

OPER. OGRID NO. 13837PROPERTY NO. 32507POOL CODE 43329EFF. DATE 12/1/03APPLIC. API NO. 30-025-36492FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

EC

5. Lease Serial No.
NMNM03428

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone8. Lease Name and Well No.
PANTHER FEDERAL 52. Name of Operator
MACK ENERGY CORPORATIONContact: ROBERT CHASE
E-Mail: jerrys@mackenergycorp.com

9. API Well No.

30-025-364923a. Address
P O BOX 960
ARTESIA, NM 88211-09603b. Phone No. (include area code)
Ph: 505.748.1288
Fx: 505.746.953910. Field and Pool, or Exploratory
MALJAMAR GB/SA

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface

SWSW Lot 4 990FSL 740FWL

At proposed prod. zone

11. Sec., T., R., M., or Blk. and Survey or Area

Sec 31 T17S R32E Mer NMP
SME: BLM14. Distance in miles and direction from nearest town or post office*
5.5 MILES SOUTHWEST OF MALJAMAR12. County or Parish
LEA13. State
NM15. Distance from proposed location to nearest property or
lease line, ft. (Also to nearest drig. unit line, if any)
740'16. No. of Acres in Lease
161.8617. Spacing Unit dedicated to this well
40.9218. Distance from proposed location to nearest well, drilling,
completed, applied for, on this lease, ft.19. Proposed Depth
5000 MD

20. BLM/BIA Bond No. on file

21. Elevations (Show whether DF, KB, RT, GL, etc.)
3848 GL22. Approximate date work will start
06/16/200323. Estimated duration
12 DAYS

24. Attachments

Koswell 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:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
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).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature
(Electronic Submission)Name (Printed/Typed)
JERRY SHERRELL Ph: 505.748.1288Date
05/15/2003Title
PRODUCTION CLERKApproved by (Signature)
/s/ JOE G. LARAName (Printed/Typed)
/s/ JOE G. LARADate
NOV 26 2003Title
FIELD MANAGEROffice
CARLSBAD FIELD OFFICE

Application approval does not warrant or certify 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 12 34 56 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.

Additional Operator Remarks (see next page)

Electronic Submission #21889 verified by the BLM Well Information System
For MACK ENERGY CORPORATION, sent to the Hobbs

Committed to AFMSS for processing by Linda Askwig on 05/16/2003 (03140181AE)

DECLARED WATER BASIN
CEMENT BEHIND THE 13 3/8"
CASING MUST BE CIRCULATEDAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Form 3160-5
(June 1990)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT-" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Mack Energy Corporation

3. Address and Telephone No.

P.O. Box 960, Artesia, NM 87111-0960 (505)748-1288

4. Location of Well (Footage, Sec., T. R., M. or Survey Description)

990 FSL & 688 FWL, Sec. 31 T 73 R32 E, Lot 4

Budget	104-0135
Expenditure	104-0135
5. Lease Deed	Unit Serial No.
6. If Indian,	3423
	Prime Name
7. If Unit on	Designation
8. Well Name	Pa
9. API Well	45
10. Field and	Area
11. County of	CSA

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER ACTION

TYPE OF SUBMISSION

- ☐ Notice of Intent
- ☒ Subsequent Report
- ☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
- ☐ Re completion
- ☐ Plugging Back
- ☐ Casing Repair
- ☐ Altering Casing
- ☒ Other Location Change
- ☐ Change
- ☐ New Casing
- ☐ Non-Reservoir
- ☐ Water
- ☐ Conveyance
- ☐ Disposal

(Note: Report Completion)

13 Describe Proposed or Completed Operations (Clearly state all pertinent details, including estimated date of starting any proposed work, give subsurface locations and measured and true vertical depths for all wellbore and zones pertinent to this work)*

Mack Energy Corporation proposes to change footage from 990 FSL & 740 FWL to 990 FSL & 688 FWL.

14. I hereby certify that the foregoing is true and correct

Signed

John W. Shenell

Title

Production Clerk

Date

11/15/03

(This space for Federal or State office use)

Approved by

JOE G. LARA

Title

FIELD MANAGER

Date

NOV 26 2003

Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make any statement or representation as to any matter within its jurisdiction.

*See instruction on Reverse Side

DISTRICT I

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

State of New Mexico

Energy, Minerals and Natural Resources Department

Submit to

Form C-102

February 10, 1994

at District Office

Lease - 4 Copies

Lease - 3 Copies

DISTRICT II

P.O. Drawer 83, Artesia, NM 88211-0719

DISTRICT III

1000 Rio Grason Rd., Juntura, NM 87410

DISTRICT IV

P.O. Box 2083, Santa Fe, NM 87504-2083

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

FIELD REPORT

API Number 30-025-36492	Pool Code 43329	Pool Name Maljamar; Grayburg
Property Code 32507	Property Name PANTHER FEDERAL	
OGRIID No. 013837	Operator Name MACK ENERGY CORPORATION	

Address
Section Number
Elevation
3345'

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the
4	31	17-S	32-E		950'	SOUTH	688'

Line	County
T	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

Line	County

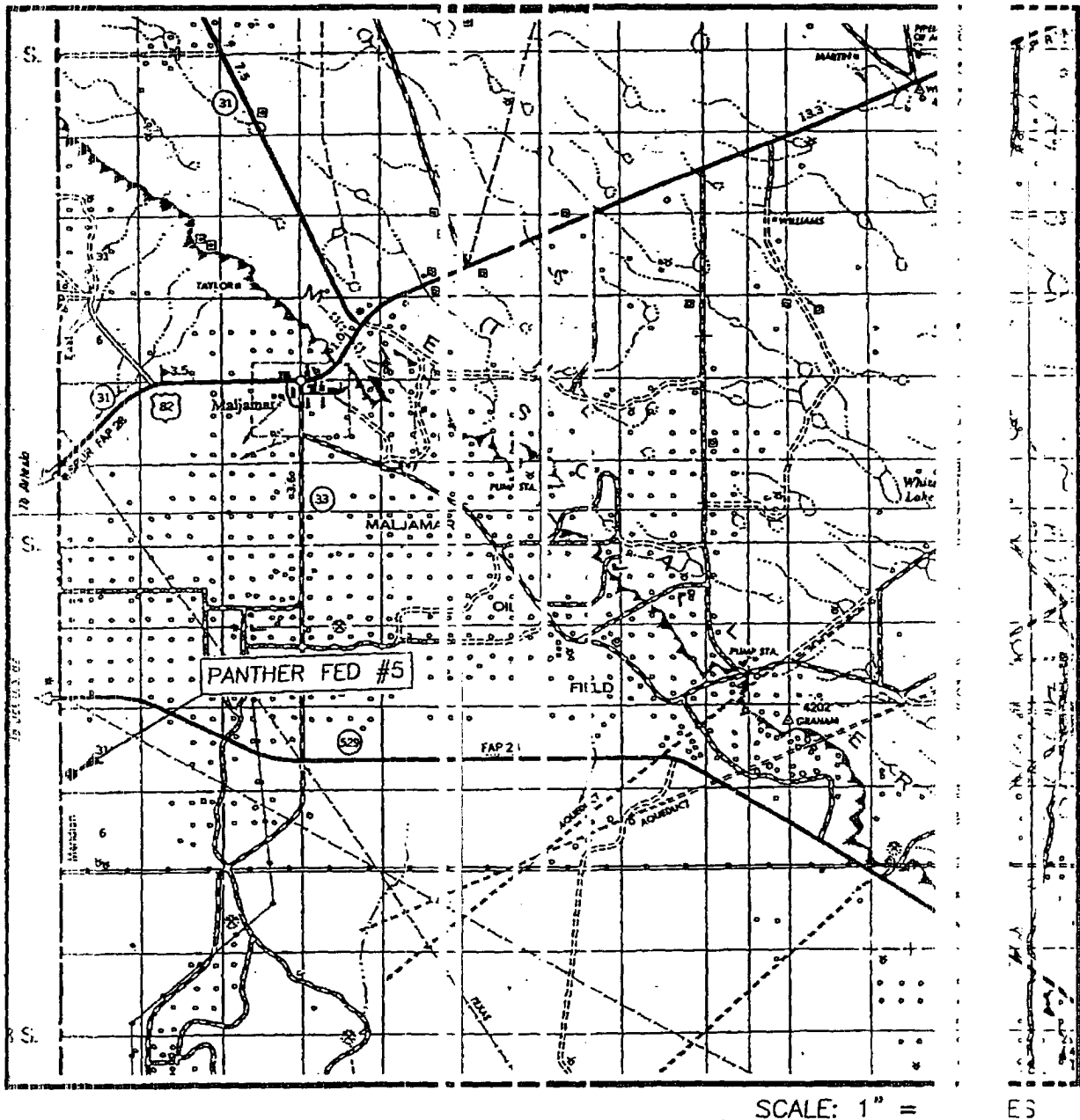
Dedicated Acrea	Joint or Infill	Consolidation Code	Order No.
40.92			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SOLIDATED

<p>LET 1</p> <p>40.96 AC</p> <p>LET 2</p> <p>40.94 AC</p> <p>LOT 3</p> <p>40.94 AC</p> <p>LOT 4</p> <p>40.92 AC</p> <p>SEE DETAIL</p> <p>3848.7'</p> <p>3846.5'</p> <p>3845.2'</p> <p>3857.2'</p> <p>DETAIL</p>	<p>OPERATOR</p> <p>I hereby certify that the information contained herein is true and correct to the best of my knowledge.</p> <p><i>Jerry W. [Signature]</i></p> <p>Jerry W. Printed Name</p> <p>Production Title</p> <p>11/25/200 Date</p> <p>SURVEYOR</p> <p>I hereby certify that the position shown on this plat was determined by actual survey or by actual survey under my supervision and is correct to the best of my knowledge.</p> <p>August Date Surveyed</p> <p>Signature of Professional</p> <p>20/03 Date</p> <p>Certificate No.</p>	<p>FORMATION</p> <p>I hereby certify that the information contained herein is true and correct to the best of my knowledge.</p> <p>FORMATION</p> <p>I hereby certify that the position shown on this plat was determined by actual survey or by actual survey under my supervision and is correct to the best of my knowledge.</p> <p>2003 Date</p> <p>A.W.B. Signature</p> <p>11/20/03 Date</p> <p>20/03 Date</p> <p>3238 Section</p> <p>12841 Range</p>
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VICINITY MAP



SCALE: 1" =

ES

SEC. 31 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 990' FSL & 688' FWL

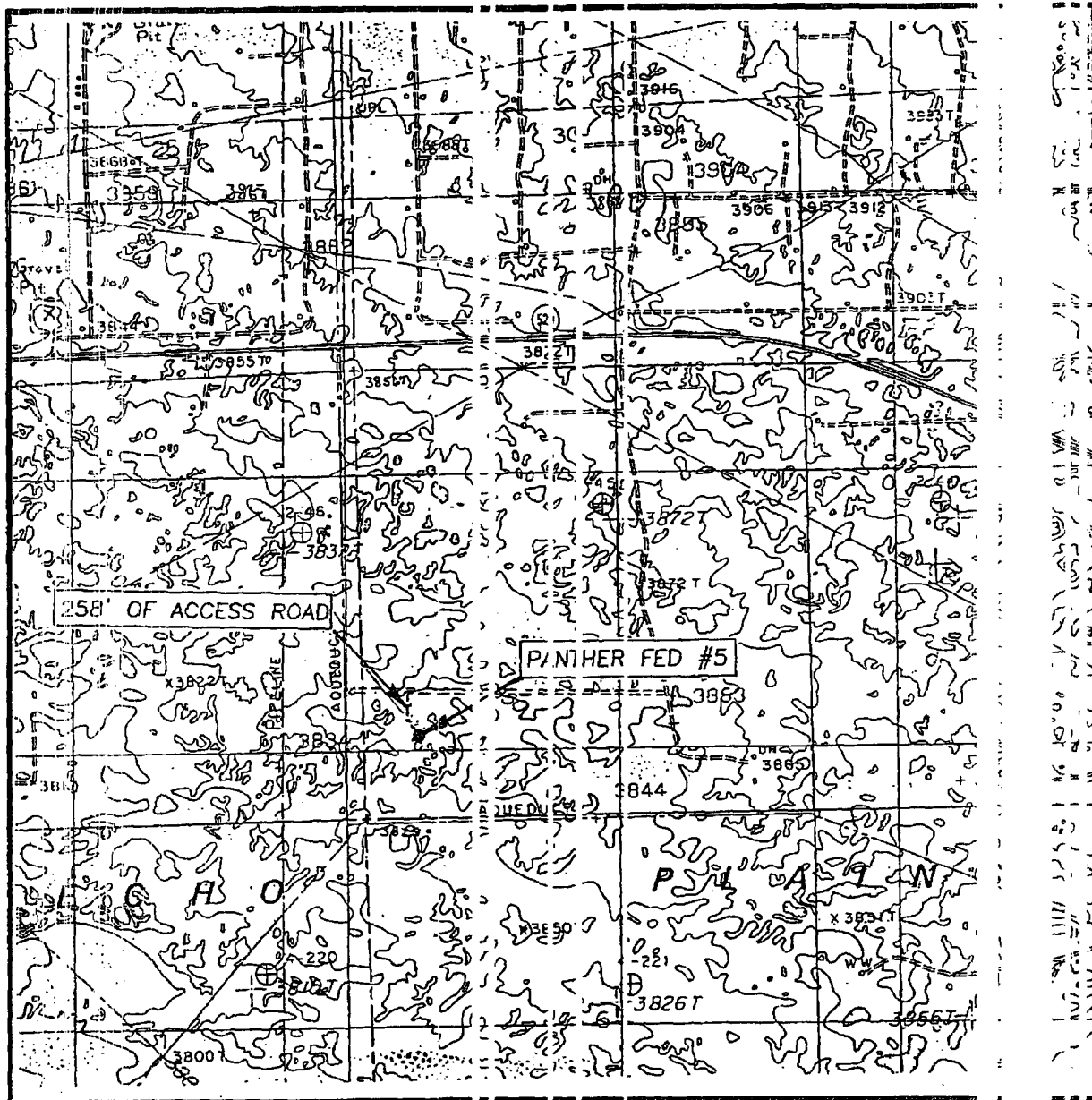
ELEVATION 3846'

OPERATOR MACK ENERGY CORPORATION

LEASE PANTHER FEDERAL

JOHN WEST SURVEYING
 JOBBES, NEW ME
 (505) 393-3111

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M.

SEC. 31 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 990' FSL & 688' FWL

ELEVATION 3846'

OPERATOR MACK ENERGY CORPORATION

LEASE PANTHER FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR, N.M.JOHN WEST SURVEY
HOBBS, NEW MEX
(505) 393-311

United State Department of the Interior

BUREAU OF LAND MANAGEMENT

Roswell Resource Area

P.O. Drawer 1857

Roswell, New Mexico 88202-1857

Statement Accepting Responsibility for Operations

Operator name: Mack Energy Corporation
Street or box : P.O. Box 960
City, State : Artesia, NM
Zip Code, : 88211-0960

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.: NM-03428 Panther Federal #5

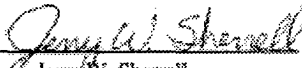
Legal Description of land: Sec 31-T17S-R32E SW/4 SW/4

Formation(s) (if applicable): Maljamar GB SA

Bond Coverage: (State if individually bonded or another's bond)
Individually Bonded

BLM Bond File No.: 58 59 88

Authorized Signature:


Jerry W. Sherrell

Title: Production Clerk

Date: 5/15/2003

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	800'
Base of Salt	1800'
Yates	2080'
Queen	3010'
San Andres	3800'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas:

Water Sand	150'	Fresh Water
Grayburg	3500'	Oil/Gas
San Andres	3800'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 800' and circulating cement back to surface will protect the surface fresh water sand. Salt Section will be protected by setting 8 5/8" casing to 2200' and circulating cement back to surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing, which will be run at TD.

4. Casing Program:

Hole Size	Interval	OD Casing	Weight, Grade, Jt, Cond., Type
17 1/2"	0-800'	13 3/8"	48#, J-55, ST&C, New, R-3
12 1/4"	0-2200'	8 5/8"	24#, J-55, ST&C, New, R-3
7 7/8"	0-TD	5 1/2"	17#, J-55, LT&C, New, R-3

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

5. Cement Program:

13 3/8" Surface Casing: Circulate to Surface with Class C w/2% CaCl₂.

8 5/8 Intermediate Casing: Circulate to Surface with Class C W/2% CaCl₂.

5 1/2" Production Casing: Cement Casing with Class C w/6# Salt & 2/10 of 1% CFR-3 per sack. We will run a hole caliper and run sufficient cement to circulate to surface.

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on bottom. The BOP will be nipped up on the 13 3/8" surface casing and tested to 70% of the internal yield of the 13 3/8" casing. This will be tested with the Drilling Rig Pumps (which can test to 1500 psi). The BOP will then be nipped up on the 8 5/8" intermediate casing and tested by a 3rd party to 2000 psi and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of intermediate casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit #11) with 2000 psi WP rating.

7. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-800'	Fresh Water	8.5	28	N.C.
800-2200'	Brine	10	30	N.C.
2200'-TD	Cut Brine	9.1	29	N.C.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

8. Auxiliary Well Control and Monitoring Equipment:

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program:

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be ran from T.D. to 8 5/8 casing shoe.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD based on drill shows and log evaluation.

10. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and estimated maximum bottom hole pressure is 2300 psig. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is June 16, 2003. Once commenced, the drilling operation should be finished in approximately 10 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

SURFACE USE AND OPERATING PLAN

- A. The well site and elevation plat for the proposed well is shown in Exhibit #1. John West Engineering, Hobbs, NM, staked it.
- B. All roads to the location are shown in Exhibit below. The existing lease roads are illustrated in Blue and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling well will be done where necessary.
- C. Directions to Location: From Loco Hills, go east on 82, to Junction 529, turn south at mile marker 3, 6/10 mile, turn east 3/10 mile, south 3/10 mile, then east 7/10 mile to location.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.



Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

2. Proposed Access Road:

Exhibit #3 shows 158' of new access road to be constructed. The road will be constructed as follows:

- A. The Maximum width of the running surface will be 14'. The road will be crowned and ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or reserve pit area.
- F. The proposed access road as shown in Exhibit #3 has been centerline flagged by John West Engineering, Hobbs, New Mexico.

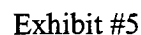
3. Location of Existing Wells & Proposed flow lines for New Wells:

Exhibit #4 shows all existing wells within a one-mile radius of this well. As shown on this plat there are numerous wells producing Grayburg/San Andres formations. Proposed flow lines will follow an archaeologically approved route to the Panther Federal Tank Battery.

4. Location of Existing and/or Proposed Facilities:

- A. Mack Energy Corporation does not operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:
 - 1) Grayburg/San Andres Completion: Will be sent to the Panther Federal tank battery. The Facility is shown in Exhibit #5.
 - 2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.
 - 3) Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

4) It will be necessary to run electric power if this well is productive. Power will be run by CVE and they will send in a separate plan for power.



- ### 5. Location and Type of Water Supply:

6. Source of Construction Materials:

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

All caliche required for construction of the drill pad and proposed new access road (approximately 2500 cubic yards) will be obtained from a BLM approved caliche pit or the reserve pit.

7. Methods of Handling Water Disposal:

- A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.
- B. Drilling fluids will be contained in a lined working pit. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing and completion operations. The reserve pit will be an earthen pit, approximately 100' X 100' X 10' deep and fenced on three sides prior to drilling. It will be fenced on the fourth side immediately following rig removal. The reserve pit will be only lined 100' X 100' X 10' the remaining 100' of pit will not be lined and used only as an emergency pit. In the event that it is used fluid will be removed in 48 hours. The reserve pit and working pit will be lined (5-7-mil thickness) to minimize loss of drilling fluids and saturation of the ground with brine water.
- C. Water produced from the well during completion may be disposed into the reserve pit or a steel tank (depending on the rates). After the well is permanently placed on production, produced water will be collected in tanks (fiberglass) until pumped to an approved disposal system; produced oil will be collected in steel tanks until sold.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. The reserve pit will be completely fenced and kept closed until it has dried. When the reserve pit is dry enough to breakout and backfill and reseeded as per BLM specifications as weather permits. In the event of a dry hole only a dry hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

9. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #6. Dimensions of the pad and pits are shown. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. Diagram below shows the proposed orientation of reserve pit, working pit. There is a possibility that the pits will be moved around depending on Caliche in the area. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.
- C. The reserve pit will be lined with high quality plastic sheeting (5-7 mil thickness).

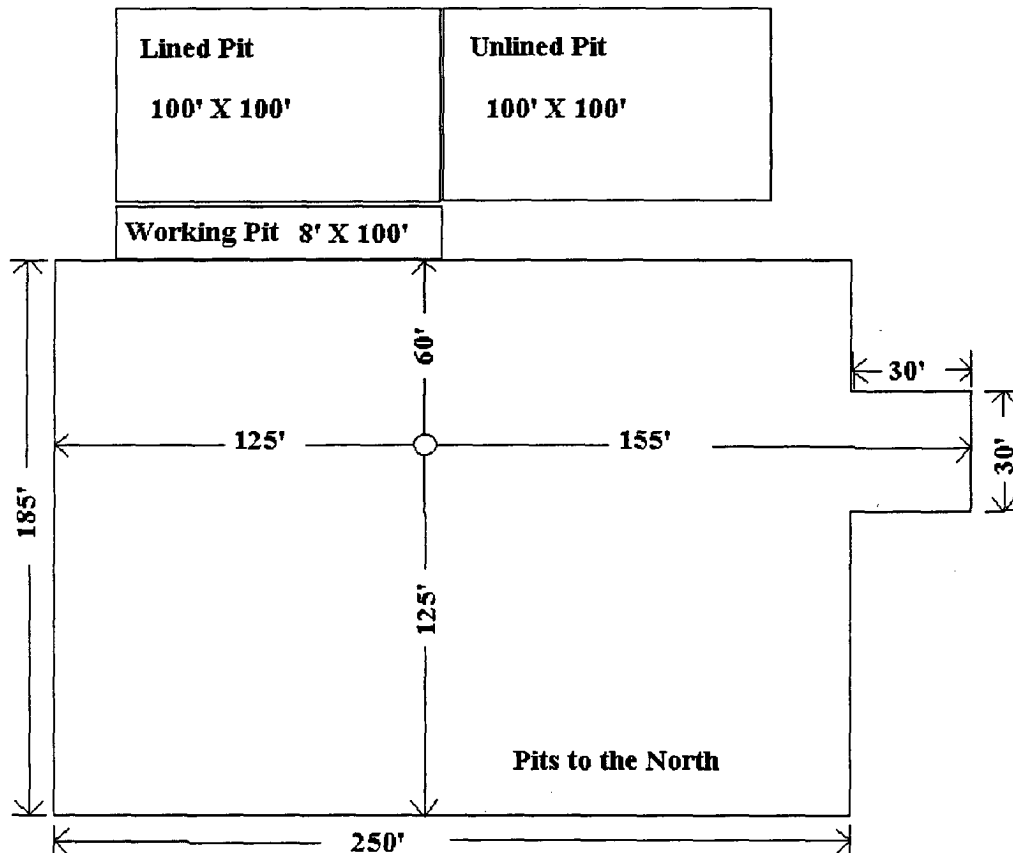


Exhibit #6

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
990 FSL & 740 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

10. Plans for Restoration of the Surface:

- A. Upon completion of the proposed operations, the pit area, after allowing drying, will be broken out and leveled. The original topsoil will be returned to the pit area, which will be leveled and contoured to as nearly the original topography as possible.
- B. The disturbed area will be revegetated by reseeding during the proper growing season with a seed mixture of native grasses as recommended by the BLM.
- C. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time that the rig is removed, the reserve pit will be fenced on the rig (fourth) side to prevent livestock from being entrapped. The fencing will remain in place until the pit area is cleaned up and leveled. No oil will be left on the surface of the fluid in the pit.
- D. Upon completion of proposed operations, if the well is completed, the reserve pit area will be treated as outlined above within the same prescribed time. Any additional caliche required for facilities will be obtained from a BLM approved caliche pit. Topsoil removed from the drill site will be used to recontour the pit area to its original natural level and reseeded as per BLM specifications.

11. Surface Ownership:

The well site and lease is located entirely on Federal surface. We have notified the surface lessee of the impending operations. According to BLM the leasee is Williams & Son Cattle Co., P.O. Box 30 Maljamar, NM 88264.

12. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub grass with sagebrush.
- B. There is no permanent or live water in the immediate area.
- C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

13. Lessee's and Operator's Representative:

The Mack Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Matt J. Brewer
Mack Energy Corporation
P.O. Box 960
Artesia, NM 88211-0960
Phone (505) 748-1288 (office)

Attached to Form 3160-3
Mack Energy Corporation
Panther Federal #5
998 FSL & 748 FWL
SW/4 SW/4, Sec 31 T17S R32E
Lea County, NM

CERTIFICATION

I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mack Energy Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 5-15-2003

Signed: *Larry W. Sherrell*
Larry W. Sherrell

Mack Energy Corporation

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- B. All elastomers used for packing and seals shall be H₂S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

EXHIBIT #7**WARNING**

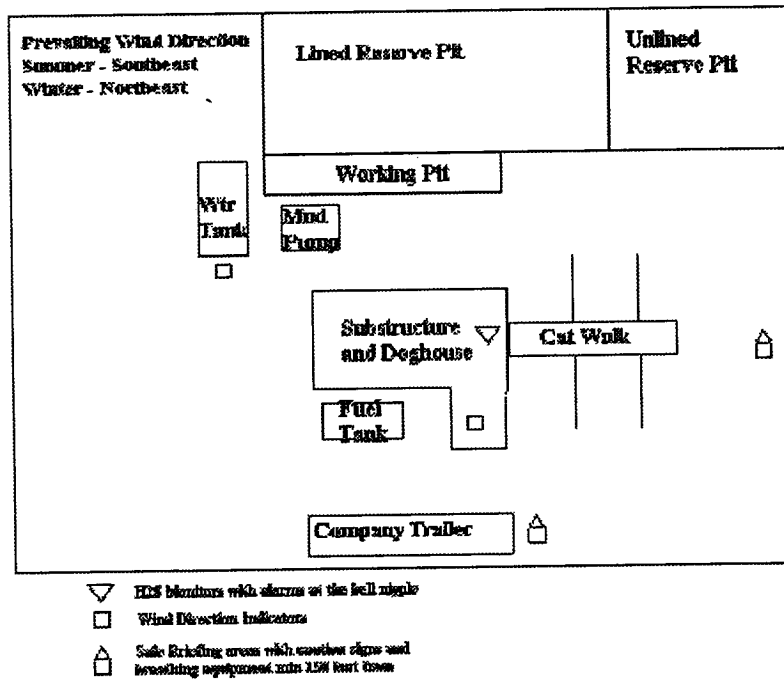
**YOU ARE ENTERING AN H₂S
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CHECK WITH MACK ENERGY FOREMAN AT
OFFICE**

MACK ENERGY CORPORATION

1-505-748-1288

DRILLING LOCATION H2S SAFTY EQUIPMENT
Exhibit # 8

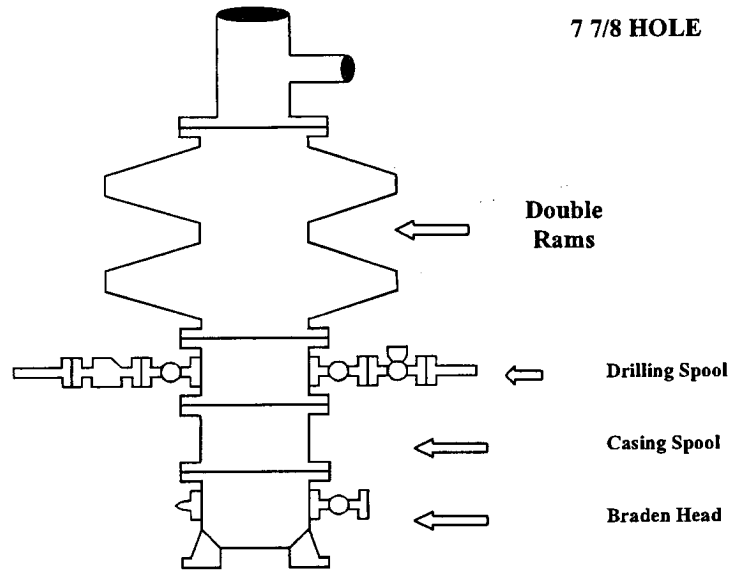


**Attachment to Exhibit #9
NOTES REGARDING THE BLOWOUT PREVENTERS
Panther Federal #5
Lea County, New Mexico**

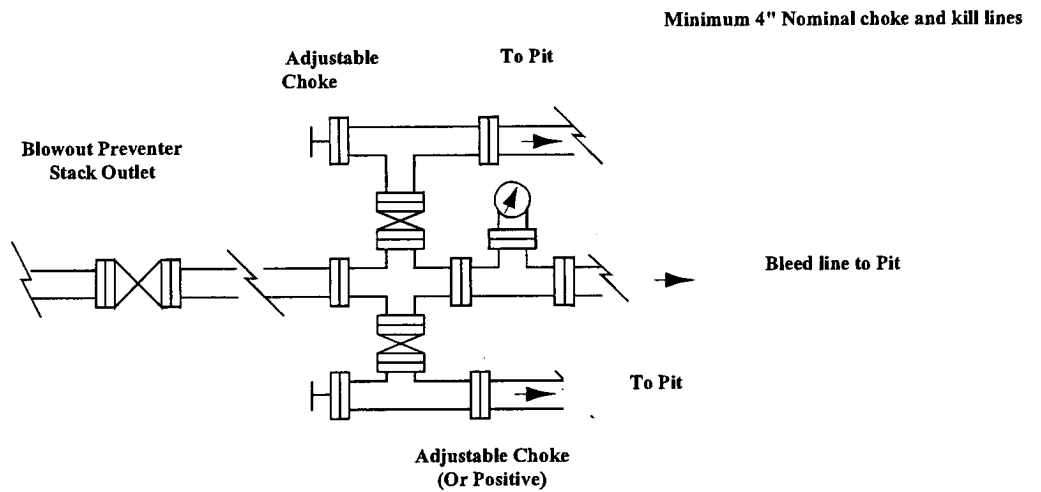
1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
6. All choke and fill lines to be securely anchored especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

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Exhibit #9 BOPE Schematic



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



**Mac
k**

Energy Corporation

Minimum Blowout Preventer Requirements
2000 psi Working Pressure
2 MWP
EXHIBIT #10

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:

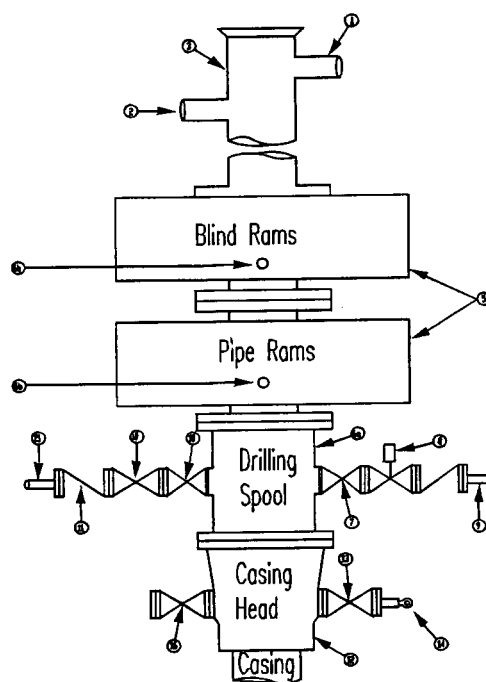
1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000-psi minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located 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.
- 3.

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.

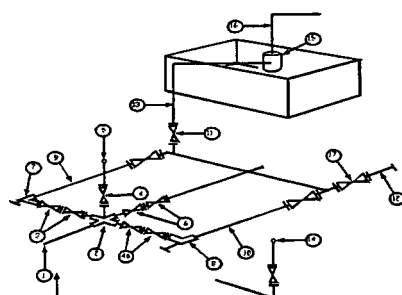
5. All valves to be equipped with hand-wheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel 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 #11

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			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 gauge			3,000			5,000			10,000
15	Gas Separator		2' x 5'			2' x 5'			2' x 5'	
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.