



Mack Energy

Lea County
Corona State
#1
OH

HOBBS OCD

DEC 19 2011

RECEIVED

Plan: Plan #2

Pathfinder X & Y Report

09 December, 2011

PATHFINDER[®]
A Schlumberger Company

DEC 19 2011



Pathfinder
Pathfinder X & Y Report

PATHFINDER
A Schlumberger Company

Company: Mack Energy
Project: Lea County
Site: Corona State
Well: #1
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well #1
TVD Reference: KB = 17 @ 3968.0usft (TBA)
MD Reference: KB = 17 @ 3968.0usft (TBA)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Project	Lea 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	Corona State		
Site Position:		Northing:	647,189.200 usft
From:	Map	Easting:	763,740.200 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 46' 34.592 N
		Longitude:	103° 28' 30.898 W
		Grid Convergence:	0.46 "

Well	#1					
Well Position	+N/-S	0.0 usft	Northing:	646,492.900 usft	Latitude:	32° 46' 27.677 N
	+E/-W	0.0 usft	Easting:	764,052.600 usft	Longitude:	103° 28' 27.305 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,950.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/9/2011	7.54	60.73	48,967

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	7,500.0	0.0	0.0	13.36

Survey Tool Program	Date	12/9/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	7,562.5	Plan #2 (OH)	MWD	MWD - Standard



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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)
0 0	0 00	0.00	0.0	-3,968 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
100 0	0 00	0.00	100 0	-3,868 0	0 0	0.0	0.0	0.00	646,492.90	764,052.60
200.0	0 00	0.00	200.0	-3,768 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
300 0	0 00	0.00	300 0	-3,668 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
400 0	0 00	0.00	400 0	-3,568 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
500.0	0 00	0.00	500.0	-3,468 0	0.0	0.0	0.0	0 00	646,492.90	764,052.60
600 0	0 00	0.00	600.0	-3,368 0	0.0	0.0	0.0	0 00	646,492.90	764,052.60
700 0	0.00	0.00	700.0	-3,268 0	0.0	0.0	0.0	0 00	646,492.90	764,052.60
800 0	0 00	0.00	800 0	-3,168 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
900 0	0.00	0.00	900 0	-3,068.0	0 0	0.0	0.0	0.00	646,492.90	764,052.60
1,000 0	0.00	0 00	1,000 0	-2,968 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
1,100 0	0.00	0 00	1,100 0	-2,868 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
1,200.0	0.00	0.00	1,200.0	-2,768.0	0 0	0.0	0.0	0.00	646,492.90	764,052.60
1,300 0	0 00	0.00	1,300 0	-2,668 0	0 0	0.0	0.0	0.00	646,492.90	764,052.60
1,400 0	0 00	0.00	1,400.0	-2,568 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
1,500 0	0 00	0.00	1,500 0	-2,468.0	0.0	0.0	0.0	0 00	646,492.90	764,052.60
1,600.0	0.00	0.00	1,600.0	-2,368 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
1,700.0	0.00	0.00	1,700 0	-2,268 0	0 0	0.0	0.0	0 00	646,492.90	764,052.60
1,800 0	5.00	13 36	1,799.9	-2,168.1	4.2	1.0	4.4	5.00	646,497.14	764,053.61
1,900 0	10.00	13 36	1,899.0	-2,069.0	16.9	4.0	17.4	5.00	646,509.84	764,056.62
1,988.8	14.44	13 36	1,985.8	-1,982.2	35.2	8.4	36.2	5.00	646,528.12	764,060.97
2,000 0	14.44	13.36	1,996.6	-1,971.4	37.9	9.0	39.0	0.00	646,530.84	764,061.61
2,100.0	14.44	13 36	2,093.4	-1,874.6	62.2	14.8	63.9	0.00	646,555.10	764,067.37
2,200.0	14.44	13 36	2,190.3	-1,777.7	86.5	20.5	88.9	0.00	646,579.36	764,073.14
2,300 0	14.44	13 36	2,287.1	-1,680.9	110.7	26.3	113.8	0.00	646,603.63	764,078.90
2,400 0	14.44	13.36	2,384.0	-1,584.0	135.0	32.1	138.7	0.00	646,627.89	764,084.66
2,500 0	14.44	13 36	2,480.8	-1,487.2	159.3	37.8	163.7	0.00	646,652.15	764,090.43



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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)
2,600.0	14 44	13 36	2,577.6	-1,390.4	183.5	43.6	188.6	0.00	646,676.41	764,096.19
2,700.0	14 44	13 36	2,674.5	-1,293.5	207.8	49.4	213.6	0.00	646,700.68	764,101.95
2,800.0	14 44	13 36	2,771.3	-1,196.7	232.0	55.1	238.5	0.00	646,724.94	764,107.72
2,900.0	14 44	13 36	2,868.2	-1,099.8	256.3	60.9	263.4	0.00	646,749.20	764,113.48
3,000.0	14 44	13 36	2,965.0	-1,003.0	280.6	66.6	288.4	0.00	646,773.46	764,119.24
3,100.0	14 44	13 36	3,061.8	-906.2	304.8	72.4	313.3	0.00	646,797.73	764,125.01
3,200.0	14 44	13 36	3,158.7	-809.3	329.1	78.2	338.2	0.00	646,821.99	764,130.77
3,300.0	14 44	13 36	3,255.5	-712.5	353.4	83.9	363.2	0.00	646,846.25	764,136.53
3,400.0	14 44	13 36	3,352.4	-615.6	377.6	89.7	388.1	0.00	646,870.51	764,142.30
3,500.0	14 44	13 36	3,449.2	-518.8	401.9	95.5	413.1	0.00	646,894.78	764,148.06
3,600.0	14 44	13 36	3,546.0	-422.0	426.1	101.2	438.0	0.00	646,919.04	764,153.82
3,700.0	14 44	13 36	3,642.9	-325.1	450.4	107.0	462.9	0.00	646,943.30	764,159.59
3,773.7	14 44	13 36	3,714.2	-253.8	468.3	111.2	481.3	0.00	646,961.18	764,163.83
3,800.0	13 12	13 36	3,739.8	-228.2	474.4	112.7	487.6	5.00	646,967.28	764,165.28
3,900.0	8.12	13 36	3,838.1	-129.9	492.3	116.9	506.0	5.00	646,985.21	764,169.54
4,000.0	3 12	13 36	3,937.5	-30.5	501.8	119.2	515.8	5.00	646,994.74	764,171.81
4,062.5	0.00	0.00	4,000.0	32.0	503.5	119.6	517.5	5.00	646,996.40	764,172.20
4,100.0	0.00	0.00	4,037.5	69.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,200.0	0.00	0.00	4,137.5	169.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,300.0	0.00	0.00	4,237.5	269.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,400.0	0.00	0.00	4,337.5	369.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,500.0	0.00	0.00	4,437.5	469.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,600.0	0.00	0.00	4,537.5	569.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,700.0	0.00	0.00	4,637.5	669.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,800.0	0.00	0.00	4,737.5	769.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
4,900.0	0.00	0.00	4,837.5	869.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,000.0	0.00	0.00	4,937.5	969.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20



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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)
5,100.0	0.00	0 00	5,037.5	1,069.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,200.0	0.00	0 00	5,137.5	1,169.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,300.0	0.00	0 00	5,237.5	1,269.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,400.0	0.00	0 00	5,337.5	1,369.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,500.0	0.00	0 00	5,437.5	1,469.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,600.0	0.00	0 00	5,537.5	1,569.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,700.0	0.00	0 00	5,637.5	1,669.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,800.0	0.00	0 00	5,737.5	1,769.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
5,900.0	0.00	0 00	5,837.5	1,869.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,000.0	0.00	0 00	5,937.5	1,969.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,100.0	0.00	0 00	6,037.5	2,069.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,200.0	0.00	0 00	6,137.5	2,169.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,300.0	0.00	0 00	6,237.5	2,269.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,400.0	0.00	0 00	6,337.5	2,369.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,500.0	0.00	0 00	6,437.5	2,469.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,600.0	0.00	0 00	6,537.5	2,569.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,700.0	0.00	0 00	6,637.5	2,669.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,800.0	0.00	0 00	6,737.5	2,769.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
6,900.0	0.00	0 00	6,837.5	2,869.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,000.0	0.00	0 00	6,937.5	2,969.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,100.0	0.00	0 00	7,037.5	3,069.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,200.0	0.00	0 00	7,137.5	3,169.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,300.0	0.00	0 00	7,237.5	3,269.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,400.0	0.00	0 00	7,337.5	3,369.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,500.0	0.00	0 00	7,437.5	3,469.5	503.5	119.6	517.5	0.00	646,996.40	764,172.20
7,562.5	0.00	0 00	7,500.0	3,532.0	503.5	119.6	517.5	0.00	646,996.40	764,172.20



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EDM 5000 1 Single User Db

Checked By: _____	Approved By: _____	Date: _____
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