

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street Artesia, NM 88210-1404
District III
1000 Rio Brazos Rd, Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Revised February 10, 1994
Instructions on back
Submitted to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies
☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUG BACK, OR ADD A ZONE

Operator Name and Address Mack Energy Corporation P.O. Box 960 Artesia, NM 88211-0960		OGRID Number 013837 API Number 30-015-32062
Property Code 016394	Property Name State S-19	Well No. 21

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	19	17S	29E		330	South	865	East	Eddy

Proposed 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
Proposed Pool 1 Empire Yeso 96210					Proposed Pool 2				

Work Type Code N Multiple No	Well Type Code O Proposed Depth 4350'	Cable/Rotary R Formation Paddock	Lease Type Code S Contractor LaRue	Ground Level Elevation 3649' Spud Date 11/15/01
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Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2	13 3/8	48	350' 300	Circ	Surface
12 1/4	8 5/8	24	800	Sufficient to Circ	Surface
7 7/8	5 1/2	17	4350	Sufficient to Circ	Surface

Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Mack Energy Corporation proposes to drill to 300', run 13 3/8" casing and cement. Drill to 800', run 8 5/8" casing and cement.
Drill to 4350" and test Paddock Zone, run 5 1/2" casing and cement. Put well on production.

Note: On Production string, a fluid caliber will be run, will figure cement, with 25% excess, attempt to circulate.

I hereby certify that the information given above is true and complete to the best of my knowledge and belief
Signature

Printed name: Crissa D. Carter
Title: Production Analyst

Date: 10/19/01
Phone: (505)748-1288

OIL CONSERVATION DIVISION

Approval by: ORIGINAL SIGNED BY TIM W. GUM
DISTRICT II SUPERVISOR

Title:
Approval Date: OCT 23 2001
Exption Dste: OCT 23 2002

Conditions of Approval:
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	Pool Code 96210	Pool Name Empire Yeso
Property Code 16394	Property Name STATE S-19	Well Number 21
GRID No. 013837	Operator Name MACK ENERGY CORPORATION	Elevation 3649'

Surface Location

UL or lot No. P	Section 19	Township 17-S	Range 29-E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 865	East/West line EAST	County EDDY
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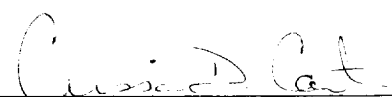
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

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

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.


Signature

Crissa D. Carter
Printed Name

Production Analyst
Title

10/19/2001
Date

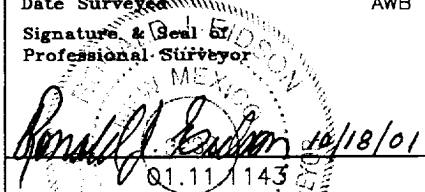
SURVEYOR CERTIFICATION

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.

OCTOBER 16, 2001

Date Surveyed _____ AWB

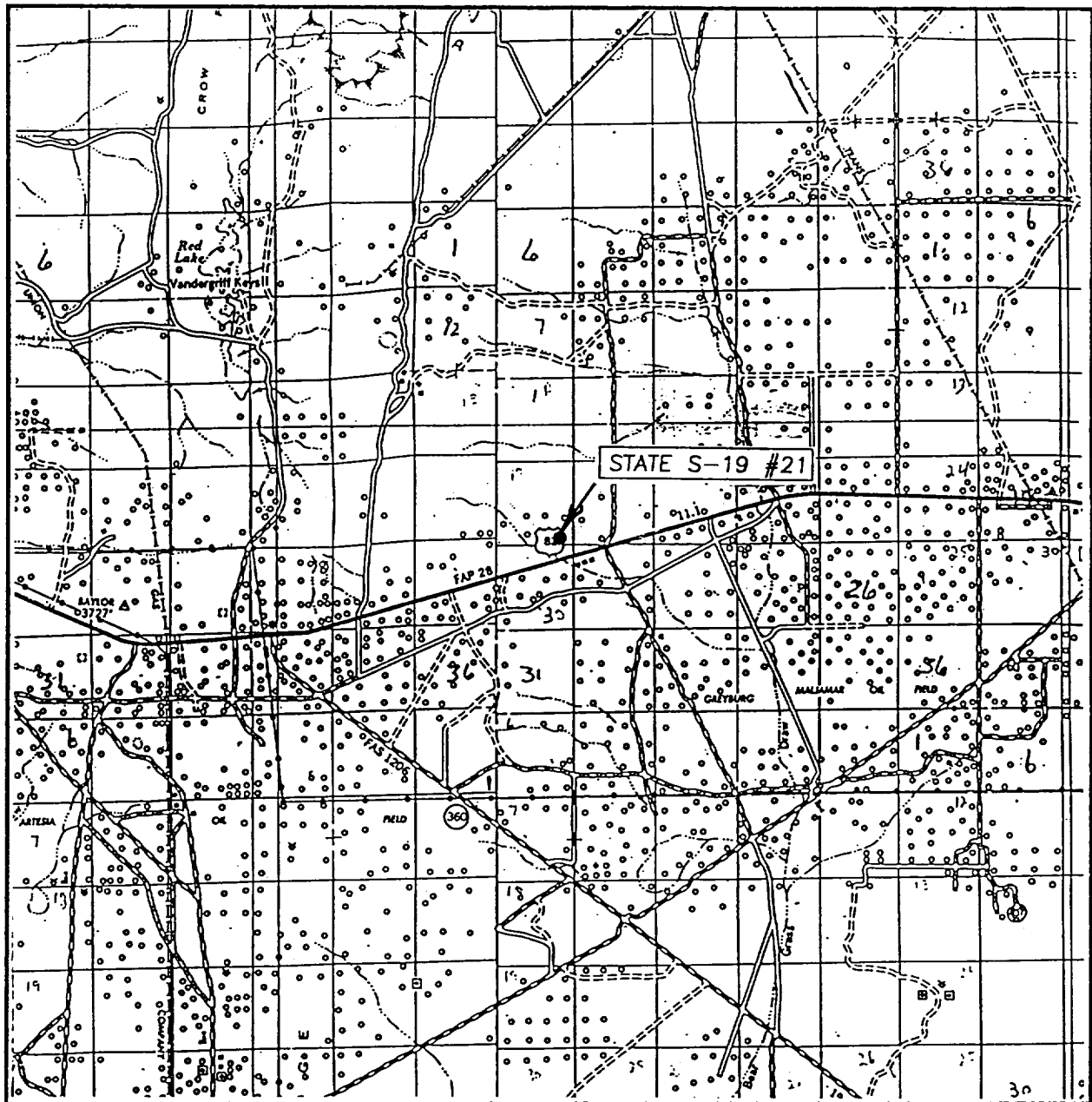
Signature & Seal of Professional Surveyor


Ronald E. Edson 10/18/01

Certificate No. RONALD E. EDSON 3239
GARY EDSON 12641

330' → 865'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 17-S. RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 330' FSL & 865' FEL

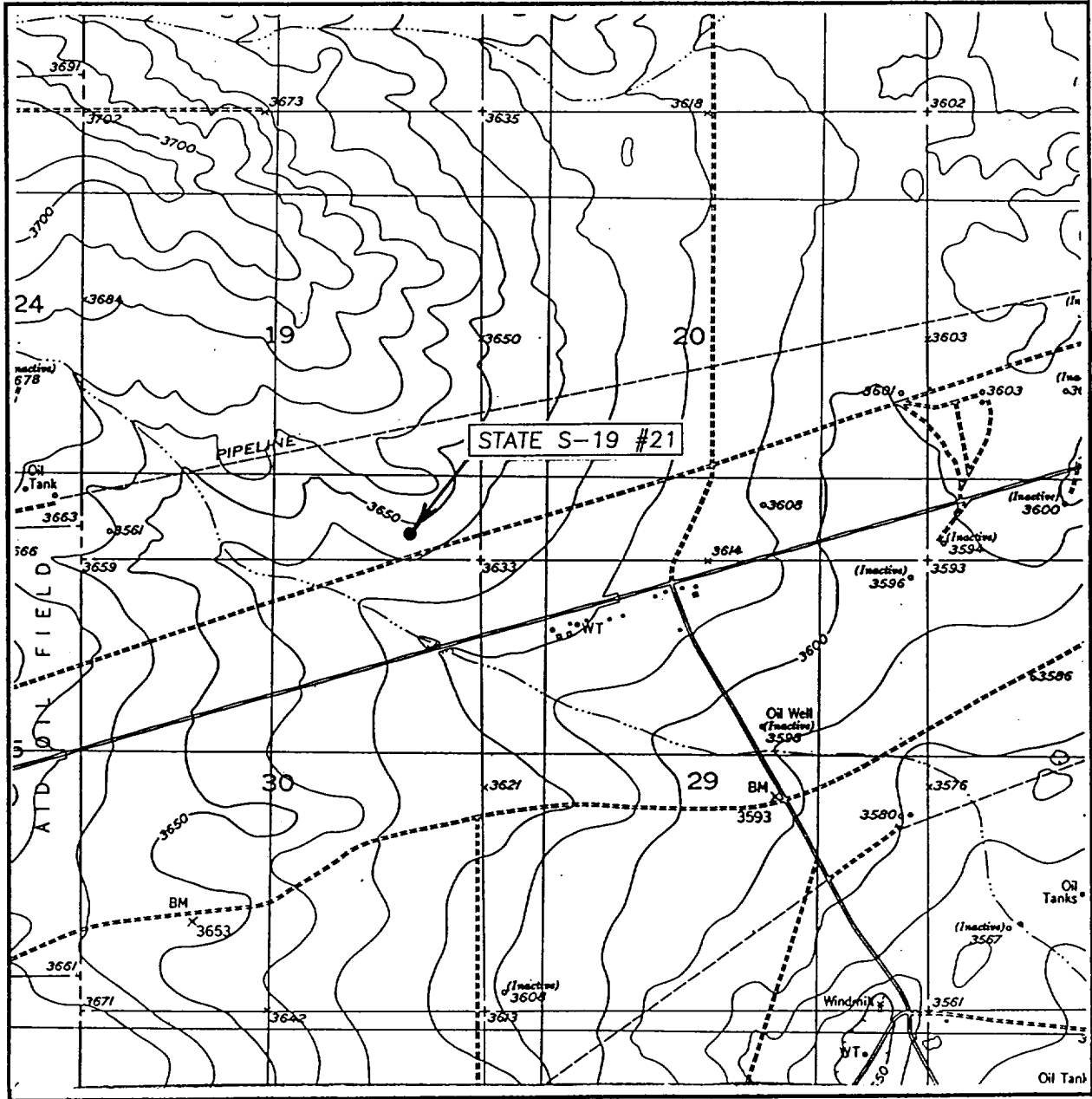
ELEVATION 3649'

OPERATOR MACK ENERGY CORPORATION

LEASE STATE S-19

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
RED LAKE SE, N.M.

SEC. 19 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 330' FSL & 865' FEL

ELEVATION 3649'

OPERATOR MACK ENERGY CORPORATION

LEASE STATE S-19

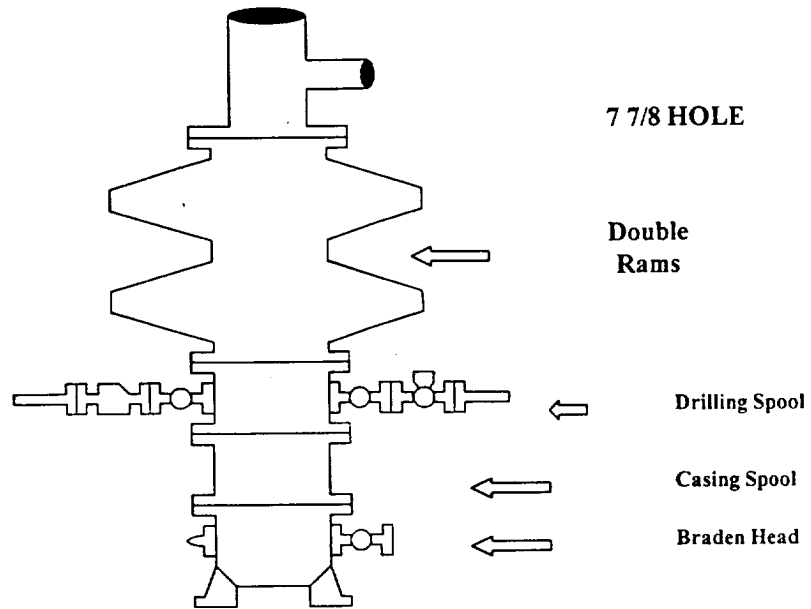
U.S.G.S. TOPOGRAPHIC MAP
RED LAKE SE, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

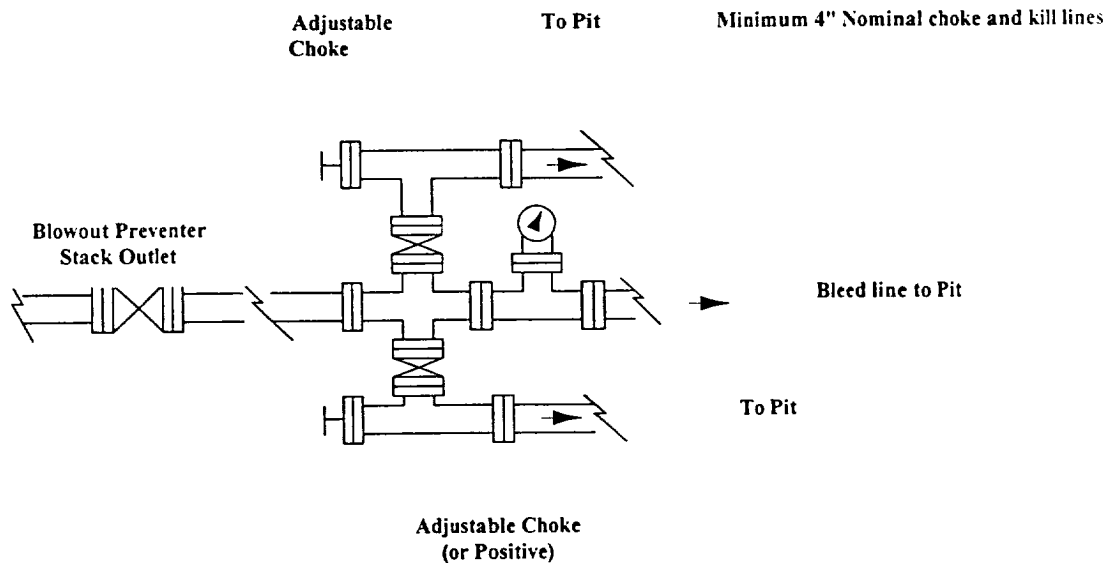
Mack Energy Corporation

Exhibit #1

BOPE Schematic



Choke Manifold Requirement (2000 psi WP)
No Annular Required



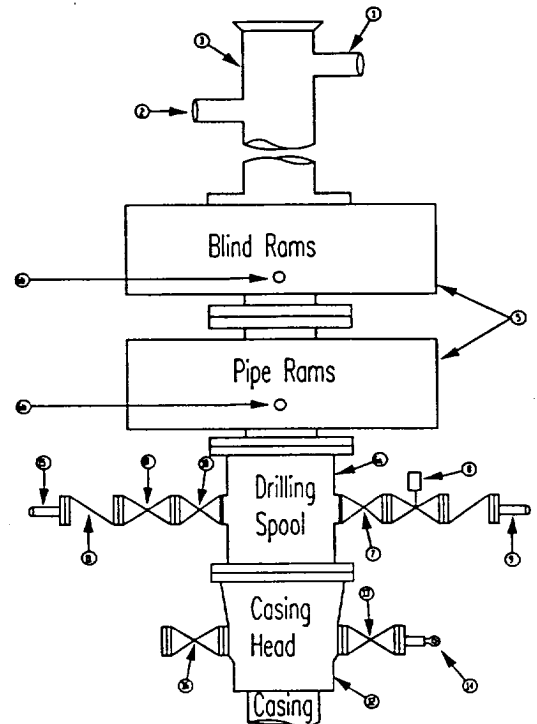
Mack Energy Corporation
Minimum Blowout Preventer Requirements
2000 psi Working Pressure
2 MWP
EXHIBIT #2

Stack Requirements

NO.	Items	Min. I.D.	Min. Nominal
1	Flowline		2"
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		2" Choke
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above)		
7	Valve Gate Plug	3 1/8	
8	Gate valve-power operated	3 1/8	
9	Line to choke manifold		3"
10	Valve Gate Plug	2 1/16	
11	Check valve	2 1/16	
12	Casing head		
13	Valve Gate Plug	1 13/16	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL

16	Flanged Valve	1 13/16	
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CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000 psi minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers' position.
4. Kelly equipped with Kelly cock.
5. Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

1. Bradenhead or casing head and side valves.
2. Wear bushing. If required.

GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, or bean

5. sizes, retainers, and choke wrenches to be conveniently located for immediate use.
6. All valves to be equipped with hand-wheels or handles ready for immediate use.
7. Choke lines must be suitably anchored.
8. Handwheels and extensions to be connected and ready for use.
9. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
10. All seamless steel control piping (2000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
11. Casinghead connections shall not be used except in case of emergency.
12. Do not use kill line for routine fill up operations.

Mack Energy Corporati

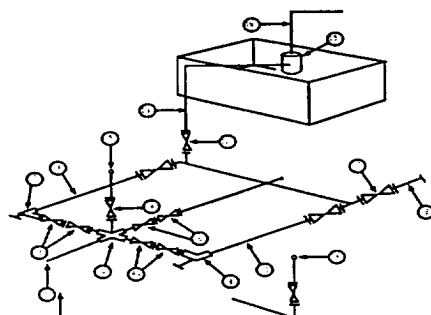
Exhibit #3

MINIMUM CHOKE MANIFOLD

3,000, 5,000, and 10,000 PSI Working Pressure

2 M will be used or greater

3 MWP - 5 MWP - 10 MWP



Mud Pit

Reserve Pit

* Location of separator optional

Below Substructure

Minimum requirements

No.		3,000 MWP			5,000 MWP			10,000 MWP		
		I.D.	NOMINAL	Rating	I.D.	Nominal	Rating	I.D.	Nominal	Rating
1	Line from drilling Spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3" x 3" x 3" x 2"			3,000			5,000			
2	Cross 3" x 3" x 3" x 2"									10,000
3	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
4	Valve Gate Plug	1 13/16		3,000	1 13/16		5,000	1 13/16		10,000
4a	Valves (1)	2 1/16		3,000	2 1/16		5,000	2 1/16		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		2"	10,000
11	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
12	Line		3"	1,000		3"	1,000		3"	2,000
13	Line		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound Standpipe pressure quage			3,000			5,000			10,000
15	Gas Separator		2' x5'			2' x5'			2' x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000

- (1) Only one required in Class 3M
- (2) Gate valves only shall be used for Class 10 M
- (3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTION

1. All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2. All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP.
3. All lines shall be securely anchored.
4. Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
5. Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
6. Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees.