

N.M. Oil Cons. DIV-Dist. 2

1301 W. Grand Avenue

UNITED STATES **Artesia, NM 88210**
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

1a. Type of Work: ☒ DRILL (NEW) ☐ REENTER1b. 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) 591-1531

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

At surface 1650' FSL & 660' FEL

At proposed prod. zone same

Secretary's Potash

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

7 miles southwest of Loco Hills, 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

320

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.

1358' P/A

19. Proposed Depth

11,900'

20. BLM/BIA Bond No. on file

NM-2037

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

3489' GL

22. Approximate date work will start*

June 1, 2005

23. Estimated duration

6 weeks

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

George R. Smith

Name (Printed/Typed)

George R. Smith

Date

4/4/05

Title

Agent for Samson Resources

Approved by (Signature)

/s/ Jesse J. Juen

Name (Printed/Typed)

/s/ Jesse J. Juen

Date

JUN 13 2005

Title

FOR 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 Co. 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**

George R. Smith
George R. Smith, agent

Capitan Controlled Water Basin

Salt, 22.5

State of New Mexico

Energy, Minerals and Natural Resources Department

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

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Form C-102

Revised JUNE 10, 2003

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 84872	Pool Name Sand Tank Morrow
Property Code	Property Name SAND TANK 17 FEDERAL COM	Well Number 2
OGRID No. 20165	Operator Name SAMSON RESOURCES	Elevation 3489'

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	17	18-S	30-E		1650	SOUTH	660	EAST	EDDY

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 320 (160)	Joint or Infill	Consolidation Code Com.	Order No.
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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

<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=634784.2 N X=606427.3 E</p> <p>LAT.=32°44'40.70" N LONG.=103°59'13.88" W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>George R. Smith</i> Signature, George R. Smith Printed Name</p> <p>Agent Title April 4, 2005 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>FEBRUARY 14, 2005 Date Surveyed</p> <p><i>GARY G. EIDSON</i> Signature & Seal of Professional Surveyor</p> <p>05.11.0223 Certificate No. GARY EIDSON 12641</p>
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District II
301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
March 12, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to
appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe
office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Samson Resources (Brad Hargrove) Telephone: (918) 591-1939 e-mail address:

Address: Samson Plaza Two W. Second St. Tulsa, OK 74103

Facility or well name: Sand Tank 17 Federal Com., Well #2 30-015-34156 U/L or Qtr/Qtr NE4SE4 Sec 17 T 18S R30E

County: Eddy Latitude 32°44'40.70" N Longitude 103°59'13.88" W NAD: 1927 X 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐
Indian ☐

Pit

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness 12 mil Clay ☐ Volume 10,000 bbl+

Below-grade tank

Volume: bbl Type of fluid:

Construction material:

Double-walled, with leak detection? Yes ☐ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

Ranking Score (Total Points)

-0-

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility (3) Attach a general description of remedial action taken including remediation start date and

end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface ft. and attach sample results. (5) Attach soil sample results and

a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: April 4, 2005

Printed Name/Title: George R. Smith, agent

Signature: *George R. Smith*

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval: JUN 20 2005

Date:

Printed Name/Title:

Signature: *[Signature]*

APPLICATION FOR DRILLING

SAMSON RESOURCES CO.
 Sand Tank 17 Federal Com., Well No. 2
 1650' FSL & 660' FEL, Sec. 17-T18S-R30E
 Eddy County, New Mexico
 Lease No.: NM-063621-A
 (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:

Tansill	1,300'	Penn Shale	9,950'
Yates	1,432'	Strawn	10,435'
Queen	2,500'	Atoka	10,760'
San Andres	2,842'	Morrow Clastics	11,275'
Delaware Sand	3,600'	Lower Morrow	11,550'
Bone Spring	4,300'	T.D.	11,900'
Wolfcamp	9,075'		

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 3,600'
 Gas: Possible in the Atoka below 10,760' and the Morrow below 11,275'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
The following casing currently exists in the hole:						
17 1/2"	13 3/8"	48.0#	H-40	BTC	0" - 700' JSS	Circ. 1050 sx. "C" to surface
12 1/4"	9 5/8"	40.0#	N-80	LTC	0" - 3,600'	Circ. 1360 sx "C" to surface
8 3/4"	5 1/2"	20.0#	P-110	LTC	0" - 11,900'	Isolate Morrow and 500' above top productive zones per logs.

WITNESS
WITNESS

5. Minimum Specifications for Pressure Control Equipment:

An NU 13 5/8" 10M psi WP Shaffer, Double over single BOP w/13 5/8" 5M Hydril annular preventer will be installed on the 13 3/8" before drilling 12 1/4" and 8 3/4" holes. Perform a 2M test before drilling 12 1/4" hole and 5M test before drilling 8 3/4" hole.

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 1,325' Native/Fresh water	8.4 - 9.2 ppg	28 - 29	No W/L control
1,325' - 3,600': Brine	10.0 - 10.4 ppg	26 - 29	No W/L control
3,600' - 5,200': Fresh water + additions	8.8 - 8.8 ppg	26 - 29	No W/L control
5,200' - 10,250': Fresh water/cut brine	8.4 - 9.2 ppg	26 - 29	No W/L control
10,250' - 11,900': 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.

Sand Tank 17 Federal Com., Well No. 2

Page 2

8. Testing, Logging, and Coring Program:

Drill Stem Tests: None unless conditions warrant.

Logging: 3,600' to T.D.: CNL-DNL w/GR-Cal
3,600' to surface: GR-CNL

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 = 5236 psi and surface pressure of 2618 psi with a temperature of 179°.
10. H₂S: None expected. None in existing wells in close vicinity, but the Mud Log Unit will be cautioned to use a gas trap to detect H₂S and if any is detected the mud weight will be increased along with H₂S inhibitors sufficient to control the gas.
11. Anticipated starting date: June 1, 2005.
Anticipated completion of drilling operations: Approximately 4 weeks.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

SAMSON RESOURCES

Sand Tank 17 Federal Com., Well No. 2
1650' FSL & 660' FEL, Sec. 17-R18S-R30E
Eddy County, New Mexico
Lease No.: LC-063621-A
(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 7.4 road miles southwest of Loco Hills, New Mexico. Traveling southwest from Loco Hills there will be approximately 3.0 miles of paved highway and 4.7 miles of gravel county and oilfield roads.
- B. Directions: Travel east from Artesia, NM on U.S. Highway 82 for approximately 25 miles to County Rd. #217 on the west side of Loco Hills, NM. Turn southwest on CR #217 for 3 miles to CR #216. Turn south on CR #216 for 2.2 miles to the end of CR #216. Turn east for 1.9 miles, then south for .6 mile to the start of the access road on the right (west). The access road runs west for 200 feet to the NE corner of the proposed well site.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The existing (ripped) access road is approximately 200 feet in length and 12 foot in width. The access road is color coded red on Exhibit "A".
- B. Construction: The existing 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".

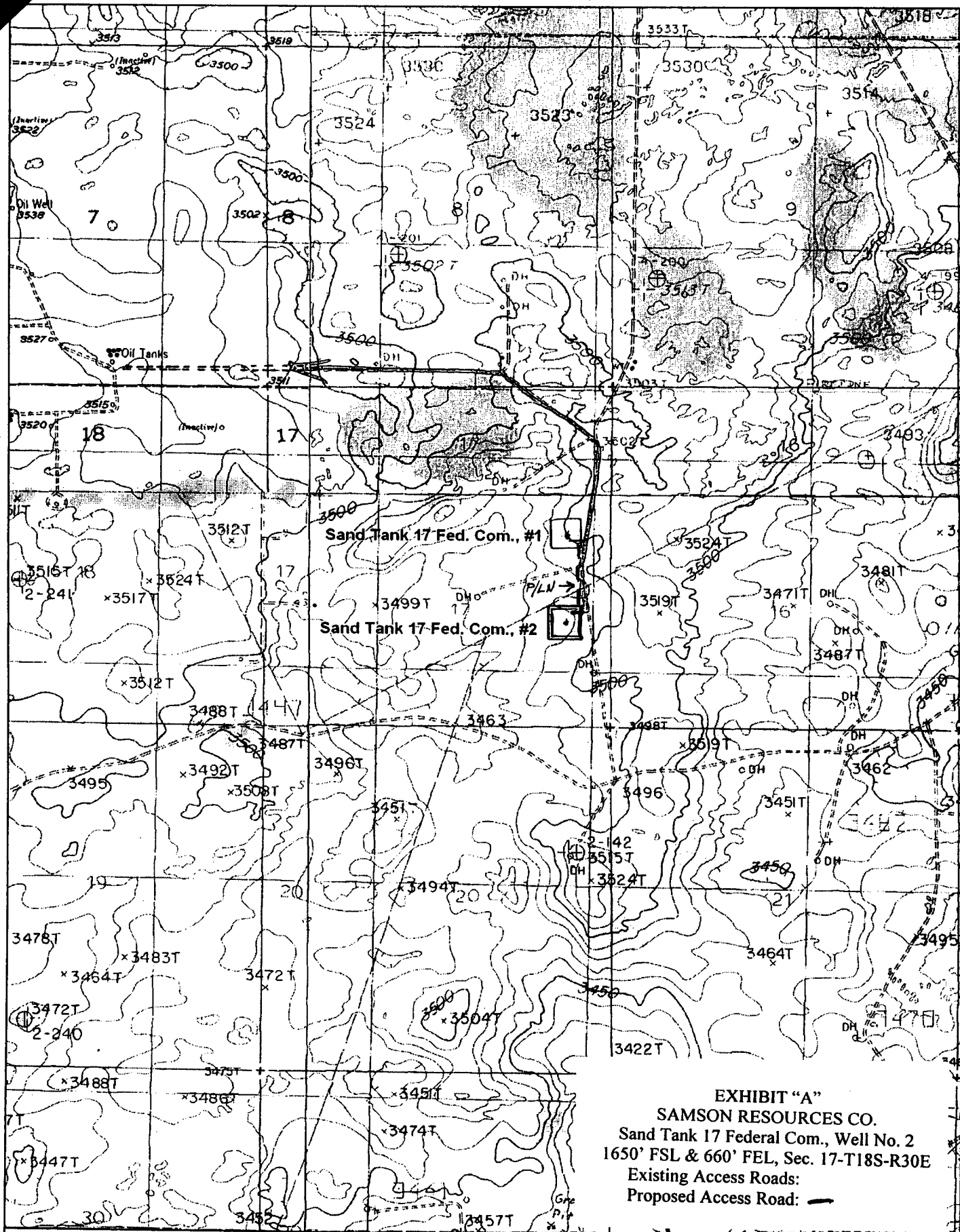
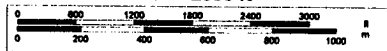


EXHIBIT "A"
 SAMSON RESOURCES CO.
 Sand Tank 17 Federal Com., Well No. 2
 1650' FSL & 660' FEL, Sec. 17-T18S-R30E
 Existing Access Roads:
 Proposed Access Road: —

DELOME

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 www.delorme.com

Scale 1 : 24,000
 1" = 2000 ft



RIG 329

LAYOUT WITH TOPDRIVE

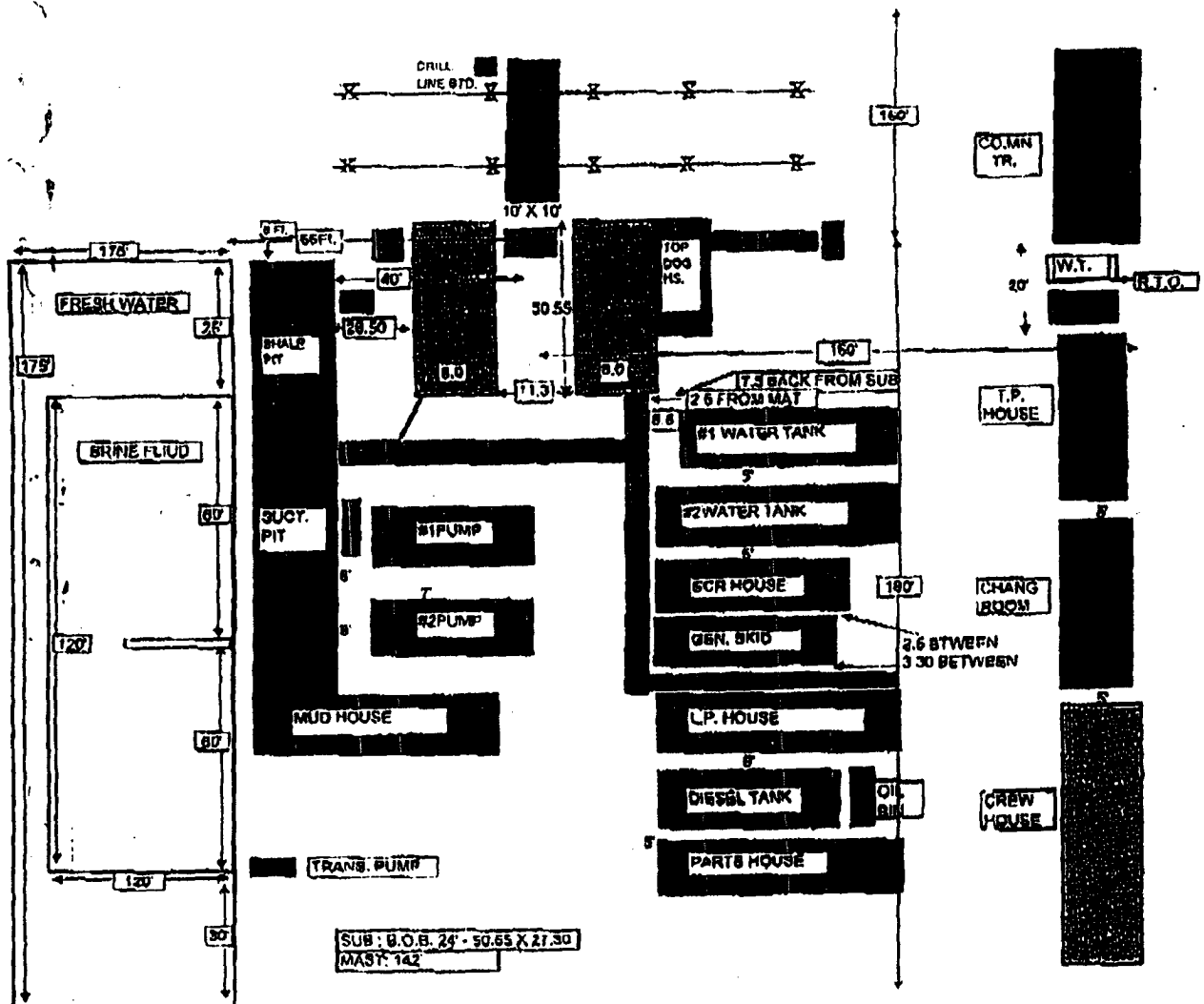
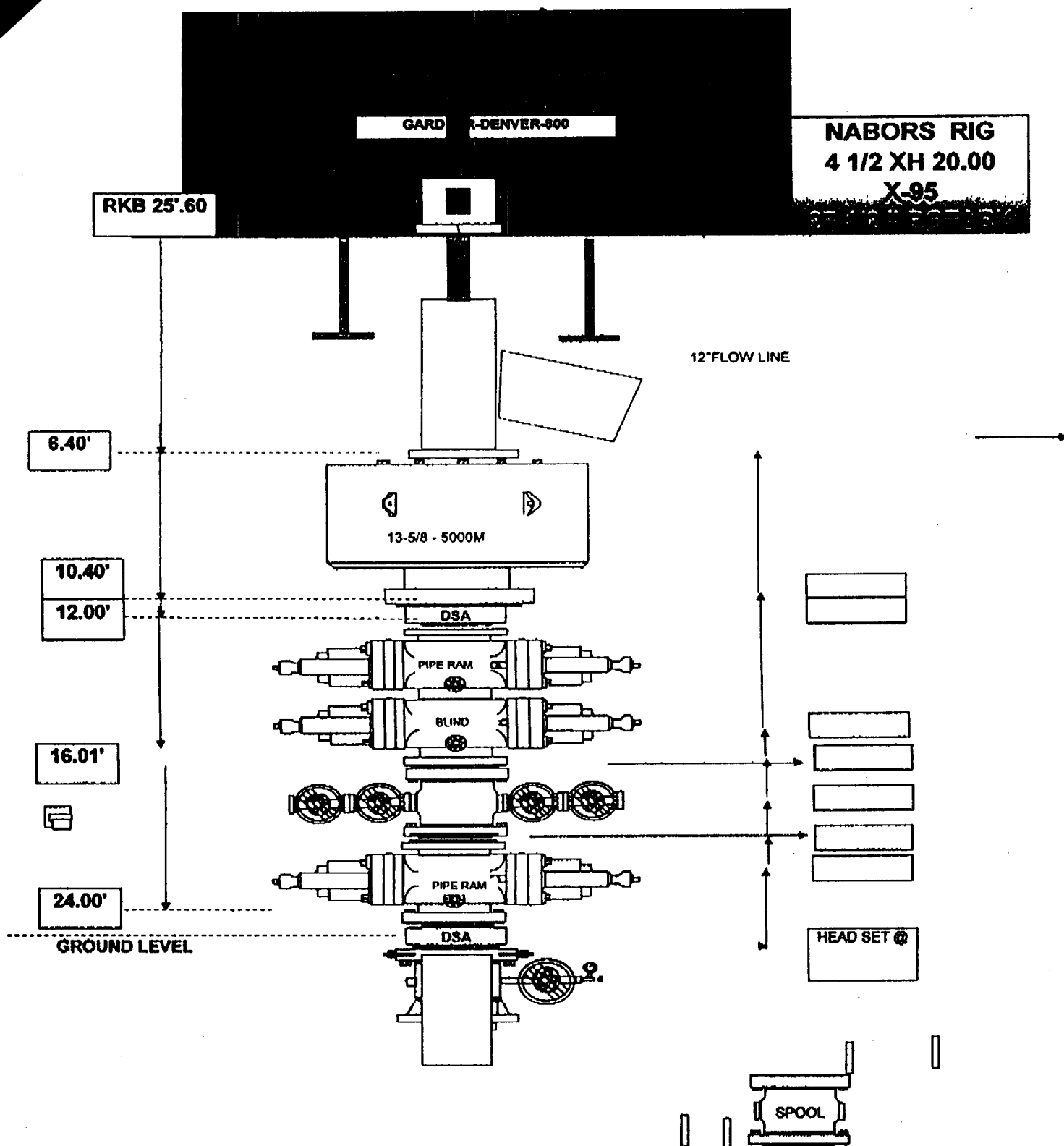


EXHIBIT "D"
SAMSON RESOURCES CO.
Sand Tank 17 Federal Com., Well No. 2
Pad & Pit Layout



ANNULAR	= 13 5/8 - 5M HYDRIL GK ANN
DOUBLE	= 13 5/8 - 10M SHAFFER SL (DBL) BOP
SINGLE	= 13 5/8 - 10M SHAFFER SL POSLOK BOP
WELL HEAD	= 11" 5M
KILL LINE VALVES	= 2.1/16 10M
CHOKE LINE VALVE	= 4 1/16 10M

EXHIBIT "E"
SAMSON RESOURCES CO.
Sand Tank 17 Federal Com., Well No. 2
BOP Specifications

NUEVO ENERGY

