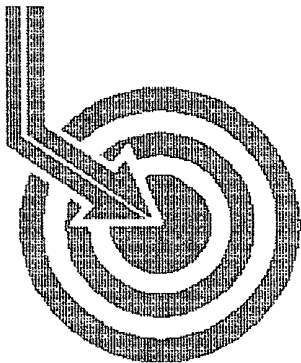




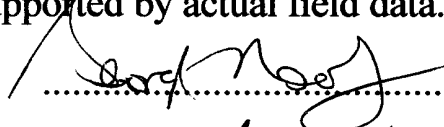
Scientific Drilling

MARATHON OIL COMPANY

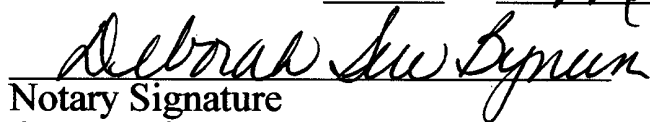
Field: Indian Basin
Site: Eddy County, NM
Well: Indian Hills #50
Wellpath: VH - Job #32K0203060
Survey: 02/09/03



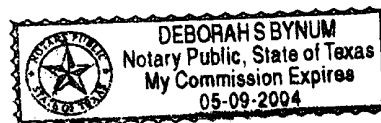
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....Company Representative

Notorized this date 20th of March, 2003.



Notary Signature
County of Midland
State of Texas



Scientific Drilling International

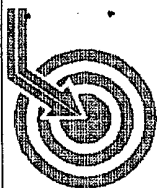
Survey Report

Company: MARATHON OIL COMPANY Field: Indian Basin Site: Eddy County, NM Well: Indian Hills #50 Wellpath: VH - Job #32K0203060	Date: 3/20/2003 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 11:54:09 Site: Eddy County, NM, True North SITE 0.0 above Mean Sea Level Well (0.0E, 0.0N, 207.9Azi) Minimum Curvature	Page: 1
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Survey: 02/09/03 KSRG 0'-3660'	Start Date: 2/12/2003 Engineer: Jeff Cossey
Company: Scientific Drilling Internatio Tool: Keeper	

Survey

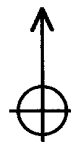
MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
0.0	0.00	0.09	0.0	0.0	0.0	0.0	0.0	0.00	0.00
100.0	1.26	311.33	100.0	-0.3	0.7	-0.8	1.1	311.33	1.26
200.0	1.23	312.87	200.0	-0.8	2.2	-2.4	3.3	311.84	0.04
300.0	1.35	313.01	299.9	-1.4	3.7	-4.1	5.5	312.29	0.12
400.0	1.29	313.30	399.9	-2.0	5.3	-5.8	7.8	312.54	0.06
500.0	1.29	313.63	499.9	-2.6	6.8	-7.4	10.1	312.75	0.01
600.0	0.61	290.43	599.9	-2.8	7.8	-8.7	11.7	311.84	0.77
700.0	0.38	277.51	699.9	-2.6	8.0	-9.5	12.5	310.09	0.25
800.0	0.32	238.17	799.9	-2.3	7.9	-10.1	12.8	308.11	0.24
900.0	0.33	198.54	899.9	-1.7	7.5	-10.4	12.9	305.73	0.22
1000.0	0.40	152.34	999.9	-1.3	6.9	-10.4	12.5	303.75	0.29
1100.0	0.45	147.07	1099.9	-0.9	6.3	-10.0	11.8	302.18	0.06
1200.0	0.38	123.97	1199.9	-0.6	5.8	-9.5	11.1	301.28	0.18
1300.0	0.50	101.78	1299.9	-0.7	5.5	-8.8	10.4	301.99	0.21
1400.0	0.58	108.41	1399.9	-0.9	5.2	-7.9	9.5	303.62	0.10
1500.0	0.54	116.70	1499.9	-1.0	4.9	-7.0	8.5	304.90	0.09
1600.0	0.52	122.68	1599.8	-1.0	4.4	-6.2	7.6	305.54	0.06
1700.0	0.53	104.89	1699.8	-1.1	4.1	-5.4	6.7	307.12	0.16
1800.0	0.41	132.71	1799.8	-1.1	3.7	-4.6	5.9	308.47	0.25
1900.0	0.25	166.36	1899.8	-0.8	3.2	-4.3	5.4	306.77	0.24
2000.0	0.29	177.12	1999.8	-0.5	2.8	-4.3	5.1	303.02	0.06
2100.0	0.32	188.04	2099.8	0.0	2.2	-4.3	4.8	297.60	0.07
2200.0	0.27	196.78	2199.8	0.5	1.7	-4.4	4.7	291.60	0.07
2300.0	0.40	256.10	2299.8	1.0	1.4	-4.8	5.0	286.60	0.35
2400.0	0.57	253.63	2399.8	1.6	1.2	-5.6	5.8	282.14	0.17
2500.0	0.57	253.89	2499.8	2.3	0.9	-6.6	6.6	278.06	0.00
2600.0	0.55	263.61	2599.8	2.9	0.7	-7.5	7.6	275.61	0.10
2700.0	0.71	267.00	2699.8	3.5	0.7	-8.6	8.7	274.34	0.16
2800.0	0.61	277.10	2799.8	4.0	0.7	-9.8	9.8	274.03	0.15
2900.0	0.62	276.38	2899.8	4.4	0.8	-10.8	10.9	274.29	0.01
3000.0	0.59	292.17	2999.8	4.6	1.1	-11.9	11.9	275.15	0.17
3100.0	0.51	298.92	3099.8	4.7	1.5	-12.7	12.8	276.63	0.10
3200.0	0.62	283.42	3199.8	4.8	1.8	-13.6	13.8	277.59	0.19
3300.0	0.41	287.09	3299.8	5.0	2.0	-14.5	14.7	278.04	0.21
3400.0	0.42	263.79	3399.8	5.3	2.1	-15.2	15.4	277.91	0.17
3500.0	0.33	281.59	3499.8	5.5	2.1	-15.9	16.0	277.66	0.15
3600.0	0.35	265.10	3599.8	5.8	2.2	-16.5	16.6	277.50	0.10
3660.0	0.46	290.32	3659.8	5.9	2.2	-16.9	17.0	277.55	0.34



**Scientific
Drilling**

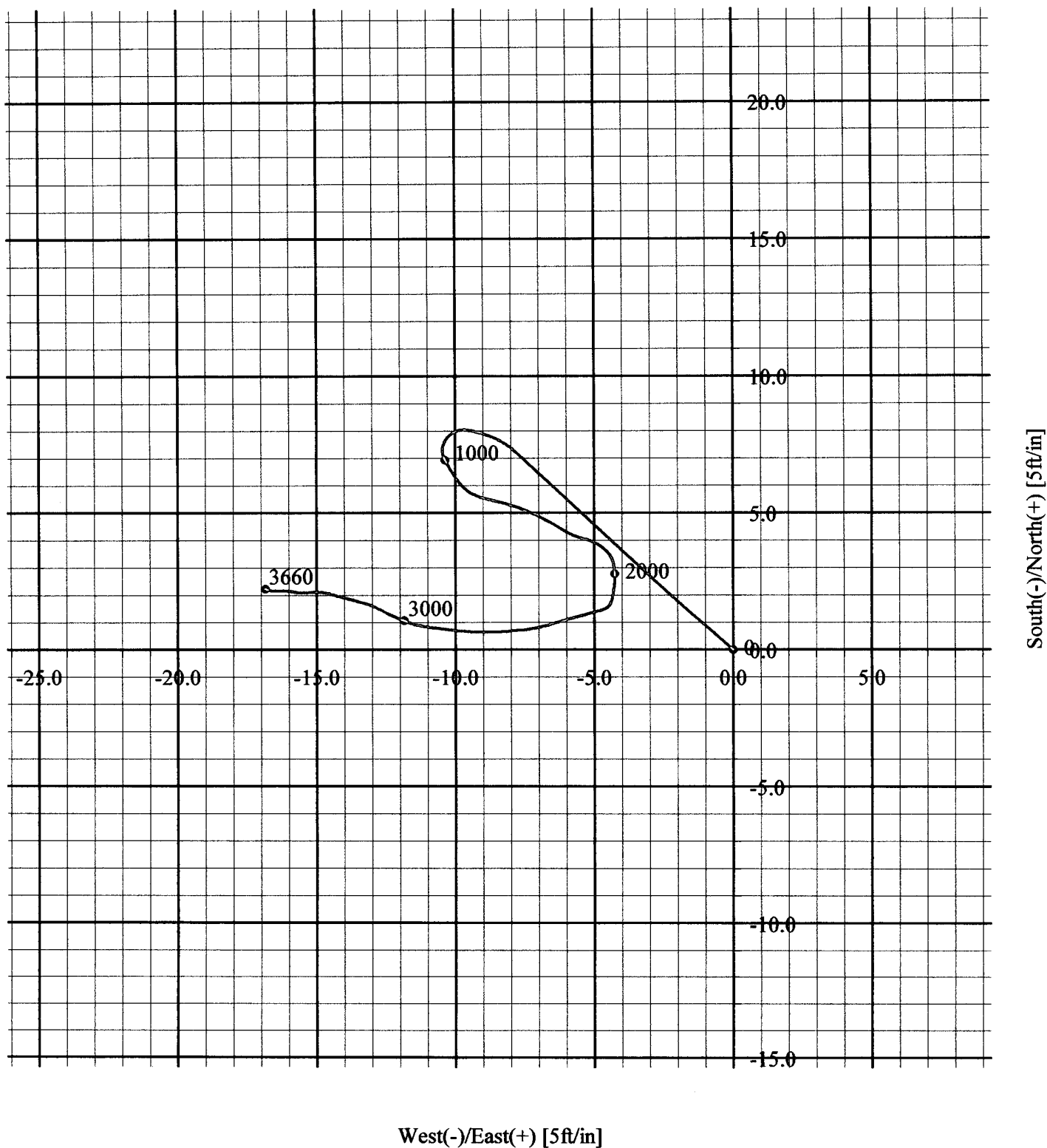
Field: Indian Basin
Site: Eddy County, NM
Well: Indian Hills #50
Wellpath: VH - Job #32K0203060
Survey: 02/09/03

T/M



All Angles Relative
To True North

True North: 0.00
Magnetic North: 0.00



Marathon Oil Company
INDIAN HILLS UNIT NO.50

slot #1
INDIAN BASIN
Eddy County New Mexico



S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : MWD
Our ref : svy2163
License :

Date printed : 12-Mar-2003
Date created : 12-Feb-2003
Last revised : 4-Mar-2003

Field is centred on n32 30 0.000,w104 30 0
Structure is centred on 446929.600,537185.500,999.00000,N

Slot location is n32 28 36.181,w104 30 19.538
Slot Grid coordinates are N 537185.500, E 446929.600
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - New Mexico East (3001), Spheroid: Clarke - 1866

Reference North is Grid North

Marathon Oil Company
INDIAN HILLS UNIT NO.50,slot #1
INDIAN BASIN,Eddy County New Mexico

SURVEY LISTING Page 1
Your ref : MWD
Last revised : 4-Mar-2003

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	G R I D Easting	C O O R D S Northing
0.00	0.00	0.00	0.00	0.00N	0.00E	0.00	0.00	446929.60	537185.50
100.00	1.26	311.33	99.99	0.73N	0.83W	1.26	-0.25	446928.77	537186.23
200.00	1.23	312.87	199.97	2.18N	2.44W	0.04	-0.79	446927.16	537187.68
300.00	1.35	313.01	299.94	3.72N	4.09W	0.12	-1.37	446925.51	537189.22
400.00	1.29	313.30	399.92	5.29N	5.77W	0.06	-1.97	446923.83	537190.79
500.00	1.29	313.63	499.89	6.84N	7.40W	0.01	-2.58	446922.20	537192.34
600.00	0.61	290.43	599.88	7.80N	8.71W	0.77	-2.81	446920.89	537193.30
700.00	0.38	277.51	699.87	8.03N	9.54W	0.25	-2.63	446920.06	537193.53
800.00	0.32	238.17	799.87	7.93N	10.11W	0.24	-2.27	446919.49	537193.43
900.00	0.33	198.54	899.87	7.51N	10.44W	0.22	-1.74	446919.16	537193.01
1000.00	0.40	152.34	999.87	6.93N	10.37W	0.29	-1.26	446919.23	537192.43
1100.00	0.45	147.04	1099.87	6.29N	9.99W	0.06	-0.87	446919.61	537191.79
1200.00	0.38	123.97	1199.86	5.77N	9.50W	0.18	-0.65	446920.10	537191.27
1300.00	0.50	101.78	1299.86	5.50N	8.80W	0.21	-0.73	446920.80	537191.00
1400.00	0.58	108.41	1399.86	5.25N	7.89W	0.10	-0.94	446921.71	537190.75
1500.00	0.54	116.70	1499.85	4.88N	6.99W	0.09	-1.03	446922.61	537190.38
1600.00	0.52	122.68	1599.85	4.42N	6.19W	0.06	-1.01	446923.41	537189.92
1700.00	0.53	104.89	1699.84	4.06N	5.36W	0.16	-1.07	446924.24	537189.56
1800.00	0.41	132.71	1799.84	3.70N	4.65W	0.25	-1.09	446924.95	537189.20
1900.00	0.25	166.36	1899.84	3.24N	4.33W	0.24	-0.83	446925.27	537188.74
2000.00	0.29	177.12	1999.84	2.78N	4.27W	0.06	-0.45	446925.33	537188.28
2100.00	0.32	188.04	2099.84	2.25N	4.30W	0.07	0.03	446925.30	537187.75
2200.00	0.27	196.78	2199.83	1.74N	4.40W	0.07	0.52	446925.20	537187.24
2300.00	0.40	256.10	2299.83	1.43N	4.81W	0.35	0.99	446924.79	537186.93
2400.00	0.57	253.63	2399.83	1.21N	5.63W	0.17	1.57	446923.97	537186.71
2500.00	0.57	253.89	2499.82	0.93N	6.58W	0.00	2.26	446923.02	537186.43
2600.00	0.55	263.61	2599.82	0.74N	7.54W	0.10	2.88	446922.06	537186.24
2700.00	0.71	267.00	2699.81	0.66N	8.63W	0.16	3.47	446920.97	537186.16
2800.00	0.61	277.10	2799.81	0.69N	9.78W	0.15	3.97	446919.82	537186.19
2900.00	0.62	276.38	2899.80	0.81N	10.85W	0.01	4.36	446918.75	537186.31

3000.00	0.58	292.17	2999.80	1.07N	11.85W	0.17	4.61	446917.75	537186.57
3100.00	0.51	298.92	3099.79	1.47N	12.71W	0.09	4.66	446916.89	537186.97
3200.00	0.62	283.42	3199.79	1.81N	13.63W	0.19	4.78	446915.97	537187.31
3300.00	0.41	287.09	3299.78	2.04N	14.49W	0.21	4.99	446915.11	537187.54
3400.00	0.42	263.79	3399.78	2.11N	15.20W	0.17	5.26	446914.40	537187.61
3500.00	0.33	281.59	3499.78	2.13N	15.85W	0.15	5.55	446913.75	537187.63
3600.00	0.35	265.10	3599.78	2.16N	16.43W	0.10	5.79	446913.17	537187.66
3660.00	0.46	290.32	3659.77	2.23N	16.84W	0.34	5.92	446912.76	537187.73
3744.00	1.14	224.60	3743.77	1.75N	17.75W	1.24	6.77	446911.85	537187.25
3808.00	4.75	217.92	3807.67	0.80S	19.82W	5.66	9.99	446909.78	537184.70
3872.00	5.19	212.29	3871.43	5.33S	23.00W	1.03	15.49	446906.60	537180.17
3935.00	5.71	215.11	3934.15	10.31S	26.32W	0.93	21.44	446903.28	537175.19
3998.00	6.94	219.30	3996.76	15.82S	30.53W	2.08	28.28	446899.07	537169.68
4060.00	7.70	218.60	4058.26	21.96S	35.50W	1.23	36.03	446894.10	537163.54
4122.00	8.60	217.90	4119.63	28.86S	40.94W	1.46	44.68	446888.66	537156.64
4186.00	10.00	216.80	4182.79	37.09S	47.21W	2.20	54.88	446882.39	537148.41
4249.00	11.30	216.80	4244.70	46.41S	54.18W	2.06	66.39	446875.42	537139.09
4312.00	12.60	214.70	4306.33	57.00S	61.79W	2.18	79.31	446867.81	537128.50
4376.00	13.70	212.30	4368.65	69.15S	69.81W	1.92	93.80	446859.79	537116.35
4440.00	14.70	210.50	4430.70	82.55S	77.98W	1.71	109.47	446851.62	537102.95

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from structure and TVD from rotary table.

Bottom hole distance is 1278.99 on azimuth 208.63 degrees from wellhead.

Vertical section is from N 0.00 W 0.00 on azimuth 207.94 degrees.

Grid is mercator - New Mexico East (3001).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Marathon Oil Company
INDIAN HILLS UNIT NO.50,slot #1
INDIAN BASIN,Eddy County New Mexico

SURVEY LISTING Page 2
Your ref : MWD
Last revised : 4-Mar-2003

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	G R I D Easting	C O O R D S Northing
4503.00	15.70	209.10	4491.49	96.89S	86.19W	1.69	125.98	446843.41	537088.61
4566.00	16.70	206.60	4551.99	112.43S	94.39W	1.93	143.55	446835.21	537073.07
4630.00	16.40	207.00	4613.34	128.70S	102.61W	0.50	161.78	446826.99	537056.80
4693.00	16.30	205.30	4673.79	144.62S	110.42W	0.78	179.50	446819.18	537040.88
4755.00	15.80	205.60	4733.38	160.10S	117.79W	0.82	196.63	446811.81	537025.40
4817.00	15.80	205.30	4793.03	175.34S	125.04W	0.13	213.49	446804.56	537010.16
4881.00	16.40	205.30	4854.52	191.39S	132.63W	0.94	231.22	446796.97	536994.11
4945.00	16.20	205.60	4915.95	207.61S	140.34W	0.34	249.17	446789.26	536977.89
5008.00	15.70	205.30	4976.53	223.24S	147.78W	0.80	266.46	446781.82	536962.26
5069.00	15.70	206.00	5035.25	238.12S	154.93W	0.31	282.96	446774.67	536947.38
5133.00	16.00	205.60	5096.82	253.86S	162.54W	0.50	300.42	446767.06	536931.64
5196.00	16.20	204.90	5157.35	269.66S	169.99W	0.44	317.87	446759.61	536915.84
5260.00	16.10	204.50	5218.82	285.83S	177.43W	0.23	335.65	446752.17	536899.67
5323.00	16.10	203.90	5279.35	301.77S	184.59W	0.26	353.08	446745.01	536883.73
5387.00	16.30	202.10	5340.81	318.20S	191.56W	0.84	370.87	446738.04	536867.30
5450.00	15.50	202.80	5401.40	334.15S	198.15W	1.31	388.05	446731.45	536851.35
5513.00	15.10	203.20	5462.17	349.46S	204.65W	0.66	404.61	446724.95	536836.04
5577.00	15.50	203.90	5523.90	364.94S	211.40W	0.69	421.45	446718.20	536820.56
5640.00	17.20	203.20	5584.35	381.20S	218.48W	2.72	439.13	446711.12	536804.30
5703.00	16.20	205.20	5644.69	397.71S	225.89W	1.83	457.19	446703.71	536787.79
5766.00	15.80	204.20	5705.25	413.48S	233.15W	0.77	474.53	446696.45	536772.02
5830.00	15.70	205.30	5766.85	429.26S	240.42W	0.49	491.87	446689.18	536756.24
5894.00	15.20	206.30	5828.53	444.61S	247.84W	0.89	508.91	446681.76	536740.89
5957.00	15.20	205.90	5889.33	459.44S	255.10W	0.17	525.42	446674.50	536726.06
6021.00	14.70	206.00	5951.16	474.29S	262.33W	0.78	541.92	446667.27	536711.21
6085.00	15.30	207.70	6012.98	489.07S	269.81W	1.16	558.48	446659.79	536696.43
6148.00	16.40	205.60	6073.59	504.45S	277.52W	1.97	575.68	446652.08	536681.05
6211.00	15.50	206.00	6134.16	520.03S	285.05W	1.44	592.98	446644.55	536665.47

6274.00	14.90	208.40	6194.96	534.72S	292.59W	1.38	609.49	446637.01	536650.78
6338.00	14.70	207.00	6256.83	549.20S	300.19W	0.64	625.84	446629.41	536636.30
6401.00	15.00	208.00	6317.73	563.52S	307.65W	0.63	641.98	446621.95	536621.98
6464.00	15.40	206.30	6378.53	578.22S	315.19W	0.95	658.50	446614.41	536607.28
6528.00	16.00	208.40	6440.14	593.59S	323.15W	1.29	675.81	446606.45	536591.91
6592.00	15.70	205.20	6501.71	609.19S	331.03W	1.44	693.28	446598.57	536576.31
6656.00	16.30	208.80	6563.23	624.89S	339.04W	1.81	710.91	446590.56	536560.61
6720.00	17.60	207.50	6624.45	641.35S	347.84W	2.12	729.57	446581.76	536544.15
6783.00	16.20	206.30	6684.72	657.67S	356.13W	2.29	747.88	446573.47	536527.83
6846.00	16.10	204.90	6745.24	673.48S	363.70W	0.64	765.39	446565.90	536512.02
6909.00	15.50	206.30	6805.86	688.95S	371.11W	1.13	782.52	446558.49	536496.55
6973.00	16.30	204.20	6867.41	704.81S	378.58W	1.54	800.04	446551.02	536480.69
7037.00	16.90	205.20	6928.74	721.42S	386.22W	1.04	818.29	446543.38	536464.08
7101.00	16.80	205.60	6989.99	738.17S	394.18W	0.24	836.82	446535.42	536447.33
7164.00	16.40	205.60	7050.37	754.41S	401.96W	0.63	854.81	446527.64	536431.09
7228.00	15.30	202.10	7111.94	770.38S	409.04W	2.28	872.23	446520.56	536415.12
7290.00	15.40	203.90	7171.72	785.48S	415.45W	0.79	888.58	446514.15	536400.02
7354.00	15.60	206.30	7233.40	800.97S	422.71W	1.05	905.66	446506.89	536384.53
7418.00	16.20	207.70	7294.95	816.59S	430.67W	1.11	923.19	446498.93	536368.91
7482.00	16.50	208.00	7356.36	832.52S	439.09W	0.49	941.21	446490.51	536352.98
7545.00	17.30	208.00	7416.64	848.69S	447.68W	1.27	959.52	446481.92	536336.81
7607.00	17.00	207.70	7475.88	864.85S	456.22W	0.50	977.80	446473.38	536320.65

All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from structure and TVD from rotary table.

Bottom hole distance is 1278.99 on azimuth 208.63 degrees from wellhead.

Vertical section is from N 0.00 W 0.00 on azimuth 207.94 degrees.

Grid is mercator - New Mexico East (3001).

Grid coordinates in FEET and computed using the Clarke - 1866 spheroid

Presented by Baker Hughes INTEQ

Marathon Oil Company
 INDIAN HILLS UNIT NO.50, slot #1
 INDIAN BASIN, Eddy County New Mexico

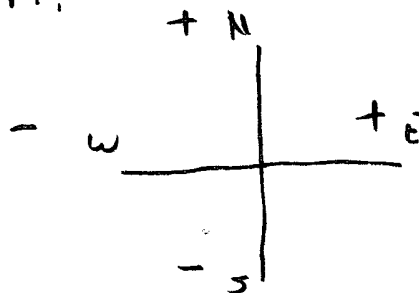
SURVEY LISTING Page 3

Your ref : MWD

Last revised : 4-Mar-2003

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	G R I D Easting	C O O R D S Northing
7671.00	17.20	208.40	7537.05	881.46S	465.07W	0.45	996.62	446464.53	536304.04
7734.00	16.90	210.90	7597.29	897.51S	474.21W	1.26	1015.08	446455.39	536287.99
7798.00	15.90	211.90	7658.68	912.93S	483.62W	1.62	1033.12	446445.98	536272.57
7862.00	15.40	210.50	7720.31	927.70S	492.56W	0.98	1050.35	446437.04	536257.80
7926.00	15.70	209.10	7781.97	942.59S	501.09W	0.75	1067.50	446428.51	536242.91
7987.00	16.40	210.50	7840.59	957.22S	509.47W	1.31	1084.36	446420.13	536228.28
8051.00	16.40	211.60	7901.98	972.70S	518.79W	0.49	1102.40	446410.81	536212.80
8114.00	16.50	212.60	7962.41	987.81S	528.27W	0.48	1120.19	446401.33	536197.69
8178.00	16.50	211.60	8023.77	1003.21S	537.93W	0.44	1138.32	446391.67	536182.29
8241.00	16.20	211.90	8084.22	1018.29S	547.26W	0.49	1156.01	446382.34	536167.21
8303.00	16.50	213.40	8143.72	1032.98S	556.68W	0.84	1173.41	446372.92	536152.52
8367.00	16.20	211.60	8205.13	1048.17S	566.36W	0.92	1191.36	446363.24	536137.33
8429.00	15.70	212.60	8264.74	1062.61S	575.41W	0.92	1208.36	446354.19	536122.89
8492.00	15.50	212.60	8325.42	1076.88S	584.54W	0.32	1225.24	446345.06	536108.62
8555.00	15.20	212.60	8386.17	1090.93S	593.53W	0.48	1241.86	446336.07	536094.57
8619.00	14.90	210.20	8447.98	1105.11S	602.18W	1.08	1258.45	446327.42	536080.39
8645.00	14.60	211.60	8473.12	1110.79S	605.58W	1.79	1265.06	446324.02	536074.71
8700.00	14.60	211.60	8526.34	1122.60S	612.85W	0.00	1278.89	446316.75	536062.90

Terminus Pt.



All data in feet unless otherwise stated. Calculation uses minimum curvature method.

Coordinates from structure and TVD from rotary table.

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INDIAN HILLS UNIT NO.50,slot #1
INDIAN BASIN,Eddy County New Mexico

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Targets associated with this wellpath

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Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised

TD	446332.600,536059.800,0.00000	8550.00	1125.70S 597.00W	7-Feb-2003