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 Resourses Department
OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-101
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

# APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| Operator Name and Address | OGRID Number |
|---|---|
| Mack Energy Corporation<br>P.O. Box 960<br>Artesia, NM 88211-0960 | 013837 |
| | API Number<br>30-025-36103 |

| Property Code | Property Name | Well No. |
|---|---|---|
| 30427 | Sapphire State | 4 |

## Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 11 | 23S | 36E | | 1650 | North | 1650 | West | Lea |

## 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 | Proposed Pool 2 |
|---|---|
| Wildcat G-04 S233611L; Abo | |

| Work Type Code | Well Type Code | Cable/Rotary | Lease Type Code | Ground Level Elevation |
|---|---|---|---|---|
| N | O | R | S | 3439' |
| **Multiple** | **Proposed Depth** | **Formation** | **Contractor** | **Spud Date** |
| No | 8600' | Abo | LaRue | 1/31/2003 |

## 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 | 300' | Circ | Surface |
| 12 1/4 | 9 5/8 | 54.5 | 3450' | Sufficient to Circ | Surface |
| 7 7/8 | 5 1/2 | 17 | 8600' | 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 3450', run 9 5/8" casing and cement. Drill to 8600' and test the Abo Zone, run 5 /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.

Permit Expires 1 Year From Approval Date Unless Drilling Underway

JAN 2003
RECEIVED
Hobbs
OCD

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

Signature: Crissa D. Carter

Printed name: Crissa D. Carter

Title: Production Analyst

Date: 1/7/03

Phone: (505)748-1288

## OIL CONSERVATION DIVISION

Approval by: ORIGINAL SIGNED BY PAUL F. KAUTZ PETROLEUM ENGINEER

Title:

Approval Date: JAN 14 2003

Expiration Date:

Conditions of Approval:

Attached ☐

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

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

# OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
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 | Pool Name |
|---|---|---|
| 30-025-36103 | 97249 | Wildcat G-4 S233611; Abo |

| Property Code | Property Name | Well Number |
|---|---|---|
| 30427 | SAPPHIRE STATE | 4 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 013837 | MACK ENERGY CORPORATION | 3439' |

### Surface Location

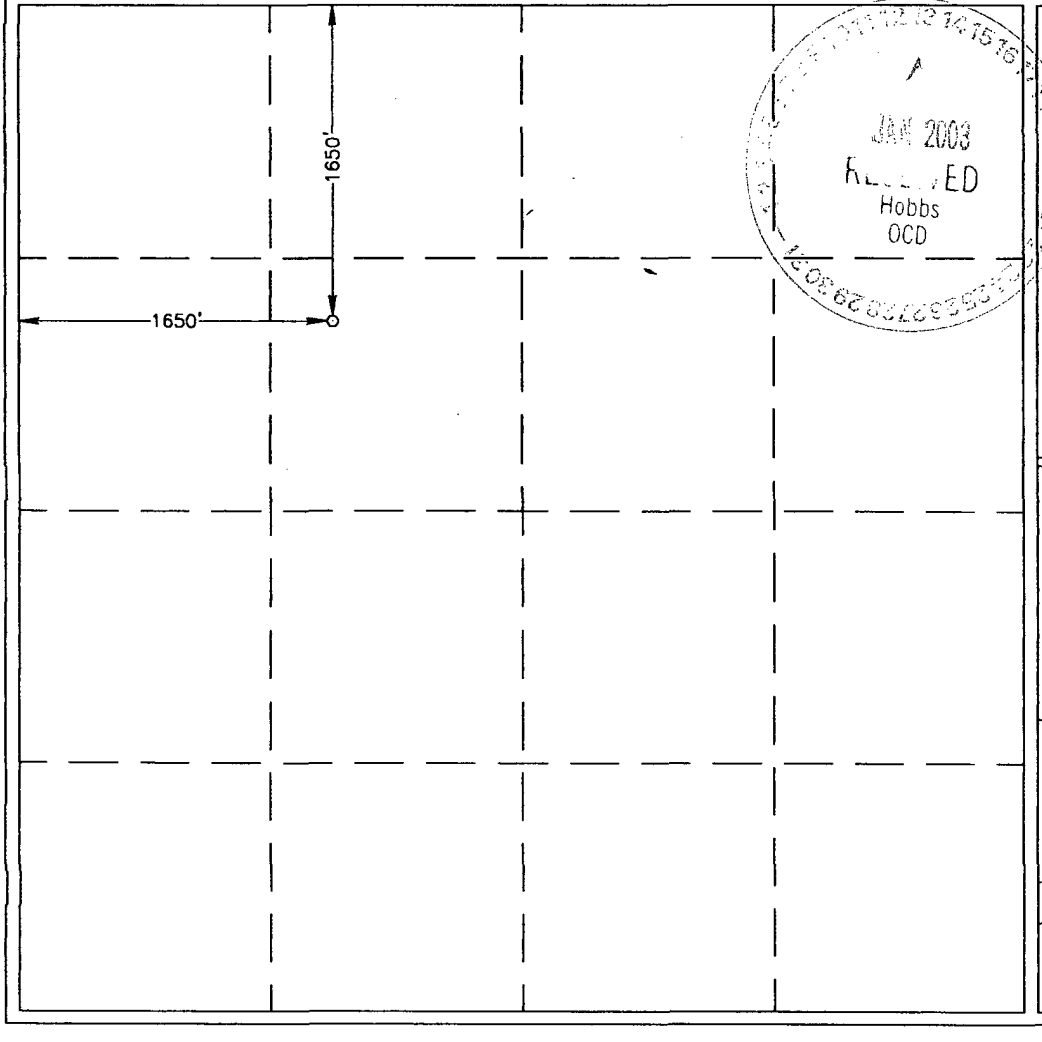
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 11 | 23-S | 36-E | | 1650 | NORTH | 1650 | WEST | LEA |

### 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. |
|---|---|---|---|
| 40 | | | |

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.*

Crissa D. Carter
Signature

Crissa D. Carter
Printed Name

Production Analyst
Title

1/7/2003
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 supervison, and that the same is true and correct to the best of my belief.*

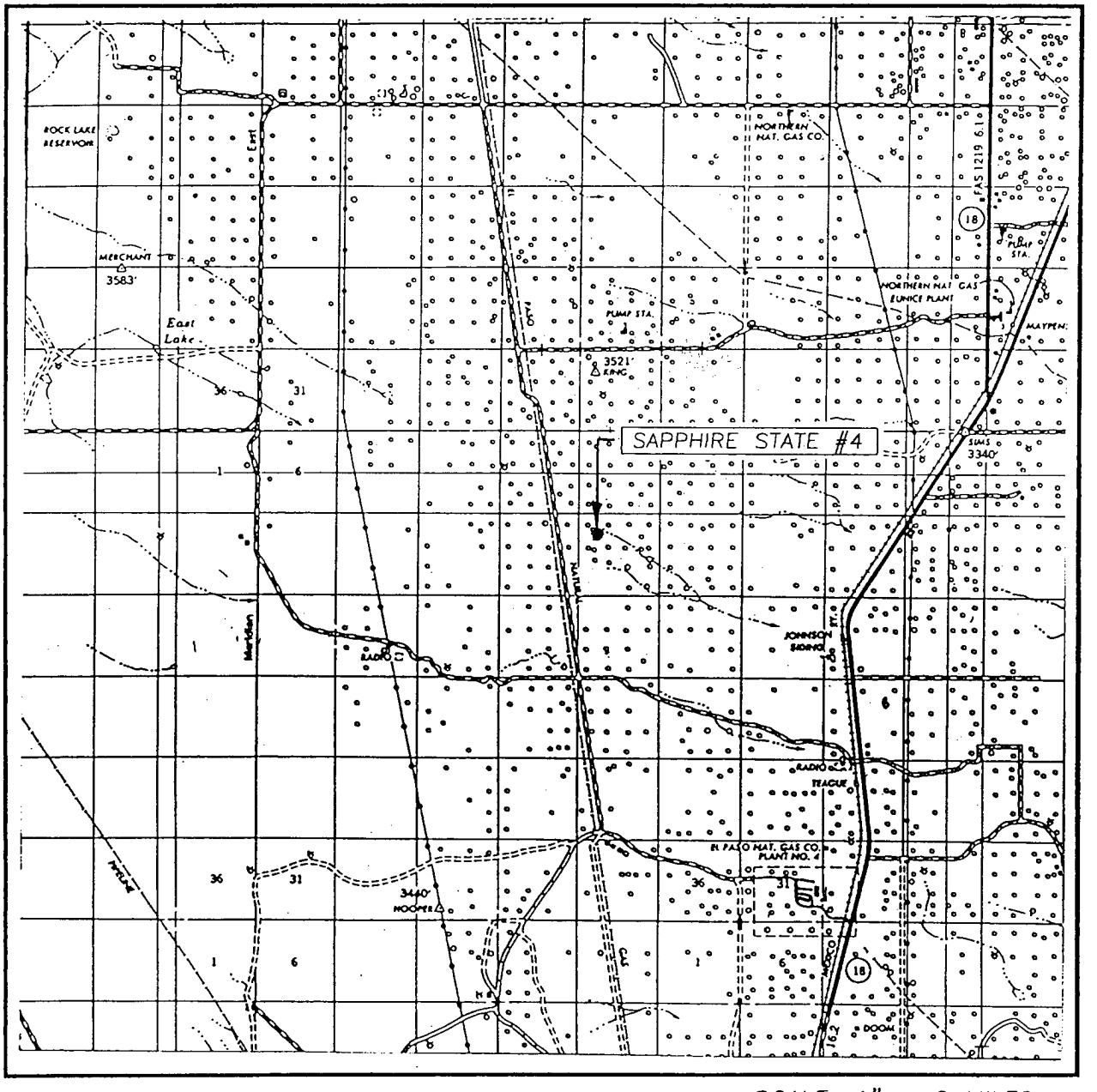
DECEMBER 31, 2002
Date Surveyed LA

Signature & Seal of Professional Surveyor

Ronald J. Eidson 1/03/03
02.11.1010

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

# VICINITY MAP




SCALE: 1" = 2 MILES

SEC. 11 TWP. 23-S RGE. 36-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1650' FNL & 1650' FWL

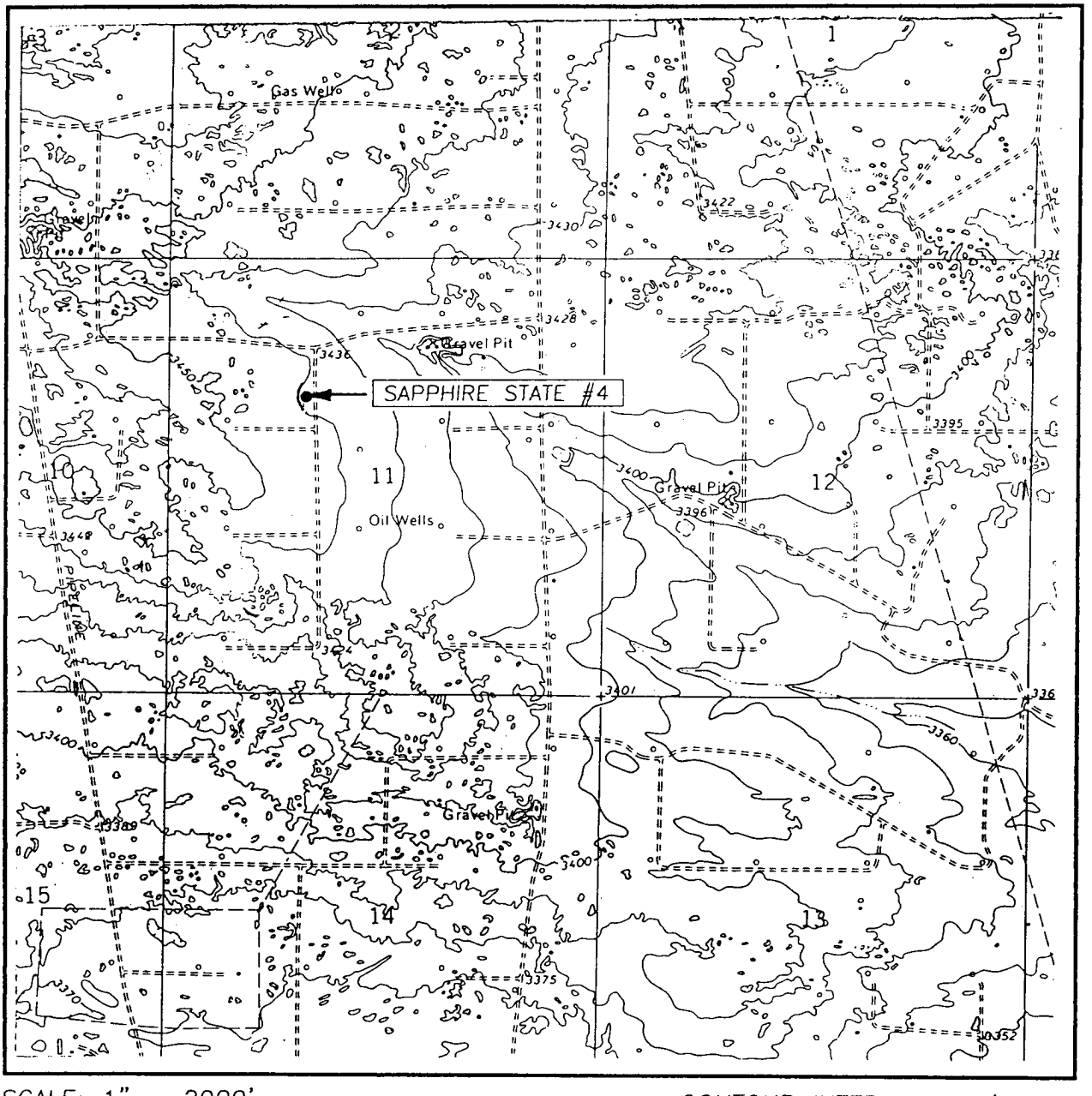
ELEVATION 3439'

OPERATOR MACK ENERGY CORPORATION

LEASE SAPPHIRE STATE

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

# LOCATION VERIFICATION MAP




SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
RATTLESNAKE CANYON, N.M.

SEC. 11 TWP. 23-S RGE. 36-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1650' FNL & 1650' FWL

ELEVATION 3439'

OPERATOR MACK ENERGY CORPORATION

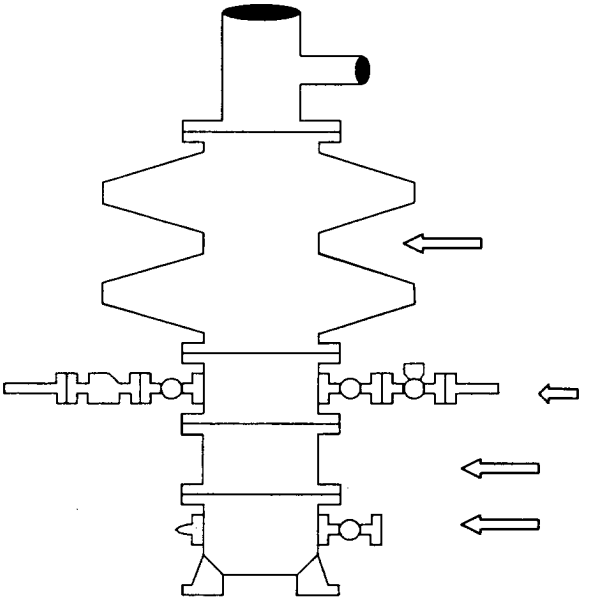
LEASE SAPPHIRE STATE

U.S.G.S. TOPOGRAPHIC MAP
RATTLESNAKE CANYON, N.M.

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

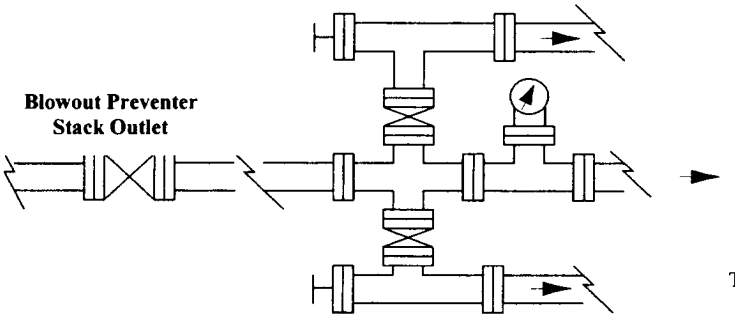
# Mack Energy Corporation

## Exhibit #1
## BOPE Schematic




**Choke Manifold Requirement (2000 psi WP)**
**No Annular Required**

**Adjustable Choke** **To Pit** **Minimum 4" Nominal choke and kill lines**



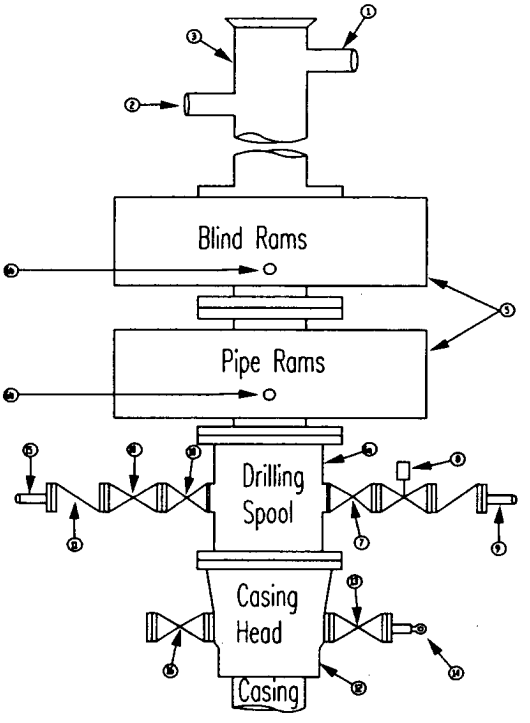
# Mack Energy Corporation
## Minimum Blowout Preventer Requirements
### 2000 psi Working Pressure
### 2 MWP
### EXHIBIT #2

## 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 | |




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:

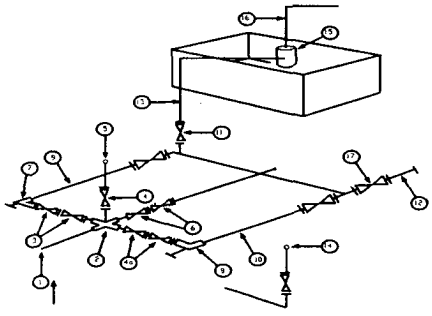
1. Bradenhead or casing head and side valves.
2. Wear bushing. If required.

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

# Mack Energy Corporation

Exhibit #3
MIMIMUM 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**

## Mimimum requirements

| | | 3,000 MWP | | | 5,000 MWP | | | 10,000 MWP | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **No.** | | **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 bee as straight as possible. Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees.