

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Serial No
NMNM-122617

6 If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☒ Oil Well

☐ Gas Well

☐ Other

2 Name of Operator

Mack Energy Corporation

3a. Address

P.O. Box 960 Artesia, NM 88210-0960

3b Phone No. (include area code)

(575) 748-1288

7 If Unit of CA/Agreement, Name and/or No.

8 Well Name and No.
Tamano Federal #1

9 API Well No.
30-015-37321

10. Field and Pool or Exploratory Area
Maljamar; Grayburg-San Andres

4. Location of Well (Footage, Sec., T.R.M. or Survey Description)
SL: 1250 FSL & 200 FWL, Sec. 36 T17S R31E
BLH: 355 FSL & 300 FWL, Sec. 35 T17S R31E

11. Country or Parish, State
Eddy
La, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other <u>Extension</u>
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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

Mack Energy would like an extension of this APD for a period of two years. *Change Bottom Hole Location to:*

and to revise directional drilling plan.
Tamano
1/3/2012

*(965 FSL
355 FWL)*

Accepted for record
NMOCD

10/11/12

APPROVED FOR 24 MONTH PERIOD
ENDING 10/2/13

RECEIVED
JAN 19 2012
NMOCD ARTESIA

1/3/2012 Engineering Review Completed. Recommended for Approval T. Morgan

14 I hereby certify that the foregoing is true and correct Name (Printed/Typed)

Jerry W. Sherrell

Title Production Clerk

Signature

Jerry W. Sherrell

Date 8/10/11

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

[Signature]

Title

APM

Date

1/13/12

Conditions of approval; if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

CARLSBAD FIELD OFFICE

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

(Instructions on page 2)

DISTRICT I
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-9720

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

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

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 43329	Pool Name Maljamar; Grayburg - San Andres
Property Code 37871	Property Name TAMANO FEDERAL	Well Number 1
OGRID No 013837	Operator Name MACK ENERGY CORPORATION	Elevation 3815'

Surface Location									
UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	36	17-S	31-E		1250	SOUTH	200	WEST	EDDY

Bottom Hole #1 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
P	35	17-S	31-E		965	SOUTH	355	EAST	EDDY

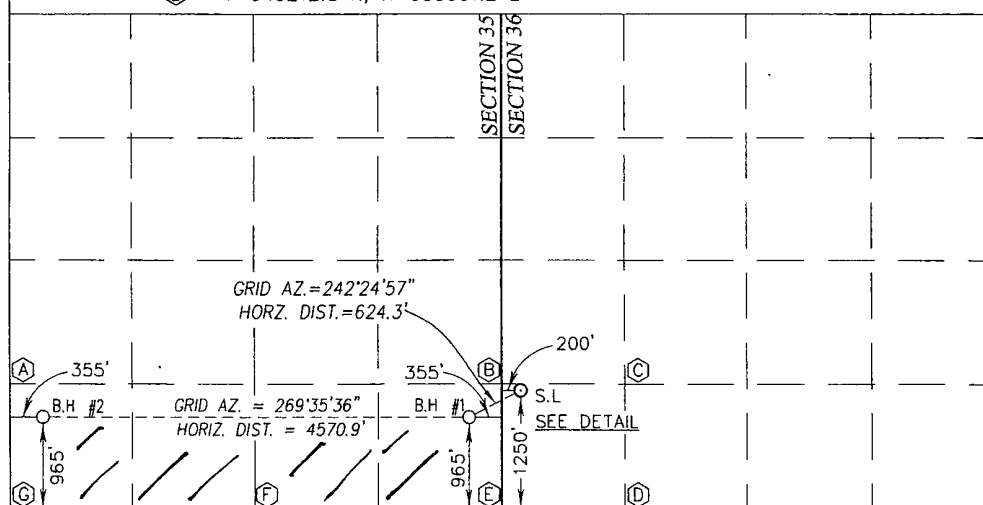
Bottom Hole #2 Location If Different From Surface									
UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	35	17-S	31-E		965	SOUTH	355	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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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

CORNER COORDINATES TABLE

- (A) - Y=650485.5 N, X=649054.5 E (E) - Y=649203.2 N, X=654341.5 E
 (B) - Y=650523.7 N, X=654333.9 E (F) - Y=649183.7 N, X=651703.1 E
 (C) - Y=650532.8 N, X=655653.7 E (G) - Y=649165.7 N, X=649061.7 E
 (D) - Y=649212.8 N, X=655661.2 E



GEODETIC COORDINATES
NAD 27 NME
BOTTOM HOLE #1 LOCATION
Y=650165.3 N
X=653981.0 E
BOTTOM HOLE #2 LOCATION
Y=650132.9 N
X=649411.3 E

SCALE: 1"=2000'
3808.7' 3814.6'
600' 600'
3809.3' 3814.7'
DETAIL

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y=650454.3 N
X=654534.2 E
LAT.=32.787180° N
LONG.=103.830487° 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.

Signature: Jerry W. Sherrell Date: 12-27-2011
 Printed Name: Jerry W. Sherrell
 E-mail Address: jerry45@nec.com

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.

SEPTEMBER 3, 2009

Date of Survey
Signature and Seal of Professional Surveyor

Ronald J. Eidson
 Certificate Number: 3239
 Gary C. Eidson 12641
 Ronald J. Eidson 3239
 DSS PROFESSIONAL SURVEYOR
 WSCWO 1113 2619



Mack Energy

Eddy County

Tamano Federal

#1H

OH

Plan: Plan #3

Pathfinder X & Y Report

22 December, 2011

PATHFINDER[®]
A Schlumberger Company

TMM
11/23/2011



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well #1H
TVD Reference: KB = 17.5 @ 3832.5usft
MD Reference: KB = 17.5 @ 3832.5usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Project: Eddy County

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

System Datum: Mean Sea Level

Site: Tamano Federal

Site Position:	Map	Northing:	650,454.300 usft	Latitude:	32° 47' 13.848 N
From:		Easting:	654,534.200 usft	Longitude:	103° 49' 49.752 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well: #1H

Well Position	+N/-S	0.0 usft	Northing:	650,454.300 usft	Latitude:	32° 47' 13.848 N
	+E/-W	0.0 usft	Easting:	654,534.200 usft	Longitude:	103° 49' 49.752 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,815.0 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/6/2009	7.96	60.73	49,139

Design: Plan #3

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	266.41

Survey Tool Program: Date 12/22/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	9,283.9	Plan #3 (OH)	MWD	MWD - Standard

Tamano
1/3/2012



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: OH
Design: Plan #3

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

Well #1H
KB = 17 5 @ 3832.5usft
KB = 17 5 @ 3832.5usft
Grd
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)
0 0	0 00	0 00	0 0	-3,832 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
100 0	0 00	0 00	100 0	-3,732 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
200 0	0 00	0 00	200 0	-3,632 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
300 0	0 00	0 00	300 0	-3,532 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
400 0	0 00	0 00	400 0	-3,432 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
500 0	0 00	0 00	500 0	-3,332 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
600 0	0 00	0 00	600 0	-3,232 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
700 0	0 00	0 00	700 0	-3,132 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
800 0	0 00	0 00	800 0	-3,032 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
900 0	0 00	0 00	900 0	-2,932 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,000 0	0 00	0 00	1,000 0	-2,832 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,100 0	0 00	0 00	1,100 0	-2,732 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,200 0	0 00	0 00	1,200 0	-2,632 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,300 0	0 00	0 00	1,300 0	-2,532 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,400 0	0 00	0 00	1,400 0	-2,432 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,500 0	0 00	0 00	1,500 0	-2,332 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,600 0	0 00	0 00	1,600 0	-2,232 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,700 0	0 00	0 00	1,700 0	-2,132 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,800 0	0 00	0 00	1,800 0	-2,032 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
1,900 0	0 00	0 00	1,900 0	-1,932 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,000 0	0 00	0 00	2,000 0	-1,832 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,100 0	0 00	0 00	2,100 0	-1,732 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,200 0	0 00	0 00	2,200 0	-1,632 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,300 0	0 00	0 00	2,300 0	-1,532 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,400 0	0 00	0 00	2,400 0	-1,432 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,500 0	0 00	0 00	2,500 0	-1,332 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20
2,600 0	0 00	0 00	2,600 0	-1,232 5	0 0	0 0	0 0	0 00	650,454 30	654,534 20

73-3/8" at 950'

9-5/8" at 2200'

Turn
1/3/2012



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.0	0.00	0.00	2,700.0	-1,132.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
2,800.0	0.00	0.00	2,800.0	-1,032.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
2,900.0	0.00	0.00	2,900.0	-932.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,000.0	0.00	0.00	3,000.0	-832.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,100.0	0.00	0.00	3,100.0	-732.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,200.0	0.00	0.00	3,200.0	-632.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,300.0	0.00	0.00	3,300.0	-532.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,400.0	0.00	0.00	3,400.0	-432.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,500.0	0.00	0.00	3,500.0	-332.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,600.0	0.00	0.00	3,600.0	-232.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,700.0	0.00	0.00	3,700.0	-132.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,776.0	0.00	0.00	3,776.0	-56.5	0.0	0.0	0.0	0.00	650,454.30	654,534.20
3,800.0	2.40	247.90	3,800.0	-32.5	-0.2	-0.5	0.5	10.00	650,454.11	654,533.73
3,850.0	7.40	247.90	3,849.8	17.3	-1.8	-4.4	4.5	10.00	650,452.50	654,529.78
3,900.0	12.40	247.90	3,899.0	66.5	-5.0	-12.4	12.7	10.00	650,449.27	654,521.82
3,950.0	17.40	247.90	3,947.3	114.8	-9.9	-24.3	24.9	10.00	650,444.44	654,509.91
4,000.0	22.40	247.90	3,994.3	161.8	-16.3	-40.1	41.0	10.00	650,438.04	654,494.14
4,050.0	27.40	247.90	4,039.7	207.2	-24.2	-59.6	61.0	10.00	650,430.12	654,474.65
4,100.0	32.40	247.90	4,083.0	250.5	-33.6	-82.6	84.6	10.00	650,420.74	654,451.56
4,150.0	37.40	247.90	4,124.0	291.5	-44.3	-109.1	111.7	10.00	650,409.98	654,425.06
4,200.0	42.40	247.90	4,162.3	329.8	-56.4	-138.8	142.1	10.00	650,397.92	654,395.36
4,250.0	47.40	247.90	4,197.8	365.3	-69.7	-171.5	175.6	10.00	650,384.65	654,362.67
4,300.0	52.40	247.90	4,229.9	397.4	-84.0	-207.0	211.8	10.00	650,370.26	654,327.24
4,350.0	57.40	247.90	4,258.7	426.2	-99.4	-244.8	250.6	10.00	650,354.88	654,289.35
4,400.0	62.40	247.90	4,283.8	451.3	-115.7	-284.9	291.6	10.00	650,338.61	654,249.28
4,450.0	67.40	247.90	4,305.0	472.5	-132.7	-326.9	334.5	10.00	650,321.58	654,207.35
4,500.0	72.40	247.90	4,322.1	489.6	-150.4	-370.3	379.0	10.00	650,303.92	654,163.85

12/22/2011 4:03:59 PM

Page 4

COMPASS 5000 1 Build 42

TOP 4 1/2" LNER?
C.W.

7" at 4250' ?
C.W.

1/3/2012



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well #1H
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,550.0	77.40	247.90	4,335.2	502.7	-168.5	-415.1	424.8	10.00	650,285.76	654,119.14
4,600.0	82.40	247.90	4,343.9	511.4	-187.1	-460.7	471.5	10.00	650,267.25	654,073.55
4,650.0	87.40	247.90	4,348.4	515.9	-205.8	-506.8	518.7	10.00	650,248.52	654,027.42
4,676.0	90.00	247.90	4,349.0	516.5	-215.6	-530.9	543.3	10.00	650,238.74	654,003.34
4,700.0	90.32	249.19	4,348.9	516.4	-224.3	-553.2	566.2	5.56	650,229.96	653,981.00
4,800.0	91.67	254.59	4,347.1	514.6	-255.4	-648.2	662.9	5.56	650,198.90	653,886.01
4,900.0	93.01	260.00	4,343.1	510.6	-277.4	-745.6	761.5	5.56	650,176.93	653,788.57
5,000.0	94.32	265.42	4,336.7	504.2	-290.0	-844.6	861.1	5.56	650,164.26	653,689.63
5,100.0	95.59	270.85	4,328.0	495.5	-293.3	-944.1	960.6	5.56	650,161.02	653,590.09
5,125.0	95.90	272.21	4,325.5	493.0	-292.6	-969.0	985.4	5.56	650,161.68	653,565.23
5,139.8	95.90	272.21	4,324.0	491.5	-292.1	-983.6	1,000.0	0.00	650,162.25	653,550.56
5,200.0	93.82	270.99	4,318.9	486.4	-290.4	-1,043.6	1,059.8	4.00	650,163.93	653,490.56
5,278.8	91.10	269.40	4,315.5	483.0	-290.1	-1,122.4	1,138.3	4.00	650,164.19	653,411.83
5,300.0	91.10	269.40	4,315.1	482.6	-290.3	-1,143.6	1,159.5	0.00	650,163.97	653,390.65
5,400.0	91.10	269.40	4,313.2	480.7	-291.4	-1,243.5	1,259.3	0.00	650,162.92	653,290.67
5,500.0	91.10	269.40	4,311.3	478.8	-292.4	-1,343.5	1,359.2	0.00	650,161.88	653,190.70
5,600.0	91.10	269.40	4,309.4	476.9	-293.5	-1,443.5	1,459.0	0.00	650,160.83	653,090.72
5,700.0	91.10	269.40	4,307.5	475.0	-294.5	-1,543.5	1,558.9	0.00	650,159.78	652,990.74
5,800.0	91.10	269.40	4,305.5	473.0	-295.6	-1,643.4	1,658.7	0.00	650,158.73	652,890.77
5,900.0	91.10	269.40	4,303.6	471.1	-296.6	-1,743.4	1,758.6	0.00	650,157.68	652,790.79
6,000.0	91.10	269.40	4,301.7	469.2	-297.7	-1,843.4	1,858.4	0.00	650,156.64	652,690.82
6,100.0	91.10	269.40	4,299.8	467.3	-298.7	-1,943.4	1,958.3	0.00	650,155.59	652,590.84
6,141.8	91.10	269.40	4,299.0	466.5	-299.1	-1,985.2	2,000.0	0.00	650,155.15	652,549.04
6,200.0	93.42	269.54	4,296.7	464.2	-299.7	-2,043.3	2,058.1	4.00	650,154.61	652,490.90
6,225.1	94.42	269.60	4,295.0	462.5	-299.9	-2,068.3	2,083.0	4.00	650,154.43	652,465.91
6,300.0	94.42	269.60	4,289.2	456.7	-300.4	-2,143.0	2,157.6	0.00	650,153.91	652,391.19
6,400.0	94.42	269.60	4,281.5	449.0	-301.1	-2,242.7	2,257.2	0.00	650,153.21	652,291.49

Tamano
1/3/2012



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: OH
Design: Plan #3

Local Co-ordinate Reference: Well #1H
TVD Reference: KB = 17.5 @ 3832 5usft
MD Reference: KB = 17.5 @ 3832 5usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec: (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
6,500.0	94.42	269.60	4,273.8	441.3	-301.8	-2,342.4	2,356.7	0.00	650,152.52	652,191.79
6,600.0	94.42	269.60	4,266.1	433.6	-302.5	-2,442.1	2,456.3	0.00	650,151.83	652,092.08
6,700.0	94.42	269.60	4,258.4	425.9	-303.2	-2,541.8	2,555.8	0.00	650,151.14	651,992.38
6,800.0	94.42	269.60	4,250.7	418.2	-303.9	-2,641.5	2,655.4	0.00	650,150.45	651,892.68
6,900.0	94.42	269.60	4,243.0	410.5	-304.5	-2,741.2	2,754.9	0.00	650,149.75	651,792.98
7,000.0	94.42	269.60	4,235.3	402.8	-305.2	-2,840.9	2,854.5	0.00	650,149.06	651,693.28
7,100.0	94.42	269.60	4,227.6	395.1	-305.9	-2,940.6	2,954.0	0.00	650,148.37	651,593.58
7,146.2	94.42	269.60	4,224.0	391.5	-306.2	-2,986.7	3,000.0	0.00	650,148.05	651,547.52
7,200.0	92.27	269.60	4,220.9	388.4	-306.6	-3,040.4	3,053.6	4.00	650,147.67	651,493.82
7,224.0	91.31	269.59	4,220.1	387.6	-306.8	-3,064.3	3,077.5	4.00	650,147.50	651,469.85
7,300.0	91.31	269.59	4,218.4	385.9	-307.3	-3,140.3	3,153.4	0.00	650,146.97	651,393.85
7,400.0	91.31	269.59	4,216.1	383.6	-308.0	-3,240.3	3,253.2	0.00	650,146.26	651,293.88
7,500.0	91.31	269.59	4,213.8	381.3	-308.8	-3,340.3	3,353.1	0.00	650,145.55	651,193.91
7,600.0	91.31	269.59	4,211.5	379.0	-309.5	-3,440.3	3,452.9	0.00	650,144.84	651,093.94
7,700.0	91.31	269.59	4,209.2	376.7	-310.2	-3,540.2	3,552.7	0.00	650,144.13	650,993.97
7,800.0	91.31	269.59	4,207.0	374.5	-310.9	-3,640.2	3,652.5	0.00	650,143.42	650,894.00
7,900.0	91.31	269.59	4,204.7	372.2	-311.6	-3,740.2	3,752.3	0.00	650,142.71	650,794.02
8,000.0	91.31	269.59	4,202.4	369.9	-312.3	-3,840.1	3,852.2	0.00	650,142.00	650,694.05
8,100.0	91.31	269.59	4,200.1	367.6	-313.0	-3,940.1	3,952.0	0.00	650,141.29	650,594.08
8,148.1	91.31	269.59	4,199.0	366.5	-313.4	-3,988.2	4,000.0	0.00	650,140.95	650,546.00
8,178.9	92.54	269.59	4,198.0	365.5	-313.6	-4,018.9	4,030.7	4.00	650,140.73	650,515.26
8,200.0	92.54	269.59	4,197.0	364.5	-313.7	-4,040.1	4,051.8	0.00	650,140.58	650,494.14
8,300.0	92.54	269.59	4,192.6	360.1	-314.4	-4,140.0	4,151.5	0.00	650,139.87	650,394.24
8,400.0	92.54	269.59	4,188.2	355.7	-315.1	-4,239.9	4,251.3	0.00	650,139.16	650,294.34
8,500.0	92.54	269.59	4,183.7	351.2	-315.8	-4,339.8	4,351.0	0.00	650,138.46	650,194.44
8,600.0	92.54	269.59	4,179.3	346.8	-316.6	-4,439.7	4,450.8	0.00	650,137.75	650,094.54
8,700.0	92.54	269.59	4,174.9	342.4	-317.3	-4,539.6	4,550.5	0.00	650,137.04	649,994.64

Tamano
1/3/2012



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: IOH
Design: Plan #3

Local Co-ordinate Reference: Well #1H
TVD Reference: KB = 17.5 @ 3832.5usft
MD Reference: KB = 17.5 @ 3832.5usft
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc. (°)	Azi. (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)
8,800.0	92.54	269.59	4,170.4	337.9	-318.0	-4,639.5	4,650.3	0.00	650,136.33	649,894.74
8,900.0	92.54	269.59	4,166.0	333.5	-318.7	-4,739.4	4,750.0	0.00	650,135.62	649,794.84
9,000.0	92.54	269.59	4,161.6	329.1	-319.4	-4,839.3	4,849.8	0.00	650,134.91	649,694.94
9,100.0	92.54	269.59	4,157.2	324.7	-320.1	-4,939.2	4,949.5	0.00	650,134.20	649,595.04
9,200.0	92.54	269.59	4,152.7	320.2	-320.8	-5,039.1	5,049.3	0.00	650,133.49	649,495.14
9,283.9	92.54	269.59	4,149.0	316.5	-321.4	-5,122.9	5,133.0	0.00	650,132.90	649,411.30

4 1/2" LWR
TODD
7mm

Checked By: _____

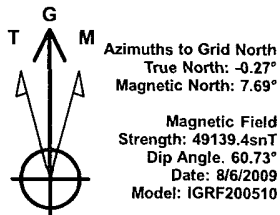
Approved By: _____

Date: _____

11/3/2012
TMM



Project: Eddy County
Site: Tamano Federal
Well: #1H
Wellbore: OH
Plan: Plan #3 (#1H/OH)



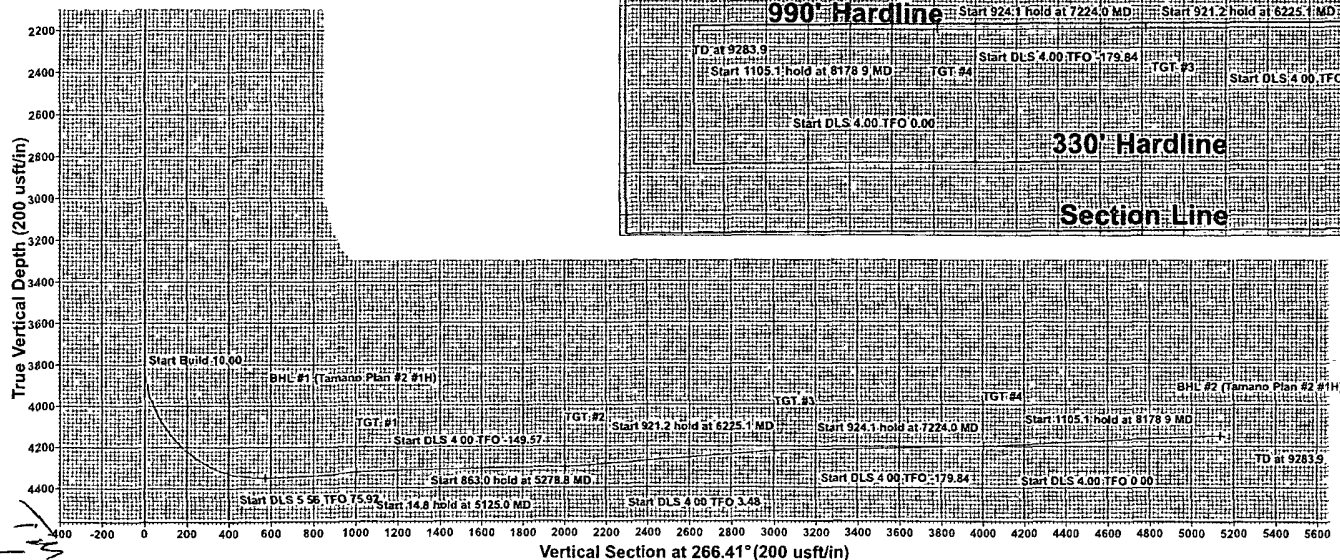
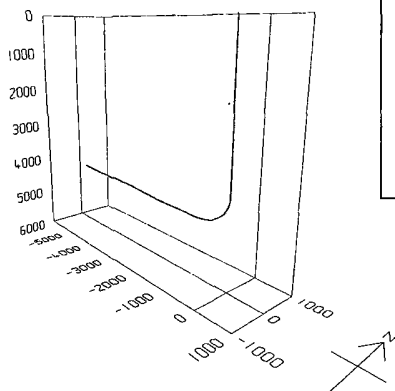
PATHFINDER
A Schlumberger Company

PROJECT DETAILS: Eddy 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

WELL DETAILS: #1H						
Ground Elevation 3815.0						
RKB Elevation KB = 17.5 @ 3832.5usft						
Rig Name						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 0	0 0	650454 300	654534 200	32°47' 13.848 N	103°49' 49.752 W	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeal	Target
1	0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 00	0 0	
2	3776 0	0 00	0 00	3776 0	0 0	0 0	0 00	0 00	0 0	
3	4676 0	90 00	247 90	4349 0	-215 6	-530 9	10 00	247 90	543 3	
4	5125 0	95 90	272 21	4325 5	-292 6	-969 0	5 56	75 92	985 4	
5	5139 8	95 90	272 21	4324 0	-292 1	-983 6	0 00	0 00	1000 0	TGT #1
6	5278 8	91 10	269 40	4315 5	-290 1	-1122 4	4 00	-149 57	1138 3	
7	6141 8	91 10	269 40	4299 0	-299 1	-1985 2	0 00	0 00	2000 0	TGT #2
8	6225 1	94 42	269 60	4295 0	-299 9	-2068 3	4 00	3 48	2083 0	
9	7146 2	94 42	269 60	4224 0	-306 2	-2986 7	0 00	0 00	3000 0	TGT #3
10	7224 0	91 31	269 59	4220 1	-306 8	-3064 3	4 00	-179 84	3077 5	
11	8148 1	91 31	269 59	4199 0	-313 4	-3988 2	0 00	0 00	4000 0	TGT #4
12	8178 9	92 54	269 59	4198 0	-313 6	-4018 9	4 00	0 00	4030 7	
13	9283 9	92 54	269 59	4149 0	-321 4	-5122 9	0 00	0 00	5133 0	BHL #2 (Tamano Plan #2 #1H)

WELLBORE TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
BHL #2 (Tamano Plan #2 #1H)	4149 0	-321.4	-5122.9	Point
TGT #4	4199 0	-313.4	-3988.2	Point
TGT #3	4224 0	-306.2	-2986.7	Point
TGT #2	4299 0	-299.1	-1985.2	Point
TGT #1	4324 0	-292.1	-983.6	Point
BHL #1 (Tamano Plan #2 #1H)	4349.0	-289.0	-553.2	Point



Plan: Plan #3 (#1H/OH)		Map Scale: Eddy County, Texas (1 inch = 1 mile)	
Created By: Michael Trout	Date: 15.59, December 22 2011	Checked: _____	Date: _____

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mack Energy Corporation
LEASE NO.:	NMNM-122617
WELL NAME & NO.:	Tamano Federal #1
SURFACE HOLE FOOTAGE:	1250' FSL & 200' FWL
BOTTOM HOLE FOOTAGE:	965' FSL & 355' FWL
SURFACE LOCATION:	Section 36, T. 17 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

**The previously approved Conditions of Approval for the approved APD
dated 10/02/2009 still apply. Any additions to the originally approved
COAs will be addressed below.**

☒ **Drilling**

Wellbore Proximity
H2S Requirements, Onshore Order #6
Logging Requirements
Waste Material and Fluids

☐ **Interim Reclamation**

☒ **Final Abandonment & Reclamation**

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the Grayburg formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run in the vertical portion of hole shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**
5. **Well must be produced at an orthodox location.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible water and brine flows in the Salado and Artesia Groups.

Possible lost circulation in the Grayburg and San Andres.

Revised (12/22/11) well path is $\pm 330'$ NW of abandoned well Lowe Federal #1

1. The **13-3/8 inch** surface casing shall be set at approximately **950 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Fresh water to be used to setting depth.**

a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8 inch** intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **7 inch** intermediate casing is:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

4. Cement is not required on the **4-1/2" casing. Peak Packer system is being used.**
5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8" surface casing shoe** shall be **2000 (2M) psi. Operator installing a 3M BOP, but testing and using it as a 2M system.**
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
 - c. The results of the test shall be reported to the appropriate BLM office.
 - d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

- f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

TMM 010312

II. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.