Form 3160-3 (August 1999)

# N.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue

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

**UNITED STATES** 

DEPARTMENT OF THE IN	TERIOR TERIOR	141 008 1P	5. Lease Serial No.	
BUREAU OF LAND MANAG	EMENT		NM-96835	
APPLICATION FOR PERMIT TO DR	ILL OR REENTER		6. If Indian, Allottee or Ti	ribe Name
Ia. Type of Work: DRILL REENTER			7. If Unit or CA Agreemen	it, Name and No.
1b. Type of Well: Oil Well Gas Well Other	Single Zone	Multiple Zone	8. Lease Name and Well No Lightning 24 Federal Co	= =
2. Name of Operator Samson Resources			9. API Well No.	3578
3a. Address Samson Plaza-Two W. 2nd St. Tulsa, OK 74103	3b. Phone No. (include area (918) 591-1531	a code)	10. Field and Pool, or Explo Undesignated Morrow	ratory
4. Location of Well (Report location clearly and in accordance with a		CEIVED	11. Sec., T., R., M., or Blk.	
At surface 1980' FSL & 1980' FEL  At proposed prod. zone same	AU	JG 2 0 2004	Sec. 24-T25S-R26E	
14. Distance in miles and direction from nearest town or post office*	OC.	AATESIA	12. County or Parish	13. State
19 miles south of Carlsbad, NM			Eddy	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	17. Spac	ing Unit dedicated to this well	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.  2640'	19. Proposed Depth	20. BLM	I/BIA Bond No. on file 2037	•
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date wo	ork will start*	23. Estimated duration	
3231' GL	September 15, 200		6 weeks	
	24. Attachments		SBAD CONTROLLED WA	ATER BASIN
The following, completed in accordance with the requirements of Onshor	re Oil and Gas Order No.1, s	hall be attached to t	his form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office).</li> </ol>	Lands, the ltem 20 5. Operato 6. Such ot	0 above). or certification.	ons unless covered by an exist	
25. Signature	Name (Printed/Type	ed)	Dat	ē
Devrack Smith	George R. Smi	th	6/3	25/04
Title				:
Agent for Samson Resources			'D-1	
Approved by (Signature) /S/ Joe G. Lara	Name (Printed/Type	/s/ Joe (	3. Lara Date	8/19/04

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. APPROVAL FOR 1 YEAR Conditions of approval, if any, are attached.

Office

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)

Title

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** 

FIELD MANAGER

George R. Smith, agent

CARLSBAD FIELD OFFICE

Witness Surface Casing

Form C-102

<u>District I</u> 1825 N. French Dr. Hobbs, NM 88240

District || 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

Submit	to	Revise				, 1999 Office
		State	Lease	-	4	Copies
		Fee	Lease	_	3	Copies

AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

Property Code  Property Name  LICHTNINC 24 FEDERAL COM.  Operation Name  20,165  SANSON RESOURCES  SURface Location  U. or Let No. Section  J 24 Township  Bottom Hole Location If Different From Surface  U. or Let No. Section  Operation Name  Bottom Hole Location If Different From Surface  U. or Let No. Section  Township  Ronge  Lin In. Feet from the North/South five Feet from the East/Neet line County  Bottom Hole Location If Different From Surface  U. or Let No. Section  Township  Ronge  Lin In. Feet from the Interface from the County  Dedicated Acres Joint or Infill Connectication Code Comm  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  OPERATOR CERTIFICATION INTEREST CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION  OPERATOR CERTIFICATION INTEREST CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION OPERATOR CERTIFICATION INTEREST CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION OPERATOR CERTIFICATION INTEREST CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION OPERATOR CERTIFICATION INTEREST CONSOLIDATED AND RELEASE.  SURVEYOR CERTIFICATION INTEREST CONSOLIDATED AND RELEASE.  1980  1	API Number Pool Code				Pool Name								
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#### 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:

" LIOPOS	ca casing i i	6. a				
HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48.0#		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	No W/L control	WIINE 55
	400' - 2,000':	Cut brine	9.2 - 9.7 ppg	28 - 29	No W/L control	
	2,000' - 8,800':	Fresh water/cut brine	8.4 - 9.7 ppg	28 - 29	No W/L control	
	8,800' - 12,000':	Cut brine/xcd Polymer	10.0 - 10.6 ppg	32 - 36	W/L control <12 cc	

- 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 Page 2

- 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 if 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 Page 2

#### 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
- 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 Page 3

#### 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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#### 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

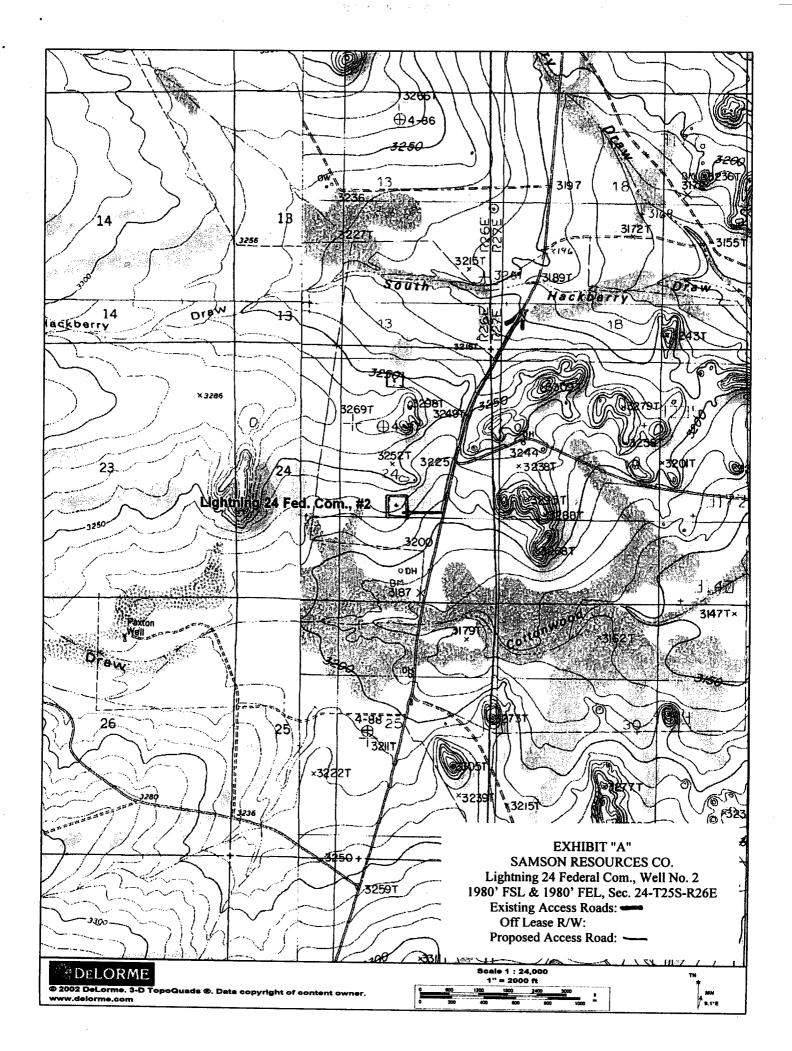
#### 13. CERTIFICATION:

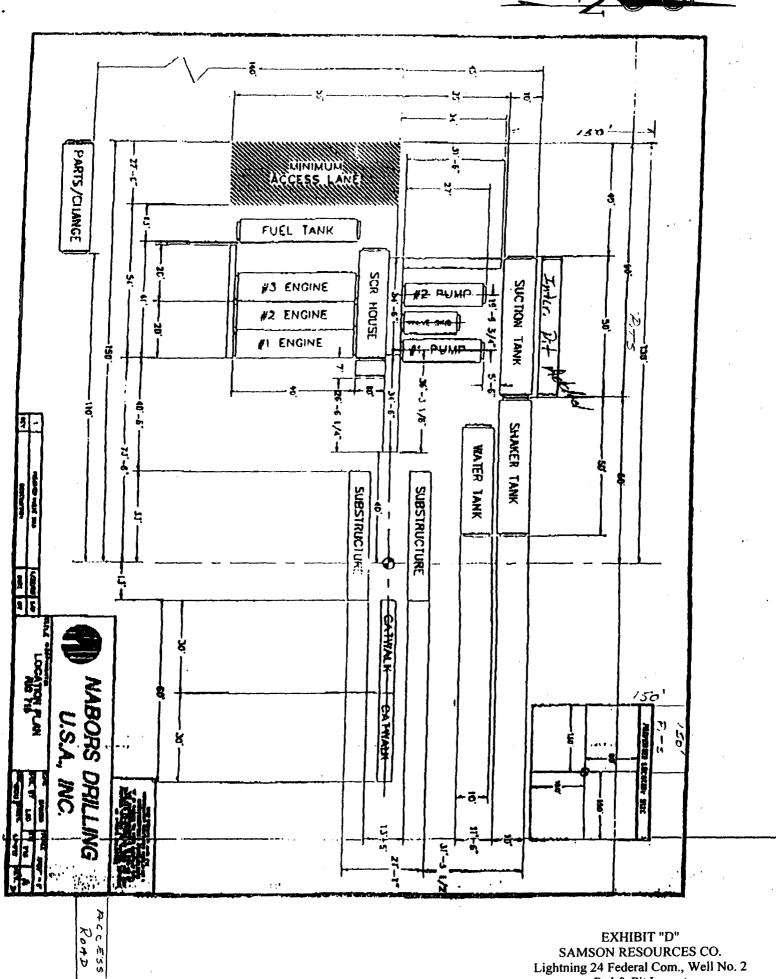
I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will 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





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

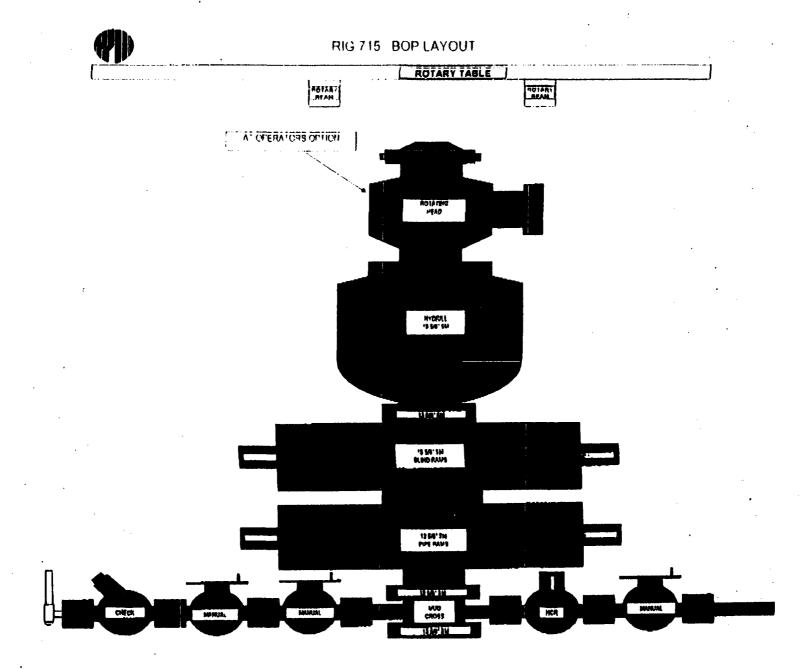


EXHIBIT "E"
SAMSON RESOURCES CO.
Lightning 24 Federal Com., Well No. 2
BOP Specifications

