

RKB @ 3340 60usft (Precision 595)

Ground Level 3315.60



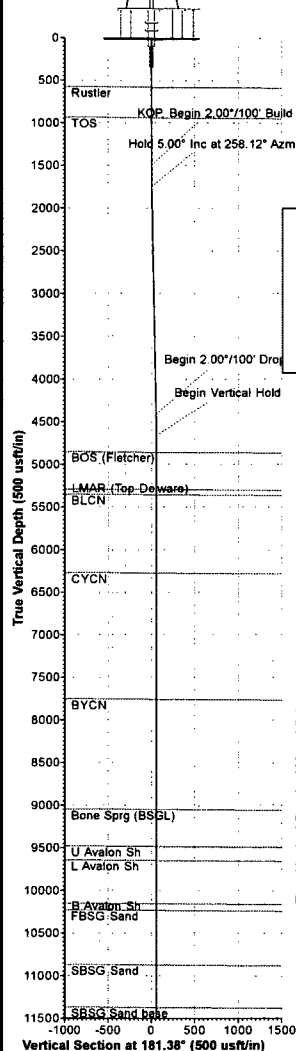
Project: Lea County, NM (NAD27 NME)
Site: Coonskin Fee
Well: 602H
Wellbore: OH
Design: Plan 1 07-26-18
Rig: Precision 595



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.51°
Magnetic North: 6.21°
Magnetic Field
Strength: 47904.4nT
Dip Angle: 59.86°
Date: 9/28/2018
Model: MVHD



WELL DETAILS						
3315.60						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	436158.80	796171.00	32° 11' 43.77467 N	103° 22' 33.27271 W	

DESIGN TARGET DETAILS							
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
FTP - Coonskin Fee 602H	12156.00	-282.30	-247.60	435876.50	795923.40	32° 11' 41.00310 N	103° 22' 36.18306 W
LTP - Coonskin Fee 602H	12197.23	-7544.20	-185.50	428614.60	795985.50	32° 10' 29.14069 N	103° 22' 36.21200 W
BHL - Coonskin Fee 602H	12198.00	-7674.20	-184.40	428484.60	795986.60	32° 10' 27.85423 N	103° 22' 36.21265 W

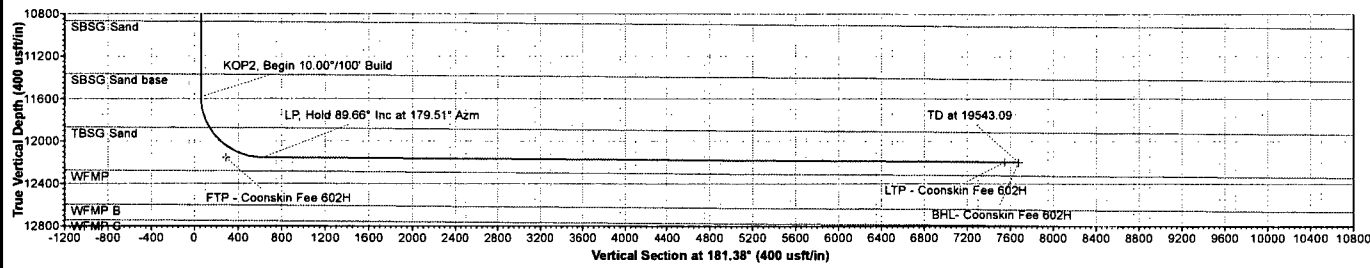
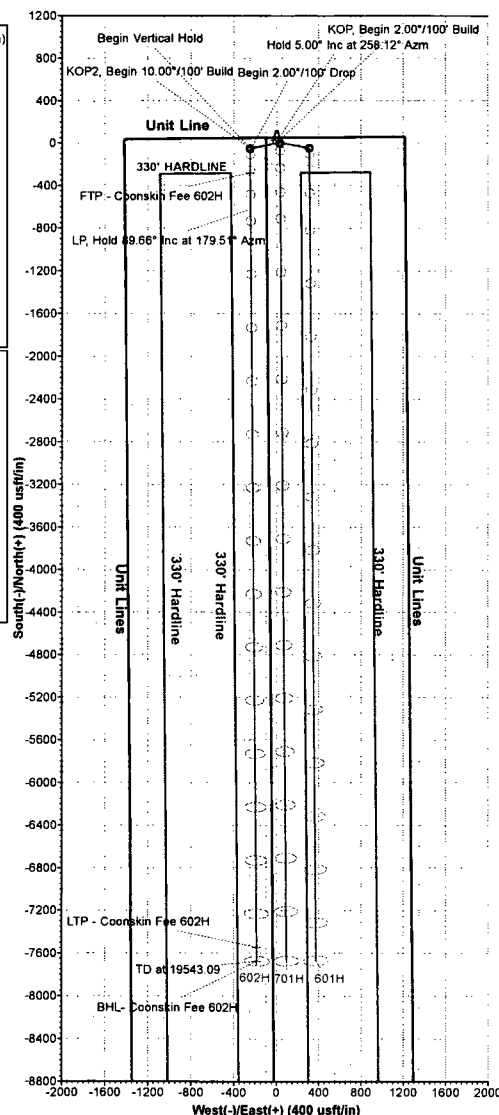
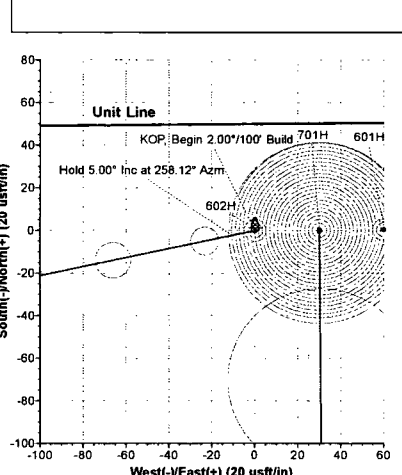
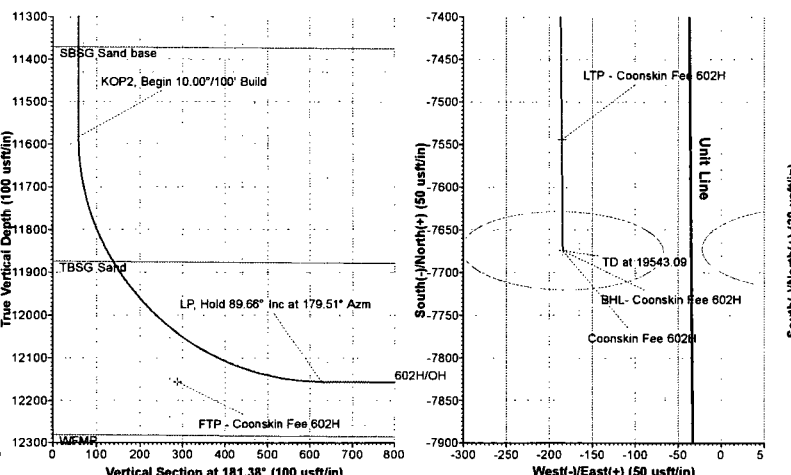
SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00
3	1749.97	5.00	258.12	1749.85	-2.24	-10.67	2.00	258.12	2.50
4	4420.82	5.00	258.12	4410.35	-50.16	-238.43	0.00	0.00	55.87
5	4670.80	0.00	0.00	4660.00	-52.40	-248.10	2.00	180.00	58.37
6	11593.85	0.00	0.00	11583.05	-52.40	-248.10	0.00	0.00	58.37
7	12490.43	89.66	179.51	12156.00	-621.93	-244.27	10.00	179.51	627.61
8	19543.09	89.66	179.51	12198.00	-7674.20	-184.40	0.00	0.00	7676.42

LEGEND

- 601H, OH, Plan 1 07-26-18 V0
- 701H, OH, Plan 1 07-26-18 V0
- 21Y, OH / Job# 62323, Surveys (McVay 8) V0
- Plan 1 07-26-18

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well 602H, Grid North
Latitude: 32° 11' 43.77467 N
Longitude: 103° 22' 33.27271 W
Grid East: 796171.00
Grid North: 436158.80
Scale Factor: 1.000
Geomagnetic Model: MVHD
Sample Date: 26-Sep-18
Magnetic Declination: 6.72°
Dip Angle from Horizontal: 59.86°
Magnetic Field Strength: 47904.44542804nT
To convert a Magnetic Direction to a Grid Direction, Add 6.21°
To convert a Magnetic Direction to a True Direction, Add 6.72° East
To convert a True Direction to a Grid Direction, Subtract 0.51°

FORMATION TOP DETAILS				
TVDPath	MDPath	Formation	DipAngle	DipDir
581.00	581.00	Rustler	0.34	181.38
940.00	940.00	TOS	0.34	181.38
4859.35	4870.14	BOS (Fletcher)	0.34	181.38
5286.35	5307.14	LMAR (Top Delaware)	0.34	181.38
5357.35	5388.14	BLCN	0.34	181.38
6276.35	6287.14	CYCN	0.34	181.38
7761.35	7772.14	BYCN	0.34	181.38
9051.35	9062.14	Bone Sprg (BSGL)	0.34	181.38
9483.35	9494.14	U Avalon Sh	0.34	181.38
9648.35	9659.14	L Avalon Sh	0.34	181.38
10153.35	10164.14	B Avalon Sh	0.34	181.38
10232.35	10243.14	FBSG Sand	0.34	181.38
10872.35	10883.14	SBSG Sand	0.34	181.38
11371.35	11382.14	SBSG Sand base	0.34	181.38
11874.82	11899.97	TBSG Sand	0.34	181.38



HOBBS OCD
AUG 07 2018
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HOBBS OCD
AUG 07 2018
RECEIVED

COG Operating LLC

Lea County, NM (NAD27 NME)

Coonskin Fee

602H

OH

Plan: Plan 1 07-26-18

Standard Planning Report

26 July, 2018





Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 602H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3340.60usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3340.60usft (Precision 595)
Site:	Coonskin Fee	North Reference:	Grid
Well:	602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-26-18		

Project	Lea County, NM (NAD27 NME)		
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	Coonskin Fee		
Site Position:		Northing:	436,159.30 usft
From:	Map	Easting:	796,231.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 11' 43.77433 N
		Longitude:	103° 22' 32.57448 W
		Grid Convergence:	0.51 °

Well	602H		
Well Position	+N/-S	-0.50 usft	Northing: 436,158.80 usft
	+E/-W	-60.00 usft	Easting: 796,171.00 usft
Position Uncertainty	0.00 usft		Latitude: 32° 11' 43.77467 N
		Wellhead Elevation:	Longitude: 103° 22' 33.27271 W
			Ground Level: 3,315.60 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	MVHD	9/26/2018	6.72
			Dip Angle (°) 59.86
			Field Strength (nT) 47,904.44542804

Design	Plan 1 07-26-18		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°) 181.38

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,749.97	5.00	258.12	1,749.65	-2.24	-10.67	2.00	2.00	0.00	258.12	
4,420.82	5.00	258.12	4,410.35	-50.16	-238.43	0.00	0.00	0.00	0.00	
4,670.80	0.00	0.00	4,660.00	-52.40	-249.10	2.00	-2.00	0.00	180.00	
11,593.85	0.00	0.00	11,583.05	-52.40	-249.10	0.00	0.00	0.00	0.00	
12,490.43	89.66	179.51	12,156.00	-621.93	-244.27	10.00	10.00	20.02	179.51	
19,543.09	89.66	179.51	12,198.00	-7,674.20	-184.40	0.00	0.00	0.00	0.00	BHL- Coonskin Fee



Planning Report



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Company:	COG Operating LLC	TVD Reference:	RKB @ 3340.60usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3340.60usft (Precision 595)
Site:	Coonskin Fee	North Reference:	Grid
Well:	602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-26-18		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
581.00	0.00	0.00	581.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
940.00	0.00	0.00	940.00	0.00	0.00	0.00	0.00	0.00	0.00
TOS									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,600.00	2.00	258.12	1,599.98	-0.36	-1.71	0.40	2.00	2.00	0.00
1,700.00	4.00	258.12	1,699.84	-1.44	-6.83	1.60	2.00	2.00	0.00
1,749.97	5.00	258.12	1,749.65	-2.24	-10.67	2.50	2.00	2.00	0.00
Hold 5.00° Inc at 258.12° Azm									
1,800.00	5.00	258.12	1,799.49	-3.14	-14.93	3.50	0.00	0.00	0.00
1,900.00	5.00	258.12	1,899.11	-4.93	-23.46	5.50	0.00	0.00	0.00
2,000.00	5.00	258.12	1,998.73	-6.73	-31.99	7.50	0.00	0.00	0.00
2,100.00	5.00	258.12	2,098.35	-8.52	-40.52	9.49	0.00	0.00	0.00
2,200.00	5.00	258.12	2,197.97	-10.32	-49.04	11.49	0.00	0.00	0.00
2,300.00	5.00	258.12	2,297.59	-12.11	-57.57	13.49	0.00	0.00	0.00
2,400.00	5.00	258.12	2,397.21	-13.90	-66.10	15.49	0.00	0.00	0.00
2,500.00	5.00	258.12	2,496.83	-15.70	-74.63	17.49	0.00	0.00	0.00
2,600.00	5.00	258.12	2,596.45	-17.49	-83.16	19.48	0.00	0.00	0.00
2,700.00	5.00	258.12	2,696.07	-19.29	-91.68	21.48	0.00	0.00	0.00
2,800.00	5.00	258.12	2,795.69	-21.08	-100.21	23.48	0.00	0.00	0.00
2,900.00	5.00	258.12	2,895.31	-22.87	-108.74	25.48	0.00	0.00	0.00
3,000.00	5.00	258.12	2,994.93	-24.67	-117.27	27.48	0.00	0.00	0.00
3,100.00	5.00	258.12	3,094.55	-26.46	-125.80	29.48	0.00	0.00	0.00
3,200.00	5.00	258.12	3,194.17	-28.26	-134.32	31.47	0.00	0.00	0.00
3,300.00	5.00	258.12	3,293.79	-30.05	-142.85	33.47	0.00	0.00	0.00
3,400.00	5.00	258.12	3,393.41	-31.84	-151.38	35.47	0.00	0.00	0.00
3,500.00	5.00	258.12	3,493.03	-33.64	-159.91	37.47	0.00	0.00	0.00
3,600.00	5.00	258.12	3,592.64	-35.43	-168.44	39.47	0.00	0.00	0.00
3,700.00	5.00	258.12	3,692.26	-37.23	-176.96	41.47	0.00	0.00	0.00
3,800.00	5.00	258.12	3,791.88	-39.02	-185.49	43.46	0.00	0.00	0.00
3,900.00	5.00	258.12	3,891.50	-40.81	-194.02	45.46	0.00	0.00	0.00
4,000.00	5.00	258.12	3,991.12	-42.61	-202.55	47.46	0.00	0.00	0.00
4,100.00	5.00	258.12	4,090.74	-44.40	-211.07	49.46	0.00	0.00	0.00
4,200.00	5.00	258.12	4,190.36	-46.20	-219.60	51.46	0.00	0.00	0.00
4,300.00	5.00	258.12	4,289.98	-47.99	-228.13	53.46	0.00	0.00	0.00
4,400.00	5.00	258.12	4,389.60	-49.78	-236.66	55.45	0.00	0.00	0.00
4,420.82	5.00	258.12	4,410.35	-50.16	-238.43	55.87	0.00	0.00	0.00
Begin 2.00°/100' Drop									
4,500.00	3.42	258.12	4,489.31	-51.35	-244.12	57.20	2.00	-2.00	0.00
4,600.00	1.42	258.12	4,589.21	-52.22	-248.24	58.17	2.00	-2.00	0.00
4,670.80	0.00	0.00	4,660.00	-52.40	-249.10	58.37	2.00	-2.00	143.91
Begin Vertical Hold									
4,870.14	0.00	0.00	4,859.35	-52.40	-249.10	58.37	0.00	0.00	0.00
BOS (Fletcher)									
5,307.14	0.00	0.00	5,296.35	-52.40	-249.10	58.37	0.00	0.00	0.00
LMAR (Top Delaware)									
5,368.14	0.00	0.00	5,357.35	-52.40	-249.10	58.37	0.00	0.00	0.00
BLCN									
6,287.14	0.00	0.00	6,276.35	-52.40	-249.10	58.37	0.00	0.00	0.00
CYCN									
7,772.14	0.00	0.00	7,761.35	-52.40	-249.10	58.37	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 602H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3340.60usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3340.60usft (Precision 595)
Site:	Coonskin Fee	North Reference:	Grid
Well:	602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-26-18		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
BYCN									
9,062.14	0.00	0.00	9,051.35	-52.40	-249.10	58.37	0.00	0.00	0.00
Bone Sprg (BSGL)									
9,494.14	0.00	0.00	9,483.35	-52.40	-249.10	58.37	0.00	0.00	0.00
U Avalon Sh									
9,659.14	0.00	0.00	9,648.35	-52.40	-249.10	58.37	0.00	0.00	0.00
L Avalon Sh									
10,164.14	0.00	0.00	10,153.35	-52.40	-249.10	58.37	0.00	0.00	0.00
B Avalon Sh									
10,243.14	0.00	0.00	10,232.35	-52.40	-249.10	58.37	0.00	0.00	0.00
FBSG Sand									
10,883.14	0.00	0.00	10,872.35	-52.40	-249.10	58.37	0.00	0.00	0.00
SBSG Sand									
11,382.14	0.00	0.00	11,371.35	-52.40	-249.10	58.37	0.00	0.00	0.00
SBSG Sand base									
11,593.85	0.00	0.00	11,583.05	-52.40	-249.10	58.37	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
11,600.00	0.62	179.51	11,589.20	-52.43	-249.10	58.40	10.00	10.00	0.00
11,700.00	10.62	179.51	11,688.60	-62.21	-249.02	68.17	10.00	10.00	0.00
11,800.00	20.62	179.51	11,784.79	-89.09	-248.79	95.04	10.00	10.00	0.00
11,899.97	30.61	179.51	11,874.82	-132.25	-248.42	138.18	10.00	10.00	0.00
TBSG Sand									
11,900.00	30.62	179.51	11,874.84	-132.26	-248.42	138.19	10.00	10.00	0.00
12,000.00	40.62	179.51	11,956.03	-190.42	-247.93	196.32	10.00	10.00	0.00
12,100.00	50.62	179.51	12,025.89	-261.80	-247.32	267.66	10.00	10.00	0.00
12,200.00	60.62	179.51	12,082.29	-344.21	-246.62	350.04	10.00	10.00	0.00
12,300.00	70.62	179.51	12,123.53	-435.18	-245.85	440.96	10.00	10.00	0.00
12,400.00	80.62	179.51	12,148.34	-531.91	-245.03	537.65	10.00	10.00	0.00
12,490.43	89.66	179.51	12,156.00	-621.93	-244.27	627.61	10.00	10.00	0.00
LP, Hold 89.66° Inc at 179.51° Azm									
12,500.00	89.66	179.51	12,156.05	-631.49	-244.18	637.17	0.00	0.00	0.00
12,600.00	89.66	179.51	12,156.65	-731.49	-243.34	737.12	0.00	0.00	0.00
12,700.00	89.66	179.51	12,157.25	-831.48	-242.49	837.07	0.00	0.00	0.00
12,800.00	89.66	179.51	12,157.84	-931.48	-241.64	937.01	0.00	0.00	0.00
12,900.00	89.66	179.51	12,158.44	-1,031.47	-240.79	1,036.96	0.00	0.00	0.00
13,000.00	89.66	179.51	12,159.03	-1,131.46	-239.94	1,136.90	0.00	0.00	0.00
13,100.00	89.66	179.51	12,159.63	-1,231.46	-239.09	1,236.85	0.00	0.00	0.00
13,200.00	89.66	179.51	12,160.22	-1,331.45	-238.24	1,336.79	0.00	0.00	0.00
13,300.00	89.66	179.51	12,160.82	-1,431.45	-237.39	1,436.74	0.00	0.00	0.00
13,400.00	89.66	179.51	12,161.41	-1,531.44	-236.54	1,536.68	0.00	0.00	0.00
13,500.00	89.66	179.51	12,162.01	-1,631.44	-235.70	1,636.63	0.00	0.00	0.00
13,600.00	89.66	179.51	12,162.61	-1,731.43	-234.85	1,736.57	0.00	0.00	0.00
13,700.00	89.66	179.51	12,163.20	-1,831.43	-234.00	1,836.52	0.00	0.00	0.00
13,800.00	89.66	179.51	12,163.80	-1,931.42	-233.15	1,936.46	0.00	0.00	0.00
13,900.00	89.66	179.51	12,164.39	-2,031.42	-232.30	2,036.41	0.00	0.00	0.00
14,000.00	89.66	179.51	12,164.99	-2,131.41	-231.45	2,136.36	0.00	0.00	0.00
14,100.00	89.66	179.51	12,165.58	-2,231.41	-230.60	2,236.30	0.00	0.00	0.00
14,200.00	89.66	179.51	12,166.18	-2,331.40	-229.75	2,336.25	0.00	0.00	0.00
14,300.00	89.66	179.51	12,166.77	-2,431.39	-228.91	2,436.19	0.00	0.00	0.00
14,400.00	89.66	179.51	12,167.37	-2,531.39	-228.06	2,536.14	0.00	0.00	0.00
14,500.00	89.66	179.51	12,167.97	-2,631.38	-227.21	2,636.08	0.00	0.00	0.00
14,600.00	89.66	179.51	12,168.56	-2,731.38	-226.36	2,736.03	0.00	0.00	0.00
14,700.00	89.66	179.51	12,169.16	-2,831.37	-225.51	2,835.97	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 602H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3340.60usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3340.60usft (Precision 595)
Site:	Coonskin Fee	North Reference:	Grid
Well:	602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-26-18		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,800.00	89.66	179.51	12,169.75	-2,931.37	-224.66	2,935.92	0.00	0.00	0.00
14,900.00	89.66	179.51	12,170.35	-3,031.36	-223.81	3,035.86	0.00	0.00	0.00
15,000.00	89.66	179.51	12,170.94	-3,131.36	-222.96	3,135.81	0.00	0.00	0.00
15,100.00	89.66	179.51	12,171.54	-3,231.35	-222.11	3,235.75	0.00	0.00	0.00
15,200.00	89.66	179.51	12,172.13	-3,331.35	-221.27	3,335.70	0.00	0.00	0.00
15,300.00	89.66	179.51	12,172.73	-3,431.34	-220.42	3,435.65	0.00	0.00	0.00
15,400.00	89.66	179.51	12,173.33	-3,531.34	-219.57	3,535.59	0.00	0.00	0.00
15,500.00	89.66	179.51	12,173.92	-3,631.33	-218.72	3,635.54	0.00	0.00	0.00
15,600.00	89.66	179.51	12,174.52	-3,731.32	-217.87	3,735.48	0.00	0.00	0.00
15,700.00	89.66	179.51	12,175.11	-3,831.32	-217.02	3,835.43	0.00	0.00	0.00
15,800.00	89.66	179.51	12,175.71	-3,931.31	-216.17	3,935.37	0.00	0.00	0.00
15,900.00	89.66	179.51	12,176.30	-4,031.31	-215.32	4,035.32	0.00	0.00	0.00
16,000.00	89.66	179.51	12,176.90	-4,131.30	-214.47	4,135.26	0.00	0.00	0.00
16,100.00	89.66	179.51	12,177.49	-4,231.30	-213.63	4,235.21	0.00	0.00	0.00
16,200.00	89.66	179.51	12,178.09	-4,331.29	-212.78	4,335.15	0.00	0.00	0.00
16,300.00	89.66	179.51	12,178.69	-4,431.29	-211.93	4,435.10	0.00	0.00	0.00
16,400.00	89.66	179.51	12,179.28	-4,531.28	-211.08	4,535.04	0.00	0.00	0.00
16,500.00	89.66	179.51	12,179.88	-4,631.28	-210.23	4,634.99	0.00	0.00	0.00
16,600.00	89.66	179.51	12,180.47	-4,731.27	-209.38	4,734.94	0.00	0.00	0.00
16,700.00	89.66	179.51	12,181.07	-4,831.27	-208.53	4,834.88	0.00	0.00	0.00
16,800.00	89.66	179.51	12,181.66	-4,931.26	-207.68	4,934.83	0.00	0.00	0.00
16,900.00	89.66	179.51	12,182.26	-5,031.25	-206.84	5,034.77	0.00	0.00	0.00
17,000.00	89.66	179.51	12,182.85	-5,131.25	-205.99	5,134.72	0.00	0.00	0.00
17,100.00	89.66	179.51	12,183.45	-5,231.24	-205.14	5,234.66	0.00	0.00	0.00
17,200.00	89.66	179.51	12,184.05	-5,331.24	-204.29	5,334.61	0.00	0.00	0.00
17,300.00	89.66	179.51	12,184.64	-5,431.23	-203.44	5,434.55	0.00	0.00	0.00
17,400.00	89.66	179.51	12,185.24	-5,531.23	-202.59	5,534.50	0.00	0.00	0.00
17,500.00	89.66	179.51	12,185.83	-5,631.22	-201.74	5,634.44	0.00	0.00	0.00
17,600.00	89.66	179.51	12,186.43	-5,731.22	-200.89	5,734.39	0.00	0.00	0.00
17,700.00	89.66	179.51	12,187.02	-5,831.21	-200.04	5,834.33	0.00	0.00	0.00
17,800.00	89.66	179.51	12,187.62	-5,931.21	-199.20	5,934.28	0.00	0.00	0.00
17,900.00	89.66	179.51	12,188.21	-6,031.20	-198.35	6,034.23	0.00	0.00	0.00
18,000.00	89.66	179.51	12,188.81	-6,131.20	-197.50	6,134.17	0.00	0.00	0.00
18,100.00	89.66	179.51	12,189.41	-6,231.19	-196.65	6,234.12	0.00	0.00	0.00
18,200.00	89.66	179.51	12,190.00	-6,331.19	-195.80	6,334.06	0.00	0.00	0.00
18,300.00	89.66	179.51	12,190.60	-6,431.18	-194.95	6,434.01	0.00	0.00	0.00
18,400.00	89.66	179.51	12,191.19	-6,531.17	-194.10	6,533.95	0.00	0.00	0.00
18,500.00	89.66	179.51	12,191.79	-6,631.17	-193.25	6,633.90	0.00	0.00	0.00
18,600.00	89.66	179.51	12,192.38	-6,731.16	-192.41	6,733.84	0.00	0.00	0.00
18,700.00	89.66	179.51	12,192.98	-6,831.16	-191.56	6,833.79	0.00	0.00	0.00
18,800.00	89.66	179.51	12,193.57	-6,931.15	-190.71	6,933.73	0.00	0.00	0.00
18,900.00	89.66	179.51	12,194.17	-7,031.15	-189.86	7,033.68	0.00	0.00	0.00
19,000.00	89.66	179.51	12,194.77	-7,131.14	-189.01	7,133.62	0.00	0.00	0.00
19,100.00	89.66	179.51	12,195.36	-7,231.14	-188.16	7,233.57	0.00	0.00	0.00
19,200.00	89.66	179.51	12,195.96	-7,331.13	-187.31	7,333.52	0.00	0.00	0.00
19,300.00	89.66	179.51	12,196.55	-7,431.13	-186.46	7,433.46	0.00	0.00	0.00
19,400.00	89.66	179.51	12,197.15	-7,531.12	-185.61	7,533.41	0.00	0.00	0.00
19,500.00	89.66	179.51	12,197.74	-7,631.12	-184.77	7,633.35	0.00	0.00	0.00
19,543.09	89.66	179.51	12,198.00	-7,674.20	-184.40	7,676.42	0.00	0.00	0.00

TD at 19543.09

Database:	USA Compass	Local Co-ordinate Reference:	Well 602H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3340.60usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3340.60usft (Precision 595)
Site:	Coonskin Fee	North Reference:	Grid
Well:	602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 07-26-18		

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
FTP - Coonskin Fee 6	0.00	0.00	12,156.00	-282.30	-247.60	435,876.50	795,923.40	32° 11' 41.00310 N 03° 22' 36.18307 W	
- plan misses target center by 95.05usft at 12190.51usft MD (12077.57 TVD, -335.99 N, -246.69 E)									
- Point									
LTP - Coonskin Fee 6	0.00	0.00	12,197.23	-7,544.20	-185.50	428,614.60	795,985.50	32° 10' 29.14069 N 03° 22' 36.21200 W	
- plan misses target center by 0.01usft at 19413.08usft MD (12197.23 TVD, -7544.20 N, -185.50 E)									
- Point									
BHL - Coonskin Fee 6	0.00	0.00	12,198.00	-7,674.20	-184.40	428,484.60	795,986.60	32° 10' 27.85423 N 03° 22' 36.21265 W	
- plan hits target center									
- Point									

Formations

Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
581.00	581.00	Rustler		0.34	181.38
940.00	940.00	TOS		0.34	181.38
4,870.14	4,859.35	BOS (Fletcher)		0.34	181.38
5,307.14	5,296.35	LMAR (Top Delaware)		0.34	181.38
5,368.14	5,357.35	BLCN		0.34	181.38
6,287.14	6,276.35	CYCN		0.34	181.38
7,772.14	7,761.35	BYCN		0.34	181.38
9,062.14	9,051.35	Bone Sprg (BSGL)		0.34	181.38
9,494.14	9,483.35	U Avalon Sh		0.34	181.38
9,659.14	9,648.35	L Avalon Sh		0.34	181.38
10,164.14	10,153.35	B Avalon Sh		0.34	181.38
10,243.14	10,232.35	FBSG Sand		0.34	181.38
10,883.14	10,872.35	SBSG Sand		0.34	181.38
11,382.14	11,371.35	SBSG Sand base		0.34	181.38
11,899.97	11,874.82	TBSG Sand		0.34	181.38

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
		(usft)	(usft)	
1,500.00	1,500.00	0.00	0.00	KOP, Begin 2.00°/100' Build
1,749.97	1,749.65	-2.24	-10.67	Hold 5.00° Inc at 258.12° Azm
4,420.82	4,410.35	-50.16	-238.43	Begin 2.00°/100' Drop
4,670.80	4,660.00	-52.40	-249.10	Begin Vertical Hold
11,593.85	11,583.05	-52.40	-249.10	KOP2, Begin 10.00°/100' Build
12,490.43	12,156.00	-621.93	-244.27	LP, Hold 89.66° Inc at 179.51° Azm
19,543.09	12,198.00	-7,674.20	-184.40	TD at 19543.09