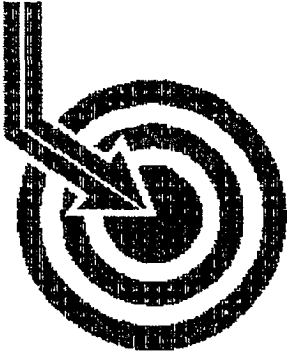


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52410  
11/28



# Scientific Drilling

## COG RESOURCES

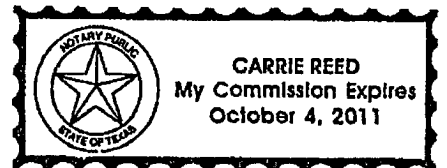
Field: Loco Hills  
Site: Eddy County, NM  
Well: Dexter Federal #12  
Wellpath: DH - Job #32D1109509  
Survey: 11/24/09-11/28/09

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

.....*R. Wharton*..... Company Representative

Notorized this date 10th of December, 2009.

*Carrie Reed*  
Notary Signature  
County of Midland  
State of Texas





# Scientific Drilling International Survey Report

<b>Company:</b> COG RESOURCES	<b>Date:</b> 11/30/2009	<b>Time:</b> 12:37:43	<b>Page:</b> 1
<b>Field:</b> Loco Hills	<b>Co-ordinate(NE) Reference:</b> Site: Eddy County, NM, Grid North		
<b>Site:</b> Eddy County, NM	<b>Vertical (TVD) Reference:</b> SITE 0.0		
<b>Well:</b> Dexter Federal #12	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,347.63Azi)		
<b>Wellpath:</b> VH - Job #32K1109511	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> Sybase	

<b>Survey:</b> 11/24/09	<b>Start Date:</b> 11/24/2009	
<b>KSRG 0'-1263'</b>		
<b>Company:</b> Scientific Drilling Internatio	<b>Engineer:</b> Melendez w/Gray	
<b>Tool:</b> Keeper;Keeper Gyro	<b>Tied-to:</b> From Surface	

**Survey**

MD ft	Incl deg	Azlm deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	359.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.48	258.07	100.00	-0.01	-0.10	-0.41	0.48	0.42	256.07
200.00	0.91	276.45	199.99	0.23	-0.11	-1.60	0.49	1.61	265.98
300.00	2.44	304.03	299.95	2.03	1.17	-4.16	1.69	4.32	285.70
400.00	2.34	300.27	399.86	4.96	3.39	-7.68	0.19	8.40	293.80
500.00	1.35	305.67	499.81	7.21	5.10	-10.40	1.00	11.59	296.14
600.00	1.23	307.16	599.78	8.91	6.44	-12.22	0.12	13.81	297.80
700.00	1.07	313.08	699.76	10.49	7.73	-13.75	0.20	15.77	299.32
800.00	0.84	311.13	799.75	11.85	8.85	-14.99	0.23	17.40	300.55
900.00	0.71	313.57	899.74	12.95	9.75	-15.99	0.13	18.73	301.39
1000.00	0.58	337.96	999.73	13.97	10.65	-16.63	0.30	19.75	302.64
1100.00	0.90	22.21	1099.72	15.11	11.85	-16.52	0.63	20.33	305.64
1200.00	1.21	32.48	1199.71	16.51	13.46	-15.66	0.36	20.65	310.70
1263.00	1.58	29.92	1262.69	17.62	14.78	-14.87	0.60	20.96	314.83



# Scientific Drilling International Survey Report

<b>Company:</b> COG RESOURCES	<b>Date:</b> 11/30/2009	<b>Time:</b> 16:13:10	<b>Page:</b> 1
<b>Field:</b> Loco Hills	<b>Co-ordinate(NE) Reference:</b>	<b>Site:</b> Eddy County, NM, Grid North	
<b>Site:</b> Eddy County, NM	<b>Vertical (TVD) Reference:</b>	<b>SITE 0.0</b>	
<b>Well:</b> Dexter Federal #12	<b>Section (VS) Reference:</b>	<b>Well (0.00N,0.00E,347.63Azi)</b>	
<b>Wellpath:</b> DH - Job #32D1109509	<b>Survey Calculation Method:</b>	<b>Minimum Curvature</b>	<b>Db: Sybase</b>

<b>Survey:</b> 11/24/09-11/28/09	<b>Start Date:</b>	<b>11/24/2009</b>
<b>MWD 1327-4394'</b>		
<b>Company:</b> Scientific Drilling Internatio	<b>Engineer:</b>	<b>McCormick/Baldwin</b>
<b>Tool:</b> MWD;MWD	<b>Tied-to:</b>	<b>From: Definitive Path</b>

**Survey**

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	CisD ft	CisA deg
1263.00	1.58	29.92	1262.69	17.62	14.78	-14.87	0.00	20.96	314.83
1327.00	1.59	25.35	1326.66	18.97	16.35	-14.05	0.20	21.55	319.33
1399.00	1.76	24.68	1398.63	20.65	18.25	-13.16	0.24	22.50	324.22
1463.00	2.93	17.47	1462.58	22.85	20.71	-12.25	1.88	24.06	329.38
1527.00	3.55	11.50	1526.48	26.08	24.21	-11.37	1.10	26.74	334.84
1590.00	4.44	3.06	1589.32	30.22	28.55	-10.85	1.69	30.55	339.20
1654.00	5.09	358.79	1653.10	35.39	33.87	-10.78	1.16	35.54	342.35
1718.00	6.00	356.59	1716.80	41.48	40.04	-11.04	1.46	41.54	344.59
1781.00	6.88	352.25	1779.40	48.49	47.07	-11.74	1.60	48.51	345.99
1845.00	7.92	347.42	1842.87	56.72	55.17	-13.22	1.89	56.73	346.53
1909.00	8.99	347.56	1906.17	66.13	64.36	-15.28	1.67	66.14	346.66
1973.00	9.15	348.70	1969.37	76.22	74.23	-17.33	0.38	76.23	346.86
2069.00	8.70	349.70	2064.21	91.11	88.86	-20.12	0.50	91.11	347.24
2163.00	8.26	347.90	2157.18	104.97	102.46	-22.81	0.55	104.97	347.45
2228.00	8.68	346.76	2221.47	114.54	111.80	-24.91	0.70	114.54	347.44
2292.00	8.55	347.04	2284.75	124.13	121.13	-27.09	0.21	124.13	347.40
2388.00	9.13	344.17	2379.61	138.86	135.42	-30.76	0.76	138.87	347.20
2483.00	8.69	345.07	2473.47	153.56	149.60	-34.67	0.49	153.57	346.95
2547.00	8.55	345.07	2536.74	163.14	158.87	-37.14	0.22	163.15	346.84
2643.00	8.19	346.46	2631.72	177.11	172.41	-40.58	0.43	177.13	346.76
2738.00	8.00	348.17	2725.77	190.48	185.46	-43.52	0.32	190.50	346.79
2802.00	8.85	344.73	2789.08	199.85	194.57	-45.73	1.54	199.87	346.77
2898.00	9.44	343.94	2883.86	215.08	209.26	-49.85	0.63	215.12	346.60
2993.00	8.37	347.04	2977.72	229.77	223.49	-53.56	1.23	229.81	346.52
3089.00	8.42	347.07	3072.69	243.79	237.15	-56.70	0.05	243.83	346.55
3153.00	8.42	347.10	3136.00	253.16	246.28	-58.79	0.01	253.20	346.57
3248.00	8.39	348.10	3229.98	267.04	259.84	-61.77	0.16	267.08	346.63
3344.00	8.65	347.73	3324.92	281.27	273.75	-64.75	0.28	281.30	346.69
3439.00	7.60	350.66	3418.96	294.68	286.93	-67.29	1.19	294.71	346.80
3534.00	7.59	351.43	3513.13	307.22	299.33	-69.24	0.11	307.24	346.97
3630.00	7.60	351.86	3608.29	319.87	311.89	-71.09	0.06	319.89	347.16
3726.00	7.63	351.97	3703.44	332.56	324.48	-72.88	0.03	332.56	347.34
3789.00	7.66	352.26	3765.88	340.92	332.78	-74.03	0.08	340.92	347.46
3853.00	6.97	349.65	3829.36	349.05	340.83	-75.30	1.20	349.05	347.54
3917.00	5.80	347.25	3892.96	356.16	347.80	-76.71	1.87	356.16	347.56
3949.00	5.60	346.55	3924.80	359.34	350.90	-77.43	0.66	359.34	347.56
4012.00	5.06	349.82	3987.53	365.19	356.62	-78.64	0.98	365.19	347.57
4076.00	3.96	353.94	4051.33	370.21	361.60	-79.37	1.79	370.21	347.62
4140.00	2.62	349.85	4115.23	373.87	365.24	-79.86	2.12	373.87	347.67
4203.00	1.59	328.09	4178.18	376.13	367.40	-80.58	2.04	376.13	347.83
4267.00	0.81	307.86	4242.17	377.31	368.43	-81.40	1.37	377.31	347.54
4331.00	0.41	327.84	4306.17	377.88	368.90	-81.88	0.70	377.88	347.49
4394.00	0.62	341.11	4369.16	378.43	369.41	-82.11	0.38	378.43	347.47