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30-025-39971

Mack Energy

Lea County
Merlin State Com
#1H
S-Well

Plan: Plan #1

Pathfinder X & Y Planning Report

29 October, 2010

PATHFINDER®

A Schlumberger Company



Pathfinder
Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	Mack Energy	Local Co-ordinate Reference:	Well #1H
Project:	Lea County	TVD Reference:	WELL @ 4368.00ft (Original Well Elev)
Site:	Merlin State Com	MD Reference:	WELL @ 4368.00ft (Original Well Elev)
Well:	#1H	North Reference:	Grid
Wellbore:	S-Well	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	Midland Database

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	Merlin State Com		
Site Position:		Northing:	726,497.400 ft
From:	Map	Easting:	674,222.600 ft
Position Uncertainty:	0.00 ft	Slot Radius:	
		Latitude:	32° 59' 45.297 N
		Longitude:	103° 45' 54.330 W
		Grid Convergence:	0.31 °

Well	#1H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty		0.00 ft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	S-Well				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/28/10	7.78	60.90	49,132

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	0.78	

Survey Tool Program	Date 10/29/10				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	9,181.27	Plan #1 (S-Well)	MWD	MWD - Standard	



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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)	
0.00	0.00	0.00	0.00	-4,368.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
100.00	0.00	0.00	100.00	-4,268.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
200.00	0.00	0.00	200.00	-4,168.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
300.00	0.00	0.00	300.00	-4,068.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
400.00	0.00	0.00	400.00	-3,968.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
500.00	0.00	0.00	500.00	-3,868.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
600.00	0.00	0.00	600.00	-3,768.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
700.00	0.00	0.00	700.00	-3,668.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
800.00	0.00	0.00	800.00	-3,568.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
900.00	0.00	0.00	900.00	-3,468.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,000.00	0.00	0.00	1,000.00	-3,368.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,100.00	0.00	0.00	1,100.00	-3,268.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,200.00	0.00	0.00	1,200.00	-3,168.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,300.00	0.00	0.00	1,300.00	-3,068.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,400.00	0.00	0.00	1,400.00	-2,968.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,500.00	0.00	0.00	1,500.00	-2,868.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,600.00	0.00	0.00	1,600.00	-2,768.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,700.00	0.00	0.00	1,700.00	-2,668.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,800.00	0.00	0.00	1,800.00	-2,568.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
1,900.00	0.00	0.00	1,900.00	-2,468.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,000.00	0.00	0.00	2,000.00	-2,368.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,100.00	0.00	0.00	2,100.00	-2,268.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,200.00	0.00	0.00	2,200.00	-2,168.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,300.00	0.00	0.00	2,300.00	-2,068.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,400.00	0.00	0.00	2,400.00	-1,968.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,500.00	0.00	0.00	2,500.00	-1,868.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	
2,600.00	0.00	0.00	2,600.00	-1,768.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60	



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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)
2,700.00	0.00	0.00	2,700.00	-1,668.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60
2,800.00	0.00	0.00	2,800.00	-1,568.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60
2,900.00	0.00	0.00	2,900.00	-1,468.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60
2,930.00	0.00	0.00	2,930.00	-1,438.00	0.00	0.00	0.00	0.00	726,497.40	674,222.60
3,000.00	1.40	84.29	2,999.99	-1,368.01	0.09	0.85	0.10	2.00	726,497.49	674,223.45
3,100.00	3.40	84.29	3,099.90	-1,268.10	0.50	5.02	0.57	2.00	726,497.90	674,227.62
3,200.00	5.40	84.29	3,199.60	-1,168.40	1.27	12.65	1.44	2.00	726,498.67	674,235.25
3,300.00	7.40	84.29	3,298.97	-1,069.03	2.37	23.74	2.70	2.00	726,499.77	674,246.34
3,400.00	9.40	84.29	3,397.89	-970.11	3.83	38.28	4.35	2.00	726,501.23	674,260.88
3,439.11	10.18	84.29	3,436.43	-931.57	4.49	44.89	5.10	2.00	726,501.89	674,267.49
3,497.15	10.18	84.29	3,493.57	-874.43	5.51	55.11	6.26	0.00	726,502.91	674,277.71
3,500.00	10.13	84.29	3,496.37	-871.63	5.56	55.60	6.32	2.00	726,502.96	674,278.20
3,600.00	8.13	84.29	3,595.10	-772.90	7.14	71.38	8.11	2.00	726,504.54	674,293.98
3,700.00	6.13	84.29	3,694.32	-673.68	8.37	83.73	9.51	2.00	726,505.77	674,306.33
3,800.00	4.13	84.29	3,793.91	-574.09	9.26	92.61	10.52	2.00	726,506.66	674,315.21
3,900.00	2.13	84.29	3,893.76	-474.24	9.80	98.04	11.14	2.00	726,507.20	674,320.64
4,006.27	0.00	0.00	4,000.00	-368.00	10.00	100.00	11.36	2.00	726,507.40	674,322.60
4,100.00	0.00	0.00	4,093.73	-274.27	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,200.00	0.00	0.00	4,193.73	-174.27	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,300.00	0.00	0.00	4,293.73	-74.27	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,400.00	0.00	0.00	4,393.73	25.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,500.00	0.00	0.00	4,493.73	125.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,600.00	0.00	0.00	4,593.73	225.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,700.00	0.00	0.00	4,693.73	325.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,800.00	0.00	0.00	4,793.73	425.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
4,900.00	0.00	0.00	4,893.73	525.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,000.00	0.00	0.00	4,993.73	625.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60



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5,100.00	0.00	0.00	5,093.73	725.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,200.00	0.00	0.00	5,193.73	825.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,300.00	0.00	0.00	5,293.73	925.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,400.00	0.00	0.00	5,393.73	1,025.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,500.00	0.00	0.00	5,493.73	1,125.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,600.00	0.00	0.00	5,593.73	1,225.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,700.00	0.00	0.00	5,693.73	1,325.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,800.00	0.00	0.00	5,793.73	1,425.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
5,900.00	0.00	0.00	5,893.73	1,525.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,000.00	0.00	0.00	5,993.73	1,625.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,100.00	0.00	0.00	6,093.73	1,725.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,200.00	0.00	0.00	6,193.73	1,825.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,300.00	0.00	0.00	6,293.73	1,925.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,400.00	0.00	0.00	6,393.73	2,025.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,500.00	0.00	0.00	6,493.73	2,125.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,600.00	0.00	0.00	6,593.73	2,225.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,700.00	0.00	0.00	6,693.73	2,325.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,800.00	0.00	0.00	6,793.73	2,425.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
6,900.00	0.00	0.00	6,893.73	2,525.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,000.00	0.00	0.00	6,993.73	2,625.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,100.00	0.00	0.00	7,093.73	2,725.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,200.00	0.00	0.00	7,193.73	2,825.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,300.00	0.00	0.00	7,293.73	2,925.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,400.00	0.00	0.00	7,393.73	3,025.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,500.00	0.00	0.00	7,493.73	3,125.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,600.00	0.00	0.00	7,593.73	3,225.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,700.00	0.00	0.00	7,693.73	3,325.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60



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7,800.00	0.00	0.00	7,793.73	3,425.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
7,900.00	0.00	0.00	7,893.73	3,525.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,000.00	0.00	0.00	7,993.73	3,625.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,100.00	0.00	0.00	8,093.73	3,725.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,200.00	0.00	0.00	8,193.73	3,825.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,300.00	0.00	0.00	8,293.73	3,925.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,400.00	0.00	0.00	8,393.73	4,025.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,500.00	0.00	0.00	8,493.73	4,125.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,600.00	0.00	0.00	8,593.73	4,225.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,700.00	0.00	0.00	8,693.73	4,325.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,800.00	0.00	0.00	8,793.73	4,425.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
8,900.00	0.00	0.00	8,893.73	4,525.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
9,000.00	0.00	0.00	8,993.73	4,625.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
9,100.00	0.00	0.00	9,093.73	4,725.73	10.00	100.00	11.36	0.00	726,507.40	674,322.60
9,181.27	0.00	0.00	9,175.00	4,807.00	10.00	100.00	11.36	0.00	726,507.40	674,322.60

Checked By: _____ Approved By: _____ Date: _____