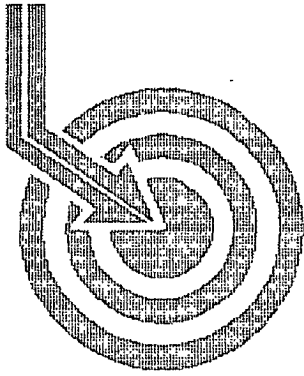
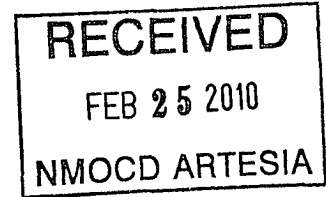


30 015 30831



Scientific Drilling



COG RESOURCES

Field: Loco Hills Paddock
Site: Eddy County, NM
Well: Harper State #1
Wellpath: VH - Job #32K0110013
Survey: 01/06/10

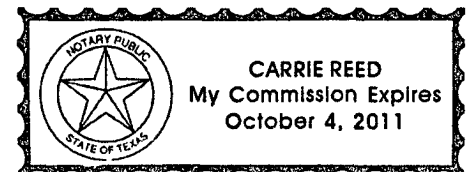
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....Lucretia.....Company Representative

Notorized this date 28th of January, 2010.

Carrie Reed
Notary Signature
County of Midland
State of Texas

MR





Scientific Drilling International Survey Report

Company: COG RESOURCES	Date: 01/12/2010	Time: 14:51:18	Page: 1
Field: Loco Hills Paddock	Co-ordinate(NE) Reference:	Site: Eddy County, NM, True North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Harper State #1	Section (VS) Reference:	Well (0.00N,0.00E,318.28Azi)	
Wellpath: VH - Job #32K0110013	Survey Calculation Method:	Minimum Curvature	
		Db:	Sybase

Survey: 01/06/10	Start Date: 01/06/2010
Company: Scientific Drilling Internatio	Engineer: Madrid w/Halliburton
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	0.36	320.55	100.00	0.31	0.24	-0.20	0.36	0.31	320.55
200.00	0.50	332.79	200.00	1.05	0.87	-0.60	0.17	1.06	325.56
300.00	1.13	309.86	299.99	2.45	1.89	-1.56	0.70	2.45	320.60
400.00	1.17	295.32	399.97	4.36	2.96	-3.23	0.29	4.39	312.48
500.00	1.16	293.68	499.95	6.22	3.81	-5.08	0.03	6.35	306.81
600.00	0.99	292.89	599.93	7.92	4.55	-6.81	0.17	8.19	303.74
700.00	0.68	311.64	699.92	9.29	5.28	-8.05	0.41	9.62	303.26
800.00	0.62	338.84	799.91	10.39	6.18	-8.69	0.31	10.66	305.42
900.00	0.79	358.65	899.90	11.42	7.37	-8.90	0.29	11.55	309.64
1000.00	0.87	35.20	999.89	12.12	8.68	-8.48	0.53	12.13	315.68
1100.00	0.88	45.49	1099.88	12.33	9.84	-7.49	0.16	12.37	322.72
1200.00	0.81	44.07	1199.87	12.42	10.88	-6.45	0.07	12.65	329.35
1300.00	0.60	23.30	1299.86	12.69	11.87	-5.75	0.33	13.19	334.15
1400.00	0.41	353.39	1399.86	13.20	12.71	-5.59	0.32	13.88	336.27
1500.00	0.46	349.21	1499.86	13.84	13.46	-5.70	0.06	14.62	337.04
1600.00	0.46	343.85	1599.85	14.55	14.24	-5.89	0.04	15.41	337.53
1700.00	0.46	309.53	1699.85	15.31	14.88	-6.31	0.27	16.16	337.02
1800.00	0.43	316.47	1799.85	16.08	15.41	-6.88	0.06	16.87	335.94
1900.00	0.55	300.67	1899.84	16.91	15.93	-7.55	0.18	17.62	334.63
2000.00	0.58	295.74	1999.84	17.84	16.39	-8.42	0.06	18.43	332.81
2100.00	0.56	295.83	2099.83	18.76	16.82	-9.32	0.02	19.23	331.03
2200.00	0.56	287.61	2199.83	19.63	17.18	-10.22	0.08	19.99	329.26
2300.00	0.64	299.10	2299.82	20.58	17.60	-11.17	0.14	20.85	327.59
2400.00	0.69	304.55	2399.82	21.69	18.22	-12.16	0.08	21.90	326.28
2500.00	0.72	305.65	2499.81	22.89	18.92	-13.16	0.03	23.05	325.17
2600.00	0.66	279.15	2599.80	23.95	19.38	-14.24	0.32	24.05	323.69
2700.00	0.71	282.88	2699.80	24.90	19.61	-15.42	0.07	24.95	321.83
2800.00	0.75	279.34	2799.79	25.91	19.86	-16.67	0.06	25.92	319.99
2900.00	0.62	279.59	2899.78	26.84	20.05	-17.85	0.13	26.84	318.33
3000.00	0.67	263.92	2999.77	27.61	20.08	-18.96	0.18	27.62	316.64
3100.00	0.61	259.51	3099.77	28.22	19.92	-20.07	0.08	28.27	314.79
3200.00	0.62	250.99	3199.76	28.71	19.65	-21.10	0.09	28.83	312.96
3300.00	0.82	251.37	3299.75	29.20	19.24	-22.29	0.20	29.45	310.80
3400.00	0.84	267.03	3399.74	29.94	18.98	-23.70	0.23	30.36	308.68
3500.00	0.99	286.60	3499.73	31.13	19.19	-25.26	0.34	31.72	307.22
3600.00	1.00	290.25	3599.72	32.64	19.73	-26.91	0.06	33.37	306.26
3700.00	0.96	294.10	3699.70	34.17	20.38	-28.49	0.08	35.03	305.58
3800.00	0.77	295.28	3799.69	35.55	21.01	-29.86	0.19	36.51	305.13
3900.00	0.63	301.40	3899.68	36.70	21.58	-30.94	0.16	37.72	304.90
4000.00	0.67	307.94	3999.68	37.80	22.23	-31.87	0.08	38.85	304.89
4100.00	0.62	312.85	4099.67	38.91	22.95	-32.73	0.07	39.97	305.04
4200.00	0.37	311.92	4199.67	39.77	23.54	-33.36	0.25	40.83	305.20
4300.00	0.12	320.20	4299.67	40.20	23.83	-33.67	0.25	41.25	305.29
4400.00	0.13	329.66	4399.67	40.41	24.01	-33.80	0.02	41.46	305.39
4500.00	0.12	218.67	4499.67	40.51	24.03	-33.92	0.21	41.57	305.31
4600.00	0.31	231.16	4599.66	40.50	23.78	-34.19	0.19	41.65	304.81
4700.00	0.26	310.85	4699.66	40.74	23.76	-34.58	0.37	41.95	304.49
4800.00	0.56	354.21	4799.66	41.36	24.39	-34.80	0.41	42.49	305.03



Scientific Drilling International Survey Report

Company: COG RESOURCES
Field: Loco Hills Paddock
Site: Eddy County, NM
Well: Harper State #1
Wellpath: VH - Job #32K0110013

Date: 01/12/2010 Time: 14:51:18 Page: 2
Co-ordinate(NE) Reference: Site: Eddy County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,318.28Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

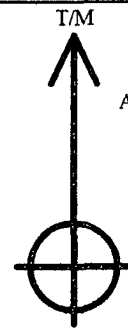
Survey

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	0.66	35.31	4899.66	41.89	25.35	-34.51	0.44	42.82	306.29
5000.00	0.51	47.45	4999.65	42.02	26.12	-33.85	0.19	42.76	307.65
5100.00	0.63	70.28	5099.65	41.82	26.60	-33.01	0.25	42.39	308.87
5200.00	0.81	100.43	5199.64	41.06	26.66	-31.80	0.41	41.49	309.98
5300.00	1.11	102.07	5299.62	39.72	26.33	-30.15	0.30	40.03	311.13
5400.00	0.96	110.83	5399.61	38.20	25.83	-28.42	0.22	38.41	312.26
5500.00	0.84	118.05	5499.60	36.76	25.19	-26.99	0.16	36.92	313.02
5600.00	1.13	105.95	5599.58	35.24	24.57	-25.40	0.36	35.34	314.05
5700.00	1.08	100.36	5699.56	33.67	24.13	-23.52	0.12	33.70	315.73
5800.00	0.92	87.21	5799.55	32.42	24.00	-21.79	0.28	32.42	317.76
5831.00	0.69	106.30	5830.54	32.10	23.96	-21.37	1.13	32.10	318.28



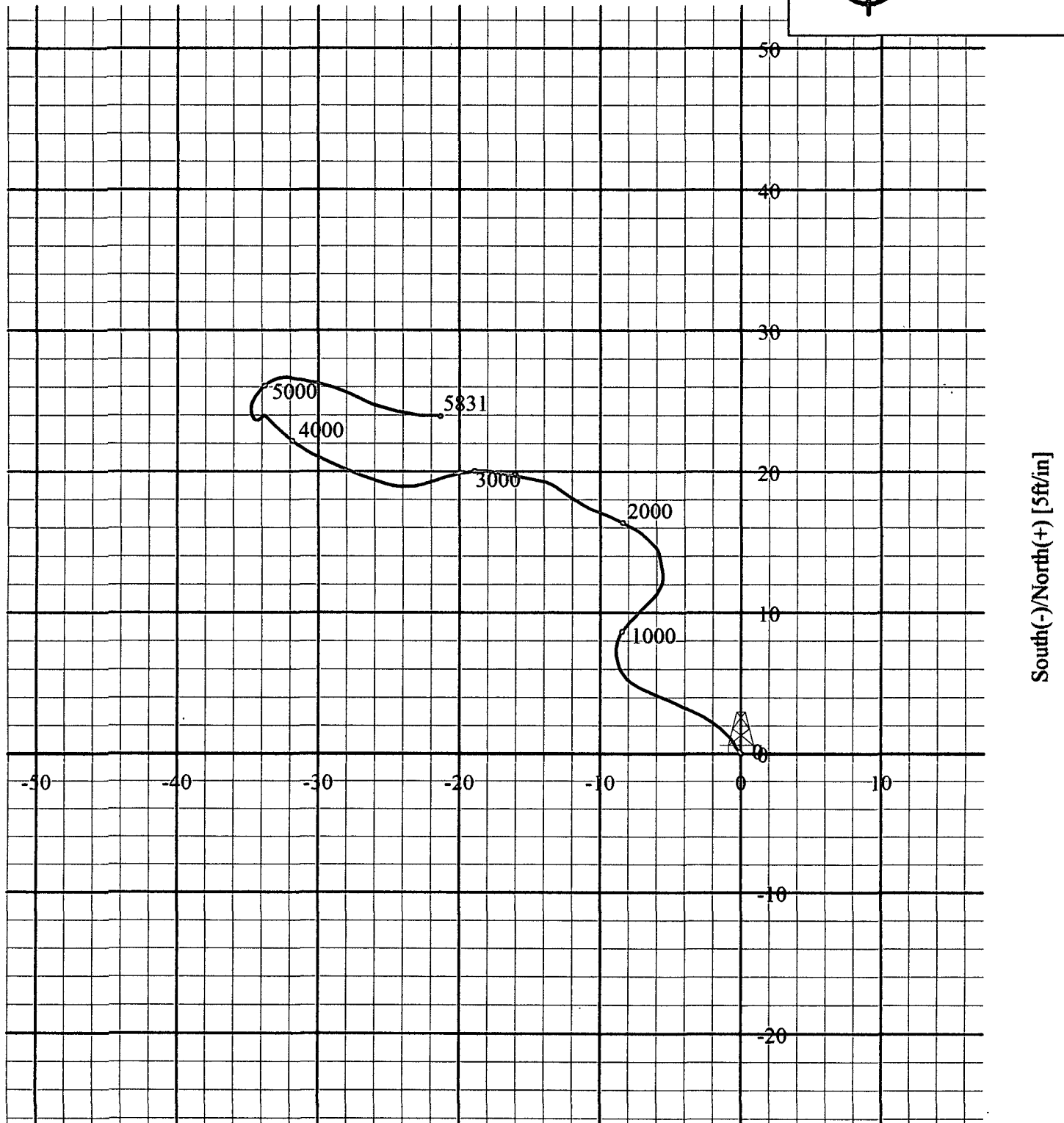
**Scientific
Drilling**

Field: Loco Hills Paddock
Site: Eddy County, NM
Well: Harper State #1
Wellpath: VH - Job #32K0110013
Survey: 01/06/10



Azimuths to True North
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 01/12/2010
Model: igrf2000



West(-)/East(+) [5ft/in]