

Results of Directional Survey

API number:	30-025-40953		
OGRID:		Operator:	COG OPERATING LLC
		Property:	CORAZON STATE UNIT # 11H

surface	ULSTR:	C	04	T 21S	R 33E
				480 FNL	2590 FWL

BH Loc	ULSTR:	✓	04	T 21S	R 33E
18503	MD	11539.1	TVD	307 FSL	2032 FWL
				7581 FNL	

7888

Top Perf/OH	ULSTR:	C	04	T 21S	R 33E
11642	MD	11443.2	TVD	774 FNL	2320 FWL

Bot Perf/OH	ULSTR:	✓	04	T 21S	R 33E
18250	MD	11550.1	TVD	560 FSL	2024 FWL
				7328 FNL	

	MD	N/S	E/W	VD
	11617	-274.40	-256.00	11436.1
TOP PERFS/OH	11642	-293.98	-269.75	11443.18
	11647	-297.90	-272.50	11444.60
	18239	-6837.50	-566.10	11550.40
BOT PERFS/OH	18250	-6848.49	-565.96	11550.13
	18331	-6929.40	-564.90	11548.10

NEXT TO LAST	18423.00	-7021.30	-561.80	11543.90
LAST READING	18470.00	-7068.20	-559.70	11541.10
TD	✓ 18503	-7101.13	-558.23	11539.13

Surface Location	480	FN	2590	FW
Projected BHL	7581	FN	2032	FW
Location of				
Top Perfs/OH	774	FN	2320	FW
Bottom Perfs/OH	7328	FN	2024	FW

SUMMARY of Subsurface Locations

Surface Location	C-04-21S-33E	480	FN	2590	FW	Vert. Depth
Top Perfs/OH	C-04-21S-33E	774	FN	2320	FW	11443.18
Bottom Perfs/OH	V-04-21S-33E	7328	FN	2024	FW	11550.13
Projected TD	V-04-21S-33E	7581	FN	2032	FW	11539.13



July 18, 2014

HOBBS OCD

NOV 14 2014

RECEIVED

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

Attn: Kanicia Castillo

RE: **Corazon State Unit No. 011H**

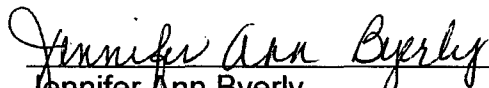
Please find enclosed a copy of the survey from 0.00' to 10873.00' ran on the above referenced well.

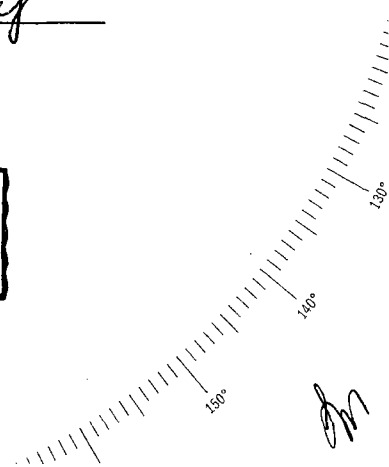
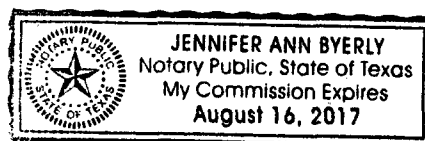
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 18 day of July,
A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas



Company: COG OPERATING, LLC (CONCHO)
Lease/Well: CORAZON STATE UNIT/No. 011H



Rig Name: PRECISION DRILLING #590
State/County: NEW MEXICO/LEA
Latitude: 32.51, Longitude: -103.59
GRID North is 0.40 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : 25 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 7/18/2014 / 09:46

VES Survey International
West Texas
(432) 563-5444
Surveyor: Neil Bates
Corazon State Unit No. 011H / API 30-025-40953

HOBBS OCD

NOV 14 2014

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	0.09	176.61	100.00	-0.08	0.00	-0.08	0.08	176.61	0.09
200.00	0.25	150.34	200.00	-0.34	0.12	-0.34	0.36	161.17	0.17
300.00	0.26	96.36	300.00	-0.55	0.44	-0.55	0.71	141.06	0.23
400.00	0.31	144.10	400.00	-0.79	0.82	-0.79	1.14	133.85	0.23
500.00	0.12	96.88	500.00	-1.02	1.08	-1.02	1.49	133.33	0.24
600.00	0.12	156.99	600.00	-1.13	1.23	-1.13	1.67	132.73	0.12
700.00	0.32	252.40	700.00	-1.31	1.00	-1.31	1.65	142.61	0.35
800.00	0.47	238.55	799.99	-1.61	0.39	-1.61	1.66	166.31	0.18
900.00	0.47	252.60	899.99	-1.95	-0.35	-1.95	1.98	190.16	0.12
1000.00	0.50	263.42	999.99	-2.12	-1.18	-2.12	2.42	209.01	0.10
1100.00	0.53	237.21	1099.98	-2.42	-2.00	-2.42	3.14	219.57	0.24
1200.00	0.34	204.43	1199.98	-2.95	-2.52	-2.95	3.88	220.50	0.31
1300.00	0.10	240.69	1299.98	-3.26	-2.71	-3.26	4.24	219.77	0.27
1400.00	0.11	109.29	1399.98	-3.34	-2.69	-3.34	4.29	218.93	0.19
1500.00	0.34	100.52	1499.98	-3.42	-2.31	-3.42	4.13	214.06	0.22
1600.00	0.13	54.69	1599.98	-3.41	-1.93	-3.41	3.92	209.56	0.26
1700.00	0.13	39.35	1699.98	-3.26	-1.77	-3.26	3.71	208.53	0.03
1800.00	0.26	64.30	1799.98	-3.07	-1.49	-3.07	3.42	205.93	0.16

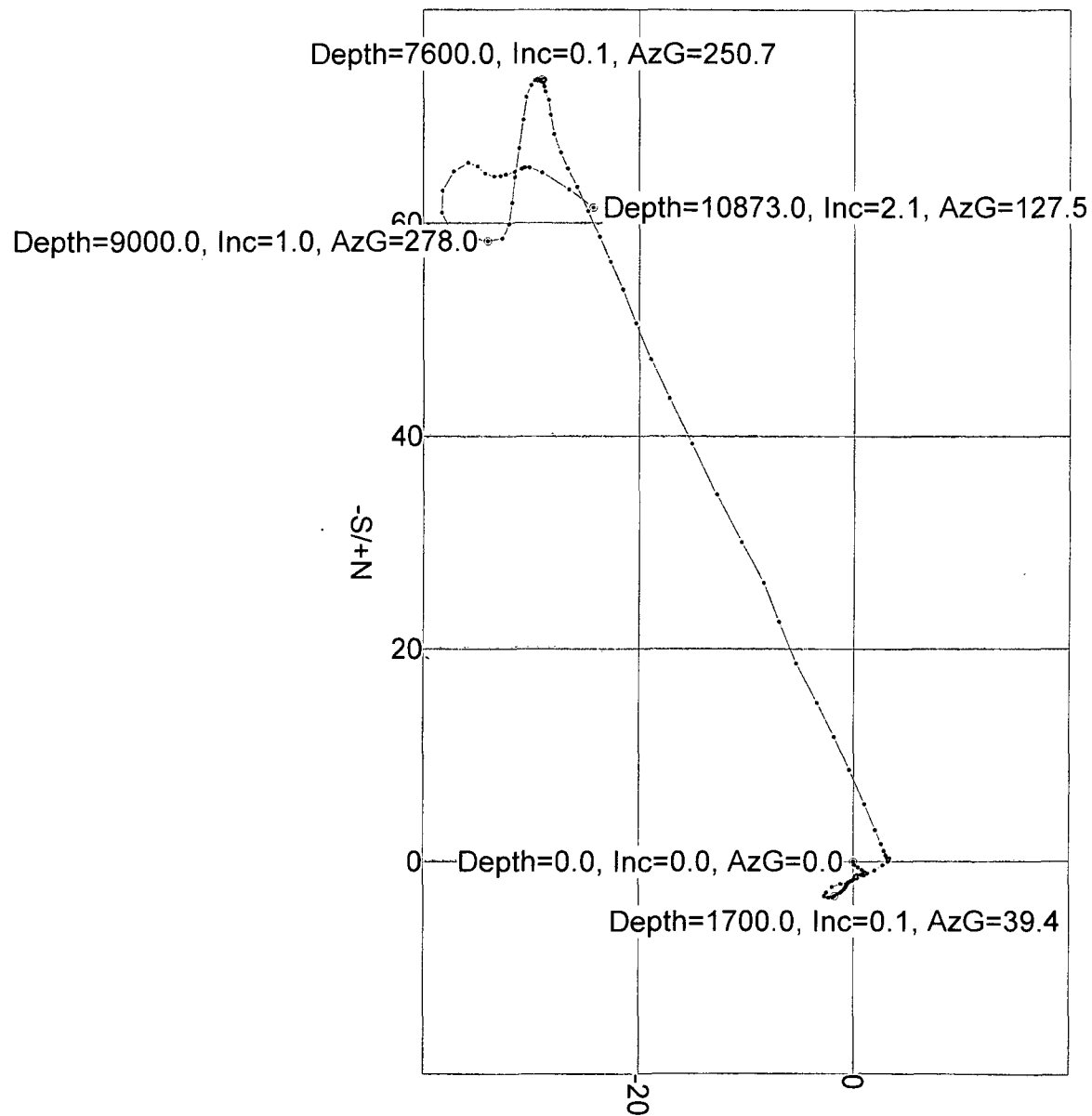
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.11	67.13	1899.98	-2.94	-1.20	-2.94	3.17	202.21	0.15
2000.00	0.12	40.46	1999.98	-2.82	-1.04	-2.82	3.00	200.28	0.05
2100.00	0.18	47.56	2099.98	-2.63	-0.86	-2.63	2.77	198.07	0.06
2200.00	0.10	12.33	2199.98	-2.45	-0.73	-2.45	2.55	196.56	0.11
2300.00	0.12	30.67	2299.98	-2.28	-0.66	-2.28	2.37	196.11	0.04
2400.00	0.00	151.44	2399.98	-2.19	-0.61	-2.19	2.28	195.43	0.12
2500.00	0.08	15.26	2499.98	-2.13	-0.59	-2.13	2.21	195.39	0.08
2600.00	0.18	55.07	2599.97	-1.97	-0.44	-1.97	2.02	192.47	0.13
2700.00	0.16	76.53	2699.97	-1.85	-0.17	-1.85	1.86	185.26	0.07
2800.00	0.10	42.85	2799.97	-1.75	0.02	-1.75	1.75	179.20	0.09
2900.00	0.12	31.99	2899.97	-1.59	0.14	-1.59	1.60	174.92	0.03
3000.00	0.13	15.65	2999.97	-1.39	0.23	-1.39	1.41	170.63	0.04
3100.00	0.14	87.68	3099.97	-1.28	0.38	-1.28	1.33	163.41	0.16
3200.00	0.30	85.66	3199.97	-1.25	0.76	-1.25	1.46	148.85	0.16
3300.00	0.35	75.37	3299.97	-1.16	1.31	-1.16	1.75	131.41	0.08
3400.00	0.51	59.35	3399.97	-0.85	1.99	-0.85	2.16	113.26	0.19
3500.00	0.53	55.56	3499.96	-0.37	2.75	-0.37	2.77	97.65	0.04
3600.00	0.13	44.72	3599.96	-0.03	3.20	-0.03	3.20	90.54	0.40
3700.00	0.10	9.11	3699.96	0.13	3.29	0.13	3.30	87.72	0.07
3800.00	0.12	13.70	3799.96	0.31	3.33	0.31	3.34	84.64	0.02
3900.00	0.10	178.69	3899.96	0.32	3.36	0.32	3.37	84.49	0.21
4000.00	0.12	279.14	3999.96	0.25	3.26	0.25	3.27	85.54	0.17
4100.00	0.07	339.53	4099.96	0.33	3.13	0.33	3.15	83.97	0.10
4200.00	0.25	330.81	4199.96	0.58	3.01	0.58	3.06	79.11	0.17
4300.00	0.27	342.90	4299.96	0.99	2.83	0.99	3.00	70.74	0.06
4400.00	0.55	335.19	4399.96	1.65	2.56	1.65	3.05	57.21	0.29
4500.00	1.08	339.89	4499.95	2.97	2.04	2.97	3.60	34.40	0.54
4600.00	1.96	335.97	4599.91	5.42	1.01	5.42	5.52	10.57	0.89
4700.00	2.06	336.35	4699.85	8.64	-0.41	8.64	8.65	357.30	0.10
4800.00	1.84	335.53	4799.79	11.75	-1.79	11.75	11.88	351.32	0.23
4900.00	2.27	331.80	4899.73	14.95	-3.39	14.95	15.33	347.21	0.45
5000.00	2.51	333.01	4999.64	18.65	-5.32	18.65	19.39	344.07	0.25
5100.00	2.36	342.36	5099.55	22.56	-6.94	22.56	23.60	342.90	0.42
5200.00	2.17	334.33	5199.47	26.23	-8.38	26.23	27.54	342.27	0.37
5300.00	2.81	328.83	5299.38	30.03	-10.47	30.03	31.81	340.78	0.68
5400.00	2.98	335.73	5399.25	34.50	-12.81	34.50	36.80	339.63	0.39
5500.00	3.09	332.68	5499.11	39.27	-15.11	39.27	42.08	338.95	0.19
5600.00	2.41	335.33	5598.99	43.57	-17.23	43.57	46.85	338.43	0.70
5700.00	2.18	334.48	5698.91	47.19	-18.92	47.19	50.84	338.15	0.23

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
5800.00	2.06	341.67	5798.85	50.61	-20.31	50.61	54.53	338.14	0.29
5900.00	1.84	335.31	5898.79	53.77	-21.54	53.77	57.93	338.17	0.31
6000.00	1.42	337.20	5998.75	56.37	-22.69	56.37	60.76	338.07	0.42
6100.00	1.51	335.73	6098.71	58.71	-23.71	58.71	63.32	338.01	0.10
6200.00	1.49	338.48	6198.68	61.11	-24.73	61.11	65.93	337.97	0.07
6300.00	1.34	333.28	6298.65	63.37	-25.73	63.37	68.39	337.90	0.19
6400.00	0.88	333.30	6398.63	65.10	-26.60	65.10	70.33	337.77	0.47
6500.00	1.01	339.42	6498.62	66.61	-27.26	66.61	71.97	337.75	0.16
6600.00	1.12	339.21	6598.60	68.35	-27.91	68.35	73.83	337.79	0.11
6700.00	1.02	2.62	6698.58	70.15	-28.22	70.15	75.61	338.09	0.44
6800.00	0.64	335.92	6798.57	71.54	-28.40	71.54	76.97	338.35	0.53
6900.00	0.32	350.30	6898.57	72.33	-28.68	72.33	77.81	338.37	0.33
7000.00	0.25	348.13	6998.57	72.82	-28.77	72.82	78.29	338.44	0.08
7100.00	0.16	337.28	7098.57	73.15	-28.87	73.15	78.64	338.46	0.09
7200.00	0.02	29.88	7198.57	73.29	-28.91	73.29	78.79	338.47	0.15
7300.00	0.17	69.09	7298.57	73.36	-28.77	73.36	78.80	338.59	0.16
7400.00	0.10	307.68	7398.57	73.46	-28.69	73.46	78.87	338.66	0.24
7500.00	0.09	254.24	7498.57	73.49	-28.84	73.49	78.95	338.57	0.09
7600.00	0.06	250.72	7598.57	73.45	-28.97	73.45	78.96	338.47	0.03
7700.00	0.15	257.06	7698.57	73.41	-29.15	73.41	78.98	338.34	0.08
7800.00	0.15	263.75	7798.57	73.36	-29.40	73.36	79.04	338.16	0.02
7900.00	0.14	55.79	7898.57	73.42	-29.43	73.42	79.10	338.16	0.29
8000.00	0.12	275.56	7998.57	73.50	-29.43	73.50	79.18	338.18	0.25
8100.00	0.18	212.17	8098.57	73.38	-29.62	73.38	79.13	338.01	0.17
8200.00	0.48	222.61	8198.56	72.93	-29.99	72.93	78.86	337.65	0.30
8300.00	0.94	191.07	8298.56	71.82	-30.43	71.82	78.00	337.04	0.59
8400.00	1.52	187.25	8398.53	69.70	-30.76	69.70	76.18	336.19	0.59
8500.00	1.59	188.00	8498.50	67.00	-31.12	67.00	73.88	335.09	0.07
8600.00	1.54	187.85	8598.46	64.30	-31.50	64.30	71.60	333.90	0.05
8700.00	1.23	184.05	8698.43	61.90	-31.76	61.90	69.57	332.84	0.33
8800.00	1.11	190.97	8798.41	59.88	-32.01	59.88	67.90	331.87	0.18
8900.00	0.70	232.66	8898.40	58.56	-32.69	58.56	67.07	330.83	0.75
9000.00	0.98	278.01	8998.39	58.31	-34.02	58.31	67.51	329.74	0.70
9100.00	0.57	285.20	9098.38	58.56	-35.35	58.56	68.40	328.88	0.42
9200.00	0.88	293.57	9198.37	59.00	-36.54	59.00	69.39	328.23	0.33
9300.00	0.64	312.63	9298.36	59.68	-37.65	59.68	70.57	327.75	0.35
9400.00	1.09	348.13	9398.35	60.99	-38.26	60.99	72.00	327.90	0.68
9500.00	1.29	13.06	9498.33	63.02	-38.20	63.02	73.69	328.78	0.55
9600.00	1.22	47.02	9598.31	64.84	-37.17	64.84	74.73	330.18	0.73

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
9700.00	0.64	81.16	9698.29	65.65	-35.83	65.65	74.79	331.37	0.78
9800.00	0.60	141.83	9798.29	65.32	-34.95	65.32	74.09	331.85	0.63
9900.00	0.54	125.03	9898.28	64.64	-34.24	64.64	73.15	332.09	0.18
10000.00	0.50	89.51	9998.28	64.37	-33.42	64.37	72.53	332.56	0.32
10100.00	0.18	75.42	10098.28	64.41	-32.83	64.41	72.30	333.00	0.33
10200.00	0.40	74.02	10198.28	64.55	-32.34	64.55	72.20	333.39	0.21
10300.00	0.60	69.48	10298.27	64.83	-31.52	64.83	72.08	334.07	0.21
10400.00	0.18	63.56	10398.27	65.08	-30.89	65.08	72.04	334.61	0.42
10500.00	0.18	70.51	10498.27	65.20	-30.60	65.20	72.03	334.85	0.02
10600.00	0.34	100.20	10598.27	65.20	-30.17	65.20	71.84	335.17	0.20
10700.00	1.12	115.09	10698.26	64.73	-28.99	64.73	70.93	335.88	0.80
10800.00	2.30	126.36	10798.21	63.13	-26.49	63.13	68.46	337.24	1.22
10873.00	2.09	127.50	10871.16	61.45	-24.25	61.45	66.06	338.46	0.28



VES Survey International
West Texas
(432) 563-5444
Surveyor: Neil Bates
Corazon State Unit No. 011H / API 30-025-40953



V.E.S. Survey Date: 07/09/2014

HOBBS OCD

NOV 14 2014

RECEIVED

COG Operating, LLC.

Lea County, N.M.

Section 4 T21-S R33-E Corazon State Unit #11H

Corazon State Unit #11H

Original Hole

Design: Original Hole

Survey Report - Geographic

18 July, 2014

gm

Stryker Directional Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Corazon State Unit #11H
Project:	Lea County, N.M.	TVD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Site:	Section 4 T21-S R33-E Corazon State Unit #11H	MD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Well:	Corazon State Unit #11H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Project	Lea County, N.M.		
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	Section 4 T21-S R33-E Corazon State Unit #11H		
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Site Position:		Northing:	554,036.40 usft	Latitude:	32° 31' 15.178 N
From:	Map	Easting:	733,054.20 usft	Longitude:	103° 34' 38.051 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well	Corazon State Unit #11H				
Well Position	+N/-S	0.0 usft	Northing:	554,036.40 usft	Latitude: 32° 31' 15.178 N
	+E/-W	0.0 usft	Easting:	733,054.20 usft	Longitude: 103° 34' 38.051 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level: 3,798.2 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/12/2014	7.24	60.39	48,492

Design	Original Hole				
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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	184.45

Survey Program		Date 7/18/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	10,873.0	VES Gyro Survey (Original Hole)	SRG-GYRO-MS	surface readout gyro multishot	
10,985.0	18,470.0	Stryker MWD Survey (Original Hole)	MWD	MWD - Standard	

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	554,036.40	733,054.20	32° 31' 15.178 N	103° 34' 38.051 W
100.0	0.09	176.61	100.0	-0.1	0.0	554,036.32	733,054.20	32° 31' 15.178 N	103° 34' 38.051 W
200.0	0.25	150.34	200.0	-0.3	0.1	554,036.06	733,054.31	32° 31' 15.175 N	103° 34' 38.050 W
300.0	0.26	96.36	300.0	-0.6	0.5	554,035.84	733,054.65	32° 31' 15.173 N	103° 34' 38.046 W
400.0	0.31	144.10	400.0	-0.8	0.8	554,035.60	733,055.03	32° 31' 15.170 N	103° 34' 38.042 W
500.0	0.12	96.88	500.0	-1.0	1.1	554,035.37	733,055.29	32° 31' 15.168 N	103° 34' 38.039 W
600.0	0.12	156.99	600.0	-1.1	1.2	554,035.26	733,055.44	32° 31' 15.167 N	103° 34' 38.037 W
700.0	0.32	252.40	700.0	-1.3	1.0	554,035.08	733,055.21	32° 31' 15.165 N	103° 34' 38.040 W
800.0	0.47	238.55	800.0	-1.6	0.4	554,034.78	733,054.60	32° 31' 15.162 N	103° 34' 38.047 W
900.0	0.47	252.60	900.0	-2.0	-0.3	554,034.44	733,053.86	32° 31' 15.159 N	103° 34' 38.056 W
1,000.0	0.50	263.42	1,000.0	-2.1	-1.2	554,034.27	733,053.03	32° 31' 15.157 N	103° 34' 38.065 W

Stryker Directional Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Corazon State Unit #11H
Project:	Lea County, N.M.	TVD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Site:	Section 4 T21-S R33-E Corazon State Unit #11H	MD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Well:	Corazon State Unit #11H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,100.0	0.53	237.21	1,100.0	-2.4	-2.0	554,033.97	733,052.21	32° 31' 15.155 N	103° 34' 38.075 W
1,200.0	0.34	204.43	1,200.0	-3.0	-2.5	554,033.45	733,051.70	32° 31' 15.149 N	103° 34' 38.081 W
1,300.0	0.10	240.69	1,300.0	-3.3	-2.7	554,033.13	733,051.50	32° 31' 15.146 N	103° 34' 38.083 W
1,400.0	0.11	109.29	1,400.0	-3.3	-2.7	554,033.06	733,051.51	32° 31' 15.146 N	103° 34' 38.083 W
1,500.0	0.34	100.52	1,500.0	-3.4	-2.3	554,032.97	733,051.90	32° 31' 15.145 N	103° 34' 38.079 W
1,600.0	0.13	54.69	1,600.0	-3.4	-1.9	554,032.98	733,052.28	32° 31' 15.145 N	103° 34' 38.074 W
1,700.0	0.13	39.35	1,700.0	-3.3	-1.8	554,033.14	733,052.44	32° 31' 15.146 N	103° 34' 38.072 W
1,800.0	0.26	64.30	1,800.0	-3.1	-1.5	554,033.32	733,052.72	32° 31' 15.148 N	103° 34' 38.069 W
1,900.0	0.11	67.13	1,900.0	-2.9	-1.2	554,033.46	733,053.01	32° 31' 15.149 N	103° 34' 38.065 W
2,000.0	0.12	40.46	2,000.0	-2.8	-1.0	554,033.58	733,053.17	32° 31' 15.151 N	103° 34' 38.064 W
2,100.0	0.18	47.56	2,100.0	-2.6	-0.8	554,033.76	733,053.35	32° 31' 15.152 N	103° 34' 38.061 W
2,200.0	0.10	12.33	2,200.0	-2.4	-0.7	554,033.95	733,053.49	32° 31' 15.154 N	103° 34' 38.060 W
2,300.0	0.12	30.67	2,300.0	-2.3	-0.6	554,034.13	733,053.56	32° 31' 15.156 N	103° 34' 38.059 W
2,400.0	0.00	151.44	2,400.0	-2.2	-0.6	554,034.22	733,053.61	32° 31' 15.157 N	103° 34' 38.058 W
2,500.0	0.08	15.26	2,500.0	-2.1	-0.6	554,034.29	733,053.63	32° 31' 15.158 N	103° 34' 38.058 W
2,600.0	0.18	55.07	2,600.0	-2.0	-0.4	554,034.44	733,053.78	32° 31' 15.159 N	103° 34' 38.056 W
2,700.0	0.16	76.53	2,700.0	-1.8	-0.2	554,034.57	733,054.04	32° 31' 15.160 N	103° 34' 38.053 W
2,800.0	0.10	42.85	2,800.0	-1.7	0.0	554,034.66	733,054.24	32° 31' 15.161 N	103° 34' 38.051 W
2,900.0	0.12	31.99	2,900.0	-1.6	0.2	554,034.82	733,054.35	32° 31' 15.163 N	103° 34' 38.050 W
3,000.0	0.13	15.65	3,000.0	-1.4	0.2	554,035.01	733,054.44	32° 31' 15.165 N	103° 34' 38.049 W
3,100.0	0.14	87.68	3,100.0	-1.3	0.4	554,035.13	733,054.59	32° 31' 15.166 N	103° 34' 38.047 W
3,200.0	0.30	85.66	3,200.0	-1.2	0.8	554,035.15	733,054.98	32° 31' 15.166 N	103° 34' 38.042 W
3,300.0	0.35	75.37	3,300.0	-1.2	1.3	554,035.25	733,055.53	32° 31' 15.167 N	103° 34' 38.036 W
3,400.0	0.51	59.35	3,400.0	-0.8	2.0	554,035.55	733,056.21	32° 31' 15.170 N	103° 34' 38.028 W
3,500.0	0.53	55.56	3,500.0	-0.4	2.8	554,036.04	733,056.98	32° 31' 15.175 N	103° 34' 38.019 W
3,600.0	0.13	44.72	3,600.0	0.0	3.2	554,036.38	733,057.44	32° 31' 15.178 N	103° 34' 38.014 W
3,700.0	0.10	9.11	3,700.0	0.1	3.3	554,036.55	733,057.53	32° 31' 15.180 N	103° 34' 38.012 W
3,800.0	0.12	13.70	3,800.0	0.3	3.4	554,036.74	733,057.57	32° 31' 15.182 N	103° 34' 38.012 W
3,900.0	0.10	178.69	3,900.0	0.4	3.4	554,036.75	733,057.60	32° 31' 15.182 N	103° 34' 38.012 W
4,000.0	0.12	279.14	4,000.0	0.3	3.3	554,036.68	733,057.49	32° 31' 15.181 N	103° 34' 38.013 W
4,100.0	0.07	339.53	4,100.0	0.4	3.2	554,036.76	733,057.37	32° 31' 15.182 N	103° 34' 38.014 W
4,200.0	0.25	330.81	4,200.0	0.6	3.0	554,037.00	733,057.24	32° 31' 15.184 N	103° 34' 38.016 W
4,300.0	0.27	342.90	4,300.0	1.0	2.9	554,037.42	733,057.07	32° 31' 15.188 N	103° 34' 38.018 W
4,400.0	0.55	335.19	4,400.0	1.7	2.6	554,038.08	733,056.80	32° 31' 15.195 N	103° 34' 38.021 W
4,500.0	1.08	339.89	4,499.9	3.0	2.1	554,039.40	733,056.27	32° 31' 15.208 N	103° 34' 38.027 W
4,600.0	1.96	335.97	4,599.9	5.4	1.1	554,041.85	733,055.25	32° 31' 15.232 N	103° 34' 38.039 W
4,700.0	2.06	336.35	4,699.8	8.7	-0.4	554,045.06	733,053.83	32° 31' 15.264 N	103° 34' 38.055 W
4,800.0	1.84	335.53	4,799.8	11.8	-1.8	554,048.16	733,052.45	32° 31' 15.295 N	103° 34' 38.071 W
4,900.0	2.27	331.80	4,899.7	15.0	-3.4	554,051.37	733,050.85	32° 31' 15.327 N	103° 34' 38.089 W
5,000.0	2.51	333.01	4,999.6	18.7	-5.3	554,055.07	733,048.92	32° 31' 15.364 N	103° 34' 38.112 W
5,100.0	2.36	342.36	5,099.5	22.6	-6.9	554,058.98	733,047.30	32° 31' 15.402 N	103° 34' 38.130 W
5,200.0	2.17	334.33	5,199.5	26.2	-8.3	554,062.65	733,045.85	32° 31' 15.439 N	103° 34' 38.147 W
5,300.0	2.81	328.83	5,299.4	30.1	-10.4	554,066.45	733,043.76	32° 31' 15.477 N	103° 34' 38.171 W
5,400.0	2.98	335.73	5,399.2	34.5	-12.8	554,070.92	733,041.43	32° 31' 15.521 N	103° 34' 38.198 W
5,500.0	3.09	332.68	5,499.1	39.3	-15.1	554,075.68	733,039.12	32° 31' 15.568 N	103° 34' 38.224 W
5,600.0	2.41	335.33	5,599.0	43.6	-17.2	554,079.99	733,037.01	32° 31' 15.611 N	103° 34' 38.249 W
5,700.0	2.18	334.48	5,698.9	47.2	-18.9	554,083.62	733,035.31	32° 31' 15.647 N	103° 34' 38.268 W
5,800.0	2.06	341.67	5,798.8	50.6	-20.3	554,087.04	733,033.93	32° 31' 15.681 N	103° 34' 38.284 W
5,900.0	1.84	335.31	5,898.8	53.8	-21.5	554,090.20	733,032.69	32° 31' 15.712 N	103° 34' 38.298 W
6,000.0	1.42	337.20	5,998.7	56.4	-22.7	554,092.80	733,031.54	32° 31' 15.738 N	103° 34' 38.311 W
6,100.0	1.51	335.73	6,098.7	58.7	-23.7	554,095.15	733,030.52	32° 31' 15.761 N	103° 34' 38.323 W
6,200.0	1.49	338.48	6,198.7	61.2	-24.7	554,097.56	733,029.50	32° 31' 15.785 N	103° 34' 38.335 W
6,300.0	1.34	333.28	6,298.6	63.4	-25.7	554,099.81	733,028.50	32° 31' 15.808 N	103° 34' 38.346 W
6,400.0	0.88	333.30	6,398.6	65.1	-26.6	554,101.54	733,027.63	32° 31' 15.825 N	103° 34' 38.356 W
6,500.0	1.01	339.42	6,498.6	66.7	-27.2	554,103.05	733,026.97	32° 31' 15.840 N	103° 34' 38.364 W

Stryker Directional

Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Corazon State Unit #11H
Project:	Lea County, N.M.	TVD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Site:	Section 4 T21-S R33-E Corazon State Unit #11H	MD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Well:	Corazon State Unit #11H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,600.0	1.12	339.21	6,598.6	68.4	-27.9	554,104.79	733,026.31	32° 31' 15.857 N	103° 34' 38.371 W
6,700.0	1.02	2.62	6,698.6	70.2	-28.2	554,106.60	733,026.01	32° 31' 15.875 N	103° 34' 38.375 W
6,800.0	0.64	335.92	6,798.6	71.6	-28.4	554,107.99	733,025.82	32° 31' 15.889 N	103° 34' 38.377 W
6,900.0	0.32	350.30	6,898.6	72.4	-28.7	554,108.78	733,025.55	32° 31' 15.897 N	103° 34' 38.380 W
7,000.0	0.25	348.13	6,998.6	72.9	-28.7	554,109.27	733,025.45	32° 31' 15.902 N	103° 34' 38.381 W
7,100.0	0.16	337.28	7,098.6	73.2	-28.8	554,109.61	733,025.36	32° 31' 15.905 N	103° 34' 38.382 W
7,200.0	0.02	29.88	7,198.6	73.4	-28.9	554,109.76	733,025.31	32° 31' 15.906 N	103° 34' 38.383 W
7,300.0	0.17	69.09	7,298.6	73.4	-28.7	554,109.82	733,025.46	32° 31' 15.907 N	103° 34' 38.381 W
7,400.0	0.10	307.68	7,398.6	73.5	-28.7	554,109.93	733,025.53	32° 31' 15.908 N	103° 34' 38.380 W
7,500.0	0.09	254.24	7,498.6	73.6	-28.8	554,109.96	733,025.38	32° 31' 15.908 N	103° 34' 38.382 W
7,600.0	0.06	250.72	7,598.6	73.5	-28.9	554,109.92	733,025.26	32° 31' 15.908 N	103° 34' 38.383 W
7,700.0	0.15	257.06	7,698.6	73.5	-29.1	554,109.88	733,025.08	32° 31' 15.908 N	103° 34' 38.385 W
7,800.0	0.15	263.75	7,798.6	73.4	-29.4	554,109.83	733,024.82	32° 31' 15.907 N	103° 34' 38.388 W
7,900.0	0.14	55.79	7,898.6	73.5	-29.4	554,109.89	733,024.79	32° 31' 15.908 N	103° 34' 38.389 W
8,000.0	0.12	275.56	7,998.6	73.6	-29.4	554,109.97	733,024.79	32° 31' 15.908 N	103° 34' 38.389 W
8,100.0	0.18	212.17	8,098.6	73.4	-29.6	554,109.84	733,024.60	32° 31' 15.907 N	103° 34' 38.391 W
8,200.0	0.48	222.61	8,198.6	73.0	-30.0	554,109.40	733,024.24	32° 31' 15.903 N	103° 34' 38.395 W
8,300.0	0.94	191.07	8,298.6	71.9	-30.4	554,108.29	733,023.79	32° 31' 15.892 N	103° 34' 38.400 W
8,400.0	1.52	187.25	8,398.5	69.8	-30.7	554,106.17	733,023.47	32° 31' 15.871 N	103° 34' 38.404 W
8,500.0	1.59	188.00	8,498.5	67.1	-31.1	554,103.48	733,023.11	32° 31' 15.844 N	103° 34' 38.409 W
8,600.0	1.54	187.85	8,598.5	64.4	-31.5	554,100.77	733,022.73	32° 31' 15.818 N	103° 34' 38.414 W
8,700.0	1.23	184.05	8,698.4	62.0	-31.7	554,098.37	733,022.47	32° 31' 15.794 N	103° 34' 38.417 W
8,800.0	1.11	190.97	8,798.4	59.9	-32.0	554,096.35	733,022.21	32° 31' 15.774 N	103° 34' 38.420 W
8,900.0	0.70	232.66	8,898.4	58.6	-32.7	554,095.03	733,021.54	32° 31' 15.761 N	103° 34' 38.428 W
9,000.0	0.98	278.01	8,998.4	58.4	-34.0	554,094.78	733,020.21	32° 31' 15.758 N	103° 34' 38.443 W
9,100.0	0.57	285.20	9,098.4	58.6	-35.3	554,095.03	733,018.88	32° 31' 15.761 N	103° 34' 38.459 W
9,200.0	0.88	293.57	9,198.4	59.1	-36.5	554,095.46	733,017.70	32° 31' 15.765 N	103° 34' 38.473 W
9,300.0	0.64	312.63	9,298.4	59.7	-37.6	554,096.15	733,016.58	32° 31' 15.772 N	103° 34' 38.486 W
9,400.0	1.09	348.13	9,398.3	61.1	-38.2	554,097.46	733,015.98	32° 31' 15.785 N	103° 34' 38.493 W
9,500.0	1.29	13.06	9,498.3	63.1	-38.2	554,099.49	733,016.04	32° 31' 15.805 N	103° 34' 38.492 W
9,600.0	1.22	47.02	9,598.3	64.9	-37.1	554,101.31	733,017.07	32° 31' 15.823 N	103° 34' 38.480 W
9,700.0	0.64	81.16	9,698.3	65.7	-35.8	554,102.12	733,018.40	32° 31' 15.831 N	103° 34' 38.464 W
9,800.0	0.60	141.83	9,798.3	65.4	-34.9	554,101.79	733,019.28	32° 31' 15.828 N	103° 34' 38.454 W
9,900.0	0.54	125.03	9,898.3	64.7	-34.2	554,101.11	733,019.99	32° 31' 15.821 N	103° 34' 38.446 W
10,000.0	0.50	89.51	9,998.3	64.4	-33.4	554,100.85	733,020.81	32° 31' 15.818 N	103° 34' 38.436 W
10,100.0	0.18	75.42	10,098.3	64.5	-32.8	554,100.89	733,021.40	32° 31' 15.819 N	103° 34' 38.429 W
10,200.0	0.40	74.02	10,198.3	64.6	-32.3	554,101.02	733,021.88	32° 31' 15.820 N	103° 34' 38.423 W
10,300.0	0.60	69.48	10,298.3	64.9	-31.5	554,101.30	733,022.71	32° 31' 15.823 N	103° 34' 38.414 W
10,400.0	0.18	63.56	10,398.3	65.2	-30.9	554,101.56	733,023.34	32° 31' 15.825 N	103° 34' 38.406 W
10,500.0	0.18	70.51	10,498.3	65.3	-30.6	554,101.68	733,023.63	32° 31' 15.827 N	103° 34' 38.403 W
10,600.0	0.34	100.20	10,598.3	65.3	-30.1	554,101.68	733,024.07	32° 31' 15.827 N	103° 34' 38.398 W
10,700.0	1.12	115.09	10,698.3	64.8	-28.9	554,101.21	733,025.25	32° 31' 15.822 N	103° 34' 38.384 W
10,800.0	2.30	126.36	10,798.2	63.2	-26.4	554,099.61	733,027.75	32° 31' 15.806 N	103° 34' 38.355 W
10,873.0	2.09	127.50	10,871.2	61.5	-24.2	554,097.93	733,029.98	32° 31' 15.789 N	103° 34' 38.329 W
10873' VES Gyro Survey									
11,002.0	12.30	209.10	10,999.1	48.0	-29.0	554,084.44	733,025.15	32° 31' 15.656 N	103° 34' 38.387 W
11,032.0	15.80	211.40	11,028.2	41.8	-32.7	554,078.16	733,021.47	32° 31' 15.594 N	103° 34' 38.430 W
11,063.0	18.60	212.50	11,057.8	34.0	-37.6	554,070.39	733,016.61	32° 31' 15.517 N	103° 34' 38.488 W
11,094.0	21.20	214.80	11,087.0	25.2	-43.4	554,061.61	733,010.75	32° 31' 15.431 N	103° 34' 38.557 W
11,124.0	24.20	215.70	11,114.6	15.8	-50.1	554,052.16	733,004.07	32° 31' 15.338 N	103° 34' 38.636 W
11,155.0	27.30	216.50	11,142.6	4.9	-58.1	554,041.29	732,996.13	32° 31' 15.231 N	103° 34' 38.729 W
11,186.0	30.20	216.50	11,169.7	-7.1	-66.9	554,029.30	732,987.26	32° 31' 15.113 N	103° 34' 38.834 W
11,217.0	33.80	216.50	11,196.0	-20.3	-76.7	554,016.10	732,977.49	32° 31' 14.983 N	103° 34' 38.949 W
11,247.0	36.90	215.90	11,220.5	-34.3	-87.0	554,002.09	732,967.24	32° 31' 14.845 N	103° 34' 39.070 W
11,278.0	39.40	215.40	11,244.9	-49.9	-98.1	553,986.53	732,956.09	32° 31' 14.692 N	103° 34' 39.201 W

Stryker Directional

Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Corazon State Unit #11H
Project:	Lea County, N.M.	TVD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Site:	Section 4 T21-S R33-E Corazon State Unit #11H	MD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Well:	Corazon State Unit #11H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,309.0	42.20	215.40	11,268.3	-66.4	-109.8	553,970.02	732,944.35	32° 31' 14.529 N	103° 34' 39.340 W
11,340.0	45.40	215.80	11,290.7	-83.8	-122.3	553,952.58	732,931.86	32° 31' 14.358 N	103° 34' 39.487 W
11,371.0	47.80	215.60	11,312.0	-102.1	-135.5	553,934.29	732,918.72	32° 31' 14.178 N	103° 34' 39.642 W
11,401.0	50.50	213.40	11,331.6	-120.8	-148.3	553,915.59	732,905.88	32° 31' 13.993 N	103° 34' 39.794 W
11,432.0	53.50	211.80	11,350.7	-141.4	-161.5	553,895.01	732,892.72	32° 31' 13.791 N	103° 34' 39.949 W
11,463.0	56.40	212.70	11,368.5	-162.9	-175.0	553,873.55	732,879.18	32° 31' 13.579 N	103° 34' 40.109 W
11,494.0	59.10	214.30	11,385.1	-184.7	-189.5	553,851.69	732,864.71	32° 31' 13.364 N	103° 34' 40.280 W
11,524.0	62.30	216.20	11,399.7	-206.1	-204.6	553,830.33	732,849.61	32° 31' 13.154 N	103° 34' 40.458 W
11,555.0	65.30	217.30	11,413.4	-228.4	-221.2	553,808.05	732,832.96	32° 31' 12.934 N	103° 34' 40.654 W
11,586.0	68.40	217.40	11,425.6	-251.0	-238.5	553,785.40	732,815.67	32° 31' 12.711 N	103° 34' 40.858 W
11,617.0	72.10	216.00	11,436.1	-274.4	-256.0	553,762.01	732,798.24	32° 31' 12.481 N	103° 34' 41.063 W
11,647.0	74.80	214.10	11,444.6	-297.9	-272.5	553,738.46	732,781.73	32° 31' 12.249 N	103° 34' 41.258 W
11,678.0	77.70	212.80	11,452.0	-323.1	-289.1	553,713.34	732,765.14	32° 31' 12.002 N	103° 34' 41.454 W
11,709.0	81.50	210.60	11,457.6	-349.0	-305.1	553,687.41	732,749.12	32° 31' 11.747 N	103° 34' 41.643 W
11,740.0	86.10	207.60	11,460.9	-375.9	-320.1	553,660.49	732,734.15	32° 31' 11.481 N	103° 34' 41.820 W
11,770.0	87.90	204.50	11,462.5	-402.8	-333.2	553,633.57	732,720.99	32° 31' 11.216 N	103° 34' 41.976 W
11,794.0	88.40	204.20	11,463.3	-424.7	-343.1	553,611.72	732,711.10	32° 31' 11.000 N	103° 34' 42.093 W
11,886.0	89.50	200.80	11,465.0	-509.7	-378.3	553,526.75	732,675.91	32° 31' 10.162 N	103° 34' 42.511 W
11,977.0	91.00	200.00	11,464.6	-594.9	-410.0	553,441.46	732,644.19	32° 31' 9.320 N	103° 34' 42.889 W
12,069.0	90.30	198.30	11,463.5	-681.8	-440.2	553,354.56	732,614.01	32° 31' 8.463 N	103° 34' 43.249 W
12,162.0	88.00	194.10	11,464.9	-771.1	-466.1	553,265.29	732,588.07	32° 31' 7.581 N	103° 34' 43.559 W
12,254.0	87.90	192.20	11,468.2	-860.6	-487.0	553,175.77	732,567.16	32° 31' 6.697 N	103° 34' 43.810 W
12,346.0	89.50	189.40	11,470.3	-951.0	-504.3	553,085.43	732,549.93	32° 31' 5.804 N	103° 34' 44.019 W
12,438.0	90.10	186.70	11,470.6	-1,042.1	-517.2	552,994.35	732,537.04	32° 31' 4.904 N	103° 34' 44.177 W
12,530.0	90.80	186.90	11,469.9	-1,133.4	-528.0	552,903.00	732,526.15	32° 31' 4.000 N	103° 34' 44.312 W
12,622.0	89.50	185.60	11,469.6	-1,224.9	-538.1	552,811.55	732,516.14	32° 31' 3.096 N	103° 34' 44.436 W
12,714.0	87.90	185.00	11,471.7	-1,316.4	-546.6	552,719.97	732,507.64	32° 31' 2.191 N	103° 34' 44.543 W
12,806.0	87.90	182.00	11,475.1	-1,408.2	-552.2	552,628.21	732,502.03	32° 31' 1.283 N	103° 34' 44.616 W
12,898.0	88.90	180.50	11,477.7	-1,500.1	-554.2	552,536.27	732,500.02	32° 31' 0.373 N	103° 34' 44.647 W
12,990.0	89.70	181.50	11,478.8	-1,592.1	-555.8	552,444.30	732,498.42	32° 30' 59.463 N	103° 34' 44.674 W
13,082.0	90.20	180.20	11,478.9	-1,684.1	-557.1	552,352.31	732,497.05	32° 30' 58.553 N	103° 34' 44.697 W
13,174.0	91.30	181.30	11,477.7	-1,776.1	-558.3	552,260.33	732,495.85	32° 30' 57.643 N	103° 34' 44.719 W
13,266.0	90.50	180.90	11,476.2	-1,868.0	-560.1	552,168.36	732,494.08	32° 30' 56.733 N	103° 34' 44.747 W
13,359.0	89.50	179.70	11,476.2	-1,961.0	-560.6	552,075.36	732,493.60	32° 30' 55.813 N	103° 34' 44.760 W
13,451.0	89.10	181.20	11,477.3	-2,053.0	-561.3	551,983.37	732,492.87	32° 30' 54.903 N	103° 34' 44.777 W
13,543.0	88.70	182.60	11,479.1	-2,145.0	-564.4	551,891.44	732,489.82	32° 30' 53.994 N	103° 34' 44.820 W
13,635.0	87.80	182.80	11,481.9	-2,236.8	-568.7	551,799.59	732,485.49	32° 30' 53.085 N	103° 34' 44.878 W
13,727.0	88.50	182.70	11,484.9	-2,328.7	-573.1	551,707.74	732,481.08	32° 30' 52.176 N	103° 34' 44.937 W
13,819.0	88.50	181.70	11,487.3	-2,420.6	-576.6	551,615.84	732,477.55	32° 30' 51.267 N	103° 34' 44.986 W
13,911.0	89.60	180.80	11,488.8	-2,512.5	-578.7	551,523.88	732,475.54	32° 30' 50.358 N	103° 34' 45.017 W
14,003.0	90.20	178.70	11,489.0	-2,604.5	-578.3	551,431.89	732,475.95	32° 30' 49.447 N	103° 34' 45.020 W
14,095.0	89.90	180.50	11,488.9	-2,696.5	-577.6	551,339.89	732,476.59	32° 30' 48.537 N	103° 34' 45.020 W
14,187.0	91.30	181.70	11,487.9	-2,788.5	-579.4	551,247.92	732,474.82	32° 30' 47.627 N	103° 34' 45.048 W
14,279.0	90.20	180.90	11,486.7	-2,880.4	-581.5	551,155.95	732,472.73	32° 30' 46.717 N	103° 34' 45.080 W
14,372.0	89.40	183.70	11,487.1	-2,973.4	-585.2	551,063.04	732,469.00	32° 30' 45.798 N	103° 34' 45.131 W
14,464.0	88.30	181.60	11,488.9	-3,065.2	-589.4	550,971.16	732,464.75	32° 30' 44.889 N	103° 34' 45.189 W
14,555.0	89.40	182.60	11,490.7	-3,156.2	-592.8	550,880.24	732,461.42	32° 30' 43.990 N	103° 34' 45.235 W
14,648.0	88.30	179.10	11,492.6	-3,249.1	-594.2	550,787.29	732,460.04	32° 30' 43.070 N	103° 34' 45.259 W
14,740.0	89.30	179.80	11,494.5	-3,341.1	-593.3	550,695.32	732,460.92	32° 30' 42.160 N	103° 34' 45.256 W
14,832.0	88.20	178.00	11,496.5	-3,433.0	-591.5	550,603.36	732,462.68	32° 30' 41.250 N	103° 34' 45.243 W
14,924.0	89.40	176.00	11,498.5	-3,524.9	-586.7	550,511.51	732,467.50	32° 30' 40.341 N	103° 34' 45.194 W
15,016.0	88.70	177.30	11,500.0	-3,616.7	-581.3	550,419.68	732,472.87	32° 30' 39.432 N	103° 34' 45.139 W
15,108.0	87.60	178.70	11,503.0	-3,708.6	-578.1	550,327.79	732,476.08	32° 30' 38.522 N	103° 34' 45.109 W
15,200.0	88.50	179.20	11,506.1	-3,800.5	-576.4	550,235.86	732,477.77	32° 30' 37.612 N	103° 34' 45.097 W
15,292.0	89.50	176.90	11,507.7	-3,892.5	-573.3	550,143.94	732,480.90	32° 30' 36.703 N	103° 34' 45.068 W

Stryker Directional

Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Corazon State Unit #11H
Project:	Lea County, N.M.	TVD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Site:	Section 4 T21-S R33-E Corazon State Unit #11H	MD Reference:	GL 3798.2+26 @ 3824.2usft (Precision 590)
Well:	Corazon State Unit #11H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Stryker_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,384.0	88.70	179.90	11,509.1	-3,984.4	-570.7	550,052.00	732,483.47	32° 30' 35.793 N	103° 34' 45.046 W
15,475.0	89.90	179.70	11,510.3	-4,075.4	-570.4	549,961.00	732,483.78	32° 30' 34.892 N	103° 34' 45.050 W
15,568.0	91.40	179.40	11,509.2	-4,168.4	-569.7	549,868.02	732,484.51	32° 30' 33.972 N	103° 34' 45.049 W
15,660.0	88.70	179.10	11,509.1	-4,260.4	-568.5	549,776.03	732,485.72	32° 30' 33.062 N	103° 34' 45.042 W
15,752.0	89.50	178.10	11,510.6	-4,352.3	-566.2	549,684.07	732,487.97	32° 30' 32.152 N	103° 34' 45.024 W
15,844.0	88.10	180.40	11,512.5	-4,444.3	-565.0	549,592.11	732,489.17	32° 30' 31.242 N	103° 34' 45.017 W
15,936.0	89.30	178.70	11,514.6	-4,536.3	-564.3	549,500.14	732,489.89	32° 30' 30.331 N	103° 34' 45.016 W
16,029.0	90.20	178.50	11,515.0	-4,629.2	-562.0	549,407.17	732,492.17	32° 30' 29.411 N	103° 34' 44.998 W
16,121.0	88.70	178.60	11,515.9	-4,721.2	-559.7	549,315.21	732,494.49	32° 30' 28.501 N	103° 34' 44.978 W
16,213.0	89.70	178.00	11,517.2	-4,813.1	-557.0	549,223.26	732,497.22	32° 30' 27.591 N	103° 34' 44.954 W
16,305.0	88.00	179.60	11,519.0	-4,905.1	-555.0	549,131.30	732,499.15	32° 30' 26.681 N	103° 34' 44.939 W
16,397.0	88.70	181.50	11,521.6	-4,997.1	-555.9	549,039.35	732,498.27	32° 30' 25.771 N	103° 34' 44.957 W
16,489.0	90.90	181.90	11,522.0	-5,089.0	-558.7	548,947.40	732,495.54	32° 30' 24.862 N	103° 34' 44.996 W
16,581.0	88.40	183.20	11,522.5	-5,180.9	-562.8	548,855.50	732,491.44	32° 30' 23.953 N	103° 34' 45.052 W
16,673.0	88.90	181.70	11,524.7	-5,272.8	-566.7	548,763.61	732,487.51	32° 30' 23.044 N	103° 34' 45.105 W
16,765.0	91.10	184.30	11,524.7	-5,364.7	-571.5	548,671.75	732,482.70	32° 30' 22.135 N	103° 34' 45.169 W
16,857.0	88.10	182.50	11,525.3	-5,456.5	-577.0	548,579.93	732,477.24	32° 30' 21.227 N	103° 34' 45.240 W
16,950.0	87.90	182.00	11,528.6	-5,549.3	-580.6	548,487.06	732,473.59	32° 30' 20.308 N	103° 34' 45.290 W
17,042.0	88.70	181.80	11,531.3	-5,641.3	-583.7	548,395.15	732,470.54	32° 30' 19.399 N	103° 34' 45.334 W
17,134.0	89.70	181.30	11,532.6	-5,733.2	-586.1	548,303.20	732,468.06	32° 30' 18.489 N	103° 34' 45.370 W
17,226.0	89.10	179.10	11,533.6	-5,825.2	-586.5	548,211.21	732,467.74	32° 30' 17.579 N	103° 34' 45.382 W
17,318.0	90.20	176.90	11,534.1	-5,917.1	-583.3	548,119.27	732,470.95	32° 30' 16.669 N	103° 34' 45.352 W
17,410.0	91.40	176.50	11,532.8	-6,009.0	-578.0	548,027.43	732,476.24	32° 30' 15.760 N	103° 34' 45.298 W
17,502.0	88.70	179.30	11,532.8	-6,100.9	-574.6	547,935.51	732,479.61	32° 30' 14.850 N	103° 34' 45.266 W
17,594.0	89.40	178.60	11,534.3	-6,192.9	-572.9	547,843.54	732,481.30	32° 30' 13.940 N	103° 34' 45.254 W
17,686.0	87.60	178.70	11,536.7	-6,284.8	-570.7	547,751.60	732,483.46	32° 30' 13.030 N	103° 34' 45.236 W
17,778.0	88.00	178.60	11,540.2	-6,376.7	-568.6	547,659.70	732,485.63	32° 30' 12.120 N	103° 34' 45.218 W
17,871.0	90.30	179.50	11,541.6	-6,469.7	-567.0	547,566.73	732,487.17	32° 30' 11.200 N	103° 34' 45.208 W
17,963.0	86.60	179.30	11,544.1	-6,561.6	-566.1	547,474.78	732,488.13	32° 30' 10.291 N	103° 34' 45.204 W
18,055.0	88.10	180.90	11,548.3	-6,653.5	-566.2	547,382.89	732,487.97	32° 30' 9.381 N	103° 34' 45.214 W
18,147.0	89.30	179.60	11,550.4	-6,745.5	-566.6	547,290.92	732,487.57	32° 30' 8.471 N	103° 34' 45.226 W
18,239.0	90.80	179.80	11,550.4	-6,837.5	-566.1	547,198.92	732,488.05	32° 30' 7.561 N	103° 34' 45.228 W
18,331.0	92.00	178.70	11,548.1	-6,929.4	-564.9	547,106.96	732,489.26	32° 30' 6.651 N	103° 34' 45.222 W
18,423.0	93.30	177.40	11,543.9	-7,021.3	-561.8	547,015.11	732,492.38	32° 30' 5.742 N	103° 34' 45.193 W
18,470.0	93.30	177.40	11,541.1	-7,068.2	-559.7	546,968.24	732,494.51	32° 30' 5.278 N	103° 34' 45.172 W

18470' MD Projected to Bit

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,873.0	10,871.2	61.5	-24.2	10873' VES Gyro Survey
18,470.0	11,541.1	-7,068.2	-559.7	18470' MD Projected to Bit