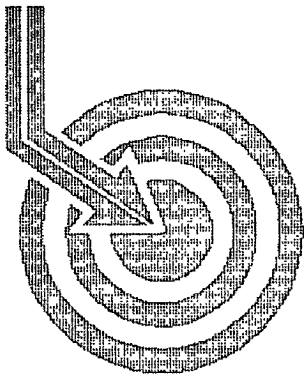




Scientific Drilling

COG RESOURCES

Field: Maljamar
Site: Lea County, NM
Well: GC Federal #4
Wellpath: VH- Job #32K0708555
Survey: 07/18/08

30-025-35935

K-19-17s-32e
1775/s & 2310/w

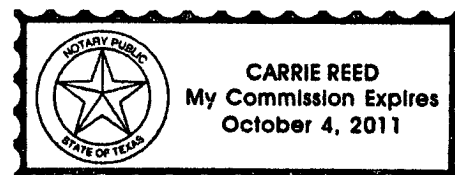
This survey is correct to the best of my knowledge
and is supported by actual field data.

R. Wharton.....Company Representative

Notorized this date 21st of August, 2008.

Carrie Reed

Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company: COG RESOURCES	Date: 08/20/2008	Time: 15:59:14	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: GC Federal #4	Section (VS) Reference: Well (0.00N,0.00E,225.20Azi)		
Wellpath: VH- Job #32K0708555	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey: 07/18/08	Start Date: 07/18/2008
Company: Scientific Drilling Internatio	Engineer: Melendez w/GeoGyro
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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.10	207.37	100.00	0.08	-0.08	-0.04	0.10	0.09	207.37
200.00	0.30	215.65	200.00	0.42	-0.37	-0.23	0.20	0.44	212.34
300.00	0.27	211.30	300.00	0.91	-0.78	-0.51	0.04	0.93	213.01
400.00	0.43	206.91	400.00	1.50	-1.32	-0.80	0.16	1.54	211.26
500.00	0.74	192.46	499.99	2.40	-2.28	-1.11	0.34	2.54	205.91
600.00	1.60	223.66	599.97	4.33	-3.92	-2.21	1.04	4.50	209.42
700.00	1.83	227.30	699.93	7.33	-6.02	-4.35	0.25	7.42	215.87
800.00	1.46	234.15	799.88	10.18	-7.85	-6.56	0.42	10.22	219.88
900.00	1.48	236.23	899.85	12.71	-9.31	-8.66	0.06	12.72	222.94
1000.00	1.32	238.39	999.82	15.09	-10.63	-10.72	0.17	15.09	225.23
1100.00	1.32	237.83	1099.79	17.34	-11.85	-12.67	0.01	17.35	226.93
1200.00	0.97	237.74	1199.77	19.29	-12.91	-14.36	0.35	19.31	228.04
1300.00	0.86	246.33	1299.76	20.82	-13.67	-15.77	0.18	20.86	229.08
1400.00	0.77	246.38	1399.75	22.14	-14.24	-17.07	0.09	22.23	230.17
1500.00	0.34	282.54	1499.75	22.93	-14.44	-17.97	0.53	23.06	231.22
1600.00	0.38	9.37	1599.75	22.82	-14.05	-18.21	0.50	23.00	232.35
1700.00	0.99	37.62	1699.74	21.70	-13.04	-17.63	0.68	21.93	233.51
1800.00	1.25	46.29	1799.72	19.75	-11.60	-16.31	0.31	20.02	234.58
1900.00	1.21	48.79	1899.70	17.60	-10.15	-14.73	0.07	17.89	235.43
2000.00	1.01	58.83	1999.68	15.69	-9.00	-13.18	0.28	15.96	235.68
2100.00	0.86	57.70	2099.66	14.11	-8.14	-11.79	0.15	14.33	235.38
2200.00	0.30	35.32	2199.66	13.11	-7.53	-11.01	0.59	13.34	235.63
2300.00	0.17	32.40	2299.66	12.71	-7.19	-10.78	0.13	12.95	236.30
2400.00	0.23	57.77	2399.66	12.37	-6.96	-10.53	0.11	12.62	236.55
2500.00	0.16	60.54	2499.66	12.04	-6.78	-10.24	0.07	12.28	236.48
2600.00	0.14	17.71	2599.66	11.80	-6.60	-10.08	0.11	12.04	236.80
2700.00	0.13	14.23	2699.66	11.59	-6.37	-10.01	0.01	11.87	237.54
2800.00	0.11	347.39	2799.66	11.44	-6.17	-10.01	0.06	11.75	238.36
2900.00	0.12	317.88	2899.66	11.39	-5.99	-10.10	0.06	11.74	239.30
3000.00	0.13	299.21	2999.66	11.41	-5.86	-10.27	0.04	11.82	240.28
3100.00	0.27	242.24	3099.65	11.67	-5.92	-10.57	0.23	12.12	240.78
3200.00	0.51	225.37	3199.65	12.34	-6.34	-11.10	0.26	12.78	240.27
3300.00	0.81	224.93	3299.65	13.49	-7.15	-11.91	0.30	13.90	239.03
3400.00	0.89	228.35	3399.63	14.98	-8.17	-12.99	0.09	15.35	237.85
3500.00	1.12	230.64	3499.62	16.72	-9.30	-14.33	0.23	17.08	237.01
3600.00	1.20	228.72	3599.60	18.74	-10.61	-15.87	0.09	19.09	236.23
3700.00	1.17	226.44	3699.58	20.81	-12.01	-17.40	0.06	21.14	235.39
3800.00	1.17	212.36	3799.56	22.82	-13.57	-18.69	0.29	23.10	234.00
3900.00	1.25	212.65	3899.53	24.88	-15.35	-19.82	0.08	25.07	232.23
4000.00	1.30	207.15	3999.51	27.03	-17.28	-20.93	0.13	27.14	230.45
4100.00	1.45	202.73	4099.48	29.27	-19.46	-21.93	0.18	29.32	228.42
4200.00	1.53	203.18	4199.45	31.68	-21.85	-22.95	0.08	31.69	226.40
4300.00	1.26	204.55	4299.42	33.95	-24.08	-23.93	0.27	33.95	224.82
4400.00	1.25	204.54	4399.39	36.00	-26.07	-24.84	0.01	36.01	223.61
4500.00	1.16	206.45	4499.37	37.98	-27.97	-25.74	0.10	38.01	222.62
4600.00	1.11	204.29	4599.35	39.84	-29.76	-26.59	0.07	39.91	221.78
4700.00	1.10	207.52	4699.33	41.66	-31.49	-27.43	0.06	41.77	221.06
4800.00	1.06	218.00	4799.32	43.49	-33.07	-28.45	0.20	43.63	220.70



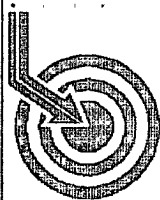
Scientific Drilling International Survey Report

Company: COG RESOURCES
Field: Maljamar
Site: Lea County, NM
Well: GC Federal #4
Wellpath: VH- Job #32K0708555

Date: 08/20/2008 Time: 15:59:14 Page: 2
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,225.20Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

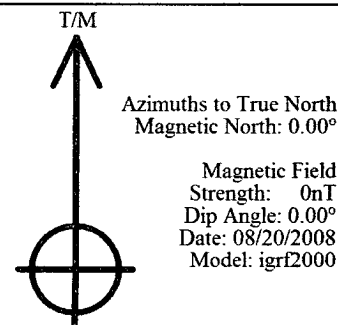
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	1.02	219.52	4899.30	45.29	-34.49	-29.58	0.05	45.44	220.62
5000.00	1.02	216.33	4999.28	47.06	-35.89	-30.68	0.06	47.22	220.52
5100.00	1.31	222.67	5099.26	49.08	-37.45	-31.98	0.32	49.25	220.49
5200.00	1.44	249.00	5199.23	51.37	-38.74	-33.93	0.64	51.50	221.21
5300.00	1.49	254.62	5299.20	53.65	-39.54	-36.35	0.15	53.71	222.60
5400.00	1.51	240.83	5399.17	56.06	-40.52	-38.76	0.36	56.07	223.72
5500.00	1.74	236.57	5499.13	58.81	-42.00	-41.18	0.26	58.82	224.43
5600.00	1.40	233.85	5599.09	61.51	-43.56	-43.43	0.35	61.51	224.91
5700.00	1.20	233.39	5699.06	63.75	-44.91	-45.26	0.20	63.75	225.22
5800.00	1.07	240.06	5799.04	65.69	-46.00	-46.91	0.19	65.69	225.56
5900.00	1.08	246.17	5899.03	67.48	-46.84	-48.58	0.12	67.48	226.04
6000.00	0.91	245.30	5999.01	69.10	-47.55	-50.16	0.17	69.12	226.53
6100.00	0.68	246.17	6099.00	70.40	-48.13	-51.42	0.23	70.43	226.90
6200.00	0.69	255.34	6198.99	71.48	-48.52	-52.55	0.11	71.52	227.28
6300.00	1.19	217.28	6298.98	73.03	-49.50	-53.76	0.78	73.08	227.36
6400.00	1.41	232.57	6398.96	75.28	-51.07	-55.37	0.41	75.33	227.31
6500.00	1.10	213.14	6498.93	77.43	-52.62	-56.87	0.52	77.48	227.22
6600.00	0.89	194.39	6598.92	79.04	-54.18	-57.59	0.38	79.07	226.75
6700.00	0.88	196.85	6698.91	80.38	-55.67	-58.00	0.04	80.39	226.18
6800.00	0.72	187.94	6798.90	81.55	-57.02	-58.31	0.20	81.56	225.64
6900.00	0.71	212.02	6898.89	82.66	-58.17	-58.73	0.30	82.66	225.27
6935.00	0.63	209.71	6933.89	83.05	-58.52	-58.94	0.24	83.05	225.20



Scientific
Drilling

Field: Maljamar
Site: Lea County, NM
Well: GC Federal #4
Wellpath: VH- Job #32K0708555
Survey: 07/18/08



West(-)/East(+) [10ft/in]

