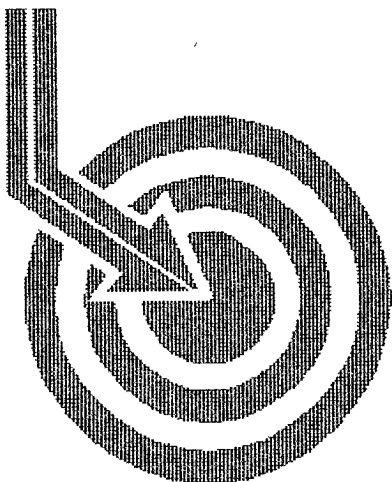




Scientific Drilling

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HOBBSD

COG RESOURCES

Field: Maljamar
Site: Lea County, NM
Well: MC Federal #35
Wellpath: DH - Job #32D0210081
Survey: 02/10/10-02/17/10

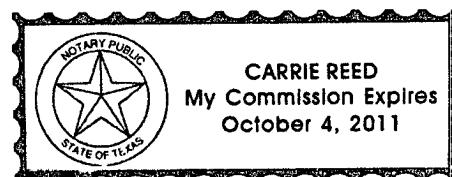
SUR: L-21-17s-32e, 1395/S & 105/W;
BHL: M-21-17s-32e, 981/S & 344/W
API # 30-025-39107

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

Robert
Company Representative

Notarized this date 11th of March, 2010.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific Drilling International, Inc.

Survey Report

Company: COG RESOURCES	Date: 2/15/2010	Time: 10:44:37	Page: 1
Field: Maljamar	Co-ordinate(NE) Reference:	Site: Lea County, NM, True North	
Site: Lea County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: MC Federal #35	Section (VS) Reference:	Well (0.00N,0.00E,150.61Azi)	
Wellpath: VH - Job #32K0210093	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: 02/10/10	Start Date: 2/10/2010
Company: Scientific Drilling Internatio	Engineer: Guebara/Garza/Renteria
Tool: Keeper,Keeper Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	359.70	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.05	282.10	100.0	0.0	0.0	0.0	0.05	0.0	282.10
200.0	0.17	240.02	200.0	-0.1	-0.1	-0.2	0.14	0.2	255.36
300.0	0.30	242.57	300.0	-0.1	-0.3	-0.6	0.13	0.6	246.44
400.0	0.20	284.90	400.0	-0.2	-0.3	-1.0	0.20	1.0	251.51
500.0	0.50	272.69	500.0	-0.5	-0.3	-1.6	0.31	1.6	260.62
600.0	0.32	274.59	600.0	-0.9	-0.2	-2.3	0.18	2.3	264.57
700.0	0.23	282.63	700.0	-1.2	-0.2	-2.8	0.10	2.8	266.86
800.0	0.26	312.64	800.0	-1.6	0.0	-3.1	0.13	3.1	270.84
900.0	0.35	311.19	900.0	-2.1	0.4	-3.5	0.09	3.6	276.48
1000.0	0.30	322.34	1000.0	-2.6	0.8	-3.9	0.08	4.0	281.67
1100.0	0.67	29.22	1100.0	-3.2	1.5	-3.8	0.62	4.1	291.92
1200.0	0.95	31.65	1200.0	-3.9	2.7	-3.1	0.28	4.1	311.76
1300.0	0.99	38.28	1300.0	-4.6	4.1	-2.1	0.12	4.6	333.01
1400.0	1.37	45.56	1399.9	-5.3	5.6	-0.7	0.41	5.7	352.79
1500.0	1.65	41.90	1499.9	-6.0	7.6	1.1	0.30	7.6	8.30
1600.0	2.06	41.19	1599.9	-7.1	10.0	3.2	0.41	10.5	18.03
1700.0	2.41	42.01	1699.8	-8.4	12.9	5.8	0.35	14.1	24.37
1800.0	2.99	42.14	1799.7	-9.9	16.4	9.0	0.58	18.7	28.76
1900.0	3.30	37.61	1899.5	-11.8	20.6	12.5	0.40	24.1	31.25
1950.0	3.60	40.45	1949.4	-12.9	22.9	14.4	0.69	27.1	32.12



Scientific Drilling International, Inc.

Survey Report

Company: COG RESOURCES
Field: Maljamar
Site: Lea County, NM
Well: MC Federal #35
Wellpath: DH - Job #32D0210081

Date: 2/24/2010 Time: 09:11:26 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,150.61Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 02/10/10-02/17/10
MWD 2063'-6998'

Start Date: 2/10/2010

Company: Scientific Drilling Internatio
Tool: MWD,MWD

Engineer: Lopez/Becker
Tied-to: From: Definitive Path

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
1950.0	3.60	40.45	1949.4	-12.9	22.9	14.4	0.00	27.1	32.12
2063.0	3.32	42.36	2062.2	-15.2	28.1	18.9	0.27	33.8	33.98
2125.0	3.03	61.21	2124.1	-15.7	30.2	21.5	1.74	37.1	35.54
2187.0	3.50	85.94	2186.0	-14.9	31.1	24.9	2.37	39.8	38.66
2249.0	4.62	104.75	2247.9	-12.3	30.6	29.2	2.78	42.3	43.65
2311.0	4.65	117.32	2309.7	-8.5	28.8	33.8	1.64	44.4	49.59
2373.0	4.97	126.72	2371.5	-3.9	26.0	38.2	1.37	46.2	55.73
2436.0	5.33	141.11	2434.2	1.4	22.1	42.2	2.12	47.7	62.35
2498.0	6.66	152.22	2495.9	7.9	16.7	45.7	2.84	48.7	69.93
2561.0	7.85	155.57	2558.4	15.8	9.6	49.2	2.00	50.1	79.01
2623.0	7.52	155.17	2619.8	24.1	2.0	52.7	0.54	52.7	87.80
2717.0	6.44	151.17	2713.1	35.5	-8.2	57.8	1.26	58.4	98.06
2811.0	7.53	151.36	2806.4	46.9	-18.2	63.3	1.16	65.8	106.05
2905.0	6.39	148.26	2899.7	58.3	-28.1	69.0	1.28	74.5	112.13
2999.0	7.16	150.41	2993.1	69.4	-37.6	74.6	0.86	83.6	116.74
3092.0	6.43	146.93	3085.4	80.4	-47.0	80.3	0.90	93.1	120.33
3187.0	6.36	159.40	3179.8	90.9	-56.4	85.1	1.46	102.1	123.53
3280.0	8.44	151.67	3272.0	102.8	-67.2	90.1	2.47	112.4	126.71
3374.0	7.71	151.02	3365.1	116.0	-78.8	96.5	0.78	124.6	129.25
3468.0	7.08	149.57	3458.3	128.1	-89.3	102.5	0.70	135.9	131.08
3562.0	7.59	160.11	3551.6	140.0	-100.2	107.5	1.53	146.9	132.97
3655.0	7.49	157.06	3643.8	152.1	-111.5	111.9	0.44	158.0	134.89
3726.0	7.75	157.16	3714.1	161.5	-120.2	115.6	0.37	166.8	136.11
3819.0	7.60	161.95	3806.3	173.7	-131.8	120.0	0.71	178.2	137.70
3912.0	7.37	164.88	3898.5	185.5	-143.4	123.4	0.48	189.2	139.29
4006.0	6.95	162.27	3991.8	196.9	-154.7	126.7	0.57	199.9	140.67
4099.0	8.80	160.61	4083.9	209.5	-166.7	130.8	2.00	211.9	141.89
4192.0	8.58	159.06	4175.8	223.3	-179.9	135.6	0.35	225.3	142.99
4285.0	8.59	158.66	4267.8	237.1	-192.9	140.6	0.07	238.7	143.90
4378.0	8.75	159.49	4359.7	250.9	-206.0	145.6	0.22	252.3	144.73
4472.0	8.46	160.49	4452.7	264.8	-219.2	150.5	0.35	265.8	145.53
4566.0	8.35	161.30	4545.6	278.3	-232.2	155.0	0.17	279.1	146.28
4658.0	8.15	161.28	4636.7	291.3	-244.7	159.2	0.22	291.9	146.95
4751.0	8.14	160.95	4728.8	304.2	-257.1	163.5	0.05	304.7	147.56
4844.0	7.09	159.69	4820.9	316.4	-268.7	167.6	1.14	316.7	148.05
4937.0	7.17	160.22	4913.2	327.8	-279.6	171.6	0.11	328.0	148.47
5030.0	7.04	153.58	5005.5	339.2	-290.1	176.1	0.89	339.4	148.75
5123.0	6.88	153.12	5097.8	350.5	-300.2	181.1	0.18	350.6	148.90
5217.0	6.82	152.46	5191.1	361.7	-310.2	186.2	0.11	361.8	149.02
5312.0	5.80	153.34	5285.6	372.1	-319.5	191.0	1.08	372.2	149.13
5405.0	5.75	154.04	5378.1	381.4	-327.9	195.1	0.09	381.5	149.24
5499.0	4.25	151.96	5471.7	389.6	-335.2	198.8	1.61	389.7	149.32
5592.0	4.28	151.43	5564.5	396.5	-341.3	202.1	0.05	396.6	149.36
5683.0	4.16	151.59	5655.2	403.2	-347.1	205.3	0.13	403.3	149.40
5778.0	2.78	150.85	5750.1	409.0	-352.2	208.1	1.45	409.1	149.42
5870.0	2.76	151.29	5842.0	413.4	-356.1	210.2	0.03	413.5	149.44
5962.0	2.69	153.73	5933.8	417.8	-360.0	212.3	0.15	417.9	149.47
6055.0	2.68	154.29	6026.7	422.1	-363.9	214.2	0.03	422.2	149.52
6149.0	2.51	156.42	6120.6	426.4	-367.7	215.9	0.21	426.5	149.58



Scientific Drilling International, Inc.

Survey Report

Company: COG RESOURCES
Field: Maljamar
Site: Lea County, NM
Well: MC Federal #35
Wellpath: DH - Job #32D0210081

Date: 2/24/2010 Time: 09:11:26 Page: 2
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0 00N,0.00E,150.61Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
6242.0	3.39	152.47	6213.5	431.2	-372.0	218.0	0.97	431.2	149.63
6335.0	3.18	153.06	6306.4	436.5	-376.8	220.5	0.23	436.5	149.67
6428.0	3.25	154.69	6399.2	441.7	-381.5	222.8	0.12	441.7	149.72
6522.0	3.39	153.34	6493.1	447.1	-386.4	225.1	0.17	447.2	149.77
6616.0	3.21	153.89	6586.9	452.5	-391.2	227.5	0.19	452.6	149.82
6708.0	3.37	153.58	6678.8	457.8	-395.9	229.9	0.17	457.8	149.86
6801.0	3.37	154.02	6771.6	463.3	-400.8	232.3	0.03	463.3	149.91
6893.0	3.32	153.08	6863.4	468.6	-405.7	234.7	0.08	468.6	149.95
6998.0	3.47	156.59	6968.3	474.8	-411.3	237.3	0.24	474.8	150.01