

30-015-34933

Mack Energy Corp.

Eddy County, NM (NAD 27 NME)

Fuzzy State #1

Fuzzy State #1

OH

Plan: Plan #1

Standard Planning Report

09 June, 2006

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Scientific Drilling
Planning Report



Database:	EDM 2003.14 Single User Db	Local Co-ordinate Reference:	Well Fuzzy State #1
Company:	Mack Energy Corp.	TVD Reference:	WELL @ 4076.0ft (Original Well Elev)
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 4076.0ft (Original Well Elev)
Site:	Fuzzy State #1	North Reference:	Grid
Well:	Fuzzy State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD 27 NME)		
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	Fuzzy State #1			
Site Position:		Northing:	621,498.61 ft	Latitude: 32° 42' 28.520 N
From:	Lat/Long	Easting:	373,442.10 ft	Longitude: 104° 44' 41.218 W
Position Uncertainty:	0.0 ft	Slot Radius:	ft	Grid Convergence: -0.22 °

Well	Fuzzy State #1, 660' FSL & 1980' FEL			
Well Position	+N-S	0.0 ft	Northing:	621,498.61 ft
	+E-W	0.0 ft	Easting:	373,442.10 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	4,076.0 ft
			Ground Level:	4,060.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2006-06-09	8.74	60.55	49,312

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,968.0	0.00	0.00	3,968.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,715.1	89.65	0.00	4,445.5	474.5	0.0	12.00	12.00	0.00	0.00	
6,277.5	89.65	0.00	4,455.0	2,036.9	0.0	0.00	0.00	0.00	0.00	
6,310.2	90.30	360.00	4,455.0	2,069.6	0.0	2.00	2.00	0.00	0.00	
8,200.6	90.30	360.00	4,445.0	3,960.0	0.0	0.00	0.00	0.00	0.00	PBHL Fuzzy #1

Scientific Drilling Planning Report



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Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 4076.0ft (Original Well Elev)
Site:	Fuzzy State #1	North Reference:	Grid
Well:	Fuzzy State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,968.0	0.00	0.00	3,968.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Build 12°/100'									
3,975.0	0.84	0.00	3,975.0	0.1	0.0	0.1	12.00	12.00	0.00
4,000.0	3.84	0.00	4,000.0	1.1	0.0	1.1	12.00	12.00	0.00
4,025.0	6.84	0.00	4,024.9	3.4	0.0	3.4	12.00	12.00	0.00
4,050.0	9.84	0.00	4,049.6	7.0	0.0	7.0	12.00	12.00	0.00
4,075.0	12.84	0.00	4,074.1	11.9	0.0	11.9	12.00	12.00	0.00
4,100.0	15.84	0.00	4,098.3	18.1	0.0	18.1	12.00	12.00	0.00
4,125.0	18.84	0.00	4,122.2	25.6	0.0	25.6	12.00	12.00	0.00
4,150.0	21.84	0.00	4,145.6	34.3	0.0	34.3	12.00	12.00	0.00
4,175.0	24.84	0.00	4,168.6	44.2	0.0	44.2	12.00	12.00	0.00
4,200.0	27.84	0.00	4,191.0	55.3	0.0	55.3	12.00	12.00	0.00
4,225.0	30.84	0.00	4,212.8	67.5	0.0	67.5	12.00	12.00	0.00

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Site:	Fuzzy State #1	North Reference:	Grid
Well:	Fuzzy State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,250.0	33.84	0.00	4,233.9	80.9	0.0	80.9	12.00	12.00	0.00
4,275.0	36.84	0.00	4,254.3	95.3	0.0	95.3	12.00	12.00	0.00
4,300.0	39.84	0.00	4,273.9	110.8	0.0	110.8	12.00	12.00	0.00
4,325.0	42.84	0.00	4,292.7	127.4	0.0	127.4	12.00	12.00	0.00
4,350.0	45.84	0.00	4,310.5	144.8	0.0	144.8	12.00	12.00	0.00
4,375.0	48.84	0.00	4,327.5	163.2	0.0	163.2	12.00	12.00	0.00
4,400.0	51.84	0.00	4,343.4	182.5	0.0	182.5	12.00	12.00	0.00
4,425.0	54.84	0.00	4,358.3	202.5	0.0	202.5	12.00	12.00	0.00
4,450.0	57.84	0.00	4,372.2	223.3	0.0	223.3	12.00	12.00	0.00
4,475.0	60.84	0.00	4,385.0	244.8	0.0	244.8	12.00	12.00	0.00
4,500.0	63.84	0.00	4,396.6	267.0	0.0	267.0	12.00	12.00	0.00
4,525.0	66.84	0.00	4,407.0	289.7	0.0	289.7	12.00	12.00	0.00
4,550.0	69.84	0.00	4,416.2	312.9	0.0	312.9	12.00	12.00	0.00
4,575.0	72.84	0.00	4,424.2	336.6	0.0	336.6	12.00	12.00	0.00
4,600.0	75.84	0.00	4,431.0	360.7	0.0	360.7	12.00	12.00	0.00
4,625.0	78.84	0.00	4,436.4	385.1	0.0	385.1	12.00	12.00	0.00
4,650.0	81.84	0.00	4,440.6	409.7	0.0	409.7	12.00	12.00	0.00
4,675.0	84.84	0.00	4,443.5	434.5	0.0	434.5	12.00	12.00	0.00
4,700.0	87.84	0.00	4,445.1	459.5	0.0	459.5	12.00	12.00	0.00
4,715.1	89.65	0.00	4,445.5	474.5	0.0	474.5	12.00	12.00	0.00
EOC - Hold 89.65°									
4,800.0	89.65	0.00	4,446.0	559.5	0.0	559.5	0.00	0.00	0.00
4,900.0	89.65	0.00	4,446.6	659.5	0.0	659.5	0.00	0.00	0.00
5,000.0	89.65	0.00	4,447.2	759.5	0.0	759.5	0.00	0.00	0.00
5,100.0	89.65	0.00	4,447.8	859.5	0.0	859.5	0.00	0.00	0.00
5,200.0	89.65	0.00	4,448.4	959.5	0.0	959.5	0.00	0.00	0.00
5,300.0	89.65	0.00	4,449.0	1,059.5	0.0	1,059.5	0.00	0.00	0.00
5,400.0	89.65	0.00	4,449.6	1,159.5	0.0	1,159.5	0.00	0.00	0.00
5,500.0	89.65	0.00	4,450.3	1,259.5	0.0	1,259.5	0.00	0.00	0.00
5,600.0	89.65	0.00	4,450.9	1,359.4	0.0	1,359.4	0.00	0.00	0.00
5,700.0	89.65	0.00	4,451.5	1,459.4	0.0	1,459.4	0.00	0.00	0.00
5,800.0	89.65	0.00	4,452.1	1,559.4	0.0	1,559.4	0.00	0.00	0.00
5,900.0	89.65	0.00	4,452.7	1,659.4	0.0	1,659.4	0.00	0.00	0.00
6,000.0	89.65	0.00	4,453.3	1,759.4	0.0	1,759.4	0.00	0.00	0.00
6,100.0	89.65	0.00	4,453.9	1,859.4	0.0	1,859.4	0.00	0.00	0.00
6,200.0	89.65	0.00	4,454.5	1,959.4	0.0	1,959.4	0.00	0.00	0.00
6,277.5	89.65	0.00	4,455.0	2,036.9	0.0	2,036.9	0.00	0.00	0.00
KOP - Build 2°/100°									
6,300.0	90.10	360.00	4,455.0	2,059.4	0.0	2,059.4	2.00	2.00	0.00
6,310.2	90.30	360.00	4,455.0	2,069.6	0.0	2,069.6	2.00	2.00	0.00
EOC - Hold 90.30°									
6,400.0	90.30	360.00	4,454.5	2,159.4	0.0	2,159.4	0.00	0.00	0.00
6,500.0	90.30	360.00	4,454.0	2,259.4	0.0	2,259.4	0.00	0.00	0.00
6,600.0	90.30	360.00	4,453.5	2,359.4	0.0	2,359.4	0.00	0.00	0.00
6,700.0	90.30	360.00	4,452.9	2,459.4	0.0	2,459.4	0.00	0.00	0.00
6,800.0	90.30	360.00	4,452.4	2,559.4	0.0	2,559.4	0.00	0.00	0.00
6,900.0	90.30	360.00	4,451.9	2,659.4	0.0	2,659.4	0.00	0.00	0.00
7,000.0	90.30	360.00	4,451.4	2,759.4	0.0	2,759.4	0.00	0.00	0.00
7,100.0	90.30	360.00	4,450.8	2,859.4	0.0	2,859.4	0.00	0.00	0.00
7,200.0	90.30	360.00	4,450.3	2,959.4	0.0	2,959.4	0.00	0.00	0.00
7,300.0	90.30	360.00	4,449.8	3,059.4	0.0	3,059.4	0.00	0.00	0.00
7,400.0	90.30	360.00	4,449.2	3,159.4	0.0	3,159.4	0.00	0.00	0.00
7,500.0	90.30	360.00	4,448.7	3,259.4	0.0	3,259.4	0.00	0.00	0.00

Scientific Drilling Planning Report



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Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	WELL @ 4076.0ft (Original Well Elev)
Site:	Fuzzy State #1	North Reference:	Grid
Well:	Fuzzy State #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,600.0	90.30	360.00	4,448.2	3,359.4	0.0	3,359.4	0.00	0.00	0.00	
7,700.0	90.30	360.00	4,447.7	3,459.4	0.0	3,459.4	0.00	0.00	0.00	
7,800.0	90.30	360.00	4,447.1	3,559.4	0.0	3,559.4	0.00	0.00	0.00	
7,900.0	90.30	360.00	4,446.6	3,659.4	0.0	3,659.4	0.00	0.00	0.00	
8,000.0	90.30	360.00	4,446.1	3,759.4	0.0	3,759.4	0.00	0.00	0.00	
8,100.0	90.30	360.00	4,445.5	3,859.4	0.0	3,859.4	0.00	0.00	0.00	
8,200.6	90.30	360.00	4,445.0	3,960.0	0.0	3,960.0	0.00	0.00	0.00	

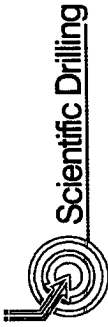
Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
PBHL Fuzzy #1	0.00	0.00	4,445.0	3,960.0	0.0	625,458.61	373,442.10	32° 43' 7.705 N	104° 44' 41.397 W	
- hit/miss target										
- Shape										
- plan hits target										
- Point										

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,561.4	4,420.0	Top Pay		0.00		
	4,485.0	Base Pay		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,968.0	3,968.0	0.0	0.0	KOP - Build 12°/100'	
4,715.1	4,445.5	474.5	0.0	EOC - Hold 89.65°	
6,277.5	4,455.0	2,036.9	0.0	KOP - Build 2°/100'	
6,310.2	4,455.0	2,069.6	0.0	EOC - Hold 90.30°	

Mack Energy Corp.

Scientific Drilling for Mack Energy Corp.
Site: Eddy County, NM (NAD 27 NME)
Well: Fuzzy State #1
Wellbore: OH
Design: Plan #1



SECTION DETAILS

MD	Inc	Azi	TVD	+N/S	+E/W	DLag	TFace	VSec	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	0.0
3968.0	0.00	0.00	3968.0	0.0	0.0	0.00	0.00	0.0	0.0
4715.1	89.65	0.00	4445.5	474.5	0.0	12.00	0.00	474.5	0.0
6277.6	89.65	0.00	4445.0	2036.9	0.0	0.00	0.00	2036.9	0.0
8310.2	90.30	360.00	4445.0	2069.6	0.0	2.00	0.00	2069.6	0.0
8200.6	90.30	360.00	4445.0	3960.0	0.0	0.00	0.00	3960.0	0.0

WELL DETAILS: Fuzzy State #1

Ground Level:				4060.0		Slot	
+N/S	+E/W	Northing	Latitude	Longitude	Longitude	Longitude	Longitude
0.0	0.0	621488.61	373442.10	32° 42' 28.520 N	104° 44' 41.218 W	104° 44' 41.218 W	104° 44' 41.218 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/S	+E/W	Northing	Easting	Shape
PBHL Fuzzy #1	4445.0	3960.0	0.0	625458.61	373442.10	Point

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

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

System Datum: Mean Sea Level

Plan: Plan #1 (Fuzzy State #1/OH)

Created By: Julio Pina Date: 2006-06-09
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved: _____ Date: _____

