Results of Directional Survey

API number:	30-025-41491			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	AIRBONITA 12 FEDERAL COM	# 1H

surface	ULSTR:	P	12	T	22S	R	32E
				190	FSL	330	FEL

BH Loc	ULSTR:	A	12	T	22S	R	32E
16396	MD	11936.9	TVD	335	FNL	433	FEL
				4945	FSL		

Top Perf/OH	ULSTR:	P	12	T	22S	R	32E
12106	MD	11900.4	TVD	666	FSL	433	FEL

Bot Perf/OH	ULSTR:	A	12	T	22S	R	32E
16288	MD	11938.8	TVD	443	FNL	442	FEL
				4837	FSL		

	MD	N/S	E/W	VD
	12075	447.10	-95.70	11892.5
TOP PERFS/OH	**12106**	476.14	-103.01	11900.43
	12170	536.10	-118.10	11916.80
	16228	4587.30	-117.10	11939.90
BOT PERFS/OH	**16288**	4647.09	-112.06	11938.83
	16396	4754.70	-103.00	11936.90

NEXT TO LAST	16228	4587.30	-117.10	11939.90
LAST READING	16396	4754.70	-103.00	11936.90
TD	**16396**	4754.70	-103.00	11936.90

Surface Location	190	FS	330	FE
Projected BHL	4945	FS	433	FE
Location of				
Top Perfs/OH	666	FS	433	FE
Bottom Perfs/OH	4837	FS	442	FE

SUMMARY of Subsurface Locations

Surface Location	P-12-22S-32E	190	FS	330	FE	Vert. Depth
Top Perfs/OH	P-12-22S-32E	666	FS	433	FE	11900.43
Bottom Perfs/OH	A-12-22S-32E	4837	FS	442	FE	11938.83
Projected TD	A-12-22S-32E	4945	FS	433	FE	11936.90

APR 21 2014

VAUGHN ENERGY SERVICES
A GYRO TECHNOLOGIES INC. COMPANY

P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

January 7, 2014

HOBBS OCD

MAR 19 2014

RECEIVED

COG Operating LLC (Concho)
One Concho Center
600 W. Illinois Avenue
Midland, TX 79701

Attn: Kanicia Castillo

Re: **Airbonita 12 Federal Com No 001H**

Please find enclosed a copy of the survey from 0' to 11,012' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the 7th day of January A.D., 2014, by Keith Havelka.

Meredith Darden
Notary Public, State of Texas

MEREDITH DARDEN
Notary Public, State of Texas
My Commission Expires
July 25, 2017

Company: COG Operating LLC-Concho
Lease/Well: Airbonita 12 Federal Com/No 001H

Rig Name: McVay 7
State/County: New Mexico/Lea
Latitude: 32.40, Longitude: -103.62
GRID North is 0.38 Degrees East of True North
VS-Azi: 0.00 Degrees

Depth Reference : RKB: 17'

HOBBS OCD

MAR 19 2014

RECEIVED

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: Gyro.ut
Minimum Curvature Method
Report Date/Time: 1/7/2014 / 09:50

Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Tim Dillon

Airbonita 12 Federal Com No 001H / API 30-025-41491

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	0.21	127.20	100.00	-0.11	0.15	0.19	127.20	0.21
200.00	0.37	134.03	200.00	-0.45	0.53	0.70	130.38	0.16
300.00	0.86	150.29	299.99	-1.33	1.14	1.76	139.46	0.51
400.00	0.81	153.87	399.98	-2.63	1.83	3.20	145.17	0.07
500.00	0.58	155.64	499.97	-3.72	2.35	4.40	147.76	0.24
600.00	0.85	171.60	599.97	-4.91	2.66	5.59	151.54	0.33
700.00	0.57	196.97	699.96	-6.12	2.62	6.66	156.79	0.41
800.00	1.40	198.92	799.94	-7.76	2.08	8.03	164.97	0.83
900.00	1.37	200.88	899.91	-10.03	1.26	10.11	172.84	0.06
1000.00	0.79	208.49	999.90	-11.75	0.51	11.76	177.52	0.60
1100.00	0.60	197.93	1099.89	-12.85	0.02	12.85	179.91	0.22
1200.00	0.76	206.77	1199.88	-13.94	-0.44	13.95	181.81	0.19
1300.00	0.68	202.74	1299.87	-15.09	-0.97	15.12	183.69	0.09
1400.00	0.21	239.41	1399.87	-15.73	-1.36	15.79	184.94	0.53
1500.00	0.04	113.39	1499.87	-15.83	-1.48	15.90	185.35	0.23
1600.00	0.59	103.98	1599.87	-15.97	-0.95	16.00	183.42	0.55
1700.00	1.10	106.04	1699.86	-16.36	0.46	16.37	178.38	0.51
1800.00	1.80	116.08	1799.82	-17.31	2.79	17.54	170.83	0.75

VES Survey Date: 12/13/2013

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	2.11	96.21	1899.77	-18.20	6.03	19.18	161.67	0.74
2000.00	2.78	93.11	1999.68	-18.53	10.28	21.20	150.98	0.69
2100.00	3.02	90.49	2099.55	-18.69	15.34	24.18	140.61	0.28
2200.00	3.55	81.06	2199.38	-18.23	21.04	27.84	130.91	0.75
2300.00	3.97	75.00	2299.17	-16.85	27.44	32.20	121.56	0.58
2400.00	4.13	75.26	2398.92	-15.04	34.26	37.42	113.71	0.16
2500.00	4.24	71.34	2498.65	-12.95	41.24	43.22	107.43	0.31
2600.00	4.55	67.44	2598.36	-10.24	48.40	49.47	101.95	0.43
2700.00	5.34	68.89	2697.99	-7.05	56.40	56.84	97.12	0.80
2800.00	5.56	68.54	2797.53	-3.60	65.25	65.35	93.16	0.23
2900.00	5.83	62.41	2897.04	0.53	74.26	74.27	89.59	0.66
3000.00	6.16	60.97	2996.49	5.48	83.46	83.64	86.24	0.36
3100.00	4.74	59.23	3096.04	10.20	91.70	92.26	83.65	1.43
3200.00	2.74	58.41	3195.82	13.56	97.28	98.22	82.06	2.00
3300.00	1.91	54.98	3295.74	15.77	100.68	101.91	81.10	0.84
3400.00	2.00	64.12	3395.68	17.49	103.61	105.07	80.42	0.32
3500.00	1.42	42.62	3495.64	19.16	106.01	107.73	79.76	0.85
3600.00	1.39	36.36	3595.61	21.05	107.57	109.61	78.93	0.16
3700.00	1.89	14.73	3695.57	23.62	108.71	111.25	77.74	0.79
3800.00	1.82	29.46	3795.52	26.60	109.91	113.09	76.39	0.48
3900.00	1.75	14.31	3895.47	29.46	111.07	114.91	75.14	0.48
4000.00	1.96	29.79	3995.42	32.43	112.30	116.89	73.89	0.54
4100.00	1.70	50.59	4095.37	34.86	114.30	119.49	73.04	0.71
4200.00	2.21	67.72	4195.31	36.53	117.22	122.78	72.69	0.77
4300.00	2.19	47.78	4295.24	38.54	120.42	126.44	72.25	0.76
4400.00	2.61	35.49	4395.15	41.68	123.15	130.02	71.30	0.67
4500.00	0.84	28.41	4495.10	44.18	124.83	132.41	70.51	1.78
4600.00	0.65	6.05	4595.09	45.39	125.24	133.21	70.08	0.35
4700.00	1.36	328.83	4695.08	46.97	124.68	133.24	69.36	0.93
4800.00	1.53	322.85	4795.04	49.05	123.26	132.66	68.30	0.23
4900.00	1.73	340.89	4895.00	51.54	121.96	132.41	67.09	0.55
5000.00	1.64	346.11	4994.96	54.35	121.13	132.76	65.83	0.18
5100.00	1.91	341.01	5094.91	57.31	120.24	133.20	64.51	0.31
5200.00	1.94	2.10	5194.86	60.58	119.76	134.21	63.17	0.70
5300.00	2.00	357.87	5294.80	64.02	119.76	135.79	61.87	0.16
5400.00	2.27	6.20	5394.73	67.73	119.91	137.71	60.54	0.41
5500.00	1.94	2.31	5494.66	71.39	120.19	139.79	59.29	0.36
5600.00	2.45	0.99	5594.59	75.21	120.29	141.87	57.99	0.51
5700.00	2.44	3.29	5694.50	79.46	120.45	144.30	56.59	0.10

VES Survey Date: 12/13/2013

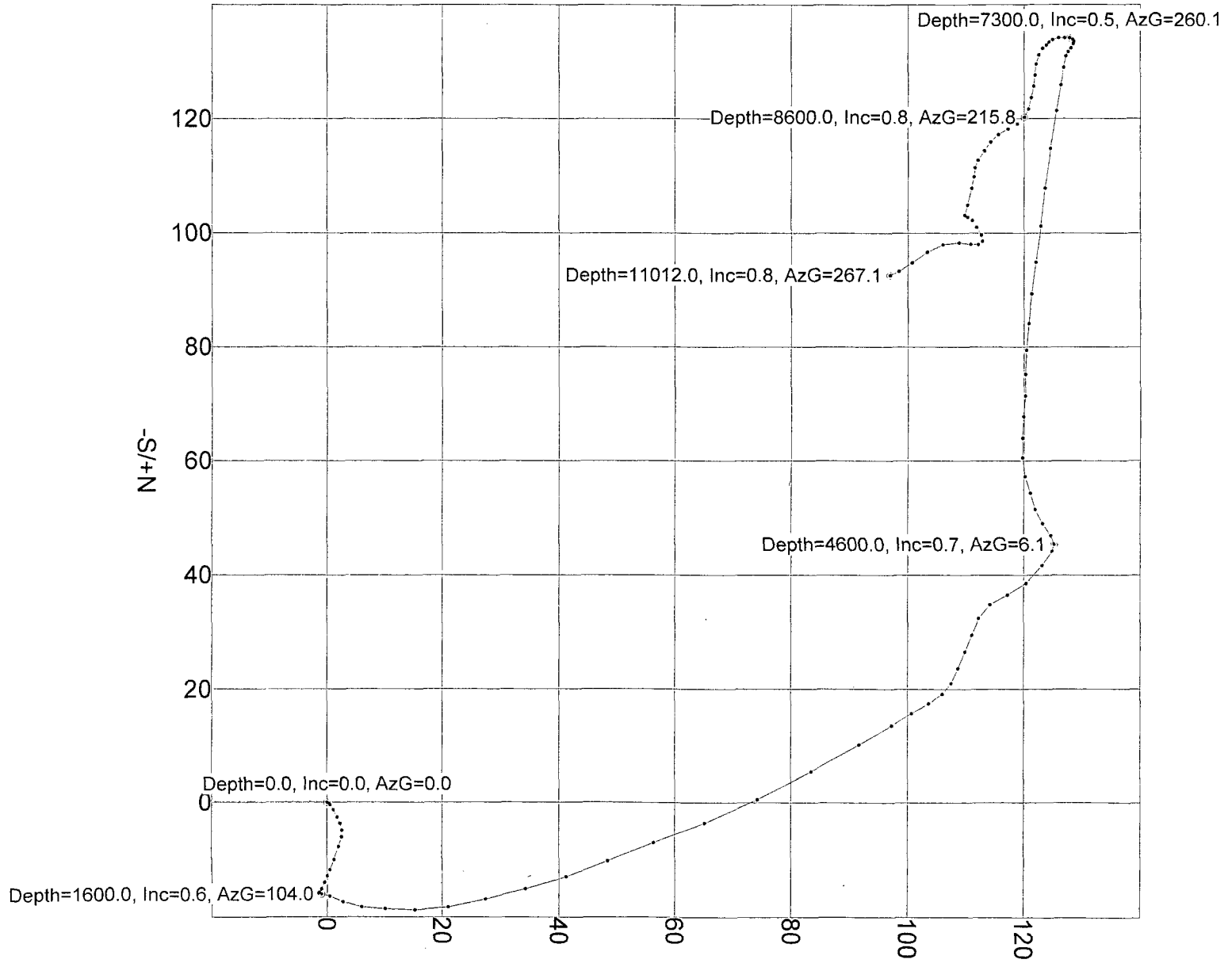
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	2.93	5.28	5794.39	84.13	120.81	147.22	55.15	0.51
5900.00	3.02	6.34	5894.25	89.29	121.34	150.65	53.65	0.10
6000.00	3.46	8.47	5994.09	94.90	122.07	154.62	52.14	0.46
6100.00	3.89	7.13	6093.89	101.25	122.94	159.26	50.53	0.44
6200.00	3.74	4.97	6193.67	107.86	123.64	164.08	48.90	0.21
6300.00	4.26	10.18	6293.42	114.77	124.58	169.39	47.35	0.63
6400.00	3.45	6.80	6393.20	121.41	125.59	174.69	45.97	0.84
6500.00	1.81	12.64	6493.09	125.94	126.29	178.36	45.08	1.66
6600.00	1.74	8.12	6593.04	128.99	126.85	180.92	44.52	0.16
6700.00	0.59	15.85	6693.02	130.99	127.21	182.60	44.16	1.16
6800.00	0.41	45.22	6793.01	131.74	127.60	183.41	44.09	0.31
6900.00	0.55	32.14	6893.01	132.39	128.11	184.23	44.06	0.18
7000.00	0.42	19.21	6993.01	133.15	128.49	185.03	43.98	0.16
7100.00	0.02	275.30	7093.00	133.50	128.59	185.36	43.93	0.43
7200.00	0.42	339.26	7193.00	133.84	128.44	185.50	43.82	0.41
7300.00	0.51	260.09	7293.00	134.11	127.87	185.30	43.64	0.60
7400.00	0.53	284.96	7393.00	134.15	126.98	184.72	43.43	0.23
7500.00	0.67	258.52	7492.99	134.16	125.96	184.02	43.20	0.30
7600.00	0.58	242.78	7592.99	133.81	124.94	183.07	43.04	0.19
7700.00	0.33	221.62	7692.98	133.36	124.29	182.30	42.98	0.30
7800.00	0.40	229.84	7792.98	132.92	123.84	181.67	42.97	0.09
7900.00	0.57	225.32	7892.98	132.35	123.22	180.83	42.95	0.18
8000.00	0.97	199.36	7992.97	131.20	122.59	179.56	43.06	0.52
8100.00	0.97	192.46	8092.95	129.58	122.12	178.06	43.30	0.12
8200.00	1.25	184.10	8192.94	127.66	121.86	176.48	43.67	0.32
8300.00	0.99	191.09	8292.92	125.72	121.62	174.92	44.05	0.30
8400.00	1.32	190.24	8392.90	123.75	121.25	173.25	44.42	0.33
8500.00	1.06	198.00	8492.87	121.73	120.76	171.47	44.77	0.30
8600.00	0.79	215.85	8592.86	120.30	120.07	169.96	44.95	0.39
8700.00	1.19	232.32	8692.85	119.11	118.85	168.26	44.94	0.49
8800.00	0.91	250.43	8792.83	118.21	117.28	166.52	44.77	0.43
8900.00	1.31	233.46	8892.81	117.26	115.61	164.67	44.59	0.51
9000.00	0.83	211.41	8992.79	115.97	114.32	162.84	44.59	0.62
9100.00	1.36	217.12	9092.78	114.41	113.23	160.96	44.70	0.55
9200.00	0.91	213.47	9192.76	112.79	112.07	159.00	44.82	0.45
9300.00	0.81	184.48	9292.74	111.43	111.58	157.69	45.04	0.44
9400.00	0.97	187.31	9392.73	109.88	111.41	156.48	45.40	0.16
9500.00	1.47	192.70	9492.71	107.79	111.02	154.74	45.85	0.52
9600.00	1.96	194.85	9592.66	104.88	110.30	152.20	46.44	0.49

VES Survey Date: 12/13/2013

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
9700.00	0.16	182.04	9692.64	103.08	109.86	150.65	46.82	1.80
9800.00	0.58	107.47	9792.64	102.78	110.34	150.79	47.03	0.56
9900.00	0.63	145.48	9892.64	102.17	111.14	150.97	47.41	0.40
10000.00	0.92	146.33	9992.63	101.05	111.89	150.77	47.91	0.28
10100.00	0.91	157.90	10092.61	99.65	112.64	150.39	48.50	0.18
10200.00	0.41	196.81	10192.61	98.57	112.83	149.83	48.86	0.65
10300.00	0.74	248.66	10292.60	98.00	112.13	148.92	48.85	0.58
10400.00	0.86	289.49	10392.59	98.01	110.82	147.95	48.51	0.57
10500.00	1.45	272.60	10492.57	98.32	108.85	146.68	47.91	0.68
10600.00	1.85	254.35	10592.53	97.94	106.03	144.34	47.27	0.66
10700.00	1.62	232.83	10692.49	96.65	103.35	141.50	46.92	0.69
10800.00	2.03	237.13	10792.44	94.84	100.73	138.35	46.73	0.43
10900.00	1.09	231.83	10892.40	93.29	98.49	135.66	46.55	0.95
11000.00	0.76	260.24	10992.39	92.59	97.09	134.16	46.36	0.56
11012.00	0.79	267.12	11004.38	92.57	96.93	134.03	46.32	0.83

VES Survey Date: 12/13/2013

Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Tim Dillon
Airbonita 12 Federal Com No 001H / API 30-025-41491



VES Survey Date: 12/13/2013

CONCHO

COG Operating LLC

Lea County, NM (NAD27 NME)
Airbonita 12 Fed
1H

OH

Survey: MWD #1

Survey Report - Geographic

31 December, 2013

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well 1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Site:	Airbonita 12 Fed	**MD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Well:	1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Project Lea County, NM (NAD27 NME)

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 Airbonita 12 Fed

Site Position:		**Northing:**	0.00 usft	**Latitude:**	30° 59' 24.512 N
From:	Map	**Easting:**	0.00 usft	**Longitude:**	105° 55' 44.137 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.82 °

Well 1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	509,792.30 usft	**Latitude:**	32° 23' 58.260 N
	+E/-W	0.0 usft	**Easting:**	720,045.20 usft	**Longitude:**	103° 37' 13.430 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,624.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/4/2013	7.32	60.28	48,468

Design OH

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	46.31

Survey Program **Date** 12/31/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	11,012.0	GYRO (OH)	MWD	MWD - Standard
11,056.0	16,396.0	MWD #1 (OH)	MWD	MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,012.0	0.79	267.12	11,004.4	92.6	97.0	509,884.91	720,142.15	32° 23' 59.170 N	103° 37' 12.292 W
11,056.0	0.60	322.20	11,048.4	92.8	96.5	509,885.07	720,141.71	32° 23' 59.172 N	103° 37' 12.297 W
KOP - 11056.0 'MD, 0.60° INC, 322.20° AZI									
11,152.0	2.90	275.30	11,144.3	93.4	93.8	509,885.70	720,138.98	32° 23' 59.178 N	103° 37' 12.329 W
11,247.0	4.00	292.60	11,239.2	94.9	88.3	509,887.19	720,133.53	32° 23' 59.194 N	103° 37' 12.393 W
11,337.0	5.70	270.40	11,328.8	96.1	81.0	509,888.43	720,126.16	32° 23' 59.206 N	103° 37' 12.478 W
11,401.0	7.30	279.00	11,392.4	96.8	73.8	509,889.09	720,118.96	32° 23' 59.213 N	103° 37' 12.562 W
11,433.0	6.90	277.60	11,424.2	97.4	69.9	509,889.66	720,115.05	32° 23' 59.219 N	103° 37' 12.608 W
11,465.0	8.00	297.30	11,455.9	98.6	66.0	509,890.94	720,111.17	32° 23' 59.232 N	103° 37' 12.653 W
11,528.0	17.10	322.40	11,517.4	108.0	56.4	509,900.31	720,101.59	32° 23' 59.325 N	103° 37' 12.764 W
11,560.0	21.80	328.00	11,547.6	116.8	50.4	509,909.08	720,095.57	32° 23' 59.413 N	103° 37' 12.834 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well 1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Site:	Airbonita 12 Fed	**MD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Well:	1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,592.0	25.20	330.10	11,576.9	127.7	43.8	509,920.03	720,089.02	32° 23' 59.521 N	103° 37' 12.909 W
11,624.0	28.40	331.10	11,605.5	140.3	36.8	509,932.60	720,081.95	32° 23' 59.646 N	103° 37' 12.991 W
11,688.0	34.20	330.70	11,660.1	169.3	20.6	509,961.64	720,065.78	32° 23' 59.935 N	103° 37' 13.177 W
11,719.0	38.10	329.40	11,685.1	185.2	11.4	509,977.47	720,056.64	32° 24' 0.092 N	103° 37' 13.282 W
11,814.0	46.90	335.20	11,755.1	242.0	-18.1	510,034.32	720,027.10	32° 24' 0.656 N	103° 37' 13.622 W
11,846.0	47.40	334.90	11,776.9	263.3	-28.0	510,055.59	720,017.21	32° 24' 0.868 N	103° 37' 13.736 W
11,885.0	52.30	336.40	11,802.1	290.4	-40.3	510,082.74	720,004.93	32° 24' 1.137 N	103° 37' 13.877 W
11,916.0	56.20	337.70	11,820.2	313.6	-50.1	510,105.91	719,995.13	32° 24' 1.367 N	103° 37' 13.990 W
11,948.0	59.30	339.50	11,837.2	338.8	-59.9	510,131.10	719,985.27	32° 24' 1.617 N	103° 37' 14.103 W
12,011.0	63.30	341.50	11,867.5	390.9	-78.4	510,183.19	719,966.84	32° 24' 2.133 N	103° 37' 14.314 W
12,043.0	66.70	343.00	11,881.0	418.5	-87.2	510,210.80	719,958.01	32° 24' 2.407 N	103° 37' 14.414 W
12,075.0	71.30	343.90	11,892.5	447.1	-95.7	510,239.43	719,949.50	32° 24' 2.691 N	103° 37' 14.511 W
12,170.0	79.00	347.70	11,916.8	536.1	-118.1	510,328.38	719,927.05	32° 24' 3.573 N	103° 37' 14.766 W
12,201.0	80.70	349.60	11,922.3	566.0	-124.1	510,358.30	719,921.05	32° 24' 3.869 N	103° 37' 14.834 W
12,233.0	82.20	352.00	11,927.0	597.2	-129.2	510,389.53	719,915.99	32° 24' 4.179 N	103° 37' 14.891 W
12,264.0	83.40	353.00	11,930.9	627.7	-133.2	510,420.02	719,911.98	32° 24' 4.481 N	103° 37' 14.935 W
12,296.0	86.40	354.10	11,933.8	659.4	-136.8	510,451.69	719,908.40	32° 24' 4.794 N	103° 37' 14.974 W
12,359.0	91.50	355.20	11,934.9	722.1	-142.7	510,514.39	719,902.53	32° 24' 5.415 N	103° 37' 15.038 W
EOC- 12359.0 'MD, 91.50° INC, 355.20° AZI									
12,454.0	88.80	356.20	11,934.7	816.8	-149.8	510,609.11	719,895.40	32° 24' 6.353 N	103° 37' 15.114 W
12,548.0	88.20	358.10	11,937.1	910.7	-154.5	510,702.95	719,890.73	32° 24' 7.282 N	103° 37' 15.161 W
12,643.0	89.40	0.00	11,939.1	1,005.6	-156.0	510,797.91	719,889.16	32° 24' 8.222 N	103° 37' 15.172 W
12,928.0	87.40	359.60	11,947.1	1,290.5	-157.0	511,082.79	719,888.16	32° 24' 11.041 N	103° 37' 15.161 W
13,211.0	92.80	1.90	11,946.6	1,573.3	-153.3	511,365.64	719,891.87	32° 24' 13.839 N	103° 37' 15.096 W
13,305.0	92.60	1.50	11,942.2	1,667.2	-150.5	511,459.49	719,894.65	32° 24' 14.768 N	103° 37' 15.056 W
13,397.0	92.20	1.30	11,938.3	1,759.1	-148.3	511,551.38	719,896.90	32° 24' 15.677 N	103° 37' 15.023 W
13,490.0	91.90	0.50	11,935.0	1,852.0	-146.8	511,644.31	719,898.36	32° 24' 16.596 N	103° 37' 14.999 W
13,680.0	90.70	359.60	11,930.7	2,042.0	-146.7	511,834.26	719,898.52	32° 24' 18.476 N	103° 37' 14.982 W
13,868.0	89.00	1.40	11,931.2	2,229.9	-145.0	512,022.24	719,900.16	32° 24' 20.336 N	103° 37' 14.948 W
13,963.0	88.50	1.10	11,933.2	2,324.9	-143.0	512,117.19	719,902.23	32° 24' 21.275 N	103° 37' 14.917 W
14,057.0	88.10	0.70	11,936.0	2,418.8	-141.5	512,211.14	719,903.71	32° 24' 22.205 N	103° 37' 14.892 W
14,152.0	89.90	2.90	11,937.7	2,513.8	-138.5	512,306.07	719,906.69	32° 24' 23.144 N	103° 37' 14.850 W
14,247.0	89.50	2.30	11,938.2	2,608.7	-134.2	512,400.97	719,911.00	32° 24' 24.083 N	103° 37' 14.792 W
14,338.0	88.80	1.90	11,939.5	2,699.6	-130.9	512,491.89	719,914.34	32° 24' 24.982 N	103° 37' 14.746 W
14,431.0	88.50	1.20	11,941.7	2,792.5	-128.3	512,584.83	719,916.85	32° 24' 25.902 N	103° 37' 14.710 W
14,525.0	89.50	2.70	11,943.4	2,886.5	-125.1	512,678.76	719,920.05	32° 24' 26.831 N	103° 37' 14.665 W
14,650.0	91.60	1.30	11,942.2	3,011.4	-120.8	512,803.67	719,924.41	32° 24' 28.067 N	103° 37' 14.605 W
14,807.0	91.30	0.10	11,938.2	3,168.3	-118.9	512,960.60	719,926.33	32° 24' 29.620 N	103° 37' 14.570 W
14,997.0	91.20	357.90	11,934.0	3,358.2	-122.2	513,150.52	719,923.02	32° 24' 31.499 N	103° 37' 14.594 W
15,092.0	91.00	357.00	11,932.2	3,453.1	-126.4	513,245.41	719,918.79	32° 24' 32.438 N	103° 37' 14.636 W
15,187.0	90.90	356.00	11,930.6	3,547.9	-132.2	513,340.21	719,912.99	32° 24' 33.377 N	103° 37' 14.696 W
15,282.0	90.40	355.50	11,929.6	3,642.6	-139.2	513,434.95	719,905.95	32° 24' 34.315 N	103° 37' 14.771 W
15,376.0	89.90	357.20	11,929.3	3,736.4	-145.2	513,528.75	719,899.97	32° 24' 35.243 N	103° 37' 14.833 W
15,471.0	90.30	359.90	11,929.1	3,831.4	-147.6	513,623.71	719,897.56	32° 24' 36.183 N	103° 37' 14.854 W
15,564.0	88.00	1.50	11,930.5	3,924.4	-146.5	513,716.69	719,898.70	32° 24' 37.103 N	103° 37' 14.834 W
15,659.0	87.90	1.10	11,933.9	4,019.3	-144.3	513,811.60	719,900.85	32° 24' 38.042 N	103° 37' 14.801 W
15,752.0	87.90	0.50	11,937.3	4,112.2	-143.0	513,904.53	719,902.15	32° 24' 38.962 N	103° 37' 14.779 W
15,848.0	88.10	2.00	11,940.7	4,208.1	-141.0	514,000.44	719,904.24	32° 24' 39.911 N	103° 37' 14.747 W
15,943.0	90.10	3.90	11,942.2	4,303.0	-136.1	514,095.30	719,909.13	32° 24' 40.849 N	103° 37' 14.683 W
16,038.0	90.30	3.40	11,941.8	4,397.8	-130.0	514,190.10	719,915.18	32° 24' 41.787 N	103° 37' 14.605 W
16,133.0	90.60	3.90	11,941.1	4,492.6	-124.0	514,284.91	719,921.23	32° 24' 42.724 N	103° 37' 14.527 W
16,228.0	90.80	4.40	11,939.9	4,587.3	-117.1	514,379.65	719,928.10	32° 24' 43.661 N	103° 37' 14.439 W
16,396.0	91.30	5.20	11,936.9	4,754.7	-103.0	514,547.03	719,942.16	32° 24' 45.317 N	103° 37' 14.262 W
BHL- 16396.0 'MD, 91.30° INC, 5.20° AZI - PBHL Airbonita Fed #1H									

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well 1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Site:	Airbonita 12 Fed	**MD Reference:**	WELL @ 3641.0usft (Original Well Elev)
Well:	1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	EDM 5000.1 Single User Db

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
11,056.0	11,048.4	92.8	96.5	KOP - 11056.0 'MD, 0.60° INC, 322.20° AZI
12,359.0	11,934.9	722.1	-142.7	EOC- 12359.0 'MD, 91.50° INC, 355.20° AZI
16,396.0	11,936.9	4,754.7	-103.0	BHL- 16396.0 'MD, 91.30° INC, 5.20° AZI

Checked By: _____ Approved By: _____ Date: _____