N.M. OIL CONSERVATION DIVISION
811 S. FIRST STREET
ARTESIA, NM 88201

RECEIVED
OCT 17 2011
NMOCD ARTESIA

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: NMNM-4433

6. If Indian, Allotee or Tribe Name:

1a Typeofwork- ☒ DRILL ✓ ☐ REENTER

7 If Unit or CA Agreement, Name and No:

1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

8, Lease Name and Well No.: Calgary Federal #3H [37615]

2. Name of Operator: Mack Energy Corporation [13837]

9. API Well No.: 30-05-64152

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

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

10. Field and Pool, or Exploratory: Round Tank; San Andres [52170]

4 Location of Well *(Report location clearly and inaccorounce with any State requirements*)*

At surface: 990 FNL & 330 FEL

At proposed prod zone: 965 FNL & 1650 FWL

11. Sec , T R M or Blk. and Survey or Area: Sec. 25 T15S R28E

14. Distance in miles and direction from nearest town or post office*: 12 miles north/northwest of Loco Hills, NM

12 County or Parish: Chaves

13 State: NM

15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any)	16 No of acres in lease	17 Spacing Unit dedicated to this well
330	560	~~40~~ 120.00
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	**19 Proposed Depth**	**20 BLM/BIA Bond No on file**
1320	6106' ✓	NMB000286
21 Elevations (Show whether DF, KDB, RT, GL, etc)	**22 Approximate date work will start***	**23. Estimated duration.**
3697' GR ✓	09/20/2011	30 days

24. Attachments ROSWELL CONTROLLED WATER BASIN

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

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

25 Signature	Name *(Printed/Typed)*	Date
Jerry W. Sherrell	Jerry W. Sherrell	8/17/2011
Title: Production Clerk		
Approved by *(Signature)*: /S/ Angel Mayes	Name *(Printed/Typed)*: ANGEL M AYES	Date: OCT 13 2011
Title	Office	

Application approval does not warrantor certify that the applicant holds lega orequitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached.

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)

DECLARED WATER BASIN

CEMENT BEHIND THE 8⅝" CASING MUST BE CIRCULATED

WITNESS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Attached to Form 3160-3
Mack Energy Corporation
Calgary Federal #3
SL 990 FNL & 330 FEL, NE/NE, Sec. 25 T15S R28E
BL 965 FNL & 1650 FWL, NE/NW, Sec. 25 T15S R28E
Chaves County, NM

DRILLING PROGRAM

1. **Geologic Name of Surface Formation**

   Quaternary

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

Quaternary	Surface
Yates	770'
Queen	1500'
Grayburg	1900'
San Andres	2200'

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

Water Sand	150'	Fresh Water
Yates	770'	Oil/Gas
Grayburg	1900'	Oil/Gas
San Andres	3720'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8 5/8" casing to 450' and circulating cement back to surface will protect the surface fresh water sand. Salt Section and any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 ½" production casing, sufficient cement will be pumped to circulate back to surface.

4. **Casing Program:**

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
12 1/2"	0-450'	8 5/8"	32#,J-55, ST&C, New, 11.262/7.715/7.86
7 7/8"	0-6106'	5 ½"	17#,L-80,LT&C, New, 2.130/2.402/2.50

5. **Cement Program:**

8 5/8" Surface Casing: Lead 200 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 275sx Class C 1% CaCl2 1.34 yield.
5 ½" Production Casing: Lead 200sx 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 200sx 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 1.19.

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
0-450'	Fresh Water	8.5	28	N.C.
450'-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:

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:

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 September 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
Calgary Federal #3
Chaves 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

Chaves County
Calgary Fed
#3H
OH

Plan: PLAN #1

Pathfinder X & Y Planning Report

16 December, 2010

PATHFINDER
A Schlumberger Company

Company:	Mack Energy	Local Co-ordinate Reference:	Well #3H
Project:	Chaves County	TVD Reference:	WELL @ 3714.50usft (Original Well Elev)
Site:	Calgary Fed	MD Reference:	WELL @ 3714.50usft (Original Well Elev)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	PLAN #1	Database:	EDM 5000 1 Single User Db

Project Chaves County

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 Calgary Fed

Site Position:		Northing:	724,439.200 usft	Latitude:	32° 59' 28.641 N
From:	Map	Easting:	578,531.300 usft	Longitude:	104° 4' 37.952 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14 °

Well #3H

Well Position	+N/-S	0.00 usft	Northing:	724,439.200 usft	Latitude:	32° 59' 28 641 N
	+E/-W	0.00 usft	Easting:	578,531.300 usft	Longitude:	104° 4' 37.952 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,697 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/16/10	7.93	60 84	49,103

Design PLAN #1

Audit Notes:

Version:		Phase:	PLAN	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	270.86

Survey Tool Program Date 12/16/10

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	6,106.32	PLAN #1 (OH)	MWD	MWD - Standard

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Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	PLAN #1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	3,714.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
100.00	0.00	0.00	100.00	3,614.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
200.00	0.00	0.00	200.00	3,514.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
300.00	0.00	0.00	300.00	3,414.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
400.00	0.00	0.00	400.00	3,314.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
500.00	0.00	0.00	500.00	3,214.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
600.00	0.00	0.00	600.00	3,114.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
700.00	0.00	0.00	700.00	3,014.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
800.00	0.00	0.00	800.00	2,914.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
900.00	0.00	0.00	900.00	2,814.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,000.00	0.00	0.00	1,000.00	2,714.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,100.00	0.00	0.00	1,100.00	2,614.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,200.00	0.00	0.00	1,200.00	2,514.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,300.00	0.00	0.00	1,300.00	2,414.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,400.00	0.00	0.00	1,400.00	2,314.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,500.00	0.00	0.00	1,500.00	2,214.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,600.00	0.00	0.00	1,600.00	2,114.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,700.00	0.00	0.00	1,700.00	2,014.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,800.00	0.00	0.00	1,800.00	1,914.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
1,900.00	0.00	0.00	1,900.00	1,814.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,000.00	0.00	0.00	2,000.00	1,714.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,100.00	0.00	0.00	2,100.00	1,614.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,200.00	0.00	0.00	2,200.00	1,514.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,300.00	0.00	0.00	2,300.00	1,414.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,400.00	0.00	0.00	2,400.00	1,314.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,500.00	0.00	0.00	2,500.00	1,214.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30
2,511.00	0.00	0.00	2,511.00	1,203.50	0.00	0.00	0.00	0.00	724,439.20	578,531.30

Company:	Mack Energy	Local Co-ordinate Reference:	Well #3H
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Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	PLAN #1	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,550.00	4.47	275.00	2,549.96	1,164.54	0.13	-1.51	1.52	11.46	724,439.33	578,529.79
2,600.00	10.20	275 00	2,599.53	1,114.97	0.69	-7.87	7.88	11.46	724,439.89	578,523.43
2,650.00	15.93	275.00	2,648.22	1,066.28	1.67	-19.12	19.15	11.46	724,440.87	578,512.18
2,700.00	21.66	275 00	2,695.53	1,018.97	3.08	-35.16	35.21	11.46	724,442.28	578,496.14
2,750.00	27.39	275.00	2,741.00	973.50	4.88	-55.83	55.90	11.46	724,444.08	578,475.47
2,800.00	33.12	275.00	2,784.18	930.32	7.08	-80.91	81.01	11.46	724,446.28	578,450.39
2,850.00	38.85	275.00	2,824.62	889.88	9.64	-110.16	110.30	11.46	724,448.84	578,421.14
2,900.00	44.58	275.00	2,861.93	852.57	12.54	-143.29	143.46	11.46	724,451.74	578,388.01
2,950 00	50.31	275.00	2,895.73	818.77	15.75	-179.97	180.18	11.46	724,454 95	578,351.33
3,000.00	56.04	275.00	2,925.69	788.81	19.23	-219.82	220.08	11.46	724,458.43	578,311.48
3,050.00	61.76	275 00	2,951.51	762.99	22.96	-262.45	262.77	11.46	724,462.16	578,268.85
3,100.00	67.49	275.00	2,972.92	741.58	26 90	-307.44	307.81	11.46	724,466.10	578,223.86
3,150.00	73.22	275.00	2,989.72	724.78	31.00	-354.33	354.76	11.46	724,470.20	578,176.97
3,200.00	78.95	275.00	3,001.74	712.76	35.23	-402.66	403.14	11.46	724,474.43	578,128.64
3,250.00	84.68	275.00	3,008.85	705.65	39.54	-451.94	452.48	11.46	724,478.74	578,079.36
3,295.53	89.90	275.00	3,011.00	703.50	43 50	-497.23	497.83	11.46	724,482.70	578,034.07
3,300.00	89.90	274.91	3,011.01	703.49	43.89	-501.69	502.29	2.00	724,483.09	578,029.61
3,400.00	89.90	272.91	3,011.18	703.32	50.71	-601.45	602.14	2.00	724,489.91	577,929.85
3,500.00	89.90	270.91	3,011.36	703.14	54.04	-701.39	702.12	2.00	724,493.24	577,829.91
3,550.91	89.90	269.89	3,011.45	703.05	54.40	-752.29	753.02	2.00	724,493.60	577,779.01
3,600.00	89.90	269.89	3,011.54	702.96	54.31	-801.38	802.11	0.00	724,493.51	577,729.92
3,700.00	89.90	269.89	3,011.72	702.78	54.12	-901.38	902.09	0.00	724,493.32	577,629.92
3,800.00	89.90	269.89	3,011.89	702.61	53.93	-1,001.38	1,002.08	0.00	724,493.13	577,529.92
3,900.00	89.90	269 89	3,012.07	702.43	53.74	-1,101.38	1,102.07	0.00	724,492.94	577,429.92
4,000.00	89.90	269.89	3,012.25	702.25	53.55	-1,201.38	1,202.05	0.00	724,492.75	577,329.92
4,100.00	89.90	269.89	3,012.43	702.07	53 37	-1,301.38	1,302.04	0.00	724,492.57	577,229.92
4,200.00	89.90	269 89	3,012.61	701.89	53.18	-1,401 38	1,402.02	0.00	724,492 38	577,129.92

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Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	PLAN #1	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,300.00	89.90	269.89	3,012.78	701.72	52.99	-1,501.38	1,502.01	0.00	724,492.19	577,029.92
4,400.00	89.90	269.89	3,012.96	701.54	52.80	-1,601.38	1,601.99	0.00	724,492.00	576,929.92
4,500.00	89.90	269.89	3,013.14	701.36	52.62	-1,701.38	1,701.98	0.00	724,491.82	576,829.92
4,600.00	89.90	269.89	3,013.32	701.18	52.43	-1,801.38	1,801.96	0.00	724,491.63	576,729.92
4,700.00	89.90	269.89	3,013.50	701.00	52.24	-1,901.38	1,901.95	0.00	724,491.44	576,629.92
4,800.00	89.90	269.89	3,013.67	700.83	52.05	-2,001.38	2,001.94	0.00	724,491.25	576,529.92
4,900.00	89.90	269.89	3,013.85	700.65	51.87	-2,101.38	2,101.92	0.00	724,491.07	576,429.92
5,000.00	89.90	269.89	3,014.03	700.47	51.68	-2,201.38	2,201.91	0.00	724,490.88	576,329.92
5,100.00	89.90	269.89	3,014.21	700.29	51.49	-2,301.38	2,301.89	0.00	724,490.69	576,229.92
5,200.00	89.90	269.89	3,014.39	700.11	51.30	-2,401.38	2,401.88	0.00	724,490.50	576,129.92
5,300.00	89.90	269.89	3,014.56	699.94	51.11	-2,501.38	2,501.86	0.00	724,490.31	576,029.92
5,400.00	89.90	269.89	3,014.74	699.76	50.93	-2,601.38	2,601.85	0.00	724,490.13	575,929.92
5,500.00	89.90	269.89	3,014.92	699.58	50.74	-2,701.38	2,701.84	0.00	724,489.94	575,829.92
5,600.00	89.90	269.89	3,015.10	699.40	50.55	-2,801.38	2,801.82	0.00	724,489.75	575,729.92
5,700.00	89.90	269.89	3,015.28	699.22	50.36	-2,901.38	2,901.81	0.00	724,489.56	575,629.92
5,800.00	89.90	269.89	3,015.45	699.05	50.18	-3,001.38	3,001.79	0.00	724,489.38	575,529.92
5,900.00	89.90	269.89	3,015.63	698.87	49.99	-3,101.38	3,101.78	0.00	724,489.19	575,429.92
6,000.00	89.90	269.89	3,015.81	698.69	49.80	-3,201.38	3,201.76	0.00	724,489.00	575,329.92
6,106.32	89.90	269.89	3,016.00	698.50	49.60	-3,307.70	3,308.07	0.00	724,488.80	575,223.60

Checked By: _____ Approved By: _____ Date: _____

MACK Energy Corporation

G
T M

Azimuths to Grid North
True North: -0.14°
Magnetic North: 7.79°

Magnetic Field
Strength: 49103.2snT
Dip Angle: 60.84°
Date: 12/16/2010
Model: IGRF200510

PATHFINDER
A Schlumberger Company

PROJECT DETAILS: Chaves County
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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
PBHL (CF #3)	3016.00	49.60	-3307.70	Point

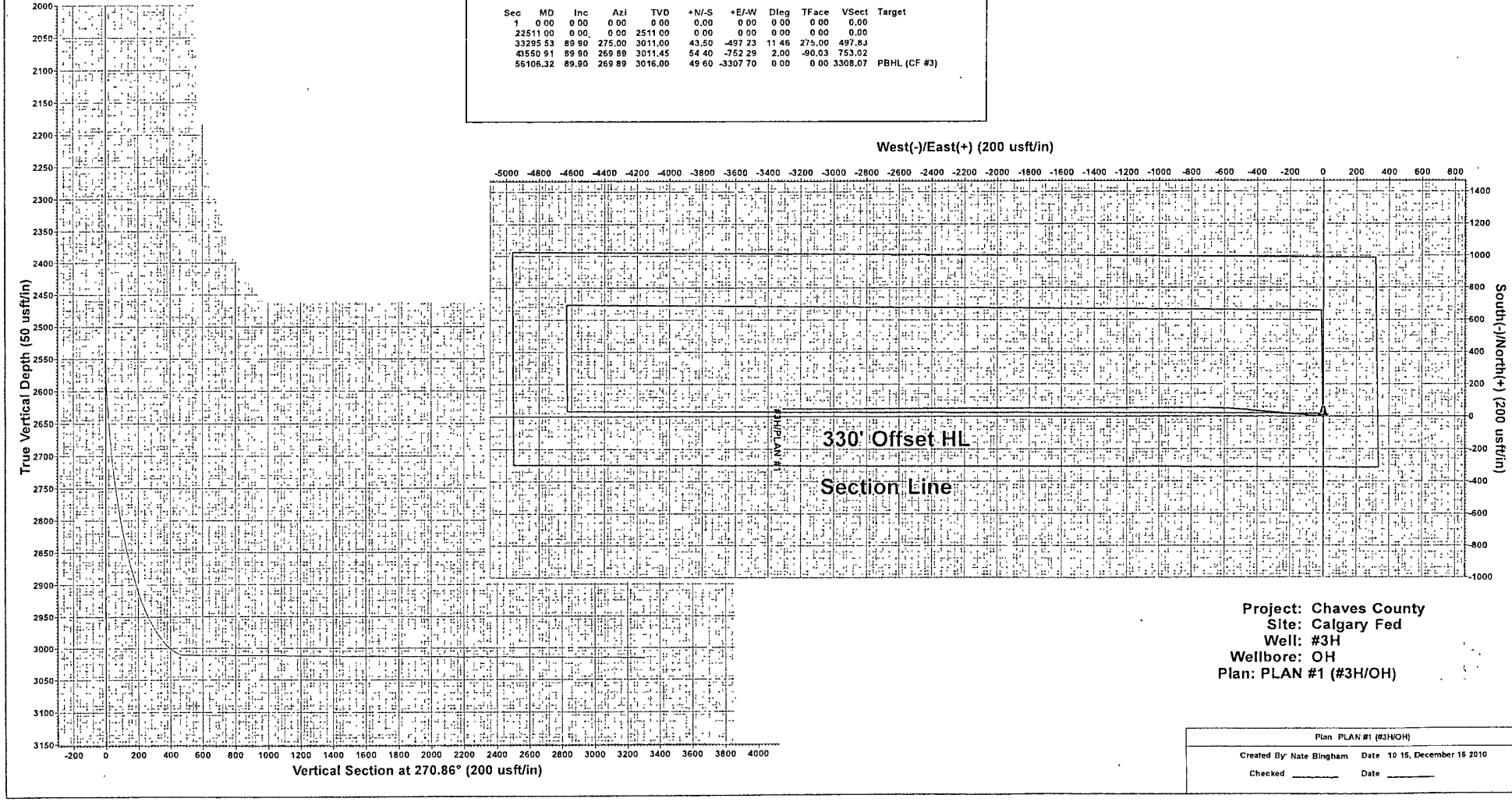
WELL DETAILS #3H

Ground Elevation 3697.00
RKB Elevation WELL @ 3714.50usft (Original Well Elev)
Rig Name Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	724439.200	578531.300	32° 59' 28.641 N	104° 4' 37.952 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2511.00	0.00	0.00	2511.00	0.00	0.00	0.00	0.00	0.00	
3	3295.53	89.90	275.00	3011.00	43.50	-497.23	11.46	275.00	497.83	
4	3550.91	89.90	269.89	3011.45	54.40	-752.29	2.00	-90.03	753.02	
5	6106.32	89.90	269.89	3016.00	49.60	-3307.70	0.00	0.00	3308.07	PBHL (CF #3)



Project: Chaves County
Site: Calgary Fed
Well: #3H
Wellbore: OH
Plan: PLAN #1 (#3H/OH)

Plan PLAN #1 (#3H/OH)
Created By: Nate Bingham Date 10:15, December 16 2010
Checked _____ Date _____

Mack Energy Corporation

Minimum Blowout Preventer Requirements

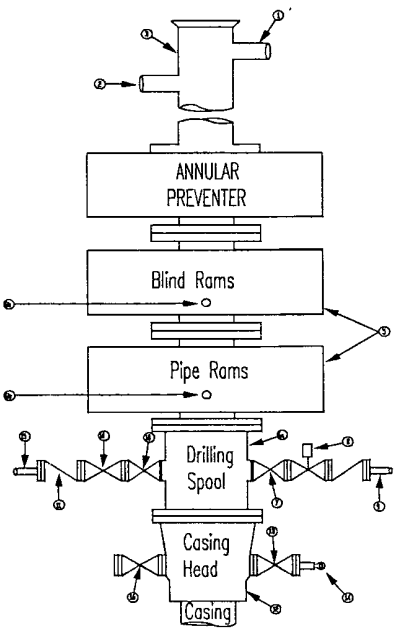
3000 psi Working Pressure
13 3/8 inch- 3 MWP
11 Inch - 3 MWP
EXHIBIT #10

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

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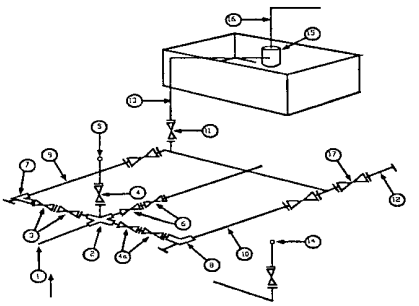
Exhibit #11

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			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' 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

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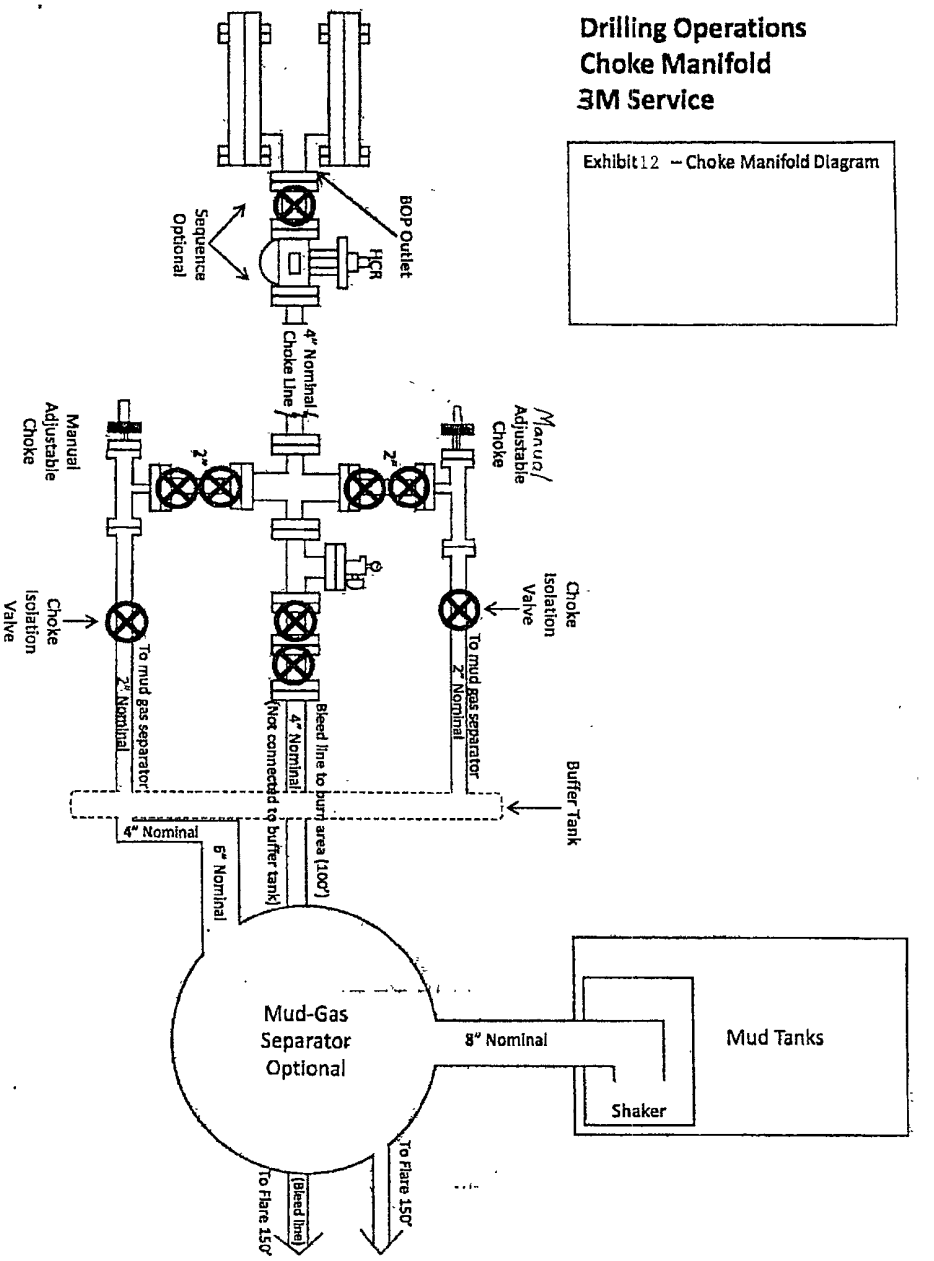
MANIFOLD SCHEMATIC

Exhibit #12



DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator Mack Energy OGRID # 13837
Well Name & # Galaxy Federal 8 Surface Type (F) (S) (P)
Location: UL A, Sect 25, Twnship 15 s, RNG 28 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 10/13/2011 C101 reviewed 10/19/2011
B. 1. Check mark, Information is OK on Forms:
OGRID ✓, BONDING ____, PROP CODE ✓, WELL # ✓, SIGNATURE ✓
2. Inactive Well list as of : ____/____/____ # wells____, # Inactive wells____
a. District Grant APD but see number of inactive wells:
No letter required___; Sent Letter to Operator ____, to Santa Fe ____
3. Additional Bonding as of: ____/____/____
a. District Denial because operator needs addition bonding:
No Letter required ___; Sent Letter to Operator ____, To Santa Fe____
b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ____; Sent Letter to Operator ____, To Santa Fe ___

C. C102 YES ✓, NO ___, Signature ✓
1. Pool Round Tank; S.A. , Code 37615
a. Dedicated acreage 120, What Units A-B-C
b. SUR. Location Standard ✓: Non-Standard Location_____
c. Well shares acres: Yes ___, No ✓, # of wells ____ plus this well #____
2. 2nd. Operator in same acreage, Yes_____, No _____
Agreement Letter _____, Disagreement letter_____
3. Intent to Directional Drill Yes ____, No ____
a. Dedicated acreage _____, What Units _____
b. Bottomhole Location Standard _____, Non-Standard Bottomhole _____
4. Downhole Commingle: Yes_____, No_____
a. Pool #2_____,Code_____, Acres_____
Pool #3_____, Code _____, Acres _____
Pool #4_____, Code_____, Acres_____
5. POTASH Area Yes _____, No ✓,
D. Blowout Preventer Yes ✓, No _____,
E. H2S Yes ✓, No _____,
F. C144 Pit Registration Yes _____, No _____,
G. Does APD require Santa Fe Approval:
1. Non-Standard Location: Yes _____, No _____, NSL #_____
2. Non-Standard Proration: Yes_____, No _____, NSP # _____
3. Simultaneous Dedication: Yes _____, No ____, SD # _____
Number of wells _____ Plus #_____
4. Injection order Yes _____, No ✓; PMX #_____ or WFX #_____
5. SWD order Yes _____, NO ✓; SWD # _____
6. DHC from SF_____; DHC-HOB_____; Holding_____

10/19/2011 AMEND TC

7. OCD Approval Date ____/____/____ API #30-0 --
8. Reviewers_____

Changed well to Horizontal; Has ~~same~~ API # 05-64099