



30-015-38042

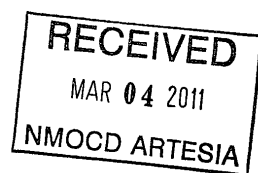
Marbob

Eddy County
Corsair State
#2H
OH

Survey: MWD #1

Pathfinder X & Y Survey Report

24 September, 2010



PATHFINDER[®]
A Schlumberger Company



Pathfinder
Pathfinder X & Y Survey Report



Company: Marbob
Project: Eddy County
Site: Corsair State
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3648.00ft (Original Well Elev)
MD Reference: WELL @ 3648.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

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:	Corsair State				
Site Position:		Northing:	617,037.200 ft	Latitude:	32° 41' 43.196 N
From:	Map	Easting:	654,201.900 ft	Longitude:	103° 49' 55.497 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.27 °

Well	#2H					
Well Position	+N/-S	0.00 ft	Northing:	617,037.200 ft	Latitude:	32° 41' 43.196 N
	+E/-W	0.00 ft	Easting:	654,201.900 ft	Longitude:	103° 49' 55.497 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,630.00 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	09/15/10	7.82	60.62	48,977

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	271.33	



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Survey Program: Date 09/24/10

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	8,430.00	GYRO (OH)	CB-GYRO-MS	Camera based gyro multishot
8,521.00	12,054.00	MWD #1 (OH)	MWD	MWD - Standard

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
8,430.00	1.73	213.06	8,429.15	4,781.15	-25.98	-37.65	37.04	0.00	617,011.22	654,164.25
8,521.00	3.17	249.01	8,520.07	4,872.07	-28.04	-40.75	40.09	2.24	617,009.16	654,161.15
8,553.00	7.30	267.74	8,551.93	4,903.93	-28.43	-43.61	42.94	13.80	617,008.77	654,158.29
8,585.00	10.11	271.21	8,583.56	4,935.56	-28.46	-48.45	47.77	8.93	617,008.74	654,153.45
8,617.00	13.81	272.93	8,614.86	4,966.86	-28.20	-55.07	54.40	11.61	617,009.00	654,146.83
8,648.00	17.67	273.98	8,644.69	4,996.69	-27.69	-63.46	62.80	12.48	617,009.51	654,138.44
8,680.00	20.84	273.92	8,674.90	5,026.90	-26.96	-73.99	73.35	9.91	617,010.24	654,127.91
8,712.00	23.92	272.02	8,704.49	5,056.49	-26.34	-86.16	85.52	9.89	617,010.86	654,115.74
8,744.00	28.31	271.41	8,733.21	5,085.21	-25.93	-100.23	99.60	13.74	617,011.27	654,101.67
8,776.00	33.08	271.26	8,760.72	5,112.72	-25.55	-116.56	115.93	14.91	617,011.65	654,085.34
8,807.00	36.14	272.11	8,786.23	5,138.23	-25.02	-134.16	133.54	9.99	617,012.18	654,067.74
8,839.00	39.48	273.48	8,811.51	5,163.51	-24.06	-153.74	153.15	10.76	617,013.14	654,048.16
8,871.00	42.74	274.70	8,835.62	5,187.62	-22.55	-174.73	174.16	10.49	617,014.65	654,027.17
8,903.00	45.55	274.27	8,858.58	5,210.58	-20.81	-196.94	196.41	8.83	617,016.39	654,004.96
8,935.00	47.84	272.88	8,880.53	5,232.53	-19.36	-220.18	219.67	7.82	617,017.84	653,981.72
8,966.00	50.30	271.24	8,900.83	5,252.83	-18.53	-243.59	243.09	8.88	617,018.67	653,958.31
8,998.00	53.55	271.57	8,920.57	5,272.57	-17.91	-268.77	268.28	10.19	617,019.29	653,933.13
9,030.00	58.39	272.18	8,938.47	5,290.47	-17.04	-295.26	294.79	15.21	617,020.16	653,906.64
9,062.00	62.70	272.92	8,954.20	5,306.20	-15.79	-323.09	322.64	13.62	617,021.41	653,878.81
9,094.00	65.51	273.68	8,968.17	5,320.17	-14.13	-351.83	351.41	9.04	617,023.07	653,850.07
9,125.00	69.47	274.17	8,980.04	5,332.04	-12.17	-380.39	380.01	12.86	617,025.03	653,821.51



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MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
9,157.00	73.07	274.35	8,990.31	5,342.31	-9.92	-410.61	410.27	11.26	617,027.28	653,791.29
9,189.00	76.94	274.45	8,998.59	5,350.59	-7.55	-441.42	441.13	12.10	617,029.65	653,760.48
9,221.00	80.28	274.83	9,004.91	5,356.91	-5.01	-472.69	472.44	10.50	617,032.19	653,729.21
9,253.00	82.04	275.74	9,009.83	5,361.83	-2.10	-504.17	503.98	6.18	617,035.10	653,697.73
9,285.00	82.13	274.90	9,014.24	5,366.24	0.84	-535.73	535.60	2.62	617,038.04	653,666.17
9,316.00	83.98	275.41	9,017.98	5,369.98	3.60	-566.37	566.31	6.19	617,040.80	653,635.53
9,353.00	88.64	272.94	9,020.36	5,372.36	6.29	-603.19	603.17	14.25	617,043.49	653,598.71
9,416.00	89.25	273.46	9,021.52	5,373.52	9.81	-666.08	666.13	1.27	617,047.01	653,535.82
9,480.00	88.81	272.78	9,022.61	5,374.61	13.29	-729.97	730.08	1.27	617,050.49	653,471.93
9,543.00	88.46	272.31	9,024.11	5,376.11	16.08	-792.89	793.05	0.93	617,053.28	653,409.01
9,638.00	89.34	272.14	9,025.93	5,377.93	19.77	-887.80	888.02	0.94	617,056.97	653,314.10
9,734.00	90.84	270.92	9,025.78	5,377.78	22.34	-983.76	984.02	2.01	617,059.54	653,218.14
9,829.00	91.01	271.54	9,024.25	5,376.25	24.37	-1,078.73	1,079.00	0.68	617,061.57	653,123.17
9,924.00	90.75	271.40	9,022.79	5,374.79	26.81	-1,173.69	1,173.99	0.31	617,064.01	653,028.21
10,019.00	90.31	270.97	9,021.91	5,373.91	28.78	-1,268.66	1,268.99	0.65	617,065.98	652,933.24
10,115.00	89.69	271.49	9,021.91	5,373.91	30.84	-1,364.64	1,364.99	0.84	617,068.04	652,837.26
10,210.00	88.99	271.09	9,023.00	5,375.00	32.97	-1,459.61	1,459.98	0.85	617,070.17	652,742.29
10,305.00	90.30	270.35	9,023.59	5,375.59	34.17	-1,554.60	1,554.97	1.58	617,071.37	652,647.30
10,401.00	90.22	270.02	9,023.16	5,375.16	34.48	-1,650.59	1,650.95	0.35	617,071.68	652,551.31
10,496.00	90.04	269.62	9,022.94	5,374.94	34.18	-1,745.59	1,745.92	0.46	617,071.38	652,456.31
10,591.00	89.60	270.32	9,023.24	5,375.24	34.13	-1,840.59	1,840.89	0.87	617,071.33	652,361.31
10,687.00	91.10	271.27	9,022.65	5,374.65	35.46	-1,936.58	1,936.88	1.85	617,072.66	652,265.32
10,765.00	91.19	270.60	9,021.10	5,373.10	36.73	-2,014.55	2,014.86	0.87	617,073.93	652,187.35
10,846.00	89.25	269.39	9,020.78	5,372.78	36.73	-2,095.54	2,095.83	2.82	617,073.93	652,106.36
10,909.00	88.72	269.70	9,021.90	5,373.90	36.23	-2,158.53	2,158.79	0.97	617,073.43	652,043.37
10,973.00	87.76	270.12	9,023.87	5,375.87	36.13	-2,222.50	2,222.74	1.64	617,073.33	651,979.40
11,068.00	88.64	269.20	9,026.85	5,378.85	35.56	-2,317.45	2,317.65	1.34	617,072.76	651,884.45



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11,132.00	88.20	269.46	9,028.61	5,380.61	34.82	-2,381.42	2,381.59	0.80	617,072.02	651,820.48
11,196.00	87.26	270.22	9,031.15	5,383.15	34.64	-2,445.37	2,445.51	1.89	617,071.84	651,756.53
11,291.00	88.02	269.02	9,035.06	5,387.06	34.01	-2,540.28	2,540.39	1.49	617,071.21	651,661.62
11,387.00	88.81	268.77	9,037.72	5,389.72	32.16	-2,636.23	2,636.27	0.86	617,069.36	651,565.67
11,482.00	90.13	269.95	9,038.60	5,390.60	31.09	-2,731.22	2,731.20	1.86	617,068.29	651,470.68
11,577.00	89.78	268.60	9,038.67	5,390.67	29.89	-2,826.21	2,826.14	1.47	617,067.09	651,375.69
11,673.00	90.75	269.28	9,038.23	5,390.23	28.12	-2,922.19	2,922.05	1.23	617,065.32	651,279.71
11,768.00	90.31	268.97	9,037.35	5,389.35	26.67	-3,017.17	3,016.98	0.57	617,063.87	651,184.73
11,863.00	89.78	269.23	9,037.27	5,389.27	25.17	-3,112.16	3,111.90	0.62	617,062.37	651,089.74
11,983.00	89.16	269.06	9,038.38	5,390.38	23.38	-3,232.14	3,231.81	0.54	617,060.58	650,969.76
12,054.00	89.16	269.06	9,039.42	5,391.42	22.22	-3,303.12	3,302.75	0.00	617,059.42	650,898.78

BHL-12054.00°MD,89.16°INC,269.06°AZI, 9039.42°TVD, 3302.75°VS, 22.22°N, -3303.12°E

Targets

Target Name

- hit/miss target
- Shape:

Dip Angle
(°)

Dip Dir.
(°)

TVD
(ft)

+N/-S
(ft)

+E/-W
(ft)

Northing
(ft)

Easting
(ft)

Latitude

Longitude

PBHL(cor#2) 0.00 0.00 9,020.00 76.90 -3,302.10 617,114.100 650,899.800 32° 41' 44.109 N 103° 50' 34.134 W
- survey misses target center by 58.00ft at 12051.80ft MD (9039.39 TVD, 22.26 N, -3300.92 E)
- Point

Survey Annotations

Measured
Depth
(ft)

Vertical
Depth
(ft)

Local Coordinates
+N/-S
(ft)

+E/-W
(ft)

Comment

12,054.00 9,039.42 22.22 -3,303.12 BHL-12054.00°MD,89.16°INC,269.06°AZI, 9039.42°TVD, 3302.75°VS, 2

Checked By: _____

Approved By: _____

Date: _____

09/24/10 8:36:07AM

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COMPASS 2003.16 Build 71

SURF: 480' FNL, 330' FEL
EOL: 458' FNL, 1645' FNL