Results of Directional Survey

API number:	30-025-40430			
OGRID:		Operator:	COG OPERATING LLC	
		Property:	TIGER 11 FEDERAL	# 1H

surface	ULSTR:	D	11	T	20S	R	34E
				30	FNL	990	FWL
BH Loc	ULSTR:	M	11	T	20S	R	34E
15596	MD	10899.8	TVD	329	FSL	949	FWL
				4951	FNL		
Top Perf/OH	ULSTR:	D	11	T	20S	R	34E
11177	MD	10949.7	TVD	536	FNL	939	FWL
Bot Perf/OH	ULSTR:	M	11	T	20S	R	34E
15510	MD	10901.2	TVD	415	FSL	950	FWL
				4865	FNL		

	MD	N/S	E/W	VD
	11146	-476.50	-47.20	10941.2
TOP PERFS/OH	**11177**	-506.10	-51.20	10949.70
	11177	-506.10	-51.20	10949.70
	15446	-4770.80	-39.60	10902.00
BOT PERFS/OH	**15510**	-4834.80	-39.97	10901.21
	15551	-4875.80	-40.20	10900.70

NEXT TO LAST	15551	-4875.80	-40.20	10900.70
LAST READING	15596	-4920.70	-40.70	10899.80
TD	**15596**	-4920.70	-40.70	10899.80

Surface Location	30	FN	990	FW
Projected BHL	4951	FN	949	FW
Location of				
Top Perfs/OH	536	FN	939	FW
Bottom Perfs/OH	4865	FN	950	FW

SUMMARY of Subsurface Locations

Surface Location	D-11-20S-34E	30	FN	990	FW	Vert. Depth
Top Perfs/OH	D-11-20S-34E	536	FN	939	FW	10949.70
Bottom Perfs/OH	M-11-20S-34E	4865	FN	950	FW	10901.21
Projected TD	M-11-20S-34E	4951	FN	949	FW	10899.80

VAUGHN ENERGY SERVICES
A GYRO TECHNOLOGIES INC. COMPANY

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

October 25, 2012

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

SUR: D-11-20s-34e, 330/N & 990/W
BHL: M-11-20s-34e, 4951/N & 949/W
API # 30-025-40430

Attn: Kanica Castillo

RE: **Tiger 11 Federal No. 001H**

Please find enclosed a copy of the survey from 0.00' to 10377.00' 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

Company: COG Operating, LLC (Concho)
Lease/Well: Tiger 11 Federal / No. 001H
Location: SEC11 T20S R34E
Rig Name: Basic 46
State/County: New Mexico / Lea
Latitude: 32.59, Longitude: -103.54
GRID North is 0.43 Degrees East of True North
VS-Azi: 180.58 Degrees

Depth Reference : RKB = 22'

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 10/25/2012 / 16:55

Vaughn Energy Services
Gardendale, TX
(432) 563-5444
Surveyor: Colby Ware
Tiger 11 Federal No. 001H / API 30-025-40430

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	0.59	91.67	100.00	-0.02	0.52	0.52	91.67	0.59
200.00	1.05	83.34	199.99	0.08	1.95	1.95	87.77	0.47
300.00	1.08	70.40	299.97	0.50	3.74	3.78	82.42	0.24
400.00	1.11	57.45	399.95	1.33	5.44	5.61	76.23	0.25
500.00	0.69	56.08	499.94	2.19	6.76	7.11	72.05	0.42
600.00	0.27	74.71	599.94	2.59	7.49	7.92	70.93	0.44
700.00	0.35	110.70	699.93	2.54	8.00	8.39	72.35	0.20
800.00	0.42	166.69	799.93	2.08	8.36	8.62	76.03	0.37
900.00	0.42	170.38	899.93	1.36	8.51	8.62	80.90	0.03
1000.00	0.42	174.07	999.93	0.64	8.61	8.63	85.75	0.03
1100.00	0.40	224.34	1099.93	0.03	8.40	8.40	89.83	0.35
1200.00	0.39	274.61	1199.92	-0.20	7.82	7.82	91.45	0.33
1300.00	0.50	261.72	1299.92	-0.23	7.05	7.06	91.90	0.15
1400.00	0.61	248.84	1399.92	-0.49	6.12	6.14	94.58	0.17
1500.00	0.81	245.24	1499.91	-0.98	4.98	5.08	101.13	0.20
1600.00	0.99	241.63	1599.90	-1.69	3.58	3.96	115.21	0.19
1700.00	0.81	213.64	1699.88	-2.68	2.43	3.62	137.82	0.47
1800.00	0.63	185.65	1799.88	-3.82	1.99	4.31	152.56	0.39

VES Survey Date: 10/21/2012

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	0.89	162.59	1899.87	-5.12	2.16	5.56	157.08	0.40
2000.00	1.15	139.53	1999.85	-6.63	3.05	7.30	155.28	0.48
2100.00	1.54	140.22	2099.82	-8.43	4.57	9.59	151.56	0.39
2200.00	1.95	140.92	2199.78	-10.78	6.50	12.59	148.92	0.41
2300.00	2.04	139.57	2299.72	-13.46	8.72	16.04	147.05	0.10
2400.00	2.10	138.21	2399.65	-16.18	11.10	19.62	145.55	0.08
2500.00	2.18	130.97	2499.58	-18.79	13.76	23.29	143.79	0.28
2600.00	2.26	123.74	2599.51	-21.14	16.83	27.02	141.46	0.29
2700.00	3.18	119.05	2699.39	-23.58	20.90	31.51	138.45	0.95
2800.00	4.10	114.37	2799.19	-26.40	26.58	37.47	134.80	0.97
2900.00	4.33	110.55	2898.92	-29.20	33.38	44.35	131.18	0.36
3000.00	4.55	106.74	2998.62	-31.67	40.71	51.58	127.88	0.37
3100.00	4.54	95.01	3098.31	-33.16	48.46	58.72	124.39	0.93
3200.00	4.57	87.29	3197.99	-33.32	56.39	65.49	120.58	0.61
3300.00	3.13	75.56	3297.76	-32.45	63.01	70.88	117.25	1.64
3400.00	1.68	63.84	3397.67	-31.12	66.97	73.85	114.92	1.52
3500.00	1.68	59.05	3497.63	-29.72	69.55	75.63	113.14	0.14
3600.00	1.67	54.26	3597.59	-28.11	71.99	77.28	111.33	0.14
3700.00	1.51	46.07	3697.55	-26.35	74.12	78.66	109.57	0.28
3800.00	1.35	37.88	3797.52	-24.51	75.79	79.65	107.92	0.26
3900.00	1.26	15.61	3897.49	-22.52	76.81	80.04	106.34	0.51
4000.00	1.16	353.35	3997.47	-20.46	76.98	79.66	104.89	0.48
4100.00	1.08	351.66	4097.45	-18.52	76.73	78.93	103.57	0.09
4200.00	1.02	349.97	4197.44	-16.71	76.44	78.24	102.33	0.07
4300.00	0.77	292.20	4297.43	-15.58	75.66	77.25	101.64	0.89
4400.00	0.51	234.42	4397.42	-15.59	74.68	76.29	101.79	0.66
4500.00	0.55	199.95	4497.42	-16.30	74.15	75.92	102.40	0.32
4600.00	0.59	165.47	4597.41	-17.26	74.12	76.10	103.11	0.34
4700.00	0.67	170.04	4697.41	-18.34	74.35	76.58	103.85	0.09
4800.00	0.77	174.61	4797.40	-19.58	74.51	77.04	104.72	0.11
4900.00	0.78	177.76	4897.39	-20.93	74.60	77.48	105.67	0.04
5000.00	0.74	180.92	4997.38	-22.25	74.62	77.87	106.60	0.05
5100.00	0.55	187.83	5097.37	-23.37	74.54	78.12	107.41	0.21
5200.00	0.36	194.73	5197.37	-24.16	74.40	78.22	107.99	0.20
5300.00	0.32	222.49	5297.37	-24.67	74.13	78.12	108.41	0.17
5400.00	0.28	250.25	5397.37	-24.96	73.70	77.82	108.71	0.15
5500.00	0.33	227.29	5497.37	-25.24	73.26	77.49	109.01	0.13
5600.00	0.38	204.33	5597.36	-25.74	72.91	77.32	109.44	0.15
5700.00	0.46	231.64	5697.36	-26.28	72.46	77.08	109.94	0.21

VES Survey Date: 10/21/2012

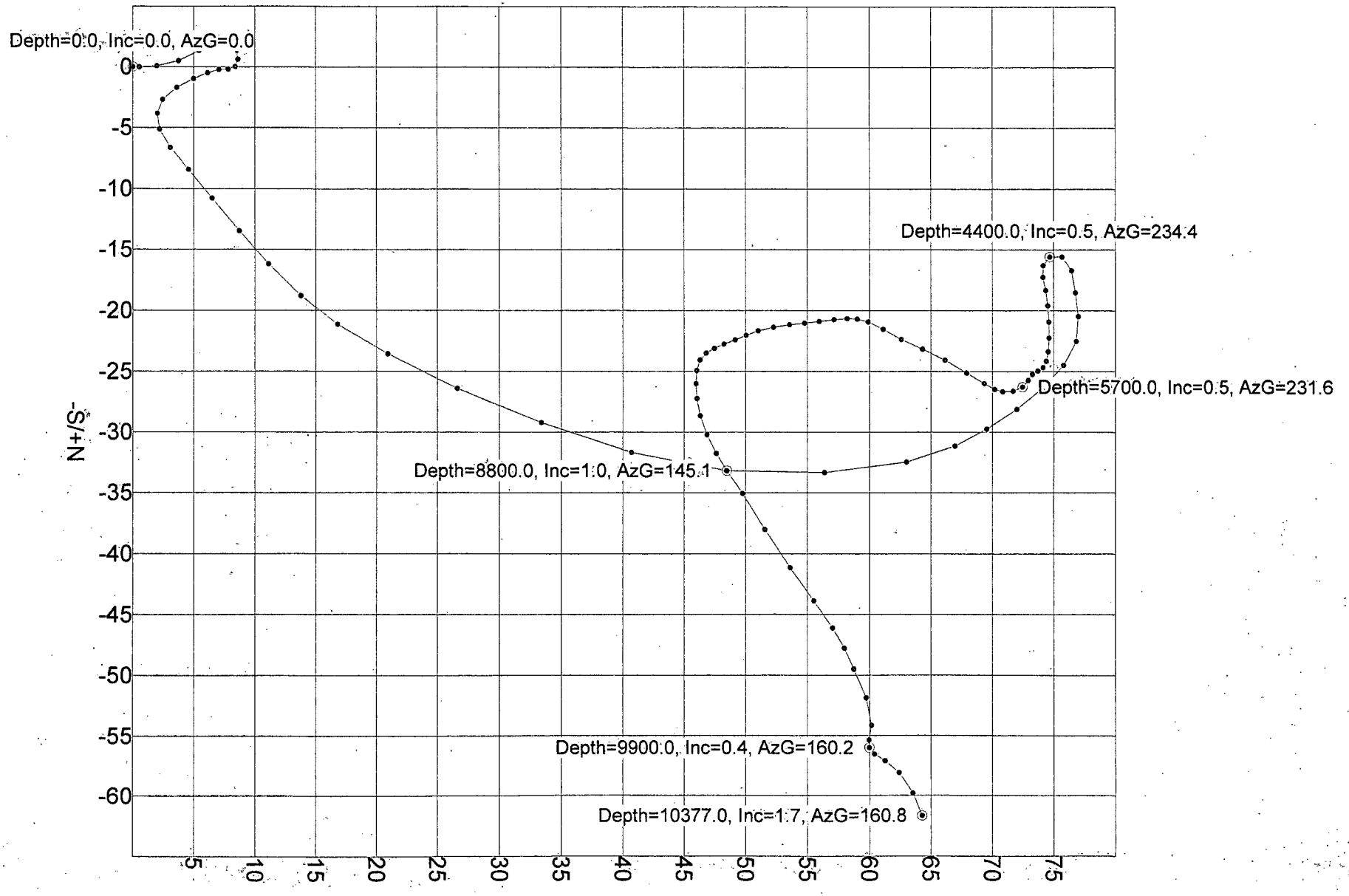
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.54	258.96	5797.36	-26.62	71.69	76.47	110.37	0.25
5900.00	0.45	277.99	5897.35	-26.66	70.84	75.69	110.62	0.19
6000.00	0.35	297.01	5997.35	-26.47	70.18	75.01	110.66	0.16
6100.00	0.75	299.99	6097.35	-26.00	69.34	74.06	110.55	0.40
6200.00	1.16	302.96	6197.33	-25.12	67.93	72.42	110.30	0.42
6300.00	1.20	298.19	6297.31	-24.08	66.15	70.40	110.00	0.10
6400.00	1.15	293.41	6397.29	-23.18	64.31	68.36	109.82	0.11
6500.00	1.03	297.55	6497.27	-22.37	62.59	66.46	109.67	0.15
6600.00	0.91	301.68	6597.26	-21.53	61.11	64.80	109.41	0.14
6700.00	0.65	289.58	6697.25	-20.93	59.90	63.45	109.26	0.30
6800.00	0.40	277.49	6797.24	-20.69	59.02	62.54	109.32	0.28
6900.00	0.53	269.54	6897.24	-20.65	58.21	61.76	109.53	0.15
7000.00	0.68	261.60	6997.24	-20.74	57.16	60.81	109.94	0.17
7100.00	0.70	263.19	7097.23	-20.90	55.97	59.74	110.47	0.02
7200.00	0.67	264.79	7197.22	-21.02	54.78	58.68	111.00	0.03
7300.00	0.72	262.18	7297.21	-21.16	53.58	57.60	111.55	0.05
7400.00	0.80	259.56	7397.21	-21.37	52.27	56.47	112.24	0.09
7500.00	0.67	252.69	7497.20	-21.67	51.02	55.44	113.01	0.16
7600.00	0.54	245.83	7597.19	-22.04	50.04	54.68	113.77	0.15
7700.00	0.56	247.61	7697.19	-22.42	49.16	54.03	114.51	0.03
7800.00	0.53	249.39	7797.18	-22.77	48.27	53.37	115.26	0.04
7900.00	0.47	242.65	7897.18	-23.12	47.47	52.80	115.97	0.09
8000.00	0.40	235.92	7997.18	-23.50	46.82	52.39	116.66	0.08
8100.00	0.49	211.11	8097.17	-24.06	46.31	52.19	117.46	0.21
8200.00	0.58	186.30	8197.17	-24.93	46.03	52.35	118.44	0.25
8300.00	0.65	179.80	8297.16	-26.00	45.98	52.82	119.49	0.10
8400.00	0.76	173.31	8397.16	-27.23	46.06	53.51	120.59	0.14
8500.00	0.89	165.32	8497.14	-28.64	46.33	54.47	121.72	0.17
8600.00	1.02	157.34	8597.13	-30.21	46.87	55.76	122.80	0.18
8700.00	0.95	151.21	8697.12	-31.76	47.61	57.23	123.70	0.12
8800.00	0.95	145.09	8797.10	-33.17	48.49	58.75	124.37	0.10
8900.00	1.65	147.08	8897.08	-35.06	49.75	60.86	125.17	0.70
9000.00	2.29	149.07	8997.02	-37.99	51.56	64.05	126.38	0.64
9100.00	2.03	144.42	9096.94	-41.15	53.62	67.59	127.50	0.31
9200.00	1.77	145.76	9196.89	-43.87	55.53	70.77	128.31	0.26
9300.00	1.33	147.29	9296.85	-46.13	57.02	73.34	128.97	0.45
9400.00	0.88	154.82	9396.83	-47.79	57.97	75.13	129.50	0.47
9500.00	1.28	156.62	9496.82	-49.50	58.74	76.82	130.12	0.40
9600.00	1.69	158.42	9596.78	-51.90	59.73	79.13	130.99	0.42

VES Survey Date: 10/21/2012

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	1.03	187.23	9696.75	-54.17	60.16	80.95	132.00	0.93
9800.00	0.37	196.05	9796.75	-55.37	59.95	81.61	132.72	0.67
9900.00	0.40	160.25	9896.74	-56.00	59.98	82.06	133.04	0.24
10000.00	0.42	124.45	9996.74	-56.54	60.40	82.74	133.11	0.25
10100.00	0.74	121.36	10096.74	-57.08	61.26	83.73	132.98	0.32
10200.00	1.03	138.27	10196.73	-58.09	62.41	85.26	132.95	0.39
10300.00	1.31	153.99	10296.70	-59.80	63.51	87.23	133.27	0.42
10377.00	1.68	160.84	10373.68	-61.65	64.27	89.06	133.81	0.53

VES Survey Date: 10/21/2012

Vaughn Energy Services
Gardendale, TX
(432) 563-5444
Surveyor: Colby Ware
Tiger 11 Federal No. 001H / API 30-025-40430



VES Survey Date: 10/21/2012

CRESCENT DIRECTIONAL DRILLING

SUR: D-11-20s-34e, 330/N & 990/W
BHL: M-11-20s-34e, 4951/N & 949/W
API # 30-025-40430

COG Operating LLC

Lea County, NM (NAD 83)
Tiger 11 Federal
#1H

HOBBS OCD

JAN 17 2013

RECEIVED

OH

Design: OH

Survey Report - Geographic

31 October, 2012

CONCHO

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**MD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

Project Lea County, NM (NAD 83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Tiger 11 Federal

Site Position:		**Northing:**	581,048.84 usft	**Latitude:**	32° 35' 41.380 N
From:	Map	**Easting:**	786,809.54 usft	**Longitude:**	103° 32' 10.607 W
Position Uncertainty:	2.0 usft	**Slot Radius:**	8-1/8 "	**Grid Convergence:**	0.43 °

Well #1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	581,048.84 usft	**Latitude:**	32° 35' 41.380 N
	+E/-W	0.0 usft	**Easting:**	786,809.54 usft	**Longitude:**	103° 32' 10.607 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,656.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/6/2012	7.45	60.51	48,719

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	180.58

Survey Program **Date** 10/31/2012

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	10,377.0	VES1 (OH)	CB-GYRO-MS	Camera based gyro multishot
10,401.0	15,551.0	Crescent1 (OH)	MWD	MWD - Standard
15,596.0	15,596.0	PTB (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
0.0	0.00	0.00	0.0	0.0	0.0	581,048.84	786,809.54	32° 35' 41.380 N	103° 32' 10.607 W
100.0	0.59	91.67	100.0	0.0	0.5	581,048.82	786,810.05	32° 35' 41.379 N	103° 32' 10.601 W
200.0	1.05	83.34	200.0	0.1	1.9	581,048.91	786,811.48	32° 35' 41.380 N	103° 32' 10.584 W
300.0	1.08	70.40	300.0	0.5	3.7	581,049.34	786,813.27	32° 35' 41.384 N	103° 32' 10.563 W
400.0	1.11	57.45	400.0	1.3	5.4	581,050.17	786,814.98	32° 35' 41.392 N	103° 32' 10.543 W
500.0	0.69	56.08	499.9	2.2	6.8	581,051.03	786,816.29	32° 35' 41.401 N	103° 32' 10.528 W
600.0	0.27	74.71	599.9	2.6	7.5	581,051.43	786,817.02	32° 35' 41.405 N	103° 32' 10.519 W
700.0	0.35	110.70	699.9	2.5	8.0	581,051.38	786,817.53	32° 35' 41.404 N	103° 32' 10.513 W
800.0	0.42	166.69	799.9	2.1	8.4	581,050.92	786,817.90	32° 35' 41.400 N	103° 32' 10.509 W
900.0	0.42	170.38	899.9	1.4	8.5	581,050.20	786,818.05	32° 35' 41.392 N	103° 32' 10.508 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**MD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,000.0	0.42	174.07	999.9	0.6	8.6	581,049.47	786,818.15	32° 35' 41.385 N	103° 32' 10.506 W
1,100.0	0.40	224.34	1,099.9	0.0	8.4	581,048.86	786,817.94	32° 35' 41.379 N	103° 32' 10.509 W
1,200.0	0.39	274.61	1,199.9	-0.2	7.8	581,048.64	786,817.36	32° 35' 41.377 N	103° 32' 10.516 W
1,300.0	0.50	261.72	1,299.9	-0.2	7.1	581,048.60	786,816.59	32° 35' 41.377 N	103° 32' 10.525 W
1,400.0	0.61	248.84	1,399.9	-0.5	6.1	581,048.35	786,815.66	32° 35' 41.374 N	103° 32' 10.536 W
1,500.0	0.81	245.24	1,499.9	-1.0	5.0	581,047.86	786,814.52	32° 35' 41.369 N	103° 32' 10.549 W
1,600.0	0.99	241.63	1,599.9	-1.7	3.6	581,047.15	786,813.12	32° 35' 41.363 N	103° 32' 10.565 W
1,700.0	0.81	213.64	1,699.9	-2.7	2.4	581,046.15	786,811.97	32° 35' 41.353 N	103° 32' 10.579 W
1,800.0	0.63	185.65	1,799.9	-3.8	2.0	581,045.02	786,811.52	32° 35' 41.342 N	103° 32' 10.584 W
1,900.0	0.89	162.59	1,899.9	-5.1	2.2	581,043.73	786,811.70	32° 35' 41.329 N	103° 32' 10.582 W
2,000.0	1.15	139.53	1,999.9	-6.6	3.0	581,042.23	786,812.58	32° 35' 41.314 N	103° 32' 10.572 W
2,100.0	1.54	140.22	2,099.8	-8.4	4.6	581,040.43	786,814.10	32° 35' 41.296 N	103° 32' 10.555 W
2,200.0	1.95	140.92	2,199.8	-10.8	6.5	581,038.08	786,816.03	32° 35' 41.273 N	103° 32' 10.532 W
2,300.0	2.04	139.57	2,299.7	-13.4	8.7	581,035.40	786,818.25	32° 35' 41.246 N	103° 32' 10.506 W
2,400.0	2.10	138.21	2,399.7	-16.2	11.1	581,032.68	786,820.63	32° 35' 41.219 N	103° 32' 10.479 W
2,500.0	2.18	130.97	2,499.6	-18.8	13.8	581,030.07	786,823.29	32° 35' 41.193 N	103° 32' 10.448 W
2,600.0	2.26	123.74	2,599.5	-21.1	16.8	581,027.72	786,826.36	32° 35' 41.169 N	103° 32' 10.412 W
2,700.0	3.18	119.05	2,699.4	-23.6	20.9	581,025.28	786,830.43	32° 35' 41.145 N	103° 32' 10.365 W
2,800.0	4.10	114.37	2,799.2	-26.4	26.6	581,022.46	786,836.11	32° 35' 41.117 N	103° 32' 10.299 W
2,900.0	4.33	110.55	2,898.9	-29.2	33.4	581,019.66	786,842.90	32° 35' 41.088 N	103° 32' 10.220 W
3,000.0	4.55	106.74	2,998.6	-31.6	40.7	581,017.19	786,850.23	32° 35' 41.063 N	103° 32' 10.134 W
3,100.0	4.54	95.01	3,098.3	-33.1	48.4	581,015.70	786,857.97	32° 35' 41.048 N	103° 32' 10.044 W
3,200.0	4.57	87.29	3,198.0	-33.3	56.4	581,015.55	786,865.90	32° 35' 41.046 N	103° 32' 9.951 W
3,300.0	3.13	75.56	3,297.8	-32.4	63.0	581,016.42	786,872.52	32° 35' 41.054 N	103° 32' 9.874 W
3,400.0	1.68	63.84	3,397.7	-31.1	66.9	581,017.74	786,876.48	32° 35' 41.067 N	103° 32' 9.827 W
3,500.0	1.68	59.05	3,497.6	-29.7	69.5	581,019.14	786,879.05	32° 35' 41.081 N	103° 32' 9.797 W
3,600.0	1.67	54.26	3,597.6	-28.1	72.0	581,020.75	786,881.49	32° 35' 41.096 N	103° 32' 9.769 W
3,700.0	1.51	46.07	3,697.6	-26.3	74.1	581,022.51	786,883.62	32° 35' 41.114 N	103° 32' 9.743 W
3,800.0	1.35	37.88	3,797.5	-24.5	75.8	581,024.36	786,885.30	32° 35' 41.132 N	103° 32' 9.724 W
3,900.0	1.26	15.61	3,897.5	-22.5	76.8	581,026.35	786,886.31	32° 35' 41.151 N	103° 32' 9.712 W
4,000.0	1.16	353.35	3,997.5	-20.4	77.0	581,028.41	786,886.49	32° 35' 41.172 N	103° 32' 9.709 W
4,100.0	1.08	351.66	4,097.5	-18.5	76.7	581,030.35	786,886.24	32° 35' 41.191 N	103° 32' 9.712 W
4,200.0	1.02	349.97	4,197.4	-16.7	76.4	581,032.16	786,885.95	32° 35' 41.209 N	103° 32' 9.715 W
4,300.0	0.77	292.20	4,297.4	-15.5	75.6	581,033.29	786,885.17	32° 35' 41.220 N	103° 32' 9.724 W
4,400.0	0.51	234.42	4,397.4	-15.6	74.7	581,033.28	786,884.19	32° 35' 41.220 N	103° 32' 9.736 W
4,500.0	0.55	199.95	4,497.4	-16.3	74.1	581,032.57	786,883.66	32° 35' 41.213 N	103° 32' 9.742 W
4,600.0	0.59	165.47	4,597.4	-17.2	74.1	581,031.62	786,883.63	32° 35' 41.204 N	103° 32' 9.743 W
4,700.0	0.67	170.04	4,697.4	-18.3	74.3	581,030.55	786,883.86	32° 35' 41.193 N	103° 32' 9.740 W
4,800.0	0.77	174.61	4,797.4	-19.5	74.5	581,029.30	786,884.02	32° 35' 41.181 N	103° 32' 9.738 W
4,900.0	0.78	177.76	4,897.4	-20.9	74.6	581,027.96	786,884.11	32° 35' 41.167 N	103° 32' 9.737 W
5,000.0	0.74	180.92	4,997.4	-22.2	74.6	581,026.63	786,884.13	32° 35' 41.154 N	103° 32' 9.737 W
5,100.0	0.55	187.83	5,097.4	-23.3	74.5	581,025.51	786,884.05	32° 35' 41.143 N	103° 32' 9.738 W
5,200.0	0.36	194.73	5,197.4	-24.1	74.4	581,024.73	786,883.91	32° 35' 41.135 N	103° 32' 9.740 W
5,300.0	0.32	222.49	5,297.4	-24.6	74.1	581,024.22	786,883.64	32° 35' 41.130 N	103° 32' 9.743 W
5,400.0	0.28	250.25	5,397.4	-24.9	73.7	581,023.93	786,883.22	32° 35' 41.128 N	103° 32' 9.748 W
5,500.0	0.33	227.29	5,497.4	-25.2	73.2	581,023.65	786,882.78	32° 35' 41.125 N	103° 32' 9.753 W
5,600.0	0.38	204.33	5,597.4	-25.7	72.9	581,023.16	786,882.43	32° 35' 41.120 N	103° 32' 9.757 W
5,700.0	0.46	231.64	5,697.4	-26.2	72.4	581,022.60	786,881.98	32° 35' 41.115 N	103° 32' 9.763 W
5,800.0	0.54	258.96	5,797.4	-26.6	71.7	581,022.26	786,881.20	32° 35' 41.111 N	103° 32' 9.772 W
5,900.0	0.45	277.99	5,897.4	-26.6	70.8	581,022.23	786,880.35	32° 35' 41.111 N	103° 32' 9.782 W
6,000.0	0.35	297.01	5,997.4	-26.4	70.2	581,022.42	786,879.69	32° 35' 41.113 N	103° 32' 9.789 W
6,100.0	0.75	299.99	6,097.3	-25.9	69.3	581,022.89	786,878.85	32° 35' 41.118 N	103° 32' 9.799 W
6,200.0	1.16	302.96	6,197.3	-25.1	67.9	581,023.77	786,877.43	32° 35' 41.126 N	103° 32' 9.816 W
6,300.0	1.20	298.19	6,297.3	-24.0	66.1	581,024.81	786,875.66	32° 35' 41.137 N	103° 32' 9.836 W
6,400.0	1.15	293.41	6,397.3	-23.1	64.3	581,025.70	786,873.82	32° 35' 41.146 N	103° 32' 9.858 W

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1H
Project:	Lea County, NM (NAD 83)	TVD Reference:	WELL @ 3678.0usft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	MD Reference:	WELL @ 3678.0usft (Basic #46 - 22' KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,500.0	1.03	297.55	6,497.3	-22.3	62.6	581,026.52	786,872.10	32° 35' 41.154 N	103° 32' 9.878 W
6,600.0	0.91	301.68	6,597.3	-21.5	61.1	581,027.35	786,870.63	32° 35' 41.162 N	103° 32' 9.895 W
6,700.0	0.65	289.58	6,697.3	-20.9	59.9	581,027.96	786,869.42	32° 35' 41.169 N	103° 32' 9.909 W
6,800.0	0.40	277.49	6,797.2	-20.6	59.0	581,028.19	786,868.54	32° 35' 41.171 N	103° 32' 9.919 W
6,900.0	0.53	269.54	6,897.2	-20.6	58.2	581,028.24	786,867.73	32° 35' 41.171 N	103° 32' 9.929 W
7,000.0	0.68	261.60	6,997.2	-20.7	57.1	581,028.15	786,866.68	32° 35' 41.171 N	103° 32' 9.941 W
7,100.0	0.70	263.19	7,097.2	-20.9	55.9	581,027.99	786,865.48	32° 35' 41.169 N	103° 32' 9.955 W
7,200.0	0.67	264.79	7,197.2	-21.0	54.8	581,027.86	786,864.30	32° 35' 41.168 N	103° 32' 9.969 W
7,300.0	0.72	262.18	7,297.2	-21.1	53.6	581,027.72	786,863.09	32° 35' 41.167 N	103° 32' 9.983 W
7,400.0	0.80	259.56	7,397.2	-21.3	52.2	581,027.51	786,861.78	32° 35' 41.165 N	103° 32' 9.998 W
7,500.0	0.67	252.69	7,497.2	-21.6	51.0	581,027.21	786,860.54	32° 35' 41.162 N	103° 32' 10.013 W
7,600.0	0.54	245.83	7,597.2	-22.0	50.0	581,026.84	786,859.55	32° 35' 41.158 N	103° 32' 10.024 W
7,700.0	0.56	247.61	7,697.2	-22.4	49.1	581,026.46	786,858.67	32° 35' 41.155 N	103° 32' 10.035 W
7,800.0	0.53	249.39	7,797.2	-22.7	48.2	581,026.12	786,857.78	32° 35' 41.151 N	103° 32' 10.045 W
7,900.0	0.47	242.65	7,897.2	-23.1	47.4	581,025.76	786,856.98	32° 35' 41.148 N	103° 32' 10.055 W
8,000.0	0.40	235.92	7,997.2	-23.5	46.8	581,025.38	786,856.33	32° 35' 41.144 N	103° 32' 10.062 W
8,100.0	0.49	211.11	8,097.2	-24.0	46.3	581,024.82	786,855.82	32° 35' 41.138 N	103° 32' 10.068 W
8,200.0	0.58	186.30	8,197.2	-24.9	46.0	581,023.95	786,855.54	32° 35' 41.130 N	103° 32' 10.072 W
8,300.0	0.65	179.80	8,297.2	-26.0	46.0	581,022.88	786,855.49	32° 35' 41.119 N	103° 32' 10.072 W
8,400.0	0.76	173.31	8,397.2	-27.2	46.0	581,021.65	786,855.57	32° 35' 41.107 N	103° 32' 10.071 W
8,500.0	0.89	165.32	8,497.1	-28.6	46.3	581,020.24	786,855.84	32° 35' 41.093 N	103° 32' 10.068 W
8,600.0	1.02	157.34	8,597.1	-30.2	46.8	581,018.67	786,856.38	32° 35' 41.078 N	103° 32' 10.062 W
8,700.0	0.95	151.21	8,697.1	-31.7	47.6	581,017.12	786,857.13	32° 35' 41.062 N	103° 32' 10.054 W
8,800.0	0.95	145.09	8,797.1	-33.1	48.5	581,015.72	786,858.00	32° 35' 41.048 N	103° 32' 10.044 W
8,900.0	1.65	147.08	8,897.1	-35.0	49.7	581,013.83	786,859.26	32° 35' 41.029 N	103° 32' 10.029 W
9,000.0	2.29	149.07	8,997.0	-37.9	51.5	581,010.91	786,861.07	32° 35' 41.000 N	103° 32' 10.008 W
9,100.0	2.03	144.42	9,096.9	-41.1	53.6	581,007.75	786,863.12	32° 35' 40.969 N	103° 32' 9.984 W
9,200.0	1.77	145.76	9,196.9	-43.8	55.5	581,005.03	786,865.02	32° 35' 40.942 N	103° 32' 9.962 W
9,300.0	1.33	147.29	9,296.9	-46.1	57.0	581,002.78	786,866.52	32° 35' 40.920 N	103° 32' 9.945 W
9,400.0	0.88	154.82	9,396.8	-47.7	57.9	581,001.11	786,867.47	32° 35' 40.903 N	103° 32' 9.934 W
9,500.0	1.28	156.62	9,496.8	-49.4	58.7	580,999.39	786,868.24	32° 35' 40.886 N	103° 32' 9.925 W
9,600.0	1.69	158.42	9,596.8	-51.8	59.7	580,996.99	786,869.23	32° 35' 40.862 N	103° 32' 9.914 W
9,700.0	1.03	187.23	9,696.8	-54.1	60.1	580,994.73	786,869.66	32° 35' 40.840 N	103° 32' 9.909 W
9,800.0	0.37	196.05	9,796.7	-55.3	59.9	580,993.53	786,869.46	32° 35' 40.828 N	103° 32' 9.912 W
9,900.0	0.40	160.25	9,896.7	-55.9	59.9	580,992.89	786,869.48	32° 35' 40.822 N	103° 32' 9.911 W
10,000.0	0.42	124.45	9,996.7	-56.5	60.4	580,992.35	786,869.90	32° 35' 40.816 N	103° 32' 9.906 W
10,100.0	0.74	121.36	10,096.7	-57.0	61.2	580,991.81	786,870.76	32° 35' 40.811 N	103° 32' 9.897 W
10,200.0	1.03	138.27	10,196.7	-58.0	62.4	580,990.80	786,871.91	32° 35' 40.801 N	103° 32' 9.883 W
10,300.0	1.31	153.99	10,296.7	-59.7	63.5	580,989.11	786,873.01	32° 35' 40.784 N	103° 32' 9.870 W
10,377.0	1.68	160.84	10,373.7	-61.6	64.2	580,987.25	786,873.76	32° 35' 40.765 N	103° 32' 9.862 W
Tie into Gyro @ 10377' MD.									
10,401.0	1.70	152.70	10,397.7	-62.2	64.5	580,986.60	786,874.04	32° 35' 40.759 N	103° 32' 9.859 W
KOP - 10401.0' MD, 10397.7' TVD, 1.70° INC, 152.70° AZI, 61.6' VS									
10,431.0	3.20	170.00	10,427.6	-63.5	64.9	580,985.38	786,874.39	32° 35' 40.747 N	103° 32' 9.855 W
10,462.0	6.50	183.40	10,458.5	-66.1	64.9	580,982.77	786,874.44	32° 35' 40.721 N	103° 32' 9.854 W
10,494.0	9.70	190.20	10,490.2	-70.5	64.3	580,978.31	786,873.85	32° 35' 40.677 N	103° 32' 9.862 W
10,525.0	13.50	191.40	10,520.6	-76.6	63.1	580,972.19	786,872.68	32° 35' 40.616 N	103° 32' 9.876 W
10,556.0	16.40	194.40	10,550.5	-84.4	61.3	580,964.40	786,870.87	32° 35' 40.540 N	103° 32' 9.898 W
10,587.0	19.50	196.90	10,580.0	-93.6	58.7	580,955.21	786,868.28	32° 35' 40.449 N	103° 32' 9.929 W
10,618.0	22.10	199.10	10,609.0	-104.1	55.3	580,944.75	786,864.87	32° 35' 40.346 N	103° 32' 9.970 W
10,650.0	26.20	202.50	10,638.2	-116.3	50.7	580,932.53	786,860.19	32° 35' 40.225 N	103° 32' 10.025 W
10,681.0	30.00	204.00	10,665.5	-129.7	44.9	580,919.12	786,854.42	32° 35' 40.093 N	103° 32' 10.094 W
10,712.0	33.10	204.00	10,691.9	-144.5	38.3	580,904.31	786,847.82	32° 35' 39.947 N	103° 32' 10.172 W
10,743.0	36.00	203.00	10,717.5	-160.7	31.3	580,888.18	786,840.82	32° 35' 39.788 N	103° 32' 10.256 W
10,774.0	38.30	202.20	10,742.2	-177.9	24.1	580,870.90	786,833.63	32° 35' 39.617 N	103° 32' 10.341 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**MD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,805.0	41.30	201.20	10,766.0	-196.4	16.8	580,852.46	786,826.29	32° 35' 39.435 N	103° 32' 10.428 W
10,837.0	45.60	200.20	10,789.2	-217.0	9.0	580,831.88	786,818.52	32° 35' 39.232 N	103° 32' 10.521 W
10,868.0	50.30	198.80	10,810.0	-238.7	1.3	580,810.18	786,810.85	32° 35' 39.018 N	103° 32' 10.613 W
10,900.0	53.70	197.20	10,829.7	-262.6	-6.5	580,786.20	786,803.07	32° 35' 38.781 N	103° 32' 10.706 W
10,930.0	55.70	195.20	10,847.0	-286.1	-13.3	580,762.69	786,796.24	32° 35' 38.549 N	103° 32' 10.788 W
10,947.3	57.04	194.18	10,856.6	-300.1	-16.9	580,748.76	786,792.59	32° 35' 38.412 N	103° 32' 10.831 W
Cross 330' HL - 10947.3' MD, 10856.6' TVD, 57.04° INC, 300.2' VS									
10,961.0	58.10	193.40	10,863.9	-311.3	-19.7	580,737.53	786,789.84	32° 35' 38.301 N	103° 32' 10.865 W
10,992.0	60.10	190.80	10,879.9	-337.3	-25.3	580,711.53	786,784.27	32° 35' 38.044 N	103° 32' 10.932 W
11,024.0	63.20	189.10	10,895.0	-365.0	-30.1	580,683.79	786,779.41	32° 35' 37.770 N	103° 32' 10.991 W
11,053.0	65.30	188.70	10,907.6	-390.9	-34.2	580,657.99	786,775.37	32° 35' 37.515 N	103° 32' 11.041 W
11,085.0	67.50	189.00	10,920.5	-419.8	-38.7	580,629.01	786,770.86	32° 35' 37.228 N	103° 32' 11.096 W
11,116.0	70.10	188.70	10,931.7	-448.4	-43.1	580,600.46	786,766.41	32° 35' 36.946 N	103° 32' 11.150 W
11,146.0	72.70	187.80	10,941.2	-476.5	-47.2	580,572.32	786,762.33	32° 35' 36.668 N	103° 32' 11.201 W
11,177.0	75.50	187.80	10,949.7	-506.1	-51.2	580,542.79	786,758.29	32° 35' 36.376 N	103° 32' 11.250 W
11,207.0	78.70	187.50	10,956.4	-535.0	-55.1	580,513.81	786,754.40	32° 35' 36.090 N	103° 32' 11.298 W
11,240.0	81.80	187.50	10,962.0	-567.3	-59.4	580,481.57	786,750.15	32° 35' 35.771 N	103° 32' 11.351 W
11,271.0	84.60	186.00	10,965.7	-597.8	-63.0	580,451.00	786,746.54	32° 35' 35.469 N	103° 32' 11.396 W
11,302.0	87.50	184.90	10,967.8	-628.6	-65.9	580,420.22	786,743.60	32° 35' 35.165 N	103° 32' 11.433 W
11,334.0	90.90	183.40	10,968.3	-660.5	-68.3	580,388.31	786,741.28	32° 35' 34.849 N	103° 32' 11.463 W
11,347.0	91.28	182.69	10,968.0	-673.5	-68.9	580,375.33	786,740.59	32° 35' 34.721 N	103° 32' 11.472 W
EOC - 11347.0' MD, 10968.0' TVD, 91.28° INC, 182.69° AZI, 674.2' VS									
11,365.0	91.80	181.70	10,967.5	-691.5	-69.6	580,357.35	786,739.90	32° 35' 34.543 N	103° 32' 11.482 W
11,397.0	91.60	182.50	10,966.6	-723.4	-70.8	580,325.39	786,738.73	32° 35' 34.227 N	103° 32' 11.498 W
11,460.0	92.00	181.00	10,964.6	-786.4	-72.7	580,262.45	786,736.81	32° 35' 33.604 N	103° 32' 11.526 W
11,556.0	92.40	181.00	10,960.9	-882.3	-74.4	580,166.54	786,735.14	32° 35' 32.655 N	103° 32' 11.554 W
11,650.0	91.20	179.50	10,958.0	-976.2	-74.8	580,072.59	786,734.73	32° 35' 31.726 N	103° 32' 11.567 W
11,742.0	91.10	179.20	10,956.1	-1,068.2	-73.8	579,980.61	786,735.77	32° 35' 30.815 N	103° 32' 11.563 W
11,836.0	90.90	178.20	10,954.5	-1,162.2	-71.6	579,886.65	786,737.90	32° 35' 29.886 N	103° 32' 11.546 W
11,931.0	91.30	178.00	10,952.7	-1,257.1	-68.5	579,791.72	786,741.05	32° 35' 28.946 N	103° 32' 11.518 W
12,026.0	91.70	178.00	10,950.2	-1,352.0	-65.2	579,696.81	786,744.37	32° 35' 28.007 N	103° 32' 11.487 W
12,118.0	92.20	177.90	10,947.0	-1,443.9	-61.9	579,604.93	786,747.65	32° 35' 27.097 N	103° 32' 11.457 W
12,212.0	91.20	178.20	10,944.2	-1,537.8	-58.7	579,511.02	786,750.85	32° 35' 26.168 N	103° 32' 11.428 W
12,304.0	90.90	179.50	10,942.6	-1,629.8	-56.8	579,419.06	786,752.70	32° 35' 25.258 N	103° 32' 11.414 W
12,396.0	91.60	179.50	10,940.6	-1,721.8	-56.0	579,327.08	786,753.50	32° 35' 24.348 N	103° 32' 11.413 W
12,491.0	92.50	180.20	10,937.2	-1,816.7	-55.8	579,232.15	786,753.75	32° 35' 23.408 N	103° 32' 11.418 W
12,585.0	90.60	179.50	10,934.6	-1,910.7	-55.5	579,138.19	786,754.00	32° 35' 22.479 N	103° 32' 11.424 W
12,679.0	91.00	179.10	10,933.3	-2,004.6	-54.4	579,044.20	786,755.14	32° 35' 21.549 N	103° 32' 11.418 W
12,771.0	91.50	178.80	10,931.3	-2,096.6	-52.7	578,952.24	786,756.83	32° 35' 20.639 N	103° 32' 11.407 W
12,865.0	92.10	178.90	10,928.3	-2,190.5	-50.8	578,858.31	786,758.71	32° 35' 19.709 N	103° 32' 11.393 W
12,960.0	90.90	179.60	10,925.9	-2,285.5	-49.6	578,763.35	786,759.96	32° 35' 18.769 N	103° 32' 11.387 W
13,053.0	91.90	179.70	10,923.6	-2,378.5	-49.0	578,670.38	786,760.53	32° 35' 17.849 N	103° 32' 11.388 W
13,147.0	91.50	179.80	10,920.8	-2,472.4	-48.6	578,576.42	786,760.94	32° 35' 16.920 N	103° 32' 11.392 W
13,211.0	91.70	180.30	10,919.0	-2,536.4	-48.7	578,512.45	786,760.88	32° 35' 16.287 N	103° 32' 11.398 W
13,273.0	91.10	180.00	10,917.5	-2,598.4	-48.8	578,450.47	786,760.72	32° 35' 15.674 N	103° 32' 11.405 W
13,334.0	90.70	180.00	10,916.5	-2,659.4	-48.8	578,389.48	786,760.72	32° 35' 15.070 N	103° 32' 11.411 W
13,397.0	91.40	180.50	10,915.4	-2,722.4	-49.1	578,326.49	786,760.44	32° 35' 14.447 N	103° 32' 11.419 W
13,461.0	90.70	180.90	10,914.2	-2,786.3	-49.9	578,262.50	786,759.66	32° 35' 13.814 N	103° 32' 11.434 W
13,524.0	91.30	181.40	10,913.1	-2,849.3	-51.1	578,199.53	786,758.40	32° 35' 13.191 N	103° 32' 11.454 W
13,587.0	90.90	181.40	10,911.9	-2,912.3	-52.7	578,136.56	786,756.86	32° 35' 12.568 N	103° 32' 11.478 W
13,649.0	91.60	181.80	10,910.5	-2,974.2	-54.4	578,074.60	786,755.13	32° 35' 11.955 N	103° 32' 11.504 W
13,711.0	90.90	181.70	10,909.2	-3,036.2	-56.3	578,012.64	786,753.23	32° 35' 11.342 N	103° 32' 11.531 W
13,773.0	91.10	181.20	10,908.1	-3,098.2	-57.9	577,950.67	786,751.67	32° 35' 10.729 N	103° 32' 11.555 W
13,835.0	91.30	181.00	10,906.8	-3,160.1	-59.1	577,888.69	786,750.48	32° 35' 10.116 N	103° 32' 11.574 W
13,897.0	91.40	180.30	10,905.4	-3,222.1	-59.8	577,826.72	786,749.77	32° 35' 9.503 N	103° 32' 11.588 W

Company:	COG Operating LLC	**Local Co-ordinate Reference:**	Well #1H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**MD Reference:**	WELL @ 3678.0usft (Basic #46 - 22' KB)
Well:	#1H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	OH	**Database:**	Houston R5000 Database

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,959.0	91.70	180.30	10,903.7	-3,284.1	-60.1	577,764.74	786,749.45	32° 35' 8.889 N	103° 32' 11.597 W
14,022.0	90.90	180.40	10,902.2	-3,347.1	-60.5	577,701.76	786,749.06	32° 35' 8.266 N	103° 32' 11.607 W
14,085.0	91.10	180.10	10,901.1	-3,410.1	-60.7	577,638.77	786,748.79	32° 35' 7.643 N	103° 32' 11.616 W
14,179.0	90.00	179.10	10,900.2	-3,504.1	-60.1	577,544.78	786,749.44	32° 35' 6.713 N	103° 32' 11.616 W
14,241.0	90.00	178.60	10,900.2	-3,566.0	-58.8	577,482.79	786,750.69	32° 35' 6.100 N	103° 32' 11.607 W
14,303.0	90.40	178.70	10,900.0	-3,628.0	-57.4	577,420.81	786,752.15	32° 35' 5.486 N	103° 32' 11.596 W
14,392.0	89.70	178.30	10,899.9	-3,717.0	-55.1	577,331.84	786,754.48	32° 35' 4.606 N	103° 32' 11.576 W
14,456.0	88.90	178.30	10,900.7	-3,781.0	-53.2	577,267.87	786,756.38	32° 35' 3.973 N	103° 32' 11.560 W
14,517.0	89.00	178.40	10,901.8	-3,841.9	-51.4	577,206.91	786,758.13	32° 35' 3.369 N	103° 32' 11.544 W
14,580.0	89.10	178.20	10,902.9	-3,904.9	-49.5	577,143.94	786,760.00	32° 35' 2.746 N	103° 32' 11.528 W
14,642.0	89.10	178.20	10,903.9	-3,966.9	-47.6	577,081.98	786,761.95	32° 35' 2.133 N	103° 32' 11.511 W
14,702.0	89.60	179.00	10,904.5	-4,026.8	-46.1	577,022.01	786,763.42	32° 35' 1.539 N	103° 32' 11.499 W
14,764.0	90.40	179.20	10,904.5	-4,088.8	-45.1	576,960.01	786,764.39	32° 35' 0.926 N	103° 32' 11.493 W
14,825.0	90.60	179.80	10,904.0	-4,149.8	-44.6	576,899.02	786,764.92	32° 35' 0.322 N	103° 32' 11.492 W
14,887.0	90.70	179.40	10,903.3	-4,211.8	-44.2	576,837.02	786,765.35	32° 34' 59.709 N	103° 32' 11.492 W
14,951.0	90.90	179.70	10,902.4	-4,275.8	-43.7	576,773.03	786,765.86	32° 34' 59.076 N	103° 32' 11.492 W
15,013.0	91.10	179.80	10,901.3	-4,337.8	-43.4	576,711.04	786,766.13	32° 34' 58.462 N	103° 32' 11.494 W
15,077.0	89.70	179.20	10,900.9	-4,401.8	-42.9	576,647.05	786,766.69	32° 34' 57.829 N	103° 32' 11.493 W
15,137.0	89.60	179.30	10,901.3	-4,461.8	-42.1	576,587.05	786,767.47	32° 34' 57.235 N	103° 32' 11.489 W
15,200.0	89.60	179.30	10,901.7	-4,524.8	-41.3	576,524.06	786,768.24	32° 34' 56.612 N	103° 32' 11.486 W
15,261.0	89.70	179.40	10,902.1	-4,585.8	-40.6	576,463.07	786,768.93	32° 34' 56.008 N	103° 32' 11.483 W
15,323.0	89.90	179.70	10,902.3	-4,647.8	-40.1	576,401.07	786,769.42	32° 34' 55.395 N	103° 32' 11.483 W
15,384.0	90.20	179.70	10,902.2	-4,708.8	-39.8	576,340.07	786,769.74	32° 34' 54.791 N	103° 32' 11.485 W
15,446.0	90.30	180.00	10,902.0	-4,770.8	-39.6	576,278.07	786,769.90	32° 34' 54.178 N	103° 32' 11.488 W
15,551.0	91.10	180.60	10,900.7	-4,875.8	-40.2	576,173.08	786,769.35	32° 34' 53.139 N	103° 32' 11.504 W
15,596.0	91.10	180.60	10,899.8	-4,920.7	-40.7	576,128.09	786,768.88	32° 34' 52.694 N	103° 32' 11.513 W

BHL - 15596.0' MD, 10899.8' TVD, 91.10° INC, 180.60° AZI, -4920.7' N, -40.7' E, 4920.9' VS

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
10,377.0	10,373.7	-61.6	64.2	Tie into Gyro @ 10377' MD
10,401.0	10,397.7	-62.2	64.5	KOP - 10401.0' MD, 10397.7' TVD, 1.70° INC, 152.70° AZI, 61.6' VS
10,947.3	10,856.6	-300.1	-16.9	Cross 330' HL - 10947.3' MD, 10856.6' TVD, 57.04° INC, 300.2' VS
11,347.0	10,968.0	-673.5	-68.9	EOC - 11347.0' MD, 10968.0' TVD, 91.28° INC, 182.69° AZI, 674.2' VS
15,596.0	10,899.8	-4,920.7	-40.7	BHL - 15596.0' MD, 10899.8' TVD, 91.10° INC, 180.60° AZI, -4920.7' N, -40.7' E

Checked By: _____ Approved By: _____ Date: _____