

12-973

Form 3160 -3  
(April 2004)

OCD Artesia

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work- <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No NMNM-89882	
1b Type of Well: <input type="checkbox"/> Oil Well <input 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		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. Razorback Federal #1-2 <38891>	
3b Phone No (include area code) (575)748-1288		9 API Well No. 30-015-40659	
4 Location of Well (Report location clearly and in accordance with any State requirements*) At surface 330' FNL & 330' FWL At proposed prod zone		10 Field and Pool, or Exploratory Tamano; San Andres <58060>	
14 Distance in miles and direction from nearest town or post office* 2 miles SW of Maljamar, NM		11 Sec, T R M or Blk. and Survey or Area Sec. 3 T18S R31E	
15 Distance from proposed location* to nearest property or lease line, ft. (Also to nearest drlg unit line, if any) 330		12 County or Parish Eddy	
16 No. of acres in lease 640		13 State NM	
17 Spacing Unit dedicated to this well 40		18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 82'	
19 Proposed Depth 5500'		20 BLM/BIA Bond No on file NMB000286	
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3752' GL		22 Approximate date work will start* 8/30/2012	
		23 Estimated duration 15 days	

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form.

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above),   |
| 2. A Drilling Plan   | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be required by the authorized officer |

25 Signature <i>Jerry W. Sherrell</i>	Name (Printed/Typed) Jerry W. Sherrell	Date 8-7-2012
Title Production Clerk		
Approved by (Signature) <i>Is/ Don Peterson</i>	Name (Printed/Typed) Is/ Don Peterson	AUG 27 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrantor certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon

Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

\*(Instructions on page 2)

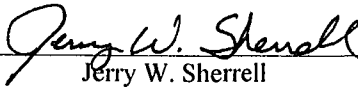
Capitan Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations AttachedSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

# APD CERTIFICATION

I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Date: 7-16-2012

Signed:   
Jerry W. Sherrell

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>36-015-40639</b>	Pool Code <b>58060</b>	Well Name <del>San Andres</del> <b>TAMAYO; S.A.</b>
Property Code <del>38650</del> <b>38891</b>	Property Name <b>RAZORBACK FEDERAL</b>	Well Number <b>2</b>
OGRID No. <b>013837</b>	Operator Name <b>MACK ENERGY CORPORATION</b>	Elevation <b>3752'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	3	18-S	31-E		330	NORTH	330	WEST	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 <b>40.05</b>	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

<p>40.05 AC.</p> <p>40.09 AC.</p> <p>40.11 AC.</p> <p>40.15 AC.</p> <p>DETAIL</p> <p>3751.2' 3754.4'</p> <p>600' 600'</p> <p>3750.1' 3755.8'</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>SURFACE LOCATION Y=648800.8 N X=644114.0 E</p> <p>LAT.=32.782767° N LONG.=103.864416° W</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division</p> <p><i>Jerry W. Sherrell</i> 7-16-2012 Signature Date</p> <p>Jerry W. Sherrell Printed Name</p> <p>Jerrys@mec.com E-mail Address</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>JUNE 5, 2012</p> <p>Date of Survey</p> <p>Signature &amp; Seal of Professional Surveyor:</p> <p> <p>Ronald J. Eidson 6/12/2012</p> <p>Certificate Number Gary G. Eidson 12641 Ronald J. Eidson 3239</p> <p>AF JWSC W.O. 12.11.1201</p> </p>	<p><b>RECEIVED</b></p> <p>JUL 13 2012</p> <p>MAILROOM</p>

## DRILLING PROGRAM

### 1. Geologic Name of Surface Formation

Quaternary

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

Rustler	718'		
TOS	910'	Queen	3153'
BOS	2040'	Grayburg	3584'
Yates	2042'	San Andres	4156'
Seven Rivers	2478'		

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

Water Sand	150'	Fresh Water
Yates	2042'	Oil/Gas
Queen	3153'	Oil/Gas
San Andres	4156'	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 and zones will be protected by the 9 5/8" casing at 2050' 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, sufficient cement will be pumped to circulate back to surface.

### 4. Casing Program:

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
17 1/2"	0-800'	13 3/8"	48#, H-40, ST&C, New, 1.85/3.34/3.46
12 1/4"	0-2050'	9 5/8"	36#, J-55, ST&C, New, 1.85/7.35/7.04
7 7/8"	0-5500'	5 1/2"	17#, L-80, LT&C, New, 2.33/2.44/2.48

### 5. Cement Program:

13 3/8" Surface Casing: Lead 500sx, Class C + 4% PF20 + .25% PF29, yield 1.75, excess 100%, Tail 200sx Class C 1% PF1, yield 1.34.

9 5/8" Intermediate Casing: Lead 600sx, Class C + 4% PF20 + 2% PF1 + .25#/sk PF29, yield 1.75, excess 100%, Tail 200sx Class C 1% PF1, yield 1.34

5 1/2" Production Casing: Lead 385sx POZ/C + 5% PF44 + 6% PF 20 + 1.5% PF 112 + .125/sk PF130 + .2# sk PF42 + .2% PF 46 + .2% PF13, yield 1.95, excess 35%, Tail 625sx PVL + 2% PF167 + .2% PF65 + .2% PF46 + .2% PF13, yield 1.47.

## Razorback Federal #2

### Surface-800' 13 3/8" 48# H-40

Stage 1	Slurry	Density	Yield	# of sacks	% Excess	Slurry Top
Lead	C + 4%PF20 + 2%PF1 + .25#/sk PF29	13.5	1.75	500	100	Surface
Tail	Class C 1% PF1	14.8	1.34	200	100	500

Comments:	20bbls frac gel. 50 sks. Scavenger cement
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### Intermediate- 2050' 9 5/8" 36# J-55

Stage 1	Slurry	Density	Yield	# of sacks	% Excess	Slurry Top
Lead	C + 4%PF20 + 2%PF1 + .25#/sk PF29	13.5	1.75	600	100	Surface
Tail	Class C 1% PF1	14.8	1.34	200	100	1500

Comments:	If water flow or lost circulation is encountered we will do a 2 stage cement job. Placement of the DV-Tool will be determined at that time. 20bbls frac gel. 50 sks. Scavenger cement
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### Production-5500' 5 1/2" 17 # L-80

Stage 1	Slurry	Density	Yield	# of sacks	% Excess	Slurry Top
Lead	POZ/C + 5%PF44 + 6%PF20 + 1.5% PF112 + .125/sk PF132 + .2# sk PF42 + .2%PF46 + .2%PF13	12.8	1.95	385	35	Surface
Tail	PVL + .2% PF167 + .2% PF65 + .2% PF 46 + .2% PF13	13.0	1.47	625	35	3000'

Comments:	Pump 10bbls of chemical wash ahead of cement job. 20bbls frac gel. 50 sks. Scavenger cement
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Stage 2	Slurry	Density	Yield	# of sacks	% Excess	Slurry Top
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## Razorback Federal #2

Lead						
Tail						

Comments:	
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**Prior to any cement job it is Mack Energy policy to circulate bottoms up 1 time before commencing with cement operations. On wells where hole conditions have been an issue during the drilling and reaming process the number of circulations needs to increase to a minimum of 2 times around.**

All production cement figured with an additional 10% for washout unless otherwise noted. Flush is figured with a 40' shoe joint. Do not displace more than 2bbls over calculated flush without prior approval.

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**6. Minimum Specifications for Pressure Control:**

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (3000 psi WP) minimum 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 13-3/8" BOP will be nipped up on the 13 3/8" surface casing and tested by a 3<sup>rd</sup> party to 2000 psi 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 a minimum 3000 psi WP rating

**7. Types and Characteristics of the Proposed Mud System:**

The well will be drilled to TD with a combination of brine and cut brine 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.
800-2050	Brine	10	30	N.C.
2050'-TD	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:** *See COA*

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log 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 at TD.

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 2,268 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 August 30, 2012. Once commenced, the drilling operation should be finished in approximately 15 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.

**Attachment to Exhibit #10**  
**NOTES REGARDING THE BLOWOUT PREVENTERS**  
**Razorback Federal #2**  
**Eddy County, New Mexico**

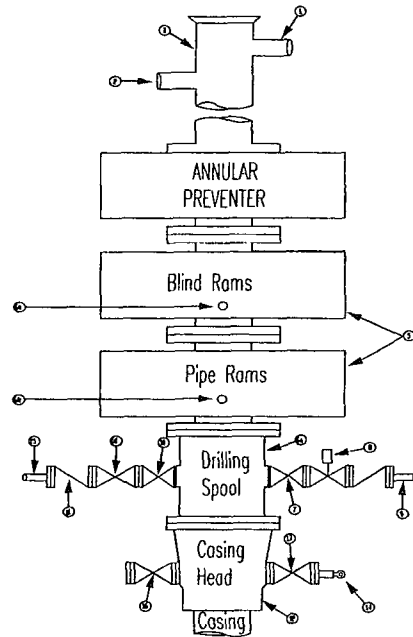
1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All 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**  
**Minimum Blowout Preventer Requirements**  
**3000 psi Working Pressure**  
**13 3/8 inch- 3 MWP**  
**11 Inch - 3 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** 10 ME

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

**MEC TO FURNISH.**

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

**GENERAL NOTES:**

- Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
- 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.
- Controls to be of standard design and each marked, showing opening and closing position
- 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

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

# Mack Energy Corporation

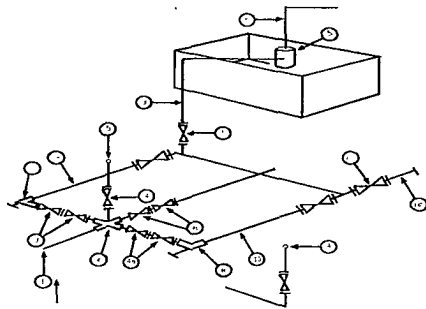
Exhibit #11

## MINIMUM CHOKE MANIFOLD

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

3M will be used

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

- All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating
- All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX Use only BX for 10 MWP
- All lines shall be securely anchored.
- Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available
- alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
- 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

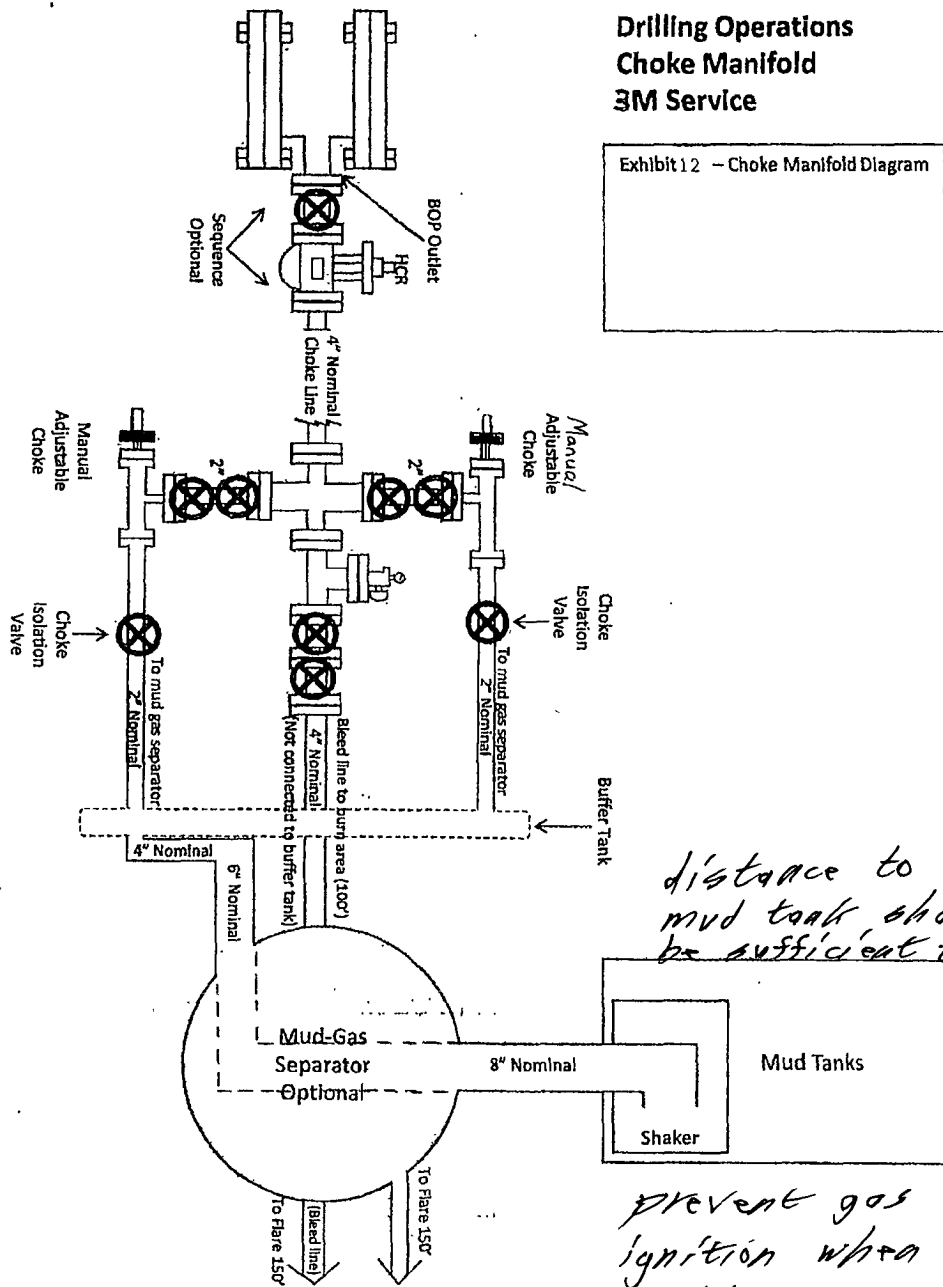
# Mack Energy Corporation

## MANIFOLD SCHEMATIC

Exhibit #12

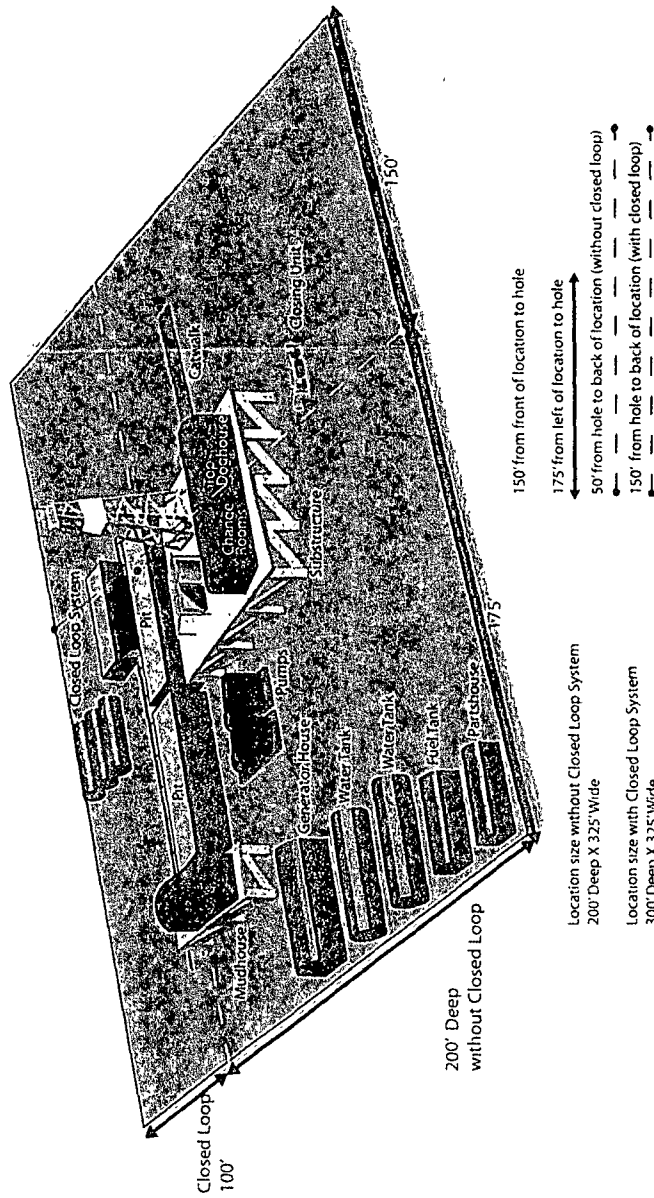
### Drilling Operations Choke Manifold 3M Service

Exhibit 12 - Choke Manifold Diagram



**DRILLING LOCATION H2S SAFTY EQUIPMENT**  
Exhibit # 8

**Location Layout**



Location size without Closed Loop System  
200' Deep X 325' Wide  
Location size with Closed Loop System  
300' Deep X 325' Wide



Silver Oak Drilling, 101 Bilco Road, Artesia, NM 88210, 575/746/4405  
info@silveroakdrilling.com, www.silveroakdrilling.com

**Mack Energy Corporation  
Onshore Order #6  
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)
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 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 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. **The concentrations of H<sub>2</sub>S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

**II. H<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S 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 reasonably expected to contain H<sub>2</sub>S.

**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.

Attached to Form 3160-3  
Mack Energy Corporation  
Razorback Federal #2  
330 FNL & 330 FWL, NW/NW, Sec. 3 T18S R31E  
Eddy County, NM

B. There will be no drill stem testing.

### EXHIBIT #7

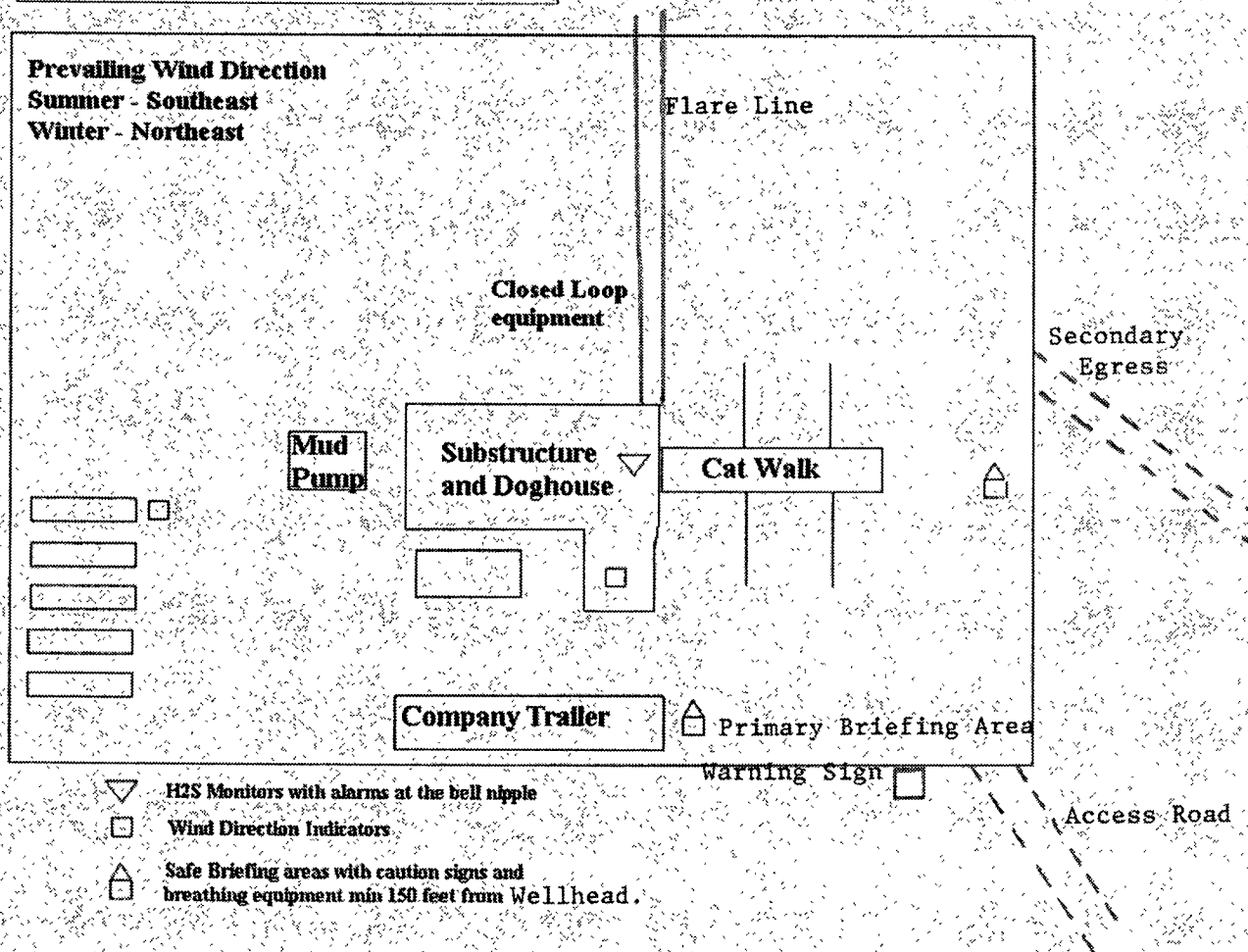
## WARNING

**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**

**1-575-748-1288**



**Mack Energy Corporation Call List, Eddy County**

<b>Artesia (575)</b>	<b>Cellular</b>	<b>Office</b>	<b>Home</b>
Jim Krogman.....	746-5515.....	748-1288.....	746-2674
Lonnie Archer.....	746-7889.....	748-1288.....	365-2998
Donald Archer.....	748-7875.....	748-1288.....	748-2287
Chris Davis.....	746-7132.....	748-1288.....	
Kevin Garrett.....	746-7423.....	748-1288.....	

**Agency Call List (575)****Artesia**

State Police.....	746-2703
City Police.....	746-2703
Sheriff's Office.....	746-9888
Ambulance.....	911
Fire Department.....	746-2701
LEPC (Local Emergency Planning Committee).....	746-2122
NMOCD.....	748-1283

**Carlsbad**

State Police.....	885-3137
City Police.....	885-2111
Sheriff's Office.....	887-7551
Ambulance.....	911
Fire Department.....	885-2111
LEPC (Local Emergency Planning Committee).....	887-3798
Bureau of Land Management.....	887-6544
New Mexico Emergency Response Commission.....	(505)476-9690
24 Hour.....	(505)827-9126
Natonal Emergency Response Center (Washington).....	(800)424-8802

**Emergency Services**

Boots & Coots IWC.....	1-800-256-9688 or (281)931-8884
Cudd pressure Control.....	(915)699-0139 or (915)563-3356
Halliburton.....	746-2757
B. J. Services.....	746-3569
Flight For Life-Lubbock, TX.....	(806)743-9911
Aerocare-Lubbock, TX.....	(806)747-8923
Med Flight Air Amb-Albuquerque, NM.....	(505)842-4433
Lifeguard Air Med Svc. Albuquerque, NM.....	(505)272-3115



## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MACK ENERGY CORPORATION
LEASE NO.:	NM89882
WELL NAME & NO.:	2-RAZORBACK FEDERAL
SURFACE HOLE FOOTAGE:	330'/N. & 330'/W.
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 3, T. 18 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
- ☒ **Construction**
  - Notification
  - Topsoil
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  - Federal Mineral Material Pits
  - Well Pads
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