

PATRIOT DRILLING, LLC

30-015-43026

OPERATOR: COG Operating, LLC
WELL/LEASE: CTA State Com 6H
COUNTY: Eddy Co., New Mexico
Sec. 32, T 18S, R 30E

**STATE OF NEW MEXICO
DEVIATION REPORT**

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
415	3/4	4,120	1 1/4
906	1 1/4	4,620	1 3/4
1,317	1	5,120	1
1,571	1	5,575	1
1,824	1	6,011	2
2,332	1 3/4	6,479	1 3/4
2,638	1 1/2	6,926	2
2,919	1	7,332	1/2
3,243	1/2	7,585	1/2
3,717	1/4		

Patriot Drilling, LLC

M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 21st day of May, 2015 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2019



Lori T. Rowan
Notary Public for Ector Co., Texas



NM OIL CONSERVATION

ARTESIA DISTRICT

AUG 3 2015

RECEIVED

May 22, 2015

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Kanicia Castillo

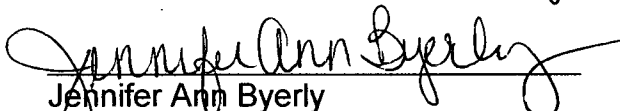
RE: **CTA State Com 6H**

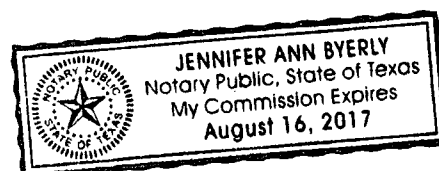
Please find enclosed a copy of the survey from 0' to 7538' ran on the above referenced well.

Sincerely, 
Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 22 day of May,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: CONCHO
Well: CTA STATE COM 6H

Rig Name: PATRIOT 6
State/County: NEW MEXICO/EDDY
VS-Azi: 0.00 Degrees
Latitude: 32.69720, Longitude: -103.98610
Grid Convergence Applied = -0.19 degs
Grid North = True North -0.19 degs



Depth Reference : RKB = 18 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ctastatecom#6h-de_01.ut

Minimum Curvature Method

Report Date/Time: 5/22/2015 / 11:14

VES Survey International
Conroe, TX
936-539-9096

Surveyor: Will Clark
CTA State Com 6H / API 30-015-43026

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 3 2015

RECEIVED

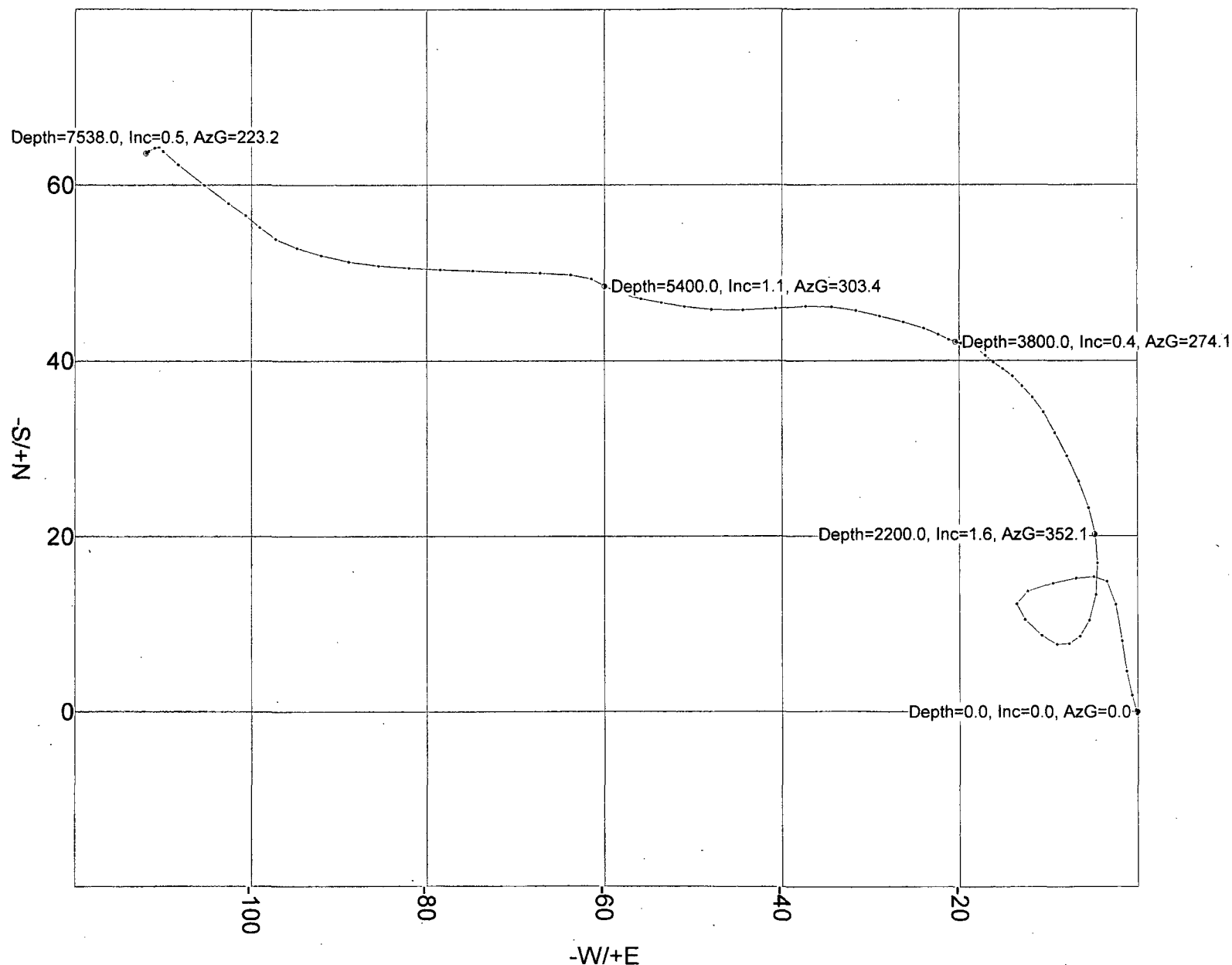
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.22	192.54	100.00	-0.19	-0.04	-0.19	0.19	192.54	0.22
200.00	0.07	6.10	200.00	-0.31	-0.08	-0.31	0.32	193.79	0.29
300.00	0.54	344.03	300.00	0.20	-0.20	0.20	0.28	315.67	0.47
400.00	1.45	345.21	399.98	1.88	-0.65	1.88	1.99	340.89	0.91
500.00	1.74	350.01	499.94	4.60	-1.24	4.60	4.76	344.94	0.32
600.00	2.29	351.91	599.88	8.07	-1.78	8.07	8.27	347.55	0.55
700.00	2.54	349.39	699.79	12.22	-2.47	12.22	12.47	348.57	0.27
800.00	0.86	308.27	799.75	14.86	-3.46	14.86	15.25	346.88	1.97
900.00	0.99	274.98	899.74	15.39	-4.91	15.39	16.16	342.30	0.55
1000.00	1.32	256.87	999.72	15.21	-6.90	15.21	16.70	335.61	0.48
1100.00	1.74	257.95	1099.68	14.63	-9.49	14.63	17.44	327.02	0.42
1200.00	1.71	246.11	1199.63	13.71	-12.34	13.71	18.45	318.00	0.36
1300.00	0.97	172.19	1299.61	12.27	-13.60	12.27	18.31	312.06	1.72
1400.00	1.46	138.63	1399.59	10.47	-12.64	10.47	16.41	309.65	0.85
1500.00	1.55	130.23	1499.56	8.64	-10.76	8.64	13.80	308.76	0.24
1600.00	0.76	99.16	1599.54	7.66	-9.07	7.66	11.87	310.18	0.98

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	0.84	74.30	1699.53	7.75	-7.71	7.75	10.93	315.16	0.35
1800.00	0.93	39.22	1799.52	8.58	-6.49	8.58	10.75	322.89	0.54
1900.00	1.51	23.56	1899.49	10.41	-5.45	10.41	11.75	332.38	0.66
2000.00	2.00	7.11	1999.45	13.35	-4.71	13.35	14.16	340.59	0.70
2100.00	2.14	358.72	2099.38	16.95	-4.53	16.95	17.55	345.04	0.33
2200.00	1.64	352.11	2199.33	20.24	-4.77	20.24	20.79	346.74	0.54
2300.00	1.89	340.84	2299.28	23.21	-5.51	23.21	23.86	346.65	0.43
2400.00	1.82	339.34	2399.23	26.26	-6.61	26.26	27.08	345.87	0.09
2500.00	1.82	332.11	2499.18	29.14	-7.91	29.14	30.20	344.81	0.23
2600.00	1.58	334.44	2599.13	31.79	-9.25	31.79	33.11	343.78	0.25
2700.00	1.47	326.87	2699.10	34.11	-10.54	34.11	35.70	342.82	0.23
2800.00	0.97	320.23	2799.07	35.84	-11.79	35.84	37.73	341.79	0.52
2900.00	1.00	315.15	2899.06	37.11	-12.95	37.11	39.30	340.76	0.09
3000.00	0.78	316.31	2999.05	38.22	-14.04	38.22	40.72	339.84	0.21
3100.00	0.80	298.30	3099.04	39.05	-15.12	39.05	41.87	338.83	0.25
3200.00	0.71	312.19	3199.03	39.80	-16.20	39.80	42.97	337.86	0.20
3300.00	0.61	310.28	3299.02	40.56	-17.07	40.56	44.00	337.18	0.10
3400.00	0.49	309.30	3399.02	41.18	-17.80	41.18	44.86	336.62	0.13
3500.00	0.44	288.77	3499.01	41.57	-18.49	41.57	45.50	336.02	0.17
3600.00	0.38	285.44	3599.01	41.78	-19.18	41.78	45.97	335.35	0.06
3700.00	0.35	292.92	3699.01	41.99	-19.78	41.99	46.41	334.78	0.06
3800.00	0.39	274.08	3799.01	42.13	-20.39	42.13	46.80	334.17	0.13
3900.00	0.63	297.33	3899.00	42.40	-21.22	42.40	47.42	333.42	0.31
4000.00	0.89	295.40	3998.99	42.99	-22.40	42.99	48.47	332.47	0.26
4100.00	1.13	291.62	4098.98	43.68	-24.02	43.68	49.85	331.20	0.25
4200.00	1.66	283.89	4198.95	44.39	-26.33	44.39	51.61	329.32	0.56
4300.00	1.52	284.56	4298.91	45.07	-29.02	45.07	53.61	327.22	0.14
4400.00	1.63	282.66	4398.87	45.72	-31.69	45.72	55.63	325.27	0.12
4500.00	1.53	274.98	4498.84	46.14	-34.41	46.14	57.56	323.29	0.23
4600.00	1.81	267.56	4598.79	46.19	-37.32	46.19	59.38	321.06	0.36
4700.00	2.08	264.92	4698.74	45.96	-40.71	45.96	61.40	318.47	0.28
4800.00	2.16	268.98	4798.67	45.77	-44.39	45.77	63.76	315.87	0.17
4900.00	1.85	273.42	4898.61	45.83	-47.89	45.83	66.29	313.74	0.34
5000.00	1.65	279.48	4998.56	46.17	-50.92	46.17	68.74	312.20	0.27
5100.00	1.38	280.50	5098.52	46.62	-53.53	46.62	70.99	311.05	0.27
5200.00	1.33	280.70	5198.50	47.06	-55.86	47.06	73.04	310.11	0.05
5300.00	1.26	287.66	5298.47	47.61	-58.05	47.61	75.08	309.36	0.17
5400.00	1.12	303.39	5398.45	48.48	-59.92	48.48	77.08	308.98	0.35
5500.00	0.90	292.15	5498.43	49.32	-61.47	49.32	78.81	308.74	0.30

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5600.00	1.81	276.27	5598.40	49.79	-63.76	49.79	80.90	307.98	0.97
5700.00	2.20	270.55	5698.34	49.98	-67.25	49.98	83.79	306.62	0.44
5800.00	2.21	272.06	5798.27	50.07	-71.09	50.07	86.95	305.16	0.06
5900.00	2.10	273.46	5898.20	50.25	-74.84	50.25	90.14	303.88	0.12
6000.00	2.09	270.94	5998.13	50.39	-78.49	50.39	93.27	302.70	0.09
6100.00	1.99	275.19	6098.07	50.57	-82.03	50.57	96.37	301.65	0.18
6200.00	2.01	273.39	6198.01	50.83	-85.51	50.83	99.48	300.73	0.07
6300.00	1.89	281.96	6297.95	51.28	-88.87	51.28	102.60	299.99	0.31
6400.00	1.73	284.65	6397.90	52.00	-91.94	52.00	105.63	299.49	0.18
6500.00	1.66	288.28	6497.86	52.84	-94.77	52.84	108.50	299.14	0.13
6600.00	1.44	297.28	6597.82	53.87	-97.26	53.87	111.18	298.98	0.32
6700.00	1.19	315.33	6697.79	55.18	-99.11	55.18	113.44	299.11	0.48
6800.00	1.20	304.45	6797.77	56.51	-100.70	56.51	115.48	299.30	0.23
6900.00	1.54	305.55	6897.74	57.89	-102.66	57.89	117.86	299.42	0.35
7000.00	2.35	308.76	6997.69	59.95	-105.35	59.95	121.21	299.64	0.81
7100.00	2.04	307.19	7097.61	62.31	-108.36	62.31	125.00	299.90	0.32
7200.00	0.62	328.26	7197.58	63.84	-110.06	63.84	127.24	300.12	1.47
7300.00	0.22	270.71	7297.58	64.31	-110.54	64.31	127.88	300.19	0.54
7400.00	0.36	251.66	7397.58	64.21	-111.03	64.21	128.26	300.04	0.17
7500.00	0.54	235.48	7497.58	63.84	-111.72	63.84	128.68	299.74	0.22
7538.00	0.49	223.18	7535.58	63.62	-111.98	63.62	128.79	299.60	0.33



VES Survey International
Conroe, TX
936-539-9096
Surveyor: Will Clark
CTA State Com 6H / API 30-015-43026



VES Survey Date: 5/14/2015



NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 3 2015

RECEIVED

30-015-43026

COG Operating LLC

~~Lea County, NM~~

CTA State Com

#6H

Eddy County

OH

Survey: MWD #1

Survey Report - Geographic

28 May, 2015



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #6H:
Project:	Lea County, NM	TVD Reference:	WELL @ 3470.5usft (Original Well Elev)
Site:	CTA State Com	MD Reference:	WELL @ 3470.5usft (Original Well Elev)
Well:	#6H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea 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	CTA State Com		
Site Position:		Northing:	617,619.60 usft
From:	Map	Easting:	606,994.70 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 41' 50.828 N
		Longitude:	103° 59' 7.893 W
		Grid Convergence:	0.19 °

Well	#6H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 41' 50.828 N
		Longitude:	103° 59' 7.893 W
		Ground Level:	3,452.5 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	4/28/2015	7.34
			Dip Angle
			(°)
			60.46
			Field Strength
			(nT)
			48,469

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			270.68

Survey Program	Date 5/28/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	7,538.0	GYRO (OH)	NS-GYRO-SS
7,629.0	12,765.0	MWD #1 (OH)	MWD
			Description
			NS Gyro single shots
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
7,538.0	0.49	223.18	7,535.6	63.6	-112.0	617,683.24	606,882.66	32° 41' 51.462 N	103° 59' 9.201 W
7,629.0	0.70	204.60	7,626.6	62.8	-112.5	617,682.45	606,882.16	32° 41' 51.454 N	103° 59' 9.207 W
7,743.0	1.00	194.10	7,740.6	61.2	-113.1	617,680.85	606,881.63	32° 41' 51.438 N	103° 59' 9.213 W
7,775.0	1.00	184.00	7,772.6	60.7	-113.2	617,680.30	606,881.54	32° 41' 51.433 N	103° 59' 9.214 W
7,806.0	1.60	212.40	7,803.5	60.1	-113.4	617,679.67	606,881.29	32° 41' 51.426 N	103° 59' 9.217 W
7,838.0	5.60	243.90	7,835.5	59.0	-115.1	617,678.60	606,879.65	32° 41' 51.416 N	103° 59' 9.237 W
7,870.0	10.60	250.30	7,867.1	57.3	-119.2	617,676.92	606,875.48	32° 41' 51.399 N	103° 59' 9.286 W
7,901.0	15.60	255.90	7,897.3	55.3	-126.0	617,674.94	606,868.74	32° 41' 51.380 N	103° 59' 9.364 W
7,933.0	18.90	264.10	7,927.9	53.8	-135.3	617,673.36	606,859.41	32° 41' 51.365 N	103° 59' 9.474 W
7,965.0	21.30	268.70	7,957.9	53.1	-146.3	617,672.70	606,848.44	32° 41' 51.358 N	103° 59' 9.602 W
7,996.0	24.30	267.40	7,986.5	52.7	-158.3	617,672.28	606,836.44	32° 41' 51.355 N	103° 59' 9.743 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM	TVD Reference:	WELL @ 3470.5usft (Original Well Elev)
Site:	CTA State Com	MD Reference:	WELL @ 3470.5usft (Original Well Elev)
Well:	#6H	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
8,028.0	27.90	265.30	8,015.3	51.8	-172.3	617,671.37	606,822.40	32° 41' 51.346 N	103° 59' 9.907 W
8,060.0	31.50	264.30	8,043.0	50.3	-188.1	617,669.92	606,806.61	32° 41' 51.332 N	103° 59' 10.092 W
8,091.0	34.90	265.50	8,069.0	48.8	-205.0	617,668.42	606,789.71	32° 41' 51.318 N	103° 59' 10.290 W
8,123.0	37.90	268.00	8,094.7	47.8	-224.0	617,667.36	606,770.75	32° 41' 51.308 N	103° 59' 10.511 W
8,155.0	40.30	269.70	8,119.6	47.4	-244.1	617,666.96	606,750.58	32° 41' 51.305 N	103° 59' 10.748 W
8,186.0	42.80	270.60	8,142.8	47.4	-264.7	617,667.02	606,730.02	32° 41' 51.306 N	103° 59' 10.988 W
8,218.0	46.50	270.50	8,165.5	47.6	-287.2	617,667.24	606,707.53	32° 41' 51.309 N	103° 59' 11.251 W
8,250.0	49.80	270.40	8,186.9	47.8	-311.0	617,667.42	606,683.70	32° 41' 51.312 N	103° 59' 11.530 W
8,281.0	52.70	270.60	8,206.3	48.0	-335.2	617,667.63	606,659.53	32° 41' 51.314 N	103° 59' 11.813 W
8,313.0	55.90	271.10	8,224.9	48.4	-361.2	617,668.02	606,633.55	32° 41' 51.319 N	103° 59' 12.117 W
8,344.0	59.60	271.40	8,241.5	49.0	-387.4	617,668.60	606,607.34	32° 41' 51.326 N	103° 59' 12.424 W
8,376.0	62.50	271.70	8,257.0	49.8	-415.4	617,669.35	606,579.35	32° 41' 51.334 N	103° 59' 12.751 W
8,408.0	65.10	271.30	8,271.1	50.5	-444.1	617,670.10	606,550.65	32° 41' 51.342 N	103° 59' 13.087 W
8,440.0	67.50	270.20	8,284.0	50.9	-473.3	617,670.49	606,521.36	32° 41' 51.347 N	103° 59' 13.430 W
8,471.0	70.40	270.00	8,295.1	50.9	-502.3	617,670.54	606,492.43	32° 41' 51.349 N	103° 59' 13.768 W
8,503.0	72.70	270.20	8,305.2	51.0	-532.6	617,670.59	606,462.08	32° 41' 51.350 N	103° 59' 14.124 W
8,535.0	74.30	270.00	8,314.3	51.0	-563.3	617,670.64	606,431.39	32° 41' 51.352 N	103° 59' 14.483 W
8,566.0	76.00	270.20	8,322.3	51.1	-593.3	617,670.69	606,401.43	32° 41' 51.353 N	103° 59' 14.833 W
8,598.0	77.00	270.50	8,329.7	51.3	-624.4	617,670.88	606,370.32	32° 41' 51.356 N	103° 59' 15.197 W
8,630.0	77.90	270.40	8,336.7	51.5	-655.6	617,671.13	606,339.08	32° 41' 51.359 N	103° 59' 15.563 W
8,661.0	79.10	270.40	8,342.9	51.7	-686.0	617,671.34	606,308.71	32° 41' 51.362 N	103° 59' 15.918 W
8,693.0	81.10	270.20	8,348.4	51.9	-717.5	617,671.51	606,277.18	32° 41' 51.365 N	103° 59' 16.287 W
8,725.0	83.50	270.20	8,352.6	52.0	-749.2	617,671.62	606,245.48	32° 41' 51.367 N	103° 59' 16.658 W
8,756.0	85.50	270.10	8,355.6	52.1	-780.1	617,671.70	606,214.62	32° 41' 51.369 N	103° 59' 17.019 W
8,788.0	87.60	270.00	8,357.5	52.1	-812.0	617,671.73	606,182.68	32° 41' 51.370 N	103° 59' 17.393 W
8,820.0	88.40	270.20	8,358.7	52.2	-844.0	617,671.78	606,150.70	32° 41' 51.372 N	103° 59' 17.767 W
8,883.0	89.80	271.00	8,359.6	52.8	-907.0	617,672.44	606,087.71	32° 41' 51.380 N	103° 59' 18.504 W
8,946.0	91.30	271.00	8,359.0	53.9	-970.0	617,673.54	606,024.73	32° 41' 51.393 N	103° 59' 19.241 W
9,041.0	90.40	270.60	8,357.6	55.3	-1,065.0	617,674.87	605,929.75	32° 41' 51.410 N	103° 59' 20.353 W
9,136.0	89.10	270.60	8,358.1	56.3	-1,159.9	617,675.86	605,834.76	32° 41' 51.422 N	103° 59' 21.464 W
9,231.0	90.80	270.60	8,358.1	57.3	-1,254.9	617,676.86	605,739.76	32° 41' 51.435 N	103° 59' 22.576 W
9,295.0	92.20	270.80	8,356.5	58.0	-1,318.9	617,677.64	605,675.79	32° 41' 51.445 N	103° 59' 23.325 W
9,390.0	91.30	270.60	8,353.6	59.2	-1,413.9	617,678.80	605,580.85	32° 41' 51.460 N	103° 59' 24.436 W
9,485.0	90.30	269.90	8,352.2	59.6	-1,508.8	617,679.21	605,485.86	32° 41' 51.467 N	103° 59' 25.547 W
9,548.0	91.50	269.90	8,351.2	59.5	-1,571.8	617,679.10	605,422.87	32° 41' 51.468 N	103° 59' 26.284 W
9,643.0	90.50	270.60	8,349.6	59.9	-1,666.8	617,679.52	605,327.88	32° 41' 51.475 N	103° 59' 27.396 W
9,738.0	88.80	270.30	8,350.2	60.7	-1,761.8	617,680.26	605,232.89	32° 41' 51.485 N	103° 59' 28.508 W
9,865.0	91.50	270.30	8,349.8	61.3	-1,888.8	617,680.93	605,105.91	32° 41' 51.496 N	103° 59' 29.994 W
9,960.0	91.30	273.00	8,347.5	64.1	-1,983.7	617,683.66	605,010.98	32° 41' 51.526 N	103° 59' 31.104 W
10,086.0	86.90	271.50	8,349.5	69.0	-2,109.6	617,688.61	604,885.13	32° 41' 51.579 N	103° 59' 32.577 W
10,181.0	88.40	270.90	8,353.4	71.0	-2,204.5	617,690.60	604,790.23	32° 41' 51.602 N	103° 59' 33.687 W
10,276.0	90.90	271.40	8,354.0	72.9	-2,299.4	617,692.50	604,695.26	32° 41' 51.624 N	103° 59' 34.799 W
10,371.0	91.30	271.30	8,352.1	75.1	-2,394.4	617,694.74	604,600.31	32° 41' 51.649 N	103° 59' 35.910 W
10,498.0	90.00	270.90	8,350.7	77.6	-2,521.4	617,697.18	604,473.34	32° 41' 51.677 N	103° 59' 37.395 W
10,593.0	92.00	271.30	8,349.0	79.4	-2,616.3	617,699.00	604,378.38	32° 41' 51.698 N	103° 59' 38.507 W
10,688.0	91.00	270.40	8,346.6	80.8	-2,711.3	617,700.41	604,283.42	32° 41' 51.715 N	103° 59' 39.618 W
10,751.0	92.20	270.20	8,344.8	81.1	-2,774.3	617,700.74	604,220.45	32° 41' 51.720 N	103° 59' 40.355 W
10,846.0	91.30	269.90	8,341.9	81.2	-2,869.2	617,700.82	604,125.50	32° 41' 51.724 N	103° 59' 41.466 W
10,910.0	92.00	269.90	8,340.1	81.1	-2,933.2	617,700.71	604,061.52	32° 41' 51.725 N	103° 59' 42.215 W
11,005.0	91.30	268.70	8,337.3	79.9	-3,028.1	617,699.55	603,966.57	32° 41' 51.716 N	103° 59' 43.326 W
11,068.0	92.00	268.60	8,335.5	78.5	-3,091.1	617,698.07	603,903.61	32° 41' 51.704 N	103° 59' 44.063 W
11,194.0	90.50	268.30	8,332.8	75.1	-3,217.0	617,694.66	603,777.69	32° 41' 51.674 N	103° 59' 45.536 W
11,289.0	92.80	268.90	8,330.0	72.7	-3,311.9	617,692.34	603,682.77	32° 41' 51.654 N	103° 59' 46.647 W
11,384.0	90.90	270.60	8,327.0	72.3	-3,406.9	617,691.93	603,587.83	32° 41' 51.653 N	103° 59' 47.758 W
11,447.0	91.50	271.10	8,325.6	73.3	-3,469.9	617,692.86	603,524.85	32° 41' 51.664 N	103° 59' 48.495 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #6H
Project:	Lea County, NM	TVD Reference:	WELL @ 3470.5usft (Original Well Elev)
Site:	CTA State Com	MD Reference:	WELL @ 3470.5usft (Original Well Elev)
Well:	#6H	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
11,573.0	90.60	270.50	8,323.3	75.0	-3,595.8	617,694.62	603,398.88	32° 41' 51.685 N	103° 59' 49.969 W
11,637.0	91.60	270.10	8,322.1	75.4	-3,659.8	617,694.95	603,334.90	32° 41' 51.691 N	103° 59' 50.718 W
11,764.0	89.70	268.40	8,320.7	73.7	-3,786.8	617,693.29	603,207.93	32° 41' 51.678 N	103° 59' 52.204 W
11,859.0	91.60	269.00	8,319.6	71.5	-3,881.7	617,691.14	603,112.96	32° 41' 51.660 N	103° 59' 53.315 W
11,951.0	91.10	269.90	8,317.4	70.7	-3,973.7	617,690.25	603,020.99	32° 41' 51.654 N	103° 59' 54.392 W
12,078.0	91.30	269.40	8,314.7	69.9	-4,100.7	617,689.48	602,894.02	32° 41' 51.650 N	103° 59' 55.878 W
12,173.0	90.80	269.80	8,313.0	69.2	-4,195.7	617,688.82	602,799.04	32° 41' 51.647 N	103° 59' 56.989 W
12,300.0	91.30	269.30	8,310.7	68.2	-4,322.6	617,687.82	602,672.07	32° 41' 51.641 N	103° 59' 58.475 W
12,408.0	91.40	269.50	8,308.1	67.1	-4,430.6	617,686.69	602,564.10	32° 41' 51.633 N	103° 59' 59.738 W
12,490.0	91.50	269.00	8,306.1	66.0	-4,512.6	617,685.61	602,482.14	32° 41' 51.625 N	104° 0' 0.698 W
12,585.0	90.50	269.20	8,304.4	64.5	-4,607.5	617,684.12	602,387.17	32° 41' 51.613 N	104° 0' 1.809 W
12,765.0	90.50	269.20	8,302.8	62.0	-4,787.5	617,681.61	602,207.19	32° 41' 51.594 N	104° 0' 3.915 W
PBHL(CTA#6H)									

Checked By: _____ Approved By: _____ Date: _____