

1793

DEPAR  
BURE

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

TRIPLICATE\*  
Instructions on  
e side)

Form approved.  
Budget Bureau No. 1004-0136  
Expires: December 31, 1991

6-06-64

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

b. TYPE OF WELL

OIL WELL ☒

Gas Well ☐

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☐

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 (Report location clearly and in accordance with any state requirement.)

At surface

310 FNL & 2530 FWL

SUBJECT TO LIKE

At proposed prod. zone

660 FNL & 1980 FWL

APPROVAL BY STATE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

7 miles southwest of Carlsbad

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

310

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES IN LEASE  
TO THIS WELL

320

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED  
OR APPLIED FOR, ON THIS LEASE, FT.

N/A

19. PROPOSED DEPTH

11,500

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3715' GR

CARLSBAD CONTROLLED WATER BASIN

22. APPROX. DATE WORK WILL START\*

5/25/2006

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2	H-40, 13 3/8	48	300	Circ
12 1/4	J-55, 9 5/8	36	2550 (575)	Circ
7 7/8	J-55, 5 1/2	17	11,500	Suff to Circ

WITNESS

Mack Energy proposes to drill to a depth sufficient to test the Morrow formation for gas. If productive, 5 1/2" casing will be cemented. If non-productive, the well will be plugged and abandoned in a manner consistent with federal regulation.

Specific programs as per Onshore Oil and Gas Order #1 are outlined in the following attachments:

1. Surveys

Exhibit #1- Well Location Plat

Exhibit #2- Vicinity Map

Exhibit #3- Location Verification Map

4. Certification

7. Responsibility Statement

5. Hydrogen Sulfide Drilling Operation Plan

Exhibit #7- H2S Warning Sign

Exhibit #8- H2S Safety Equipment

2. Drilling Program

3. Surface Use & Operating Plan

Exhibit #4- One Mile Radius Map

Exhibit #5- Production Facilities Layout

Exhibit #6- Location Layout

6. Blowout Preventers

Exhibit #9- BOPE Schematic

Exhibit #10- Blowout Preventer Requirements

Exhibit #11- Choke Manifold

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

3M BOPE below 9 5/8" shoe  
[see slips] G.G.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and level of production. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout prevention program, if any.

24.

SIGNED

Jerry W. Sherrill

TITLE

Production Clerk

DATE

4/25/2006

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

OCT - 4 2008

Application approval 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.

CONDITIONS OF APPROVAL, IF ANY:

ACTING

/s/ Don Peterson

FIELD MANAGER

OCT - 4 2008

APPROVED BY

TITLE

DATE

\*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

1625 N. FRENCH DR., HOBBS, NM 88240

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

### DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

### DISTRICT IV

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

**State of New Mexico**

Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION 61

1220 SOUTH ST. FRANCIS DR  
Santa Fe, New Mexico 87505

OCT 2 2006

RECEIVED  
CD - ARTESIA

Form C-102

Revised October 12, 2005

**State Lease - 4 Copies**

Free Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name	
	85160	Unders. Sheep Drawg Morrow	
Property Code	Property Name		Well Number
	ROBIN FEDERAL		1
OGRID No.	Operator Name		Elevation
013837	MACK ENERGY CORPORATION		3715'

### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	9	23-S	25-E		310	NORTH	2530	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
C	9	23-S	25-E		660	NORTH	1980	WEST	EDDY

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

**PROJECT AREA**  
2530'  
660'

**PRODUCING AREA**  
1980'  
310'

**BOTTOM HOLE LOCATION**  
Y=481722.2 N  
X=478245.4 E

**SURF. SEE DETAIL**

**DETAIL**  
3729.5'  
3723.9'  
600'  
3719.0'  
3705.3'

**GEODETIC COORDINATES NAD 27 NME**  
Y=482087.0 N  
X=478789.5 E  
LAT.=32°19'31.28" N  
LONG.=104°24'07.20" W

**OPERATOR CERTIFICATION**  
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.  
*Jerry W. Sherrell* 4/25/06  
Signature Date  
Jerry W. Sherrell  
Printed Name

**SURVEYOR CERTIFICATION**  
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  
APRIL 3, 2006  
Date Surveyed LA  
Signature & Seal of Professional Surveyor  
GARY W. SHERRELL  
NEW MEXICO  
06.11.0589  
Certificate No. GARY EDISON 12641



# **Mack Energy Corp.**

Eddy County, NM (NAD 27 NME)

Robin Federal #1

Robin Federal #1

OH

Plan: Plan #2

## **Standard Planning Report**

23 October, 2006



**Scientific Drilling**

# Scientific Drilling Planning Report



<b>Database:</b>	EDM 2003.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Robin Federal #1
<b>Company:</b>	Mack Energy Corp.	<b>TVD Reference:</b>	WELL @ 3738.0ft (KB Elev)
<b>Project:</b>	Eddy County, NM (NAD 27 NME)	<b>MD Reference:</b>	WELL @ 3738.0ft (KB Elev)
<b>Site:</b>	Robin Federal #1	<b>North Reference:</b>	Grid
<b>Well:</b>	Robin Federal #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

<b>Project:</b>	Eddy County, NM (NAD 27 NME)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>		Robin Federal #1			
<b>Site Position:</b>		<b>Northing:</b>	482,087.00 ft	<b>Latitude:</b>	32° 19' 31.276 N
<b>From:</b>	Map	<b>Easting:</b>	478,789.50 ft	<b>Longitude:</b>	104° 24' 7.197 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	ft	<b>Grid Convergence:</b>	-0.04 °

Well	Robin Federal #1					
Well Position	+N/-S	0.0 ft	Northing:	482,087.00 ft	Latitude:	32° 19' 31.276 N
	+E/-W	0.0 ft	Easting:	478,789.50 ft	Longitude:	104° 24' 7.197 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	3,738.0 ft	Ground Level:	0.0 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2006-10-23	8.51	60.25	49,059

Design:	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	235.93

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,567.2	17.02	235.93	6,558.9	-46.9	-69.3	3.00	3.00	0.00	235.93	
8,138.7	17.02	235.93	8,061.6	-304.5	-450.2	0.00	0.00	0.00	0.00	
8,989.6	0.00	0.00	8,900.0	-374.8	-554.1	2.00	-2.00	0.00	180.00	
9,089.6	0.00	0.00	9,000.0	-374.8	-554.1	0.00	0.00	0.00	0.00	PBHL-RF #1
11,589.6	0.00	0.00	11,500.0	-374.8	-554.1	0.00	0.00	0.00	0.00	

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Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 3738.0ft (KB Elev)
Site:	Robin Federal #1	North Reference:	Grid
Well:	Robin Federal #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>East HL-RF #1 - North HL-RF #1</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,575.0	0.00	0.00	1,575.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>9 5/8" Casing</b>									
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00

# Scientific Drilling Planning Report



Database: EDM 2003.14 Single User Db  
Company: Mack Energy Corp.  
Project: Eddy County, NM (NAD 27 NME)  
Site: Robin Federal #1  
Well: Robin Federal #1  
Wellbore: OH  
Design: Plan #2

Local Co-ordinate Reference:  
TMD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:

Well Robin Federal #1  
WELL @ 3738.0ft (KB Elev)  
WELL @ 3738.0ft (KB Elev)  
Grid  
Minimum Curvature

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP - build 3.0°/100°</b>									
6,100.0	3.00	235.93	6,100.0	-1.5	-2.2	2.6	3.00	3.00	0.00
6,200.0	6.00	235.93	6,199.6	-5.9	-8.7	10.5	3.00	3.00	0.00
6,300.0	9.00	235.93	6,298.8	-13.2	-19.5	23.5	3.00	3.00	0.00
6,400.0	12.00	235.93	6,397.1	-23.4	-34.6	41.7	3.00	3.00	0.00
6,500.0	15.00	235.93	6,494.3	-36.5	-53.9	65.1	3.00	3.00	0.00
6,567.2	17.02	235.93	6,558.9	-46.9	-69.3	83.6	3.00	3.00	0.00
<b>EOC - hold 17.02°</b>									
6,600.0	17.02	235.93	6,590.3	-52.2	-77.2	93.2	0.00	0.00	0.00
6,700.0	17.02	235.93	6,685.9	-68.6	-101.4	122.5	0.00	0.00	0.00
6,800.0	17.02	235.93	6,781.5	-85.0	-125.7	151.7	0.00	0.00	0.00
6,900.0	17.02	235.93	6,877.1	-101.4	-149.9	181.0	0.00	0.00	0.00
7,000.0	17.02	235.93	6,972.7	-117.8	-174.2	210.3	0.00	0.00	0.00
7,100.0	17.02	235.93	7,068.4	-134.2	-198.4	239.5	0.00	0.00	0.00
7,200.0	17.02	235.93	7,164.0	-150.6	-222.7	268.8	0.00	0.00	0.00
7,300.0	17.02	235.93	7,259.6	-167.0	-246.9	298.1	0.00	0.00	0.00
7,400.0	17.02	235.93	7,355.2	-183.4	-271.1	327.3	0.00	0.00	0.00
7,500.0	17.02	235.93	7,450.9	-199.8	-295.4	356.6	0.00	0.00	0.00
7,600.0	17.02	235.93	7,546.5	-216.2	-319.6	385.9	0.00	0.00	0.00
7,700.0	17.02	235.93	7,642.1	-232.6	-343.9	415.1	0.00	0.00	0.00
7,800.0	17.02	235.93	7,737.7	-249.0	-368.1	444.4	0.00	0.00	0.00
7,900.0	17.02	235.93	7,833.3	-265.4	-392.3	473.7	0.00	0.00	0.00
8,000.0	17.02	235.93	7,929.0	-281.8	-416.6	502.9	0.00	0.00	0.00
8,100.0	17.02	235.93	8,024.6	-298.2	-440.8	532.2	0.00	0.00	0.00
8,138.7	17.02	235.93	8,061.6	-304.5	-450.2	543.5	0.00	0.00	0.00
<b>KOP - drop 2.0°/100°</b>									
8,200.0	15.79	235.93	8,120.4	-314.2	-464.5	560.8	2.00	-2.00	0.00
8,300.0	13.79	235.93	8,217.1	-328.5	-485.7	586.4	2.00	-2.00	0.00
8,400.0	11.79	235.93	8,314.6	-340.9	-504.0	608.5	2.00	-2.00	0.00
8,500.0	9.79	235.93	8,412.8	-351.4	-519.5	627.2	2.00	-2.00	0.00
8,600.0	7.79	235.93	8,511.6	-360.0	-532.2	642.5	2.00	-2.00	0.00
8,700.0	5.79	235.93	8,610.9	-366.6	-542.0	654.3	2.00	-2.00	0.00
8,800.0	3.79	235.93	8,710.6	-371.3	-548.9	662.7	2.00	-2.00	0.00
8,900.0	1.79	235.93	8,810.5	-374.0	-552.9	667.6	2.00	-2.00	0.00
8,989.6	0.00	0.00	8,900.0	-374.8	-554.1	669.0	2.00	-2.00	0.00
<b>EOC - hold 0.0°</b>									
9,000.0	0.00	0.00	8,910.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,089.6	0.00	0.00	9,000.0	-374.8	-554.1	669.0	0.00	0.00	0.00
<b>PBHL-RF #1</b>									
9,100.0	0.00	0.00	9,010.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,110.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,210.4	-374.8	-554.1	669.0	0.00	0.00	0.00

# Scientific Drilling Planning Report



Database: EDM 2003.14 Single User Db  
Company: Mack Energy Corp.  
Project: Eddy County, NM (NAD 27 NME)  
Site: Robin Federal #1  
Well: Robin Federal #1  
Wellbore: OH  
Design: Plan #2

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:

Well Robin Federal #1  
WELL @ 3738.0ft (KB Elev)  
WELL @ 3738.0ft (KB Elev)  
Grid  
Minimum Curvature

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.0	0.00	0.00	9,310.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,410.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,510.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,610.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,710.4	-374.8	-554.1	669.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,810.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,000.0	0.00	0.00	9,910.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,010.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,110.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,210.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,310.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,410.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,510.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,610.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,710.4	-374.8	-554.1	669.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,810.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,000.0	0.00	0.00	10,910.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,010.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,110.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,210.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,310.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,410.4	-374.8	-554.1	669.0	0.00	0.00	0.00
11,589.6	0.00	0.00	11,500.0	-374.8	-554.1	669.0	0.00	0.00	0.00

## Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
hit/miss target									
Shape									
PBHL-RF #1	0.00	360.00	9,000.0	-374.8	-554.1	481,712.20	478,235.40	32° 19' 27.564 N	104° 24' 13.651 W
- plan hits target									
- Circle (radius 10.0)									
North HL-RF #1	0.00	0.00	0.0	-364.8	-544.1	481,722.20	478,245.40	32° 19' 27.663 N	104° 24' 13.535 W
- plan misses by 655.1ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W0.0 H800.0 D0.0)									
East HL-RF #1	0.00	0.00	0.0	-364.8	-544.1	481,722.20	478,245.40	32° 19' 27.663 N	104° 24' 13.535 W
- plan misses by 655.1ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W800.0 H0.0 D0.0)									

## Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)
1,575.0	1,575.0	9 5/8" Casing	9.62500	0.00000

**Scientific Drilling**  
Planning Report



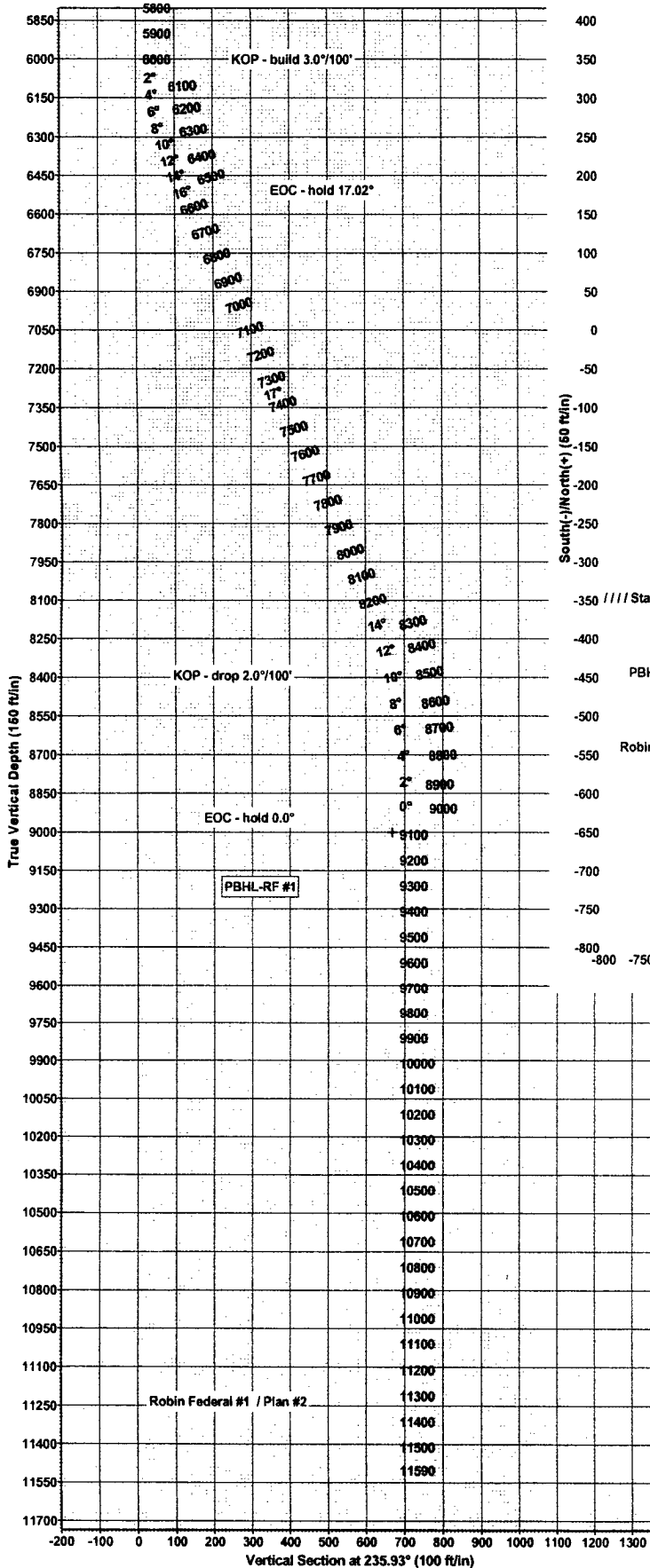
<b>Database:</b>	EDM 2003.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Robin Federal #1
<b>Company:</b>	Mack Energy Corp.	<b>TVD Reference:</b>	WELL @ 3738.0ft (KB Elev)
<b>Project:</b>	Eddy County, NM (NAD 27 NME)	<b>MD Reference:</b>	WELL @ 3738.0ft (KB Elev)
<b>Site:</b>	Robin Federal #1	<b>North Reference:</b>	Grid
<b>Well:</b>	Robin Federal #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
6,000.0	6,000.0	0.0	0.0	KOP - build 3.0°/100'
6,567.2	6,558.9	-46.9	-69.3	EOC - hold 17.02°
8,138.7	8,061.6	-304.5	-450.2	KOP - drop 2.0°/100'
8,989.6	8,900.0	-374.8	-554.1	EOC - hold 0.0°



# Mack Energy Corp.

Project: Eddy County, NM (NAD 27 NME)  
Site: Robin Federal #1  
Well: Robin Federal #1  
Wellbore: OH  
Design: Plan #2



G T M  
Azimuths to Grid North  
True North: 0.04°  
Magnetic North: 8.54°  
  
Magnetic Field  
Strength: 49058.9nT  
Dip Angle: 60.25°  
Date: 2008-10-23  
Model: IGRF200510

Robin Federal #1

South(-)/North(+) (50 ft/in)

-350 //// Stay South of this Line ////

PBHL-RF #1

Robin Federal #1 / Plan #2

//// Stay West of this Line ////

West(-)/East(+) (50 ft/in)

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	6000.0	0.00	0.00	6000.0	0.0	0.0	0.00	0.00	0.0	
3	6567.2	17.02	235.93	6558.9	-46.9	-69.3	3.00	235.93	83.6	
4	8138.7	17.02	235.93	8061.6	-304.5	-450.2	0.00	0.00	543.5	
5	8989.6	0.00	0.00	8900.0	-374.8	-554.1	2.00	180.00	669.0	
6	9089.6	0.00	0.00	9000.0	-374.8	-554.1	0.00	0.00	669.0	PBHL-RF #1
7	11589.6	0.00	0.00	11500.0	-374.8	-554.1	0.00	0.00	669.0	

## WELL DETAILS: Robin Federal #1

+N/-S	+E/-W	Northing	Ground Level:	0.0	Latitude	Longitude	Slot
0.0	0.0	482087.00	Easting	478789.50	32° 19' 31.276 N	104° 24' 7.197 W	

## WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
East HL-RF #1	0.0	-364.8	-544.1	32° 19' 27.663 N	104° 24' 13.535 W	Rectangle (Sides: L800.0 W0.0)
North HL-RF #1	0.0	-364.8	-544.1	32° 19' 27.663 N	104° 24' 13.535 W	Rectangle (Sides: L0.0 W800.0)
PBHL-RF #1	9000.0	-374.8	-554.1	32° 19' 27.564 N	104° 24' 13.651 W	Circle (Radius: 10.0)

## PROJECT DETAILS: Eddy County, NM (NAD 27 NME)

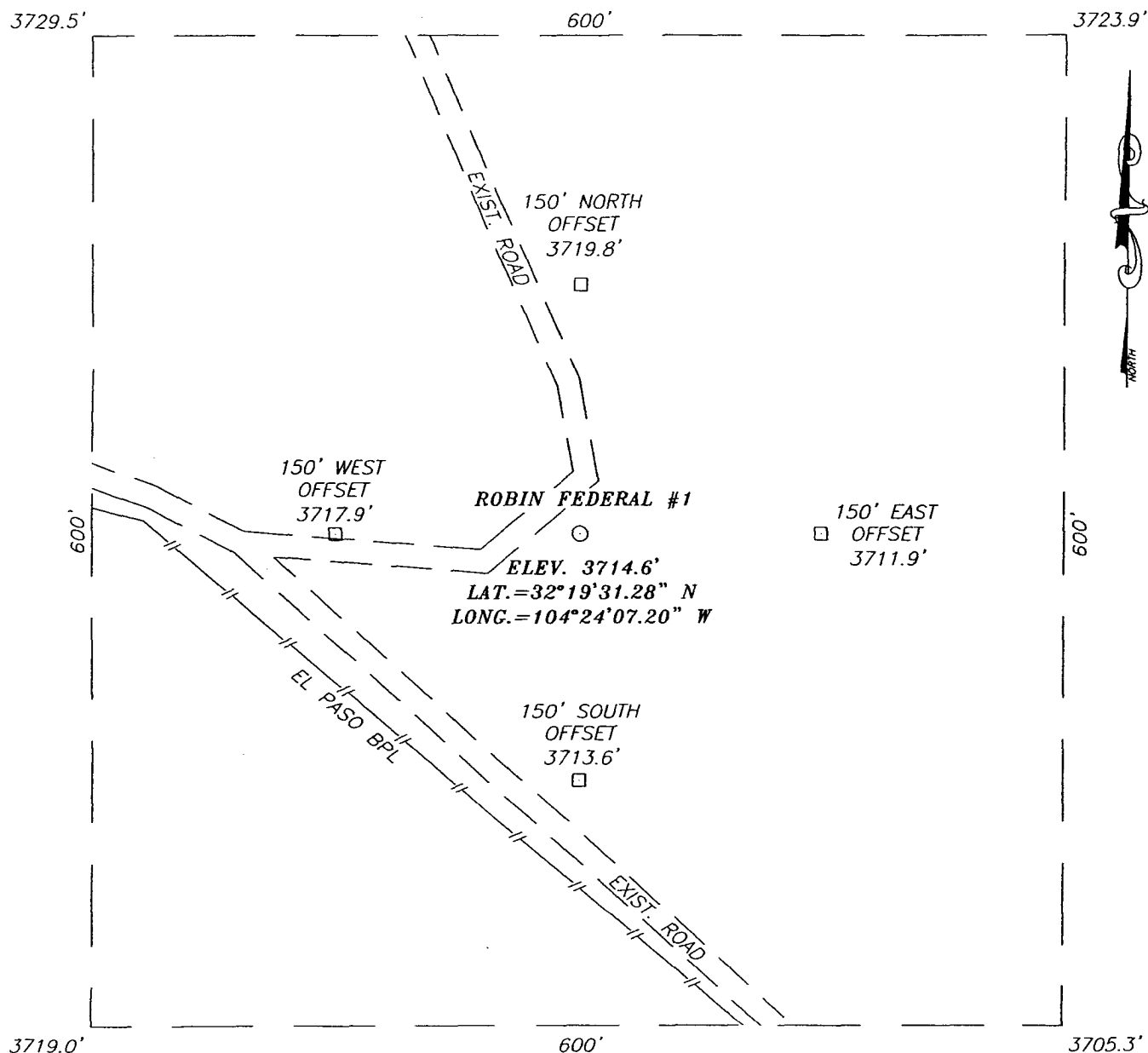
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001

System Datum: Mean Sea Level

## Plan: Plan #2 (Robin Federal #1 /OH)

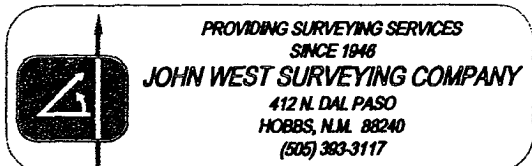
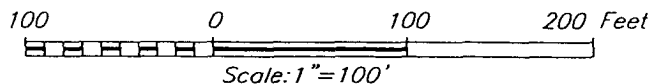
Created By: Julio Piña Date: 23-Oct-06  
Checked: \_\_\_\_\_ Date: \_\_\_\_\_  
Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_  
Approved: \_\_\_\_\_ Date: \_\_\_\_\_

**SECTION 9, TOWNSHIP 23 SOUTH, RANGE 25 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF CO. RD. #408 (DARK CANYON RD.) AND RED CO. RD. #672 (HIDALGO RD.), GO NORTH ON HIDALGO RD. APPROX. 0.2 MILES. TURN LEFT AND GO WEST APPROX. 2.2 MILES. TURN RIGHT AND GO NORTHEAST APPROX. 1.0 MILE TO A "Y" INTERSECTION. TURN LEFT AND GO NORTHWEST APPROX. 2.1 MILES. THIS LOCATION IS 150 FEET EAST.

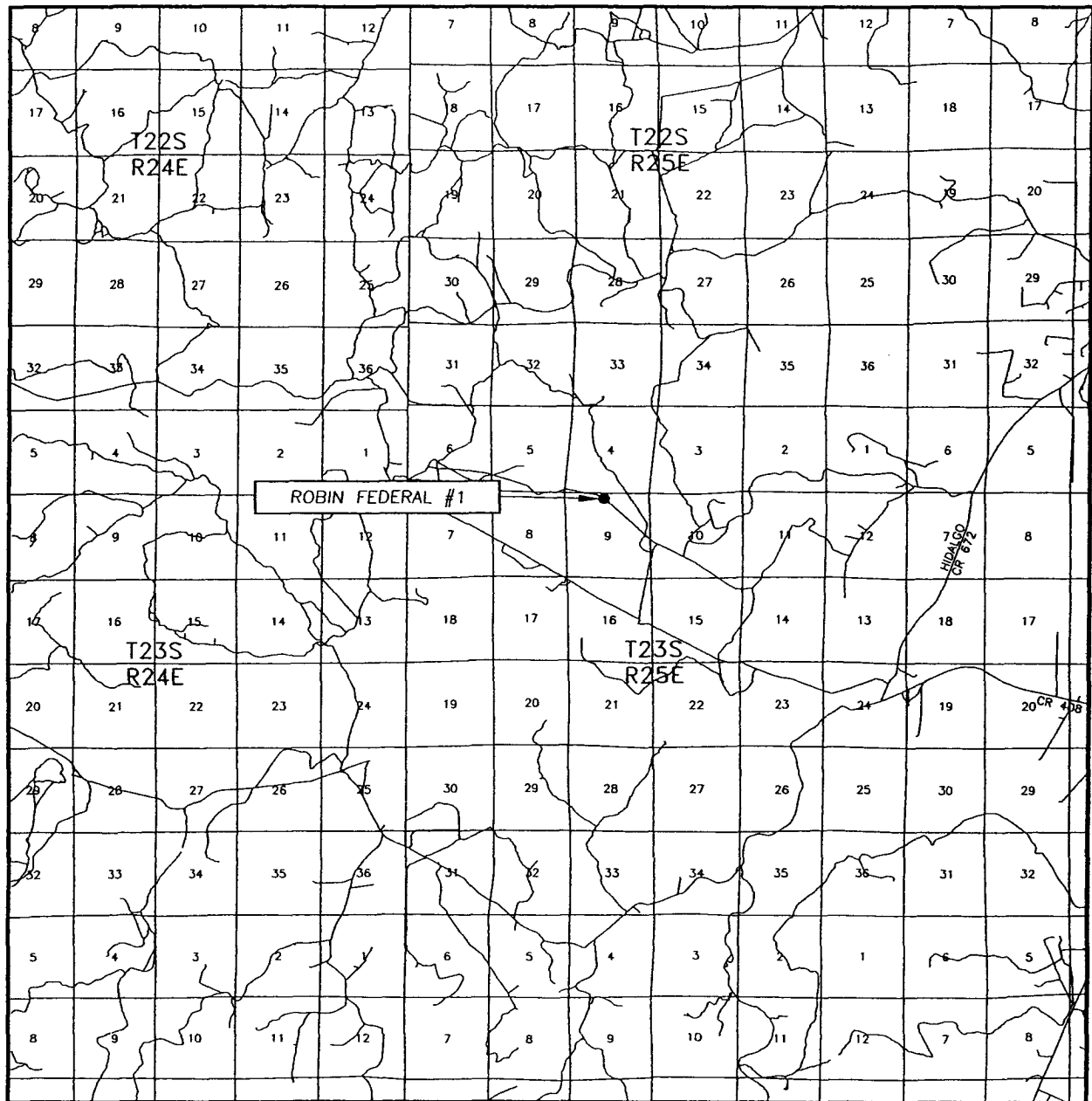


**MACK ENERGY CORPORATION**

ROBIN FEDERAL #1 WELL  
 LOCATED 310 FEET FROM THE NORTH LINE  
 AND 2530 FEET FROM THE WEST LINE OF SECTION 9,  
 TOWNSHIP 23 SOUTH, RANGE 25 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

Survey Date: 4/3/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.0589	Dr By: LA
Date: 4/11/06	Disk: CD#5
06110589	Scale: 1"=100'

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 9 TWP. 23-S RGE. 25-E

SURVEY N.M.P.M.

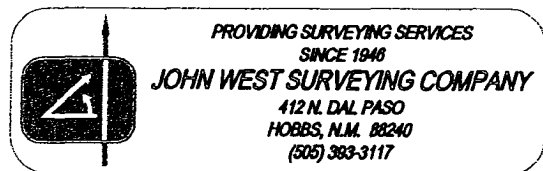
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 310' FNL & 2530' FWL

ELEVATION 3715'

OPERATOR MACK ENERGY CORPORATION

LEASE ROBIN FEDERAL

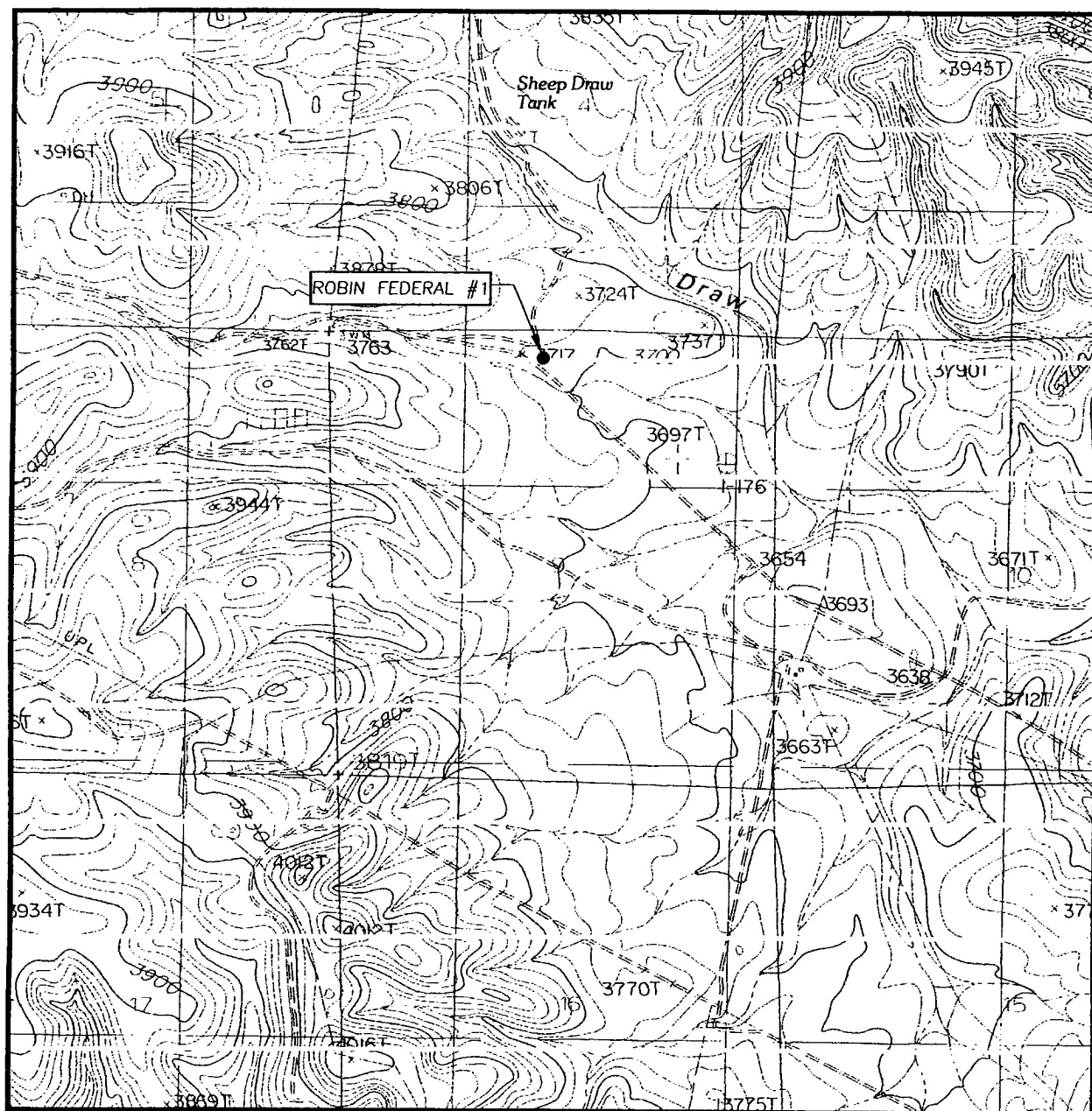


PROVIDING SURVEYING SERVICES  
SINCE 1946

**JOHN WEST SURVEYING COMPANY**

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

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
CARNERO PEAK, N.M. - 20'

SEC. 9 TWP. 23-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

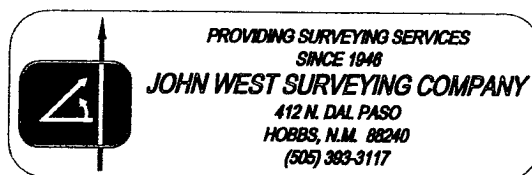
DESCRIPTION 310' FNL & 2530' FWL

ELEVATION 3715'

OPERATOR MACK ENERGY CORPORATION

LEASE ROBIN FEDERAL

U.S.G.S. TOPOGRAPHIC MAP  
CARNERO PEAK, N.M.



Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

## DRILLING PROGRAM

### 1. Geologic Name of Surface Formation

Quaternary

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

Quaternary	Surface		
Wolfcamp	8638'	Atoka	10433'
Penn	9750'	Morrow	10882'
Strawn	9952'		

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

Water Sand	450'	Fresh Water
Strawn	9952'	Gas
Atoka	10433'	Gas
Morrow	10882'	Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 300' and circulating cement back to surface will protect the surface fresh water sand. Salt Section will be protected by setting 9 5/8" casing to 2550' 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"	0-300'	13 3/8"	48#, H-40, ST&C, New, R-3
12 1/4"	0-2550'	9 5/8"	36#, J-55, ST&C, New, R-3
7 7/8"	0-TD	5 1/2"	17#, J-55, LT&C, New, R-3

### 5. Cement Program:

13 3/8" Surface Casing: Circulate to Surface with Class C w/2% CaCl<sub>2</sub>.

9 5/8" Intermediate 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:

Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

3000 psi  
3000 psi

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 1500 psi by a 3<sup>rd</sup> party. The BOP will then be nipped up on the 9 5/8" intermediate casing and tested by a 3<sup>rd</sup> 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
0-300'	Fresh Water	8.5	28	N.C.
300-2550'	Fresh Water	8.5	30	N.C.
2550'-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:**

- 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 9 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.

Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

**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 May 25, 2006. Once commenced, the drilling operation should be finished in approximately 20 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**

**1. Existing & Proposed Access Roads**

- A. The well site and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.
- 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 the intersection of CR 408(Dark Canyon Rd.) and CR 672(Hidalgo), go north on CR 672 .2 mile, turn west 2.2 miles, turn right NE go 1.0 mile to a Y, turn left NW 2.1 miles, location is 150' east from this point.
- 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  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

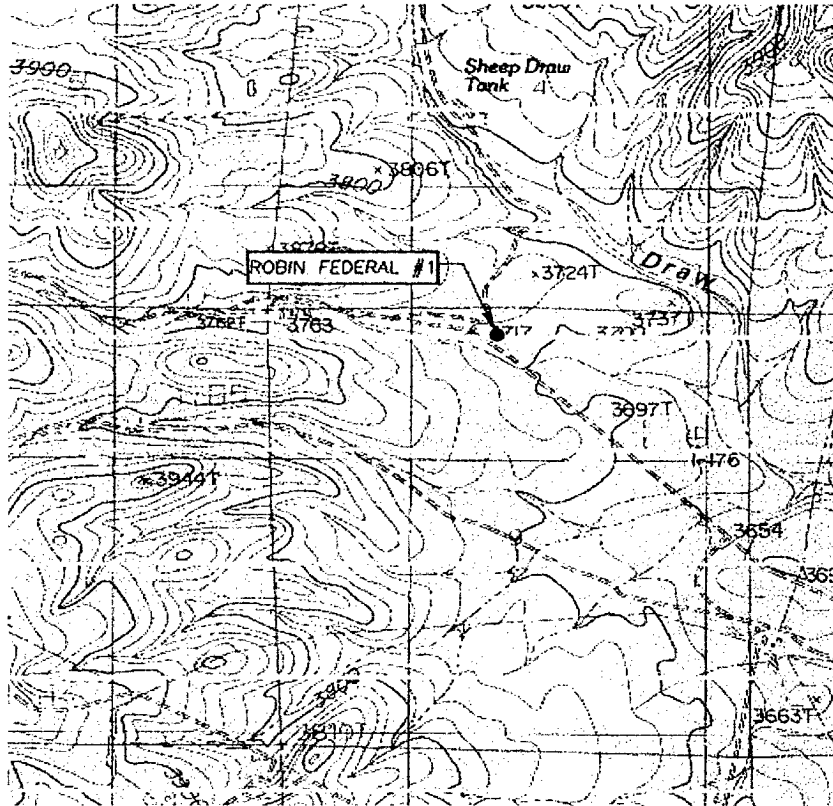


Exhibit #4

## 2. Proposed Access Road:

Exhibit #3 shows the 0' 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.



**Attached to Form 3160-3**

## Mack Energy Corporation

## Robin Federal #1

### 310 FNL & 2530 FWL

**NE/4 NW/4, Sec 9 T23S R25E**

## Eddy County, NM

- 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 no existing wells within a one-mile radius of this well. Proposed flow lines, will stay on this location a production facility will be built on this location.

#### 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) Morrow Completion: Will be sent to the Robin Federal TB. 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.

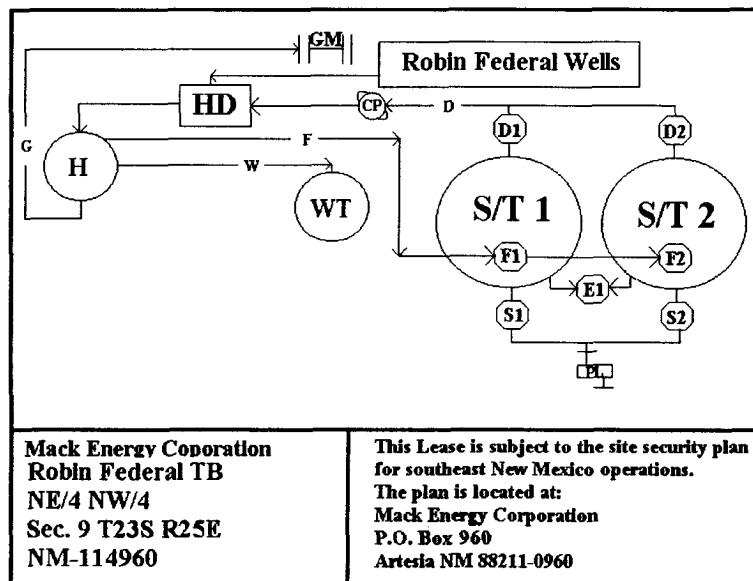


Exhibit #5

- 1) This well will be drilled using a closed loop system.

Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

**5. Location and Type of Water Supply:**

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #4. If a commercial fresh water source is nearby, fasline may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

**6. Source of Construction Materials:**

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.

**7. Methods of Handling Water Disposal:**

- A. Drill cuttings not retained for evaluation purposes will be disposed into an approved disposal facility.
- B. Drilling fluids will be contained in steel tanks.
- C. Water produced from the well during and after completion, will be hauled to an approved disposal facility; 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. Salts and other chemicals produced during drilling or testing will be hauled to an approved disposal facility. 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. In the event of a dry hole only a dry hole marker will remain.

**8. 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 this location. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

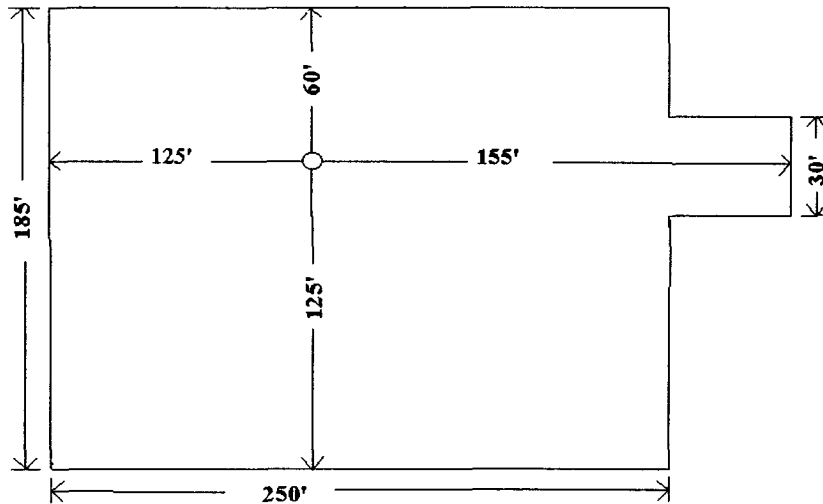


Exhibit #6

**9. Plans for Restoration of the Surface:**

- A. 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.
- B. Upon completion of proposed operations, if the well is completed. Any additional caliche required for facilities will be obtained from a BLM approved caliche pit.

**10. 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 Larry Bearden, 353 Dark Canyon Rd., Carlsbad, NM 88220.

**11. Other Information:**

Attached to Form 3160-3  
Mack Energy Corporation  
Robin Federal #1  
310 FNL & 2530 FWL  
NE/4 NW/4, Sec 9 T23S R25E  
Eddy County, NM

- A. The area around the well site is grassland. 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.

**12. Lessee's and Operator's Representative:**

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

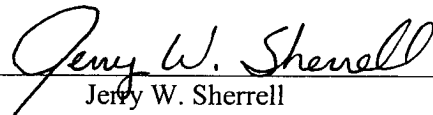
Jerry W. Sherrell  
Mack Energy Corporation  
P.O. Box 960  
Artesia, NM 88211-0960  
Phone (505) 748-1288 (office)

**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: 4-25-2006

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)
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, alarm 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. **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. 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**

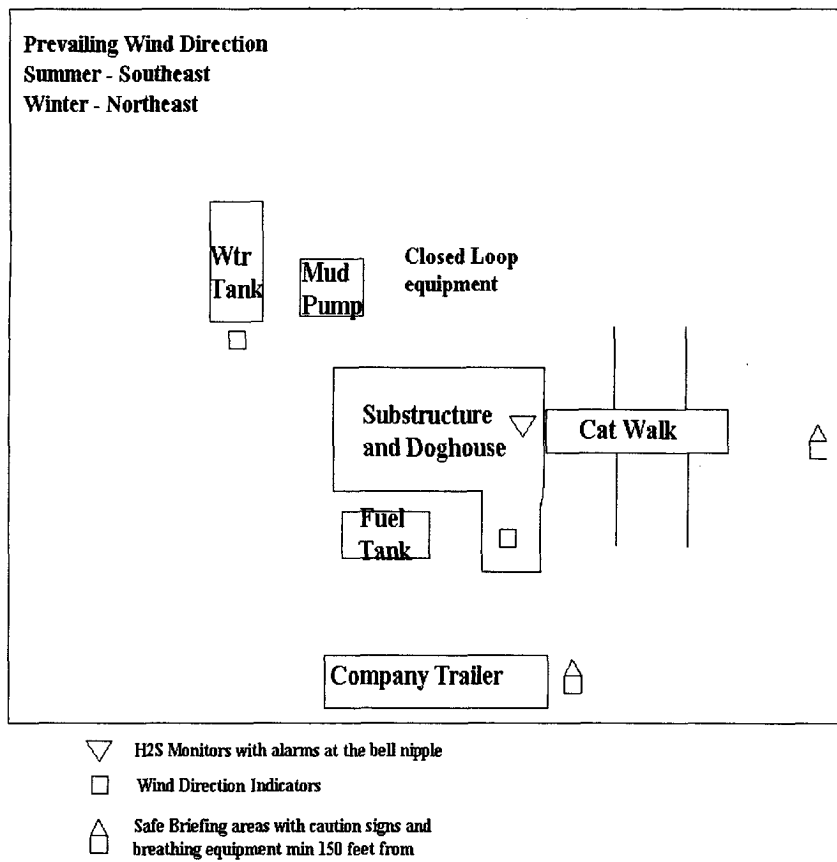
**WARNING**  
**YOU ARE ENTERING AN H<sub>2</sub>S**  
**AUTHORIZED PERSONNEL ONLY**

- 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 SAFETY EQUIPMENT**  
**Exhibit # 8**



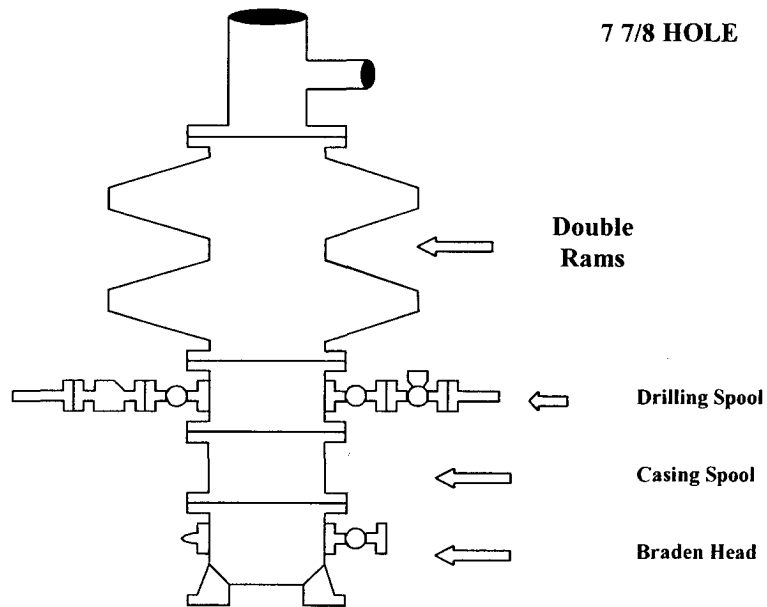


**Attachment to Exhibit #9**  
**NOTES REGARDING THE BLOWOUT PREVENTERS**  
**Robin Federal #1**  
**Eddy County, New Mexico**

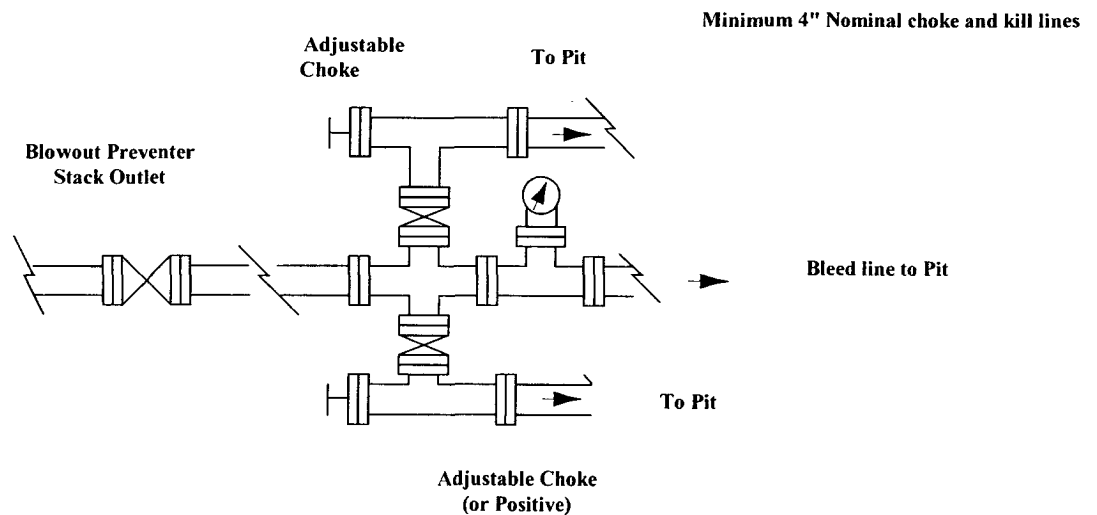
1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All 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	Flowline		2"
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		2" Choke
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above)		
7	Valve Gate Plug	3 1/8	
8	Gate valve-power operated	3 1/8	
9	Line to choke manifold		3"
10	Valve Gate Plug	2 1/16	
11	Check valve	2 1/16	
12	Casing head		
13	Valve Gate Plug	1 13/16	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

**OPTIONAL**

16	Flanged Valve	1 13/16	
----	---------------	---------	--

**CONTRACTOR'S OPTION TO FURNISH:**

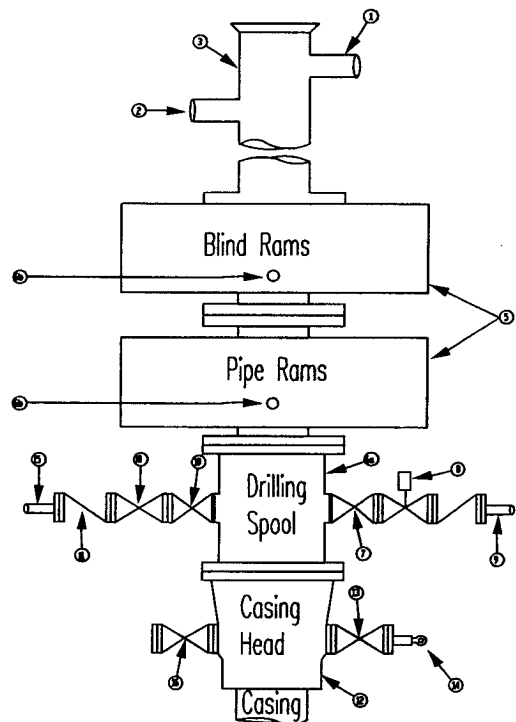
1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000 psi minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located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

**MEC TO FURNISH:**

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

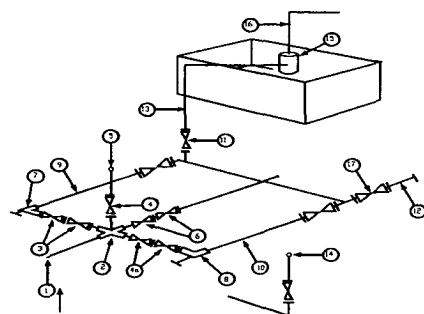
Exhibit #11

## 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	3"		10,000
2	Cross 3" x 3" x 3" x 2"			3,000			5,000			
2	Cross 3" x 3" x 3" x 2"									10,000
3	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
4	Valve Gate Plug	1 13/16		3,000	1 13/16		5,000	1 13/16		10,000
4a	Valves (1)	2 1/16		3,000	2 1/16		5,000	2 1/16		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		2"	10,000
11	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
12	Line		3"	1,000		3"	1,000		3"	2,000
13	Line		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound Standpipe pressure quage			3,000			5,000			10,000
15	Gas Separator		2' 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.

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Mack Energy Corporation Well Name & #: Robin Fed. #1  
Location 310 F N L & 2530 FW L; Sec. 09, T. 23 S., R. 25 E.  
Lease #: NM-114960 County: Eddy State: New Mexico  
Bottom Hole footage: 660 FNL & 1980 FWL, Section 09, T. 23 S., R. 25 E

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

- ( ) Lesser Prairie Chicken (stips attached) ( ) Flood plain (stips attached)  
( ) San Simon Swale (stips attached) ( ) Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

( x ) The BLM will monitor construction of this drill site. Notify the ( x ) Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

( x ) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche upon completion of well and it is determined to be a producer.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately \_\_\_\_\_ inches in depth. Approximately \_\_\_\_\_ cubic yards of topsoil material will be stockpiled for reclamation.

( x ) Other. **V-Door East Southeast).**

III. WELL COMPLETION REQUIREMENTS

( ) A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

( x ) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

- |   |   |
|---|---|
| ( x ) A. Seed Mixture 1 (Loamy Sites)                 | ( ) B. Seed Mixture 2 (Sandy Sites)                     |
| Side Oats Grama ( <i>Bouteloua curtipendula</i> ) 5.0 | Sand Dropseed ( <i>Sporobolus cryptandrus</i> ) 1.0     |
| Sand Dropseed ( <i>Sporobolus cryptandrus</i> ) 1.0   | Sand Lovegrass ( <i>Eragrostis trichodes</i> ) 1.0      |
|   | Plains Bristlegrass ( <i>Setaria magrostachya</i> ) 2.0 |
| ( ) C. Seed Mixture 3 (Shallow Sites)                 | ( ) D. Seed Mixture 4 (Gypsum Sites)                    |
| Side oats Grama ( <i>Boute curtipendula</i> ) 1.0     | Alkali Sacaton ( <i>Sporobollud airoides</i> ) 1.0      |
|   | Four-Wing Saltbush ( <i>Atriplex canescens</i> ) 5.0    |

( ) OTHER SEE ATTACHED SEED MIXTURE

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

( x ) Other

All above ground structures to be painted a flat, nonreflective Shale Green color.

## RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

## OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

## CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

## TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Mack Energy Corporation

Well Name & No: Robin Federal No. 01

Location: 310' FNL & 1980' FEL Sec. 02, T. 23 S., R. 25 E.

Lease: NM 2251 Lea County

.....

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13 3/8 inch, 9 5/8 inch, 5 1/2 inch

C. BOP tests

2. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan is not required for this wellbore.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

### II. CASING:

1. The 13 3/8 inch shall be set at 300 ft. with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9 5/8 inch Intermediate Casing is to circulate cement.

3. The minimum required fill of cement behind the 5 1/2 Inch Production Casing is to place TOC at least 200 Ft. above known potential hydrocarbon formations.

### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13 3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

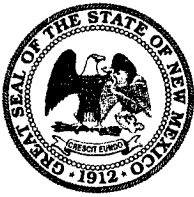
2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3 M psi. A 2 M BOPE is approved for surface and intermediate hole. A 3 M BOPE system shall be installed prior to drilling below the 9 5/8 inch casing shoe.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

*G Gourley* RFO 05/8/06





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

Mack Energy Corporation  
P.O. Box 960  
Artesia, NM 88210  
Attn: Mr. Jerry W. Sherrell or To Whom It May Concern:

Dear Mr. Sherrell or To Whom It May Concern:

**RE: Mack Energy Corporation: Application to drill (APD) for the Robin Federal # 1  
Located in Unit C, of Section 9, Township 23 South, Range 25 East, Eddy County, New Mexico NMPM.**

In reference to the above noted APD, the New Mexico Oil Conservation Division (NMOCD) will require (in part) that drilling mud samples from the flow line be sampled every 100' in order to determine chloride levels during the drilling of the Capitan Reef section of the well bore. Results are to be submitted to our office before drilling to total depth of the well bore.

Please call me if you have any questions about this matter.

Respectfully yours,

Bryan G. Arrant  
NMOCD's District II Geologist  
Artesia, New Mexico  
505-748-1283 ext. 103

CC: well file

**Arrant, Bryan, EMNRD**

---

**To:** Jerry Sherrell

**Subject:** Robin Federal # 1

Hi Jerry,

In order to further review and/or approve the above noted APD, I will need to following:

1) A directional drill plan. Please note where on the directional drill plan, the point of penetration of the legal location will be.

(for example the top of formation of the Sheep Draw; Morrow Gas Pool **or** what formations(s) applies.

2) An amended C-102 that shows the project area, producing area and the penetration point that your company intends to produce.

Please call if you have any questions.

Bryan Arrant  
748-1283 ext. 103

10/6/2006