11-107

OCD-HOBBS HOBBS OCD

NOV 1 4 2011

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Form 3160 -3
(April 2004)

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.	NMLC-060199B
6. If Indian, Allotee or Tribe Name	
7 If Unit or CA Agreement, Name and No	
8, Lease Name and Well No.	Brook Federal #4 <38762>
9 API Well No.	30-025-40339
10 Field and Pool, or Exploratory	Maljamar-Yeso West <44500>
11 Sec., T. R. M. or Blk and Survey or Area	Sec. 30 T17S R32E
12. County or Parish	Lea
13. State	NM

Ia Typeofwork-: [X] DRILL [ ] REENTER

Ib. Type of Well: [X] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

2 Name of Operator
Mack Energy Corporation <13837>

3a. Address
P.O. Box 960 Artesia, NM 88211-0960

3b. PhoneNo. (include area code)
(575)748-1288

4 Location of Well (Report location clearly and inaccorounce with any State requirements*)
At surface 750 FNL & 1120 FEL Unit A
At proposed prod zone 990 FNL & 990 FEL

14 Distance in miles and direction from nearest town or post office*
3 miles SW of Maljamar, NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg unit line, if any) 330 ft	16. No. of acres in lease 80 ac	17 Spacing Unit dedicated to this well 40 ac
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 400 ft	19. Proposed Depth 7,016' MD 7,000' TVD	20. BLM/BIA Bond No on file NMB000286
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3907' GR	22 Approximate date work will start* 06/20/2011	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.
2 A Drilling Plan.
3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above),
5. Operator certification
6 Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature Jerry W. Sherrell	Name (Printed/Typed) Jerry W. Sherrell	Date 6/17/11
Title Production Clerk		
Approved by (Signature) /s/ Wesley W Ingram	Name (Printed/Typed)	Date NOV 9 2011
Title for 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 Tide 43 U.S.C Section 1212, make it a crime for any person knowirilly and willfully to make to any department or agency ofthe United States any false, fictitious or fraudulent statements or representations as to any matter within its juris iction.

*(Instructions on page 2)

06/20/2011

Roswell Controlled Water Basin

KZ 11/30/11

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

HOBBS OCD

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

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-40339	44500	Maljamar Yeso West

Property Code	Property Name	Well Number
38762	BROOK FEDERAL	4

OGRID No.	Operator Name	Elevation
013837	MACK ENERGY CORPORATION	3907'

Surface Location

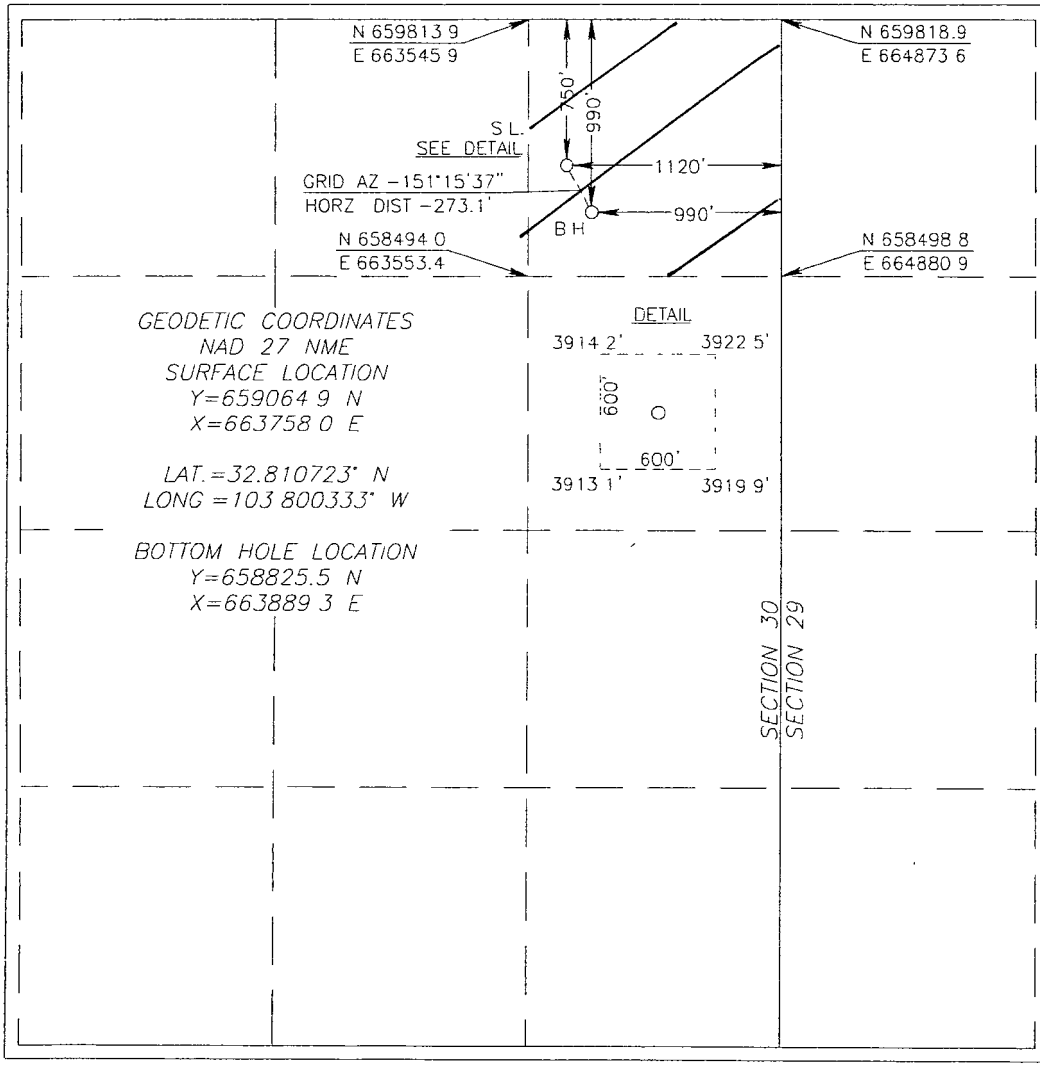
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	17-S	32-E		750	NORTH	1120	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	17-S	32-E		990	NORTH	990	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

I hereby certify 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 5/27/2011
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.

NOVEMBER 19, 2010
Date Surveyed

Signature & Seal of Professional Surveyor

Ronald J. Eidson 11/30/2010

10 11.1634

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

Exhibit #1

SCANNED

Attached to Form 3160-3
Mack Energy Corporation
Brook Federal #4
SL 750 FNL & 1120 FEL, NE/NE, Sec. 30 T17S R32E
BL 990 FNL & 990 FEL, NE/NE, Sec. 30 T17S R32E
Lea County, NM

HOBBS OCD

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DRILLING PROGRAM

1. **Geologic Name of Surface Formation**

   Quaternary

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

Rustler	700'	Blinebry	5780'
Top Salt	760'	Tubb	6830'
Base Salt	1885'		
Yates	1985'		
Seven Rivers	2365'		
Queen	2978'		
San Andres	3740'		
Glorieta	5255'		

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

Water Sand	150'	Fresh Water
Yates	1985'	Oil/Gas
San Andres	3740'	Oil/Gas
Blinebry	5780'	Oil/Gas
Tubb	6830'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8 5/8" casing to ~~700~~ and circulating cement back to surface will protect the surface fresh water sand. Salt section and zones above producing interval will be protected by the 5 ½" production casing set 7,016', 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
See COA 12 1/2"	0-~~700~~ 740	8 5/8"	24#,J-55, ST&C, New, 4.004/5.9/7.86
7 7/8"	0-7016'	5 ½"	17#,L-80,LT&C, New, 1.704/2.714/2.58

5. **Cement Program:**

8 5/8" Surface Casing: Lead 350 sx; 35:65:0 Class C + 2.0% CaCl 2 +.13#/ sk Cello Flake +3#/sk LCM-1 +2.5% Sodium Metasilicate + 6% MPA 5, yield 1.78, excess 100% ,Tail 200sx Class C 1% CaCl2 1.34 yield.
5 ½" Production Casing: Lead 525sx Class H + 2.55% bwow R-3 + 3#/ sk LMC-1 + .005 GPS FP-6L + 4% Bwow Sodium Metasilicate, yield 2.15, excess 35%, Tail 525sx H 50:50:0 POZ Class H + 2% Sodium Chloride + 3#/sk LCM-1 + .2% FL-52 + 1% FL-62 + .05% ASA-301 + .005 gps FP-6L + .2% Sodium Metasilicate, yield 1.20.

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 11" BOP will be nippled up on the 8 5/8" surface casing and tested by a 3rd 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-~~700'~~ 740	Fresh Water	8.5	28	N.C.
~~700'~~-TD	Brine	10	30	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 3,000 psig. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is June 20, 2011. Once commenced, the drilling operation should be finished in approximately 30 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
Brooks Federal #4
Lea County, New Mexico

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

Mack Energy Corp.

Lea
Brook Federal
Brook Federal #4
OH

Plan: Plan #1

PathFinder X&Y Report

16 June, 2011

PATHFINDER®
A Schlumberger Company

Pathfinder

PathFinder X&Y Report

PATHFINDER
A Schlumberger Company

Company:	Mack Energy Corp.	**Local Co-ordinate Reference:**	Well Brook Federal #4
Project:	Lea	**TVD Reference:**	WELL @ 3926.00ft (Original Well Elev)
Site:	Brook Federal	**MD Reference:**	WELL @ 3926.00ft (Original Well Elev)
Well:	Brook Federal #4	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	1 Smith Database

Project Lea

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Brook Federal

Site Position:		**Northing:**	659,184.00 ft	**Latitude:**	32° 48' 39.726620 N
From:	Map	**Easting:**	664,867.10 ft	**Longitude:**	103° 47' 48.196157 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	0 29 °

Well Brook Federal #4

Well Position	**+N/-S**	0 00 ft	**Northing:**	659,064.90 ft	**Latitude:**	32° 48' 38 603633 N
	+E/-W	0 00 ft	**Easting:**	663,758 00 ft	**Longitude:**	103° 48' 1.198405 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,907.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2011/06/15	7.72	60 71	48,975

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0 00	0.00	0 00	0.00

Survey Tool Program **Date** 2011/06/16

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0 00	7,015.82	Plan #1 (OH)		

Company:	Mack Energy Corp	**Local Co-ordinate Reference:**	Well Brook Federal #4
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Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	1 Smith Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
0 00	0 00	0 00	0.00	-3,926 00	0 00	0.00	0 00	0 00	659,064.90	663,758 00
100 00	0 00	0 00	100.00	-3,826 00	0.00	0.00	0.00	0.00	659,064 90	663,758 00
200 00	0 00	0 00	200.00	-3,726 00	0 00	0.00	0.00	0 00	659,064.90	663,758.00
300 00	0.00	0 00	300.00	-3,626 00	0 00	0 00	0.00	0 00	659,064.90	663,758 00
400.00	0.00	0 00	400 00	-3,526 00	0.00	0.00	0.00	0 00	659,064 90	663,758 00
500.00	0 00	0.00	500 00	-3,426.00	0.00	0.00	0.00	0 00	659,064.90	663,758 00
600 00	0 00	0.00	600 00	-3,326.00	0 00	0.00	0.00	0 00	659,064 90	663,758.00
700.00	0 00	0.00	700 00	-3,226.00	0.00	0.00	0 00	0.00	659,064.90	663,758 00
800 00	0.00	0.00	800 00	-3,126.00	0 00	0.00	0 00	0 00	659,064.90	663,758.00
900 00	0.00	0 00	900 00	-3,026 00	0 00	0.00	0 00	0 00	659,064 90	663,758 00
1,000 00	0 00	0.00	1,000.00	-2,926.00	0.00	0 00	0.00	0 00	659,064.90	663,758 00
1,100 00	0.00	0.00	1,100.00	-2,826 00	0.00	0 00	0 00	0 00	659,064 90	663,758 00
1,200 00	0 00	0.00	1,200.00	-2,726.00	0 00	0.00	0 00	0 00	659,064 90	663,758 00
1,300.00	0 00	0 00	1,300.00	-2,626.00	0.00	0.00	0.00	0.00	659,064.90	663,758.00
1,400.00	0.00	0.00	1,400.00	-2,526 00	0.00	0 00	0.00	0 00	659,064 90	663,758 00
1,500 00	0.00	0 00	1,500 00	-2,426.00	0.00	0 00	0.00	0 00	659,064 90	663,758 00
1,600.00	0 00	0.00	1,600 00	-2,326 00	0.00	0 00	0 00	0.00	659,064 90	663,758 00
1,700.00	0 00	0 00	1,700.00	-2,226 00	0 00	0.00	0.00	0 00	659,064 90	663,758.00
1,800.00	0 00	0.00	1,800 00	-2,126 00	0 00	0 00	0 00	0.00	659,064 90	663,758 00
1,900.00	0 00	0.00	1,900.00	-2,026 00	0 00	0.00	0.00	0 00	659,064 90	663,758.00
2,000.00	0 00	0.00	2,000.00	-1,926.00	0 00	0 00	0.00	0.00	659,064 90	663,758.00
2,100.00	0 00	0.00	2,100.00	-1,826.00	0 00	0.00	0.00	0 00	659,064.90	663,758.00
2,200 00	0.00	0.00	2,200 00	-1,726 00	0 00	0.00	0.00	0.00	659,064 90	663,758.00
2,225 00	0.00	0 00	2,225 00	-1,701.00	0 00	0.00	0 00	0.00	659,064 90	663,758.00
2,300 00	1.50	151.26	2,299 99	-1,626.01	-0 86	0.47	-0 86	2.00	659,064 04	663,758.47
2,400 00	3 50	151.26	2,399 89	-1,526.11	-4 69	2 57	-4 69	2 00	659,060 21	663,760 57
2,500 00	5.50	151 26	2,499 58	-1,426.42	-11 56	6 34	-11.56	2.00	659,053.34	663,764 34

Company:	Mack Energy Corp	**Local Co-ordinate Reference:**	Well Brook Federal #4
Project:	Lea	**TVD Reference:**	WELL @ 3926.00ft (Original Well Elev)
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Well:	Brook Federal #4	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	1 Smith Database

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
2,574.85	7 00	151 26	2,573.98	-1,352 02	-18.71	10 26	-18 71	2.00	659,046.19	663,768.26
2,600 00	7 00	151.26	2,598 94	-1,327.06	-21 39	11.73	-21.39	0 00	659,043.51	663,769 73
2,700.00	7.00	151 26	2,698 20	-1,227 80	-32 07	17.59	-32.07	0 00	659,032.83	663,775.59
2,800 00	7.00	151 26	2,797.45	-1,128 55	-42.75	23.45	-42.75	0.00	659,022.15	663,781.45
2,900.00	7.00	151 26	2,896.71	-1,029 29	-53 44	29.31	-53.44	0 00	659,011.46	663,787 31
3,000 00	7.00	151.26	2,995.96	-930 04	-64 12	35.16	-64.12	0 00	659,000.78	663,793 16
3,100 00	7.00	151.26	3,095.22	-830 78	-74 80	41.02	-74.80	0.00	658,990.10	663,799 02
3,200 00	7 00	151.26	3,194.48	-731.52	-85.48	46.88	-85 48	0.00	658,979.42	663,804 88
3,300 00	7 00	151.26	3,293 73	-632.27	-96 16	52.74	-96 16	0.00	658,968.74	663,810 74
3,400 00	7.00	151.26	3,392.99	-533 01	-106 84	58 60	-106.84	0 00	658,958 06	663,816 60
3,500.00	7.00	151.26	3,492.24	-433 76	-117.52	64.45	-117.52	0.00	658,947.38	663,822 45
3,600 00	7.00	151.26	3,591 50	-334.50	-128.20	70.31	-128 20	0.00	658,936.70	663,828 31
3,700 00	7 00	151 26	3,690.75	-235 25	-138.88	76.17	-138 88	0 00	658,926.02	663,834 17
3,800 00	7.00	151 26	3,790 01	-135.99	-149.56	82.03	-149.56	0.00	658,915.34	663,840 03
3,900 00	7.00	151.26	3,889 26	-36.74	-160.24	87 89	-160 24	0.00	658,904 66	663,845 89
4,000.00	7 00	151.26	3,988 52	62.52	-170.92	93.74	-170 92	0 00	658,893.98	663,851 74
4,100.00	7 00	151.26	4,087 77	161.77	-181.60	99.60	-181 60	0 00	658,883.30	663,857 60
4,200 00	7 00	151.26	4,187 03	261.03	-192.29	105.46	-192.29	0.00	658,872.61	663,863.46
4,300.00	7.00	151.26	4,286.28	360.28	-202.97	111.32	-202.97	0 00	658,861 93	663,869.32
4,400.00	7.00	151 26	4,385 54	459.54	-213.65	117.18	-213 65	0 00	658,851 25	663,875 18
4,465 97	7.00	151.26	4,451 02	525.02	-220 69	121.04	-220 69	0 00	658,844 21	663,879 04
4,500 00	6 32	151.26	4,484 82	558.82	-224.15	122 94	-224.15	2 00	658,840.75	663,880 94
4,600 00	4 32	151 26	4,584 38	658.38	-232 28	127 39	-232.28	2.00	658,832 62	663,885 39
4,700 00	2 32	151 26	4,684 21	758.21	-237.35	130 17	-237.35	2.00	658,827.55	663,888 17
4,800.00	0.32	151.26	4,784.18	858.18	-239 36	131.28	-239.36	2.00	658,825.54	663,889 28
4,815 82	0 00	0 00	4,800.00	874 00	-239.40	131 30	-239 40	2 00	658,825 50	663,889 30
4,900 00	0 00	0.00	4,884.18	958 18	-239.40	131.30	-239 40	0 00	658,825 50	663,889 30

Company:	Mack Energy Corp	**Local Co-ordinate Reference:**	Well Brook Federal #4
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Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
5,000 00	0 00	0 00	4,984 18	1,058.18	-239.40	131 30	-239.40	0 00	658,825 50	663,889 30
5,100.00	0.00	0.00	5,084.18	1,158 18	-239 40	131.30	-239 40	0 00	658,825.50	663,889 30
5,200.00	0.00	0.00	5,184 18	1,258.18	-239 40	131.30	-239 40	0 00	658,825 50	663,889.30
5,300.00	0.00	0.00	5,284 18	1,358 18	-239 40	131 30	-239.40	0 00	658,825 50	663,889.30
5,400.00	0 00	0.00	5,384.18	1,458.18	-239 40	131 30	-239.40	0.00	658,825.50	663,889.30
5,500.00	0 00	0 00	5,484 18	1,558 18	-239 40	131 30	-239.40	0 00	658,825.50	663,889.30
5,600.00	0.00	0 00	5,584.18	1,658.18	-239 40	131.30	-239 40	0 00	658,825.50	663,889 30
5,700 00	0 00	0 00	5,684 18	1,758.18	-239 40	131 30	-239.40	0 00	658,825 50	663,889.30
5,800.00	0.00	0 00	5,784.18	1,858.18	-239 40	131 30	-239 40	0.00	658,825 50	663,889.30
5,900.00	0 00	0 00	5,884.18	1,958 18	-239.40	131.30	-239.40	0.00	658,825 50	663,889.30
6,000.00	0.00	0 00	5,984.18	2,058.18	-239.40	131.30	-239 40	0.00	658,825.50	663,889.30
6,100 00	0 00	0 00	6,084.18	2,158.18	-239.40	131.30	-239 40	0.00	658,825.50	663,889 30
6,200 00	0.00	0.00	6,184 18	2,258.18	-239 40	131.30	-239.40	0.00	658,825 50	663,889.30
6,300.00	0 00	0.00	6,284.18	2,358.18	-239 40	131 30	-239.40	0.00	658,825.50	663,889.30
6,400.00	0 00	0.00	6,384.18	2,458.18	-239 40	131 30	-239.40	0.00	658,825.50	663,889.30
6,500.00	0 00	0.00	6,484.18	2,558 18	-239 40	131.30	-239 40	0 00	658,825.50	663,889 30
6,600 00	0 00	0.00	6,584 18	2,658.18	-239.40	131.30	-239 40	0 00	658,825.50	663,889 30
6,700.00	0 00	0 00	6,684 18	2,758.18	-239.40	131.30	-239 40	0 00	658,825 50	663,889.30
6,800.00	0 00	0.00	6,784.18	2,858.18	-239 40	131.30	-239 40	0 00	658,825.50	663,889.30
6,900.00	0 00	0 00	6,884.18	2,958.18	-239.40	131.30	-239 40	0 00	658,825.50	663,889.30
7,000.00	0 00	0 00	6,984.18	3,058.18	-239.40	131 30	-239.40	0.00	658,825.50	663,889 30
7,015.82	0.00	0 00	7,000 00	3,074 00	-239 40	131 30	-239.40	0 00	658,825.50	663,889 30
BHL (Brook Federal 4)										

Company:	Mack Energy Corp	**Local Co-ordinate Reference:**	Well Brook Federal #4
Project:	Lea	**TVD Reference:**	WELL @ 3926 00ft (Original Well Elev)
Site:	Brook Federal	**MD Reference:**	WELL @ 3926 00ft (Original Well Elev)
Well:	Brook Federal #4	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan #1	**Database:**	1 Smith Database

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL (Brook Federal 4 - plan hits target center - Point	0 00	0.00	7,000.00	-239 40	131.30	658,825 50	663,889.30	32° 48' 36.228214 N	3° 47' 59 674132 W

Checked By: _____ Approved By: _____ Date: _____

Project: Lea
Site: Brook Federal
Well: Brook Federal #4
Wellbore: OH
Plan: Plan #1 (Brook Federal #4/OH)

PATHFINDER
A Schlumberger Company

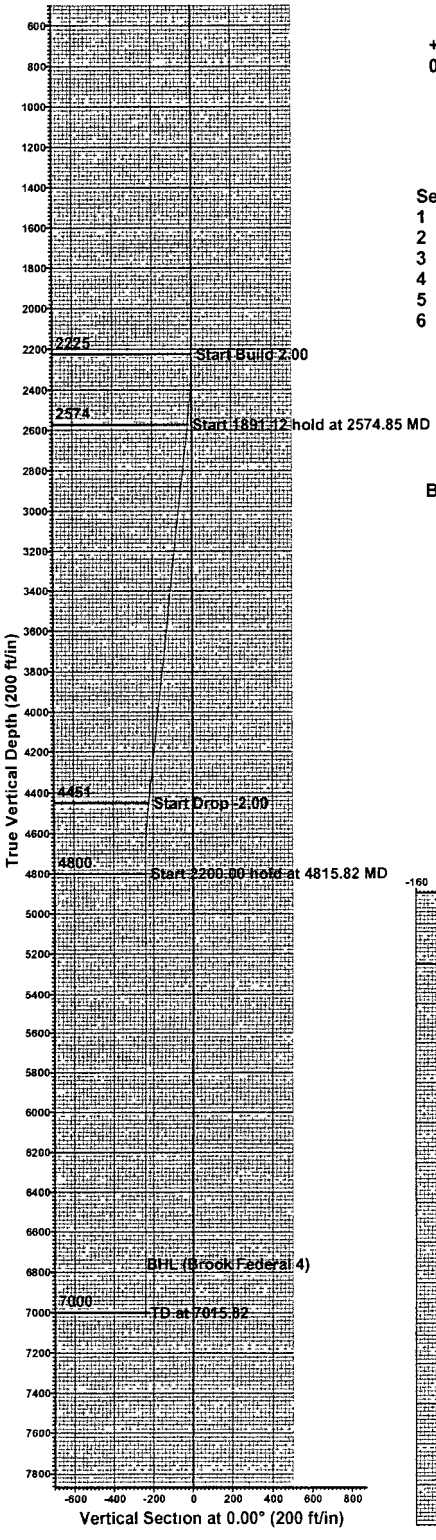
WELL DETAILS: Brook Federal #4

Ground Elevation: 3907.00
RKB Elevation: WELL @ 3926.00ft (Original Well Elev)
Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	659064.90	663758.00	32° 48' 38.603633 N	103° 48' 1.198405 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2225.00	0.00	0.00	2225.00	0.00	0.00	0.00	0.00	0.00	
3	2574.85	7.00	151.26	2573.98	-18.71	10.26	2.00	151.26	-18.71	
4	4465.97	7.00	151.26	4451.02	-220.69	121.04	0.00	0.00	-220.69	
5	4815.82	0.00	0.00	4800.00	-239.40	131.30	2.00	180.00	-239.40	
6	7015.82	0.00	0.00	7000.00	-239.40	131.30	0.00	0.00	-239.40	BHL (Brook Federal 4)



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

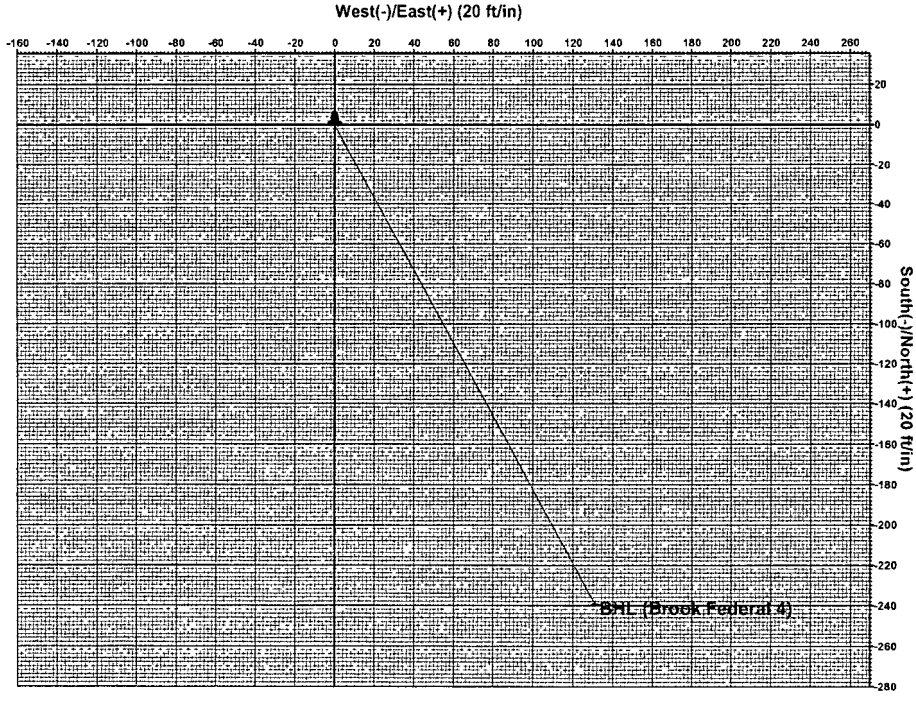
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
BHL (Brook Federal 4)	7000.00	-239.40	131.30	658825.50	663889.30	Point

Azimuths to Grid North
True North: -0.29°
Magnetic North: 7.43°

Magnetic Field
Strength: 48975.4snT
Dip Angle: 60.71°
Date: 2011/06/15
Model: IGRF200510

PROJECT DETAILS: Lea
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
Local North: Grid



Plan: Plan #1 (Brook Federal #4/OH)
Created By: Sherman Sholars Date: 14:50, June 16 2011
Checked _____ Date _____

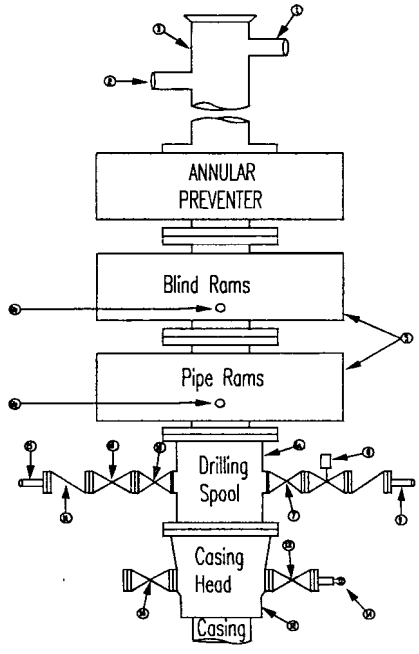
Mack Energy Corporation
Minimum Blowout Preventer Requirements
3000 psi Working Pressure
13 3/8 inch- 3 MWP
11 Inch - 3 MWP
EXHIBIT #10

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	



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 gallons, 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

10

ME

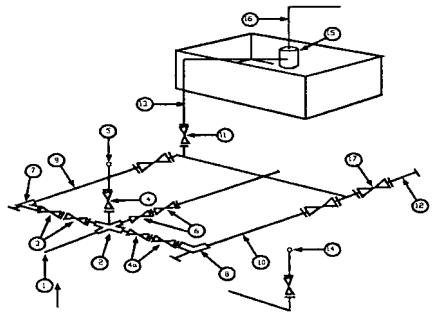
GENERAL NOTES:

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. Does not use kill line for routine fill up operations

Mack Energy Corporation

Exhibit #11
MIMIMUM 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

Mimimum requirements

No.		3,000 MWP I.D.	Nominal	Rating	5,000 MWP I.D.	Nominal	Rating	10,000 MWP I.D.	Nominal	Rating
1	Line from drilling Spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3" x 3" x 3" x 2"			3,000			5,000			
2	Cross 3" x 3" x 3" x 2"									10,000
3	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
4	Valve Gate Plug	1 13/16		3,000	1 13/16		5,000	1 13/16		10,000
4a	Valves (1)	2 1/16		3,000	2 1/16		5,000	2 1/16		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		2"	10,000
11	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
12	Line		3"	1,000		3"	1,000		3"	2,000
13	Line		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound Standpipe pressure quage			3,000			5,000			10,000
15	Gas Separator		2' x5'			2' x5'			2' x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000

(1) Only one required in Class 3M
(2) Gate valves only shall be used for Class 10 M
(3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

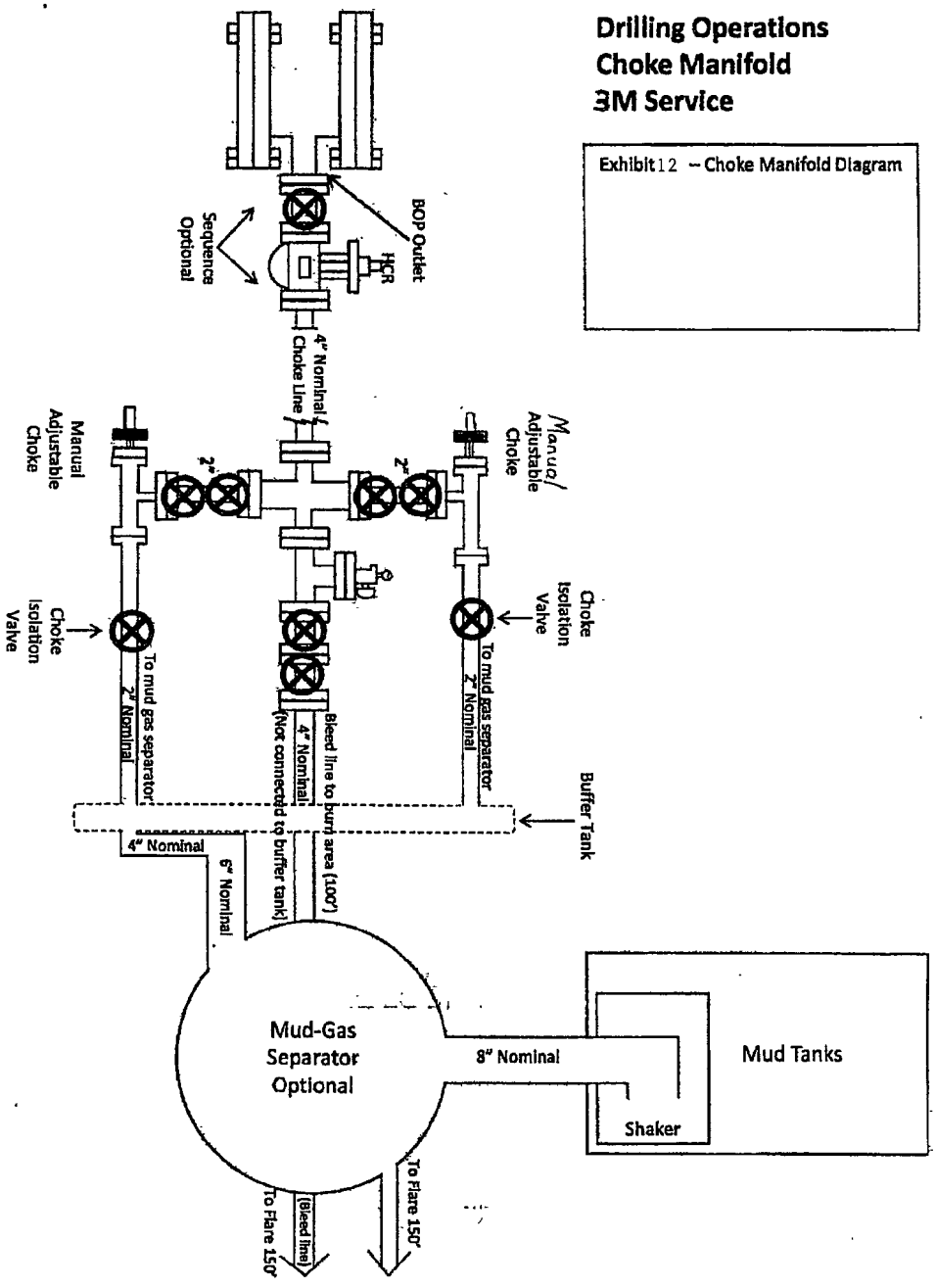
EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTION

1 All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of comparable rating.
2 All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP
3 All lines shall be securely anchored
4 Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
5. alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.
6. Line from drilling spool to choke manifold should bee as straight as possible. Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees

Mack Energy Corporation

MANIFOLD SCHEMATIC

Exhibit #12

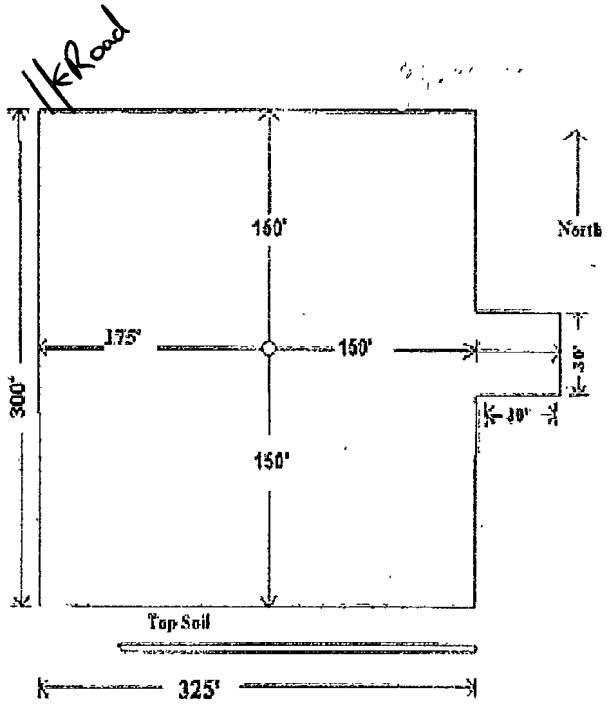


8. Well Site Layout:

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. The drill pad layout, is shown in Exhibit #14. Dimensions of the pad are shown. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.

C. Diagram below shows the proposed orientation of the location. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.



Exhibit# 14

TEN 6/29/11

Attached to Form 3160-3
Mack Energy Corporation
Brook Federal #4
SL 750 FNL & 1120 FEL, NE/NE, Sec. 30 T17S R32E
BL 990 FNL & 990 FEL, NE/NE, Sec. 30 T17S R32E
Lea County, NM

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

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

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

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.