

Scientific Drilling

COG RESOURCES

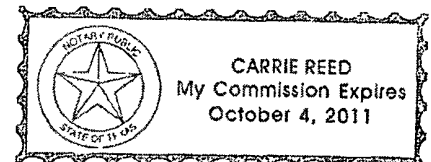
Field: Empire Yeso
Site: Eddy County, NM
Well: Folk Federal #11
Wellpath: DH - Job #32D1009454
Survey: 10/31/09-11/04/09

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

[Signature] Company Representative

Notorized this date 3rd of December, 2009.

[Signature]
Notary Signature
County of Midland
State of Texas



WR



Scientific
Drilling

Scientific Drilling International Survey Report

Company: COG RESOURCES	Date: 11/05/2009	Time: 14:57:03	Page: 1
Field: Empire Yeso	Co-ordinate(NE) Reference:	Site: Eddy County, NM, True North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Folk Federal #11	Section (VS) Reference:	Well (0.00N,0.00E,306.79Azi)	
Wellpath: VH - Job #32K1009462	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 10/31/09	Start Date: 10/31/2009
Company: Scientific Drilling Internatio	Engineer: Garza/Rowe/Williams
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	359.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.48	339.27	100.00	0.35	0.39	-0.15	0.48	0.42	339.27
200.00	0.85	343.01	199.99	1.31	1.49	-0.51	0.37	1.58	341.03
300.00	1.72	335.34	299.97	3.22	3.57	-1.36	0.88	3.82	339.18
400.00	1.50	333.23	399.93	5.71	6.10	-2.57	0.23	6.62	337.13
500.00	1.70	11.65	499.89	7.51	8.72	-2.86	1.07	9.18	341.83
600.00	1.45	41.29	599.85	8.04	11.13	-1.72	0.84	11.26	351.21
700.00	1.32	48.62	699.82	7.71	12.85	-0.02	0.23	12.85	359.93



Scientific
Drilling

Scientific Drilling International Survey Report

Company: COG RESOURCES
Field: Empire Yeso
Site: Eddy County, NM:
Well: Folk Federal #11
Wellpath: DH - Job #32D1009454

Date: 11/09/2009 Time: 11:44:31 Page: 1
Co-ordinate(NE) Reference: Site: Eddy County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,306.79Az)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 10/31/09-11/04/09
MWD 895'4240'

Start Date: 10/31/2009

Company: Scientific Drilling Internatio
Tool: MWD/MWD

Engineer: McCormick/Baldwin/Baldwin/Beck
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
775.00	1.79	60.64	774.80	7.06	13.99	1.65	0.00	14.09	6.73
895.00	1.23	51.05	894.75	5.98	15.72	4.29	0.51	16.30	15.25
958.00	0.95	19.53	953.74	5.98	16.63	5.01	1.01	17.41	16.71
1022.00	1.44	339.20	1021.73	6.81	17.93	4.91	1.49	18.59	15.31
1086.00	2.12	319.98	1085.70	8.68	19.62	3.84	1.49	19.99	11.07
1150.00	2.98	321.45	1149.63	11.48	21.85	2.01	1.24	21.95	5.26
1214.00	3.35	316.55	1213.53	14.93	24.51	-0.31	0.72	24.51	359.28
1277.00	4.17	315.93	1276.40	19.00	27.49	-3.17	1.30	27.68	353.43
1341.00	5.08	303.87	1340.19	24.13	30.94	-5.99	1.67	31.73	347.27
1405.00	5.83	305.91	1403.90	30.21	34.63	-11.83	1.25	36.60	341.14
1469.00	6.28	303.59	1467.54	36.96	38.47	-17.38	0.80	42.22	335.69
1532.00	6.86	303.36	1530.13	44.16	42.45	-23.39	0.92	48.47	331.14
1596.00	7.66	302.59	1593.62	52.23	46.85	-30.18	1.26	55.73	327.21
1660.00	8.66	302.05	1650.97	61.29	51.70	-37.80	1.57	64.08	323.79
1723.00	9.35	303.00	1719.19	71.11	57.01	-46.17	1.12	73.36	321.00
1787.00	10.13	305.53	1782.27	81.93	63.11	-55.11	1.39	83.78	318.87
1851.00	10.82	305.83	1845.20	93.56	69.90	-64.56	1.08	95.15	317.27
1914.00	10.76	304.81	1907.09	105.35	76.72	-74.18	0.33	106.72	315.97
1978.00	10.32	304.59	1970.01	117.05	83.39	-83.80	0.69	118.22	314.86
2042.00	9.91	304.49	2033.01	128.29	89.76	-93.06	0.64	129.20	313.97
2106.00	10.26	306.10	2095.04	139.32	96.14	-102.07	0.74	140.22	313.29
2169.00	10.89	306.86	2157.94	151.13	103.16	-111.56	1.12	151.95	312.76
2236.00	11.36	307.28	2262.60	175.40	117.80	-130.93	0.09	176.12	311.98
2359.00	10.07	302.80	2344.53	186.94	124.44	-140.37	2.04	187.59	311.56
2455.00	10.08	303.32	2440.03	203.87	133.70	-154.59	0.00	204.39	310.85
2551.00	9.45	302.15	2533.66	219.98	142.43	-168.17	0.66	220.38	310.26
2614.00	9.55	302.60	2595.78	230.37	148.01	-176.97	0.15	230.71	309.91
2678.00	9.55	303.10	2658.90	240.96	153.77	-185.89	0.13	241.25	309.60
2774.00	9.43	303.24	2753.38	256.76	162.43	-199.14	0.13	256.98	309.20
2869.00	9.25	303.74	2847.32	272.15	170.94	-212.00	0.21	272.33	308.88
2953.00	9.25	304.43	2910.49	282.44	178.71	-220.53	0.18	282.60	308.71
2996.00	9.50	304.20	2972.61	292.71	182.51	-229.02	0.35	292.85	308.55
3060.00	10.60	300.64	3035.66	303.84	188.48	-238.45	1.97	303.95	308.32
3155.00	10.44	300.96	3129.06	321.09	197.36	-253.35	0.18	321.15	307.92
3250.00	10.17	300.35	3222.53	337.98	206.02	-267.97	0.31	338.01	307.55
3314.00	9.23	302.67	3285.61	348.77	211.68	-277.21	1.45	348.79	307.36
3378.00	8.52	303.60	3348.83	358.68	217.10	-285.53	1.29	358.69	307.25
3441.00	7.35	304.33	3411.23	367.37	221.96	-292.75	1.86	367.38	307.17
3505.00	6.37	305.36	3474.77	375.01	226.32	-299.02	1.54	375.01	307.12
3569.00	6.29	305.66	3537.38	381.95	230.36	-304.68	0.14	381.96	307.09
3632.00	5.32	307.16	3601.05	388.41	233.98	-310.04	1.61	388.42	307.04
3695.00	4.24	297.82	3664.82	393.71	236.67	-314.64	1.77	393.71	306.95
3759.00	3.43	300.72	3727.99	397.89	238.72	-318.32	1.32	397.89	306.87
3822.00	2.10	300.35	3790.62	400.91	240.27	-320.93	2.11	400.91	306.82
3890.00	1.05	304.39	3858.58	402.94	241.35	-322.67	1.12	402.94	306.80
3953.00	0.35	311.04	3921.58	403.95	241.94	-323.48	1.39	403.95	306.79
4016.00	0.29	294.12	4016.57	404.58	242.30	-324.00	0.23	404.58	306.79
4145.00	0.17	336.30	4113.57	404.95	242.53	-324.28	0.21	404.95	306.79
4240.00	0.24	44.96	4208.57	405.04	242.80	-324.20	0.25	405.04	306.83