

Operator did not supply Directional Drill Survey to TD.
TD @ 13000' ; Survey TD @11570'

Sur: D-3-22s-35e, 803/N & 660/W
API #30-025-36515

**A Gyrodata Directional Survey
for**

EOG RESOURCES

Location: GREY WOLF #33, LEA COUNTY, Lease: SAN MIGUEL #3 Well: STATE #1, 4 1/2" DRILLPIPE

Job Number: MD0304G_138A

Run Date: 3/4/2004 1:07:53 PM

Surveyor: JAMES BUTLER/HENRY DREW

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.425833 deg. N Longitude: 103.361389 deg. W

Azimuth Correction:

Gyro: -0.52000 deg West to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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Lease: SAN MIGUEL #3 Well: STATE #1, 4 1/2" DRILLPIPE

Job Number: MD0304G_138A

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg/ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 TO 11585 FT. RATE GYROSCOPIC MULTISHOT DROP SURVEY RUN INSIDE 4 1/2" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO GREY WOLF RIG #33 R.K.B.						
83.45	0.41	142.08	0.49	83.45	0.3 142.1	0.23 S 0.18 E
176.30	0.41	155.65	0.10	176.30	1.0 146.8	0.80 S 0.52 E
269.15	1.02	152.59	0.66	269.14	2.1 150.5	1.84 S 1.04 E
362.00	1.12	153.47	0.11	361.97	3.8 151.6	3.39 S 1.83 E
454.85	1.08	157.86	0.10	454.81	5.6 152.9	5.01 S 2.56 E
547.70	0.94	157.27	0.15	547.64	7.3 154.0	6.52 S 3.19 E
640.55	1.19	156.64	0.28	640.48	9.0 154.5	8.11 S 3.87 E
733.40	1.24	152.91	0.10	733.30	11.0 154.6	9.90 S 4.71 E
826.25	1.39	149.99	0.18	826.13	13.1 154.0	11.77 S 5.73 E
919.10	1.43	146.45	0.10	918.95	15.4 153.2	13.71 S 6.93 E
1011.95	1.33	139.35	0.21	1011.77	17.6 151.9	15.49 S 8.27 E
1104.80	1.14	143.40	0.22	1104.60	19.5 150.8	17.05 S 9.52 E
1197.65	1.00	133.63	0.25	1197.44	21.2 149.8	18.35 S 10.66 E
1290.50	0.81	117.66	0.34	1290.28	22.6 148.4	19.21 S 11.83 E

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1383.35	0.78	108.57	0.14	1383.12	23.6 146.6	19.72 S 13.00 E
1476.20	0.76	104.29	0.06	1475.96	24.6 144.7	20.07 S 14.20 E
1569.05	0.52	111.13	0.28	1568.80	25.4 143.3	20.37 S 15.19 E
1661.90	0.39	110.36	0.14	1661.65	26.0 142.4	20.63 S 15.88 E
1754.75	0.19	103.94	0.21	1754.50	26.4 141.9	20.78 S 16.32 E
1847.60	0.14	72.34	0.11	1847.35	26.6 141.4	20.78 S 16.58 E
1940.45	0.17	42.96	0.09	1940.20	26.6 140.9	20.64 S 16.79 E
2033.30	0.66	51.30	0.53	2033.05	26.6 139.4	20.21 S 17.30 E
2126.15	0.92	61.64	0.32	2125.89	26.8 136.7	19.52 S 18.37 E
2219.00	1.07	53.37	0.23	2218.72	27.1 133.4	18.65 S 19.72 E
2311.85	1.06	52.38	0.02	2311.56	27.5 129.8	17.61 S 21.10 E
2404.70	1.09	52.16	0.03	2404.39	27.9 126.4	16.54 S 22.48 E
2497.55	1.08	55.70	0.07	2497.22	28.5 123.0	15.51 S 23.89 E
2590.40	1.13	54.75	0.06	2590.06	29.2 119.7	14.49 S 25.36 E
2683.25	1.05	55.80	0.09	2682.89	30.0 116.7	13.49 S 26.81 E
2776.10	1.15	52.10	0.13	2775.72	30.9 113.8	12.44 S 28.25 E
2868.95	1.18	53.98	0.06	2868.55	31.8 110.8	11.31 S 29.75 E
2961.80	1.44	50.62	0.29	2961.38	33.0 107.7	10.00 S 31.43 E

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BOG RESOURCES

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Job Number: MD0304G_138A

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg/ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3054.65	1.51	49.66	0.08	3054.20	34.3 104.3	8.47 S 33.26 E
3147.50	2.29	46.76	0.86	3147.00	36.1 100.2	6.41 S 35.54 E
3240.35	2.83	49.66	0.59	3239.75	38.8 95.4	3.65 S 38.64 E
3333.20	3.18	52.40	0.41	3332.48	42.4 90.8	0.60 S 42.43 E
3426.05	3.61	53.52	0.46	3425.16	46.9 86.7	2.71 N 46.82 E
3518.90	4.18	54.14	0.62	3517.80	52.3 82.9	6.43 N 51.91 E
3611.75	4.45	54.84	0.29	3610.38	58.5 79.7	10.49 N 57.60 E
3704.60	4.58	56.01	0.17	3702.95	65.3 77.0	14.63 N 63.62 E
3797.45	4.44	59.91	0.36	3795.51	72.2 75.2	18.51 N 69.80 E
3890.30	3.78	62.34	0.74	3888.12	78.7 74.0	21.73 N 75.63 E
3983.15	2.72	69.97	1.23	3980.82	83.9 73.4	23.91 N 80.41 E
4076.00	2.56	76.38	0.36	4073.57	88.2 73.4	25.15 N 84.49 E
4168.85	2.62	81.43	0.25	4166.33	92.3 73.7	25.95 N 88.60 E
4261.70	2.28	80.03	0.37	4259.09	96.3 74.0	26.59 N 92.52 E
4354.55	2.56	76.87	0.33	4351.86	100.2 74.1	27.38 N 96.35 E
4447.40	2.80	76.47	0.27	4444.61	104.5 74.2	28.38 N 100.58 E
4540.25	2.67	79.75	0.22	4537.35	108.9 74.4	29.30 N 104.91 E
4633.10	2.77	79.93	0.11	4630.10	113.3 74.6	30.08 N 109.25 E

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4725.95	2.77	82.38	0.13	4722.84	117.8 74.9	30.76 N 113.68 E
4818.80	1.98	85.08	0.86	4815.61	121.6 75.1	31.20 N 117.50 E
4911.65	2.25	86.48	0.30	4908.39	124.9 75.4	31.45 N 120.91 E
5004.50	2.15	96.53	0.43	5001.18	128.3 75.9	31.36 N 124.46 E
5097.35	1.87	85.17	0.52	5093.97	131.5 76.2	31.29 N 127.69 E
5190.20	1.63	99.78	0.54	5186.78	134.2 76.6	31.20 N 130.50 E
5283.05	1.01	96.96	0.67	5279.60	136.2 76.9	30.87 N 132.61 E
5375.90	0.92	109.75	0.25	5372.44	137.5 77.2	30.52 N 134.12 E
5468.75	0.51	114.70	0.44	5465.28	138.5 77.4	30.10 N 135.19 E
5561.60	0.18	332.79	0.71	5558.13	138.8 77.5	30.06 N 135.50 E
5654.45	0.17	194.12	0.35	5650.98	138.7 77.5	30.05 N 135.40 E
5747.30	0.14	197.69	0.03	5743.83	138.6 77.6	29.81 N 135.33 E
5840.15	0.15	320.55	0.27	5836.68	138.5 77.6	29.79 N 135.22 E
5933.00	0.68	321.02	0.57	5929.53	138.2 77.3	30.31 N 134.80 E
6025.85	0.96	329.68	0.33	6022.37	137.7 76.8	31.41 N 134.06 E
6118.70	1.18	330.30	0.24	6115.20	137.2 76.1	32.92 N 133.19 E
6211.55	1.40	323.05	0.29	6208.03	136.5 75.3	34.66 N 132.04 E
6304.40	1.50	313.66	0.28	6300.85	135.5 74.4	36.40 N 130.48 E
6397.25	1.63	307.53	0.22	6393.66	134.1 73.5	38.05 N 128.55 E

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6490.10	1.51	309.21	0.14	6486.48	132.6 72.6	39.62 N 126.56 E
6582.95	1.65	312.07	0.18	6579.29	131.3 71.7	41.29 N 124.62 E
6675.80	1.60	311.48	0.06	6672.11	130.0 70.7	43.04 N 122.66 E
6768.65	1.88	330.49	0.69	6764.91	129.1 69.5	45.22 N 120.94 E
6861.50	1.86	322.42	0.28	6857.72	128.5 68.2	47.74 N 119.27 E
6954.35	1.75	332.49	0.36	6950.52	128.0 66.9	50.20 N 117.70 E
7047.20	1.59	341.00	0.32	7043.33	128.0 65.7	52.67 N 116.62 E
7140.05	1.53	335.70	0.17	7136.15	128.1 64.6	55.01 N 115.69 E
7232.90	1.56	336.08	0.04	7228.96	128.2 63.4	57.30 N 114.67 E
7325.75	1.56	341.01	0.14	7321.78	128.4 62.3	59.65 N 113.75 E
7418.60	1.58	345.14	0.13	7414.59	128.9 61.2	62.08 N 113.01 E
7511.45	1.68	352.12	0.24	7507.41	129.8 60.1	64.67 N 112.49 E
7604.30	1.53	355.41	0.18	7600.22	130.8 59.1	67.26 N 112.21 E
7697.15	1.45	359.07	0.14	7693.04	132.0 58.1	69.67 N 112.09 E
7790.00	1.21	3.70	0.28	7785.86	133.2 57.4	71.83 N 112.13 E
7882.85	1.19	11.04	0.17	7878.69	134.4 56.7	73.76 N 112.38 E
7975.70	1.05	24.38	0.32	7971.52	135.8 56.2	75.48 N 112.92 E
8068.55	1.27	125.06	1.94	8064.36	136.9 56.5	75.67 N 114.11 E

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MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
8161.40	1.25	45.27	1.74	8157.20	138.3 56.8	75.79 N 115.68 E
8254.25	1.31	44.97	0.06	8250.02	140.3 56.6	77.25 N 117.15 E
8347.10	1.93	48.91	0.68	8342.84	142.9 56.4	79.03 N 119.08 E
8439.95	2.06	55.51	0.28	8435.63	146.1 56.3	81.00 N 121.63 E
8532.80	2.29	48.54	0.38	8528.41	149.6 56.2	83.17 N 124.40 E
8625.65	2.17	55.52	0.32	8621.19	153.2 56.1	85.40 N 127.24 E
8718.50	2.22	61.79	0.26	8713.97	156.8 56.2	87.24 N 130.27 E
8811.35	2.04	67.20	0.29	8806.76	160.2 56.4	88.73 N 133.38 E
8904.20	1.55	72.08	0.55	8899.56	163.0 56.6	89.76 N 136.09 E
8997.05	1.60	75.16	0.11	8992.38	165.5 56.9	90.48 N 138.54 E
9089.90	2.20	90.47	0.84	9085.18	168.2 57.3	90.79 N 141.57 E
9182.75	2.33	73.28	0.74	9177.96	171.5 57.8	91.32 N 145.16 E
9275.60	2.53	69.32	0.28	9270.72	175.3 58.1	92.59 N 148.88 E
9368.45	2.40	68.35	0.14	9363.49	179.2 58.4	94.03 N 152.61 E
9461.30	2.51	61.91	0.32	9456.25	183.2 58.5	95.70 N 156.21 E
9554.15	2.28	58.79	0.28	9549.02	187.1 58.5	97.62 N 159.58 E
9647.00	2.22	59.92	0.08	9641.80	190.7 58.6	99.48 N 162.71 E
9739.85	2.07	64.30	0.24	9734.59	194.2 58.6	101.10 N 165.78 E

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9832.70	1.87	66.93	0.23	9827.38	197.3 58.7	102.43 N 168.69 E
9925.55	1.74	73.30	0.26	9920.18	200.2 58.9	103.43 N 171.43 E
10018.40	1.47	77.28	0.32	10013.00	202.7 59.1	104.09 N 173.95 E
10111.25	1.47	96.79	0.54	10105.82	204.8 59.4	104.21 N 176.29 E
10204.10	2.35	90.75	0.97	10198.61	207.4 59.9	104.05 N 179.38 E
10296.95	2.68	91.06	0.35	10291.38	210.9 60.5	103.98 N 183.46 E
10389.80	2.95	86.42	0.38	10384.11	214.9 61.0	104.09 N 188.01 E
10482.65	2.54	84.18	0.45	10476.86	219.0 61.5	104.45 N 192.44 E
10575.50	1.91	85.04	0.68	10569.64	222.3 61.9	104.79 N 196.03 E
10668.35	1.58	90.05	0.40	10662.44	224.8 62.2	104.93 N 198.86 E
10761.20	1.18	95.55	0.46	10755.27	226.8 62.5	104.83 N 201.09 E
10854.05	1.33	113.02	0.44	10848.09	228.3 62.8	104.32 N 203.03 E
10946.90	1.22	103.58	0.26	10940.92	229.7 63.2	103.66 N 204.98 E
11039.75	1.19	102.17	0.04	11033.75	231.2 63.5	103.23 N 206.88 E
11132.60	1.27	105.68	0.12	11126.58	232.7 63.8	102.75 N 208.82 E
11225.45	1.49	97.28	0.32	11219.40	234.5 64.1	102.32 N 211.01 E
11318.30	0.90	73.14	0.82	11312.23	236.2 64.3	102.37 N 212.90 E
11411.15	0.69	81.45	0.26	11405.07	237.5 64.4	102.67 N 214.15 E
11504.00	0.54	62.36	0.27	11497.92	238.5 64.4	102.95 N 215.08 E

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11534.00	0.51	60.12	0.11	11527.92	238.7 64.4	103.08 N 215.33 E
11570.00	0.49	52.38	0.20	11563.92	239.0 64.4	103.26 N 215.59 E

Final Station Closure: Distance: 239.04 ft Az: 64.41 deg.