

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

RECEIVED

JUL 07: 15

COG
ARTESIA WEST

HOBBS OCD**SEP 25 2015**

Well Name and Num: Stratosphere 36 State Com # 5H
Location: Sec, 36, T20S, R34E
Operator: COG
Drilling Contractor: McVay Drilling Company

RECEIVED

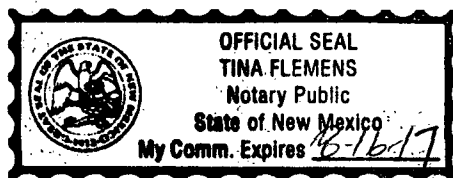
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.50	260	1.27	6755	88.00	12528		
0.20	678	0.70	7201	89.20	12906		
0.90	1087	0.50	7455	87.60	13881		
1.30	1465	0.20	7772	88.00	13572		
0.90	1686	0.00	8091	87.00	13950		
0.90	2280	0.60	8376	85.50	14329		
0.80	2595	0.90	8726	87.30	14709		
1.50	2910	1.50	9043	87.80	15085		
0.80	3351	1.60	9360	87.60	15275		
0.20	3655	1.80	8678	85.20	15699		
2.10	4076	1.20	10050				
2.30	4517	0.60	10467				
2.60	4990	0.40	10850				
2.40	5462	36.50	11179				
2.20	5830	61.90	11369				
2.00	6159	84.90	11493				
1.80	6568	88.22	11876				

By: Mario A. Basso

Subscribed and sworn to before me this 2nd day of July, 2015

Tina Flemens
Notary Public, Lea County, New Mexico

**SEP 28 2015**



June 16, 2015

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

Attn: Kanicia Castillo

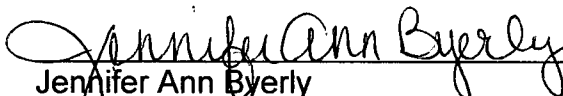
RE: **Stratosphere 36 State Com 5H**

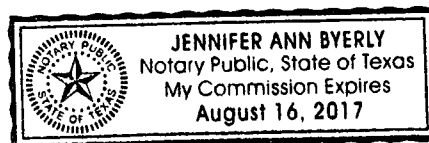
Please find enclosed a copy of the survey from 0' to 10,600' ran on the above referenced well.

Sincerely, 
Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 16 day of June,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: Concho
Lease/Well: Stratosphere 36 State Com/5H
Location: S36, T20S, R34E
Rig Name: McVay 7
State/County: New Mexico/Lea
VS-Azi: 0.00 Degrees
Latitude: 32.53620, Longitude: -103.51487
Grid Convergence Applied = -0.44 degs (NAD 27)
Grid North = True North -0.44 degs



Depth Reference : RKB = 17 Foot

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...re 36 state 5h_gyro survey.ut

Minimum Curvature Method

Report Date/Time: 6/16/2015 / 11:25

VES Survey International

West Texas

(432) 563-5444

Surveyor: Gene Heiss

Stratosphere 36 State Com 5H / API 30-025-42036

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	0.35	280.46	100.00	0.06	-0.30	0.06	0.30	280.46	0.35
200.00	0.32	275.23	200.00	0.14	-0.88	0.14	0.89	278.81	0.04
300.00	0.27	265.85	300.00	0.14	-1.39	0.14	1.40	275.93	0.07
400.00	0.35	262.49	399.99	0.09	-1.93	0.09	1.93	272.62	0.08
500.00	0.48	266.23	499.99	0.02	-2.65	0.02	2.65	270.46	0.13
600.00	0.34	277.14	599.99	0.03	-3.36	0.03	3.36	270.52	0.16
700.00	0.29	247.77	699.99	-0.03	-3.88	-0.03	3.88	269.58	0.17
800.00	0.32	229.74	799.99	-0.30	-4.33	-0.30	4.34	265.99	0.10
900.00	0.51	243.71	899.98	-0.68	-4.94	-0.68	4.99	262.16	0.21
1000.00	0.79	249.80	999.98	-1.11	-5.98	-1.11	6.09	259.45	0.29
1100.00	0.69	260.86	1099.97	-1.45	-7.23	-1.45	7.37	258.67	0.17
1200.00	0.77	233.30	1199.96	-1.95	-8.36	-1.95	8.59	256.90	0.36
1300.00	0.97	234.23	1299.95	-2.84	-9.59	-2.84	10.00	253.49	0.20
1400.00	1.21	250.44	1399.93	-3.69	-11.26	-3.69	11.85	251.87	0.39
1500.00	1.19	247.00	1499.91	-4.45	-13.21	-4.45	13.94	251.40	0.07
1600.00	1.48	236.08	1599.88	-5.57	-15.24	-5.57	16.23	249.92	0.38

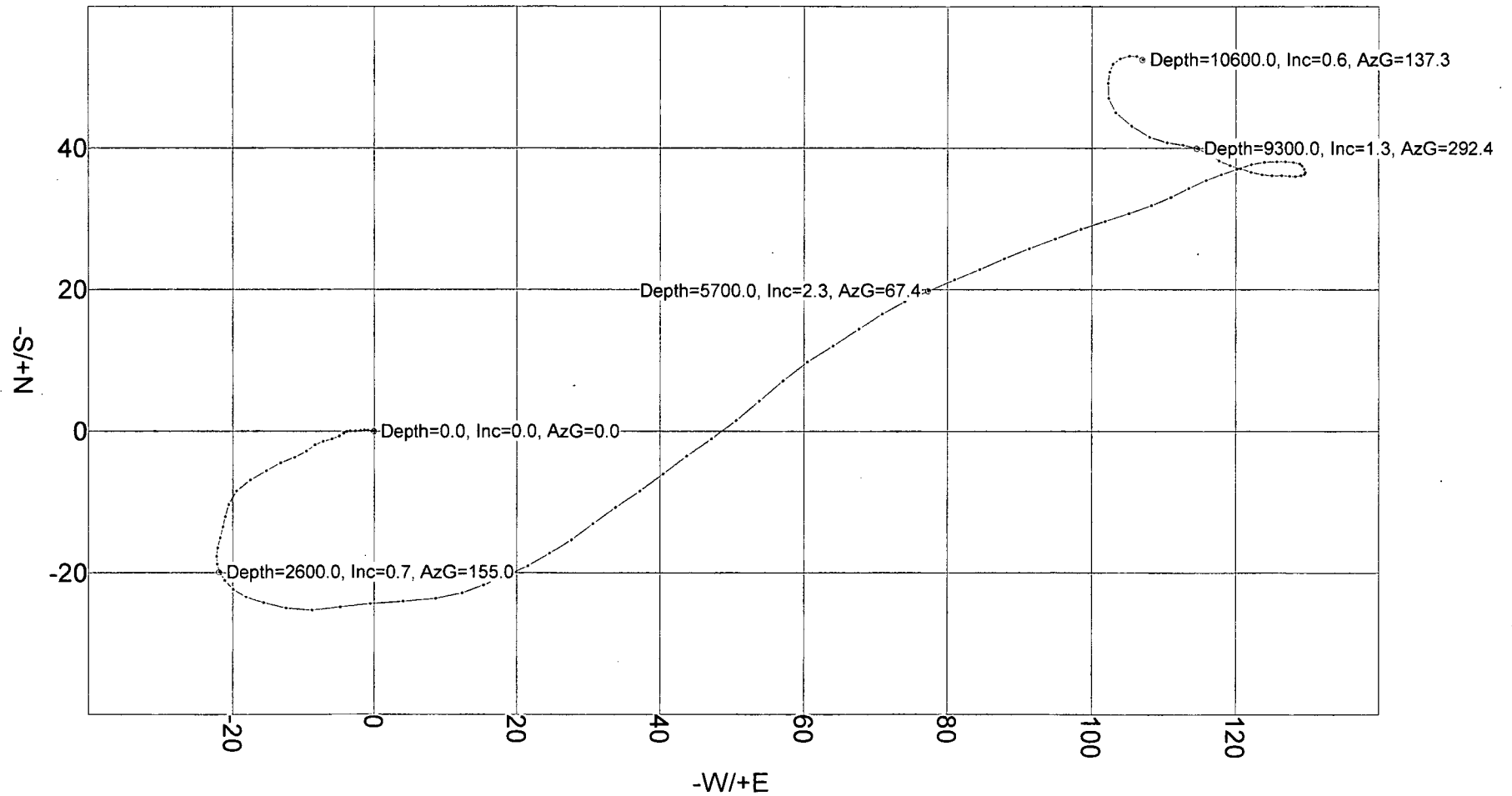
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	1.52	243.81	1699.85	-6.88	-17.50	-6.88	18.81	248.54	0.21
1800.00	1.41	219.26	1799.82	-8.42	-19.47	-8.42	21.22	246.62	0.63
1900.00	1.20	198.66	1899.79	-10.37	-20.59	-10.37	23.05	243.27	0.51
2000.00	0.80	191.71	1999.78	-12.04	-21.07	-12.04	24.27	240.24	0.42
2100.00	0.91	194.39	2099.77	-13.50	-21.41	-13.50	25.31	237.76	0.12
2200.00	0.91	193.11	2199.75	-15.05	-21.78	-15.05	26.48	235.37	0.02
2300.00	0.77	194.36	2299.74	-16.47	-22.13	-16.47	27.59	233.34	0.14
2400.00	0.60	179.36	2399.73	-17.65	-22.29	-17.65	28.43	231.63	0.25
2500.00	0.65	173.24	2499.73	-18.74	-22.22	-18.74	29.07	229.85	0.08
2600.00	0.75	155.04	2599.72	-19.90	-21.88	-19.90	29.57	227.71	0.24
2700.00	0.86	142.85	2699.71	-21.08	-21.15	-21.08	29.86	225.09	0.20
2800.00	1.16	131.04	2799.70	-22.34	-19.94	-22.34	29.95	221.75	0.36
2900.00	1.32	111.17	2899.67	-23.42	-18.10	-23.42	29.60	217.70	0.46
3000.00	1.67	104.52	2999.64	-24.20	-15.62	-24.20	28.81	212.83	0.39
3100.00	2.09	103.65	3099.59	-25.00	-12.44	-25.00	27.92	206.46	0.42
3200.00	2.18	84.69	3199.52	-25.25	-8.78	-25.25	26.73	199.17	0.71
3300.00	2.42	82.73	3299.44	-24.81	-4.79	-24.81	25.27	190.93	0.26
3400.00	2.52	84.28	3399.34	-24.32	-0.51	-24.32	24.33	181.21	0.12
3500.00	2.78	87.73	3499.24	-24.01	4.09	-24.01	24.35	170.33	0.31
3600.00	2.56	82.08	3599.13	-23.60	8.72	-23.60	25.16	159.72	0.34
3700.00	1.72	73.13	3699.06	-22.86	12.37	-22.86	25.99	151.59	0.90
3800.00	1.93	64.94	3799.01	-21.71	15.33	-21.71	26.58	144.77	0.34
3900.00	1.90	71.11	3898.95	-20.46	18.43	-20.46	27.54	137.99	0.21
4000.00	2.03	59.34	3998.89	-19.02	21.52	-19.02	28.72	131.47	0.42
4100.00	1.98	59.86	4098.83	-17.25	24.53	-17.25	29.99	125.12	0.05
4200.00	2.18	55.63	4198.77	-15.32	27.59	-15.32	31.56	119.04	0.25
4300.00	2.13	50.81	4298.70	-13.07	30.60	-13.07	33.27	113.13	0.19
4400.00	2.37	56.19	4398.62	-10.75	33.75	-10.75	35.42	107.66	0.32
4500.00	2.30	55.79	4498.54	-8.47	37.14	-8.47	38.09	102.84	0.07
4600.00	2.36	51.01	4598.45	-6.04	40.40	-6.04	40.84	98.51	0.20
4700.00	2.41	54.10	4698.37	-3.51	43.70	-3.51	43.84	94.60	0.14
4800.00	2.42	55.72	4798.28	-1.09	47.15	-1.09	47.16	91.32	0.07
4900.00	2.47	49.03	4898.19	1.51	50.52	1.51	50.54	88.29	0.29
5000.00	2.40	50.68	4998.10	4.25	53.77	4.25	53.94	85.48	0.10
5100.00	2.61	48.02	5098.00	7.10	57.08	7.10	57.52	82.91	0.24
5200.00	2.31	55.24	5197.91	9.78	60.44	9.78	61.22	80.81	0.43
5300.00	2.54	59.10	5297.82	12.07	63.99	12.07	65.12	79.32	0.28
5400.00	2.39	54.08	5397.73	14.42	67.58	14.42	69.10	77.95	0.26
5500.00	2.12	59.55	5497.65	16.58	70.85	16.58	72.77	76.83	0.34

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	1.97	62.93	5597.59	18.30	73.97	18.30	76.20	76.11	0.19
5700.00	2.29	67.37	5697.52	19.85	77.34	19.85	79.85	75.61	0.36
5800.00	2.24	66.06	5797.44	21.41	80.97	21.41	83.76	75.19	0.07
5900.00	2.10	68.99	5897.37	22.86	84.47	22.86	87.51	74.86	0.17
6000.00	2.20	62.94	5997.30	24.39	87.90	24.39	91.22	74.49	0.25
6100.00	2.16	72.52	6097.23	25.83	91.40	25.83	94.98	74.22	0.37
6200.00	2.25	66.48	6197.15	27.18	94.99	27.18	98.81	74.04	0.25
6300.00	2.08	70.55	6297.08	28.56	98.50	28.56	102.56	73.83	0.23
6400.00	1.96	72.35	6397.02	29.68	101.84	29.68	106.08	73.75	0.14
6500.00	2.04	70.79	6496.96	30.79	105.15	30.79	109.57	73.68	0.10
6600.00	1.77	69.46	6596.90	31.92	108.28	31.92	112.88	73.58	0.28
6700.00	1.57	63.19	6696.86	33.07	110.94	33.07	115.76	73.40	0.27
6800.00	1.65	62.65	6796.82	34.35	113.44	34.35	118.52	73.15	0.09
6900.00	1.40	68.43	6896.79	35.46	115.85	35.46	121.15	72.98	0.30
7000.00	1.21	69.44	6996.76	36.28	117.97	36.28	123.42	72.91	0.18
7100.00	1.42	72.57	7096.73	37.02	120.15	37.02	125.72	72.87	0.22
7200.00	0.99	70.11	7196.71	37.69	122.15	37.69	127.83	72.85	0.43
7300.00	1.18	87.38	7296.69	38.03	123.99	38.03	129.69	72.95	0.38
7400.00	0.84	88.93	7396.68	38.09	125.76	38.09	131.40	73.15	0.34
7500.00	0.52	90.56	7496.67	38.10	126.95	38.10	132.54	73.29	0.32
7600.00	0.79	96.90	7596.66	38.01	128.09	38.01	133.62	73.47	0.28
7700.00	0.27	123.15	7696.66	37.80	128.98	37.80	134.41	73.67	0.56
7800.00	0.23	141.19	7796.66	37.51	129.31	37.51	134.64	73.82	0.09
7900.00	0.39	152.54	7896.66	37.06	129.59	37.06	134.78	74.04	0.16
8000.00	0.20	179.77	7996.65	36.59	129.74	36.59	134.80	74.25	0.23
8100.00	0.17	236.42	8096.65	36.33	129.62	36.33	134.62	74.34	0.18
8200.00	0.45	256.42	8196.65	36.16	129.11	36.16	134.08	74.36	0.29
8300.00	0.42	265.53	8296.65	36.04	128.37	36.04	133.33	74.32	0.08
8400.00	0.55	280.45	8396.65	36.09	127.53	36.09	132.54	74.20	0.18
8500.00	0.77	267.82	8496.64	36.15	126.39	36.15	131.46	74.04	0.27
8600.00	0.79	271.19	8596.63	36.14	125.02	36.14	130.14	73.88	0.05
8700.00	0.78	278.46	8696.62	36.26	123.66	36.26	128.87	73.66	0.10
8800.00	1.02	288.14	8796.61	36.64	122.14	36.64	127.52	73.30	0.28
8900.00	0.78	287.97	8896.60	37.12	120.65	37.12	126.23	72.90	0.24
9000.00	0.97	286.05	8996.58	37.57	119.18	37.57	124.96	72.50	0.19
9100.00	0.92	301.34	9096.57	38.22	117.68	38.22	123.73	72.01	0.26
9200.00	0.94	303.36	9196.56	39.09	116.30	39.09	122.70	71.42	0.04
9300.00	1.25	292.44	9296.54	39.96	114.61	39.96	121.37	70.78	0.37
9400.00	1.11	274.84	9396.52	40.46	112.63	40.46	119.68	70.24	0.39

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
9500.00	1.42	280.43	9496.49	40.77	110.44	40.77	117.72	69.74	0.33
9600.00	1.52	295.33	9596.46	41.56	108.02	41.56	115.74	68.96	0.39
9700.00	1.90	307.15	9696.42	43.12	105.50	43.12	113.98	67.77	0.52
9800.00	1.43	315.50	9796.37	45.01	103.31	45.01	112.69	66.46	0.53
9900.00	1.35	354.17	9896.35	47.07	102.31	47.07	112.62	65.29	0.92
10000.00	1.05	2.94	9996.32	49.17	102.24	49.17	113.45	64.32	0.35
10100.00	0.78	14.43	10096.31	50.75	102.46	50.75	114.34	63.65	0.33
10200.00	0.59	30.61	10196.30	51.85	102.89	51.85	115.22	63.25	0.27
10300.00	0.93	68.21	10296.30	52.60	103.91	52.60	116.46	63.15	0.59
10400.00	0.59	80.97	10396.29	52.98	105.18	52.98	117.77	63.26	0.38
10500.00	0.59	100.00	10496.28	52.97	106.20	52.97	118.68	63.49	0.20
10600.00	0.62	137.34	10596.28	52.49	107.07	52.49	119.24	63.89	0.39



VES Survey International
West Texas
(432) 563-5444
Surveyor: Gene Heiss
Stratosphere 36 State Com 5H / API 30-025-42036



VES Survey Date: 6/10/2015



COG Operating LLC.

Lea County, NM

Stratosphere 36 State

#5H

OH

Survey: MWD #1

Survey Report - Geographic

18 June, 2015



Wellplanning Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County, NM	TVD Reference:	WELL @ 3765.4usft (Original Well Elev)
Site:	Stratosphere 36 State	MD Reference:	WELL @ 3765.4usft (Original Well Elev)
Well:	#5H	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	Stratosphere 36 State		
Site Position:		Northing:	559,736.10 usft
From:	Map	Easting:	750,367.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 32' 10.316 N
		Longitude:	103° 31' 15.355 W
		Grid Convergence:	0.44 °

Well	#5H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 32' 10.320 N
		Longitude:	103° 30' 53.517 W
		Ground Level:	3,748.4 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	5/22/2015	7.10
			Dip Angle
			(°)
			60.38
			Field Strength
			(nT)
			48,413

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
			(°)
			181.68

Survey Program	Date 6/18/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
10,792.0	15,929.0	MWD #1 (OH)	MWD
			Description
			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)		
10,600.0	0.62	137.34	10,596.3	52.5	107.1	559,803.28	752,343.71	32° 32' 10.831 N	103° 30' 52.262 W
10,792.0	0.70	144.00	10,788.3	50.8	108.5	559,801.57	752,345.11	32° 32' 10.814 N	103° 30' 52.245 W
10,828.0	1.10	152.60	10,824.3	50.3	108.8	559,801.09	752,345.40	32° 32' 10.809 N	103° 30' 52.242 W
10,860.0	4.00	170.70	10,856.2	48.9	109.1	559,799.71	752,345.72	32° 32' 10.795 N	103° 30' 52.239 W
10,892.0	7.80	182.00	10,888.0	45.6	109.2	559,796.44	752,345.82	32° 32' 10.763 N	103° 30' 52.238 W
10,924.0	11.40	190.00	10,919.6	40.4	108.6	559,791.15	752,345.20	32° 32' 10.711 N	103° 30' 52.245 W
10,956.0	15.20	191.20	10,950.7	33.1	107.2	559,783.92	752,343.83	32° 32' 10.639 N	103° 30' 52.262 W
10,987.0	20.00	191.10	10,980.3	23.9	105.4	559,774.73	752,342.02	32° 32' 10.548 N	103° 30' 52.284 W
11,019.0	24.80	190.30	11,009.9	11.9	103.2	559,762.75	752,339.77	32° 32' 10.430 N	103° 30' 52.311 W
11,051.0	26.40	192.40	11,038.7	-1.6	100.4	559,749.19	752,337.04	32° 32' 10.296 N	103° 30' 52.344 W
11,083.0	29.20	190.20	11,067.0	-16.2	97.5	559,734.56	752,334.13	32° 32' 10.152 N	103° 30' 52.380 W
11,115.0	33.30	189.30	11,094.4	-32.6	94.7	559,718.20	752,331.32	32° 32' 9.990 N	103° 30' 52.414 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County, NM	TVD Reference:	WELL @ 3765.4usft (Original Well Elev)
Site:	Stratosphere 36 State	MD Reference:	WELL @ 3765.4usft (Original Well Elev)
Well:	#5H	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
11,147.0	35.40	190.80	11,120.8	-50.4	91.6	559,700.43	752,328.17	32° 32' 9.814 N	103° 30' 52.452 W
11,179.0	36.50	191.90	11,146.7	-68.8	87.9	559,682.01	752,324.47	32° 32' 9.632 N	103° 30' 52.497 W
11,211.0	39.10	191.80	11,172.0	-88.0	83.8	559,662.82	752,320.44	32° 32' 9.443 N	103° 30' 52.546 W
11,243.0	42.80	190.90	11,196.1	-108.5	79.7	559,642.26	752,316.32	32° 32' 9.240 N	103° 30' 52.596 W
11,273.0	46.60	188.40	11,217.5	-129.3	76.2	559,621.46	752,312.80	32° 32' 9.034 N	103° 30' 52.639 W
11,305.0	51.30	188.80	11,238.5	-153.2	72.6	559,597.60	752,309.19	32° 32' 8.798 N	103° 30' 52.683 W
11,337.0	56.10	186.90	11,257.4	-178.7	69.1	559,572.06	752,305.68	32° 32' 8.546 N	103° 30' 52.727 W
11,369.0	61.90	185.20	11,273.9	-206.0	66.2	559,544.80	752,302.80	32° 32' 8.276 N	103° 30' 52.763 W
11,400.0	68.40	184.30	11,286.9	-234.0	63.9	559,516.78	752,300.48	32° 32' 7.999 N	103° 30' 52.792 W
11,432.0	75.20	183.70	11,296.9	-264.3	61.8	559,486.47	752,298.37	32° 32' 7.700 N	103° 30' 52.820 W
11,461.0	81.00	183.70	11,302.9	-292.6	59.9	559,458.17	752,296.54	32° 32' 7.420 N	103° 30' 52.844 W
11,493.0	84.90	184.50	11,306.8	-324.3	57.7	559,426.50	752,294.26	32° 32' 7.106 N	103° 30' 52.873 W
11,589.0	87.70	184.50	11,313.0	-419.8	50.2	559,331.00	752,286.75	32° 32' 6.162 N	103° 30' 52.969 W
11,684.0	89.40	182.70	11,315.4	-514.6	44.2	559,236.23	752,280.79	32° 32' 5.225 N	103° 30' 53.048 W
11,780.0	88.50	181.50	11,317.2	-610.5	40.7	559,140.31	752,277.27	32° 32' 4.276 N	103° 30' 53.097 W
11,876.0	88.20	179.90	11,319.9	-706.4	39.5	559,044.36	752,276.10	32° 32' 3.327 N	103° 30' 53.120 W
11,971.0	84.80	178.80	11,325.7	-801.2	40.6	558,949.56	752,277.17	32° 32' 2.388 N	103° 30' 53.115 W
12,022.0	86.70	178.80	11,329.5	-852.1	41.6	558,898.71	752,278.24	32° 32' 1.885 N	103° 30' 53.108 W
12,067.0	85.50	178.20	11,332.6	-897.0	42.8	558,853.83	752,279.41	32° 32' 1.441 N	103° 30' 53.098 W
12,162.0	87.50	177.90	11,338.4	-991.7	46.0	558,759.07	752,282.64	32° 32' 0.503 N	103° 30' 53.069 W
12,258.0	89.00	177.30	11,341.3	-1,087.6	50.1	558,663.20	752,286.66	32° 31' 59.554 N	103° 30' 53.030 W
12,353.0	91.10	176.80	11,341.2	-1,182.5	54.9	558,568.33	752,291.55	32° 31' 58.615 N	103° 30' 52.982 W
12,449.0	90.80	178.00	11,339.6	-1,278.4	59.3	558,472.45	752,295.90	32° 31' 57.666 N	103° 30' 52.940 W
12,545.0	89.60	178.80	11,339.3	-1,374.3	62.0	558,376.49	752,298.58	32° 31' 56.716 N	103° 30' 52.917 W
12,641.0	89.50	180.10	11,340.0	-1,470.3	62.9	558,280.50	752,299.50	32° 31' 55.766 N	103° 30' 52.915 W
12,736.0	88.60	181.00	11,341.6	-1,565.3	62.0	558,185.52	752,298.59	32° 31' 54.827 N	103° 30' 52.934 W
12,832.0	88.40	182.80	11,344.1	-1,661.2	58.8	558,089.61	752,295.41	32° 31' 53.878 N	103° 30' 52.980 W
12,928.0	88.00	183.10	11,347.1	-1,757.0	53.9	557,993.78	752,290.47	32° 31' 52.930 N	103° 30' 53.046 W
13,024.0	89.10	183.30	11,349.6	-1,852.8	48.5	557,897.96	752,285.11	32° 31' 51.982 N	103° 30' 53.117 W
13,119.0	88.40	182.80	11,351.6	-1,947.7	43.5	557,803.12	752,280.06	32° 31' 51.044 N	103° 30' 53.185 W
13,213.0	86.30	182.80	11,356.0	-2,041.5	38.9	557,709.34	752,275.47	32° 31' 50.117 N	103° 30' 53.247 W
13,308.0	86.80	182.80	11,361.7	-2,136.2	34.2	557,614.63	752,270.84	32° 31' 49.180 N	103° 30' 53.309 W
13,403.0	88.20	182.90	11,365.8	-2,231.0	29.5	557,519.84	752,266.12	32° 31' 48.242 N	103° 30' 53.373 W
13,498.0	89.70	182.50	11,367.6	-2,325.8	25.1	557,424.96	752,261.65	32° 31' 47.304 N	103° 30' 53.434 W
13,592.0	91.30	182.10	11,366.8	-2,419.8	21.3	557,331.04	752,257.87	32° 31' 46.375 N	103° 30' 53.486 W
13,687.0	90.20	182.20	11,365.5	-2,514.7	17.7	557,236.12	752,254.31	32° 31' 45.436 N	103° 30' 53.536 W
13,782.0	88.40	182.80	11,366.7	-2,609.6	13.6	557,141.22	752,250.17	32° 31' 44.497 N	103° 30' 53.593 W
13,877.0	88.40	185.20	11,369.3	-2,704.3	6.9	557,046.50	752,243.54	32° 31' 43.560 N	103° 30' 53.679 W
13,972.0	89.90	185.50	11,370.7	-2,798.9	-1.9	556,951.92	752,234.69	32° 31' 42.625 N	103° 30' 53.791 W
14,067.0	89.20	184.70	11,371.5	-2,893.5	-10.4	556,857.30	752,226.24	32° 31' 41.690 N	103° 30' 53.898 W
14,162.0	89.10	184.00	11,372.9	-2,988.2	-17.6	556,762.59	752,219.04	32° 31' 40.753 N	103° 30' 53.991 W
14,257.0	87.10	184.10	11,376.0	-3,082.9	-24.3	556,667.88	752,212.33	32° 31' 39.816 N	103° 30' 54.077 W
14,352.0	87.40	184.00	11,380.6	-3,177.6	-31.0	556,573.23	752,205.63	32° 31' 38.880 N	103° 30' 54.164 W
14,446.0	88.80	183.90	11,383.7	-3,271.3	-37.4	556,479.51	752,199.16	32° 31' 37.953 N	103° 30' 54.248 W
14,541.0	86.50	184.10	11,387.6	-3,366.0	-44.1	556,384.82	752,192.54	32° 31' 37.017 N	103° 30' 54.334 W
14,636.0	86.60	183.40	11,393.3	-3,460.6	-50.3	556,290.20	752,186.34	32° 31' 36.081 N	103° 30' 54.415 W
14,731.0	87.70	182.90	11,398.1	-3,555.3	-55.5	556,195.46	752,181.12	32° 31' 35.144 N	103° 30' 54.484 W
14,826.0	89.20	182.40	11,400.6	-3,650.2	-59.9	556,100.60	752,176.73	32° 31' 34.206 N	103° 30' 54.544 W
14,922.0	88.00	182.90	11,403.0	-3,746.1	-64.3	556,004.73	752,172.30	32° 31' 33.258 N	103° 30' 54.605 W
15,015.0	88.90	182.30	11,405.5	-3,838.9	-68.5	555,911.87	752,168.08	32° 31' 32.339 N	103° 30' 54.662 W
15,109.0	88.30	182.30	11,407.8	-3,932.8	-72.3	555,817.97	752,164.31	32° 31' 31.410 N	103° 30' 54.715 W
15,204.0	87.10	182.40	11,411.6	-4,027.7	-76.2	555,723.13	752,160.42	32° 31' 30.472 N	103° 30' 54.769 W
15,299.0	88.10	182.50	11,415.6	-4,122.5	-80.2	555,628.30	752,156.36	32° 31' 29.534 N	103° 30' 54.824 W
15,394.0	85.00	182.60	11,421.3	-4,217.2	-84.5	555,533.58	752,152.14	32° 31' 28.597 N	103° 30' 54.882 W
15,490.0	85.10	182.70	11,429.6	-4,312.8	-88.9	555,438.04	752,147.72	32° 31' 27.652 N	103° 30' 54.942 W



Wellplanning
Survey Report - Geographic

Company:	COG Operating LLC.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County, NM	TVD Reference:	WELL @ 3765.4usft (Original Well Elev)
Site:	Stratosphere 36 State	MD Reference:	WELL @ 3765.4usft (Original Well Elev)
Well:	#5H	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
15,585.0	86.50	181.80	11,436.5	-4,407.4	-92.6	555,343.37	752,144.00	32° 31' 26.716 N	103° 30' 54.994 W
15,677.0	87.80	181.70	11,441.1	-4,499.3	-95.4	555,251.53	752,141.19	32° 31' 25.807 N	103° 30' 55.035 W
15,772.0	89.10	181.40	11,443.7	-4,594.2	-98.0	555,156.60	752,138.62	32° 31' 24.868 N	103° 30' 55.074 W
15,878.0	91.00	180.60	11,443.6	-4,700.2	-99.8	555,050.62	752,136.77	32° 31' 23.820 N	103° 30' 55.105 W
15,929.0	91.00	180.60	11,442.7	-4,751.2	-100.4	554,999.63	752,136.24	32° 31' 23.315 N	103° 30' 55.116 W
PBHL(ST36St#5H)									

Checked By: _____ Approved By: _____ Date: _____