

POTASH

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

612

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-01059
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 Company Attn: Brad P. Hargrove		7. If Unit or CA Agreement, Name and No.
3a. Address Two West Second Street Tulsa, OK 74103-3103	3b. Phone No. (include area code) (918) 591-1939 (7939)	8. Lease Name and Well No. Bandit 15 Federal Com #1 33532
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 810' FNL & 660' FEL At proposed prod. zone Same "A" R-111-P Potash		9. API Well No. 30-025-3658 37230
14. Distance in miles and direction from nearest town or post office* 37 miles northeast of Carlsbad, NM		10. Field and Pool, or Exploratory Teas Penn Gas 86040
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		11. Sec., T. R. M. or Blk. and Survey or Area Section 15-T20S-R33E
16. No. of acres in lease 40		12. County or Parish Lea
17. Spacing Unit dedicated to this well 320		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 150'		20. BLM/BIA Bond No. on file NM-2037
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3582' GL		22. Approximate date work will start* 04/11/2005
23. Estimated duration 6 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature Brad P. Hargrove Name (Printed/Typed) Brad P. Hargrove Date 03/11/2005
Title Senior Landman

Approved by (Signature) 151 GARY JOHNSON Name (Printed/Typed) 151 GARY JOHNSON Date MAY 05 2005
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 page 2)

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

DECLARED WATER BASIN
CEMENT BEHIND THE 16"

CASING MUST BE CIRCULATED

WITNESS

R-111-P Potash
CEMENT BEHIND THE 11 3/4"
CASING MUST BE CIRCULATED
WITNESS

Brad P. Hargrove
Senior Landman

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

DISTRICT I

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

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 30-025-37230	Pool Code 86040	Pool Name Teas, Penn (Gas)
Property Code 33532	Property Name BANDIT "15" FEDERAL COM	Well Number 1
OGRID No. 20165	Operator Name SAMSON RESOURCES	Elevation 3582'

Surface Location

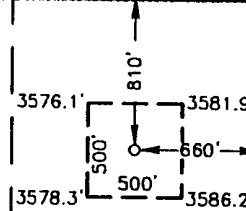
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	15	20-S	33-E		810	NORTH	660	EAST	LEA

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			

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



GEODETTIC COORDINATES
NAD 1927 NME
Y = 574698.5 N
X = 712291.6 E
LAT. = 32°34'41.03"N
LONG. = 103°38'38.97"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 for:

Printed Name
Samson Resources

Title
December 31, 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.

December 11, 2003

Date Surveyed AWB

Signature & Seal of
Professional Surveyor

Gary R. Eidson 12/19/03
03.11.1350

Certificate No. GARY EIDSON 12841

APPLICATION FOR DRILLING

SAMSON RESOURCES CO.

Bandit 15 Federal Com., Well No. 1
810' FNL & 660' FEL, Sec. 15-T20S-R33E
Lea County, New Mexico
Lease No.: NM-01059
(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	1,340'	Penn Shale	12,150'
Yates	3,066'	Strawn	12,300'
Capitan	3,368'	Atoka	12,500'
Delaware	5,200'	Morrow	13,200'
1 st Bone Spring	9,400'	T.D.	14,000'
Wolfcamp	11,600'		

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 5200'.

Gas: Possible in Atoka below 12,500' and the Morrow below 13,200'.

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' - 1,450'	Circ 890 sx "C" cement
14 3/4"	11 3/4"	54.5#	K-55	BT&C	0' - 3,100'	Circ. 1330 sx. HLC Prem Plus
10 5/8"	8 5/8"	32.0#	HC-K-55	LT&C	0' - 5,200'	Circ. 900 sx. Interfill C & Prem
7 7/8"	5 1/2"	20.0#	P110	LT&C	0' - 14,400'	1050 sx Zoneseal & 250 sx super H TOC 5000'

5. Minimum Specifications for Pressure Control Equipment:

NU 21 3/4" 2M WP Hydril & test to 800 psi before drilling 14 3/4" hole.

NU 13 5/8" 10M WP Shaffer, double over single w/ 13 5/8" Hydril annular preventer before drilling the 10 5/8" & 7 7/8" holes. Perform 3M test before drilling 10 5/8" hole & 5M test before drill 7 7/8" hole. See Exhibit "E".

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 1,450':	Fresh water mud: 8.4 - 9.2 ppg	28 - 29	No W/L control
1,450' - 3,100':	Fresh/native brine 10.0 - 10.4 ppg	26 - 29	No W/L control
3,100' - 5,200':	Fresh water + addit. 8.8 - 9.6 ppg	26 - 29	No W/L control
5,200' - 12,300':	Fresh water/Cut brine 8.4 - 9.2 ppg	26 - 29	No W/L control
12,300' - 14,000':	Cut Brine/xcd Polymer 9.4 - 11.5 ppg	38 - 42	W/L control: <10cc

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 = 6160 psi and surface pressure of 3080 psi with a temperature of 200°.

10. H₂S: None expected. 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: April 11, 2005

Anticipated completion of drilling operations: Approximately 6 weeks.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

SAMSON RESOURCES

Bandit 15 Federal Com., Well No. 1
810' FNL & 660' FEL, Sec. 15-T20S-R33E
Lea County, New Mexico
Lease No.: NM-01059
(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 37 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 37.0 miles of paved highway and .3 mile of gravel oilfield road.
- B. Directions: Travel east from Carlsbad, NM on U.S. Highway 62/180 for approximately 32 miles to NM Highway #176. Continue east on #62/180 for 5.3 miles, .1 mile east of MM #73. Turn south, at a Woodbine Pet. and a Shackelford Oil Co. sign, for .3 mile to an east/west crossroad. This is the NE corner of the proposed well site.

2. PLANNED ACCESS ROAD:

- A. Length and Width: None required. The existing road will access the well site.
- B. Construction: None required except possibly re-routing part of the existing road around well site.
- 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".

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 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 SENW of Sec. 14-T20S-R33E. 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 west.
- C. Cut & Fill: There will be a 2.5-4 foot cut on the north with fill to the south to level the existing sand dunes and 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 completion or abandonment.

11. OTHER INFORMATION:

- A. Topography: The proposed well site and access road is located in the Querecho Plains. The location has an overall northwesterly slope of 1% from an elevation of 3582 feet.
- B. Soil: The topsoil on the well site and access road is reddish brown colored fine sand. The soil is of the Kermit Palomas fine sands soils series.
- C. Flora and Fauna: The vegetation at the well site is a sparse to fair grass cover of three-awn, dropseed, burrograss, muhly and other miscellaneous native grasses along with plants of mesquite, yucca, sage, javelina, sparse 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:

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.

March 11, 2005


Brad P. Hargrove
Senior Landman

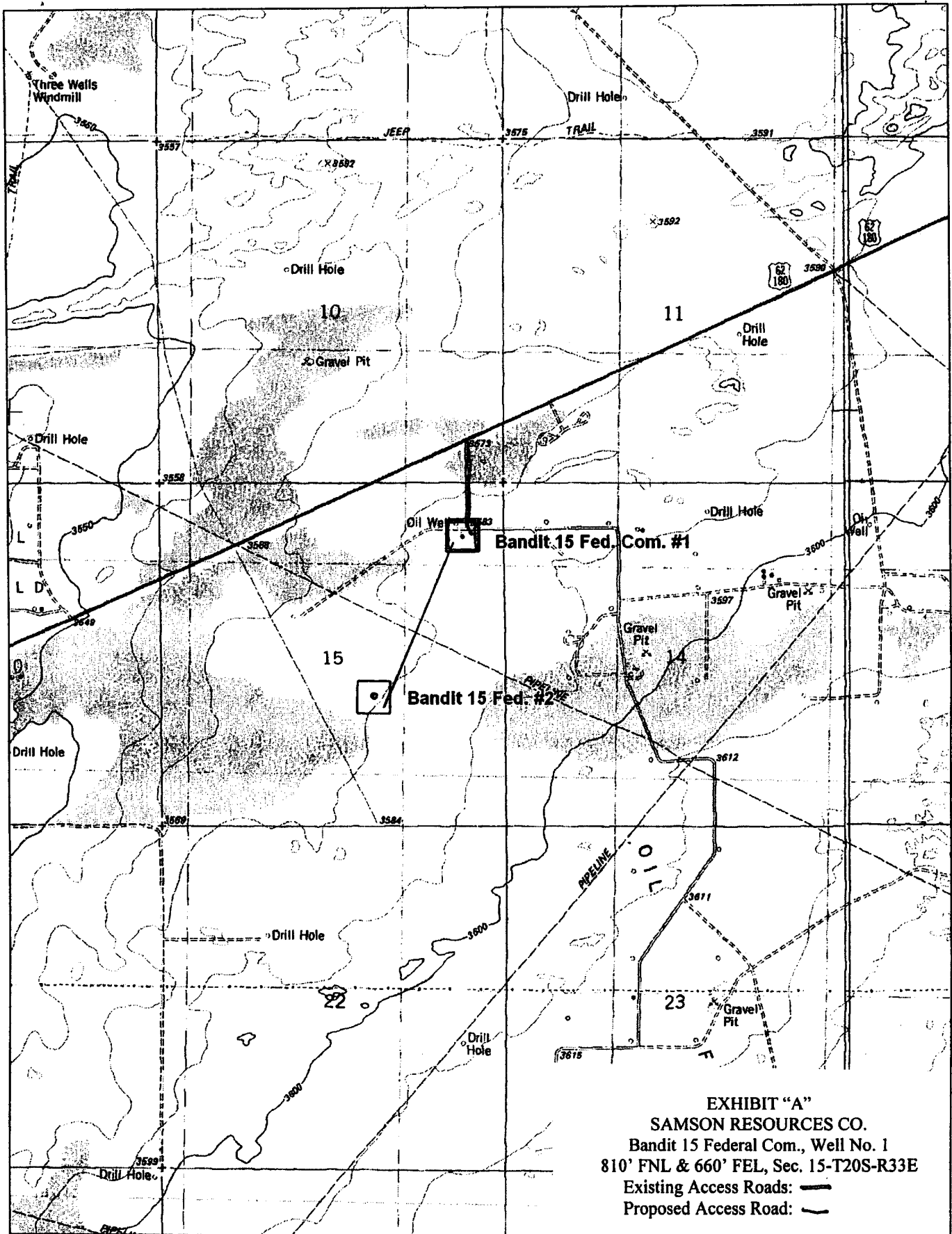
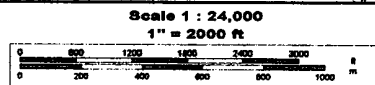


EXHIBIT "A"
 SAMSON RESOURCES CO.
 Bandit 15 Federal Com., Well No. 1
 810' FNL & 660' FEL, Sec. 15-T20S-R33E
 Existing Access Roads: —
 Proposed Access Road: —

DELOORME

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 www.delorme.com



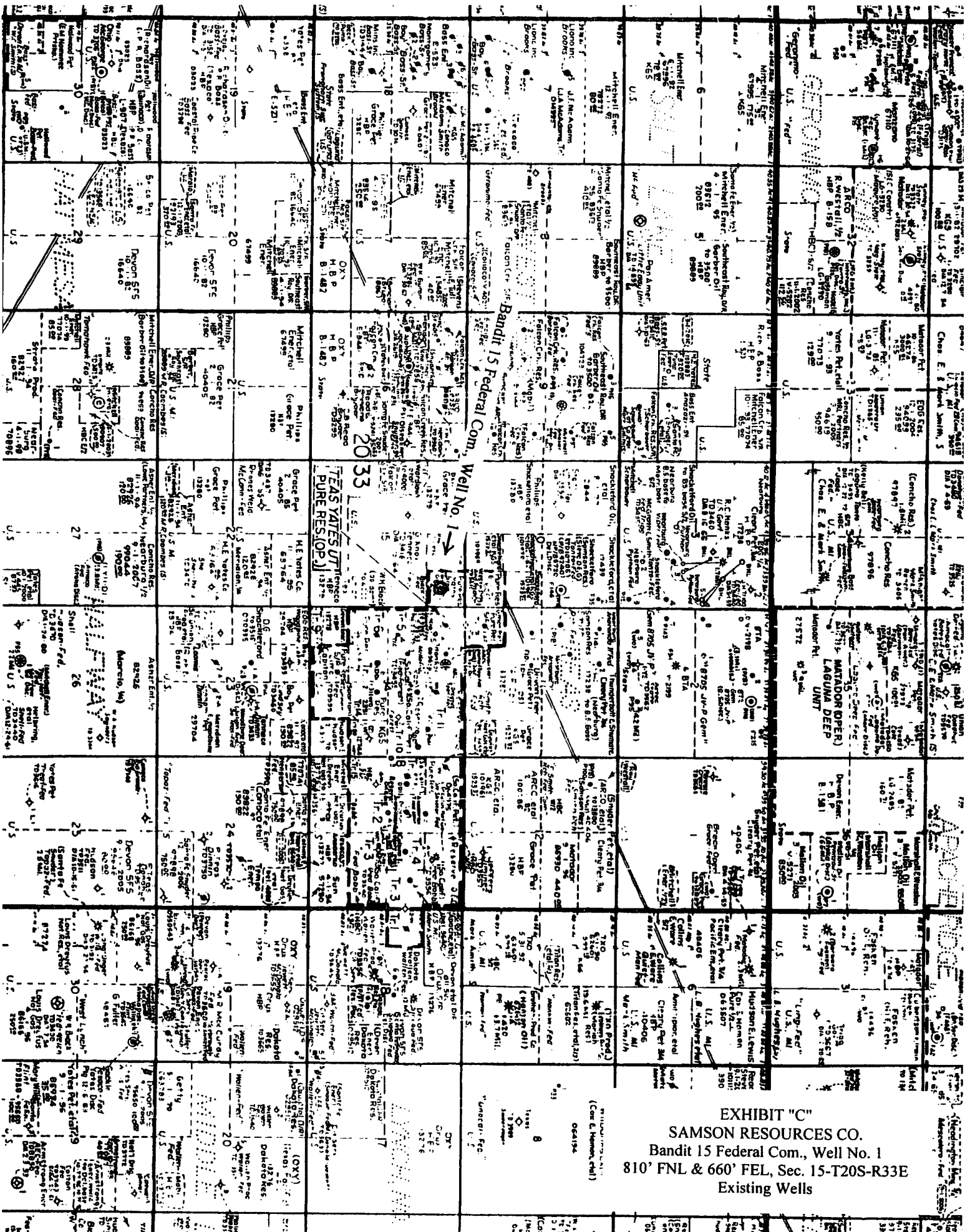


EXHIBIT "C"
SAMSON RESOURCES CO.
Bandit 15 Federal Com., Well No. 1
810' FNL & 660' FEL, Sec. 15-T20S-R33E
Existing Wells

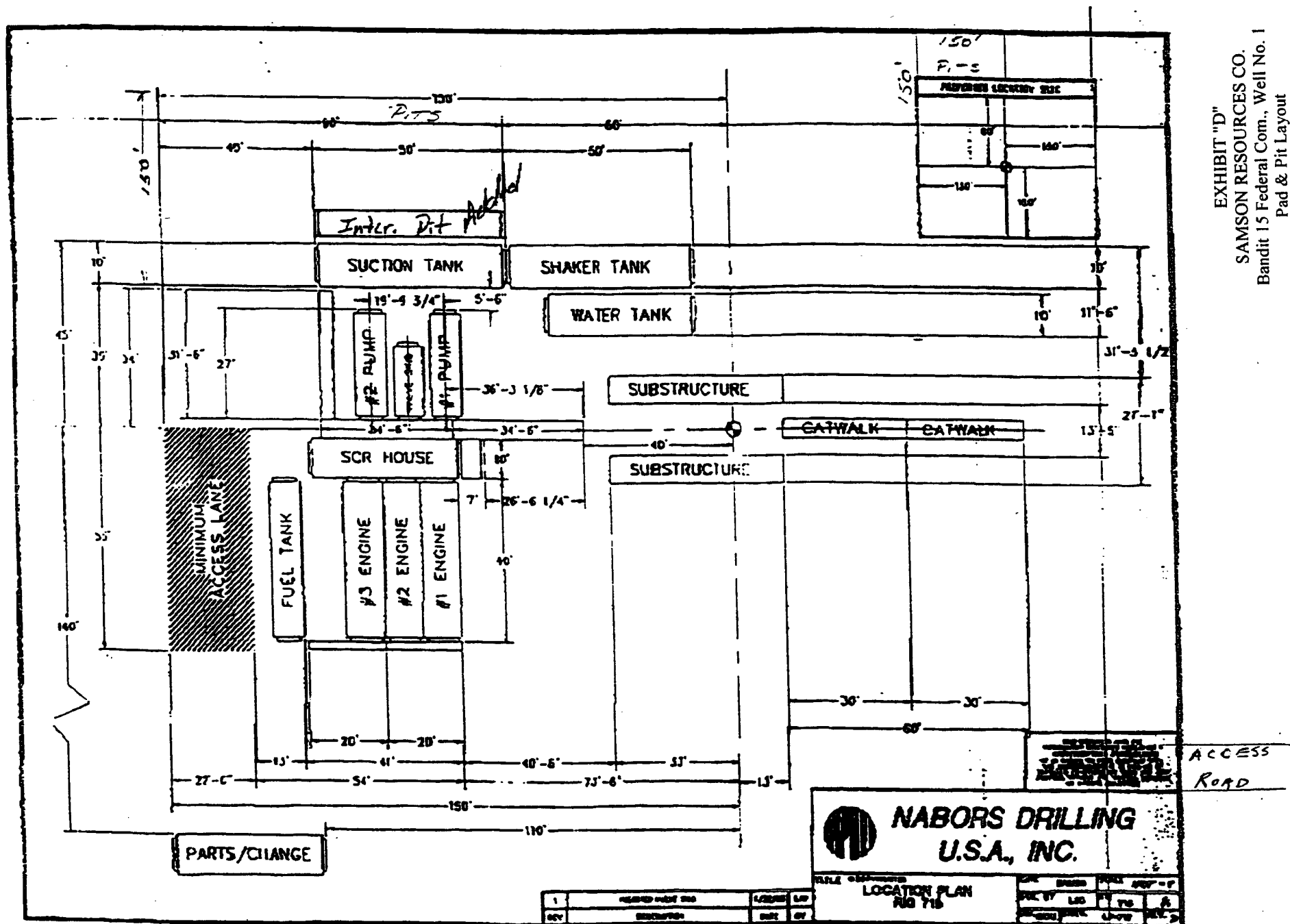



EXHIBIT "D"
SAMSON RESOURCES CO.
Bandit 15 Federal Com., Well No. 1
Pad & Pit Layout

1	FIELD NO. 210	1/2" = 1'
REV	DESCRIPTION	DATE

		NABORS DRILLING U.S.A., INC.	
LOCATION PLAN NO. 715			
DATE	DRAWN	CHECKED	BY
10/1/78	LBO	P. T.	A
10/1/78	LBO	10/1/78	10/1/78



RIG 715 BOP LAYOUT

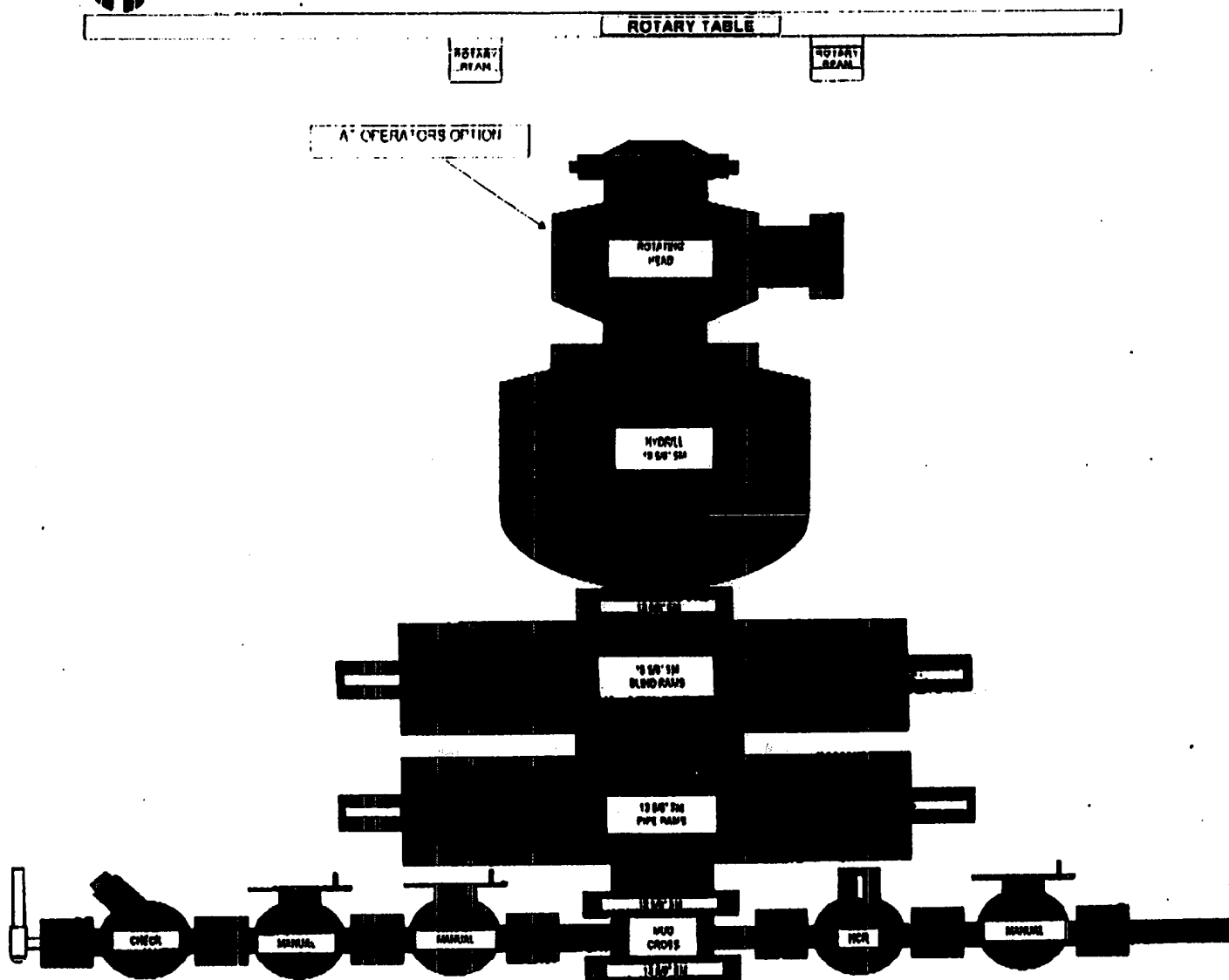
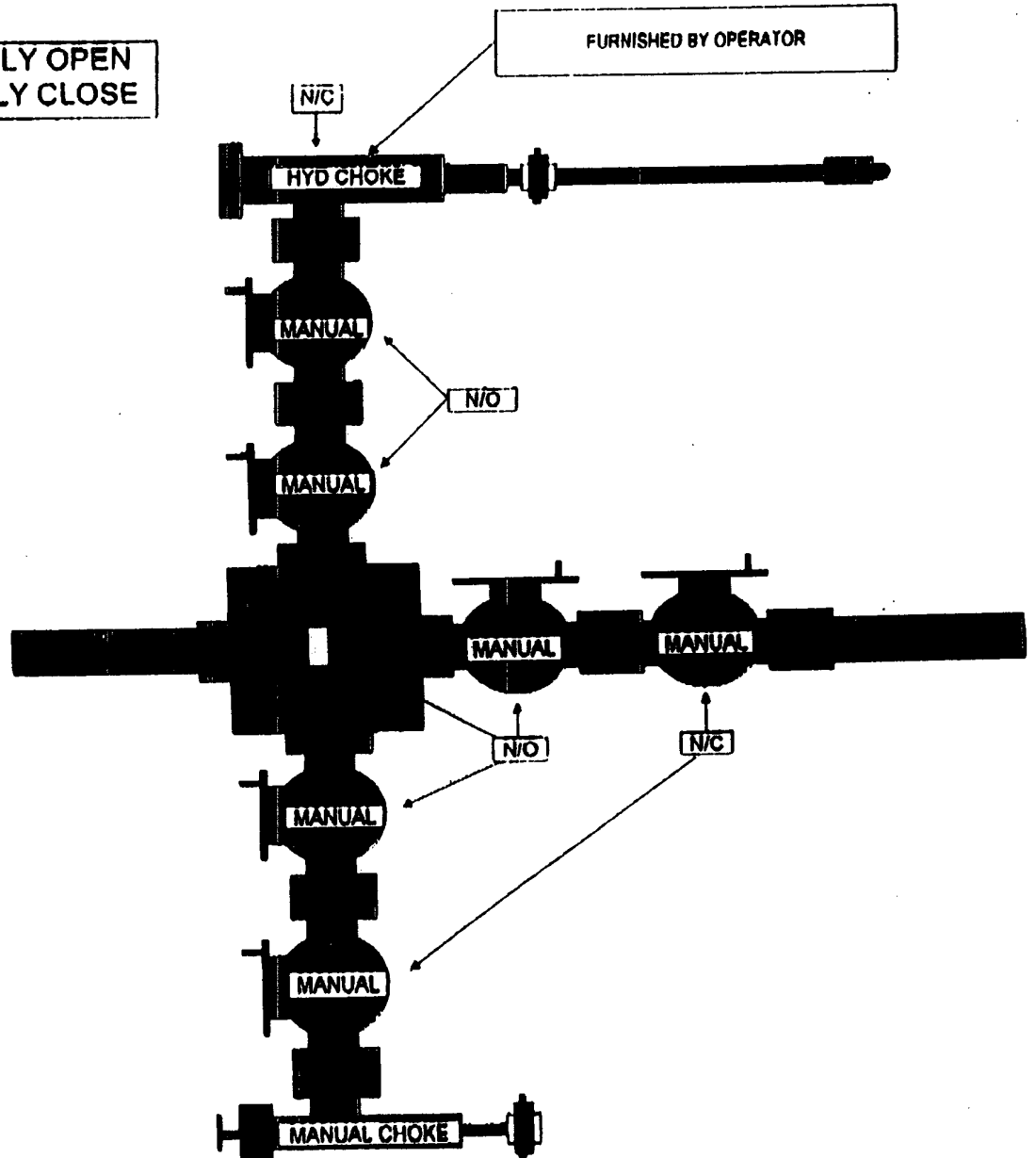


EXHIBIT "E"
 SAMSON RESOURCES CO.
 Bandit 15 Federal Com., Well No. 1
 BOP Specifications



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



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 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

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

Form C-144
June 1, 2004

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: <u>Samson Resources Company</u> Telephone: <u>(918) 583-1791</u> e-mail address: _____		
Address: <u>Two West Second Street, Tulsa, OK 74103</u>		
Facility or well name: <u>Bandit 15 Federal Com #1</u> API #: <u>30-025-30001 37230</u> U/L or Qtr/Qtr <u>NE/4 NE/4</u> Sec <u>15</u> T <u>20S</u> R <u>33E</u>		
County: <u>Lea</u> Latitude <u>32 34' 41.03" N</u> Longitude <u>103 38' 38.97" W</u> NAD: 1927 <input checked="" type="checkbox"/> 1983 <input type="checkbox"/>		
Surface Owner: Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input type="checkbox"/>		
Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12</u> mil Clay <input type="checkbox"/> Pit Volume <u>10,000</u> bbl	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> 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: (check the onsite box if you are burying in place) 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.

Additional Comments:

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 ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 5/12/05

Printed Name/Title: Tom Koscelny, Environmental Supervisor Signature: _____

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.

PAUL F. KAUTZ

Approval:

Printed Name/Title: PETROLEUM ENGINEER

Signature: _____

Date: MAY 12 2005

002/002

05/12/2005 THU 10:09 FAX 918 591 1703 TIGHT Sands