

Marathon Oil Company
Indian Hills Unit No. 30.#30 ST1
Indian Basin, EDDY COUNTY, NM.

SURVEY LISTING Page 1
Your ref : ST1 BHI MWD 6142'-7981'
Last revised : 23-Aug-2001

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R C O O R D I N A T E S		Dogleg Deg/100ft	Vert Sect	
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
100.00	0.40	301.14	100.00	0.18 N	0.30 W	0.40	0.06	GYRODATA GYRO SURVEY 0'-7025'
200.00	0.30	266.90	200.00	0.35 N	0.86 W	0.23	0.02	Date Ran: 06.07.01
300.00	0.34	276.86	300.00	0.37 N	1.41 W	0.07	-0.16	Surveyor: John Zugg
400.00	0.22	203.21	399.99	0.23 N	1.79 W	0.35	-0.42	
500.00	0.39	155.07	499.99	0.26 S	1.72 W	0.29	-0.85	
600.00	0.46	163.42	599.99	0.95 S	1.46 W	0.09	-1.41	
700.00	0.12	190.51	699.99	1.44 S	1.36 W	0.36	-1.83	
800.00	0.41	118.15	799.99	1.71 S	1.07 W	0.39	-1.98	
900.00	0.45	121.63	899.99	2.09 S	0.42 W	0.05	-2.10	
1000.00	0.71	130.16	999.98	2.69 S	0.39 E	0.27	-2.38	
1100.00	1.07	150.07	1099.97	3.90 S	1.33 E	0.47	-3.18	
1200.00	1.09	148.90	1199.95	5.52 S	2.29 E	0.03	-4.36	TIED TO GYRODATA SURVEY AT MD:1200'
1318.00	1.40	151.70	1317.92	7.75 S	3.55 E	0.27	-6.00	OH BHI MWD 1318'-7555'
1385.00	1.10	134.00	1384.91	8.92 S	4.40 E	0.72	-6.79	
1433.00	1.50	62.40	1432.90	8.95 S	5.29 E	3.24	-6.50	
1483.00	2.50	50.80	1482.87	7.96 S	6.71 E	2.15	-5.07	
1572.00	4.80	38.80	1571.68	3.83 S	10.55 E	2.71	0.15	
1635.00	6.40	31.10	1634.38	1.23 N	14.02 E	2.80	6.11	
1696.00	8.00	25.80	1694.90	7.97 N	17.62 E	2.84	13.69	
1759.00	9.40	23.70	1757.17	16.62 N	21.60 E	2.28	23.19	
1822.00	10.60	21.90	1819.21	26.71 N	25.83 E	1.97	34.12	
1879.00	11.70	20.50	1875.14	36.99 N	29.81 E	1.99	45.15	
1942.00	12.90	19.50	1936.69	49.60 N	34.39 E	1.93	58.56	
2004.00	14.30	19.10	1996.95	63.36 N	39.21 E	2.26	73.14	
2086.00	15.60	19.10	2076.17	83.35 N	46.13 E	1.59	94.28	
2149.00	15.80	19.10	2136.82	99.46 N	51.71 E	0.32	111.32	
2211.00	16.40	19.80	2196.39	115.67 N	57.43 E	1.02	128.51	
2274.00	16.60	19.80	2256.79	132.51 N	63.49 E	0.32	146.40	
2365.00	16.70	20.20	2343.98	157.01 N	72.41 E	0.17	172.48	
2459.00	16.60	20.90	2434.04	182.23 N	81.87 E	0.24	199.41	
2522.00	16.30	21.20	2494.46	198.88 N	88.27 E	0.49	217.25	
2585.00	16.20	21.60	2554.94	215.29 N	94.71 E	0.24	234.88	
2679.00	16.90	20.90	2645.05	240.25 N	104.41 E	0.77	261.65	
2742.00	17.10	20.90	2705.30	257.46 N	110.98 E	0.32	280.07	
2804.00	17.10	21.20	2764.55	274.47 N	117.53 E	0.14	298.30	
2897.00	17.30	21.20	2853.40	300.11 N	127.47 E	0.22	325.80	
2992.00	17.90	18.80	2943.95	327.10 N	137.28 E	0.99	354.52	
3061.00	18.20	17.00	3009.55	347.44 N	143.85 E	0.92	375.87	
3154.00	16.70	16.70	3098.27	374.13 N	151.94 E	1.62	403.69	
3247.00	15.60	16.70	3187.60	398.91 N	159.37 E	1.18	429.49	
3339.00	15.10	16.30	3276.32	422.26 N	166.29 E	0.56	453.78	
3433.00	15.30	17.00	3367.03	445.87 N	173.35 E	0.29	478.36	
3525.00	15.50	18.80	3455.73	469.12 N	180.86 E	0.56	502.76	
3589.00	16.20	20.50	3517.29	485.57 N	186.75 E	1.31	520.24	
3651.00	16.70	21.60	3576.76	501.96 N	193.05 E	0.95	537.79	
3713.00	16.10	21.20	3636.23	518.25 N	199.44 E	0.98	555.30	
3774.00	15.80	20.50	3694.88	533.92 N	205.41 E	0.58	572.06	
3836.00	15.80	20.20	3754.54	549.75 N	211.28 E	0.13	588.94	
3899.00	15.60	19.80	3815.19	565.77 N	217.11 E	0.36	605.99	

All data is in feet unless otherwise stated.
Coordinates from slot #1 and TVD from rotary table.
Bottom hole distance is 1787.64 on azimuth 23.11 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 20.73 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ