

N.M. Oil Cons. DIV-Dist. 2  
1301 W. Grand Avenue  
Artesia, NM 88210

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-96835	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Samson Resources		7. If Unit or CA Agreement, Name and No.	
3a. Address Samson Plaza--Two W. 2nd St. Tulsa, OK 74103		8. Lease Name and Well No. Lightning 24 Federal Com, # 2	
3b. Phone No. (include area code) (918) 591-1531		9. API Well No. 30-015 - 33578	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1980' FSL & 1980' FEL At proposed prod. zone same		10. Field and Pool, or Exploratory Undesignated Morrow	
14. Distance in miles and direction from nearest town or post office* 19 miles south of Carlsbad, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec. 24-T25S-R26E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		12. County or Parish Eddy	
16. No. of Acres in lease 360		13. State NM	
17. Spacing Unit dedicated to this well 320			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2640'			
19. Proposed Depth 12,500'		20. BLM/BIA Bond No. on file NM-2037	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3231' GL		22. Approximate date work will start* September 15, 2004	
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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification.   |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>George R. Smith</i>	Name (Printed/Typed) George R. Smith	Date 6/25/04
Title Agent for Samson Resources		
Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date 8/19/04
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 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

Witness Surface Casing

District I  
1825 N. French Dr. Hobbs, NM 88240

District II  
811 South First, Artesia, NM 88210

District III  
1000 Rio Brazos Rd., Aztec NM 87410

District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, N M 87505

Form C-102

Revised March 17, 1999  
Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name <b>Undesignated Morrow</b>	
Property Code	Property Name <b>LIGHTNING 24 FEDERAL COM.</b>		Well Number <b>2</b>	
OGRID No. <b>20,165</b>	Operation Name <b>SAMSON RESOURCES</b>		Elevation <b>3231</b>	

Surface Location									
UL or Lot No. <b>J</b>	Section <b>24</b>	Township <b>25-S</b>	Range <b>26-E</b>	Lot Idn.	Feet from the <b>1980</b>	North/South line <b>SOUTH</b>	Feet from the <b>1980</b>	East/West line <b>EAST</b>	County <b>EDDY</b>

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>320</b>		Joint or Infill	Consolidation Code <b>comm</b>	Order No.					

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<b>OPERATOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	
	Signature <i>George R. Smith</i>	
	Printed Name <b>George R. Smith</b>	
	Title <b>agent</b>	
	Date <b>6/25/04</b>	
	<b>SURVEYOR CERTIFICATION</b> 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 KNOWLEDGE AND BELIEF.	
	Date of Survey <b>JUNE 21, 2004</b>	
	Signature and Seal of Professional Surveyor 	

## APPLICATION FOR DRILLING

### SAMSON RESOURCES

Lightning 24 Federal Com., Well No. 2  
1980' FSL & 1980' FEL, Sec. 24-T25S-R26E  
Eddy County, New Mexico  
Lease No.: NM-96835  
(Exploratory Well)

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

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	395'	Wolfcamp	9,500'
Top Salt	1,060'	Strawn	10,600'
Base Salt	1,690'	Morrow	11,300'
Lamar Lime	1,780'	T.D.	12,000'
Delaware	1,900'		
Bone Spring	5,600'		

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

Water: Surface water between 100' - 200'.

Oil: Possible in the Delaware and Bone Spring below 1900' and 5600'.

Gas: Possible in Wolfcamp, Strawn and the Morrow.

#### 4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48.0#	H-40	ST&C	0' - 400'	Circ. 340 sx HLC & Prem Plus
12 1/4"	9 5/8"	36.0#	K-55	LT&C	0' - 2,000'	Circ. 625 sx. HLC & Prem Plus
8 3/4"	7"	26.0#	N-80	LT&C	0' - 8,800'	870 sx. Interfill C & Prem TOC 1800'
6 1/4"	3 1/2"	9.3#	P110	LT&C	0' - 12,000'	420 sx Super H TOC 8,600'

#### 5. Minimum Specifications for Pressure Control Equipment:

A 13 5/8" 10,000 psi WP Shaffer, LWS Double Gate BOP will be installed on the 9 5/8" casing and tested as per Onshore Oil & Gas Order #2 as a 3,000 psi system.. An annular preventer will be installed on the 13 3/8" casing to drill to the 2000" depth. The casing and BOP will be tested before drilling out with the 8 3/4" and 6 1/4". See Exhibit "E".

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL	WITNESS
0' - 400':	Fresh water mud:	8.4 - 9.0 ppg	32 - 36	
400' - 2,000':	Cut brine	9.2 - 9.7 ppg	28 - 29	
2,000' - 8,800':	Fresh water/cut brine	8.4 - 9.7 ppg	28 - 29	
8,800' - 12,000':	Cut brine/xcd Polymer	10.0 - 10.6 ppg	32 - 36	

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

#### 8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.

Logging: 8,800' to T.D: CNL-DNL w/GR-Cal.

2,000' to 8,800' " " " " , if warranted.

2,000' to Surface: CNL-GR

Coring: Rotary sidewall if dictated by logs.

**SAMSON RESOURCES**

Lightning 24 Federal Com., Well No. 2

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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 = 4800 psi and surface pressure of 2640 psi with a temperature of 180°.
10. H<sub>2</sub>S: None expected. None reported in wells within a mile radius.
11. Anticipated starting date: September 15, 2004.  
Anticipated completion of drilling operations: Approximately 5-6 weeks.

## **MULTI POINT SURFACE USE AND OPERATIONS PLAN**

### **SAMSON RESOURCES**

Lightning 24 Federal Com., Well No. 2  
1980' FSL & 1980' FEL, Sec. 24-R25S-R26E  
Eddy County, New Mexico  
Lease No.: NM-96835  
(Exploratory 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 18 road miles south of Carlsbad, New Mexico. Traveling south from Carlsbad there will be approximately 11.0 miles of paved highway and 8.6 miles of gravel County Rd. #742
- B. Directions: Turn south off of U. S. Highway 62/180 in Carlsbad, NM at a Phillips 66 station onto the Old Cavern Highway, CR #748. Continue south on CR Rd. 748 for approximately 11.1 miles to CR #720, Black Water Village Rd. Continue south on CR # 742, John D. Forehand Rd., for approximately 8.6 miles to the start of the proposed access road on the right (west) side of the county road. The proposed access road will run west for 800 feet to the southeast corner of the proposed well site.

#### **2. PLANNED ACCESS ROAD:**

- A. Length and Width: The proposed access road is approximately 800 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: None required.
- 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".

**SAMSON RESOURCES**

**Lightning 24 Federal Com., Well No. 2**

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**4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;**

- A. Samson Resources has no 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.

**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 SESW of Sec. 12-T25S-R26E. 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.

## **SAMSON RESOURCES**

**Lightning 24 Federal Com., Well No. 2**

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### **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 3-4 foot cut on the north with fill to the south and east.
- 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. All pits will be filled and leveled as soon as they are dry enough to work after well completion.
- 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

### **11. OTHER INFORMATION:**

- A. Topography: The proposed well site and access road is part of the Cottonwood Hills located 4800 feet south of South Hackberry Draw. The location is on the south slope of a small rocky hill. The location has a southeasterly slope of 3.0% from an elevation of 3232'.
- B. Soil: The topsoil on the well site and access road is light grayish brown colored calcareous loam on part of the access road and with considerable limestone scatter near and on the drill site, which has a limestone bedrock underlay. The soil is of the Reeves Gypsum Land Complex series.
- C. Flora and Fauna: The vegetation on the access road and well site is a very sparse grass with a little grama, tobosa, three-awn, bush muhly and burro grass. There were plants of mesquite, yucca, creosote bush, sage, whitethorn, broomweed, javelina bush cacti, and miscellaneous weeds. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: There are intermittent running draws to the north and south. The South Hackberry Draw is 4800 feet north of the location and Cottonwood Draw is 2500 feet to the south.
- E. Residences and Other Structures: None.
- 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.

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**Lightning 24 Federal Com., Well No. 2**

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**12. OPERATOR'S REPRESENTATIVE:**

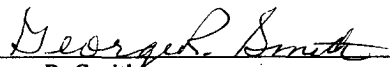
- A. The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

Todd Wiley  
Samson Resources  
Samson Plaza-Two West Second St.  
Tulsa, OK 74103-3103  
Office Phone: (918) 591-1531

**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.

June 25, 2004

  
\_\_\_\_\_  
George R. Smith  
Agent for: Samson Resources



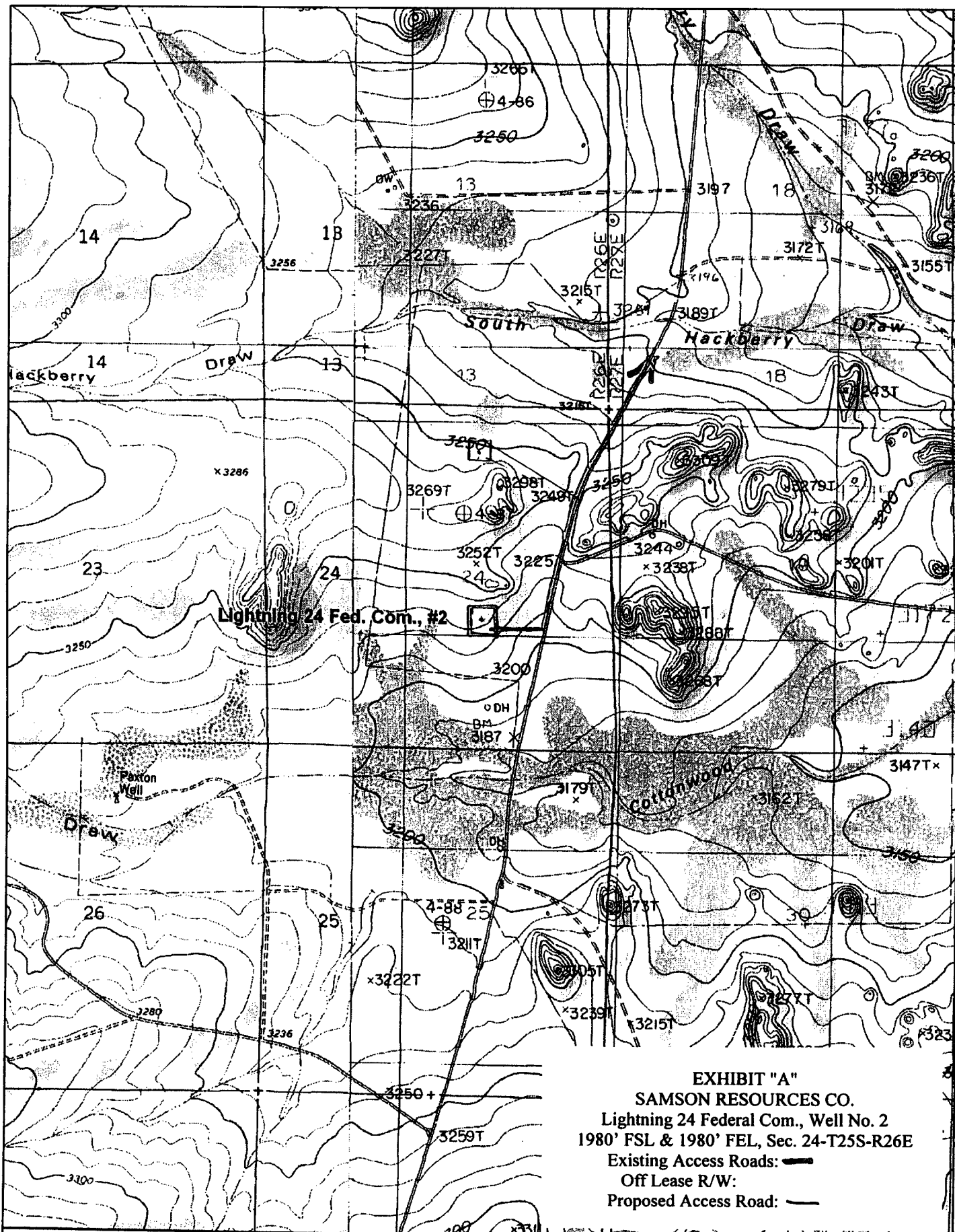
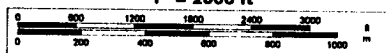


EXHIBIT "A"  
 SAMSON RESOURCES CO.  
 Lightning 24 Federal Com., Well No. 2  
 1980' FSL & 1980' FEL, Sec. 24-T25S-R26E  
 Existing Access Roads:   
 Off Lease R/W:   
 Proposed Access Road:

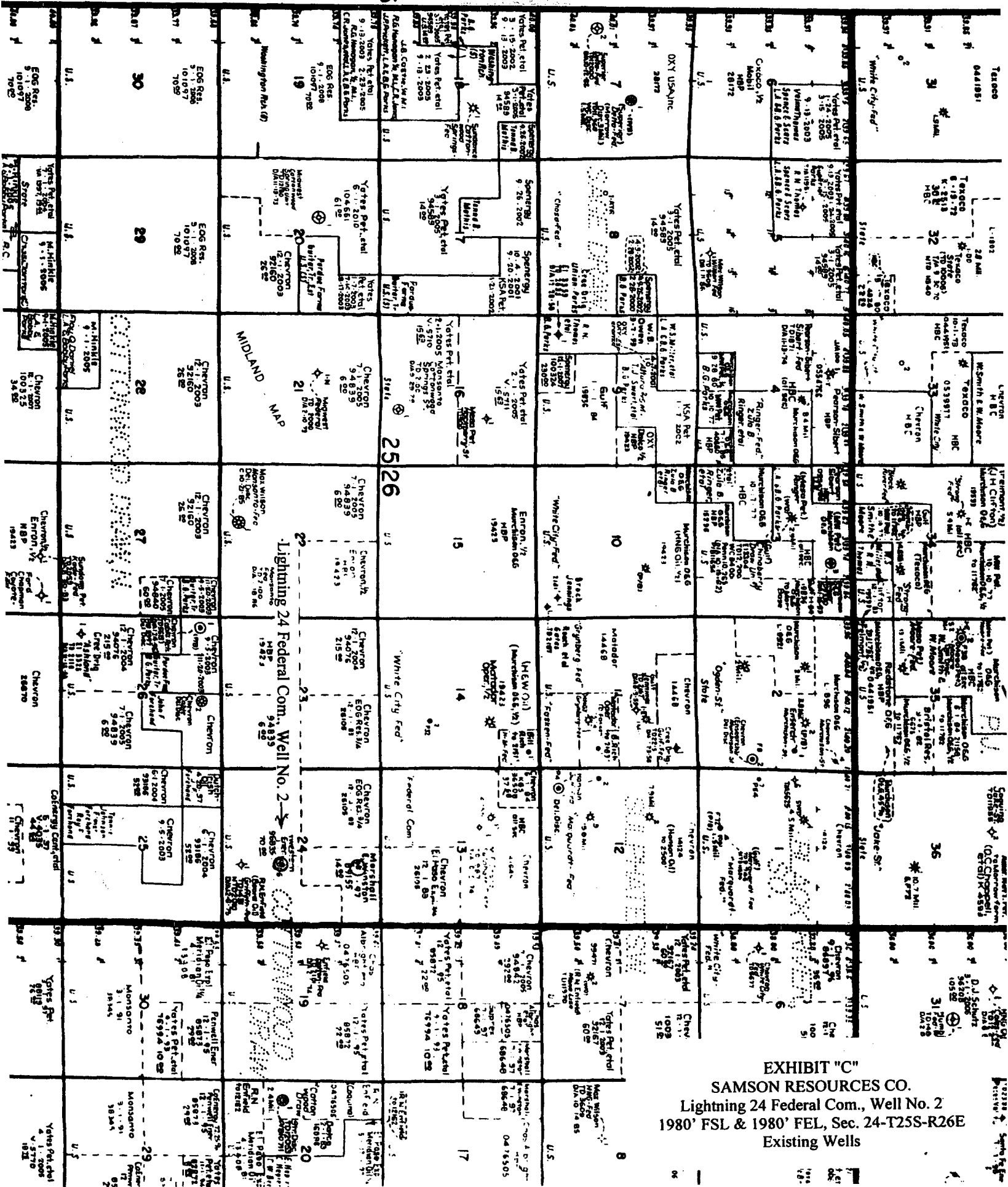
DELORME

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 www.delorme.com

Scale 1 : 24,000  
 1" = 2000 ft



TH  
 MN  
 9.1°E



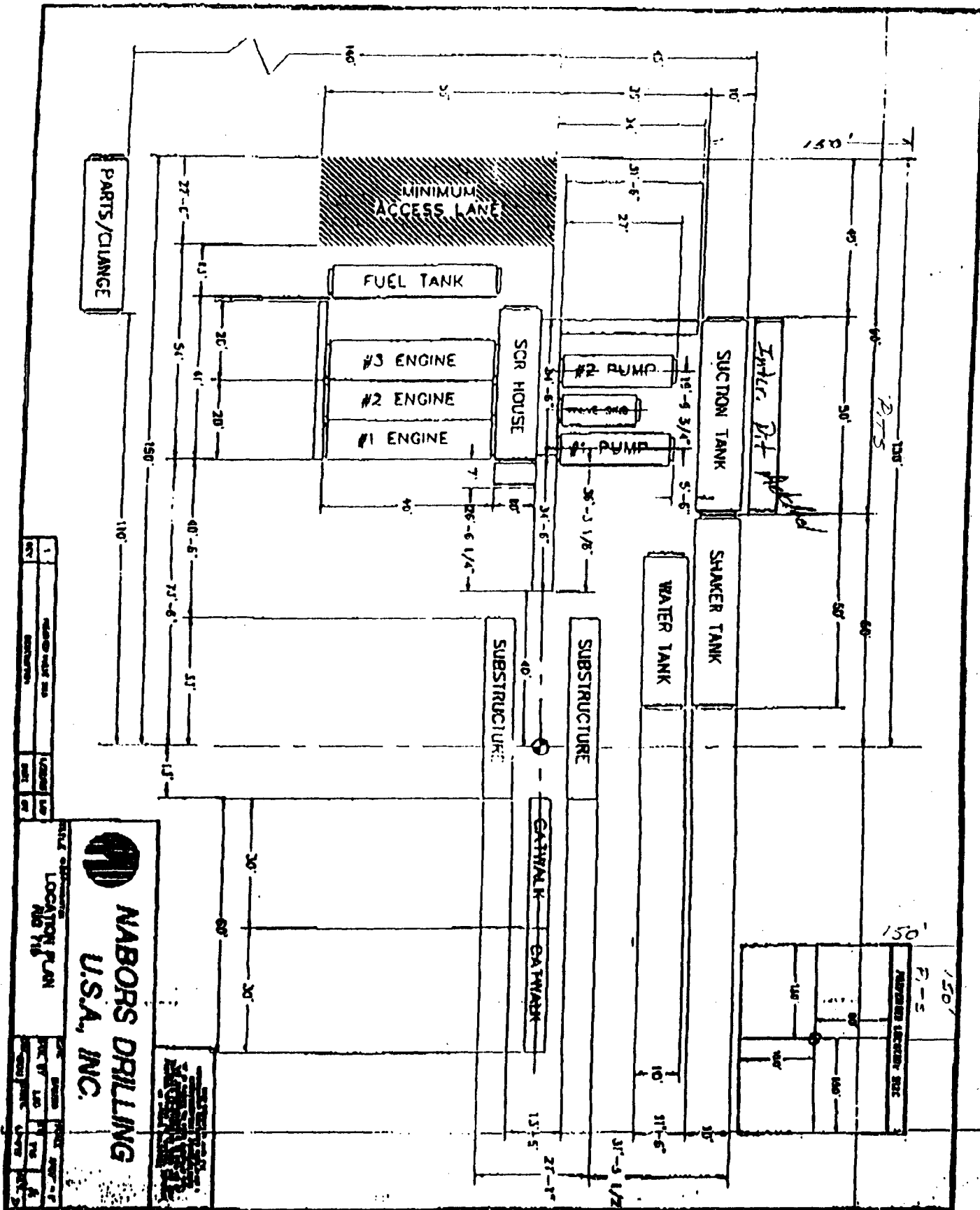


EXHIBIT "D"  
 SAMSON RESOURCES CO.  
 Lightning 24 Federal Com., Well No. 2  
 Pad & Pit Layout



## RIG 715 BOP LAYOUT

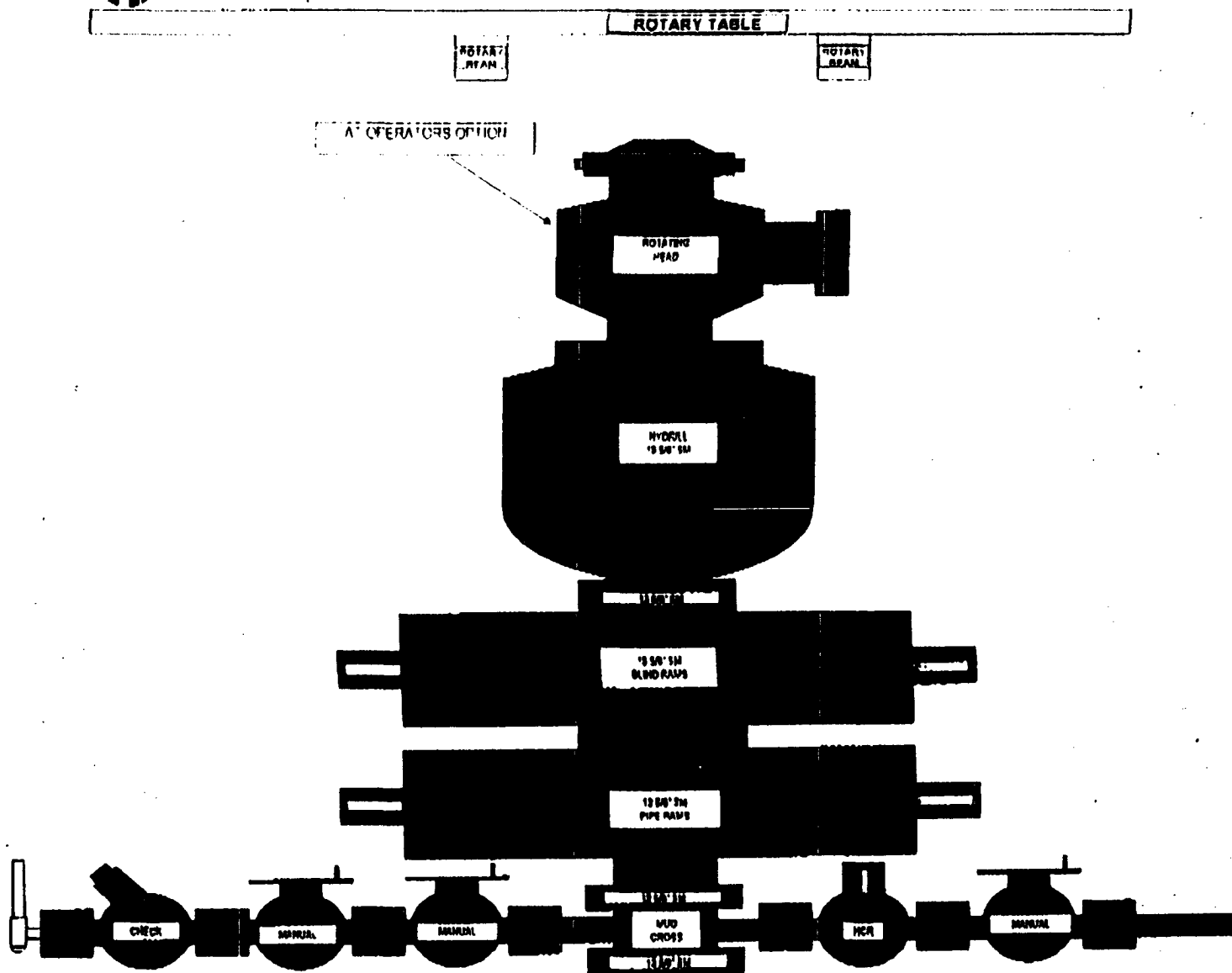


EXHIBIT "E"  
SAMSON RESOURCES CO.  
Lightning 24 Federal Com., Well No. 2  
BOP Specifications



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

