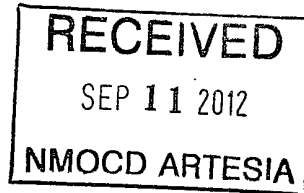




PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288



COG OPERATING, LLC
RECEIVED
JUL 30 2012
ARTESIA WEST

July 13, 2012

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

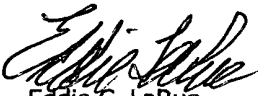
30-015-40374

RE: Cluster State Com #3H
1830' FNL & 190' FWL
Sec. 16, T26S, R27E
Eddy County, New Mexico

Dear Sir,

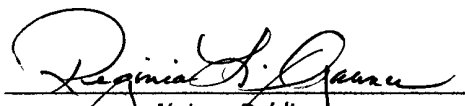
The attached is the Deviation Survey for the above captioned well.

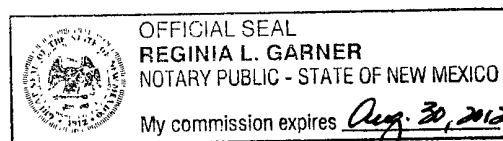
Very truly yours,


Eddie C. LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 13th day of July, 2012.


Notary Public



Cluster State Com #3H

Date	Depth	Deviation	Direction	TVD	Horiz. Disp.
6/27/2012	284	0.60	138.70	283	1.00
6/27/2012	559	1.10	150.40	558	3.31
6/28/2012	845	2.10	161.00	884	6.49
6/28/2012	1418	3.20	111.80	1417	18.08
6/28/2012	1704	2.70	102.00	1702	32.56
6/29/2012	1991	1.80	88.20	1989	43.69
7/1/2012	2428	0.80			
7/1/2012	2928	0.70			
7/1/2012	3428	0.50			
7/1/2012	3922	0.80			
7/2/2012	4400	1.10			
7/2/2012	4877	1.70			
7/2/2012	5355	2.10			
7/3/2012	5832	1.90			
7/3/2012	6309	1.00			
7/4/2012	6850	1.90			
7/4/2012	6965	1.60	161.90	6962	
7/4/2012	7028	5.20	115.60	7025	
7/5/2012	7060	9.50	117.40	7057	10.32
7/5/2012	7187	24.70	97.00	7177	46.06
7/5/2012	7219	27.30	89.80	7206	
7/5/2012	7314	37.00	90.70	7287	109.96
7/5/2012	7473	44.80	84.90	7409	211.78
7/5/2012	7568	54.30	91.70	7471	283.25
7/5/2012	7600	58.30	92.80	7489	309.89
7/5/2012	7631	60.60	94.50	7505	336.55
7/5/2012	7994	69.10	94.70	7531	393.48
7/5/2012	7727	71.10	95.60	1542	
7/6/2012	7790	81.30	93.00	7556	485.81
7/6/2012	7853	86.00	90.50	7563	548.41
7/6/2012	7916	88.00	88.90	7576	611.27
7/6/2012	7975	89.30	88.90	7568	670.19
7/6/2012	8165	90.00	89.20	7569	860.10
7/7/2012	8548	89.20	88.40	7569	1242.79
7/7/2012	8834	88.70	88.70	7576	1528.41
7/7/2012	8930	89.50	89.00	7578	1624.33
7/7/2012	9120	87.00	88.70	7582	1814.00
7/7/2012	9312	86.50	89.30	7592	2005.76
7/7/2012	9407	86.90	90.00	7598	2100.00
7/7/2012	9598	87.50	90.70	7607	2291.33
7/7/2012	9756	88.50	91.20	7614	
7/8/2012	9821	88.90	91.30	7616	2314.15
7/8/2012	10011	91.10	91.50	7616	2704.14

Date	Depth	Deviation	Direction	TVD	Horiz. Disp.
7/8/2012	10202	93.00	91.60	7610	2895.02
7/8/2012	10265	91.60	91.20	7607	2957.96
7/8/2012	10456	90.60	90.40	7604	3148.94
7/8/2012	10647	89.50	89.80	7605	3339.90
7/8/2012	10743	88.60	90.00	7607	3435.80
7/8/2012	10934	89.20	89.50	7611	3626.79
7/8/2012	11029	88.30	89.00	7613	3721.72
7/9/2012	11125	87.50	89.50	7616	3817.61
7/9/2012	11412	88.20	89.40	7628	4104.26
7/9/2012	11603	88.40	89.30	7634	4295.11
7/10/2012	11701	88.60	89.60	7636	4393.04
7/10/2012	11796	88.70	89.40	7638	4487.99
7/10/2012	11892	88.70	89.40	7641	4583.93
7/10/2012	11988	88.50	89.20	7643	4679.80

Company: COG OPERATING LLC (CONCHO)

Well: CLUSTER STATE COM NO. 003H



Rig Name: SILVER OAK #7

State/County: NEW MEXICO/EDDY

Latitude: 32.04

GRID North is 0.07 Degrees East of True North

VS-Azi: 0.00 Degrees



DEPTH REFERENCE : RKB = 18'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: final.ut

Minimum Curvature Method

Report Date/Time: 7/10/2012 / 13:45

Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Dustin Skoruppa

Cluster State Com No. 003H / API 30-015-40374

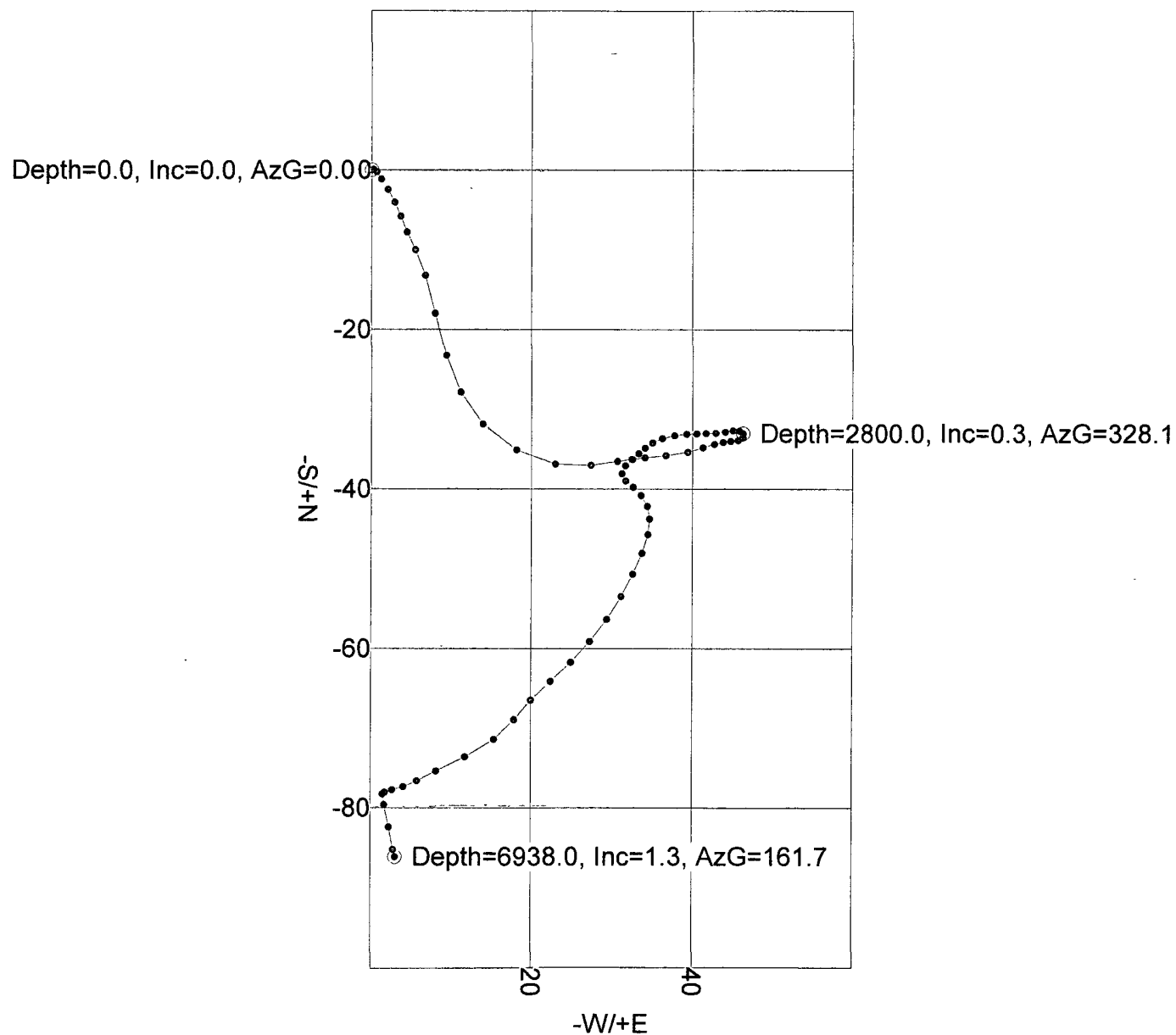
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.24	73.63	100.00	0.06	0.20	0.21	73.63	0.24
200.00	0.48	147.26	200.00	-0.24	0.63	0.67	110.44	0.47
300.00	0.75	147.88	299.99	-1.15	1.21	1.67	133.48	0.27
400.00	1.02	148.50	399.98	-2.46	2.02	3.19	140.60	0.27
500.00	1.07	154.05	499.96	-4.07	2.90	4.99	144.50	0.11
600.00	1.11	159.60	599.95	-5.81	3.65	6.86	147.90	0.11
700.00	1.31	156.74	699.92	-7.78	4.44	8.95	150.29	0.21
800.00	1.51	153.89	799.89	-10.02	5.47	11.41	151.35	0.21
900.00	2.40	161.28	899.83	-13.18	6.72	14.80	152.98	0.92
1000.00	3.28	168.68	999.71	-17.97	7.96	19.65	156.11	0.95
1100.00	2.99	161.75	1099.56	-23.25	9.33	25.05	158.12	0.48
1200.00	2.69	154.82	1199.44	-27.85	11.15	30.00	158.18	0.45
1300.00	2.95	136.87	1299.32	-31.85	13.91	34.76	156.41	0.92
1400.00	3.21	118.92	1399.18	-35.08	18.12	39.49	152.69	0.99
1500.00	2.77	100.24	1499.04	-36.87	22.94	43.42	148.11	1.06
1600.00	2.32	81.55	1598.95	-37.00	27.32	45.99	143.56	0.93
1700.00	1.49	82.17	1698.89	-36.52	30.61	47.65	140.03	0.84
1800.00	0.65	82.78	1798.87	-36.27	32.45	48.67	138.18	0.84

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.22	83.50	1898.86	-36.08	34.07	49.63	136.64	0.57
2000.00	1.78	84.22	1998.82	-35.81	36.67	51.25	134.32	0.57
2100.00	1.36	76.71	2098.79	-35.38	39.37	52.93	131.94	0.47
2200.00	0.94	69.19	2198.77	-34.81	41.29	54.01	130.13	0.45
2300.00	0.75	75.18	2298.75	-34.36	42.69	54.80	128.83	0.21
2400.00	0.55	81.16	2398.75	-34.11	43.79	55.51	127.92	0.20
2500.00	0.53	83.10	2498.74	-33.98	44.73	56.18	127.22	0.03
2600.00	0.51	85.03	2598.74	-33.89	45.64	56.85	126.59	0.03
2700.00	0.40	26.54	2698.74	-33.54	46.24	57.13	125.95	0.46
2800.00	0.28	328.06	2798.73	-33.02	46.27	56.84	125.51	0.35
2900.00	0.41	291.97	2898.73	-32.68	45.81	56.27	125.50	0.24
3000.00	0.53	255.89	2998.73	-32.66	45.04	55.63	125.95	0.31
3100.00	0.63	261.45	3098.73	-32.85	44.05	54.95	126.72	0.11
3200.00	0.73	267.01	3198.72	-32.97	42.87	54.08	127.56	0.12
3300.00	0.68	268.02	3298.71	-33.02	41.64	53.15	128.41	0.05
3400.00	0.63	269.03	3398.70	-33.05	40.50	52.28	129.21	0.05
3500.00	0.80	265.38	3498.70	-33.12	39.26	51.36	130.15	0.17
3600.00	0.97	261.73	3598.68	-33.29	37.73	50.32	131.43	0.18
3700.00	0.83	250.17	3698.67	-33.66	36.22	49.44	132.90	0.23
3800.00	0.68	238.61	3798.66	-34.21	35.03	48.97	134.33	0.21
3900.00	0.63	232.16	3898.66	-34.86	34.08	48.76	135.65	0.09
4000.00	0.58	225.70	3998.65	-35.56	33.28	48.70	136.89	0.09
4100.00	0.64	227.23	4098.65	-36.29	32.51	48.72	138.15	0.06
4200.00	0.71	228.77	4198.64	-37.08	31.63	48.74	139.53	0.06
4300.00	0.67	177.55	4298.63	-38.07	31.19	49.22	140.67	0.59
4400.00	0.63	126.34	4398.63	-38.97	31.66	50.22	140.91	0.56
4500.00	0.76	132.84	4498.62	-39.75	32.59	51.41	140.65	0.16
4600.00	0.90	139.34	4598.61	-40.80	33.59	52.85	140.53	0.16
4700.00	0.93	159.87	4698.60	-42.16	34.38	54.40	140.80	0.33
4800.00	0.96	180.39	4798.58	-43.76	34.66	55.82	141.62	0.34
4900.00	1.26	191.01	4898.56	-45.68	34.44	57.21	142.99	0.36
5000.00	1.56	201.64	4998.53	-48.03	33.73	58.69	144.92	0.40
5100.00	1.73	205.55	5098.49	-50.66	32.57	60.23	147.26	0.20
5200.00	1.90	209.45	5198.44	-53.47	31.11	61.86	149.81	0.21
5300.00	1.96	214.65	5298.39	-56.32	29.32	63.50	152.50	0.18
5400.00	2.01	219.85	5398.33	-59.08	27.22	65.05	155.26	0.19
5500.00	2.00	223.93	5498.26	-61.68	24.89	66.51	158.03	0.14
5600.00	1.99	228.00	5598.20	-64.10	22.38	67.90	160.75	0.14
5700.00	1.89	223.04	5698.15	-66.47	19.96	69.40	163.28	0.19

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	1.80	218.08	5798.09	-68.91	17.87	71.19	165.46	0.19
5900.00	2.23	231.16	5898.03	-71.37	15.38	73.01	167.84	0.63
6000.00	2.67	244.24	5997.94	-73.61	11.77	74.54	170.92	0.71
6100.00	1.92	243.39	6097.86	-75.37	8.18	75.81	173.81	0.75
6200.00	1.17	242.53	6197.82	-76.58	5.78	76.80	175.68	0.75
6300.00	0.94	251.34	6297.81	-77.32	4.10	77.42	176.97	0.28
6400.00	0.72	260.14	6397.80	-77.69	2.70	77.73	178.01	0.26
6500.00	0.40	235.08	6497.79	-77.99	1.80	78.01	178.68	0.40
6600.00	0.08	210.03	6597.79	-78.25	1.48	78.26	178.91	0.33
6700.00	1.49	167.88	6697.78	-79.58	1.72	79.60	178.76	1.43
6800.00	1.77	168.69	6797.74	-82.36	2.30	82.39	178.40	0.28
6900.00	1.53	169.67	6897.70	-85.19	2.84	85.24	178.09	0.24
6938.00	1.28	161.66	6935.69	-86.09	3.06	86.15	177.96	0.84



Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Dustin Skoruppa
Cluster State Com No. 003H / API 30-015-40374



VES Survey Date: 07/03/2012

COG Operating LLC

Eddy County, NM

Cluster State Com 3H

Cluster State Com 3H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

11 July, 2012



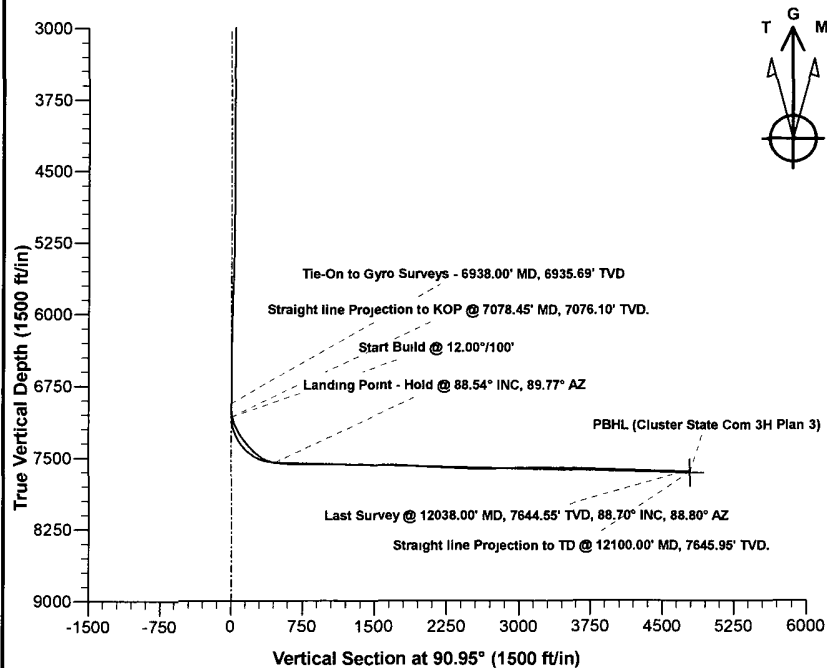
COG Operating LLC
Cluster State Com 3H
Eddy County, NM
Plan #3



Surface Location		Ground Elev: 3304.00 WELL @ 3321.50ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	379965.60	540510.90	32.04457075	-104.20259102

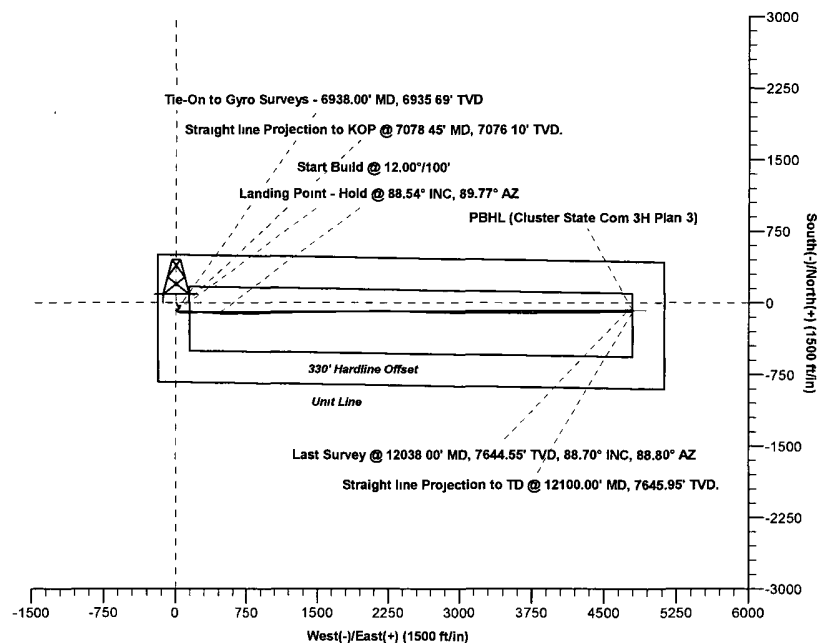
TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Cluster State Com 3H Plan 3)	7660 00	-79.30	4791.20	379886.30	545302 10	32.04433585	-104.18712821

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation	
1	6938.00	1.28	161.66	6935.69	-86.05	3.03	0.00	0.00	4.46	Tie-On to Gyro Surveys - 6938.00' MD, 6935.69' TVD	
2	7078.45	1.28	161.66	7076.10	-89.03	4.02	0.00	0.00	5.49	Start Build @ 12.00°/100'	
3	7812.99	88.54	89.77	7550.00	-96.95	469.36	12.00	-71.93	470.90	Landing Point - Hold @ 88.54° INC, 89.77° AZ	
4	12136.26	88.54	89.77	7660.00	-79.30	4791.20	0.00	0.00	4791.86	TD @ 12136.36' MD, 7660.00' TVD	



Azimuths to Grd North
True North -0 07°
Magnetic North 7 67°

Magnetic Field
Strength 48336 5nT
Dip Angle: 59 89°
Date 6/21/2012
Model: IGRF2010



Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Cluster State Com 3H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3321 50ft (Original Well Elev)
Site:	Cluster State Com 3H	MD Reference:	WELL @ 3321 50ft (Original Well Elev)
Well:	Cluster State Com 3H	North Reference:	Grd
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	Cluster State Com 3H		
Site Position:		Northing:	379,965 60 ft
From:	Map	Easting:	540,510 90 ft
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in
		Latitude:	32 04457075
		Longitude:	-104 20259103
		Grid Convergence:	0 07 °

Well	Cluster State Com 3H		
Well Position	+N/-S	0 00 ft	Northing: 379,965 60 ft
	+E/-W	0 00 ft	Easting: 540,510 90 ft
Position Uncertainty	0 00 ft	Wellhead Elevation:	ft
		Latitude:	32 04457075
		Longitude:	-104 20259103
		Ground Level:	3,304 00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	6/21/2012	7 74
			Dip Angle
			(°)
			59 89
			Field Strength
			(nT)
			48,336

Design	Wellbore #1		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0 00	0 00	0 00
			Direction
			(°)
			90 95

Survey Program	Date 7/11/2012		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100 00	6,938 00	Gyro Surveys (Wellbore #1)	MWD
6,965.00	12,100 00	MWD Surveys (Wellbore #1)	MWD
			Description
			MWD - Standard
			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)	
6,938 00	1 28	161.66	6,935 69	-86 05	3.03	4 46	0 00	0 00	0 00	
6,965 00	1 60	161.90	6,962 68	-86 70	3 24	4 68	1 19	1 19	0 89	
6,996 00	1 80	153.10	6,993 66	-87 54	3.60	5 05	1 06	0 65	-28 39	
7,028 00	5 20	115.60	7,025 60	-88 62	5 13	6 60	12 27	10 63	-117 19	
7,060 00	9 50	117 40	7,057 33	-90 46	8 79	10 29	13 46	13 44	5 63	
7,092 00	14 50	120 70	7,088 62	-93.72	14 58	16 13	15 77	15 63	10 31	
7,124 00	17 90	118 10	7,119 35	-98 09	22 37	23 99	10 86	10 63	-8 13	
7,156.00	21 90	108 30	7,149 44	-102 28	32 38	34 07	16 24	12 50	-30 63	
7,188 00	24 70	97 00	7,178 84	-104 97	44 69	46 42	16 45	8 75	-35 31	
7,219.00	27 30	89 80	7,206 71	-105 74	58 23	59 98	13 18	8.39	-23 23	

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Cluster State Com 3H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3321 50ft (Original Well Elev)
Site:	Cluster State Com 3H	MD Reference:	WELL @ 3321.50ft (Original Well Elev)
Well:	Cluster State Com 3H	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)
7,251.00	29.50	89.10	7,234.86	-105.59	73.45	75.19	6.95	6.88	-2.19
7,283.00	33.70	91.00	7,262.11	-105.62	90.21	91.95	13.49	13.13	5.94
7,314.00	37.00	90.70	7,287.39	-105.88	108.14	109.88	10.66	10.65	-0.97
7,346.00	39.50	90.00	7,312.52	-106.00	127.95	129.69	7.93	7.81	-2.19
7,378.00	39.00	89.40	7,337.30	-105.89	148.20	149.93	1.96	-1.56	-1.88
7,409.00	39.50	87.90	7,361.30	-105.43	167.80	169.53	3.46	1.61	-4.84
7,441.00	40.70	85.90	7,385.78	-104.31	188.38	190.09	5.50	3.75	-6.25
7,473.00	44.80	84.90	7,409.27	-102.56	210.03	211.70	12.99	12.81	-3.13
7,504.00	47.30	88.40	7,430.79	-101.27	232.30	233.95	11.45	8.06	11.29
7,536.00	49.90	89.10	7,451.95	-100.75	256.30	257.93	8.29	8.13	2.19
7,568.00	54.30	91.70	7,471.61	-100.95	281.54	283.17	15.17	13.75	8.13
7,600.00	58.30	92.80	7,489.36	-102.00	308.13	309.78	12.82	12.50	3.44
7,632.00	60.60	94.50	7,505.62	-103.76	335.63	337.30	8.52	7.19	5.31
7,663.00	65.20	95.40	7,519.74	-106.14	363.12	364.83	15.06	14.84	2.90
7,695.00	69.10	94.70	7,532.17	-108.73	392.48	394.23	12.35	12.19	-2.19
7,727.00	74.10	95.60	7,542.26	-111.46	422.72	424.51	15.85	15.63	2.81
7,758.00	76.00	93.70	7,550.26	-113.89	452.57	454.39	8.52	6.13	-6.13
7,790.00	81.30	93.00	7,556.56	-115.72	483.87	485.73	16.70	16.56	-2.19
7,822.00	84.10	92.40	7,560.62	-117.21	515.58	517.45	8.95	8.75	-1.88
7,853.00	86.00	90.50	7,563.30	-117.99	546.45	548.33	8.65	6.13	-6.13
7,884.00	86.10	89.40	7,565.43	-117.97	577.37	579.25	3.55	0.32	-3.55
7,916.00	88.00	88.90	7,567.08	-117.49	609.33	611.19	6.14	5.94	-1.56
7,975.00	89.30	88.90	7,568.47	-116.36	668.30	670.14	2.20	2.20	0.00
8,070.00	89.80	89.40	7,569.22	-114.95	763.28	765.09	0.74	0.53	0.53
8,165.00	90.00	89.20	7,569.38	-113.79	858.28	860.05	0.30	0.21	-0.21
8,261.00	90.00	88.60	7,569.38	-111.95	954.26	955.98	0.63	0.00	-0.63
8,356.00	90.00	88.70	7,569.38	-109.71	1,049.23	1,050.91	0.11	0.00	0.11
8,452.00	90.10	88.30	7,569.30	-107.20	1,145.20	1,146.82	0.43	0.10	-0.42
8,548.00	89.20	88.40	7,569.88	-104.43	1,241.16	1,242.72	0.94	-0.94	0.10
8,643.00	88.50	88.70	7,571.79	-102.03	1,336.11	1,337.61	0.80	-0.74	0.32
8,738.00	88.50	88.80	7,574.28	-99.96	1,431.05	1,432.51	0.11	0.00	0.11
8,834.00	88.70	88.70	7,576.62	-97.86	1,527.00	1,528.41	0.23	0.21	-0.10
8,930.00	89.50	89.00	7,578.13	-95.94	1,622.97	1,624.34	0.89	0.83	0.31
9,025.00	89.40	89.30	7,579.04	-94.53	1,717.95	1,719.28	0.33	-0.11	0.32
9,120.00	87.00	88.70	7,582.03	-92.87	1,812.88	1,814.17	2.60	-2.53	-0.63
9,216.00	86.80	89.00	7,587.22	-90.95	1,908.72	1,909.97	0.38	-0.21	0.31
9,312.00	86.50	89.30	7,592.83	-89.53	2,004.55	2,005.76	0.44	-0.31	0.31
9,407.00	86.90	90.00	7,598.30	-88.95	2,099.39	2,100.58	0.85	0.42	0.74
9,503.00	87.20	90.30	7,603.24	-89.20	2,195.26	2,196.44	0.44	0.31	0.31
9,598.00	87.50	90.70	7,607.63	-90.03	2,290.16	2,291.33	0.53	0.32	0.42
9,693.00	87.00	90.90	7,612.19	-91.35	2,385.04	2,386.22	0.57	-0.53	0.21
9,756.00	88.50	91.20	7,614.66	-92.50	2,447.98	2,449.17	2.43	2.38	0.48
9,821.00	88.90	91.30	7,616.14	-93.92	2,512.94	2,514.16	0.63	0.62	0.15

Survey Report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Site Cluster State Com 3H
Project:	Eddy County, NM	TVD Reference:	WELL @ 3321 50ft (Original Well Elev)
Site:	Cluster State Com 3H	MD Reference:	WELL @ 3321 50ft (Original Well Elev)
Well:	Cluster State Com 3H	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)	
9,916.00	90.10	91.60	7,616.96	-96.33	2,607.91	2,609.15	1.30	1.26	0.32	
9,948.00	90.10	91.60	7,616.91	-97.22	2,639.90	2,641.14	0.00	0.00	0.00	
10,011.00	91.10	91.50	7,616.25	-98.92	2,702.87	2,704.14	1.60	1.59	-0.16	
10,106.00	91.60	91.50	7,614.01	-101.41	2,797.81	2,799.11	0.53	0.53	0.00	
10,202.00	93.00	91.60	7,610.16	-104.00	2,893.69	2,895.02	1.46	1.46	0.10	
10,265.00	91.60	91.20	7,607.63	-105.54	2,956.62	2,957.97	2.31	-2.22	-0.63	
10,360.00	90.60	91.00	7,605.81	-107.36	3,051.59	3,052.95	1.07	-1.05	-0.21	
10,456.00	90.60	90.40	7,604.80	-108.54	3,147.57	3,148.94	0.62	0.00	-0.63	
10,551.00	89.50	89.80	7,604.72	-108.70	3,242.57	3,243.93	1.32	-1.16	-0.63	
10,647.00	89.50	89.80	7,605.56	-108.37	3,338.57	3,339.91	0.00	0.00	0.00	
10,743.00	88.60	90.00	7,607.15	-108.20	3,434.55	3,435.87	0.96	-0.94	0.21	
10,838.00	88.60	89.80	7,609.47	-108.03	3,529.52	3,530.83	0.21	0.00	-0.21	
10,934.00	89.20	89.50	7,611.31	-107.45	3,625.50	3,626.79	0.70	0.63	-0.31	
11,029.00	88.30	89.00	7,613.38	-106.21	3,720.47	3,721.72	1.08	-0.95	-0.53	
11,125.00	87.50	89.50	7,616.90	-104.95	3,816.40	3,817.61	0.98	-0.83	0.52	
11,220.00	87.40	89.20	7,621.13	-103.87	3,911.30	3,912.48	0.33	-0.11	-0.32	
11,316.00	87.80	89.40	7,625.15	-102.70	4,007.21	4,008.36	0.47	0.42	0.21	
11,412.00	88.20	89.40	7,628.50	-101.70	4,103.14	4,104.26	0.42	0.42	0.00	
11,507.00	88.40	89.40	7,631.32	-100.70	4,198.10	4,199.19	0.21	0.21	0.00	
11,603.00	88.40	89.30	7,634.00	-99.61	4,294.05	4,295.11	0.10	0.00	-0.10	
11,701.00	88.60	89.60	7,636.56	-98.67	4,392.01	4,393.05	0.37	0.20	0.31	
11,796.00	88.70	89.40	7,638.80	-97.84	4,486.98	4,487.99	0.24	0.11	-0.21	
11,892.00	88.70	89.40	7,640.98	-96.84	4,582.95	4,583.93	0.00	0.00	0.00	
11,988.00	88.50	89.20	7,643.32	-95.67	4,678.92	4,679.86	0.29	-0.21	-0.21	
12,038.00	88.70	88.80	7,644.55	-94.79	4,728.90	4,729.82	0.89	0.40	-0.80	
Last Survey @ 12038.00' MD, 7644.55' TVD, 88.70° INC, 88.80° AZ										
12,100.00	88.70	88.80	7,645.95	-93.50	4,790.87	4,791.76	0.00	0.00	0.00	
Straight line Projection to TD @ 12100.00' MD, 7645.95' TVD.										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
12,038.00	7,644.55	-94.79	4,728.90	Last Survey @ 12038.00' MD, 7644.55' TVD, 88.70° INC, 88.80° AZ	
12,100.00	7,645.95	-93.50	4,790.87	Straight line Projection to TD @ 12100.00' MD, 7645.95' TVD	

Checked By. _____ Approved By. _____ Date: _____