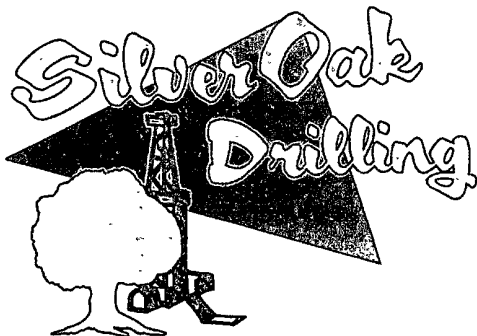
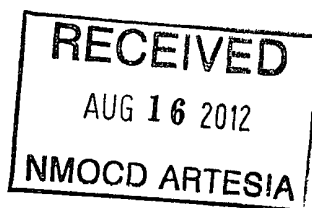




PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288



June 25, 2012

30-015-37254

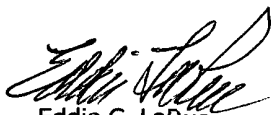
COG, LLC
Fasken Center, Tower II
550 West Texas Ave, Suite 1300
Midland, TX 79701

RE: Down South State Com #2H
1980' FNL & 330' FEL
Sec. 19, T26S, R28E
Eddy County, New Mexico

Dear Sir,

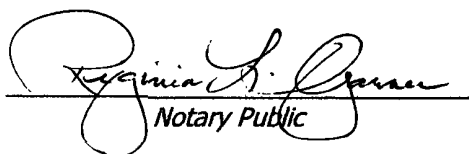
The attached is the Deviation Survey for the above captioned well.

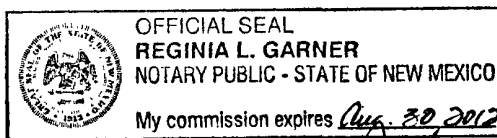
Very truly yours,


Eddie C. LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 25th day of June, 2012.


Notary Public



Pason DataHub Deviation Survey

Well Dossier 1339111338 - Down South State Com #2

# Date	Depth	Deviation	Direction	TVD	Horiz
6/8/2012	250	0.80	0.00	0	0.00
6/8/2012	319	0.20	0.00	0	0.00
6/10/2012	428	1.10	318.10	427	0.00
6/10/2012	606	0.90	294.60	605	0.00
6/10/2012	797	1.10	264.00	0	0.00
6/10/2012	988	2.00	241.60	0	0.00
6/10/2012	1179	3.40	228.20	1178	18.22
6/10/2012	1370	1.80	228.00	1369	2472.00
6/11/2012	1562	1.10	233.60	1561	0.00
6/11/2012	1753	1.80	116.50	1752	0.00
6/11/2012	1944	2.20	80.90	1943	0.00
6/11/2012	2135	3.60	92.10	2133	11.37
6/11/2012	2246	1.70	48.20	2244	6.60
6/13/2012	2714	0.30	0.00	0	0.00
6/13/2012	3191	0.70	0.00	0	0.00
6/13/2012	3605	0.70	0.00	0	0.00
6/14/2012	4083	0.60	0.00	0	0.00
6/14/2012	4550	0.80	0.00	0	0.00
6/14/2012	5036	1.10	0.00	0	0.00
6/14/2012	5514	1.50	0.00	0	0.00
6/15/2012	5991	1.90	0.00	6074	0.00
6/15/2012	6468	2.30	0.00	0	0.00
6/16/2012	7219	1.70	250.70	7216	46.69
6/16/2012	7251	1.80	246.30	7248	4713.00
6/16/2012	7315	5.70	262.30	7312	51.20
6/17/2012	7347	8.80	260.70	7344	55.19
6/17/2012	7570	30.20	263.20	7554	126.80
6/17/2012	7665	37.50	268.10	7632	179.44
6/17/2012	7888	60.00	271.10	7778	0.00
6/17/2012	7984	72.50	270.60	7819	0.00
6/17/2012	8079	85.70	272.00	7835	0.00
6/18/2012	8141	92.40	271.10	7836	0.00
6/18/2012	8173	92.50	271.20	7834	0.00
6/18/2012	8205	92.80	271.10	7833	0.00
6/18/2012	8301	94.70	270.50	7827	748.28
6/18/2012	8491	95.30	269.20	7809	937.46
6/18/2012	8682	94.20	268.40	7792	1127.70
6/19/2012	8873	92.00	269.40	7781	1318.00
6/19/2012	8969	92.10	269.30	7778	1414.00
6/19/2012	9064	94.00	268.90	7773	1509.00
6/19/2012	9160	91.10	268.40	7767	0.00
6/19/2012	9495	91.60	269.60	7761	0.00

#	Date	Depth	Deviation	Direction	TVD	Horiz
	6/19/2012	9541	92.20	268.70	7758	0.00
	6/20/2012	9371	92.20	268.60	7751	0.00
	6/20/2012	9827	98.10	269.60	2271	0.00
	6/20/2012	9922	92.70	269.40	2367	0.00
	6/20/2012	10113	92.30	269.70	7738	2557.00
	6/20/2012	10304	92.10	270.30	7732	2748.00
	6/20/2012	10496	91.00	271.40	7726	2940.00
	6/20/2012	10782	90.70	269.20	7725	0.00
	6/20/2012	10877	96.30	268.40	7723	0.00
	6/20/2012	11316	92.40	267.20	7718	0.00
	6/21/2012	11259	93.40	268.20	7707	3702.46
	6/21/2012	11355	91.70	268.50	7703	0.00
	6/21/2012	11450	90.10	268.30	7701	3893.00
	6/21/2012	11640	91.80	267.50	7699	4083.00
	6/21/2012	11923	92.00	267.40	7688	4365.88
	6/21/2012	12134	93.70	266.60	7678	4576.39
#	EOF					



Job Number: PB12340

Company: Concho Oil and Gas

Lease/Well: Down South State Com #2H

Location: Eddy County

Rig Name: Silver Oak #7

RKB: 3064

G.L. or M.S.L.: GL

State/Country: New Mexico, USA

Declination: 7.59

Grid: North

File name: C:\WINSERVE\PB12340.SVY

Date/Time: 21-Jun-12 / 21:49

Curve Name: C:\USERS\OWNER\DESKTOP\COGDOW~1.TXT

Crescent Directional Drilling

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 269.52

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.55	325.43	100.00	.40	-.27	.27	.48	325.43	.55
200.00	.75	314.94	199.99	1.25	-1.01	1.00	1.61	321.18	.23
300.00	.86	315.11	299.98	2.25	-2.00	1.98	3.01	318.31	.11
400.00	1.01	313.95	399.97	3.39	-3.17	3.14	4.64	316.97	.15
500.00	1.02	315.71	499.95	4.64	-4.42	4.38	6.41	316.38	.03
600.00	.87	291.88	599.94	5.56	-5.75	5.70	8.00	314.05	.42
700.00	.89	269.60	699.93	5.84	-7.23	7.18	9.29	308.92	.34
800.00	1.04	261.64	799.91	5.70	-8.90	8.85	10.57	302.63	.20
900.00	1.67	241.31	899.89	4.87	-11.08	11.04	12.10	293.72	.78
1000.00	2.38	239.72	999.82	3.12	-14.15	14.12	14.49	282.44	.71
1100.00	2.60	230.31	1099.73	.63	-17.69	17.68	17.70	272.03	.46
1200.00	2.95	228.35	1199.61	-2.53	-21.36	21.38	21.51	263.24	.36
1300.00	1.84	225.42	1299.52	-5.37	-24.42	24.47	25.01	257.60	1.12
1400.00	1.69	227.11	1399.48	-7.50	-26.65	26.71	27.68	254.28	.16
1500.00	.97	221.89	1499.45	-9.13	-28.29	28.37	29.73	252.11	.73
1600.00	1.07	231.89	1599.43	-10.34	-29.59	29.68	31.35	250.74	.20
1700.00	.83	148.81	1699.42	-11.54	-29.95	30.05	32.10	248.93	1.27
1800.00	1.85	108.68	1799.40	-12.67	-28.05	28.15	30.78	245.68	1.33
1900.00	1.50	80.65	1899.35	-12.98	-25.23	25.33	28.37	242.78	.88
2000.00	2.86	89.43	1999.28	-12.74	-21.44	21.55	24.94	239.28	1.40
2100.00	3.15	95.33	2099.14	-12.97	-16.21	16.32	20.76	231.34	.42
2200.00	1.76	58.81	2199.05	-12.43	-12.16	12.26	17.39	224.37	2.03
2300.00	1.56	50.19	2299.01	-10.76	-9.80	9.89	14.56	222.32	.32
2400.00	1.66	56.74	2398.97	-9.10	-7.54	7.62	11.82	219.67	.21

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
				FT	FT	FT	Distance FT	Direction Deg	
2500.00	1.51	49.87	2498.93	-7.45	-5.33	5.39	9.16	215.55	.24
2600.00	1.44	53.11	2598.90	-5.85	-3.31	3.36	6.72	209.53	.11
2700.00	1.43	42.41	2698.87	-4.18	-1.47	1.50	4.43	199.36	.27
2800.00	1.30	31.90	2798.84	-2.29	-.03	.05	2.29	180.66	.28
2900.00	1.48	28.49	2898.81	-.19	1.19	-1.19	1.20	99.21	.20
3000.00	1.49	27.74	2998.78	2.09	2.41	-2.43	3.19	49.03	.02
3100.00	1.29	22.81	3098.75	4.28	3.45	-3.49	5.50	38.88	.23
3200.00	.96	15.04	3198.73	6.13	4.11	-4.16	7.38	33.82	.36
3300.00	.90	10.63	3298.72	7.71	4.47	-4.53	8.91	30.10	.09
3400.00	.88	11.87	3398.70	9.23	4.77	-4.85	10.39	27.33	.03
3500.00	.87	5.00	3498.69	10.74	4.99	-5.08	11.84	24.94	.11
3600.00	.92	6.46	3598.68	12.29	5.15	-5.25	13.33	22.73	.05
3700.00	.85	6.94	3698.67	13.83	5.33	-5.45	14.82	21.08	.07
3800.00	.71	1.80	3798.66	15.18	5.44	-5.57	16.13	19.71	.16
3900.00	.53	339.70	3898.65	16.24	5.30	-5.44	17.08	18.08	.30
4000.00	.40	333.53	3998.65	16.98	4.98	-5.13	17.70	16.35	.14
4100.00	.39	320.57	4098.65	17.56	4.61	-4.76	18.15	14.72	.09
4200.00	.50	322.23	4198.65	18.17	4.13	-4.28	18.63	12.80	.11
4300.00	.35	324.29	4298.64	18.76	3.68	-3.84	19.12	11.11	.15
4400.00	.41	305.90	4398.64	19.22	3.21	-3.38	19.48	9.50	.14
4500.00	.45	281.98	4498.64	19.51	2.54	-2.70	19.67	7.42	.18
4600.00	.67	251.97	4598.63	19.41	1.60	-1.76	19.47	4.71	.36
4700.00	.70	236.56	4698.63	18.89	.53	-.69	18.90	1.62	.19
4800.00	.95	234.35	4798.62	18.07	-.65	.50	18.08	357.94	.25
4900.00	.82	224.52	4898.60	17.08	-1.82	1.68	17.18	353.90	.20
5000.00	.73	225.57	4998.59	16.12	-2.78	2.65	16.36	350.21	.09
5100.00	.82	222.13	5098.58	15.15	-3.72	3.59	15.59	346.22	.10
5200.00	.85	218.91	5198.57	14.04	-4.66	4.54	14.79	341.63	.06
5300.00	1.02	210.95	5298.56	12.70	-5.59	5.48	13.87	336.26	.21
5400.00	1.21	200.81	5398.54	10.95	-6.42	6.33	12.69	329.62	.27
5500.00	1.31	197.96	5498.52	8.87	-7.15	7.07	11.39	321.15	.12
5600.00	1.47	198.40	5598.49	6.57	-7.90	7.85	10.28	309.73	.16
5700.00	1.46	200.36	5698.46	4.16	-8.75	8.72	9.69	295.40	.05
5800.00	1.36	205.25	5798.43	1.89	-9.70	9.68	9.88	281.02	.16
5900.00	1.40	205.97	5898.40	-.28	-10.74	10.74	10.75	268.49	.04
6000.00	1.54	214.71	5998.36	-2.49	-12.04	12.06	12.30	258.34	.26
6100.00	1.55	214.31	6098.33	-4.71	-13.57	13.61	14.36	250.87	.01
6200.00	1.42	251.26	6198.30	-6.22	-15.50	15.56	16.71	248.13	.95
6300.00	1.74	281.09	6298.26	-6.33	-18.17	18.22	19.24	250.79	.87
6400.00	1.89	289.34	6398.21	-5.49	-21.21	21.26	21.91	255.49	.30
6500.00	2.03	295.71	6498.15	-4.18	-24.37	24.40	24.72	260.27	.26
6600.00	2.36	298.62	6598.08	-2.42	-27.77	27.79	27.87	265.02	.35
6700.00	2.67	298.88	6697.98	-.31	-31.62	31.62	31.62	269.44	.31
6800.00	2.75	302.35	6797.87	2.10	-35.68	35.66	35.74	273.36	.18
6900.00	1.72	261.49	6897.80	3.16	-39.19	39.17	39.32	274.61	1.83

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
Distance FT	Direction Deg								
7000.00	1.28	246.37	6997.76	2.49	-41.70	41.68	41.77	273.42	.59
7100.00	1.50	244.40	7097.73	1.48	-43.90	43.89	43.93	271.93	.23
Last Scientific Gyro.									
7155.00	1.26	257.15	7152.72	1.03	-45.14	45.13	45.15	271.31	.71
7219.00	1.70	250.70	7216.70	.56	-46.72	46.72	46.73	270.69	.73
7251.00	1.80	246.30	7248.68	.20	-47.63	47.63	47.63	270.24	.52
7283.00	2.80	266.30	7280.66	-.05	-48.87	48.87	48.87	269.94	3.96
7315.00	5.70	262.30	7312.56	-.31	-51.23	51.23	51.23	269.65	9.10
7347.00	8.80	260.70	7344.31	-.92	-55.22	55.23	55.23	269.04	9.71
7378.00	11.30	264.80	7374.83	-1.58	-60.59	60.60	60.61	268.50	8.38
7410.00	14.20	265.10	7406.04	-2.20	-67.62	67.64	67.66	268.14	9.06
7442.00	17.10	266.30	7436.85	-2.84	-76.23	76.25	76.28	267.87	9.12
7474.00	20.20	264.80	7467.16	-3.64	-86.43	86.45	86.50	267.59	9.80
7506.00	23.30	263.90	7496.88	-4.82	-98.22	98.26	98.34	267.19	9.74
7538.00	26.60	264.20	7525.89	-6.21	-111.65	111.70	111.82	266.81	10.32
7570.00	30.20	263.20	7554.03	-7.89	-126.77	126.83	127.02	266.44	11.35
7602.00	32.70	264.40	7581.33	-9.69	-143.37	143.45	143.70	266.13	8.05
7633.00	34.80	266.20	7607.11	-11.09	-160.53	160.62	160.92	266.05	7.50
7665.00	37.50	268.10	7632.94	-12.02	-179.38	179.48	179.79	266.17	9.13
7697.00	40.40	268.80	7657.83	-12.56	-199.49	199.59	199.88	266.40	9.17
7729.00	43.90	269.20	7681.55	-12.93	-220.96	221.06	221.34	266.65	10.97
7761.00	47.50	269.70	7703.89	-13.15	-243.85	243.96	244.21	266.91	11.31
7793.00	50.80	269.70	7724.82	-13.28	-268.06	268.16	268.39	267.16	10.31
7824.00	53.60	271.30	7743.82	-13.06	-292.55	292.65	292.84	267.44	9.91
7856.00	56.50	270.60	7762.15	-12.62	-318.77	318.86	319.02	267.73	9.24
7888.00	60.00	271.10	7778.99	-12.22	-345.97	346.06	346.19	267.98	11.02
7920.00	64.00	271.10	7794.01	-11.68	-374.22	374.30	374.40	268.21	12.50
7952.00	68.20	270.70	7806.97	-11.22	-403.46	403.54	403.62	268.41	13.17
7984.00	72.50	270.60	7817.73	-10.88	-433.59	433.67	433.73	268.56	13.44
8015.00	77.00	271.30	7825.88	-10.38	-463.49	463.56	463.60	268.72	14.68
8047.00	81.30	271.80	7831.90	-9.53	-494.89	494.96	494.99	268.90	13.52
8079.00	85.70	272.00	7835.52	-8.47	-526.66	526.72	526.73	269.08	13.76
8110.00	89.60	271.60	7836.79	-7.50	-557.62	557.66	557.67	269.23	12.65
8141.00	92.40	271.10	7836.25	-6.77	-588.60	588.64	588.64	269.34	9.18
8173.00	92.50	271.20	7834.88	-6.13	-620.56	620.59	620.59	269.43	.44
8205.00	92.80	271.10	7833.40	-5.49	-652.52	652.55	652.55	269.52	.99
8301.00	94.70	270.50	7827.13	-4.15	-748.30	748.31	748.32	269.68	2.08
8396.00	95.60	270.00	7818.60	-3.74	-842.92	842.92	842.93	269.75	1.08
8491.00	95.30	269.20	7809.58	-4.40	-937.49	937.49	937.50	269.73	.90
8586.00	95.40	269.40	7800.72	-5.55	-1032.06	1032.07	1032.08	269.69	.23
8682.00	94.20	268.40	7792.69	-7.39	-1127.71	1127.73	1127.73	269.62	1.62
8778.00	93.40	268.80	7786.32	-9.73	-1223.47	1223.51	1223.51	269.54	.93
8873.00	92.00	269.40	7781.85	-11.22	-1318.35	1318.39	1318.39	269.51	1.60
8969.00	92.10	269.30	7778.41	-12.31	-1414.28	1414.33	1414.33	269.50	.15
9064.00	94.00	268.90	7773.36	-13.80	-1509.13	1509.19	1509.19	269.48	2.04
9160.00	90.90	268.50	7769.26	-15.98	-1605.00	1605.08	1605.08	269.43	3.26

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
9255.00	91.10	268.40	7767.60	-18.54	-1699.95	1700.05	1700.06	269.38	.24
9350.00	92.40	268.10	7764.70	-21.44	-1794.86	1794.98	1794.99	269.32	1.40
9445.00	91.60	268.60	7761.38	-24.18	-1889.77	1889.90	1889.92	269.27	.99
9541.00	92.20	268.70	7758.20	-26.44	-1985.69	1985.84	1985.86	269.24	.63
9636.00	91.70	269.00	7754.97	-28.34	-2080.61	2080.78	2080.80	269.22	.61
9731.00	92.20	268.60	7751.73	-30.33	-2175.53	2175.71	2175.75	269.20	.67
9827.00	91.80	269.60	7748.38	-31.84	-2271.46	2271.65	2271.69	269.20	1.12
9922.00	92.70	269.40	7744.65	-32.67	-2366.39	2366.58	2366.61	269.21	.97
10018.00	91.40	269.70	7741.22	-33.42	-2462.32	2462.51	2462.55	269.22	1.39
10113.00	92.30	269.70	7738.15	-33.92	-2557.27	2557.46	2557.49	269.24	.95
10209.00	91.30	270.60	7735.14	-33.67	-2653.22	2653.41	2653.43	269.27	1.40
10304.00	92.10	270.30	7732.32	-32.92	-2748.17	2748.35	2748.37	269.31	.90
10400.00	92.20	270.50	7728.72	-32.25	-2844.10	2844.27	2844.28	269.35	.23
10496.00	91.00	271.40	7726.04	-30.66	-2940.05	2940.20	2940.21	269.40	1.56
10591.00	89.50	271.00	7725.62	-28.67	-3035.02	3035.16	3035.16	269.46	1.63
10686.00	89.90	269.90	7726.12	-27.92	-3130.02	3130.14	3130.14	269.49	1.23
10782.00	90.70	269.20	7725.62	-28.68	-3226.01	3226.14	3226.14	269.49	1.11
10877.00	91.30	268.40	7723.96	-30.67	-3320.98	3321.12	3321.12	269.47	1.05
10973.00	91.70	267.70	7721.45	-33.93	-3416.89	3417.05	3417.05	269.43	.84
11068.00	92.40	267.20	7718.05	-38.16	-3511.73	3511.93	3511.94	269.38	.91
11164.00	93.40	267.00	7713.19	-43.01	-3607.48	3607.72	3607.74	269.32	1.06
11259.00	93.40	268.20	7707.56	-46.98	-3702.23	3702.49	3702.53	269.27	1.26
11355.00	91.70	268.50	7703.29	-49.74	-3798.09	3798.38	3798.42	269.25	1.80
11450.00	90.10	268.30	7701.79	-52.39	-3893.04	3893.34	3893.39	269.23	1.70
11545.00	90.70	267.90	7701.13	-55.54	-3987.99	3988.31	3988.37	269.20	.76
11640.00	91.80	267.50	7699.06	-59.35	-4082.88	4083.24	4083.32	269.17	1.23
11736.00	92.60	267.70	7695.37	-63.37	-4178.73	4179.11	4179.21	269.13	.86
11830.00	91.80	268.10	7691.76	-66.81	-4272.60	4273.01	4273.12	269.10	.95
11923.00	92.00	267.40	7688.68	-70.46	-4365.47	4365.91	4366.04	269.08	.78
12017.00	92.50	266.60	7684.99	-75.38	-4459.27	4459.75	4459.91	269.03	1.00
12134.00	93.70	266.60	7678.66	-82.30	-4575.89	4576.42	4576.63	268.97	1.03
BHL									
12197.00	93.70	266.60	7674.60	-86.03	-4638.65	4639.21	4639.45	268.94	.00

COG Operating LLC

Eddy County, NM

Down South State Com 2H

Down South State Com 2H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

22 June, 2012



COG Operating LLC
Down South State Com 2H
Eddy County, NM
Plan #2

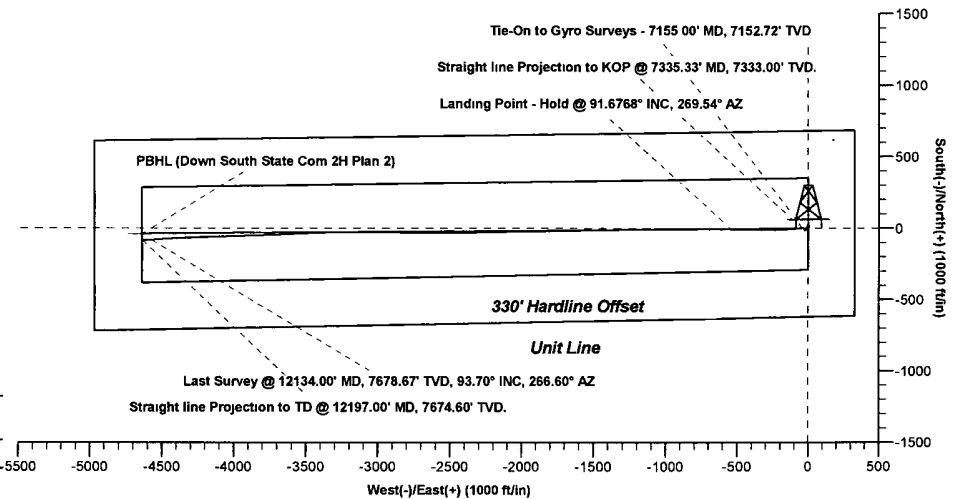
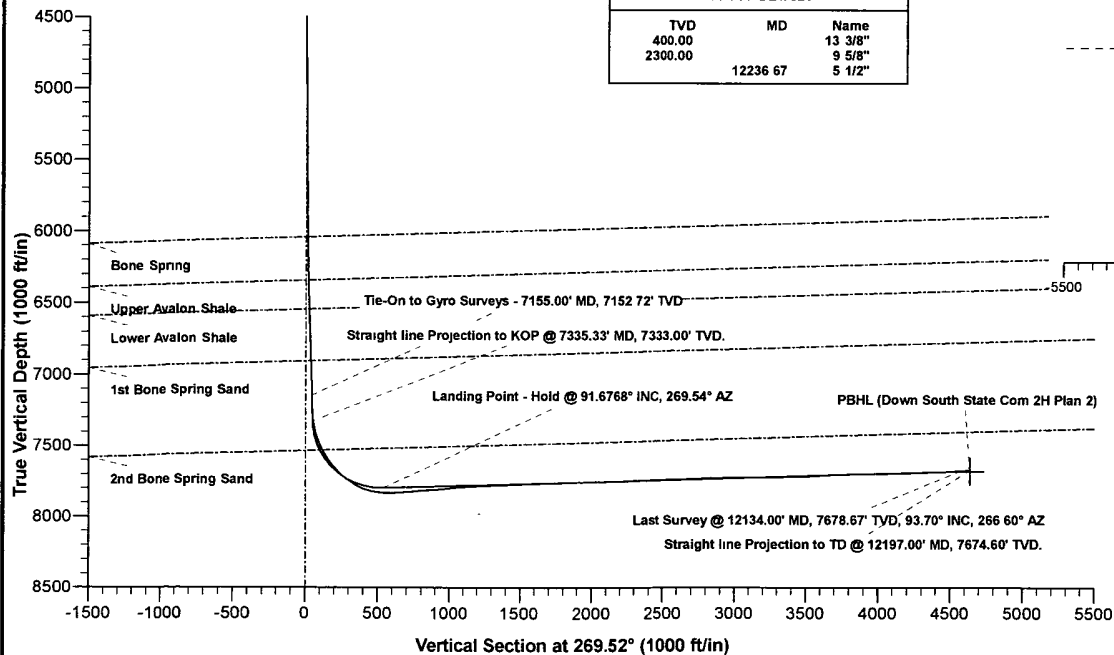


Surface Location		Ground Elev: 3046.00 WELL @ 3064.00ft (Siver Oak #7)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	374556.60	566530.80	32.02958670	-104.11864908

TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Down South State Com 2H Plan 2)	7680.00	-39.20	-4639.50	374517.40	561891.30	32.02950340	-104.13362038

Section Details							
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Annotation
7152.72	7155.00	1.26	257.15	1.03	-45.14	45.13	Tie-On to Gyro Surveys - 7155.00' MD, 7152.72' TVD
7333.00	7335.33	1.26	257.15	0.15	-49.01	49.01	Straight line Projection to KOP @ 7335.33' MD, 7333.00' TVD
7800.00	8089.05	91.68	269.54	-6.09	-540.30	540.33	Landing Point - Hold @ 91.6768° INC, 269.54° AZ
7680.00	12190.14	91.68	269.54	-39.20	-4639.50	4639.67	TD @ 12190.14' MD, 7680.00' TVD

CASING DETAILS		
TVD	MD	Name
400.00		13 3/8"
2300.00	12236.67	9 5/8"
		5 1/2"



Azimuths to Grid North
True North -0.11°
Magnetic North 7.59°

Magnetic Field
Strength: 48344.3nT
Dip Angle: 59.89°
Date: 6/1/2012
Model: IGRF2010

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
7536.12	7546.28	2nd Bone Spring Sand

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Down South State Com 2H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Site:	Down South State Com 2H	MD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Well:	Down South State Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000 Database

Project	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Down South State Com 2H			
Site Position:		Northing:	374,556 60 ft	Latitude:	32 02958671
From:	Map	Easting:	566,530 80 ft	Longitude:	-104 11864908
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in	Grid Convergence:	0 11 °

Well	Down South State Com 2H					
Well Position	+N-S	0.00 ft	Northing:	374,556.60 ft	Latitude:	32.02958671
	+E-W	0.00 ft	Easting:	566,530.80 ft	Longitude:	-104.11864908
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,046.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	6/1/2012	7 70	59 89	48,344

Design	Wellbore #1				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0 00	0 00	0 00	269.52	

Survey Program	Date 6/22/2012			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
100 00	7,155 00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard
7,187 00	12,197 00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate	
(ft)			(ft)			(ft)	(°/100ft)	(°/100ft)	(°/100ft)	
7,155 00	1.26	257 15	7,152.72	1 03	-45 14	45 13	0 00	0.00	0 00	
7,187 00	1 30	256 10	7,184 71	0 87	-45 84	45 83	0 14	0 13	-3 28	
7,219 00	1 70	250.70	7,216 70	0 62	-46 64	46 63	1 32	1 25	-16 88	
7,251 00	1.80	246 30	7,248.68	0 26	-47 55	47 54	0 52	0 31	-13.75	
7,283 00	2 80	266 30	7,280 66	0.01	-48 79	48 79	3.96	3.13	62 50	
7,315 00	5 70	262 30	7,312.57	-0 25	-51 14	51 14	9 10	9 06	-12 50	
7,347 00	8 80	260 70	7,344.31	-0.86	-55 13	55.14	9 71	9 69	-5 00	
7,378.00	11 30	264.80	7,374.83	-1 52	-60 50	60 51	8.38	8.06	13 23	
7,410 00	14 20	265 10	7,406.04	-2.14	-67 53	67 55	9 06	9 06	0 94	
7,442 00	17 10	266 30	7,436.85	-2 78	-76 14	76 16	9 12	9 06	3 75	

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Down South State Com 2H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Site:	Down South State Com 2H	MD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Well:	Down South State Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000 Database

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,474.00	20.20	264.80	7,467.16	-3.58	-86.34	86.37	9.80	9.69	-4.69
7,506.00	23.30	263.90	7,496.88	-4.76	-98.14	98.17	9.74	9.69	-2.81
7,538.00	26.60	264.20	7,525.89	-6.15	-111.56	111.61	10.32	10.31	0.94
7,570.00	30.20	263.20	7,554.04	-7.83	-126.69	126.75	11.35	11.25	-3.13
7,602.00	32.70	264.40	7,581.33	-9.63	-143.28	143.36	8.05	7.81	3.75
7,633.00	34.80	266.20	7,607.11	-11.03	-160.45	160.53	7.50	6.77	5.81
7,665.00	37.50	268.10	7,632.95	-11.96	-179.30	179.39	9.13	8.44	5.94
7,697.00	40.40	268.80	7,657.83	-12.50	-199.40	199.50	9.17	9.06	2.19
7,729.00	43.90	269.20	7,681.55	-12.87	-220.87	220.97	10.97	10.94	1.25
7,761.00	47.50	269.70	7,703.90	-13.09	-243.77	243.87	11.31	11.25	1.56
7,793.00	50.80	269.70	7,724.82	-13.22	-267.97	268.07	10.31	10.31	0.00
7,824.00	53.60	271.30	7,743.82	-13.00	-292.46	292.56	9.91	9.03	5.16
7,856.00	56.50	270.60	7,762.15	-12.56	-318.68	318.78	9.24	9.06	-2.19
7,888.00	60.00	271.10	7,778.99	-12.16	-345.89	345.98	11.02	10.94	1.56
7,920.00	64.00	271.10	7,794.01	-11.62	-374.13	374.21	12.50	12.50	0.00
7,952.00	68.20	270.70	7,806.97	-11.16	-403.38	403.46	13.17	13.13	-1.25
7,984.00	72.50	270.60	7,817.73	-10.82	-433.50	433.58	13.44	13.44	-0.31
8,015.00	77.00	271.30	7,825.88	-10.32	-463.40	463.47	14.68	14.52	2.26
8,047.00	81.30	271.80	7,831.90	-9.47	-494.81	494.87	13.52	13.44	1.56
8,079.00	85.70	272.00	7,835.53	-8.41	-526.58	526.63	13.76	13.75	0.63
8,110.00	89.60	271.60	7,836.80	-7.44	-557.53	557.57	12.65	12.58	-1.29
8,141.00	92.40	271.10	7,836.26	-6.71	-588.51	588.55	9.18	9.03	-1.61
8,173.00	92.50	271.20	7,834.89	-6.07	-620.48	620.51	0.44	0.31	0.31
8,205.00	92.80	271.10	7,833.41	-5.43	-652.44	652.46	0.99	0.94	-0.31
8,301.00	94.70	270.50	7,827.13	-4.09	-748.22	748.23	2.08	1.98	-0.63
8,396.00	95.60	270.00	7,818.60	-3.68	-842.83	842.83	1.08	0.95	-0.53
8,491.00	95.30	269.20	7,809.58	-4.34	-937.40	937.40	0.90	-0.32	-0.84
8,586.00	95.40	269.40	7,800.72	-5.49	-1,031.98	1,031.99	0.23	0.11	0.21
8,682.00	94.20	268.40	7,792.69	-7.33	-1,127.62	1,127.64	1.62	-1.25	-1.04
8,778.00	93.40	268.80	7,786.33	-9.67	-1,223.38	1,223.42	0.93	-0.83	0.42
8,873.00	92.00	269.40	7,781.85	-11.16	-1,318.26	1,318.31	1.60	-1.47	0.63
8,969.00	92.10	269.30	7,778.42	-12.25	-1,414.19	1,414.25	0.15	0.10	-0.10
9,064.00	94.00	268.90	7,773.36	-13.74	-1,509.04	1,509.10	2.04	2.00	-0.42
9,160.00	90.90	268.50	7,769.26	-15.91	-1,604.92	1,604.99	3.26	-3.23	-0.42
9,255.00	91.10	268.40	7,767.60	-18.48	-1,699.87	1,699.96	0.24	0.21	-0.11
9,350.00	92.40	268.10	7,764.70	-21.38	-1,794.78	1,794.89	1.40	1.37	-0.32
9,445.00	91.60	268.60	7,761.38	-24.12	-1,889.68	1,889.81	0.99	-0.84	0.53
9,541.00	92.20	268.70	7,758.20	-26.38	-1,985.60	1,985.75	0.63	0.63	0.10
9,636.00	91.70	269.00	7,754.97	-28.28	-2,080.52	2,080.69	0.61	-0.53	0.32
9,731.00	92.20	268.60	7,751.74	-30.27	-2,175.45	2,175.63	0.67	0.53	-0.42
9,827.00	91.80	269.60	7,748.39	-31.78	-2,271.38	2,271.56	1.12	-0.42	1.04
9,922.00	92.70	269.40	7,744.66	-32.61	-2,366.30	2,366.49	0.97	0.95	-0.21
10,018.00	91.40	269.70	7,741.22	-33.36	-2,462.23	2,462.43	1.39	-1.35	0.31

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Down South State Com 2H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Site:	Down South State Com 2H	MD Reference:	WELL @ 3064 00ft (Siver Oak #7)
Well:	Down South State Com 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Houston R5000 Database

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,113 00	92 30	269 70	7,738 16	-33 86	-2,557 18	2,557 37	0 95	0 95	0 00
10,209 00	91 30	270 60	7,735 14	-33 61	-2,653 13	2,653 32	1 40	-1 04	0 94
10,304 00	92 10	270 30	7,732.32	-32 86	-2,748 09	2,748 26	0 90	0 84	-0 32
10,400 00	92 20	270 50	7,728 72	-32 19	-2,844 02	2,844 18	0 23	0 10	0 21
10,496 00	91 00	271 40	7,726 04	-30 60	-2,939 96	2,940 11	1 56	-1 25	0 94
10,591 00	89 50	271 00	7,725 62	-28 61	-3,034 94	3,035 07	1 63	-1 58	-0 42
10,686 00	89 90	269 90	7,726 12	-27 86	-3,129 93	3,130.05	1 23	0 42	-1 16
10,782 00	90 70	269 20	7,725 62	-28 62	-3,225 93	3,226 05	1.11	0 83	-0 73
10,877 00	91 30	268 40	7,723 96	-30 61	-3,320 89	3,321 03	1 05	0 63	-0 84
10,973 00	91 70	267 70	7,721 45	-33 87	-3,416 80	3,416 96	0 84	0 42	-0 73
11,068.00	92.40	267 20	7,718 05	-38 10	-3,511 64	3,511 84	0.91	0 74	-0 53
11,164 00	93 40	267 00	7,713.19	-42 95	-3,607.40	3,607.63	1 06	1 04	-0 21
11,259 00	93 40	268 20	7,707 56	-46 92	-3,702.14	3,702 41	1 26	0 00	1 26
11,355 00	91 70	268 50	7,703 29	-49.68	-3,798 01	3,798 29	1 80	-1 77	0 31
11,450 00	90 10	268 30	7,701 80	-52 33	-3,892 95	3,893 26	1 70	-1 68	-0 21
11,545 00	90 70	267 90	7,701 13	-55 48	-3,987 90	3,988 22	0 76	0 63	-0 42
11,640 00	91 80	267.50	7,699 06	-59 29	-4,082 80	4,083 15	1 23	1 16	-0 42
11,736 00	92 60	267 70	7,695 38	-63 31	-4,178 64	4,179 03	0 86	0 83	0 21
11,830 00	91 80	268 10	7,691 77	-66 75	-4,272 51	4,272 92	0 95	-0 85	0 43
11,923 00	92 00	267 40	7,688 68	-70 40	-4,365.39	4,365.82	0 78	0 22	-0 75
12,017 00	92 50	266 60	7,684 99	-75 32	-4,459 18	4,459 66	1 00	0 53	-0 85
12,134 00	93 70	266 60	7,678 67	-82 24	-4,575 80	4,576 33	1 03	1 03	0 00
Last Survey @ 12134.00' MD, 7678.67' TVD, 93.70° INC, 266.60° AZ									
12,197 00	93 70	266 60	7,674 60	-85 97	-4,638 56	4,639.12	0 00	0 00	0 00
Straight line Projection to TD @ 12197.00' MD, 7674.60' TVD.									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,134 00	7,678 67	-82 24	-4,575.80	Last Survey @ 12134.00' MD, 7678 67' TVD, 93 70° INC, 266 60° AZ
12,197 00	7,674 60	-85 97	-4,638 56	Straight line Projection to TD @ 12197 00' MD, 7674 60' TVD

Checked By: _____ Approved By: _____ Date: _____