* Form 3160-3
(August 1999)

H-3

New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.	NM-0631
6. If Indian, Allottee or Tribe Name	
7. If Unit or CA Agreement, Name and No.	
8. Lease Name and Well No.	Federal 11-20-34, Well # 7
9. API Well No.	30-025-36300
10. Field and Pool, or Exploratory	~~Quail Ridge~~ Delaware NE
11. Sec., T., R., M., or Blk. and Survey or Area	Sec. 11-T20S-R34E
12. County or Parish	Lea
13. State	NM

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

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

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

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

14. Distance in miles and direction from nearest town or post office*: 50 miles northeast of Carlsbad, NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 330'

16. No. of Acres in lease: 320

17. Spacing Unit dedicated to this well: 40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 2600' (com)

19. Proposed Depth: 7000'

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3654' GL

22. Approximate date work will start*: June16, 2003

23. Estimated duration: 4 weeks

24. Attachments — Capitan 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	Name *(Printed/Typed)*	Date
George R. Smith	George R. Smith	5/2/03

Title: Agent for Samson Resources

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ LESLIE A. THEISS	/s/ LESLIE A. THEISS	JUN 09 2003

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

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

APPROVAL FOR 1 YEAR

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

(Instructions on reverse)

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

George R. Smith, agent

RECEIVED
JUN 2003
Hobbs
OCD

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

OPER. OGRID NO. 20165
PROPERTY NO. 9908
POOL CODE 37584
EFF. DATE 6-12-03
API NO. 30-025-36300

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-36300	37584	~~Quail Ridge~~ Lea; Delaware, NE

Property Code	Property Name	Well Number
9908	FEDERAL 11	7

OGRID No.	Operator Name	Elevation
20165	SAMSON RESOURCES	3654'

Surface Location

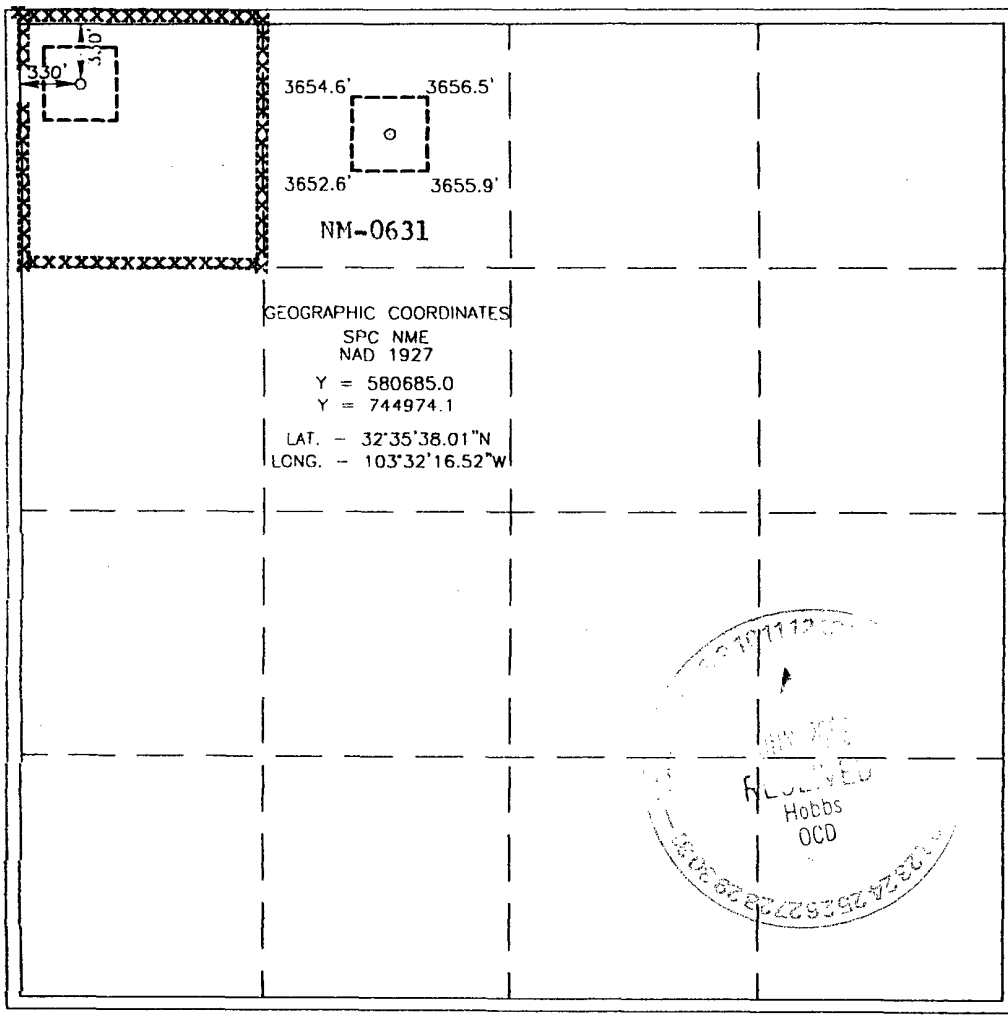
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	11	20-S	34-E		330	NORTH	330	WEST	LEA

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.
40			

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



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 for:
Printed Name

Samson Resources
Title

May 2, 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 supervison, and that the same is true and correct to the best of my belief.

FEBRUARY 10, 2003
Date Surveyed LA

Signature & Seal of Professional Surveyor

Ronald J. Eidson 2/12/03
03.11.0167

Certificate No: RONALD J. EIDSON 3239
GARY EIDSON 12641

APPLICATION FOR DRILLING

SAMSON RESOURCES CO.
Federal 11-20-34, Well No. 7
330' FNL & 330' FWL, Sec. 11-T20S-R34E
Lea County, New Mexico
Lease No.: NM-0631
(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	1,600'	7 Rivers	3,900'
Top of Salt	1,710'	Queen	4,645'
Base of Salt	3,160'	San Andres	4,980'
Yates	3,570'	Delaware	5,280'
		T.D.	6,300'

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

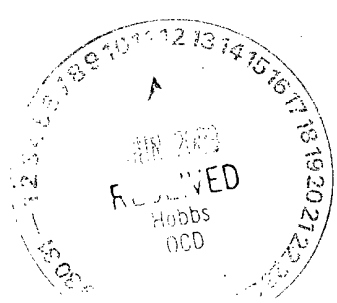
4. **Proposed Casing Program:**

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	J-55	LT&C	0" - 1,610'	Circ. 1275 sx. HLC & Prem+ .
11"	8 5/8"	32.0#	HC-K-55	LT&C	0' - 5,000'	Circ. 2 stage w/DV tool @ 3800' 1155 sx Interfill C & Prem. +
7 7/8"	5 1/2"	15.5#	J-55	LT&C	0' - 6,300'	250 sx Interfill C &Super H, TOC 4,800'

5. **Minimum Specifications for Pressure Control Equipment:**
   A 11" 5000 psi WP Shaffer, LWS Double Gate BOP will be installed on the 13 3/8" and operated as a 3000 psi system. The casing and BOP will be tested as per Onshore Oil & Gas Order #2 to the maximum of 1500 psi. (IIIBh) Casing and BOP will be tested before drilling out with the 11" and 7 7/8".

6. MUD PROGRAM:		MUD WEIGHT	VIS.	W/L CONTROL
0' – 1,610':	Fresh water mud:	8.6 - 9.0 ppg	32 - 36	No W/L control
1,610' - 3,160':	Brine mud:	10.0 - 10.1 ppg	28 - 29	No W/L control
3,160' - 5,000':	BW mud/plus add.	8.4 - 8.5 ppg	28 - 29	No W/L control
Note: If lost circulation is encountered in the reef, will change to fresh water.				
5,000' - 6,300':	F/Water/polymer:	8.5 - 8.6 ppg	28 - 29	No W/L control

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

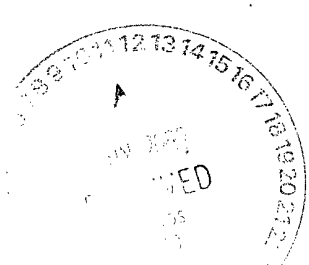


8. **Testing, Logging, and Coring Program:**
   Drill Stem Tests: None unless conditions warrant.
   Logging: 5,000' to T.D.: CNL-DNL w/GR-Cal.
   5,000' to Surface: CNL-GR
   Coring: Rotary sidewall if dictated by logs.

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 = 2772 psi and surface pressure of 1386 psi with a temperature of 123°.

10. H_2S: None expected. None in existing wells in close vicinity, but a Drilling Operations Plan, Exhibit "F", being submitted to cover this contingency

11. Anticipated starting date: June 16, 2003.
    Anticipated completion of drilling operations: Approximately 4 weeks.



MULTI POINT SURFACE USE AND OPERATIONS PLAN

SAMSON RESOURCES
Federal 11-20-34, Well No. 7
330' FNL & 330' FWL, Sec. 11-R20S-R34E
Lea County, New Mexico
Lease No.: NM-0631
(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 50 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 48.5 miles of paved highway and 1.5 miles of gravel ranch/oilfield roads.

B. Directions: Travel east from Carlsbad, NM on U.S. Highway 62/180 for approximately 46 miles to Marathon Road. Turn south on Marathon Road for 3.3 miles. Turn west at a Read & Stevens sign, crossing a cattle guard, and continue west for 1.3 mile to the Federal 11-20-34, Well No. 5 tank battery. The proposed access road will start at the northeast corner of this location pad and will run north for 677 feet to the southeast corner of the proposed well site.

2. PLANNED ACCESS ROAD:

A. Length and Width: The proposed access road is approximately 677 feet in length and 12 foot in width. The access road is color coded in 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: There will be no turnouts.

D. Culverts: None required.

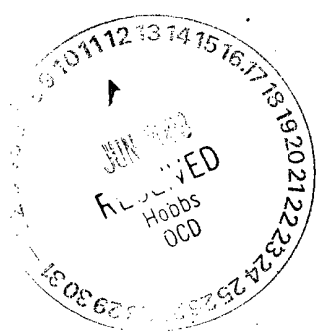
E. Cuts and Fills: Some minor cuts on small dunes as approaching location.

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, if required, will be installed on the drilling pad. A 2" steel 2100 psi flow line will be run on the surface parallel to the access road back the #5 tank battery.

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 SW4 of Sec. 26-T19S-R34E. 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.

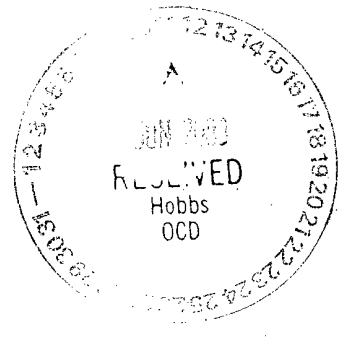
E. Oil produced during operations will be stored in tanks until sold.

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, 400' X 400'.

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 1-foot cut on the northeast and east with fill to the southwest. The main job will be to level the 3 – 5 foot sand dunes and deflation basins.

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 a 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 in an area of sand dunes and deflation basins which is part of the Querecho Plains. The location has a southwesterly slope of .5% from an elevation of 3654'.

B. Soil: The topsoil on the well site and access road is reddish brown colored fine sand. The soil is of the Kermit Soils and Dune Land Series.

C. Flora and Fauna: The vegetation at the well site is a sparse grass cover of three-awn, dropseed, bluestem, muhly and other miscellaneous native grasses along with plants of mesquite, yucca, sage, shinnery oak brush, broomweed, cacti, 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.

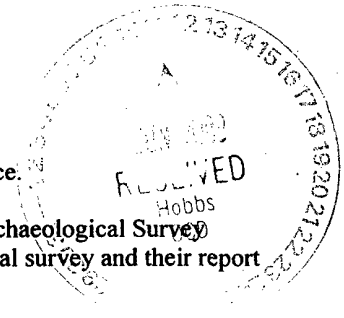
D. Ponds and Streams: None.

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:

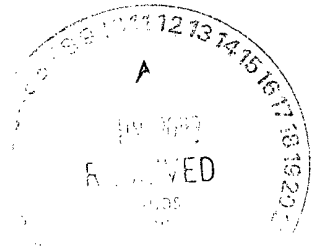
Billy Goodwin
Samson Resources
Samson Plaza-Two West Second St.
Tulsa, OK 74103-3103
Office Phone: (918) 591-1822

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.

May 2, 2003

George R. Smith
Agent for: Samson Resources



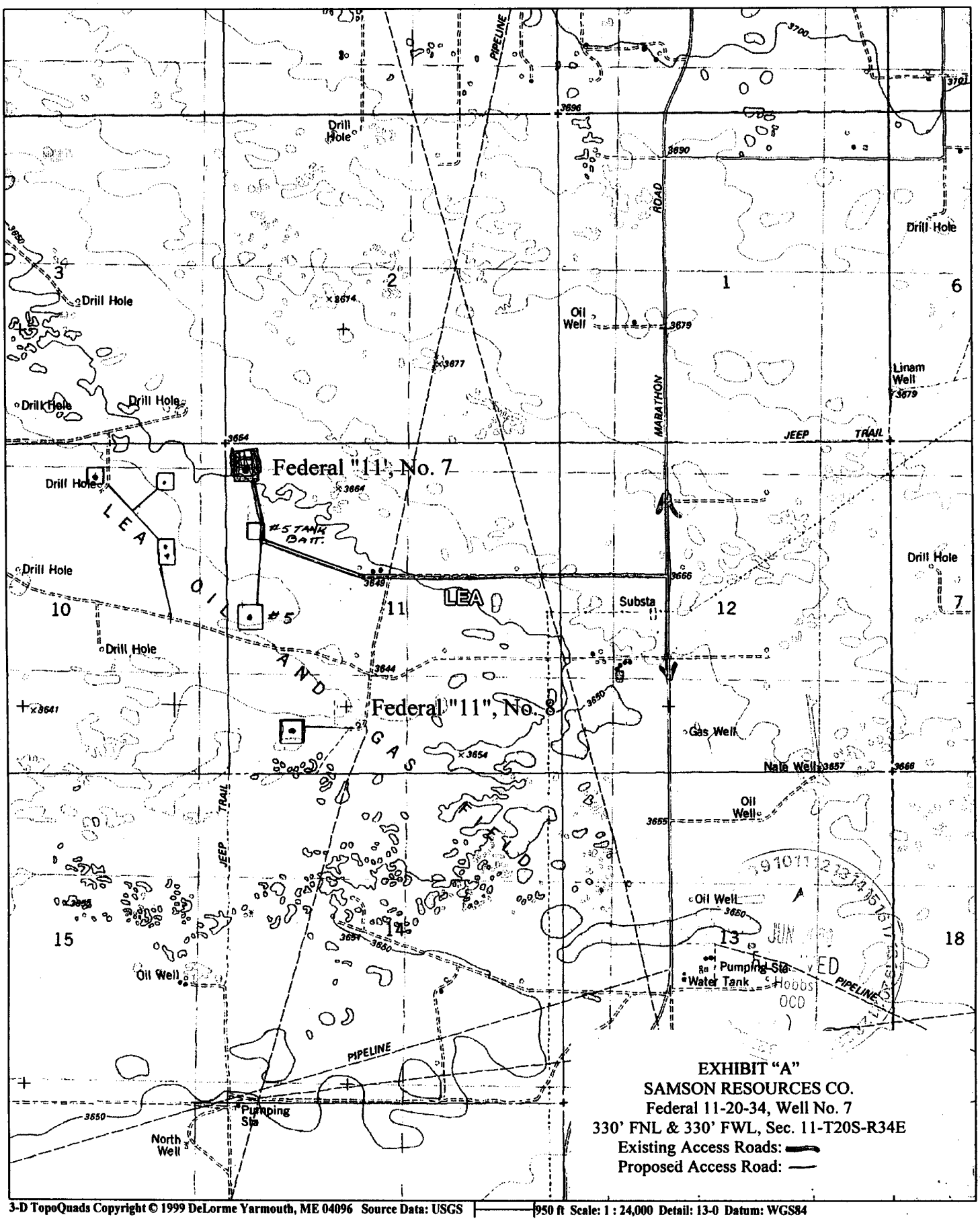


EXHIBIT "A"
SAMSON RESOURCES CO.
Federal 11-20-34, Well No. 7
330' FNL & 330' FWL, Sec. 11-T20S-R34E
Existing Access Roads:
Proposed Access Road:

950 ft Scale: 1 : 24,000 Detail: 13-0 Datum: WGS84

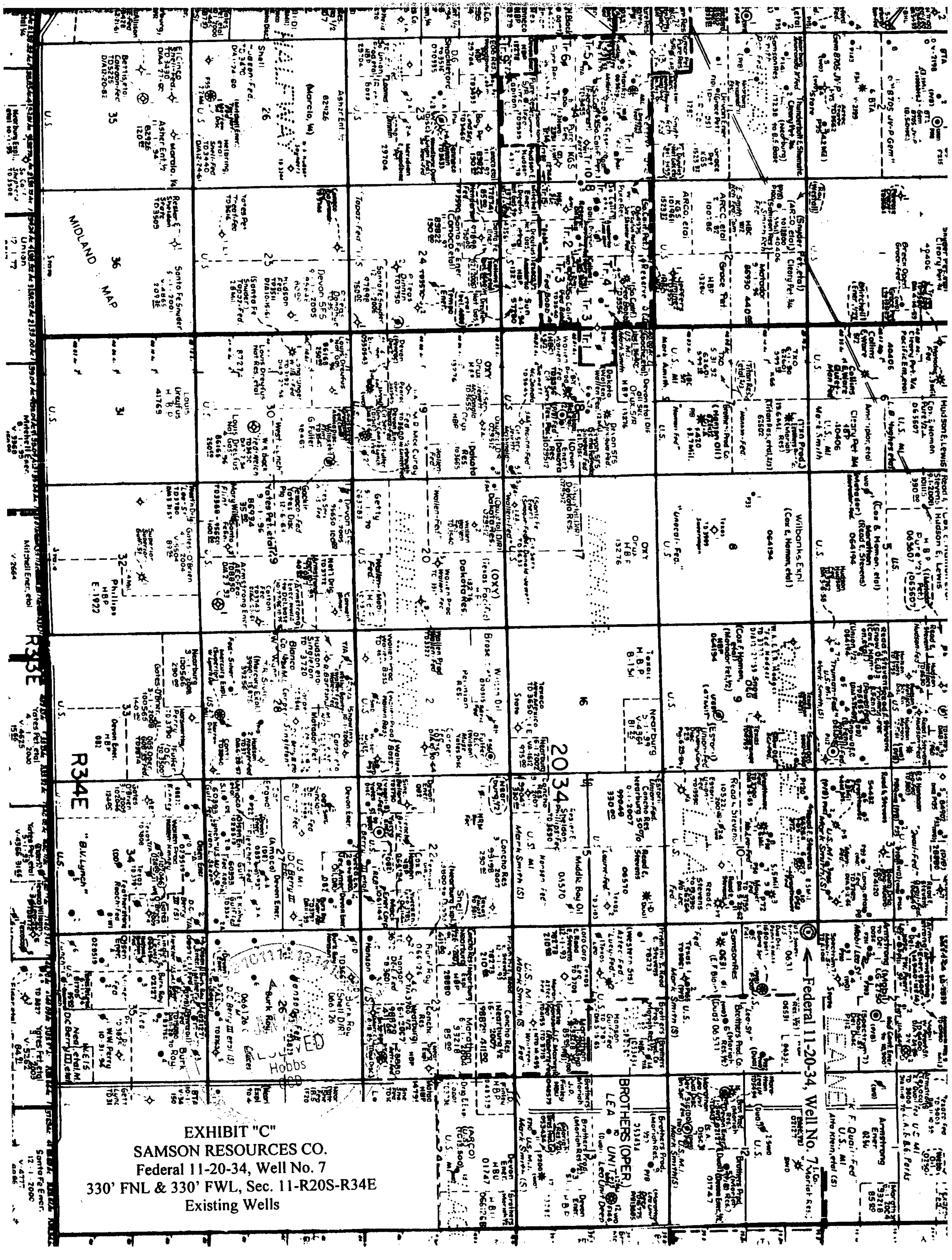


EXHIBIT "C"
SAMSON RESOURCES CO.
Federal 11-20-34, Well No. 7
330' FNL & 330' FWL, Sec. 11-R20S-R34E
Existing Wells

EXHIBIT "D"
SAMSON RESOURCES CO.
Federal 11-20-34, Well No. 7
Pad & Pit Layout

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

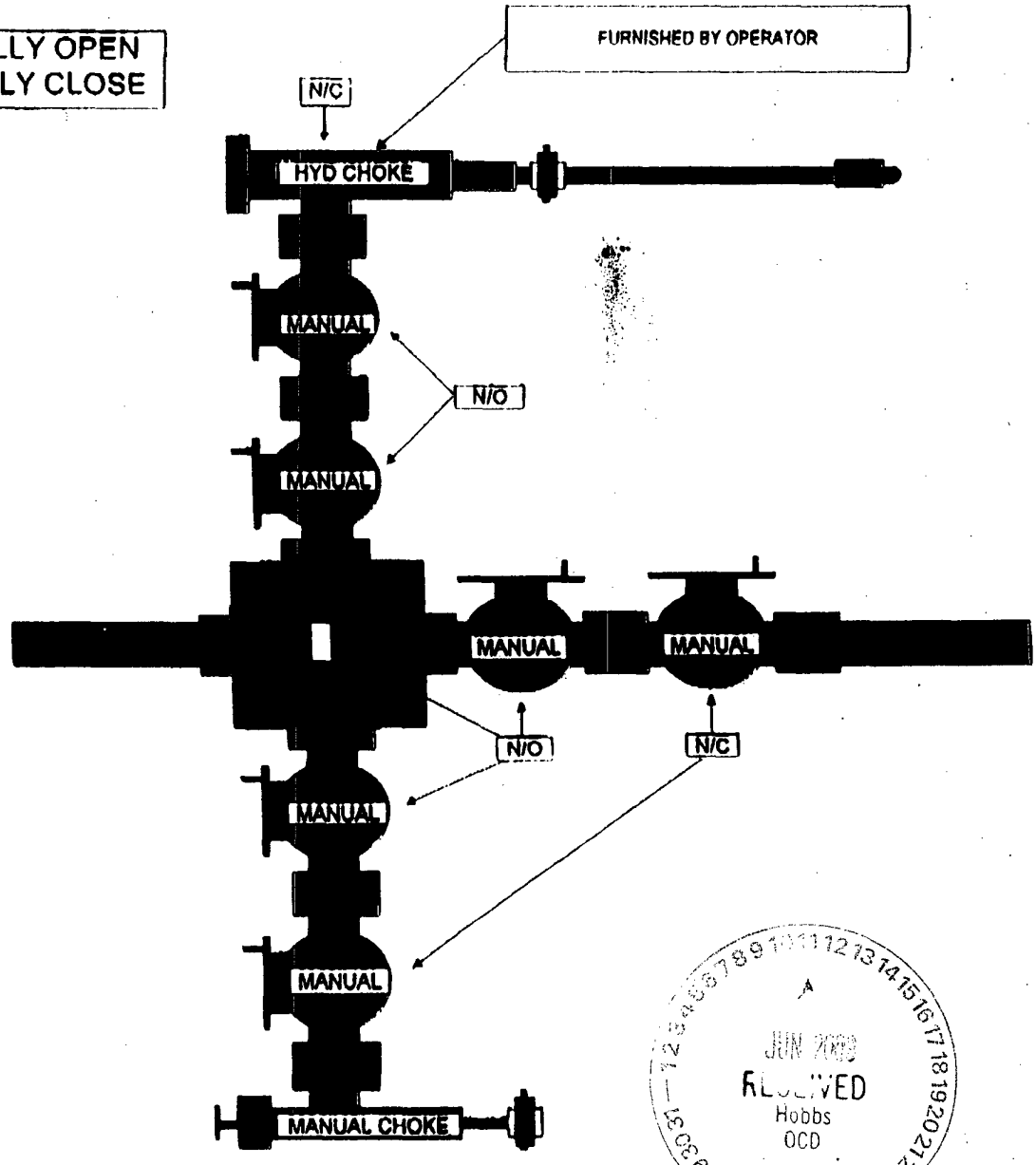


EXHIBIT "E"
SAMSON RESOURCES CO.
Federal 11-20-34, Well No. 7
BOP Specifications

RIG 715 BOP LAYOUT

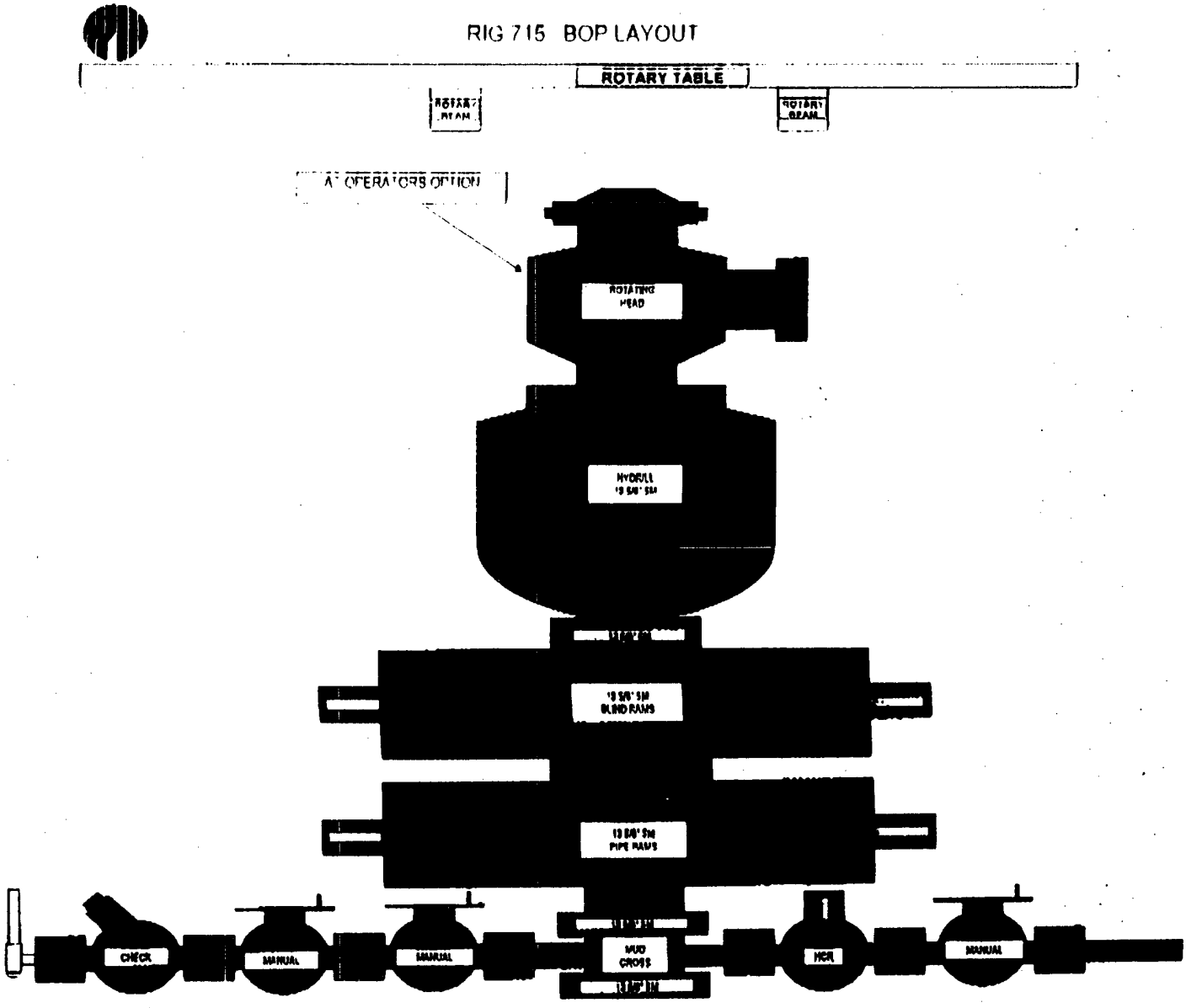


EXHIBIT "F"

SAMSON RESOURCES

H_2S DRILLING OPERATIONS PLAN
For:
Federal 11-20-34, Well No. 7
330' FNL & 330' FWL, Sec. 11-T20S-R34E

I. HYDROGEN SULFIDE TRAINING

All key personnel whether regularly assigned, contracted or employed on an unscheduled basis will receive or represent that they have received training in accordance with the general training requirements outlined in the API RP49 for safe drilling of wells containing hydrogen sulfide, Section 2.

In addition, supervisory personnel will be trained in the following areas:

1. The corrective action and shut-in procedures when drilling or reworking a well, and blowout prevention in well control procedures.

2. The contents and requirements of the H_2S drilling operations plan.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500 feet above the first zone containing or reasonably expected to contain 100 ppm or more hydrogen sulfide.

1. **Well Control Equipment:**

   a. Flare line with a continuous pilot.
   b. Choke manifold with a minimum of one choke.
   c. Blind rams and pipe rams and pipe rams to accommodate all drill pipe sizes with a properly sized closing unit.
   d. Auxiliary equipment to include an annular preventer and a rotating head.

2. **Protective Equipment:**

   a. Proper protective breathing apparatus shall be readily accessible to all essential personnel on the drill site.

3. **H_2S and Monitoring Equipment:**

   a. Three portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens.

4. **Visual Warning Systems:**

   a. Wind direction indicators as shown on well site diagram.
   b. Caution/Danger signs shall be posted on roads providing direct access to location.

5. **Mud Program:**

   a. The mud program has been designed to minimize the volume of H_2S circulated to the surface. Proper mud weight and safe drilling practices will minimize hazards when penetrating H_2S bearing zones.

6. **Communications:**

   a. Cell phone communication available in all vehicles and at the drilling site.

7. **Well Testing:**

   a. Drillstem testing, if required, will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. When drillstem testing intervals known to or reasonably expected to contain 100 ppm or more H_2S, the drillstem test will be conducted during daylight hours and formation fluids will not be flowed to the surface.