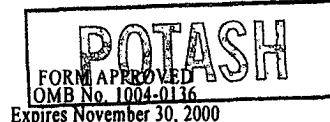


OPER. OGRID NO. 20165
PROPERTY NO. 9919
POOL CODE 78240
EFF. DATE 12/1/03
APPLIC/ API NO. 30-025-36505

IN



5. Lease Serial No.
NM-2515
6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

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

2. Name of Operator
Samson Resources

8. Lease Name and Well No.
Pubco Federal Com., # 2

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

3b. Phone No. (include area code)
(918) 591-1821

9. API Well No.
30-025-36505

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

At surface **1944' FNL & 1980' FWL**

At proposed prod. zone **same**

Unit F Lot 6 R-111-P Potash

10. Field and Pool, or Exploratory
Hat Mesa Morrow

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

Sec. 2-T21S-R32E

14. Distance in miles and direction from nearest town or post office*
39 miles northeast of Carlsbad, 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
716.36

17. Spacing Unit dedicated to this well
320 (160)

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **2640'**

19. Proposed Depth
14,200'

20. BLM/BIA Bond No. on file
NM-2037

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3708' GL

22. Approximate date work will start*
November 10, 2003

23. Estimated duration
6 weeks

24. Attachments

Carlsbad Controlled Water Basin

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
George R. Smith

Name (Printed/Typed)
George R. Smith

Title
Agent for Samson Resources

Approved by (Signature)
151 CARSTEN F. GOFF

Name (Printed/Typed)

151 CARSTEN F. GOFF

Title
STATE DIRECTOR

Office

NM STATE OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

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

*(Instructions on reverse)

Lease Responsibility Statement: Samson Resources. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof.

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

GRS
George R. Smith, agent

KG

DISTRICT I
P.O. Box 1988, Hobbs, NM 88241-1988

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 3D-025-36505		Pool Code 7824D	Pool Name Hat Mesa Horrow
Property Code 9919	Property Name PUBCO FEDERAL COM.		Well Number 2
OGRID No. 2D165	Operator Name SAMSON RESOURCES		Elevation 3708'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
6	2	21-S	32-E		1944	NORTH	1980	WEST	LEA

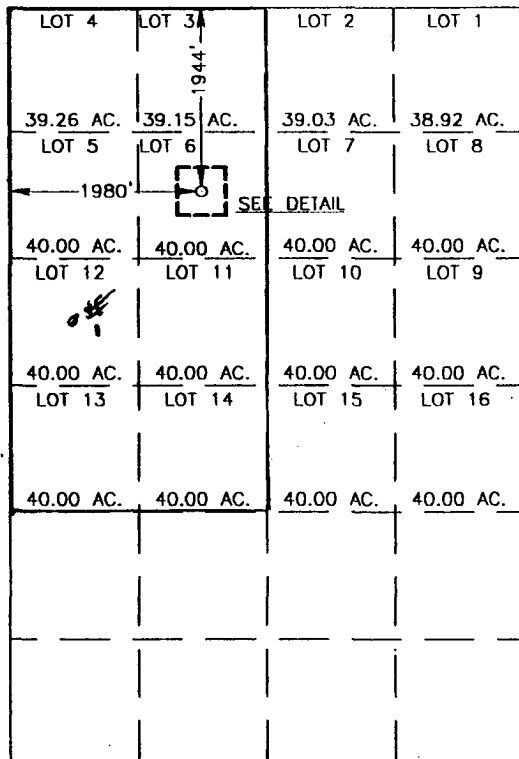
Bottom Hole Location If Different From Surface

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

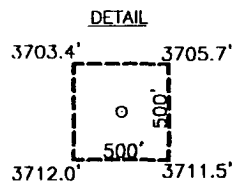
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320		Com	

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

NM-2515



SCALE: 1" = 2000'



GEODETTIC COORDINATES
SPC NME
NAD 1927
Y = 552430.8 N
X = 711499.7 E
LAT. - 32°31'00.73"N
LONG. - 103°38'49.90"W

OPERATOR CERTIFICATION

I hereby certify the the information
contained herein is true and complete to the
best of my knowledge and belief.

George R. Smith
Signature

George R. Smith, agent
Printed Name

for Samson Resources
Title

October 14, 2003
Date

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.

SEPTEMBER 29, 2003

Date Surveyed
Signature & Seal of
Professional Surveyor

Gary Edson
03.11.10720

Certificate No. GARY EDSON 12641

APPLICATION FOR DRILLING

SAMSON RESOURCES

Pubco Federal Com., Well No. 2
1944' FNL & 1980' FWL, Sec. 2-R21S-R32E
Lea County, New Mexico
Lease No.: NM-2515
(Development Well)

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

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

Rustler	1,530'	Wolfcamp	11,704'
Top of Salt	1,500'	Strawn	12,786'
Yates	3,150'	Atoka	12,945'
Capitan	3,529'	Morrow	13,600'
Delaware	5,454'	T.D.	14,400'
Bone Spring	8,649'		

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 below 5,454.

Gas: Possible in Atoka below 12,945 and the Morrow below 13,600'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
18 1/2"	16"	75.0#	K-55	BT&C	0" - 1,590'	Circ. 890 sx. "C" to surface.
14 3/4"	11 3/4"	54.5#	K-55	LT&C	0" - 3,150'	Circ. 1330 sx HLC Prem + to surface.
10 5/8"	8 5/8"	32.0#	HCK55	LT&C	0" - 5,350'	Circ. 2550 sx Interfill C & Prem
7 7/8"	5 1/2"	20.0#	P110	LT&C	0" - 14,400'	1405 sx Zoneseal & Super H TOC 5,100'

5. Minimum Specifications for Pressure Control Equipment:

A 13 3/8" 10,000 psi WP Shaffer, LWS Double Gate BOP will be installed on the 11 3/4" and tested and operated as a 5000 psi system, as per Onshore Oil & Gas Order #2. An annular preventer will be installed on the 16" casing to drill to the 3,10' depth. Casing and BOP will be tested before drilling out with the 10 5/8" and 7 7/8" casing.

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 930': Fresh water mud:	8.8 - 9.2 ppg	32 - 36	No W/L control
930' - 1,590': FW native mud:	10.0 - 10.4 ppg	28 - 29	No W/L control
1,590' - 3,150': FW native brine:	10.0 - 10.4 ppg	26 - 29	No W/L control
3,150' - 5,350': FW + additions	8.8 - 9.6 ppg	26 - 29	No W/L control
5,350' - 12,900': FW/Cut brine	8.4 - 9.2 ppg	26 - 29	No W/L control
12,900' - 14,400': Cut brine/XCD Polymer	9.4 - 11.5 ppg	29 - 42	W/L control <10cc +/-

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

SAMSON RESOURCES CO.

SAMSON RESOURCES CO.

Pubco Federal Com., Well No. 2

Page 2

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.

Logging: 5,000' to T.D.: CNL-DNL w/GR-Cal.

5,000' 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 = 6336 psi and surface pressure of 3168 psi with a temperature of 204°.

10. H₂S: None expected. The Minis "2" Fed. #1 well, 3508' SE of this well, has been tested with no H₂S present in production of the Delaware.

11. Anticipated starting date: November 10, 2003.

Anticipated completion of drilling operations: Approximately 4 – 5 weeks.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

SAMSON RESOURCES
Pubco Federal, Well No. 2
1944' FNL & 1980' FWL, Sec. 2-R21S-R32E
Lea County, New Mexico
Lease No.: NM-2515
(Development Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, to be followed in rehabilitating the surface environmental effects associated with the operations.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a USGS/BLM Topo map showing the location of the proposed well as staked. The well site location is approximately 40 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 37.0 miles of paved highway and .75 miles of gravel oilfield roads.
- B. Directions: Travel east from Carlsbad, NM on U.S. Highway 62/180 for approximately 32 miles to NM Highway #176. Turn southeast on NM #176 for 4.6 miles. Turn south for .7 mile on Salt Lake Rd. to the start of the proposed access road on the left. The proposed access road will run east for 1100 feet to the SW corner of the proposed well site.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The proposed access road will be approximately 1,100 in length and 12 foot in width. The access road is color coded red on Exhibit "A".
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche and will be properly drained.
- C. Turnouts: Possibly one will be required increasing the road width to 20 feet for passing.
- D. Culverts: None required.
- E. Cuts and Fills: None required.
- F. Gates, Cattle guards: None required.
- G. Off Lease R/W: None required.

3. LOCATION OF EXISTING WELLS:

- A. Existing wells within a two-mile radius are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;

- A. Samson Resources has production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities, gas production-process equipment and tank battery, if required, will be installed on the drilling pad. A 3" steel 3200 psi gas flow line, with maximum of 1000 psi operating pressures, will be buried and will run parallel to the proposed access road and the Salt Lake Rd. back to the Pubco Fed. #1.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Caliche for the access road and well site pad will be obtained on location, if available, or from an approved Federal pit located in the NENW of Sec. 4-T21S-R32E. No surface materials will be disturbed except those necessary for actual grading and construction of the drill site and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing materials to prevent livestock and wildlife from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. None required.

9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 500' X 500'.
- B. Mat Size: 300' X 210', plus 150' X 150' mud pits. The pits will be on the north.
- C. Cut & Fill: There will be a 2-foot cut on the south with fill to the north.
- D. The surface will be topped with compacted caliche and the mud pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled as soon as they are dry enough to work after abandonment.

11. OTHER INFORMATION:

- A. Topography: The proposed well site and access road is located northwest of Hat Mesa. The location has a northwesterly slope of 1.4% from an elevation of 3715'.
- B. Soil: The topsoil on the well site and access road is reddish brown colored fine sand. The soil is of the Berino-Cacique Loamy Fine Sands Soils Assn.
- C. Flora and Fauna: The vegetation at the well site is a sparse to fair grass cover of three-awn, dropseed, burrograss, grama, bluestem and other miscellaneous native grasses along with plants of mesquite, yucca, sage, shinnery oak brush, broomweed, cacti, buckwheat and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None.
- E. Residences and Other Structures: None, but existing oil field facilities.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road are on Federal surface.
- H. There is no evidence of archaeological, historical or cultural sites in the area. Archaeological Survey Consultants, P.O. Box 2285, Roswell, NM 88202 are conducting an archaeological survey and their report will be submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:

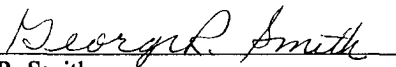
- A. The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

Billy Goodwin
Samson Resources
Samson Plaza-Two West Second St.
Tulsa, OK 74103-3103
Office Phone: (918) 591-1822

13. CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Samson Resources and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

October 14 2003


George R. Smith
Agent for: Samson Resources

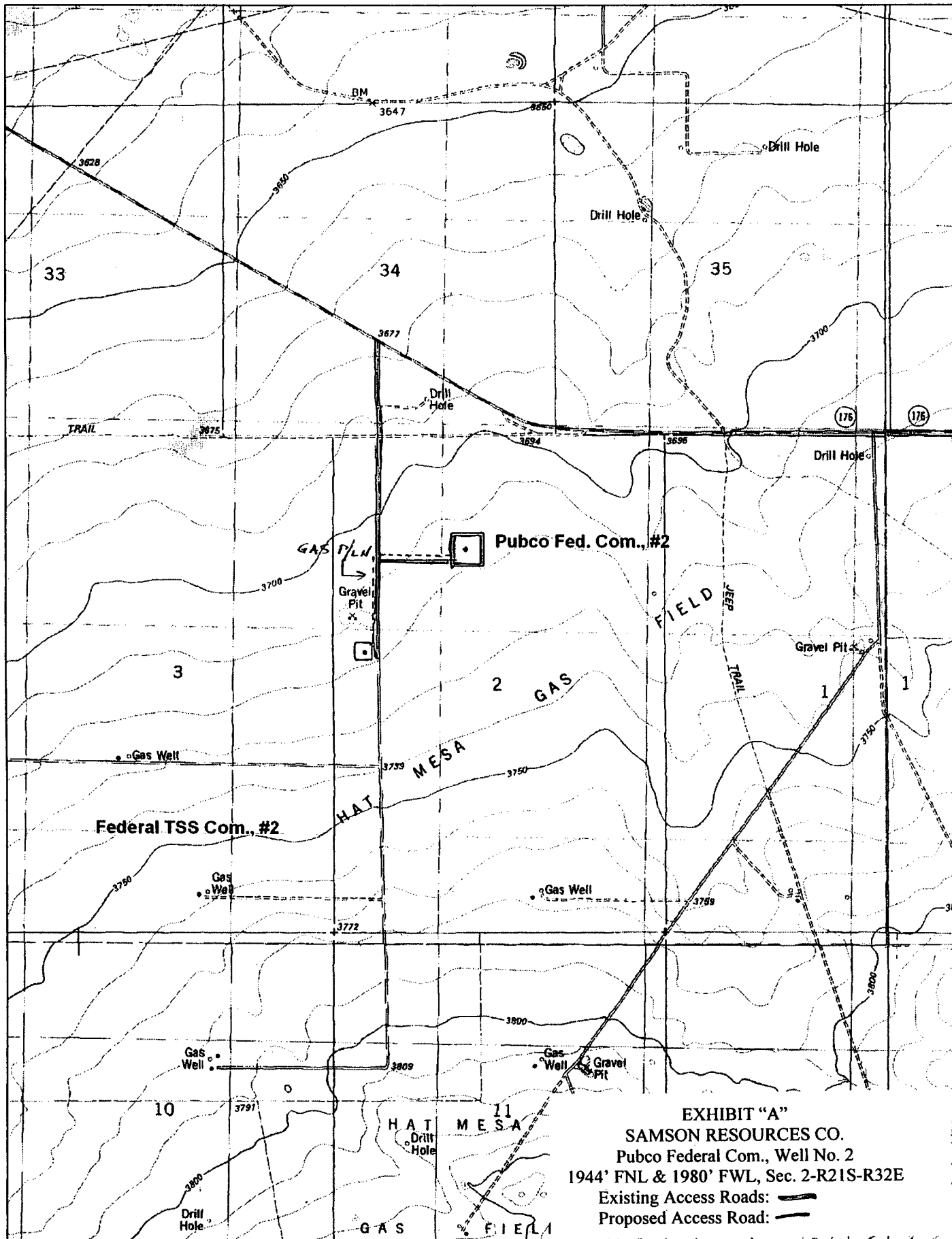
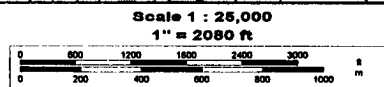
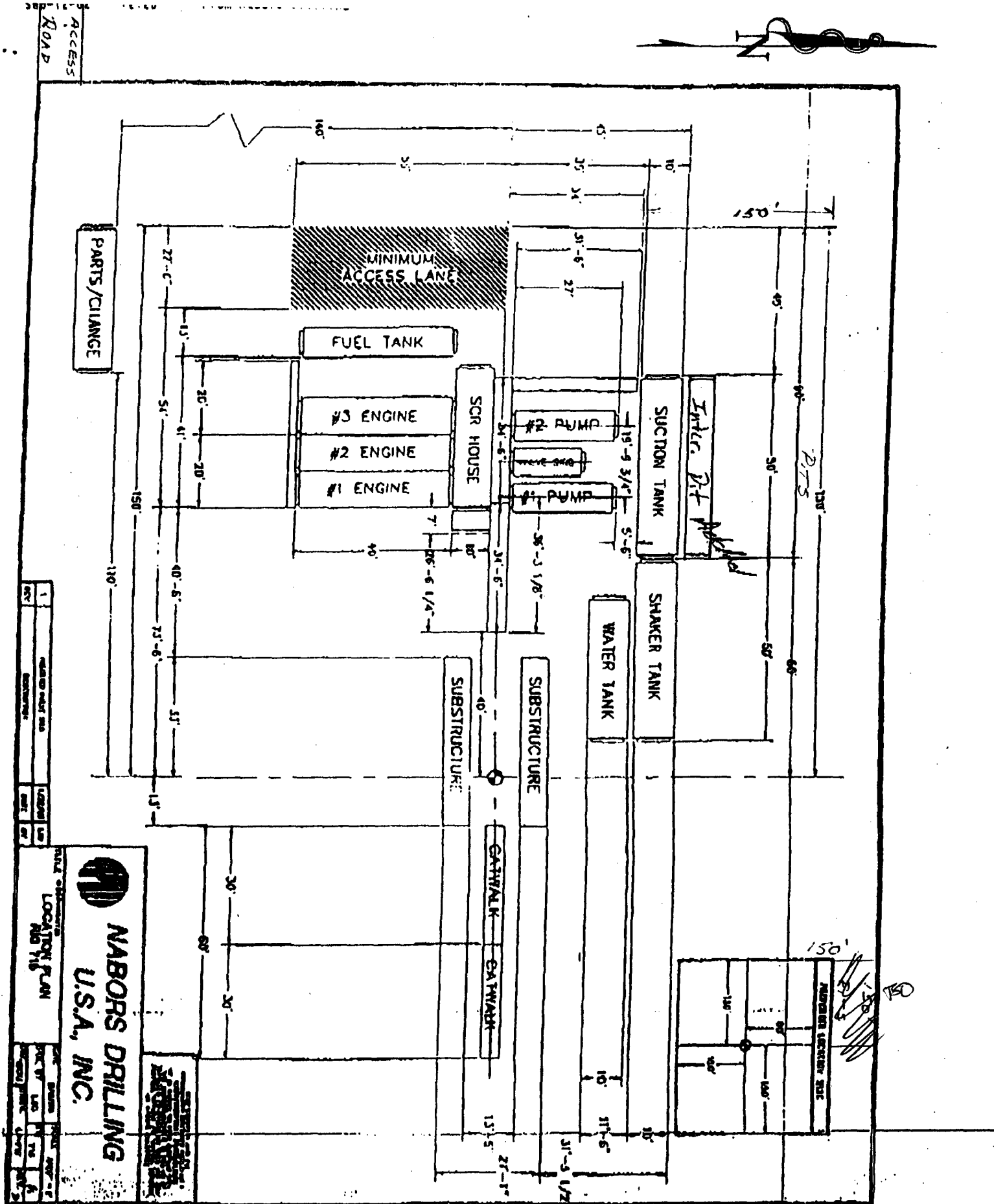


EXHIBIT "A"
SAMSON RESOURCES CO.
 Pubco Federal Com., Well No. 2
 1944' FNL & 1980' FWL, Sec. 2-R21S-R32E
 Existing Access Roads: ———
 Proposed Access Road: ———



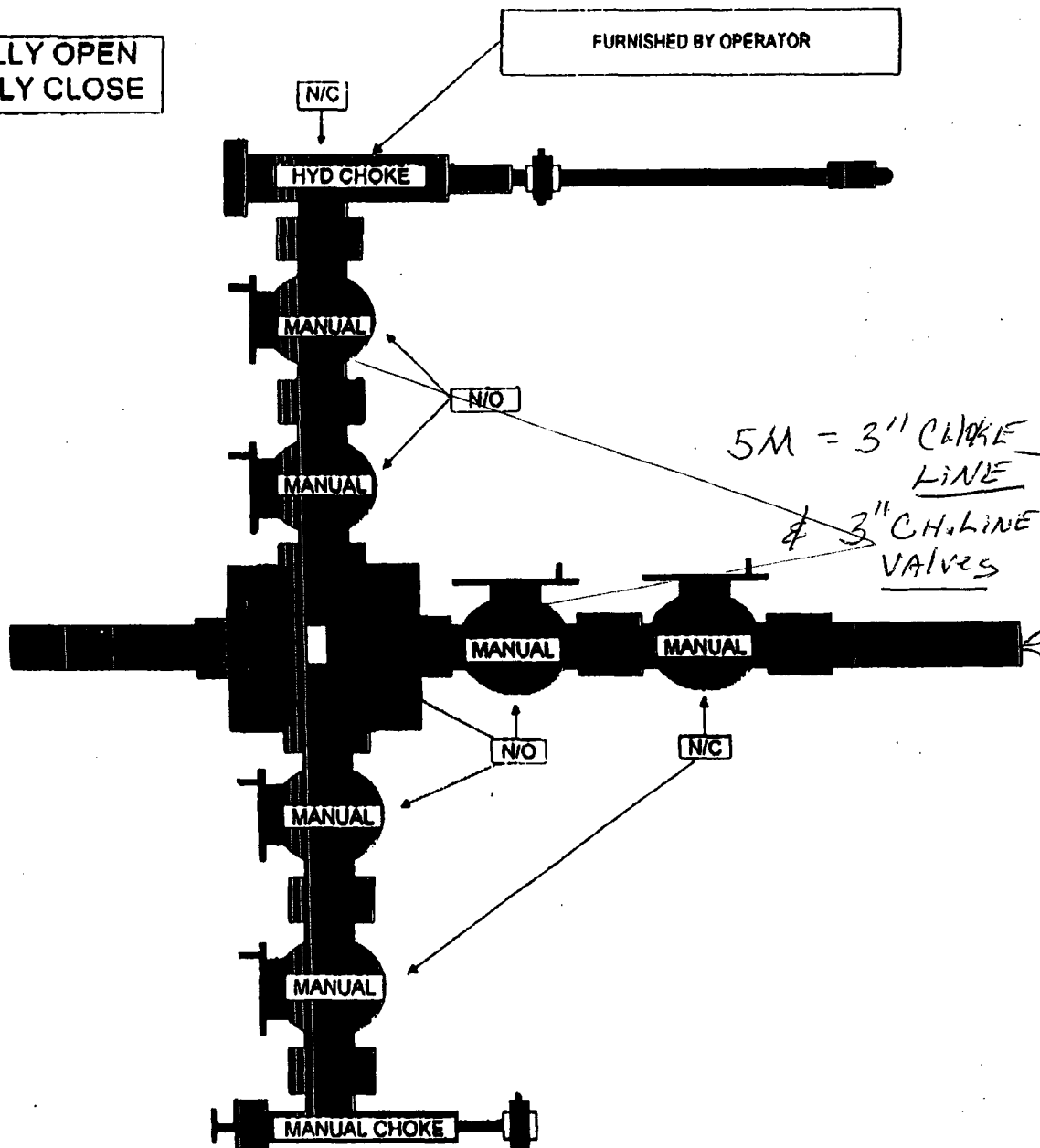
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www.delorme.com







N/O = NORMALLY OPEN
N/C = NORMALLY CLOSE





RIG 715 BOP LAYOUT

