

36.015.37053



Marbob
Eddy County
Gravy State Com
#1H
OH

Plan: Plan #1

Pathfinder X & Y Survey Report

01 May, 2009

PATHFINDER



Pathfinder Energy Services

Pathfinder X & Y Survey Report

PATHFINDER

Company: Marbob
Project: Eddy County
Site: Gravy State Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
MD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
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: Gravy State Com
Site Position: Northing: 417,310.000 ft Latitude: 32° 8' 47.667 N
From: Map Easting: 632,832.900 ft Longitude: 103° 54' 14.941 W
Position Uncertainty: 0.00 ft Slot Radius: " Grid Convergence: 0.23 °

Well: #1H
Well Position: +N/-S 0.00 ft Northing: 417,310.000 ft Latitude: 32° 8' 47.667 N
+E/-W 0.00 ft Easting: 632,832.900 ft Longitude: 103° 54' 14.941 W
Position Uncertainty: 0.00 ft Wellhead Elevation: ft Ground Level: 3,208.00 ft

Wellbore: OH
Magnetics: Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)
IGRF200510 05/01/2009 7.97 60.12 48,773

Design: Plan #1
Audit Notes:
Version: Phase: PLAN Tie On Depth: 0.00
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
(ft) (ft) (ft) (°)
0.00 0.00 0.00 269.36

Survey Tool Program Date: 05/01/2009
From (ft) To (ft) Survey (Wellbore) Tool Name Description
0.00 12,378.81 Plan #1 (OH) MWD MWD - Standard



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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)
0.00	0.00	0.00	0.00	-3,230.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
100.00	0.00	0.00	100.00	-3,130.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
200.00	0.00	0.00	200.00	-3,030.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
300.00	0.00	0.00	300.00	-2,930.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
400.00	0.00	0.00	400.00	-2,830.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
500.00	0.00	0.00	500.00	-2,730.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
600.00	0.00	0.00	600.00	-2,630.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
700.00	0.00	0.00	700.00	-2,530.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
800.00	0.00	0.00	800.00	-2,430.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
900.00	0.00	0.00	900.00	-2,330.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,000.00	0.00	0.00	1,000.00	-2,230.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,100.00	0.00	0.00	1,100.00	-2,130.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,200.00	0.00	0.00	1,200.00	-2,030.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,300.00	0.00	0.00	1,300.00	-1,930.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,400.00	0.00	0.00	1,400.00	-1,830.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,500.00	0.00	0.00	1,500.00	-1,730.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,600.00	0.00	0.00	1,600.00	-1,630.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,700.00	0.00	0.00	1,700.00	-1,530.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,800.00	0.00	0.00	1,800.00	-1,430.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
1,900.00	0.00	0.00	1,900.00	-1,330.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,000.00	0.00	0.00	2,000.00	-1,230.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,100.00	0.00	0.00	2,100.00	-1,130.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,200.00	0.00	0.00	2,200.00	-1,030.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,300.00	0.00	0.00	2,300.00	-930.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,400.00	0.00	0.00	2,400.00	-830.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,500.00	0.00	0.00	2,500.00	-730.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,600.00	0.00	0.00	2,600.00	-630.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90



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2,700.00	0.00	0.00	2,700.00	-530.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,800.00	0.00	0.00	2,800.00	-430.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
2,900.00	0.00	0.00	2,900.00	-330.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,000.00	0.00	0.00	3,000.00	-230.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,100.00	0.00	0.00	3,100.00	-130.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,200.00	0.00	0.00	3,200.00	-30.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,300.00	0.00	0.00	3,300.00	70.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,400.00	0.00	0.00	3,400.00	170.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,500.00	0.00	0.00	3,500.00	270.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,600.00	0.00	0.00	3,600.00	370.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,700.00	0.00	0.00	3,700.00	470.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,800.00	0.00	0.00	3,800.00	570.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
3,900.00	0.00	0.00	3,900.00	670.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,000.00	0.00	0.00	4,000.00	770.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,100.00	0.00	0.00	4,100.00	870.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,200.00	0.00	0.00	4,200.00	970.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,300.00	0.00	0.00	4,300.00	1,070.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,400.00	0.00	0.00	4,400.00	1,170.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,500.00	0.00	0.00	4,500.00	1,270.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,600.00	0.00	0.00	4,600.00	1,370.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,700.00	0.00	0.00	4,700.00	1,470.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,800.00	0.00	0.00	4,800.00	1,570.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
4,900.00	0.00	0.00	4,900.00	1,670.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,000.00	0.00	0.00	5,000.00	1,770.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,100.00	0.00	0.00	5,100.00	1,870.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,200.00	0.00	0.00	5,200.00	1,970.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,300.00	0.00	0.00	5,300.00	2,070.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90



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5,400.00	0.00	0.00	5,400.00	2,170.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,500.00	0.00	0.00	5,500.00	2,270.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,600.00	0.00	0.00	5,600.00	2,370.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,700.00	0.00	0.00	5,700.00	2,470.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,800.00	0.00	0.00	5,800.00	2,570.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
5,900.00	0.00	0.00	5,900.00	2,670.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,000.00	0.00	0.00	6,000.00	2,770.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,100.00	0.00	0.00	6,100.00	2,870.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,200.00	0.00	0.00	6,200.00	2,970.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,300.00	0.00	0.00	6,300.00	3,070.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,400.00	0.00	0.00	6,400.00	3,170.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,500.00	0.00	0.00	6,500.00	3,270.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,600.00	0.00	0.00	6,600.00	3,370.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,700.00	0.00	0.00	6,700.00	3,470.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,800.00	0.00	0.00	6,800.00	3,570.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
6,900.00	0.00	0.00	6,900.00	3,670.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,000.00	0.00	0.00	7,000.00	3,770.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,100.00	0.00	0.00	7,100.00	3,870.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,200.00	0.00	0.00	7,200.00	3,970.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,300.00	0.00	0.00	7,300.00	4,070.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,400.00	0.00	0.00	7,400.00	4,170.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,500.00	0.00	0.00	7,500.00	4,270.00	0.00	0.00	0.00	0.00	417,310.00	632,832.90
7,522.50	0.00	0.00	7,522.50	4,292.50	0.00	0.00	0.00	0.00	417,310.00	632,832.90
KOP-7522.50°MD,0.00°INC,0.00°AZI										
7,525.00	0.30	269.36	7,525.00	4,295.00	0.00	-0.01	0.01	12.00	417,310.00	632,832.89
7,550.00	3.30	269.36	7,549.98	4,319.98	-0.01	-0.79	0.79	12.00	417,309.99	632,832.11
7,575.00	6.30	269.36	7,574.89	4,344.89	-0.03	-2.88	2.88	12.00	417,309.97	632,830.02



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7,600.00	9.30	269.36	7,599.66	4,369.66	-0.07	-6.28	6.28	12.00	417,309.93	632,826.62
7,625.00	12.30	269.36	7,624.21	4,394.21	-0.12	-10.96	10.96	12.00	417,309.88	632,821.94
7,650.00	15.30	269.36	7,648.49	4,418.49	-0.19	-16.92	16.92	12.00	417,309.81	632,815.98
7,675.00	18.30	269.36	7,672.42	4,442.42	-0.27	-24.14	24.15	12.00	417,309.73	632,808.76
7,700.00	21.30	269.36	7,695.94	4,465.94	-0.36	-32.61	32.61	12.00	417,309.64	632,800.29
7,725.00	24.30	269.36	7,718.98	4,488.98	-0.47	-42.30	42.30	12.00	417,309.53	632,790.60
7,750.00	27.30	269.36	7,741.49	4,511.49	-0.59	-53.17	53.18	12.00	417,309.41	632,779.73
7,775.00	30.30	269.36	7,763.40	4,533.40	-0.73	-65.22	65.22	12.00	417,309.27	632,767.68
7,800.00	33.30	269.36	7,784.64	4,554.64	-0.88	-78.39	78.39	12.00	417,309.12	632,754.51
7,825.00	36.30	269.36	7,805.17	4,575.17	-1.03	-92.65	92.66	12.00	417,308.97	632,740.25
7,850.00	39.30	269.36	7,824.92	4,594.92	-1.21	-107.97	107.98	12.00	417,308.79	632,724.93
7,875.00	42.30	269.36	7,843.84	4,613.84	-1.39	-124.30	124.31	12.00	417,308.61	632,708.60
7,900.00	45.30	269.36	7,861.89	4,631.89	-1.58	-141.60	141.61	12.00	417,308.42	632,691.30
7,925.00	48.30	269.36	7,879.00	4,649.00	-1.79	-159.82	159.83	12.00	417,308.21	632,673.08
7,950.00	51.30	269.36	7,895.14	4,665.14	-2.00	-178.91	178.92	12.00	417,308.00	632,653.99
7,975.00	54.30	269.36	7,910.25	4,680.25	-2.22	-198.82	198.83	12.00	417,307.78	632,634.08
8,000.00	57.30	269.36	7,924.30	4,694.30	-2.45	-219.49	219.51	12.00	417,307.55	632,613.41
8,025.00	60.30	269.36	7,937.25	4,707.25	-2.69	-240.87	240.89	12.00	417,307.31	632,592.03
8,050.00	63.30	269.36	7,949.07	4,719.07	-2.94	-262.90	262.92	12.00	417,307.06	632,570.00
8,075.00	66.30	269.36	7,959.71	4,729.71	-3.19	-285.51	285.53	12.00	417,306.81	632,547.39
8,100.00	69.29	269.36	7,969.16	4,739.16	-3.45	-308.66	308.68	12.00	417,306.55	632,524.24
8,125.00	72.29	269.36	7,977.38	4,747.38	-3.71	-332.26	332.28	12.00	417,306.29	632,500.64
8,150.00	75.29	269.36	7,984.36	4,754.36	-3.98	-356.26	356.29	12.00	417,306.02	632,476.64
8,175.00	78.29	269.36	7,990.07	4,760.07	-4.25	-380.60	380.62	12.00	417,305.75	632,452.30
8,200.00	81.29	269.36	7,994.50	4,764.50	-4.53	-405.20	405.22	12.00	417,305.47	632,427.70
8,225.00	84.29	269.36	7,997.63	4,767.63	-4.80	-430.00	430.02	12.00	417,305.20	632,402.90
8,250.00	87.29	269.36	7,999.47	4,769.47	-5.08	-454.92	454.95	12.00	417,304.92	632,377.98



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8,272.56	90.00	269.36	8,000.00	4,770.00	-5.33	-477.47	477.50	12.00	417,304.67	632,355.43
EOC-8272.56°MD,90.00°INC,269.36°AZI,12.00°DLS,477.50°VS,-5.33°N,-477.47°E										
8,300.00	90.00	269.36	8,000.00	4,770.00	-5.64	-504.91	504.94	0.00	417,304.36	632,327.99
8,400.00	90.00	269.36	8,000.00	4,770.00	-6.76	-604.91	604.94	0.00	417,303.24	632,227.99
8,500.00	90.00	269.36	8,000.00	4,770.00	-7.87	-704.90	704.94	0.00	417,302.13	632,128.00
8,600.00	90.00	269.36	8,000.00	4,770.00	-8.99	-804.89	804.94	0.00	417,301.01	632,028.01
8,700.00	90.00	269.36	8,000.00	4,770.00	-10.11	-904.89	904.94	0.00	417,299.89	631,928.01
8,800.00	90.00	269.36	8,000.00	4,770.00	-11.23	-1,004.88	1,004.94	0.00	417,298.77	631,828.02
8,900.00	90.00	269.36	8,000.00	4,770.00	-12.34	-1,104.88	1,104.94	0.00	417,297.66	631,728.02
9,000.00	90.00	269.36	8,000.00	4,770.00	-13.46	-1,204.87	1,204.94	0.00	417,296.54	631,628.03
9,100.00	90.00	269.36	8,000.00	4,770.00	-14.58	-1,304.86	1,304.94	0.00	417,295.42	631,528.04
9,200.00	90.00	269.36	8,000.00	4,770.00	-15.69	-1,404.86	1,404.94	0.00	417,294.31	631,428.04
9,300.00	90.00	269.36	8,000.00	4,770.00	-16.81	-1,504.85	1,504.94	0.00	417,293.19	631,328.05
9,400.00	90.00	269.36	8,000.00	4,770.00	-17.93	-1,604.84	1,604.94	0.00	417,292.07	631,228.06
9,500.00	90.00	269.36	8,000.00	4,770.00	-19.04	-1,704.84	1,704.94	0.00	417,290.96	631,128.06
9,600.00	90.00	269.36	8,000.00	4,770.00	-20.16	-1,804.83	1,804.94	0.00	417,289.84	631,028.07
9,700.00	90.00	269.36	8,000.00	4,770.00	-21.28	-1,904.83	1,904.94	0.00	417,288.72	630,928.07
9,800.00	90.00	269.36	8,000.00	4,770.00	-22.39	-2,004.82	2,004.94	0.00	417,287.61	630,828.08
9,900.00	90.00	269.36	8,000.00	4,770.00	-23.51	-2,104.81	2,104.94	0.00	417,286.49	630,728.09
10,000.00	90.00	269.36	8,000.00	4,770.00	-24.63	-2,204.81	2,204.94	0.00	417,285.37	630,628.09
10,100.00	90.00	269.36	8,000.00	4,770.00	-25.75	-2,304.80	2,304.94	0.00	417,284.25	630,528.10
10,200.00	90.00	269.36	8,000.00	4,770.00	-26.86	-2,404.79	2,404.94	0.00	417,283.14	630,428.11
10,300.00	90.00	269.36	8,000.00	4,770.00	-27.98	-2,504.79	2,504.94	0.00	417,282.02	630,328.11
10,400.00	90.00	269.36	8,000.00	4,770.00	-29.10	-2,604.78	2,604.94	0.00	417,280.90	630,228.12
10,500.00	90.00	269.36	8,000.00	4,770.00	-30.21	-2,704.78	2,704.94	0.00	417,279.79	630,128.12
10,600.00	90.00	269.36	8,000.00	4,770.00	-31.33	-2,804.77	2,804.94	0.00	417,278.67	630,028.13
10,700.00	90.00	269.36	8,000.00	4,770.00	-32.45	-2,904.76	2,904.94	0.00	417,277.55	629,928.14



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Marbob
Project: Eddy County
Site: Gravy State Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
MD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

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)
10,800.00	90.00	269.36	8,000.00	4,770.00	-33.56	-3,004.76	3,004.94	0.00	417,276.44	629,828.14
10,900.00	90.00	269.36	8,000.00	4,770.00	-34.68	-3,104.75	3,104.94	0.00	417,275.32	629,728.15
11,000.00	90.00	269.36	8,000.00	4,770.00	-35.80	-3,204.74	3,204.94	0.00	417,274.20	629,628.16
11,100.00	90.00	269.36	8,000.00	4,770.00	-36.92	-3,304.74	3,304.94	0.00	417,273.08	629,528.16
11,200.00	90.00	269.36	8,000.00	4,770.00	-38.03	-3,404.73	3,404.94	0.00	417,271.97	629,428.17
11,300.00	90.00	269.36	8,000.00	4,770.00	-39.15	-3,504.73	3,504.94	0.00	417,270.85	629,328.17
11,400.00	90.00	269.36	8,000.00	4,770.00	-40.27	-3,604.72	3,604.94	0.00	417,269.73	629,228.18
11,500.00	90.00	269.36	8,000.00	4,770.00	-41.38	-3,704.71	3,704.94	0.00	417,268.62	629,128.19
11,600.00	90.00	269.36	8,000.00	4,770.00	-42.50	-3,804.71	3,804.94	0.00	417,267.50	629,028.19
11,700.00	90.00	269.36	8,000.00	4,770.00	-43.62	-3,904.70	3,904.94	0.00	417,266.38	628,928.20
11,800.00	90.00	269.36	8,000.00	4,770.00	-44.73	-4,004.69	4,004.94	0.00	417,265.27	628,828.21
11,900.00	90.00	269.36	8,000.00	4,770.00	-45.85	-4,104.69	4,104.94	0.00	417,264.15	628,728.21
12,000.00	90.00	269.36	8,000.00	4,770.00	-46.97	-4,204.68	4,204.94	0.00	417,263.03	628,628.22
12,100.00	90.00	269.36	8,000.00	4,770.00	-48.09	-4,304.68	4,304.94	0.00	417,261.91	628,528.22
12,200.00	90.00	269.36	8,000.00	4,770.00	-49.20	-4,404.67	4,404.94	0.00	417,260.80	628,428.23
12,300.00	90.00	269.36	8,000.00	4,770.00	-50.32	-4,504.66	4,504.94	0.00	417,259.68	628,328.24
12,364.14	90.00	269.36	8,000.00	4,770.00	-51.04	-4,568.80	4,569.09	0.00	417,258.96	628,264.10
PBHL(#1H)										
12,378.81	90.00	269.36	8,000.00	4,770.00	-51.20	-4,583.47	4,583.76	0.00	417,258.80	628,249.43

BHL-12378.81'MD,90.00°INC,269.36°AZI, 8000.00'TVD, 4583.75'VS, -51.20°N, -4583.47°E



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Marbob
Project: Eddy County
Site: Gravy State Com
Well: #1H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #1H
TVD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
MD Reference: WELL @ 3230.00ft (Patriot #3 22' KB Correction)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

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(#1H) - plan hits target - Point	0.00	0.00	8,000.00	-51.20	-4,568.80	417,258.800	628,264.100	32° 8' 47.338 N	103° 55' 8.085 W

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,522.50	7,522.50	0.00	0.00	KOP-7522.50'MD,0.00°INC,0.00°AZI
8,272.56	8,000.00	-5.33	-477.47	EOC-8272.56'MD,90.00°INC,269.36°AZI,12.00°DLS,477.50°VS,-5.33'
12,378.81	8,000.00	-51.20	-4,583.47	BHL-12378.81'MD,90.00°INC,269.36°AZI,8000.00'TVD,4583.75°VS,-4'

Checked By: _____ Approved By: _____ Date: _____

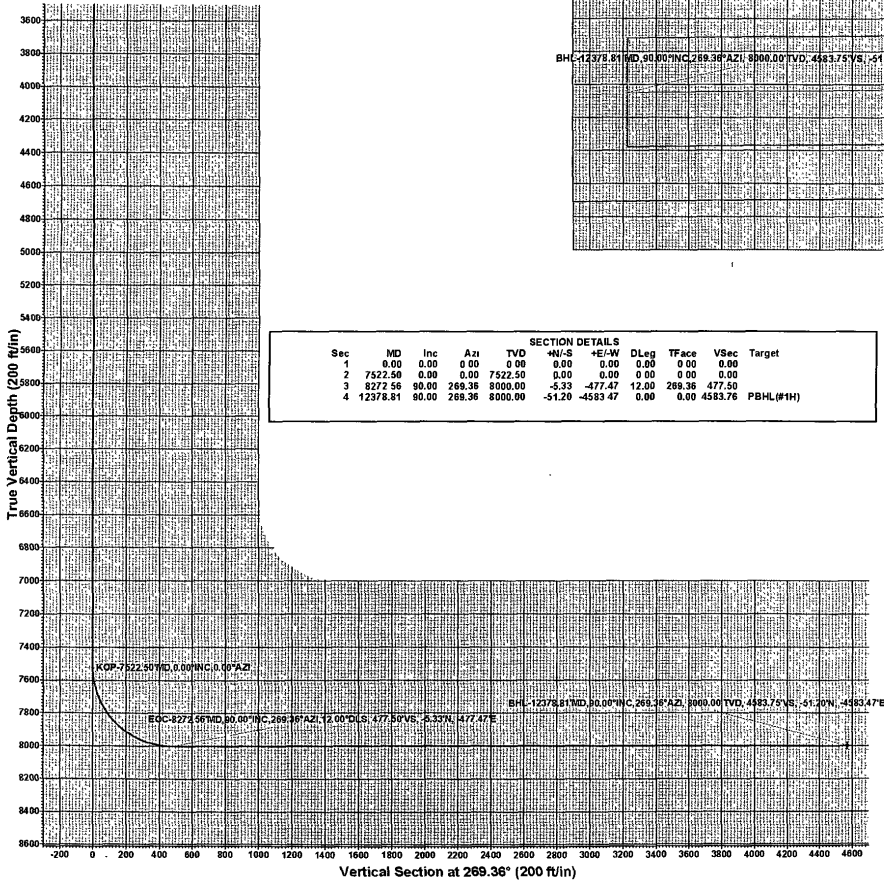


Project: Eddy County
Site: Gravy State Com
Well: #1H
Wellbore: OH
Plan: Plan #1 (#1H/OH)



Azimuths to Grid North
True North: -0.23°
Magnetic North: 7.75°
Magnetic Field
Strength: 48773.1snT
Dip Angle: 60.12°
Date: 05/01/2009
Model: IGRF200510

PATHFINDER



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7522.50	0.00	0.00	7522.50	0.00	0.00	0.00	0.00	0.00	
3	8272.56	90.00	269.36	8000.00	-5.33	-477.47	12.00	269.36	477.50	
4	12378.81	90.00	269.36	8000.00	-51.20	-4583.47	0.00	0.00	4583.76	PBHL(#1H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(#1H)	8000.00	-51.20	-4588.80	417298.800	628264.100	Point

WELL DETAILS: #1H						
Ground Elevation: 3298.00						
RKB Elevation: WELL @ 3230.00ft (Patrol #3 22' KB Correction)						
Rig Name: Patriot #3 22' KB Correction						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	417310.008	632832.905	32° 8' 47.867 N	103° 54' 14.941 W	

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1855
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan Plan #1 (#1H/OH)			
Created By	Nate Bingham	Date	9/30, May 01 2009
Checked		Date	