

Form 3160-3
(April 2004)

JAN 02 2008

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

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		7. If Unit or CA Agreement, Name and No. N/A OIL CONS. DIV.	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. MARCUS B #1 DIST. 3	
2. Name of Operator ELM RIDGE EXPLORATION COMPANY, LLC		9. API Well No. 30-039- 30445	
3a. Address P. O. BOX 156 BLOOMFIELD, NM 87413	3b. Phone No. (include area code) (505) 632-3476	10. Field and Pool, or Exploratory LYBROOK GALLUP	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 2230' FSL & 1599' FEL At proposed prod. zone SAME		11. Sec., T. R. M. or Blk. and Survey or Area J- 12-23N-7W NMPM	
14. Distance in miles and direction from nearest town or post office* 2 AIR MILES NORTHEAST OF LYBROOK		12. County or Parish RIO ARRIBA	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 348'	16. No. of acres in lease 2,461.69	17. Spacing Unit dedicated to this well NWSE (= 40 acres)	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2,595'	19. Proposed Depth 5,800'	20. BLM/BIA Bond No. on file BLM STATE WIDE 886201C Nm2858	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,983' GL	22. Approximate date work will start* 02/01/2008	23. Estimated duration 3 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. | 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	 BRIAN WOOD	Name (Printed/Typed) BRIAN WOOD	Date 12/30/2007
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Title **CONSULTANT** **PHONE: (505) 466-8120** **FAX: (505) 466-9682**

Approved by (Signature)	Name (Printed/Typed)	Date
		2/11/08
Title	Office	
AFN	FFO	

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.

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)

Hold C-104 for Rule 40 compliance

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

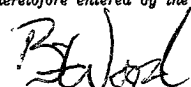
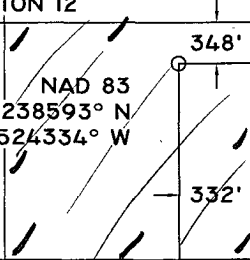
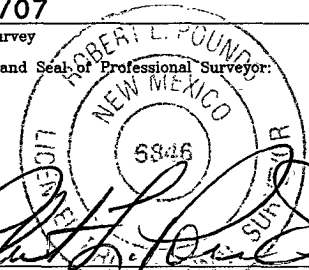
FEB 12 2008

NMCCD

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

AMENDED REPORT

16	S 88°12'49" E	2552.57'	S 88°29'00" E	2552.57'	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Signature </div> <div style="text-align: center;"> 12-30-07 Date </div> </div> <hr/> <p>Printed Name</p> <p style="text-align: center; font-size: 1.2em;">BRIAN WOOD</p> <p style="text-align: center; font-size: 1.2em;">(505) 466-8120</p>
2597.57'	N 1°47'07" W				
		SECTION 12			<p>18 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> <hr/> <p>8/21/07</p> Date of Survey
2588.85'			1599'		
2576.63'	N 1°35'29" W				<hr/> <p>Signature and Seal of Professional Surveyor:</p> <div style="text-align: center;">  </div> <p>Certificate Number</p> <p style="text-align: center; font-size: 1.2em;">6846</p>
	N 88°41'40" W	2530.90'	N 88°42'34" W	2524.99'	

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., 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-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-039- 30445
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. NMSF-078359
7. Lease Name or Unit Agreement Name MARCUS B
8. Well Number 1
9. OGRID Number 149052
10. Pool name or Wildcat LYBROOK GALLUP

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,983' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >200' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >300'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material: SYNTHETIC

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
ELM RIDGE EXPLORATION COMPANY, LLC

3. Address of Operator
P. O. BOX 156, BLOOMFIELD, NM 87413

4. Well Location
Unit Letter: J 2230' FSL & 1599' FEL
Section 12 Township 23 North Range 7 West NMPM RIO ARRIBA County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,983' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >200' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >300'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material: SYNTHETIC

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: DRILLING PIT ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any 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 ☐.

SIGNATURE Brian Wood TITLE: CONSULTANT DATE: DECEMBER 30, 2007

Type or print name: BRIAN WOOD E-mail address: brian@permitswest.com Telephone No.: (505) 466-8120

For State Use Only

APPROVED BY: [Signature] TITLE: Deputy Oil & Gas Inspector, District #3 DATE: FEB 12 2008

Conditions of Approval (if any):

Elm Ridge Exploration Company, LLC
Marcus B #1
2230' FSL & 1599' FEL
Sec. 12, T. 23 N., R. 7 W.
Rio Arriba County, New Mexico

PAGE 1

Drilling Program

1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
San Jose	0'	12'	+6,983'
Ojo Alamo Sandstone	1,553'	1,565'	+5,430'
Kirtland Shale	1,653'	1,665'	+5,330'
Fruitland Formation	1,908'	1,920'	+5,075'
Pictured Cliffs Sandstone	2,113'	2,125'	+4,870'
Lewis Shale	2,218'	2,230'	+4,765'
Chacra Sandstone	2,553'	2,565'	+4,430'
Menefee Shale	3,183'	3,195'	+3,800'
Point Lookout Sandstone	4,363'	4,375'	+2,620'
Mancos Shale	4,583'	4,595'	+2,400'
Gallup Sandstone	5,253'	5,265'	+1,730'
Total Depth	5,800'	5,812'	+1,183'

2. NOTABLE ZONES

Oil &/or Gas Zones

Fruitland
Pictured Cliffs
Gallup

Water Zones

Nacimiento
Fruitland
Pictured Cliffs

Coal Zone

Fruitland

Water zones will be protected with casing, cement, and weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

Elm Ridge Exploration Company, LLC
Marcus B #1
2230' FSL & 1599' FEL
Sec. 12, T. 23 N., R. 7 W.
Rio Arriba County, New Mexico

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3. PRESSURE CONTROL

The drilling contract has not yet been awarded. Thus the exact BOP model to be used is not yet known. A typical 2,000 psi model is on PAGE 3.

A $\geq 2,000$ psi BOP and choke manifold system will be installed and tested to $\approx 2,000$ psi before drilling the surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Pounds/Foot</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Depth Set</u>
12-1/4"	8-5/8"	24	J-55 or K-55	S T & C	New	350'
7-7/8"	5-1/2"	10.5	J-55	L T & C	New	5,800'

Surface casing will be cemented to the surface with ≈ 290 cubic feet (≈ 245 sacks) Class B with 1/4 pound per sack cellophane + 2% CaCl_2 . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess. Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter.

Production casing will be cemented to the surface in 2 stages with a stage tool set @ $\approx 3,800'$. Centralizers will be installed on the middle of the shoe joint and on every joint thereafter (≥ 2 dozen centralizers). Thread lock the guide shoe, bottom of float collar, and bottom of stage tool only. Use API casing dope.

Elm Ridge Exploration Company, LLC
Marcus B #1
2230' FSL & 1599' FEL
Sec. 12, T. 23 N., R. 7 W.
Rio Arriba County, New Mexico

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First stage volume will be ≈ 719 cubic feet consisting of ≈ 170 sacks of Halliburton light with 65/35 poz mix + 1/4 pound per sack cellophane + 2% CaCl_2 (yield = 1.87 cubic feet per sack, weight = 12.7 pounds per gallon) followed by ≈ 340 sacks Class B with 2% CaCl_2 (yield = 1.18 cubic feet per sack, weight = 15.2 pounds per gallon). Volume = >100% excess, but caliper logs will be used to determine actual volume needed.

Second stage volume will be $\approx 1,330$ cubic feet consisting of ≈ 680 sacks of Halliburton light with 65/35 poz mix + 1/4 pound per sack cellophane + 2% CaCl_2 (yield = 1.87 cubic feet per sack, weight = 12.7 pounds per gallon) followed by ≈ 50 sacks of Class B with 2% CaCl_2 (yield = 1.18 cubic feet per sack, weight = 15.2 pounds per gallon). Volume = >100% excess, but caliper logs will be used to determine actual volume needed.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>ppg</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
0' - 350'	Fresh water gel	9.0	50	NC	9
350' - TD	Fresh water gel	9.0	38 - 50	6.0	9

Enough material will be at the well site while drilling to maintain mud properties, control lost circulation, and prevent a blowout. Mud will be checked hourly by rig personnel. Material to soak up possible oil or fuel spills will be on site.

6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. DIL/GR logs will be run from TD to surface. CNL/FDC logs may be run over selected segments. Samples will be collected every $\approx 10'$ through the Gallup. Samples will be collected every $\approx 30'$ elsewhere.

Elm Ridge Exploration Company, LLC
Marcus B #1
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7. DOWN HOLE CONDITIONS

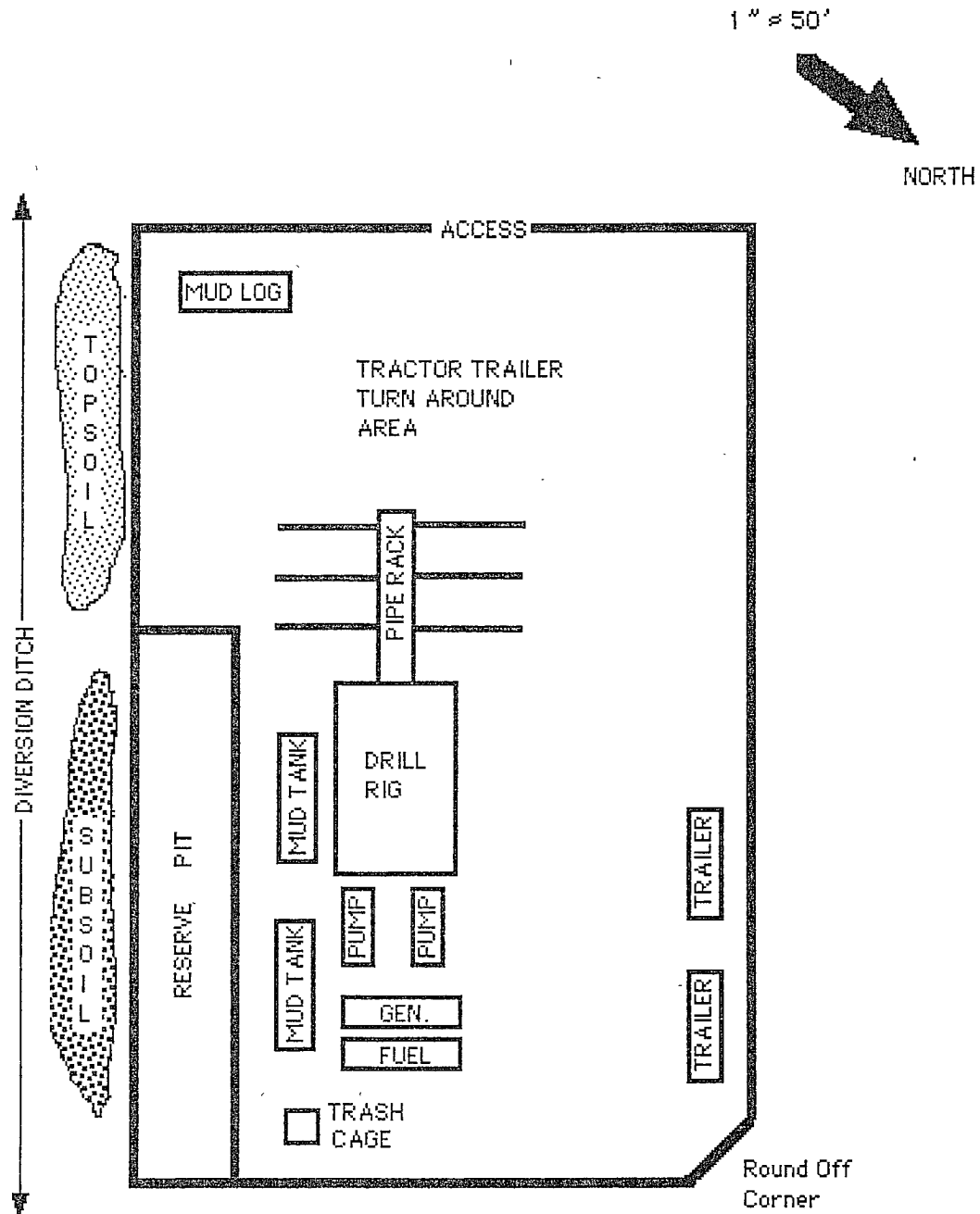
No abnormal pressures, temperatures, or hydrogen sulfide are expected. Maximum expected bottom hole pressure will be $\leq 2,320$ psi.

8. OTHER INFORMATION

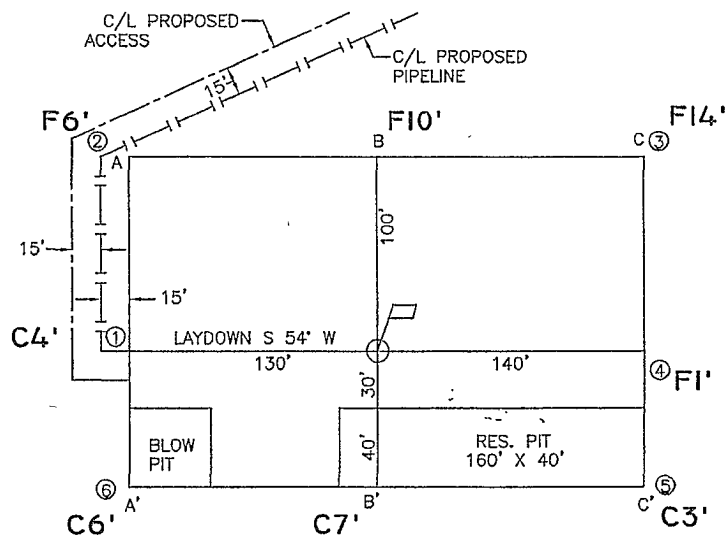
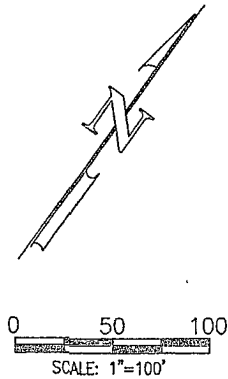
The anticipated spud date is February 1, 2008. It is expected it will take 1 week to drill and 2 weeks to complete the well.

Elm Ridge Exploration Company, LLC
Marcus B #1
2230' FSL & 1599' FEL
Sec. 12, T. 23 N., R. 7 W.
Rio Arriba County, New Mexico

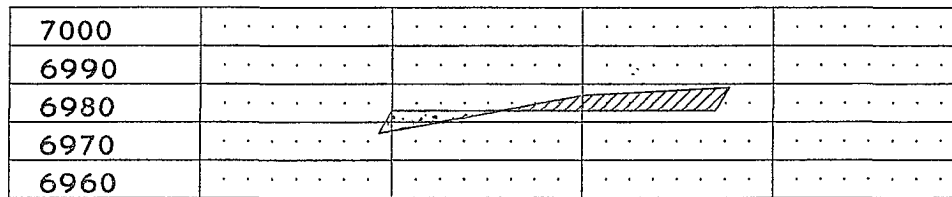
PAGE 15



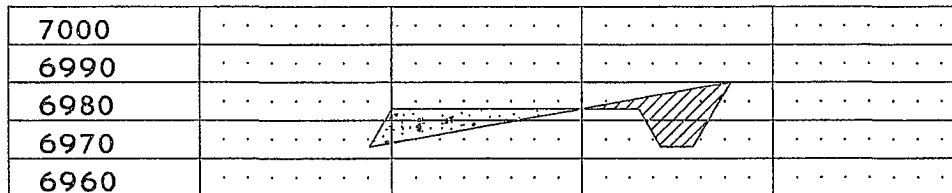
BEFORE DIGGING
CALL FOR UTILITY
LINE LOCATION!



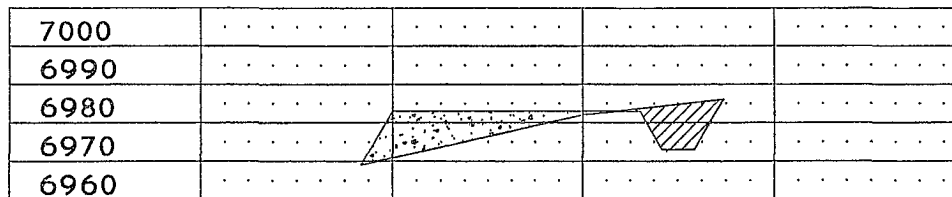
ELEVATION A-A'



B-B'



C-C'



CROSS SECTIONS

HORIZONTAL: 1"=100'

VERTICAL: 1"=50'

LEASE: MARCUS B #1

FOOTAGE: 2230' FSL, 1599' FEL

SEC. 12 TWN. 23 N RNG. 7 W N.M.P.M.

LAT: 36.238593° N LONG: 107.524334° W (NAD 83)

ELEVATION: 6983

ELM RIDGE EXPLORATION DALLAS, TEXAS

SURVEYED: 8/21/07

REV. DATE:

APP. BY R.L.P.

DRAWN BY: H.S.

DATE DRAWN: 8/22/07

FILE NAME: 7837C02

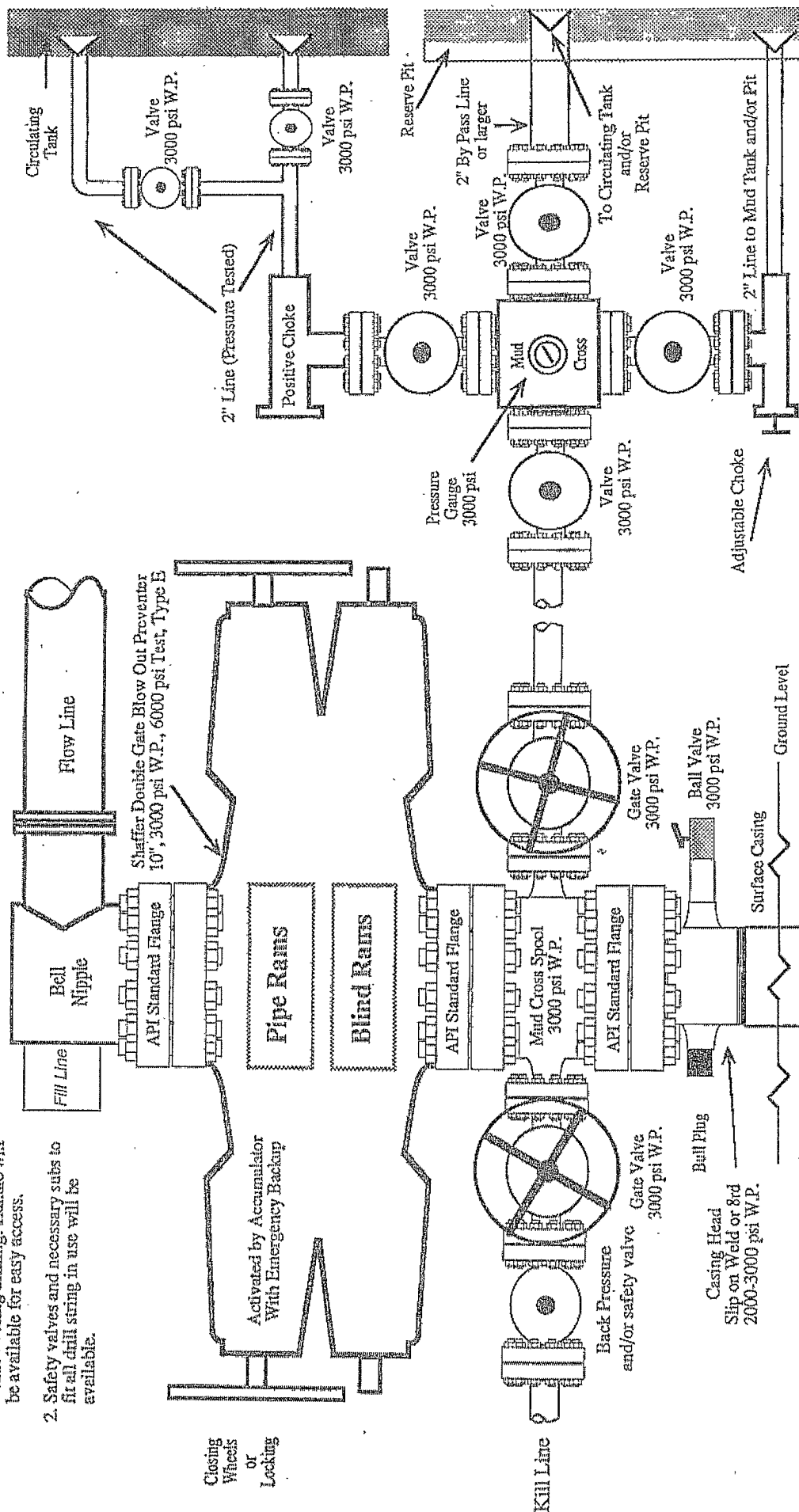


P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.