



October 30, 2014

30-025-41298

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

HOBBS OCD

MAY 18 2015

RECEIVED

Attn: Kanicia Castillo

RE: Becknell State Com No. 001H

Please find enclosed a copy of the survey from 0.00' to 10942.00' ran on the above referenced well.

Sincerely,

Deb Salge
Deb Salge
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 30 day of October, A.D., 2014, by Keith Havelka.

Jennifer Ann Byerly
Jennifer Ann Byerly
Notary Public, State of Texas



VES Survey International
P.O. Box 261021 Corpus Christi, TX 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com

MAY 26 2015

jm

Company: COG Operating, LLC (Concho)
 Lease/Well: Becknell State Com/No. 001H



Rig Name: Precision 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



HOBBSOCD
 MAY 18 2015
 RECEIVED

Depth Reference : RKB: 26'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
 Minimum Curvature Method
 Report Date/Time: 10/30/2014 / 11:46

VES Survey International
 Midland, TX
 (432)-563-5444
 Surveyor: Tim Dillon
 Becknell State Com No. 001H / API 30-025-41298

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	0.13	78.76	100.00	0.02	0.11	0.02	0.11	78.76	0.13
200.00	0.17	85.49	200.00	0.05	0.36	0.05	0.36	81.44	0.04
300.00	0.17	110.48	300.00	0.01	0.65	0.01	0.65	88.94	0.07
400.00	0.18	135.48	400.00	-0.16	0.90	-0.16	0.92	99.81	0.08
500.00	0.18	182.87	500.00	-0.42	1.01	-0.42	1.09	112.81	0.14
600.00	0.17	230.26	600.00	-0.67	0.89	-0.67	1.11	127.06	0.14
700.00	0.31	206.01	700.00	-1.00	0.66	-1.00	1.20	146.79	0.17
800.00	0.45	181.76	799.99	-1.63	0.53	-1.63	1.72	162.11	0.21
900.00	0.38	156.18	899.99	-2.33	0.65	-2.33	2.42	164.40	0.19
1000.00	0.32	130.59	999.99	-2.82	1.00	-2.82	2.99	160.48	0.17
1100.00	0.28	212.64	1099.99	-3.21	1.08	-3.21	3.39	161.33	0.39
1200.00	0.23	294.70	1199.99	-3.33	0.77	-3.33	3.41	166.96	0.33
1300.00	0.32	310.83	1299.99	-3.06	0.37	-3.06	3.08	173.01	0.12
1400.00	0.41	326.96	1399.99	-2.57	-0.03	-2.57	2.57	180.77	0.14
1500.00	0.51	309.67	1499.98	-1.98	-0.58	-1.98	2.07	196.16	0.17
1600.00	0.61	292.38	1599.98	-1.50	-1.41	-1.50	2.06	223.35	0.20
1700.00	0.73	246.40	1699.97	-1.55	-2.49	-1.55	2.93	238.12	0.53
1800.00	0.84	200.43	1799.96	-2.49	-3.32	-2.49	4.15	233.19	0.62

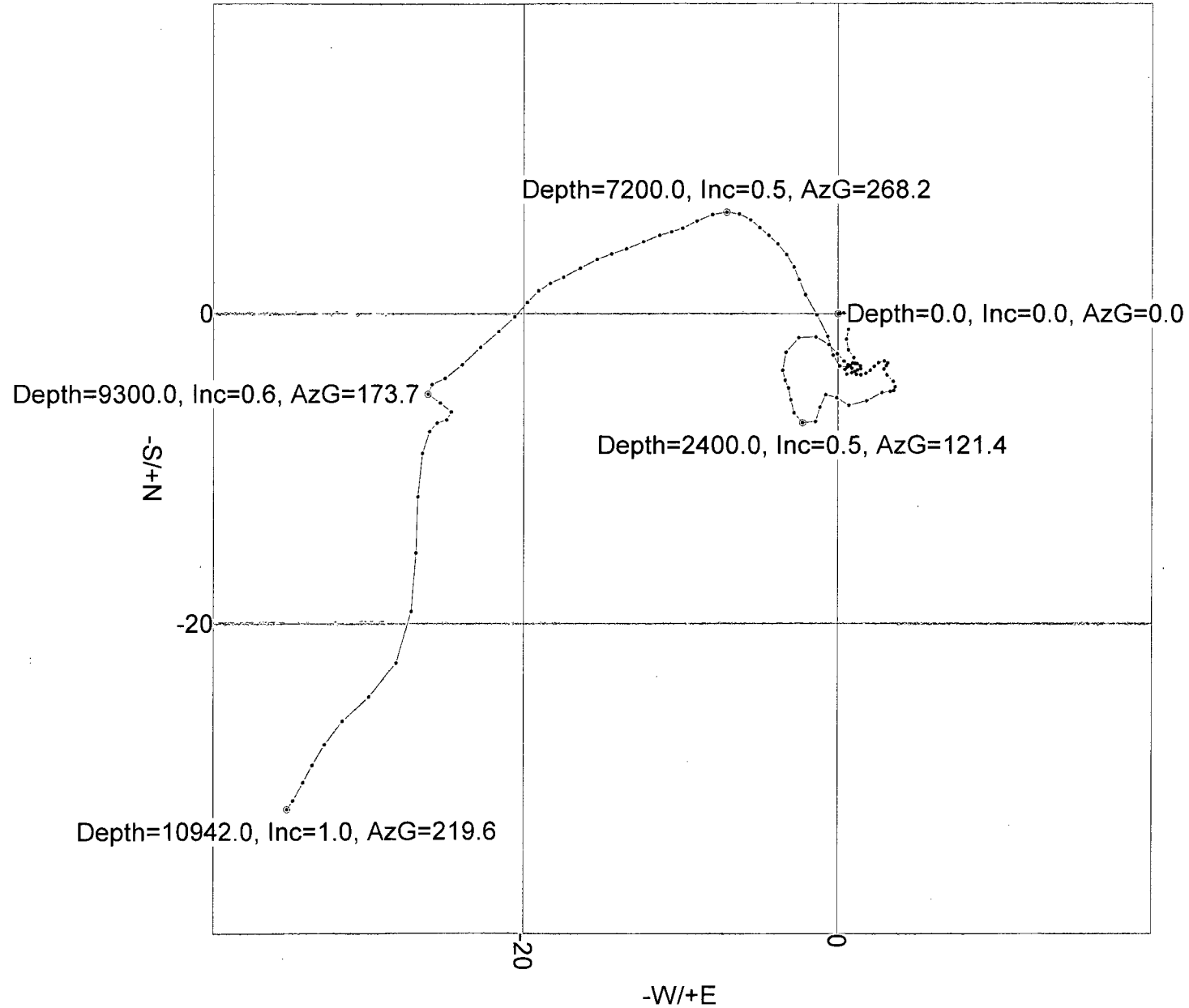
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.54	174.79	1899.96	-3.64	-3.53	-3.64	5.08	224.13	0.42
2000.00	0.24	149.14	1999.95	-4.30	-3.38	-4.30	5.47	218.22	0.34
2100.00	0.38	161.54	2099.95	-4.79	-3.17	-4.79	5.74	213.50	0.15
2200.00	0.51	173.94	2199.95	-5.55	-3.02	-5.55	6.31	208.56	0.16
2300.00	0.51	157.65	2299.95	-6.40	-2.80	-6.40	6.99	203.65	0.14
2400.00	0.51	121.35	2399.94	-7.04	-2.26	-7.04	7.39	197.76	0.32
2500.00	0.62	54.30	2499.94	-6.96	-1.44	-6.96	7.11	191.69	0.63
2600.00	0.72	347.26	2599.93	-6.03	-1.14	-6.03	6.14	190.74	0.74
2700.00	0.61	69.15	2699.93	-5.23	-0.79	-5.23	5.28	188.55	0.88
2800.00	0.50	151.05	2799.92	-5.41	-0.08	-5.41	5.42	180.83	0.73
2900.00	0.66	102.27	2899.92	-5.92	0.69	-5.92	5.96	173.31	0.50
3000.00	0.82	53.49	2999.91	-5.61	1.83	-5.61	5.90	161.90	0.63
3100.00	0.48	76.95	3099.91	-5.09	2.82	-5.09	5.82	151.00	0.43
3200.00	0.14	100.40	3199.90	-5.02	3.35	-5.02	6.03	146.26	0.36
3300.00	0.15	48.61	3299.90	-4.95	3.57	-4.95	6.10	144.20	0.13
3400.00	0.17	356.83	3399.90	-4.72	3.66	-4.72	5.97	142.18	0.14
3500.00	0.27	330.81	3499.90	-4.36	3.54	-4.36	5.62	140.97	0.14
3600.00	0.38	304.79	3599.90	-3.96	3.15	-3.96	5.06	141.56	0.18
3700.00	0.25	15.10	3699.90	-3.56	2.93	-3.56	4.61	140.58	0.38
3800.00	0.12	85.40	3799.90	-3.34	3.09	-3.34	4.55	137.30	0.24
3900.00	0.17	356.05	3899.90	-3.18	3.18	-3.18	4.50	135.06	0.21
4000.00	0.23	266.69	3999.90	-3.04	2.96	-3.04	4.25	135.76	0.29
4100.00	0.22	241.54	4099.90	-3.15	2.59	-3.15	4.07	140.53	0.10
4200.00	0.21	216.39	4199.90	-3.38	2.31	-3.38	4.10	145.61	0.09
4300.00	0.20	228.52	4299.90	-3.65	2.07	-3.65	4.19	150.36	0.04
4400.00	0.20	242.64	4399.90	-3.84	1.78	-3.84	4.24	155.10	0.05
4500.00	0.19	264.85	4499.90	-3.94	1.46	-3.94	4.20	159.62	0.08
4600.00	0.18	287.05	4599.89	-3.91	1.15	-3.91	4.08	163.57	0.07
4700.00	0.17	18.95	4699.89	-3.72	1.05	-3.72	3.87	164.20	0.25
4800.00	0.16	106.85	4799.89	-3.63	1.24	-3.63	3.83	161.13	0.23
4900.00	0.15	30.72	4899.89	-3.55	1.44	-3.55	3.84	157.88	0.20
5000.00	0.14	314.59	4999.89	-3.35	1.43	-3.35	3.64	156.98	0.18
5100.00	0.16	291.00	5099.89	-3.22	1.21	-3.22	3.44	159.40	0.06
5200.00	0.18	267.40	5199.89	-3.18	0.93	-3.18	3.31	163.70	0.07
5300.00	0.21	232.44	5299.89	-3.29	0.63	-3.29	3.35	169.10	0.12
5400.00	0.24	197.47	5399.89	-3.60	0.43	-3.60	3.62	173.18	0.14
5500.00	0.24	117.30	5499.89	-3.89	0.56	-3.89	3.93	171.87	0.31
5600.00	0.25	37.13	5599.89	-3.82	0.87	-3.82	3.92	167.09	0.32
5700.00	0.23	318.62	5699.89	-3.50	0.88	-3.50	3.60	165.95	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
5800.00	0.20	240.10	5799.89	-3.44	0.59	-3.44	3.49	170.25	0.27
5900.00	0.42	295.39	5899.89	-3.37	0.11	-3.37	3.37	178.19	0.35
6000.00	0.63	350.68	5999.88	-2.67	-0.31	-2.67	2.68	186.72	0.53
6100.00	0.81	339.40	6099.88	-1.46	-0.65	-1.46	1.60	204.05	0.22
6200.00	0.98	328.11	6199.86	-0.08	-1.35	-0.08	1.35	266.82	0.25
6300.00	0.73	335.03	6299.85	1.23	-2.07	1.23	2.41	300.70	0.27
6400.00	0.49	341.94	6399.85	2.21	-2.47	2.21	3.32	311.83	0.26
6500.00	0.52	333.18	6499.84	3.02	-2.81	3.02	4.12	317.08	0.08
6600.00	0.54	324.42	6599.84	3.81	-3.29	3.81	5.03	319.19	0.09
6700.00	0.49	316.87	6699.84	4.50	-3.85	4.50	5.93	319.44	0.09
6800.00	0.43	311.32	6799.83	5.06	-4.43	5.06	6.73	318.82	0.07
6900.00	0.43	310.14	6899.83	5.56	-5.00	5.56	7.48	318.00	0.01
7000.00	0.45	308.96	6999.83	6.05	-5.60	6.05	8.24	317.21	0.02
7100.00	0.47	288.55	7099.82	6.43	-6.29	6.43	9.00	315.61	0.16
7200.00	0.48	268.15	7199.82	6.54	-7.09	6.54	9.65	312.69	0.17
7300.00	0.57	254.21	7299.82	6.40	-7.99	6.40	10.23	308.68	0.16
7400.00	0.66	240.26	7399.81	5.97	-8.97	5.97	10.78	303.65	0.18
7500.00	0.51	247.69	7499.80	5.52	-9.88	5.52	11.32	299.17	0.17
7600.00	0.35	257.12	7599.80	5.28	-10.59	5.28	11.84	296.49	0.17
7700.00	0.54	251.52	7699.80	5.06	-11.34	5.06	12.42	294.04	0.19
7800.00	0.73	245.93	7799.79	4.65	-12.38	4.65	13.22	290.60	0.20
7900.00	0.63	249.16	7899.79	4.20	-13.47	4.20	14.11	287.30	0.11
8000.00	0.51	252.38	7999.78	3.87	-14.40	3.87	14.91	285.03	0.13
8100.00	0.63	245.99	8099.78	3.51	-15.33	3.51	15.73	282.89	0.14
8200.00	0.76	239.61	8199.77	2.95	-16.41	2.95	16.67	280.18	0.15
8300.00	0.62	242.85	8299.76	2.36	-17.46	2.36	17.62	277.71	0.15
8400.00	0.46	246.08	8399.76	1.95	-18.31	1.95	18.41	276.09	0.17
8500.00	0.56	231.75	8499.75	1.49	-19.06	1.49	19.11	274.48	0.16
8600.00	0.66	217.41	8599.75	0.74	-19.79	0.74	19.80	272.13	0.18
8700.00	0.76	224.06	8699.74	-0.19	-20.59	-0.19	20.59	269.46	0.13
8800.00	0.86	230.70	8799.73	-1.15	-21.64	-1.15	21.67	266.96	0.14
8900.00	0.91	227.15	8899.72	-2.17	-22.80	-2.17	22.91	264.57	0.07
9000.00	0.95	225.60	8999.70	-3.29	-23.98	-3.29	24.20	262.19	0.05
9100.00	0.67	239.28	9099.69	-4.17	-25.07	-4.17	25.42	260.57	0.34
9200.00	0.38	252.97	9199.69	-4.56	-25.89	-4.56	26.29	260.01	0.31
9300.00	0.60	173.71	9299.69	-5.18	-26.15	-5.18	26.66	258.79	0.65
9400.00	0.83	94.45	9399.68	-5.76	-25.38	-5.76	26.02	257.21	0.93
9500.00	0.58	181.01	9499.68	-6.33	-24.67	-6.33	25.46	255.62	0.98
9600.00	0.34	267.58	9599.67	-6.85	-24.97	-6.85	25.89	254.67	0.66

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	0.40	237.72	9699.67	-7.05	-25.57	-7.05	26.52	254.59	0.20
9800.00	0.47	207.86	9799.67	-7.60	-26.06	-7.60	27.14	253.75	0.23
9900.00	1.24	194.18	9899.66	-9.00	-26.51	-9.00	28.00	251.24	0.80
10000.00	2.01	180.50	9999.62	-11.81	-26.79	-11.81	29.28	246.21	0.86
10100.00	2.12	183.17	10099.55	-15.42	-26.91	-15.42	31.01	240.19	0.14
10200.00	2.23	185.85	10199.48	-19.20	-27.21	-19.20	33.30	234.80	0.15
10300.00	1.84	208.93	10299.42	-22.53	-28.18	-22.53	36.08	231.36	0.90
10400.00	1.44	232.01	10399.38	-24.71	-29.95	-24.71	38.83	230.48	0.76
10500.00	1.21	221.81	10499.35	-26.28	-31.65	-26.28	41.14	230.30	0.33
10600.00	0.98	211.61	10599.33	-27.79	-32.81	-27.79	43.00	229.73	0.30
10700.00	0.81	209.22	10699.32	-29.14	-33.60	-29.14	44.47	229.07	0.18
10800.00	0.63	206.82	10799.31	-30.25	-34.19	-30.25	45.65	228.50	0.18
10900.00	0.89	209.61	10899.30	-31.42	-34.82	-31.42	46.90	227.95	0.25
10942.00	0.99	219.61	10941.30	-31.98	-35.22	-31.98	47.57	227.76	0.45



VES Survey International
Midland, TX
(432)-563-5444
Surveyor: Tim Dillon
Becknell State Com No. 001H / API 30-025-41298



V.E.S Survey Date: 10/14/2014

COG Operating, LLC.

Lea County, N.M.

Section 5/17 T22S-R33E Becknell State Com #1H

Becknell State Com #1H

Orginal Hole

HOBBS OCD

MAY 18 2015

Design: Orginal Hole

RECEIVED

Survey Report - Geographic

28 October, 2014

Stryker Directional Survey Report - Geographic

Company: COG Operating, LLC.	Local Co-ordinate Reference: Well Becknell State Com #1H
Project: Lea County, N.M.	TVD Reference: GL 3767.1+26 @ 3793.1usft (Precision 590)
Site: Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference: GL 3767.1+26 @ 3793.1usft (Precision 590)
Well: Becknell State Com #1H	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 5/17 T22S-R33E Becknell State Com #1H					
Site Position:	Northing:	549,057.00 usft	Latitude:	32° 30' 26.131 N	
From: Map	Easting:	729,845.20 usft	Longitude:	103° 35' 15.935 W	
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "		Grid Convergence:	0.40 °	

Well Becknell State Com #1H						
Well Position	+N/-S	0.0 usft	Northing:	549,057.00 usft	Latitude:	32° 30' 26.131 N
	+E/-W	0.0 usft	Easting:	729,845.20 usft	Longitude:	103° 35' 15.935 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,767.1 usft

Wellbore Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/10/2014	7.21	60.36	48,458

Design Original Hole

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	179.52

Survey Program		Date 10/28/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	10,942.0	VES Gyro Survey (Original Hole)	SRG-GYRO-MS	surface readout gyro multishot	
10,993.0	21,305.0	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	549,057.00	729,845.20	32° 30' 26.131 N	103° 35' 15.935 W
100.0	0.13	78.76	100.0	0.0	0.1	549,057.02	729,845.31	32° 30' 26.131 N	103° 35' 15.933 W
200.0	0.17	85.49	200.0	0.1	0.4	549,057.06	729,845.57	32° 30' 26.131 N	103° 35' 15.930 W
300.0	0.17	110.48	300.0	0.0	0.7	549,057.02	729,845.85	32° 30' 26.131 N	103° 35' 15.927 W
400.0	0.18	135.48	400.0	-0.1	0.9	549,056.85	729,846.10	32° 30' 26.129 N	103° 35' 15.924 W
500.0	0.18	182.87	500.0	-0.4	1.0	549,056.59	729,846.21	32° 30' 26.126 N	103° 35' 15.923 W
600.0	0.17	230.26	600.0	-0.7	0.9	549,056.33	729,846.08	32° 30' 26.124 N	103° 35' 15.925 W
700.0	0.31	206.01	700.0	-1.0	0.7	549,056.00	729,845.85	32° 30' 26.121 N	103° 35' 15.927 W
800.0	0.45	181.76	800.0	-1.6	0.5	549,055.36	729,845.72	32° 30' 26.114 N	103° 35' 15.929 W
900.0	0.38	156.18	900.0	-2.3	0.6	549,054.66	729,845.84	32° 30' 26.107 N	103° 35' 15.927 W

Stryker Directional

Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Becknell State Com #1H
Project:	Lea County, N.M.	TVD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Site:	Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Well:	Becknell State Com #1H	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
1,000.0	0.32	130.59	1,000.0	-2.8	1.0	549,054.18	729,846.19	32° 30' 26.103 N	103° 35' 15.923 W
1,100.0	0.28	212.64	1,100.0	-3.2	1.1	549,053.79	729,846.27	32° 30' 26.099 N	103° 35' 15.923 W
1,200.0	0.23	294.70	1,200.0	-3.3	0.8	549,053.67	729,845.95	32° 30' 26.098 N	103° 35' 15.926 W
1,300.0	0.32	310.83	1,300.0	-3.1	0.4	549,053.94	729,845.56	32° 30' 26.100 N	103° 35' 15.931 W
1,400.0	0.41	326.96	1,400.0	-2.6	0.0	549,054.42	729,845.15	32° 30' 26.105 N	103° 35' 15.936 W
1,500.0	0.51	309.67	1,500.0	-2.0	-0.6	549,055.00	729,844.62	32° 30' 26.111 N	103° 35' 15.942 W
1,600.0	0.61	292.38	1,600.0	-1.5	-1.4	549,055.49	729,843.78	32° 30' 26.116 N	103° 35' 15.951 W
1,700.0	0.73	246.40	1,700.0	-1.6	-2.5	549,055.44	729,842.71	32° 30' 26.115 N	103° 35' 15.964 W
1,800.0	0.84	200.43	1,800.0	-2.5	-3.3	549,054.50	729,841.87	32° 30' 26.106 N	103° 35' 15.974 W
1,900.0	0.54	174.79	1,900.0	-3.7	-3.5	549,053.34	729,841.65	32° 30' 26.095 N	103° 35' 15.976 W
2,000.0	0.24	149.14	2,000.0	-4.3	-3.4	549,052.69	729,841.80	32° 30' 26.088 N	103° 35' 15.975 W
2,100.0	0.38	161.54	2,100.0	-4.8	-3.2	549,052.20	729,842.02	32° 30' 26.083 N	103° 35' 15.972 W
2,200.0	0.51	173.94	2,199.9	-5.6	-3.0	549,051.44	729,842.17	32° 30' 26.076 N	103° 35' 15.971 W
2,300.0	0.51	157.65	2,299.9	-6.4	-2.8	549,050.58	729,842.38	32° 30' 26.067 N	103° 35' 15.968 W
2,400.0	0.51	121.35	2,399.9	-7.1	-2.3	549,049.94	729,842.93	32° 30' 26.061 N	103° 35' 15.962 W
2,500.0	0.62	54.30	2,499.9	-7.0	-1.4	549,050.03	729,843.75	32° 30' 26.062 N	103° 35' 15.952 W
2,600.0	0.72	347.26	2,599.9	-6.0	-1.1	549,050.95	729,844.05	32° 30' 26.071 N	103° 35' 15.949 W
2,700.0	0.61	69.15	2,699.9	-5.2	-0.8	549,051.76	729,844.41	32° 30' 26.079 N	103° 35' 15.944 W
2,800.0	0.50	151.05	2,799.9	-5.4	-0.1	549,051.56	729,845.12	32° 30' 26.077 N	103° 35' 15.936 W
2,900.0	0.66	102.27	2,899.9	-5.9	0.7	549,051.06	729,845.89	32° 30' 26.072 N	103° 35' 15.927 W
3,000.0	0.82	53.49	2,999.9	-5.6	1.8	549,051.36	729,847.03	32° 30' 26.075 N	103° 35' 15.914 W
3,100.0	0.48	76.95	3,099.9	-5.1	2.8	549,051.88	729,848.02	32° 30' 26.080 N	103° 35' 15.902 W
3,200.0	0.14	100.40	3,199.9	-5.0	3.3	549,051.96	729,848.54	32° 30' 26.080 N	103° 35' 15.896 W
3,300.0	0.15	48.61	3,299.9	-5.0	3.6	549,052.02	729,848.76	32° 30' 26.081 N	103° 35' 15.894 W
3,400.0	0.17	356.83	3,399.9	-4.7	3.7	549,052.25	729,848.85	32° 30' 26.083 N	103° 35' 15.892 W
3,500.0	0.27	330.81	3,499.9	-4.4	3.5	549,052.61	729,848.73	32° 30' 26.087 N	103° 35' 15.894 W
3,600.0	0.38	304.79	3,599.9	-4.0	3.1	549,053.00	729,848.34	32° 30' 26.091 N	103° 35' 15.898 W
3,700.0	0.25	15.10	3,699.9	-3.6	2.9	549,053.40	729,848.13	32° 30' 26.095 N	103° 35' 15.901 W
3,800.0	0.12	85.40	3,799.9	-3.4	3.1	549,053.62	729,848.29	32° 30' 26.097 N	103° 35' 15.899 W
3,900.0	0.17	356.05	3,899.9	-3.2	3.2	549,053.78	729,848.38	32° 30' 26.099 N	103° 35' 15.898 W
4,000.0	0.23	266.69	3,999.9	-3.1	3.0	549,053.92	729,848.17	32° 30' 26.100 N	103° 35' 15.900 W
4,100.0	0.22	241.54	4,099.9	-3.2	2.6	549,053.81	729,847.80	32° 30' 26.099 N	103° 35' 15.905 W
4,200.0	0.21	216.39	4,199.9	-3.4	2.3	549,053.57	729,847.52	32° 30' 26.097 N	103° 35' 15.908 W
4,300.0	0.20	228.52	4,299.9	-3.7	2.1	549,053.31	729,847.29	32° 30' 26.094 N	103° 35' 15.911 W
4,400.0	0.20	242.64	4,399.9	-3.9	1.8	549,053.11	729,847.00	32° 30' 26.092 N	103° 35' 15.914 W
4,500.0	0.19	264.85	4,499.9	-4.0	1.5	549,053.02	729,846.68	32° 30' 26.091 N	103° 35' 15.918 W
4,600.0	0.18	287.05	4,599.9	-4.0	1.2	549,053.05	729,846.36	32° 30' 26.091 N	103° 35' 15.921 W
4,700.0	0.17	18.95	4,699.9	-3.8	-1.1	549,053.24	729,846.26	32° 30' 26.093 N	103° 35' 15.923 W
4,800.0	0.16	106.85	4,799.9	-3.7	1.2	549,053.34	729,846.44	32° 30' 26.094 N	103° 35' 15.921 W
4,900.0	0.15	30.72	4,899.9	-3.6	1.4	549,053.41	729,846.64	32° 30' 26.095 N	103° 35' 15.918 W
5,000.0	0.14	314.59	4,999.9	-3.4	1.4	549,053.61	729,846.62	32° 30' 26.097 N	103° 35' 15.918 W
5,100.0	0.16	291.00	5,099.9	-3.3	1.2	549,053.74	729,846.41	32° 30' 26.098 N	103° 35' 15.921 W
5,200.0	0.18	267.40	5,199.9	-3.2	0.9	549,053.79	729,846.12	32° 30' 26.099 N	103° 35' 15.924 W
5,300.0	0.21	232.44	5,299.9	-3.3	0.6	549,053.67	729,845.82	32° 30' 26.098 N	103° 35' 15.928 W
5,400.0	0.24	197.47	5,399.9	-3.6	0.4	549,053.36	729,845.61	32° 30' 26.095 N	103° 35' 15.930 W
5,500.0	0.24	117.30	5,499.9	-3.9	0.5	549,053.06	729,845.73	32° 30' 26.092 N	103° 35' 15.929 W
5,600.0	0.25	37.13	5,599.9	-3.9	0.9	549,053.14	729,846.05	32° 30' 26.092 N	103° 35' 15.925 W
5,700.0	0.23	318.62	5,699.9	-3.5	0.9	549,053.46	729,846.05	32° 30' 26.096 N	103° 35' 15.925 W
5,800.0	0.20	240.10	5,799.9	-3.5	0.6	549,053.53	729,845.77	32° 30' 26.096 N	103° 35' 15.928 W
5,900.0	0.42	295.39	5,899.9	-3.4	0.1	549,053.60	729,845.28	32° 30' 26.097 N	103° 35' 15.934 W
6,000.0	0.63	350.68	5,999.9	-2.7	-0.3	549,054.30	729,844.86	32° 30' 26.104 N	103° 35' 15.939 W
6,100.0	0.81	339.40	6,099.9	-1.5	-0.7	549,055.50	729,844.52	32° 30' 26.116 N	103° 35' 15.943 W
6,200.0	0.98	328.11	6,199.9	-0.1	-1.4	549,056.89	729,843.82	32° 30' 26.130 N	103° 35' 15.951 W
6,300.0	0.73	335.03	6,299.9	1.2	-2.1	549,058.19	729,843.10	32° 30' 26.143 N	103° 35' 15.959 W

Stryker Directional Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Becknell State Com #1H
Project:	Lea County, N.M.	TVD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Site:	Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Well:	Becknell State Com #1H	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
6,400.0	0.49	341.94	6,399.8	2.2	-2.5	549,059.17	729,842.70	32° 30' 26.152 N	103° 35' 15.964 W
6,500.0	0.52	333.18	6,499.8	3.0	-2.8	549,059.99	729,842.36	32° 30' 26.160 N	103° 35' 15.968 W
6,600.0	0.54	324.42	6,599.8	3.8	-3.3	549,060.77	729,841.89	32° 30' 26.168 N	103° 35' 15.973 W
6,700.0	0.49	316.87	6,699.8	4.5	-3.9	549,061.47	729,841.32	32° 30' 26.175 N	103° 35' 15.980 W
6,800.0	0.43	311.32	6,799.8	5.0	-4.5	549,062.03	729,840.75	32° 30' 26.181 N	103° 35' 15.986 W
6,900.0	0.43	310.14	6,899.8	5.5	-5.0	549,062.52	729,840.18	32° 30' 26.186 N	103° 35' 15.993 W
7,000.0	0.45	308.96	6,999.8	6.0	-5.6	549,063.01	729,839.58	32° 30' 26.190 N	103° 35' 16.000 W
7,100.0	0.47	288.55	7,099.8	6.4	-6.3	549,063.39	729,838.89	32° 30' 26.194 N	103° 35' 16.008 W
7,200.0	0.48	268.15	7,199.8	6.5	-7.1	549,063.50	729,838.08	32° 30' 26.195 N	103° 35' 16.017 W
7,300.0	0.57	254.21	7,299.8	6.4	-8.0	549,063.35	729,837.19	32° 30' 26.194 N	103° 35' 16.028 W
7,400.0	0.66	240.26	7,399.8	5.9	-9.0	549,062.93	729,836.21	32° 30' 26.190 N	103° 35' 16.039 W
7,500.0	0.51	247.69	7,499.8	5.5	-9.9	549,062.48	729,835.29	32° 30' 26.186 N	103° 35' 16.050 W
7,600.0	0.35	257.12	7,599.8	5.2	-10.6	549,062.24	729,834.59	32° 30' 26.183 N	103° 35' 16.058 W
7,700.0	0.54	251.52	7,699.8	5.0	-11.4	549,062.02	729,833.84	32° 30' 26.181 N	103° 35' 16.067 W
7,800.0	0.73	245.93	7,799.8	4.6	-12.4	549,061.61	729,832.81	32° 30' 26.177 N	103° 35' 16.079 W
7,900.0	0.63	249.16	7,899.8	4.2	-13.5	549,061.16	729,831.72	32° 30' 26.173 N	103° 35' 16.092 W
8,000.0	0.51	252.38	7,999.8	3.8	-14.4	549,060.83	729,830.78	32° 30' 26.170 N	103° 35' 16.103 W
8,100.0	0.63	245.99	8,099.8	3.5	-15.3	549,060.47	729,829.85	32° 30' 26.166 N	103° 35' 16.114 W
8,200.0	0.76	239.61	8,199.8	2.9	-16.4	549,059.91	729,828.78	32° 30' 26.161 N	103° 35' 16.126 W
8,300.0	0.62	242.85	8,299.8	2.3	-17.5	549,059.33	729,827.72	32° 30' 26.155 N	103° 35' 16.139 W
8,400.0	0.46	246.08	8,399.8	1.9	-18.3	549,058.92	729,826.88	32° 30' 26.151 N	103° 35' 16.149 W
8,500.0	0.56	231.75	8,499.8	1.5	-19.1	549,058.45	729,826.13	32° 30' 26.146 N	103° 35' 16.157 W
8,600.0	0.66	217.41	8,599.7	0.7	-19.8	549,057.69	729,825.39	32° 30' 26.139 N	103° 35' 16.166 W
8,700.0	0.76	224.06	8,699.7	-0.2	-20.6	549,056.76	729,824.58	32° 30' 26.130 N	103° 35' 16.176 W
8,800.0	0.86	230.70	8,799.7	-1.2	-21.7	549,055.81	729,823.54	32° 30' 26.120 N	103° 35' 16.188 W
8,900.0	0.91	227.15	8,899.7	-2.2	-22.8	549,054.79	729,822.38	32° 30' 26.110 N	103° 35' 16.201 W
9,000.0	0.95	225.60	8,999.7	-3.3	-24.0	549,053.67	729,821.20	32° 30' 26.099 N	103° 35' 16.215 W
9,100.0	0.67	239.28	9,099.7	-4.2	-25.1	549,052.79	729,820.11	32° 30' 26.091 N	103° 35' 16.228 W
9,200.0	0.38	252.97	9,199.7	-4.6	-25.9	549,052.40	729,819.29	32° 30' 26.087 N	103° 35' 16.238 W
9,300.0	0.60	173.71	9,299.7	-5.2	-26.2	549,051.78	729,819.03	32° 30' 26.081 N	103° 35' 16.241 W
9,400.0	0.83	94.45	9,399.7	-5.8	-25.4	549,051.20	729,819.81	32° 30' 26.075 N	103° 35' 16.232 W
9,500.0	0.58	181.01	9,499.7	-6.4	-24.7	549,050.64	729,820.52	32° 30' 26.069 N	103° 35' 16.223 W
9,600.0	0.34	267.58	9,599.7	-6.9	-25.0	549,050.12	729,820.21	32° 30' 26.064 N	103° 35' 16.227 W
9,700.0	0.40	237.72	9,699.7	-7.1	-25.6	549,049.92	729,819.62	32° 30' 26.062 N	103° 35' 16.234 W
9,800.0	0.47	207.86	9,799.7	-7.6	-26.1	549,049.37	729,819.14	32° 30' 26.057 N	103° 35' 16.240 W
9,900.0	1.24	194.18	9,899.7	-9.0	-26.5	549,047.96	729,818.68	32° 30' 26.043 N	103° 35' 16.245 W
10,000.0	2.01	180.50	9,999.6	-11.8	-26.8	549,045.16	729,818.40	32° 30' 26.015 N	103° 35' 16.249 W
10,100.0	2.12	183.17	10,099.6	-15.4	-26.9	549,041.56	729,818.28	32° 30' 25.980 N	103° 35' 16.250 W
10,200.0	2.23	185.85	10,199.5	-19.2	-27.2	549,037.78	729,817.98	32° 30' 25.942 N	103° 35' 16.254 W
10,300.0	1.84	208.93	10,299.4	-22.6	-28.2	549,034.44	729,817.01	32° 30' 25.909 N	103° 35' 16.266 W
10,400.0	1.44	232.01	10,399.4	-24.7	-30.0	549,032.26	729,815.24	32° 30' 25.888 N	103° 35' 16.287 W
10,500.0	1.21	221.81	10,499.4	-26.3	-31.7	549,030.70	729,813.54	32° 30' 25.873 N	103° 35' 16.307 W
10,600.0	0.98	211.61	10,599.3	-27.8	-32.8	549,029.18	729,812.39	32° 30' 25.858 N	103° 35' 16.320 W
10,700.0	0.81	209.22	10,699.3	-29.2	-33.6	549,027.84	729,811.60	32° 30' 25.844 N	103° 35' 16.329 W
10,800.0	0.63	206.82	10,799.3	-30.3	-34.2	549,026.73	729,811.01	32° 30' 25.833 N	103° 35' 16.337 W
10,900.0	0.89	209.61	10,899.3	-31.4	-34.8	549,025.56	729,810.37	32° 30' 25.822 N	103° 35' 16.344 W
10,942.0	0.99	219.61	10,941.3	-32.0	-35.2	549,025.00	729,809.98	32° 30' 25.816 N	103° 35' 16.349 W
10942' MD VES Gyro Survey									
10,993.0	1.70	131.70	10,992.3	-32.8	-34.9	549,024.16	729,810.27	32° 30' 25.808 N	103° 35' 16.345 W
11,023.0	5.10	163.00	11,022.2	-34.4	-34.2	549,022.59	729,810.99	32° 30' 25.792 N	103° 35' 16.337 W
11,054.0	7.00	172.80	11,053.1	-37.6	-33.6	549,019.39	729,811.63	32° 30' 25.761 N	103° 35' 16.330 W
11,085.0	10.20	174.70	11,083.7	-42.2	-33.1	549,014.79	729,812.12	32° 30' 25.715 N	103° 35' 16.324 W
11,115.0	13.40	177.60	11,113.1	-48.3	-32.7	549,008.67	729,812.51	32° 30' 25.655 N	103° 35' 16.320 W
11,146.0	15.20	178.20	11,143.1	-56.0	-32.4	549,001.01	729,812.79	32° 30' 25.579 N	103° 35' 16.318 W

Stryker Directional Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Becknell State Com #1H
Project:	Lea County, N.M.	TVD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Site:	Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Well:	Becknell State Com #1H	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	
11,177.0	16.70	181.40	11,172.9	-64.5	-32.4	548,992.50	729,812.81	32° 30' 25.495 N	103° 35' 16.318 W	
11,208.0	19.60	178.90	11,202.4	-74.2	-32.4	548,982.85	729,812.80	32° 30' 25.399 N	103° 35' 16.319 W	
11,238.0	21.90	178.90	11,230.4	-84.8	-32.2	548,972.22	729,813.00	32° 30' 25.294 N	103° 35' 16.318 W	
11,269.0	24.40	180.90	11,258.9	-97.0	-32.2	548,960.04	729,813.01	32° 30' 25.173 N	103° 35' 16.319 W	
11,300.0	29.40	180.70	11,286.6	-111.0	-32.4	548,946.02	729,812.82	32° 30' 25.035 N	103° 35' 16.322 W	
11,331.0	34.70	178.80	11,312.8	-127.4	-32.3	548,929.57	729,812.91	32° 30' 24.872 N	103° 35' 16.322 W	
11,362.0	38.90	177.70	11,337.6	-146.0	-31.7	548,911.02	729,813.49	32° 30' 24.688 N	103° 35' 16.317 W	
11,392.0	43.00	176.40	11,360.3	-165.6	-30.7	548,891.39	729,814.51	32° 30' 24.494 N	103° 35' 16.307 W	
11,423.0	46.90	175.60	11,382.2	-187.5	-29.2	548,869.54	729,816.04	32° 30' 24.278 N	103° 35' 16.291 W	
11,454.0	50.90	175.60	11,402.6	-210.7	-27.4	548,846.26	729,817.83	32° 30' 24.047 N	103° 35' 16.272 W	
11,484.0	55.30	176.70	11,420.6	-234.7	-25.8	548,822.33	729,819.43	32° 30' 23.810 N	103° 35' 16.255 W	
11,515.0	60.00	177.80	11,437.2	-260.8	-24.5	548,796.18	729,820.68	32° 30' 23.551 N	103° 35' 16.242 W	
11,546.0	64.40	178.60	11,451.7	-288.2	-23.7	548,768.77	729,821.54	32° 30' 23.280 N	103° 35' 16.235 W	
11,576.0	69.30	179.60	11,463.4	-315.8	-23.2	548,741.20	729,821.97	32° 30' 23.007 N	103° 35' 16.232 W	
11,605.0	72.90	179.30	11,472.8	-343.2	-23.0	548,713.77	729,822.23	32° 30' 22.736 N	103° 35' 16.231 W	
11,635.0	76.10	180.10	11,480.9	-372.1	-22.8	548,684.87	729,822.38	32° 30' 22.450 N	103° 35' 16.232 W	
11,666.0	77.00	181.10	11,488.1	-402.3	-23.1	548,654.72	729,822.07	32° 30' 22.152 N	103° 35' 16.238 W	
11,697.0	78.40	181.60	11,494.7	-432.6	-23.8	548,624.44	729,821.35	32° 30' 21.852 N	103° 35' 16.249 W	
11,727.0	80.50	182.20	11,500.2	-462.0	-24.8	548,594.97	729,820.38	32° 30' 21.560 N	103° 35' 16.262 W	
11,758.0	82.80	182.80	11,504.7	-492.7	-26.2	548,564.33	729,819.04	32° 30' 21.257 N	103° 35' 16.280 W	
11,789.0	85.00	184.30	11,508.0	-523.4	-28.1	548,533.56	729,817.13	32° 30' 20.953 N	103° 35' 16.305 W	
11,850.0	88.00	185.80	11,511.7	-584.1	-33.4	548,472.92	729,811.77	32° 30' 20.353 N	103° 35' 16.373 W	
11,943.0	91.00	183.80	11,512.5	-676.7	-41.2	548,380.27	729,803.99	32° 30' 19.437 N	103° 35' 16.471 W	
12,035.0	90.00	182.10	11,511.7	-768.6	-45.9	548,288.40	729,799.25	32° 30' 18.528 N	103° 35' 16.534 W	
12,127.0	90.30	179.60	11,511.4	-860.6	-47.3	548,196.41	729,797.89	32° 30' 17.618 N	103° 35' 16.557 W	
12,219.0	89.50	179.10	11,511.6	-952.6	-46.3	548,104.42	729,798.93	32° 30' 16.708 N	103° 35' 16.553 W	
12,311.0	87.50	178.40	11,514.0	-1,044.5	-44.3	548,012.48	729,800.94	32° 30' 15.798 N	103° 35' 16.537 W	
12,403.0	89.10	177.50	11,516.7	-1,136.4	-41.0	547,920.58	729,804.23	32° 30' 14.889 N	103° 35' 16.506 W	
12,495.0	88.30	177.90	11,518.8	-1,228.3	-37.3	547,828.68	729,807.92	32° 30' 13.979 N	103° 35' 16.470 W	
12,587.0	90.10	177.70	11,520.1	-1,320.2	-33.7	547,736.76	729,811.45	32° 30' 13.069 N	103° 35' 16.437 W	
12,680.0	88.60	177.70	11,521.2	-1,413.2	-30.0	547,643.85	729,815.18	32° 30' 12.149 N	103° 35' 16.401 W	
12,772.0	90.20	176.90	11,522.1	-1,505.0	-25.7	547,551.96	729,819.52	32° 30' 11.240 N	103° 35' 16.358 W	
12,864.0	88.70	177.20	11,523.0	-1,596.9	-20.9	547,460.09	729,824.25	32° 30' 10.330 N	103° 35' 16.310 W	
12,956.0	88.10	179.30	11,525.6	-1,688.8	-18.1	547,368.17	729,827.06	32° 30' 9.421 N	103° 35' 16.284 W	
13,048.0	89.70	179.10	11,527.4	-1,780.8	-16.9	547,276.20	729,828.34	32° 30' 8.511 N	103° 35' 16.277 W	
13,140.0	89.10	178.40	11,528.3	-1,872.8	-14.8	547,184.23	729,830.35	32° 30' 7.600 N	103° 35' 16.261 W	
13,232.0	90.70	177.80	11,528.5	-1,964.7	-11.8	547,092.28	729,833.40	32° 30' 6.690 N	103° 35' 16.233 W	
13,325.0	88.70	178.00	11,529.0	-2,057.7	-8.4	546,999.35	729,836.81	32° 30' 5.771 N	103° 35' 16.201 W	
13,417.0	88.70	176.30	11,531.1	-2,149.5	-3.8	546,907.49	729,841.38	32° 30' 4.861 N	103° 35' 16.155 W	
13,509.0	89.10	176.90	11,532.8	-2,241.3	1.6	546,815.67	729,846.84	32° 30' 3.952 N	103° 35' 16.099 W	
13,601.0	90.00	177.70	11,533.5	-2,333.2	6.0	546,723.78	729,851.17	32° 30' 3.043 N	103° 35' 16.056 W	
13,693.0	90.30	178.00	11,533.3	-2,425.2	9.4	546,631.84	729,854.62	32° 30' 2.133 N	103° 35' 16.023 W	
13,785.0	89.50	178.60	11,533.5	-2,517.1	12.2	546,539.88	729,857.35	32° 30' 1.223 N	103° 35' 15.998 W	
13,878.0	88.30	180.30	11,535.2	-2,610.1	13.0	546,446.91	729,858.24	32° 30' 0.303 N	103° 35' 15.996 W	
13,970.0	89.80	180.60	11,536.8	-2,702.1	12.3	546,354.93	729,857.52	32° 29' 59.393 N	103° 35' 16.012 W	
14,062.0	90.40	182.30	11,536.6	-2,794.0	10.0	546,262.96	729,855.19	32° 29' 58.483 N	103° 35' 16.046 W	
14,154.0	89.10	182.50	11,537.0	-2,886.0	6.1	546,171.05	729,851.34	32° 29' 57.573 N	103° 35' 16.099 W	
14,246.0	89.50	183.60	11,538.1	-2,977.8	1.2	546,079.18	729,846.45	32° 29' 56.665 N	103° 35' 16.163 W	
14,338.0	88.80	183.80	11,539.5	-3,069.6	-4.7	545,987.39	729,840.51	32° 29' 55.757 N	103° 35' 16.240 W	
14,430.0	88.70	184.90	11,541.5	-3,161.3	-11.7	545,895.68	729,833.53	32° 29' 54.850 N	103° 35' 16.329 W	
14,523.0	87.40	182.70	11,544.7	-3,254.1	-17.8	545,802.94	729,827.37	32° 29' 53.933 N	103° 35' 16.409 W	
14,615.0	88.00	180.90	11,548.4	-3,345.9	-20.7	545,711.07	729,824.49	32° 29' 53.024 N	103° 35' 16.450 W	
14,707.0	89.70	180.20	11,550.2	-3,437.9	-21.6	545,619.09	729,823.60	32° 29' 52.114 N	103° 35' 16.468 W	
14,799.0	89.00	180.50	11,551.3	-3,529.9	-22.2	545,527.10	729,823.04	32° 29' 51.203 N	103° 35' 16.482 W	

Stryker Directional Survey Report - Geographic

Company:	COG Operating, LLC.	Local Co-ordinate Reference:	Well Becknell State Com #1H
Project:	Lea County, N.M.	TVD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Site:	Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference:	GL 3767.1+26 @ 3793.1usft (Precision 590)
Well:	Becknell State Com #1H	North Reference:	Grid
Wellbore:	Orginal Hole	Survey Calculation Method:	Minimum Curvature
Design:	Orginal 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
14,891.0	90.80	180.50	11,551.4	-3,621.9	-23.0	545,435.11	729,822.24	32° 29' 50.293 N	103° 35' 16.499 W
14,983.0	89.80	180.50	11,550.9	-3,713.9	-23.8	545,343.11	729,821.44	32° 29' 49.383 N	103° 35' 16.515 W
15,075.0	88.10	179.90	11,552.6	-3,805.9	-24.1	545,251.13	729,821.11	32° 29' 48.473 N	103° 35' 16.527 W
15,167.0	89.90	179.40	11,554.2	-3,897.8	-23.5	545,159.15	729,821.68	32° 29' 47.563 N	103° 35' 16.528 W
15,259.0	89.10	179.80	11,555.0	-3,989.8	-22.9	545,067.16	729,822.32	32° 29' 46.652 N	103° 35' 16.528 W
15,351.0	87.30	178.20	11,557.9	-4,081.8	-21.3	544,975.23	729,823.92	32° 29' 45.743 N	103° 35' 16.516 W
15,443.0	88.70	177.40	11,561.1	-4,173.6	-17.7	544,883.35	729,827.45	32° 29' 44.833 N	103° 35' 16.483 W
15,535.0	90.00	175.60	11,562.2	-4,265.5	-12.1	544,791.54	729,833.07	32° 29' 43.924 N	103° 35' 16.425 W
15,627.0	90.10	175.80	11,562.1	-4,357.2	-5.2	544,699.80	729,839.97	32° 29' 43.016 N	103° 35' 16.352 W
15,720.0	89.50	176.80	11,562.4	-4,450.0	0.8	544,606.99	729,845.97	32° 29' 42.097 N	103° 35' 16.289 W
15,812.0	88.20	177.40	11,564.3	-4,541.9	5.4	544,515.13	729,850.62	32° 29' 41.188 N	103° 35' 16.242 W
15,904.0	89.50	176.80	11,566.1	-4,633.7	10.1	544,423.27	729,855.28	32° 29' 40.279 N	103° 35' 16.195 W
15,996.0	91.10	175.70	11,565.6	-4,725.5	16.1	544,331.47	729,861.29	32° 29' 39.370 N	103° 35' 16.133 W
16,088.0	91.30	176.90	11,563.7	-4,817.3	22.0	544,239.68	729,867.23	32° 29' 38.461 N	103° 35' 16.071 W
16,180.0	90.50	177.80	11,562.3	-4,909.2	26.3	544,147.80	729,871.48	32° 29' 37.552 N	103° 35' 16.029 W
16,272.0	88.60	178.20	11,563.0	-5,001.1	29.5	544,055.86	729,874.69	32° 29' 36.642 N	103° 35' 15.999 W
16,365.0	88.00	179.00	11,565.7	-5,094.1	31.8	543,962.93	729,876.96	32° 29' 35.722 N	103° 35' 15.980 W
16,457.0	89.50	178.60	11,567.7	-5,186.0	33.7	543,870.97	729,878.89	32° 29' 34.812 N	103° 35' 15.965 W
16,549.0	88.70	179.50	11,569.2	-5,278.0	35.2	543,779.00	729,880.41	32° 29' 33.902 N	103° 35' 15.954 W
16,641.0	88.20	180.70	11,571.7	-5,370.0	35.1	543,687.04	729,880.25	32° 29' 32.992 N	103° 35' 15.964 W
16,733.0	90.30	180.80	11,572.9	-5,461.9	33.9	543,595.06	729,879.05	32° 29' 32.082 N	103° 35' 15.985 W
16,826.0	89.70	181.40	11,572.9	-5,554.9	32.1	543,502.07	729,877.26	32° 29' 31.162 N	103° 35' 16.014 W
16,918.0	88.60	182.20	11,574.2	-5,646.9	29.2	543,410.13	729,874.37	32° 29' 30.252 N	103° 35' 16.055 W
17,010.0	89.70	181.60	11,575.6	-5,738.8	26.1	543,318.19	729,871.32	32° 29' 29.343 N	103° 35' 16.098 W
17,103.0	88.60	182.40	11,577.0	-5,831.7	22.9	543,225.26	729,868.08	32° 29' 28.423 N	103° 35' 16.144 W
17,195.0	89.50	182.20	11,578.5	-5,923.7	19.2	543,133.35	729,864.39	32° 29' 27.514 N	103° 35' 16.194 W
17,287.0	90.50	182.00	11,578.5	-6,015.6	15.8	543,041.41	729,861.02	32° 29' 26.605 N	103° 35' 16.241 W
17,379.0	88.80	182.10	11,579.1	-6,107.5	12.5	542,949.48	729,857.73	32° 29' 25.695 N	103° 35' 16.287 W
17,471.0	87.40	181.80	11,582.1	-6,199.4	9.4	542,857.58	729,854.60	32° 29' 24.786 N	103° 35' 16.331 W
17,563.0	88.00	181.40	11,585.8	-6,291.3	6.8	542,765.70	729,852.03	32° 29' 23.877 N	103° 35' 16.369 W
17,655.0	89.00	181.20	11,588.2	-6,383.3	4.7	542,673.75	729,849.94	32° 29' 22.967 N	103° 35' 16.400 W
17,747.0	89.80	180.60	11,589.2	-6,475.2	3.3	542,581.77	729,848.50	32° 29' 22.057 N	103° 35' 16.425 W
17,840.0	90.70	180.50	11,588.8	-6,568.2	2.4	542,488.78	729,847.61	32° 29' 21.137 N	103° 35' 16.443 W
17,932.0	89.10	179.80	11,588.9	-6,660.2	2.2	542,396.78	729,847.37	32° 29' 20.227 N	103° 35' 16.453 W
18,026.0	89.20	179.20	11,590.3	-6,754.2	3.0	542,302.79	729,848.19	32° 29' 19.297 N	103° 35' 16.451 W
18,118.0	90.40	178.50	11,590.7	-6,846.2	4.8	542,210.82	729,850.03	32° 29' 18.387 N	103° 35' 16.437 W
18,210.0	89.50	179.10	11,590.7	-6,938.2	6.8	542,118.84	729,851.96	32° 29' 17.476 N	103° 35' 16.422 W
18,302.0	87.80	180.50	11,592.9	-7,030.1	7.1	542,026.87	729,852.28	32° 29' 16.566 N	103° 35' 16.426 W
18,394.0	89.10	179.90	11,595.4	-7,122.1	6.8	541,934.91	729,851.96	32° 29' 15.656 N	103° 35' 16.437 W
18,486.0	90.30	179.70	11,595.9	-7,214.1	7.1	541,842.91	729,852.28	32° 29' 14.746 N	103° 35' 16.441 W
18,578.0	88.60	180.80	11,596.8	-7,306.1	6.7	541,750.92	729,851.88	32° 29' 13.836 N	103° 35' 16.453 W
18,670.0	90.20	180.80	11,597.7	-7,398.1	5.4	541,658.94	729,850.59	32° 29' 12.926 N	103° 35' 16.476 W
18,762.0	87.80	179.50	11,599.3	-7,490.0	5.2	541,566.96	729,850.35	32° 29' 12.015 N	103° 35' 16.486 W
18,855.0	89.60	179.20	11,601.4	-7,583.0	6.2	541,473.99	729,851.41	32° 29' 11.096 N	103° 35' 16.481 W
18,947.0	91.90	179.40	11,600.2	-7,675.0	7.3	541,382.01	729,852.53	32° 29' 10.185 N	103° 35' 16.476 W
19,039.0	89.60	179.30	11,599.0	-7,767.0	8.4	541,290.03	729,853.58	32° 29' 9.275 N	103° 35' 16.471 W
19,131.0	89.30	179.50	11,599.9	-7,859.0	9.3	541,198.04	729,854.54	32° 29' 8.365 N	103° 35' 16.467 W
19,223.0	88.20	179.30	11,601.9	-7,950.9	10.3	541,106.07	729,855.50	32° 29' 7.455 N	103° 35' 16.463 W
19,315.0	89.60	178.70	11,603.7	-8,042.9	11.9	541,014.10	729,857.11	32° 29' 6.544 N	103° 35' 16.452 W
19,408.0	87.40	178.90	11,606.1	-8,135.8	13.9	540,921.16	729,859.05	32° 29' 5.625 N	103° 35' 16.437 W
19,500.0	88.70	178.40	11,609.3	-8,227.8	16.0	540,829.24	729,861.22	32° 29' 4.715 N	103° 35' 16.419 W
19,592.0	90.90	177.80	11,609.6	-8,319.7	19.1	540,737.30	729,864.27	32° 29' 3.805 N	103° 35' 16.391 W
19,684.0	89.90	177.80	11,608.9	-8,411.6	22.6	540,645.37	729,867.80	32° 29' 2.895 N	103° 35' 16.357 W
19,776.0	88.00	177.30	11,610.6	-8,503.5	26.5	540,553.48	729,871.73	32° 29' 1.985 N	103° 35' 16.319 W

Stryker Directional Survey Report - Geographic

Company: COG Operating, LLC.	Local Co-ordinate Reference: Well Becknell State Com #1H
Project: Lea County, N.M.	TVD Reference: GL 3767.1+26 @ 3793.1usft (Precision 590)
Site: Section 5/17 T22S-R33E Becknell State Com #1H	MD Reference: GL 3767.1+26 @ 3793.1usft (Precision 590)
Well: Becknell State Com #1H	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
19,868.0	89.90	176.60	11,612.3	-8,595.4	31.4	540,461.63	729,876.63	32° 29' 1.076 N	103° 35' 16.269 W
19,960.0	88.50	176.80	11,613.6	-8,687.2	36.7	540,369.79	729,881.92	32° 29' 0.167 N	103° 35' 16.215 W
20,053.0	89.20	175.50	11,615.5	-8,780.0	43.0	540,277.02	729,888.17	32° 28' 59.249 N	103° 35' 16.150 W
20,145.0	89.10	177.10	11,616.8	-8,871.8	48.9	540,185.23	729,894.10	32° 28' 58.340 N	103° 35' 16.088 W
20,238.0	89.00	174.90	11,618.4	-8,964.5	55.4	540,092.47	729,900.59	32° 28' 57.422 N	103° 35' 16.020 W
20,330.0	89.90	175.80	11,619.2	-9,056.2	62.9	540,000.78	729,908.05	32° 28' 56.514 N	103° 35' 15.940 W
20,422.0	89.10	177.30	11,620.1	-9,148.0	68.4	539,908.95	729,913.58	32° 28' 55.605 N	103° 35' 15.883 W
20,515.0	91.00	177.50	11,620.0	-9,240.9	72.6	539,816.05	729,917.80	32° 28' 54.685 N	103° 35' 15.841 W
20,607.0	90.50	179.30	11,618.8	-9,332.9	75.2	539,724.10	729,920.37	32° 28' 53.775 N	103° 35' 15.819 W
20,699.0	89.50	180.70	11,618.8	-9,424.9	75.2	539,632.11	729,920.37	32° 28' 52.865 N	103° 35' 15.826 W
20,791.0	88.00	181.90	11,620.8	-9,516.8	73.1	539,540.16	729,918.28	32° 28' 51.955 N	103° 35' 15.858 W
20,883.0	87.50	181.20	11,624.4	-9,608.7	70.6	539,448.26	729,915.80	32° 28' 51.046 N	103° 35' 15.895 W
20,976.0	88.10	180.30	11,628.0	-9,701.7	69.4	539,355.34	729,914.58	32° 28' 50.127 N	103° 35' 15.917 W
21,068.0	89.70	179.50	11,629.7	-9,793.6	69.5	539,263.36	729,914.74	32° 28' 49.217 N	103° 35' 15.922 W
21,160.0	91.10	178.50	11,629.1	-9,885.6	71.2	539,171.38	729,916.35	32° 28' 48.306 N	103° 35' 15.911 W
21,252.0	93.00	177.90	11,625.8	-9,977.5	74.0	539,079.49	729,919.23	32° 28' 47.397 N	103° 35' 15.885 W
21,305.0	93.00	177.90	11,623.0	-10,030.4	76.0	539,026.60	729,921.17	32° 28' 46.873 N	103° 35' 15.866 W

21305' MD Projected to Bit

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,942.0	10,941.3	-32.0	-35.2	10942' MD VES Gyro Survey
21,305.0	11,623.0	-10,030.4	76.0	21305' MD Projected to Bit