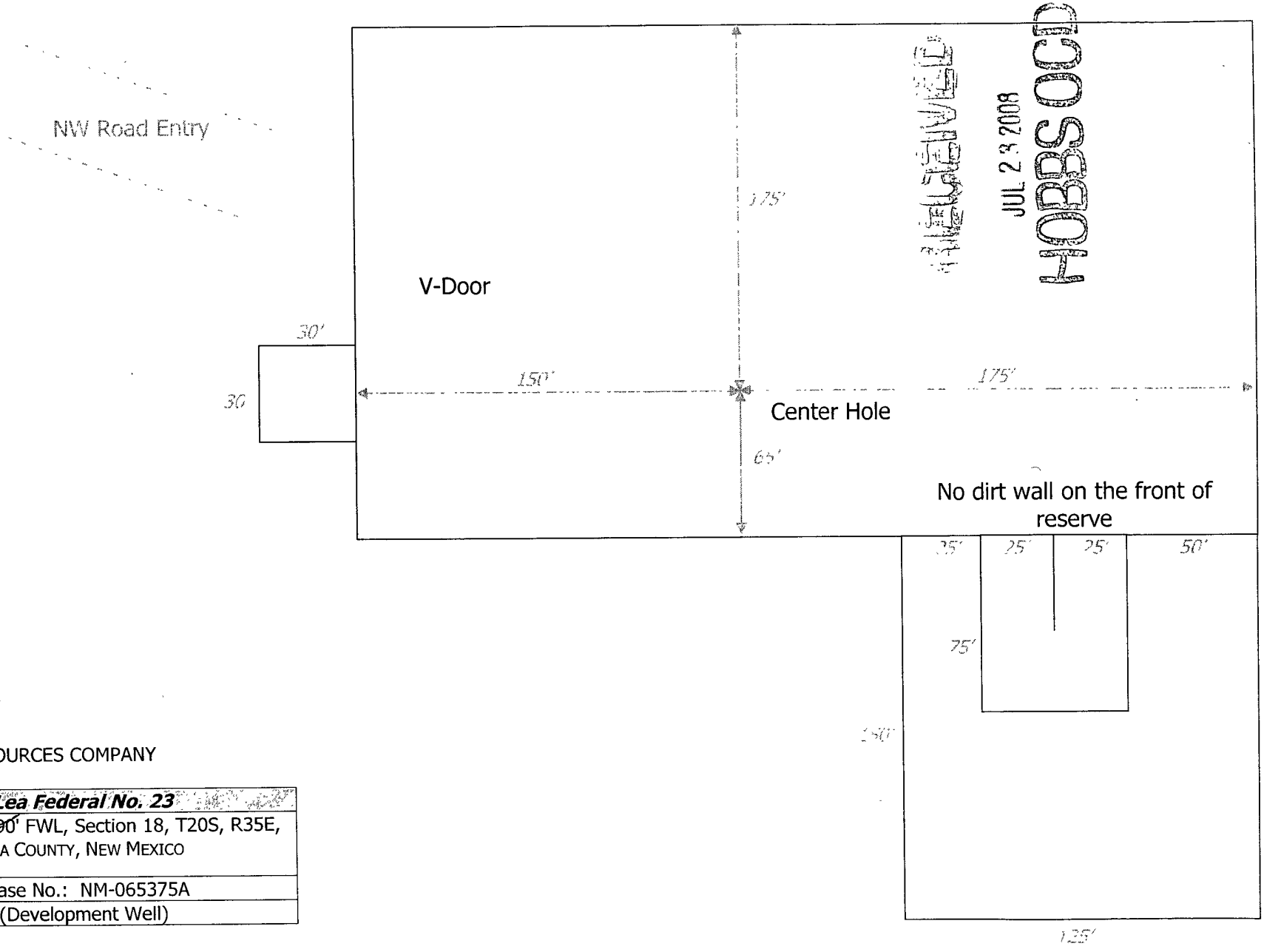

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EXHIBIT "D"

SAMSON RESOURCES COMPANY

Lea Federal No. 23
330' FNL & ~~790~~ 330' FWL, Section 18, T20S, R35E, LEA COUNTY, NEW MEXICO
Lease No.: NM-065375A
(Development Well)

EXHIBIT "B"

SAMSON RESOURCES COMPANY

Lea Federal No. 23
330' FNL & 790' FWL, Section 18, T20S, R35E, LEA COUNTY, NEW MEXICO
Lease No.: NM-065375A
(Development Well)

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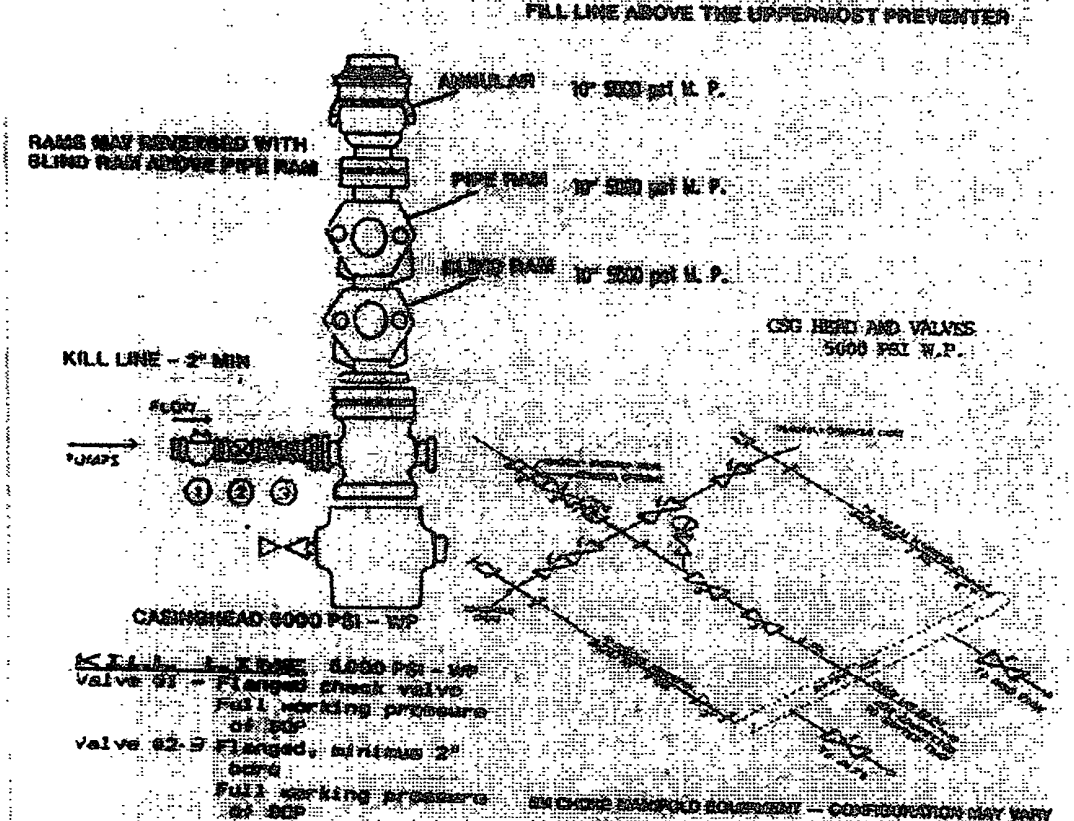
MINIMUM BOP Requirements

5000 PSI



GENERAL RULES AND RECOMMENDATIONS

All lines to manifold are to be at right angles (90 deg.). No 45 deg. angles are to be used.
Bleed lines are to be used for flushing.
All studs and nuts are to be installed on all flanges.
Choke manifold may be screwed connections down stream of choke.

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BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

5000 psi System

Figure 3-3

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Appendix G

10000-15000-20000 psi System

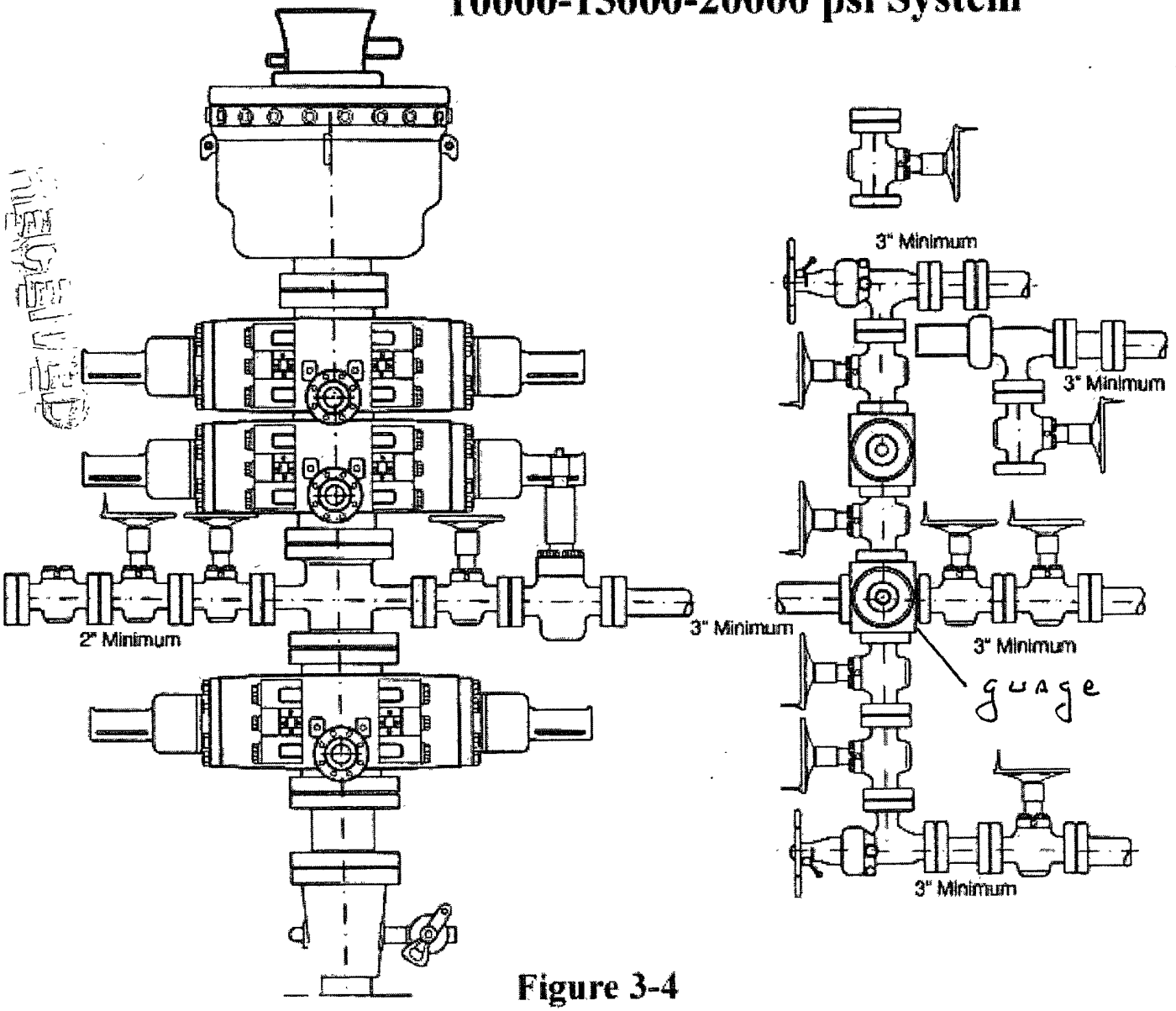

Figure 3-4

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PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Samson Resources Company
LEASE NO.:	NMLC065375A
WELL NAME & NO.:	Lea Federal No 23
SURFACE HOLE FOOTAGE:	330' FNL & 330' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 18, T. 20 S., R 35 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.

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I. GENERAL PROVISIONS

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.

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.

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V. SPECIAL REQUIREMENT(S)

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 1 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.

Sand Dune Lizard
Construction of the proposal in sand dune complexes that are suitable habitat or occupied habitat could impact local populations of sand dune lizard by reducing the size of habitat available to the species and possibly extirpating sand dune lizards from the location. However, with the negotiation of right-of-ways and infrastructure associated with the development of the oil field, extirpations of local populations of sand dune lizard could be avoided as long as projects are moved out of occupied and/or suitable sand dune lizard habitat.

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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 South 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.

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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.

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Ditching
Ditching shall be required on both sides of the road.

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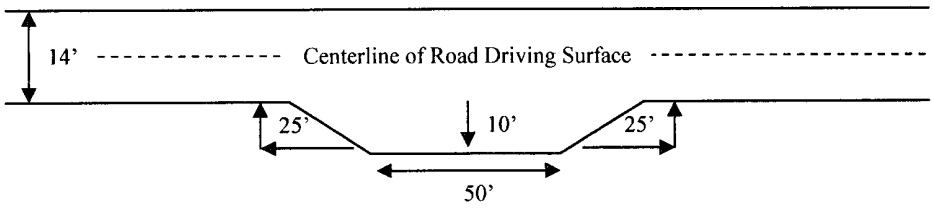
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

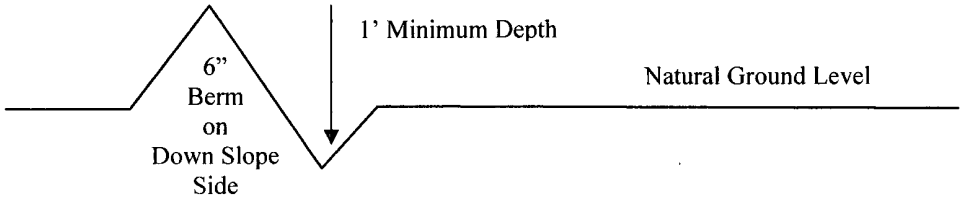


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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).

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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.

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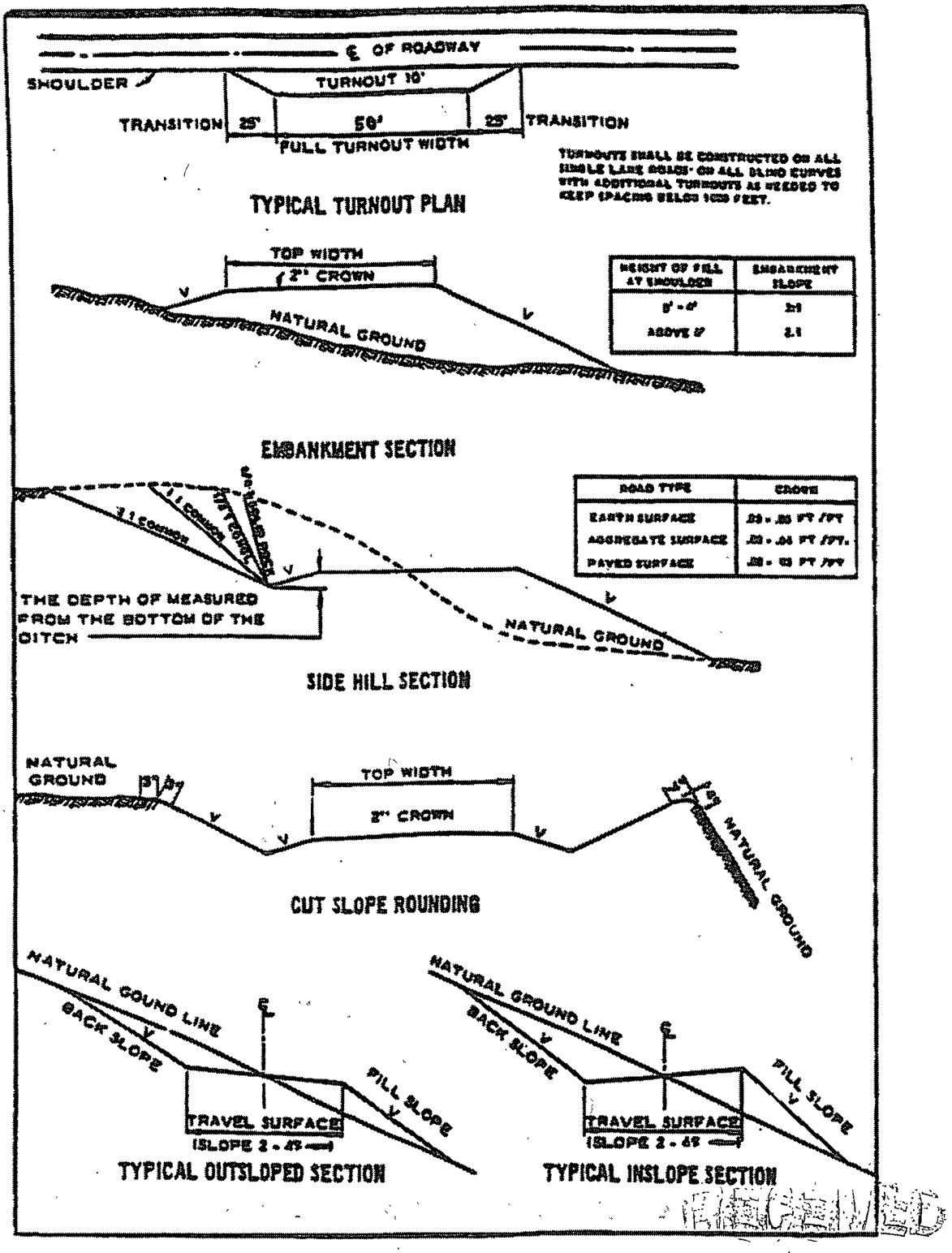
Figure 1 – Cross Sections and Plans For Typical Road Sections



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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 (H2S) 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. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

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 to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

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Possible lost circulation in the Red Beds, Capitan Reef, Delaware and Bone Spring formations.
Possible high pressure gas bursts in the Wolfcamp rat hole.

1. The **13-3/8** inch surface casing shall be set **at approximately 1650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** 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).

    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 cementing will be done prior to drilling out that string.

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.

While the 9-5/8" casing is being run, it must be kept liquid filled to meet the BLM safety factor for collapse.

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

    a. First stage to DV tool, cement shall:

    ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

    b. Second stage above DV tool, cement shall:

    ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **DV tool and ECP combination are to be set a minimum of 100' above the casing shoe.**

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

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If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

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

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required.**

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 well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

Based on pressure information provided by operator from nearby wells drilled deeper than this well, a 5M system including 5M annular is approved.

2. 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.

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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.

WWI 062508

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

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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:

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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:

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

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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.

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