

EC

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM97849
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator MACK ENERGY CORPORATION Contact: ROBERT C CHASE E-Mail: JERRYS@MACKENERGYCORP.COM		7. If Unit or CA Agreement, Name and No.
3a. Address P O BOX 960 ARTESIA, NM 88211-0960		8. Lease Name and Well No. PECOS FEDERAL 1
3b. Phone No. (include area code) Ph: 505-748-1288 Fx: 505-746-9539		9. AP Well No. 30-015-34075
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NWSE 1980FSL 1566FEL At proposed prod. zone		10. Field and Pool or Exploratory PENNSYLVANIAN W.C. Morrow
14. Distance in miles and direction from nearest town or post office* 7 MILES SOUTHEAST OF HOPE, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec 12 T18S R23E Mer NMP SME: BLM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660	16. No. of Acres in Lease 1160.00	12. County or Parish EDDY
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth 7000 MD	13. State NM
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3892 GL	22. Approximate date work will start 01/15/2004	17. Spacing Unit dedicated to this well 320.00
23. Estimated duration 20 DAYS		20. BLM/BIA Bond No. on file

## 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) JERRY W SHERRELL Ph: 505-748-1288	Date 12/20/2004
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Title  
PRODUCTION CLERK

Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date APR 20 2005
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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 1 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.

Electronic Submission #52075 verified by the BLM Well Information System  
For MACK ENERGY CORPORATION, sent to the Carlsbad  
Committed to AFMSS for processing by LINDA ASKWIG on 12/20/2004 (05LA0209AE)

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

UNITED STATES **OCD-ARTESIA**  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**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 88211-0960 (505)748-1288

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

1980 FSL & 1680 FEL, Sec. 12 T18S R23E, J

5. Lease Designation and Serial No.

NMNM-97849

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8 Well Name and No.

Pecos Federal #1

9. API Well No.

10. Field and Pool, or Exploratory Area

Penn

11. County or Parish, State

Eddy, NM

12 CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

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

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other Location Change  
☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13 Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work)\*

Mack Energy Corporation proposes to change footage from 1980 FSL & 1980 FEL to 1980 FSL & 1680 FEL. The location was moved at the request of BLM after inspection of well location.

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

Signed

*Gary W. Shenell*

Title

Production Clerk

Date

2/7/2005

(This space for Federal or State office use)

Approved by

/s/ Joe G. Lara

Title

FIELD MANAGER

Date

APR 20 2005

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes 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.

•See Instruction on Reverse Side

## State of New Mexico

Energy, Minerals and Natural Resources Department

HOBBS, NM 88240

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

II

AND AVENUE, ARTESIA, NM 88210

DISTRICT III

00 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
		Penn
Property Code	Property Name	Well Number
	PECOS FEDERAL	1
OGRID No.	Operator Name	Elevation
013837	MACK ENERGY CORPORATION	3895'

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	12	18-S	23-E		1980	SOUTH	1680	EAST	EDDY

## 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.
320			

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

<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=640581.3 N X=405218.2 E</p> <p>LAT.=32°45'38.42" N LONG.=104°38'29.97" W</p>		<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry W. Sherrell</i> Signature</p> <p>Jerry W. Sherrell Printed Name</p> <p>Production Clerk Title</p> <p>2/7/2005 Date</p>
		<p><b>SURVEYOR CERTIFICATION</b></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> <p>JANUARY 21, 2005</p> <p>Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><i>Gary E. Eidsen</i> 1/25/05 05-11-0089</p> <p>Certificate No. GARY EIDSON 12641</p>

EC

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB NO. 1004-0135  
Expires: November 30, 2000

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. PECOS FEDERAL 1
2. Name of Operator MACK ENERGY CORPORATION		9. API Well No.
3a. Address P O BOX 960 ARTESIA, NM 88211-0960	3b. Phone No. (include area code) Ph: 505-748-1288 Fx: 505-746-9539	10. Field and Pool, or Exploratory PENNSYLVANIAN
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 12 T18S R23E NWSE 1980FSL 1980FEL		11. County or Parish, and State EDDY COUNTY, NM

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Mack Energy proposes to move the original access road. The road was moved at the request of the BLM representative that performed the on-site inspection of the proposed well.

Attached to this Sundry are revised maps showing the new road.

14. I hereby certify that the foregoing is true and correct. <b>Electronic Submission #54492 verified by the BLM Well Information System For MACK ENERGY CORPORATION, sent to the Carlsbad Committed to AFMSS for processing by LINDA ASKWIG on 02/25/2005 (05LA0452SE)</b>	
Name (Printed/Typed) JERRY W SHERRELL	Title PRODUCTION CLERK
Signature (Electronic Submission)	Date 02/24/2005

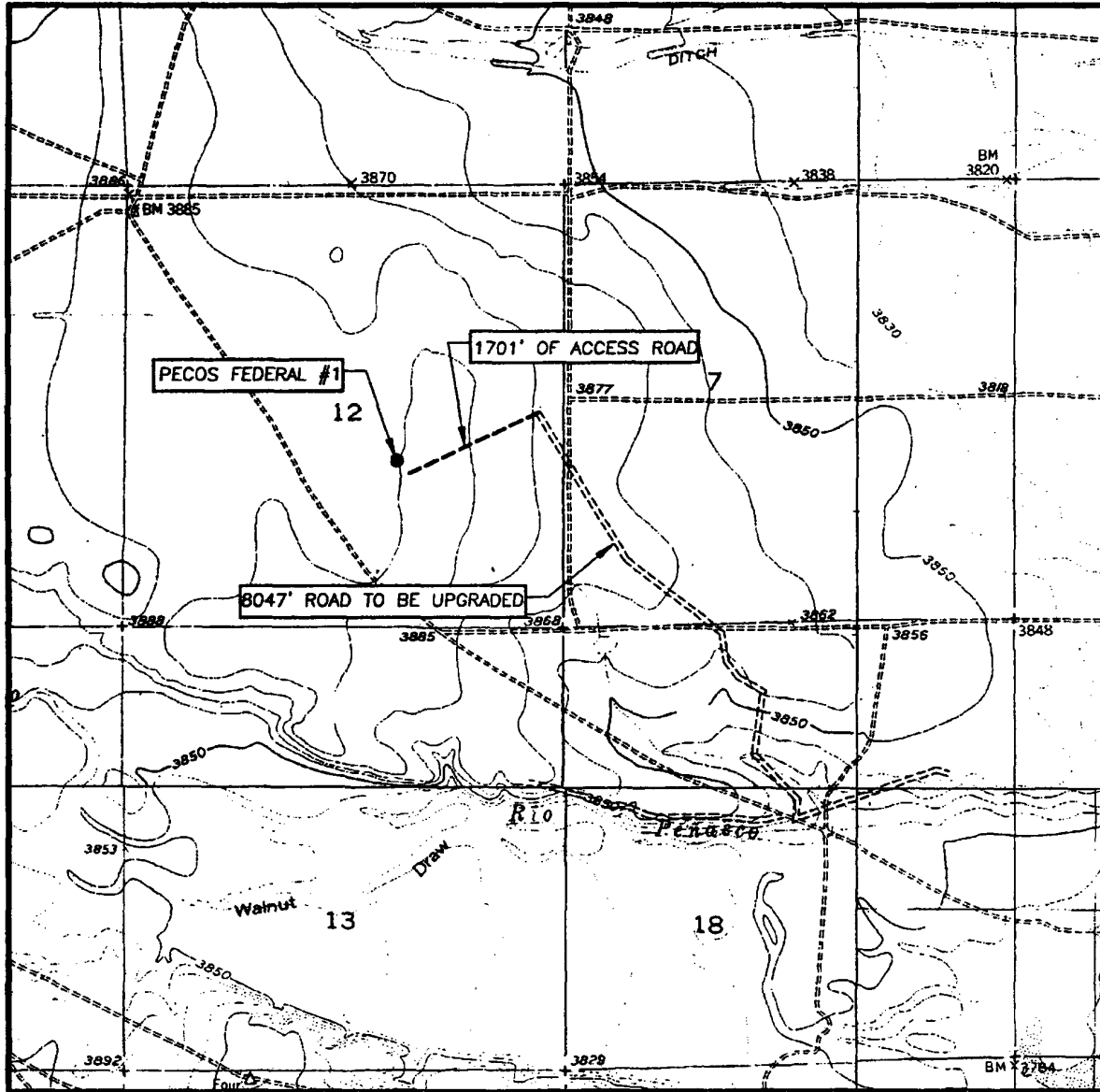
**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By <u>/s/ Joe G. Lara</u>	Title <u>FIELD MANAGER</u>	Date <u>APR 20 2005</u>
Conditions of approval, if any, are attached. Approval of this notice 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.		
Office <u>CARLSBAD FIELD OFFICE</u>		

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.

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:

HOPE, N.M. - 10'

HOPE, ANTELOPE SINK, N.M. - 10'

SEC. 12 TWP. 18-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

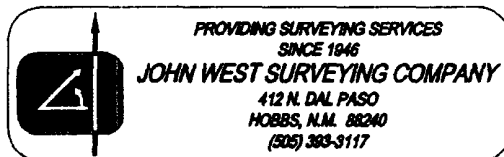
DESCRIPTION 1980' FSL & 1680' FEL

ELEVATION 3895'

OPERATOR MACK ENERGY CORPORATION

LEASE PECOS FEDERAL

U.S.G.S. TOPOGRAPHIC MAP  
HOPE, ANTELOPE SINK, N.M.

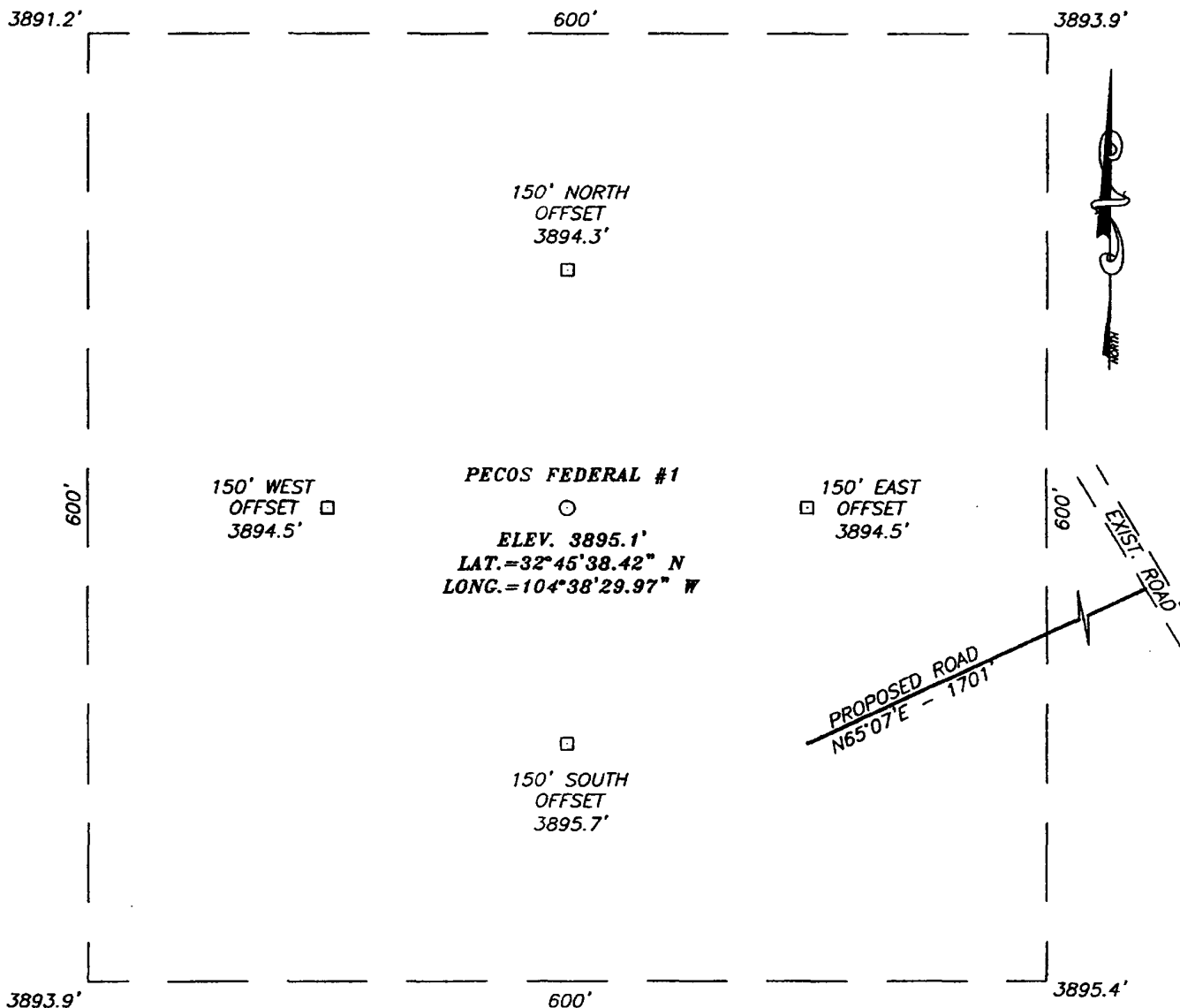


PROVIDING SURVEYING SERVICES  
SINCE 1946

**JOHN WEST SURVEYING COMPANY**

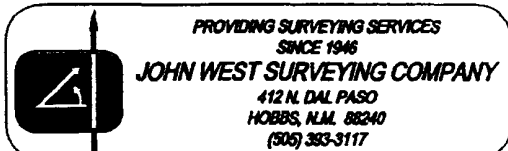
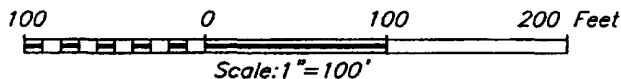
412 N. DAL PASO  
HOBBBS, N.M. 88240  
(505) 383-3117

SECTION 12, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF U.S. HIGHWAY #285 AND FOUR DINKAS ROAD GO SOUTH ON FOUR DINKAS RD APPROX. 14.1 MILES TO THE MACK SOUTHERN CROSS 18 #1 WELL. FOLLOW TRAIL ROAD WEST FROM WELL 0.4 MILES. TURN RIGHT AND GO NORTH 1.2 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY SOUTHWEST APPROX. 1701' TO THIS LOCATION.



**MACK ENERGY CORPORATION**

PECOS FEDERAL #1 WELL  
LOCATED 1980 FEET FROM THE SOUTH LINE  
AND 1680 FEET FROM THE EAST LINE OF SECTION 12,  
TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

Survey Date: 2/18/05	Sheet 1 of 1 Sheets		
W.O. Number: 05.11.0265	Dr By: LA	Rev 1:N/A	
Date: 2/22/05	Disk: CD#4	05110265	Scale: 1"=100

Attached to Form 3160-3  
Mack Energy Corporation  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy County, NM

## DRILLING PROGRAM

### 1. Geologic Name of Surface Formation

Quaternary

### 2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
San Andres	418'
Glorietta	1781'
Tubb	3147'
Abo	3788'
Wolfcamp	5196'
Cisco	6268'

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

Water Sand	150'	Fresh Water
Tubb	3147'	Oil/Gas
Wolfcamp	5196'	Oil/Gas
Cisco	6268'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8 5/8" casing to 1200' and circulating cement back to surface will protect the surface fresh water sand. 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
12 1/4"	0- <sup>1300'</sup> <del>1200'</del>	8 5/8"	32#, J-55, ST&C, New, R-3
7 7/8"	0-TD	5 1/2"	17#, L-80, LT&C, New, R-3

Attached to Form 3160-3  
Mack Energy Corporation  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy County, NM

**5. Cement Program:**

**WITNESS** 8 5/8" Surface Casing: Circulate to Surface with Class C w/2% CaCl<sub>2</sub>.

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 (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 8 5/8" surface casing and tested to 2000# by a 3<sup>rd</sup> party and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of surface 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. clude 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
1300' (JSS)				
0-1200'	Fresh Water	8.5	28	N.C.
1200'-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  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy 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 H<sub>2</sub>S 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 January 15, 2005. 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.

Attached to Form 3160-3  
Mack Energy Corporation  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy 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 (12-mil thickness).

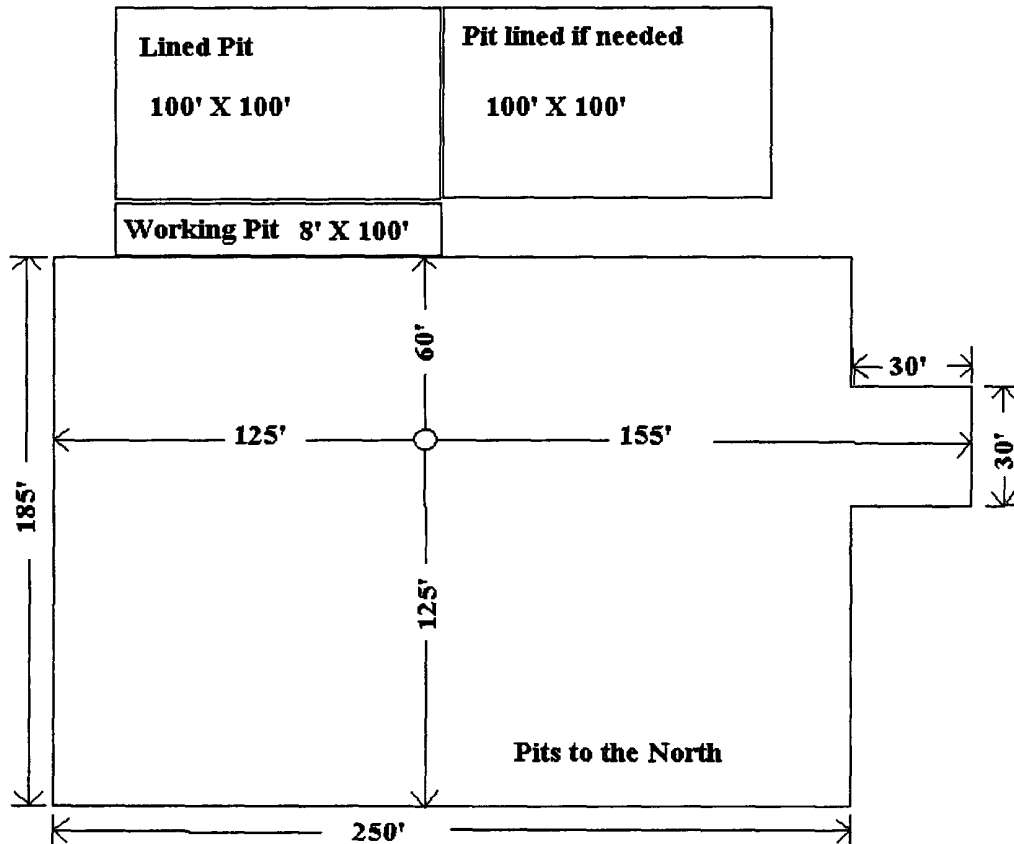


Exhibit #6

Attached to Form 3160-3  
Mack Energy Corporation  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy 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 lessee is 4 Dinkus Ranch c/o Yates Petroleum, 105 South 4th Artesia, NM 88210.

**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)

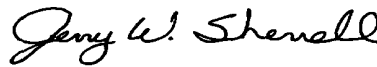
Attached to Form 3160-3  
Mack Energy Corporation  
Pecos Federal #1  
1980 FSL & 1980 FEL  
NW/4 SE/4, Sec 12 T18S R23E  
Eddy County, NM

### 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: 12/20/2004

Signed: \_\_\_\_\_



Jerry 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 (H<sub>2</sub>S), the H<sub>2</sub>S concentrations for wells in this area are low enough that a contingency plan is not required.
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H<sub>2</sub>S 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 H<sub>2</sub>S on metal components. If high tensile tubular 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 H<sub>2</sub>S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S 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 H<sub>2</sub>S service.
- B. All elastomers used for packing and seals shall be H<sub>2</sub>S 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 H<sub>2</sub>S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

**EXHIBIT #7****WARNING**

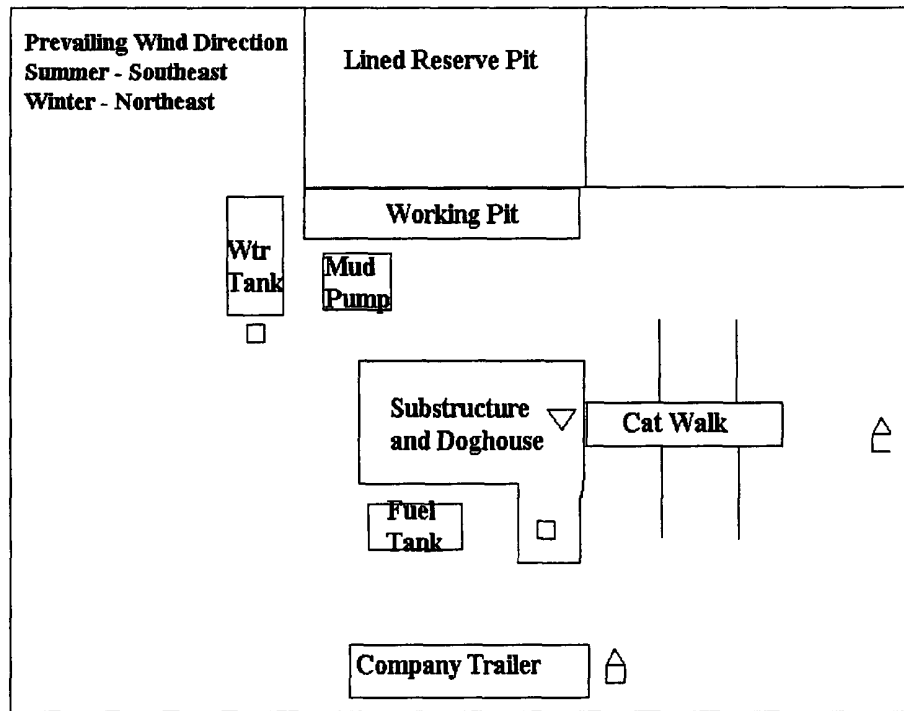
**YOU ARE ENTERING AN H<sub>2</sub>S  
AUTHORIZED PERSONNEL ONLY**

- 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**



- ▽ H2S Monitors with alarms at the bell nipple
- Wind Direction Indicators
- △ Safe Briefing areas with caution signs and breathing equipment min 150 feet from

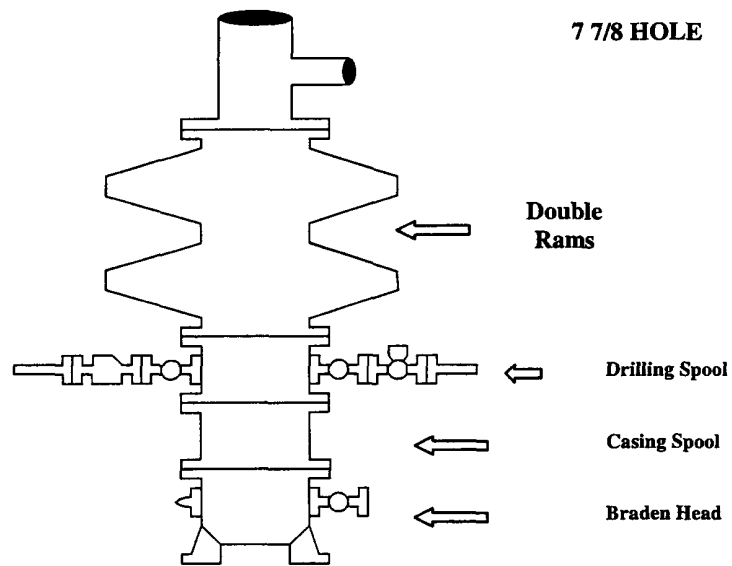


**Attachment to Exhibit #9**  
**NOTES REGARDING THE BLOWOUT PREVENTERS**  
**Pecos Federal #1**  
**Eddy County, New Mexico**

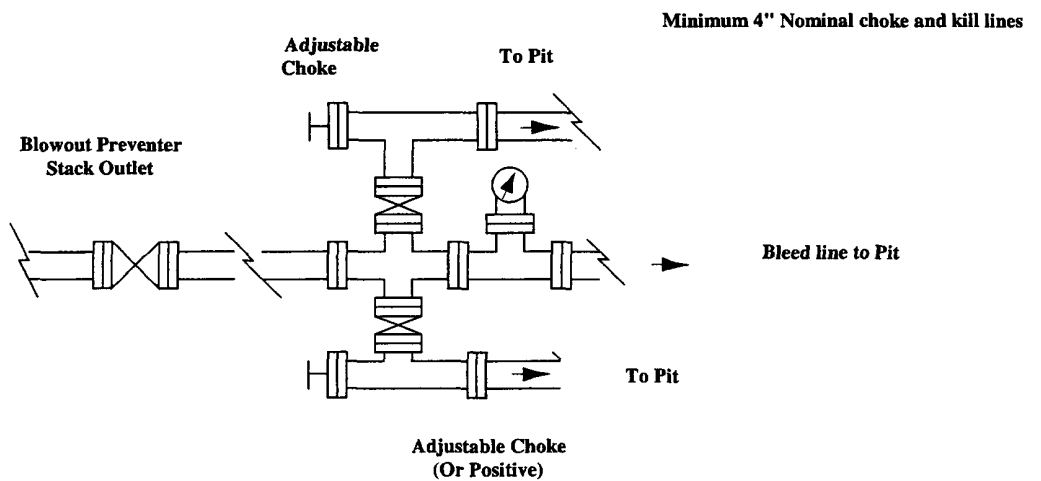
1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All 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.

# Mack Energy Corporation

## Exhibit #9 BOPE Schematic



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



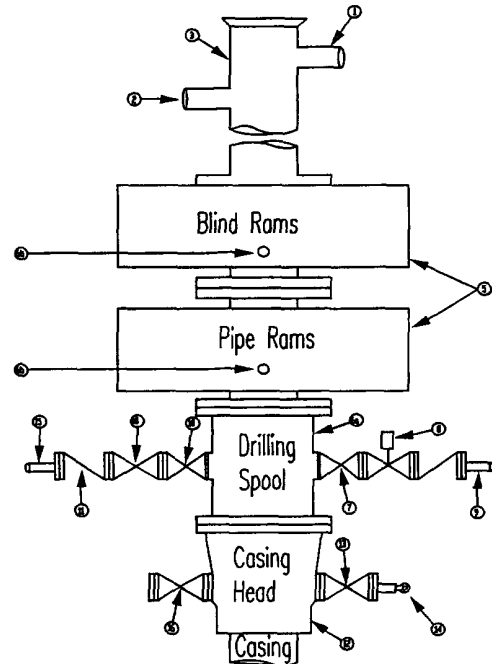
**Mack Energy Corporation**  
**Minimum Blowout Preventer Requirements**  
**2000 psi Working Pressure**  
**2 MWP**  
**EXHIBIT #10**

**Stack Requirements**

NO.	Items	Min. I.D.	Min. Nominal
1	Flow line		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 Braden head or casing head. 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. Braden head 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.
5. All valves to be equipped with hand-wheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Hand wheels 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. Casing head connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill up operations.

3.

## Mack Energy Corporation

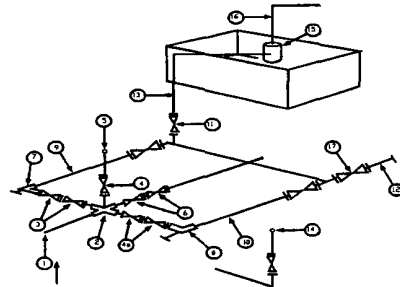
Exhibit #11

### 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		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 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.

**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.:** NMNM-97849                      Pecos Federal #1

**Legal Description of land:**              Sec 12-T18S-R23E      NW/4 SE/4

**Formation(s) (if applicable):**              Penn

**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:**              12/20/2004