APPLICATION FOR DRILLING

SAMSON RESOURCES CO.
Minis 2(R) Federal, Well No. 1 (re-entry)
3630' FSL & 660' FEL, Sec. 2-T21S-R32E
Eddy County, New Mexico
Lease No.: NM-0202296
(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:

Top of Salt	1,500'	Manzanita LM	5,698'
Yates	3,130'	3-Amigos	6,191'
Capitan	3,529'	Brushy Canyon	7,296'
Delaware	5,502'	T D	8,250'

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
   Gas: None expected.

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" - 929'	Circ. 550 sx. (Current casing and
14 3/4"	11 3/4"	65.0#	N-80	BT&C	0' - 3,447'	Circ.1450 sx. cement in hole)
10 5/8"	8 5/8"	32.0#	K-55	ST&C	3,236' - 5,250'	600 sx " "
7 7/8"	5 1/2"	15.5#	K-55	LT&C	5,000' - 8,250'	230 sx "C" Neat (new liner)
Cement base for liner to rest on:					8,250' - 8,500'	100 sx "C"

5. **Minimum Specifications for Pressure Control Equipment:**
   A 10" 3000 psi WP Shaffer, LWS Double Gate BOP will be installed on the 11 3/4" casing and tested per order #2. Request waiver to operate as a 3,000 psi WP system and test to the maximum expected surface pressure of 1,870 psi WP. Casing and BOP will be tested before drilling out with the 7 7/8" and will be tested daily.

6. **MUD PROGRAM:**

		MUD WEIGHT	VIS.	W/L CONTROL
0' - 5210':	Fresh water mud:	9.8 - 10.0 ppg	30	No W/L control
5210' - 8500':	Brine mud:	8.7 - 9.0 ppg	32 - 38	W/L control 10 cc +/-

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

8. Testing, Logging, and Coring Program:
Logging: None required. Will use G-R Neutron for correlation with previously run 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 = 3500 psi and surface pressure of 1870 psi with a temperature of 145°.

10. H_2S: None expected.

11. Anticipated starting date: January 3, 2002.
Anticipated completion of drilling operations Approximately 3 weeks.

Minis 2 Federal 1, Lea Co., NM
Reenter well and complete in Delaware

Current Status: Well drilled and plugged by Nearburg in 1998 on a farmout from Samson. Location and road are in good shape. Dry hole tree on well.

Proposal: Drill out cement plugs, run and cement 5-1/2" liner. Complete in Delaware 7906-26'.

1. MIRU reverse unit. Check well for pressure. ND dry hole tree and NU BOPE. Test BOPE to 250/4000 psi. The maximum anticipated BHP is 8500 ft *0.45 psi/ft = 3825 psi.
2. MU 10-5/8" rerun tri cone bit on 2-7/8" drill pipe. Run drill collars as needed. TIH and drill out cement plugs to top of 8-5/8" liner @ 3236'. A 30 sk plug was spotted from 50'. A 60 sk plug was spotted from 1000'. A 45 sk plug was spotted from 1900'. A 45 sk plug was spotted across the 8-5/8" liner top. Prior to drilling the plug set across the 8-5/8" liner top, circ well clean, close rams and test 11-3/4" casing to 500# for 15 minutes. Drill through bottom plug to top of 8-5/8" liner. Circ well clean and TOOH. Note top and bottom depth of plugs drilled through. Use field salt water for a circulating fluid, pumping gel as necessary for hole cleaning. Given the yield point of the drilling mud, it can also be used for hole cleaning. The original drilling mud was left in the hole. The mud properties are as follows: MW = 11.3#, visc = 56, WL = 3.8, pH = 10.5, Chl = 119,000, solids = 14, PV = 22, YP = 26.
3. MU 7-7/8" retipped tri cone bit. TIH and tag cement. Drill through cement plug set across 8-5/8" liner top. TIH to bottom plug set from 5300- 5210'. Tag plug. Circ clean displacing hole to field salt water. Gel can be added to the FSW as needed for hole cleaning. The original hole was drilled with 8.6 & 8.7# MW to 10710'. We need to have similar mud weights prior to drilling in open hole to avoid lost circulation. Close rams and test 8-5/8" & 11-3/4" casing to 500# for 30 minutes.
4. Drill though cement plug set from 5210-5300'. Exercise caution while drilling cement to stay in original hole. A stiff BHA (stabilizers) may help stay in hole. A shoe test will not be performed.
5. Stage in hole to next plug, 45 sk @ 7415'. Drill through cement plug set @ 7415'. Stage in hole to 8500' and circ well clean. TOOH.
6. TIH w/ muleshoe. Circ clean. Spot 101 sk balanced cement plug from 8500 – 8250' with 14.8 ppg class 'C' neat cement. PU to 8250' and circ well clean. TOOH. The purpose of this plug is to provide a bottom for the 5-1/2" liner.
7. TIH w/ 5-1/2", 15.5#, K55, LTC liner. The liner will be set from 8250 to 5000'. This will provide 250' of liner lap. Two shoe joints will be run. Run 1 solid centralizer (Ray Oil Tool type) per joint from the shoe to 7600'. Run 1 solid centralizer every other joint in the liner lap interval.
8. Set liner hanger and circulate well clean with a minimum of 500 bbls FSW. Cement liner with 227 sk class 'C' neat cement mixed @ 14.8 ppg. Based on 100' of shoe joints and 7-7/8" hole, this will provide cement coverage to 1000' above the liner shoe.
9. Release from liner and reverse clean. Establish injection into TOL. Spot 123 sk balanced cement plug with 14.8 ppg class 'C' neat cement. PU above balanced plug and reverse out. Close rams and sqz TOL w/ 70 sks. Hesitate cement in place and hold pressure on same for 12 hrs. Release pressure and TOOH. In lieu of step #9, it is acceptable to run a liner top packer.
10. TIH w/ bit and drill out to top of 5-1/2" liner. Circ clean and TOOH.
11. TIH w/ bit and scraper for 5-1/2" casing to PBTD. Displace hole w/ 2% KCl. TOOH.
12. RU e/l. RIH w/ 3-1/8" casing gun. Perforate Delaware 7906-26' w/ 2 SPF, 180 degree phased charges. The reference log is the CNL/LDT 12/20/98. POOH and RD e/l.
13. TIH w/ multi set packer. Set same @ +/- 7800'. Test casing to 500# for 15 minutes. Establish injection rate. Treat well with 25,000# 20-40 sand. Note ISIP, 5 min, 10 min & 15 min pressures.
14. Release packer and TOOH, LD 2-7/8" drill pipe and packer.
15. TIH w/ 2-3/8", 4.7#, J55, EUE tubing and TAC. Set TAC 1 joint above top perf.
16. Run pump and rod string.
17. ND BOPE and NU tree. Test tree to 250/1000#.
18. Produce well.

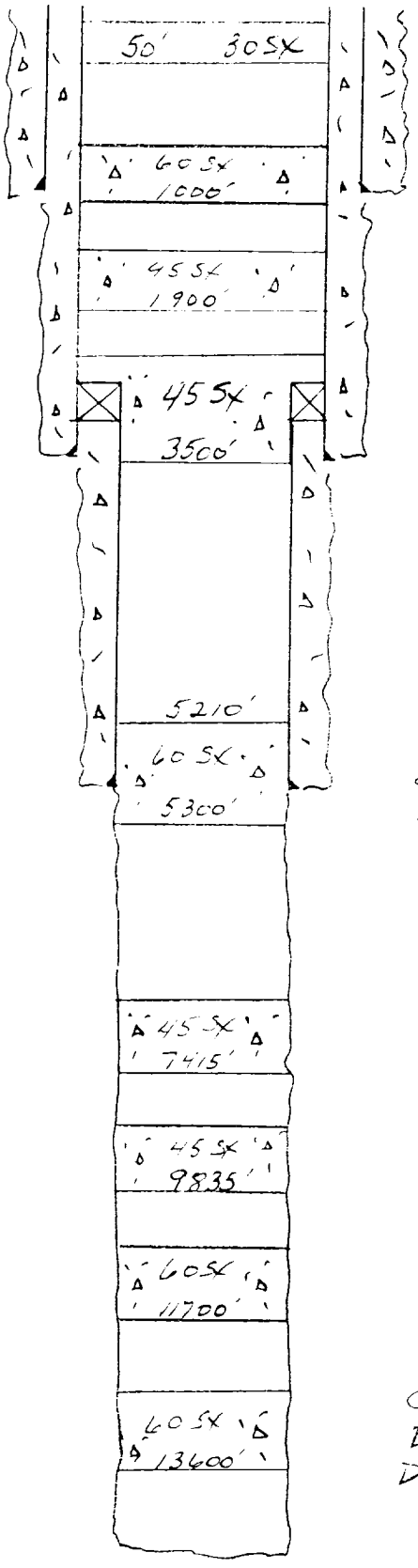
Kevin C. Olson, P. E. KCO
3/15/01

EXHIBIT "A"
SAMSON RESOURCES CO.
Minis 2(R) Federal, Well No. 1 (re-entry)
3630' FSL & 660' FEL, Sec. 2-T21S-R32E

MINIS & TEST | LEA, NM | 30025 34444

SPUD: 10/28/98
LAST:

CURRENT



16", 75#, K55, BTC @ 929'
18 1/2" HOLE, 550 SX, CMT RTNS, 10.2# MW
1000# TEST

11 3/4", 65#, N80 & S95, BTC @ 3447'
14 3/4" HOLE, 1450 SX, CMT RTNS, 8.7# MW
1000# TEST
5830# BURST
3180# COLLAPSE

8 5/8", 32#, K55 & J55, STC LINER 3236 - 5250'
10 5/8" HOLE, 600 SX, Ø CMT @ TOL, 9.1# MW
1000# TEST
3930# BURST
2530# COLLAPSE

8.6# - 8.7# MW TO 10,710' DURING ORIGINAL Ø OPERATIONS.

@ 13780' SIDPP = 100# w/ 10.2 25' FLARE
DST #1 13862 - 932' ISIP = 4408#
DST #2 14196 - 443' ISIP = 5843#

7 7/8" HOLE, 11.3# MW 0.3382 CUFT/FT
TD = 14443

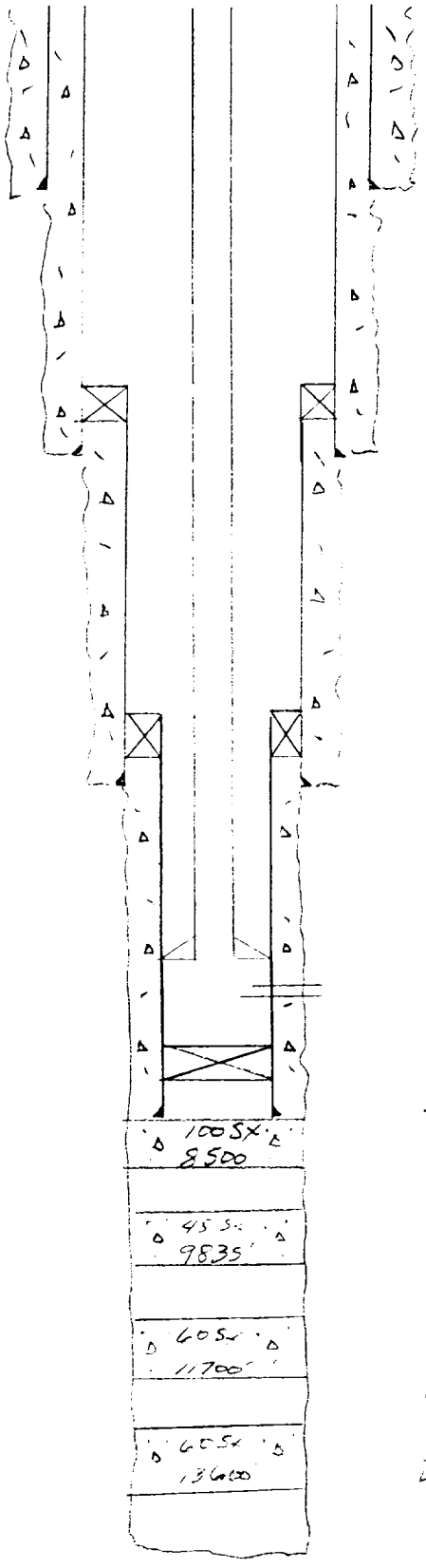
RTO 11/01

No. 5505
Engineer's Computation Pad

MINIS 2 FED 1 LEA, NM 30-025 34449

SPUD: 10/28/98
LAST

PROPOSED



16", 75#, K55, BTC @ 929'
18 1/2" HOLE, 550 SX, CMT RTNS, 10.2# MW
1000# TEST

9 3/4", 65#, N80 & S95, BTC @ 3447'
14 3/4" HOLE, 1450 SX, CMT RTNS, 8.7# MW
500# TEST

2 3/8", 4.7#, J55, EUE TBG

8 5/8", 32#, K55 & J55, STC LINER 3236 - 5250'
10 5/8" HOLE, 600 SX. Ø CMT @ TOL, 9.1# MW
1000# TEST

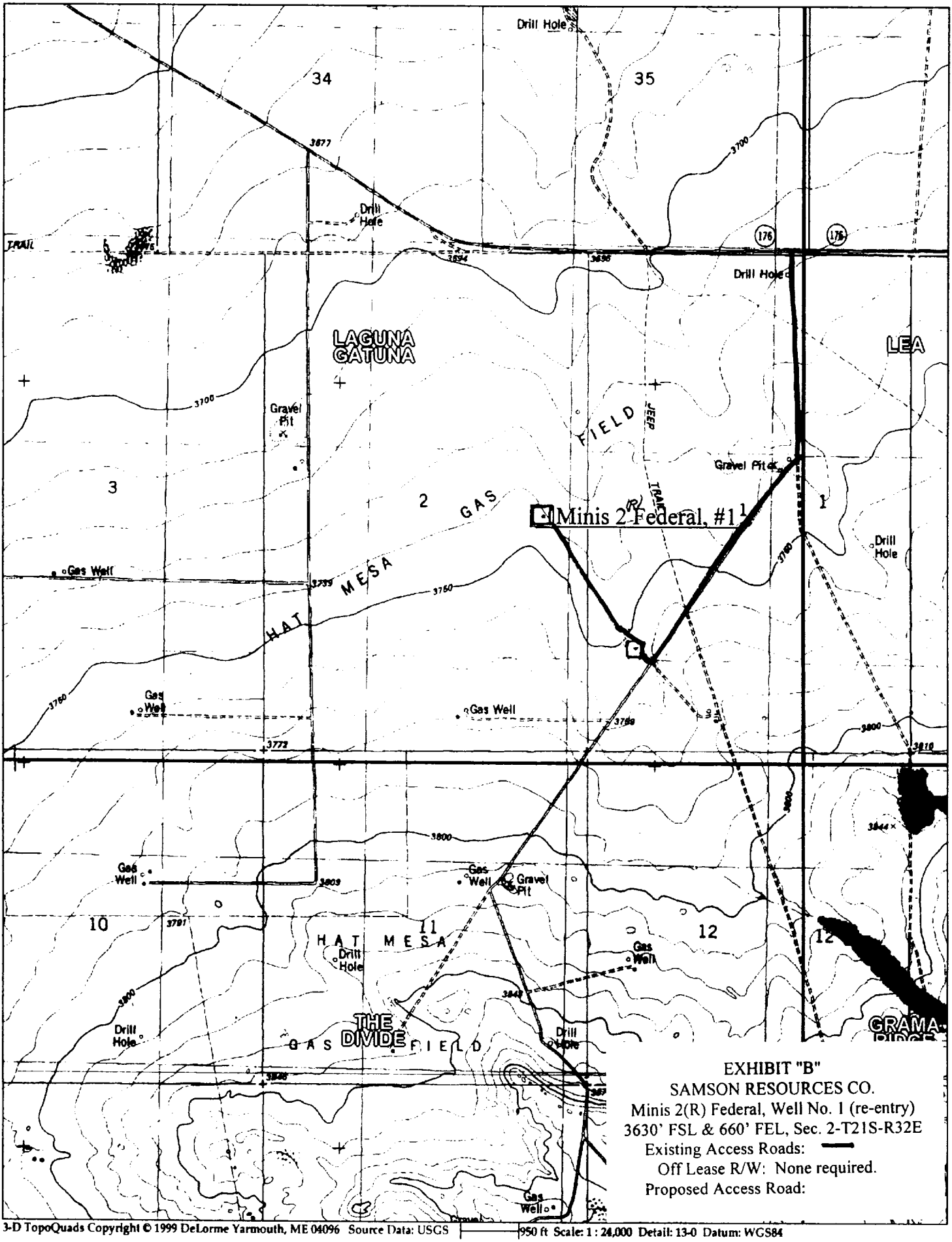
DELAWARE 7906-26' @ 2 SPF
25K FRAC

5 1/2", 15.5#, K55, LTC LINER 5000 - 8250'
7 7/8" HOLE, 8.6# MW, 230 SX CL C NEAT
SQZ TOL W/ 125 SX BR RUN LNR TOP PKR
BHT = 142°F

@ 13780' SIDPP = 100# W/ 8.2 25' FLARE
1ST #1: 13862 - 932' ISIP = 4402#
2ND #1: 11772 - 11445' ISIP = 5003#

7 7/8" HOLE, 11.3# MW
TD = 14443

RCC 1/01


Drill Hole
34
35
3677
3700
Drill Hole
176
176
Drill Hole
LAGUNA GATUNA
LEA
3700
Gravel Pit
FIELD
JEEP TRAIL
Gravel Pit
3
2
GAS
Minis 2 Federal, #1
1
Drill Hole
Gas Well
3759
HAT MESA
3760
3760
Gas Well
Gas Well
3769
3772
3800
3810
3800
Gas Well
3809
Gas Well
Gravel Pit
10
3791
11
12
12
HAT MESA
Drill Hole
Gas Well
3800
3843
THE GAS DIVIDE FIELD
Drill Hole
Drill Hole
GRAMA RIDGE
3846
3867
Gas Well
EXHIBIT "B"
SAMSON RESOURCES CO.
Minis 2(R) Federal, Well No. 1 (re-entry)
3630' FSL & 660' FEL, Sec. 2-T21S-R32E
Existing Access Roads:
Off Lease R/W: None required.
Proposed Access Road:
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
950 ft Scale: 1 : 24,000 Detail: 13-0 Datum: WGS84

BLOWOUT PREVENTOR ARRANGEMENT

2M SYSTEM

10" SHAFFER TYPE "E", 3000 psi WP

80 GALLON, 4 STATION KOOMEY ACCUMULATOR

3000 psi WP CHOKE MANIFOLD

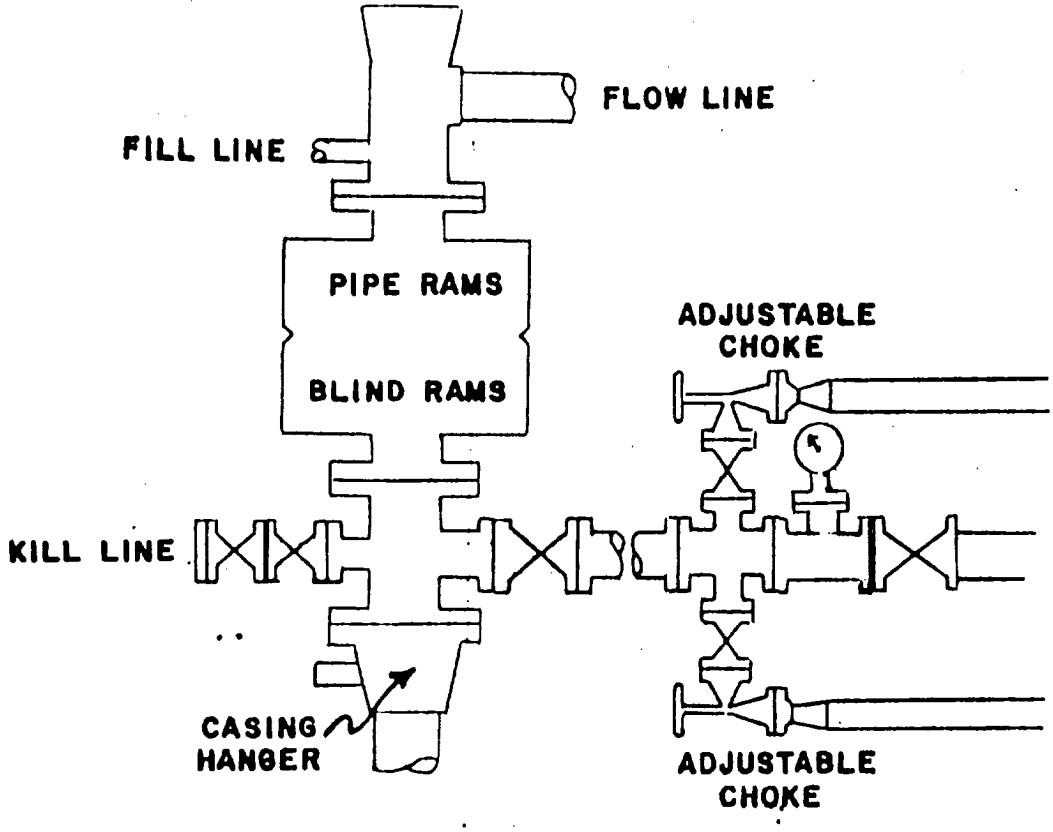


EXHIBIT "E"
SAMSON RESOURCES CO.
Minis 2(R) Federal, Well No. 1 (re-entry)
BOP Specifications