

PathFinder Energy Services, Inc.

Survey Report

MARBOB ENERGY CORP.
SRO STATE UNIT #2H
EDDY COUNTY, NM
Rig: PATRIOT #3
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: H.DONARUMMA
B.LUCKEY

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Tie-in Date: 08/09/2009
Date Completed: 08/16/2009

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.4.47.9576 N LON: 104.6.4.9865 W
Reference: NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 571840.3000 Y: 392901.0000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.90° EAST TO GRID
Vertical Section Plane: 269.84
Survey Vert. Reference: 17.00' Kelly Bushing To Ground
Altitude: 3010.00' Ground To MSL

Survey Calculations by RX5 V5.11i using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIE IN TO SCIENTIFIC DRILLING @ 5980'MD.										
5980.00	0.39	159.97	5979.34	0.00	2.09	3.30 S	2.08 W	3.90@	212.22	0.00
THE FOLLOWING ARE PATHFINDER SURVEYS.										
6002.00	0.26	219.83	6001.34	22.00	2.10	3.41 S	2.09 W	4.00@	211.47	1.56
6034.00	2.73	268.69	6033.33	32.00	2.90	3.48 S	2.89 W	4.53@	219.74	8.02
6066.00	7.21	272.81	6065.20	32.00	5.67	3.40 S	5.66 W	6.61@	239.02	14.04
6098.00	11.78	275.69	6096.75	32.00	10.93	2.98 S	10.92 W	11.32@	254.75	14.35
6129.00	15.56	275.64	6126.87	31.00	18.22	2.26 S	18.21 W	18.35@	262.94	12.19
6161.00	19.70	274.15	6157.36	32.00	27.87	1.44 S	27.87 W	27.90@	267.04	13.01
6193.00	23.57	272.20	6187.10	32.00	39.65	0.81 S	39.64 W	39.65@	268.83	12.30
6225.00	27.52	269.67	6215.97	32.00	53.44	0.60 S	53.44 W	53.44@	269.35	12.80
6257.00	30.78	269.52	6243.91	32.00	69.02	0.72 S	69.02 W	69.02@	269.41	10.19
6288.00	32.98	268.78	6270.23	31.00	85.39	0.96 S	85.39 W	85.40@	269.36	7.21
6320.00	35.00	265.61	6296.76	32.00	103.26	1.85 S	103.25 W	103.27@	268.97	8.40
6352.00	38.25	267.49	6322.44	32.00	122.31	2.99 S	122.30 W	122.34@	268.60	10.74
6384.00	41.15	267.69	6347.06	32.00	142.73	3.84 S	142.72 W	142.77@	268.46	9.07
6415.00	44.23	268.10	6369.85	31.00	163.74	4.61 S	163.73 W	163.79@	268.39	9.98
6447.00	46.34	269.97	6392.36	32.00	186.47	4.99 S	186.46 W	186.53@	268.47	7.79
6479.00	48.80	270.30	6413.95	32.00	210.09	4.93 S	210.08 W	210.13@	268.65	7.72
6511.00	51.53	270.03	6434.44	32.00	234.66	4.86 S	234.65 W	234.70@	268.81	8.56
6542.00	54.78	269.66	6453.03	31.00	259.46	4.93 S	259.45 W	259.50@	268.91	10.53
6574.00	58.04	269.84	6470.73	32.00	286.12	5.05 S	286.10 W	286.15@	268.99	10.20
6606.00	61.99	270.01	6486.72	32.00	313.83	5.08 S	313.81 W	313.86@	269.07	12.35
6638.00	66.57	270.18	6500.61	32.00	342.65	5.03 S	342.64 W	342.67@	269.16	14.32
6669.00	70.96	270.32	6511.83	31.00	371.54	4.91 S	371.52 W	371.56@	269.24	14.17
6701.00	74.92	270.03	6521.22	32.00	402.12	4.82 S	402.11 W	402.14@	269.31	12.40
6733.00	76.68	270.48	6529.07	32.00	433.14	4.68 S	433.13 W	433.16@	269.38	5.67

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6765.00	78.88	269.74	6535.84	32.00	464.41	4.62 S	464.40 W	464.43@	269.43	7.24
6797.00	81.87	269.55	6541.19	32.00	495.96	4.81 S	495.95 W	495.97@	269.44	9.36
6828.00	84.59	270.16	6544.84	31.00	526.74	4.89 S	526.73 W	526.75@	269.47	8.99
6860.00	84.59	270.27	6547.86	32.00	558.60	4.77 S	558.59 W	558.61@	269.51	0.34
6892.00	85.82	269.95	6550.54	32.00	590.49	4.71 S	590.47 W	590.49@	269.54	3.97
6919.00	89.43	269.26	6551.65	27.00	617.46	4.90 S	617.45 W	617.46@	269.55	13.61
6951.00	92.77	269.29	6551.04	32.00	649.45	5.30 S	649.43 W	649.45@	269.53	10.44
6982.00	92.86	269.54	6549.52	31.00	680.41	5.62 S	680.39 W	680.42@	269.53	0.86
7014.00	93.03	269.24	6547.87	32.00	712.36	5.96 S	712.35 W	712.37@	269.52	1.08
7046.00	92.15	269.12	6546.43	32.00	744.33	6.42 S	744.31 W	744.34@	269.51	2.77
7078.00	91.01	268.85	6545.55	32.00	776.31	6.98 S	776.30 W	776.33@	269.48	3.66
7109.00	90.04	268.80	6545.26	31.00	807.31	7.62 S	807.29 W	807.32@	269.46	3.13
7140.00	90.13	268.89	6545.22	31.00	838.30	8.24 S	838.28 W	838.32@	269.44	0.41
7236.00	90.04	269.15	6545.07	96.00	934.29	9.88 S	934.27 W	934.32@	269.39	0.29
7331.00	88.64	268.22	6546.17	95.00	1029.26	12.06 S	1029.23 W	1029.30@	269.33	1.77
7427.00	88.90	269.05	6548.23	96.00	1125.22	14.35 S	1125.18 W	1125.27@	269.27	0.91
7522.00	89.08	269.14	6549.90	95.00	1220.19	15.85 S	1220.16 W	1220.26@	269.26	0.21
7617.00	90.31	269.85	6550.41	95.00	1315.19	16.69 S	1315.15 W	1315.25@	269.27	1.49
7713.00	90.40	269.89	6549.81	96.00	1411.19	16.91 S	1411.15 W	1411.25@	269.31	0.10
7808.00	90.31	269.77	6549.23	95.00	1506.19	17.19 S	1506.14 W	1506.24@	269.35	0.16
7903.00	90.48	268.68	6548.57	95.00	1601.18	18.47 S	1601.13 W	1601.24@	269.34	1.16
7999.00	90.13	269.72	6548.06	96.00	1697.17	19.81 S	1697.12 W	1697.23@	269.33	1.14
8094.00	89.78	271.43	6548.13	95.00	1792.16	18.86 S	1792.11 W	1792.21@	269.40	1.84
8189.00	89.96	271.38	6548.35	95.00	1887.12	16.53 S	1887.08 W	1887.15@	269.50	0.20
8285.00	89.16	270.23	6549.09	96.00	1983.10	15.18 S	1983.07 W	1983.13@	269.56	1.46
8380.00	90.57	270.58	6549.31	95.00	2078.09	14.51 S	2078.06 W	2078.11@	269.60	1.53
8475.00	91.87	271.89	6547.29	95.00	2173.04	12.46 S	2173.01 W	2173.05@	269.67	1.94
8571.00	89.69	269.93	6545.98	96.00	2269.00	10.94 S	2268.98 W	2269.01@	269.72	3.05
8666.00	89.96	269.74	6546.27	95.00	2364.00	11.21 S	2363.98 W	2364.01@	269.73	0.35

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8761.00	91.10	269.70	6545.39	95.00	2459.00	11.68 S	2458.97 W	2459.00@	269.73	1.20
8857.00	90.31	268.63	6544.21	96.00	2554.98	13.08 S	2554.95 W	2554.99@	269.71	1.38
8951.00	88.99	269.71	6544.79	94.00	2648.97	14.44 S	2648.94 W	2648.98@	269.69	1.81
9047.00	89.96	270.47	6545.66	96.00	2744.96	14.29 S	2744.93 W	2744.97@	269.70	1.28
9142.00	90.66	271.16	6545.15	95.00	2839.95	12.94 S	2839.92 W	2839.95@	269.74	1.03
9237.00	90.04	271.59	6544.57	95.00	2934.91	10.66 S	2934.89 W	2934.91@	269.79	0.79
9333.00	90.75	271.80	6543.91	96.00	3030.86	7.82 S	3030.85 W	3030.86@	269.85	0.77
9428.00	90.48	271.57	6542.89	95.00	3125.80	5.02 S	3125.80 W	3125.80@	269.91	0.37
9523.00	89.52	271.17	6542.89	95.00	3220.77	2.75 S	3220.77 W	3220.77@	269.95	1.09
9619.00	91.28	271.07	6542.22	96.00	3316.74	0.88 S	3316.75 W	3316.75@	269.98	1.84
9714.00	91.71	269.76	6539.74	95.00	3411.70	0.19 S	3411.71 W	3411.71@	270.00	1.45
9809.00	92.42	269.77	6536.32	95.00	3506.64	0.58 S	3506.65 W	3506.65@	269.99	0.75
9904.00	89.87	269.08	6534.42	95.00	3601.61	1.53 S	3601.62 W	3601.62@	269.98	2.78
10000.00	91.80	270.08	6533.02	96.00	3697.59	2.23 S	3697.60 W	3697.60@	269.97	2.27
10095.00	91.63	270.15	6530.18	95.00	3792.54	2.04 S	3792.55 W	3792.55@	269.97	0.19
10190.00	91.54	270.07	6527.55	95.00	3887.51	1.86 S	3887.52 W	3887.52@	269.97	0.13
10286.00	91.36	269.92	6525.12	96.00	3983.48	1.87 S	3983.49 W	3983.49@	269.97	0.24
10381.00	91.71	271.02	6522.58	95.00	4078.43	1.09 S	4078.45 W	4078.45@	269.98	1.22
10477.00	91.10	270.69	6520.22	96.00	4174.39	0.34 N	4174.41 W	4174.41@	270.00	0.72
10572.00	90.40	270.49	6518.98	95.00	4269.37	1.32 N	4269.39 W	4269.39@	270.02	0.77
10667.00	91.89	269.73	6517.08	95.00	4364.35	1.50 N	4364.37 W	4364.37@	270.02	1.76
10761.00	91.89	269.95	6513.98	94.00	4458.30	1.24 N	4458.32 W	4458.32@	270.02	0.23
10855.00	91.36	270.02	6511.31	94.00	4552.26	1.21 N	4552.28 W	4552.28@	270.02	0.57
10882.00	91.10	270.18	6510.73	27.00	4579.25	1.26 N	4579.27 W	4579.28@	270.02	1.13
STRAIGHT LINE PROJECTION TO BIT AT 10958' MD										
10958.00	91.10	270.18	6509.27	76.00	4655.24	1.50 N	4655.26 W	4655.26@	270.02	0.00

Surf: 430' FSL, 330' FEL

EDL: 432' FSL, 295' FWL

Float Collar: 432' FSL, 351' FWL