

COG Operating LLC

Lea County, NM (NAD27 NME)

Van Gogh Fee

101H

OH

Plan: Plan 1

Standard Planning Report

04 October, 2018

Planning Report

Database:	USA Compass	Local Co-ordinate Reference:	Well 101H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3494.90usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3494.90usft (Precision 595)
Site:	Van Gogh Fee	North Reference:	Grid
Well:	101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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	Van Gogh Fee		
Site Position:		Northing:	451,669.30 usft
From:	Map	Easting:	776,140.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 14' 18.95918 N
		Longitude:	103° 26' 24.85500 W
		Grid Convergence:	0.48 °

Well	101H		
Well Position	+N-S	0.00 usft	Northing: 451,669.30 usft
	+E-W	0.00 usft	Easting: 776,140.50 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 32° 14' 18.95918 N
			Longitude: 103° 26' 24.85500 W
			Ground Level: 3,469.90 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	MVHD	10/4/2018	6.71
			Dip Angle
			(°)
			59.91
			Field Strength
			(nT)
			47,933.38353451

Design	Plan 1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			179.51

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,558.77	0.00	0.00	8,558.77	0.00	0.00	0.00	0.00	0.00	0.00	
9,274.40	85.88	179.51	9,035.00	-443.11	3.80	12.00	12.00	25.08	179.51	
13,862.84	85.88	179.51	9,365.00	-5,019.50	43.00	0.00	0.00	0.00	0.00	BHL - Van Gogh Fe

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Site:	Van Gogh Fee	North Reference:	Grid
Well:	101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
690.90	0.00	0.00	690.90	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,241.90	0.00	0.00	1,241.90	0.00	0.00	0.00	0.00	0.00	0.00
TOS									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	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
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,860.90	0.00	0.00	4,860.90	0.00	0.00	0.00	0.00	0.00	0.00

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Design:	Plan 1		

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)
BOS (Fletcher)									
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,144.90	0.00	0.00	5,144.90	0.00	0.00	0.00	0.00	0.00	0.00
LMAR (Top Delaware)									
5,170.90	0.00	0.00	5,170.90	0.00	0.00	0.00	0.00	0.00	0.00
BLCN									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,074.90	0.00	0.00	6,074.90	0.00	0.00	0.00	0.00	0.00	0.00
CYCN									
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,518.90	0.00	0.00	7,518.90	0.00	0.00	0.00	0.00	0.00	0.00
BYCN									
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,558.77	0.00	0.00	8,558.77	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 12.00°/100' Build									
8,600.00	4.95	179.51	8,599.95	-1.78	0.02	1.78	12.00	12.00	0.00
8,700.00	16.95	179.51	8,697.95	-20.73	0.18	20.74	12.00	12.00	0.00
8,800.00	28.95	179.51	8,789.87	-59.65	0.51	59.65	12.00	12.00	0.00
8,900.00	40.95	179.51	8,871.69	-116.83	1.00	116.83	12.00	12.00	0.00
8,916.72	42.95	179.51	8,884.12	-128.00	1.10	128.01	12.00	12.00	0.00

Planning Report

Database:	USA Compass	Local Co-ordinate Reference:	Well 101H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3494.90usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3494.90usft (Precision 595)
Site:	Van Gogh Fee	North Reference:	Grid
Well:	101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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)
Bone Sprg (BSGL)									
8,990.50	51.81	179.51	8,934.03	-182.24	1.56	182.25	12.00	12.00	0.00
U Avalon Sh									
9,000.00	52.95	179.51	8,939.83	-189.76	1.63	189.77	12.00	12.00	0.00
9,100.00	64.95	179.51	8,991.32	-275.27	2.36	275.28	12.00	12.00	0.00
9,200.00	76.95	179.51	9,023.90	-369.62	3.17	369.63	12.00	12.00	0.00
9,274.40	85.88	179.51	9,035.00	-443.11	3.80	443.13	12.00	12.00	0.00
LP, Hold 85.88° Inc at 179.51° Azm									
9,300.00	85.88	179.51	9,036.84	-468.64	4.01	468.66	0.00	0.00	0.00
9,400.00	85.88	179.51	9,044.03	-568.38	4.87	568.40	0.00	0.00	0.00
9,500.00	85.88	179.51	9,051.22	-668.12	5.72	668.14	0.00	0.00	0.00
9,600.00	85.88	179.51	9,058.42	-767.85	6.58	767.88	0.00	0.00	0.00
9,700.00	85.88	179.51	9,065.61	-867.59	7.43	867.62	0.00	0.00	0.00
9,800.00	85.88	179.51	9,072.80	-967.33	8.29	967.36	0.00	0.00	0.00
9,900.00	85.88	179.51	9,079.99	-1,067.07	9.14	1,067.10	0.00	0.00	0.00
10,000.00	85.88	179.51	9,087.18	-1,166.80	10.00	1,166.85	0.00	0.00	0.00
10,100.00	85.88	179.51	9,094.38	-1,266.54	10.85	1,266.59	0.00	0.00	0.00
10,200.00	85.88	179.51	9,101.57	-1,366.28	11.70	1,366.33	0.00	0.00	0.00
10,300.00	85.88	179.51	9,108.76	-1,466.01	12.56	1,466.07	0.00	0.00	0.00
10,400.00	85.88	179.51	9,115.95	-1,565.75	13.41	1,565.81	0.00	0.00	0.00
10,500.00	85.88	179.51	9,123.14	-1,665.49	14.27	1,665.55	0.00	0.00	0.00
10,600.00	85.88	179.51	9,130.34	-1,765.23	15.12	1,765.29	0.00	0.00	0.00
10,700.00	85.88	179.51	9,137.53	-1,864.96	15.98	1,865.03	0.00	0.00	0.00
10,800.00	85.88	179.51	9,144.72	-1,964.70	16.83	1,964.77	0.00	0.00	0.00
10,900.00	85.88	179.51	9,151.91	-2,064.44	17.69	2,064.51	0.00	0.00	0.00
11,000.00	85.88	179.51	9,159.10	-2,164.18	18.54	2,164.26	0.00	0.00	0.00
11,100.00	85.88	179.51	9,166.30	-2,263.91	19.39	2,264.00	0.00	0.00	0.00
11,200.00	85.88	179.51	9,173.49	-2,363.65	20.25	2,363.74	0.00	0.00	0.00
11,300.00	85.88	179.51	9,180.68	-2,463.39	21.10	2,463.48	0.00	0.00	0.00
11,400.00	85.88	179.51	9,187.87	-2,563.13	21.96	2,563.22	0.00	0.00	0.00
11,500.00	85.88	179.51	9,195.06	-2,662.86	22.81	2,662.96	0.00	0.00	0.00
11,600.00	85.88	179.51	9,202.26	-2,762.60	23.67	2,762.70	0.00	0.00	0.00
11,700.00	85.88	179.51	9,209.45	-2,862.34	24.52	2,862.44	0.00	0.00	0.00
11,800.00	85.88	179.51	9,216.64	-2,962.08	25.37	2,962.18	0.00	0.00	0.00
11,900.00	85.88	179.51	9,223.83	-3,061.81	26.23	3,061.93	0.00	0.00	0.00
12,000.00	85.88	179.51	9,231.02	-3,161.55	27.08	3,161.67	0.00	0.00	0.00
12,100.00	85.88	179.51	9,238.22	-3,261.29	27.94	3,261.41	0.00	0.00	0.00
12,200.00	85.88	179.51	9,245.41	-3,361.03	28.79	3,361.15	0.00	0.00	0.00
12,300.00	85.88	179.51	9,252.60	-3,460.76	29.65	3,460.89	0.00	0.00	0.00
12,400.00	85.88	179.51	9,259.79	-3,560.50	30.50	3,560.63	0.00	0.00	0.00
12,500.00	85.88	179.51	9,266.98	-3,660.24	31.36	3,660.37	0.00	0.00	0.00
12,600.00	85.88	179.51	9,274.18	-3,759.97	32.21	3,760.11	0.00	0.00	0.00
12,700.00	85.88	179.51	9,281.37	-3,859.71	33.06	3,859.85	0.00	0.00	0.00
12,800.00	85.88	179.51	9,288.56	-3,959.45	33.92	3,959.59	0.00	0.00	0.00
12,900.00	85.88	179.51	9,295.75	-4,059.19	34.77	4,059.34	0.00	0.00	0.00
13,000.00	85.88	179.51	9,302.94	-4,158.92	35.63	4,159.08	0.00	0.00	0.00
13,100.00	85.88	179.51	9,310.14	-4,258.66	36.48	4,258.82	0.00	0.00	0.00
13,200.00	85.88	179.51	9,317.33	-4,358.40	37.34	4,358.56	0.00	0.00	0.00
13,300.00	85.88	179.51	9,324.52	-4,458.14	38.19	4,458.30	0.00	0.00	0.00
13,400.00	85.88	179.51	9,331.71	-4,557.87	39.05	4,558.04	0.00	0.00	0.00
13,500.00	85.88	179.51	9,338.90	-4,657.61	39.90	4,657.78	0.00	0.00	0.00
13,600.00	85.88	179.51	9,346.10	-4,757.35	40.75	4,757.52	0.00	0.00	0.00
13,700.00	85.88	179.51	9,353.29	-4,857.09	41.61	4,857.26	0.00	0.00	0.00

Planning Report

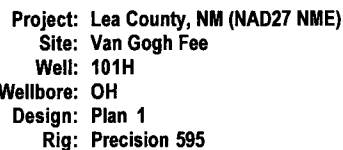
Database:	USA Compass	Local Co-ordinate Reference:	Well 101H
Company:	COG Operating LLC	TVD Reference:	RKB @ 3494.90usft (Precision 595)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	RKB @ 3494.90usft (Precision 595)
Site:	Van Gogh Fee	North Reference:	Grid
Well:	101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

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)	
13,800.00	85.88	179.51	9,360.48	-4,956.82	42.46	4,957.01	0.00	0.00	0.00	
13,862.84	85.88	179.51	9,365.00	-5,019.50	43.00	5,019.69	0.00	0.00	0.00	
TD at 13862.84										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FTP - Van Gogh Fee	0.00	0.00	9,035.00	109.90	-1.00	451,779.20	776,139.50	32° 14' 20.04672 N	03° 26' 24.85601 W	
- hit/miss target										
- plan misses target center by 279.43usft at 8900.00usft MD (8871.69 TVD, -116.83 N, 1.00 E)										
- Point										
LTP - Van Gogh Fee 1	0.00	0.00	9,361.40	-4,969.50	42.60	446,699.80	776,183.10	32° 13' 29.78164 N	03° 26' 24.84007 W	
- plan misses target center by 12.71usft at 13800.00usft MD (9360.48 TVD, -4956.82 N, 42.46 E)										
- Point										
BHL - Van Gogh Fee	0.00	0.00	9,365.00	-5,019.50	43.00	446,649.80	776,183.50	32° 13' 29.28685 N	03° 26' 24.84025 W	
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
690.90	690.90	Rustler		4.12	179.51	
1,241.90	1,241.90	TOS		4.12	179.51	
4,860.90	4,860.90	BOS (Fletcher)		4.12	179.51	
5,144.90	5,144.90	LMAR (Top Delaware)		4.12	179.51	
5,170.90	5,170.90	BLCN		4.12	179.51	
6,074.90	6,074.90	CYCN		4.12	179.51	
7,518.90	7,518.90	BYCN		4.12	179.51	
8,916.72	8,884.12	Bone Sprg (BSGL)		4.12	179.51	
8,990.50	8,934.03	U Avalon Sh		4.12	179.51	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,558.77	8,558.77	0.00	0.00	KOP, Begin 12.00°/100' Build	
9,274.40	9,035.00	-443.11	3.80	LP, Hold 85.88° Inc at 179.51° Azm	
13,862.84	9,365.00	-5,019.50	43.00	TD at 13862.84	

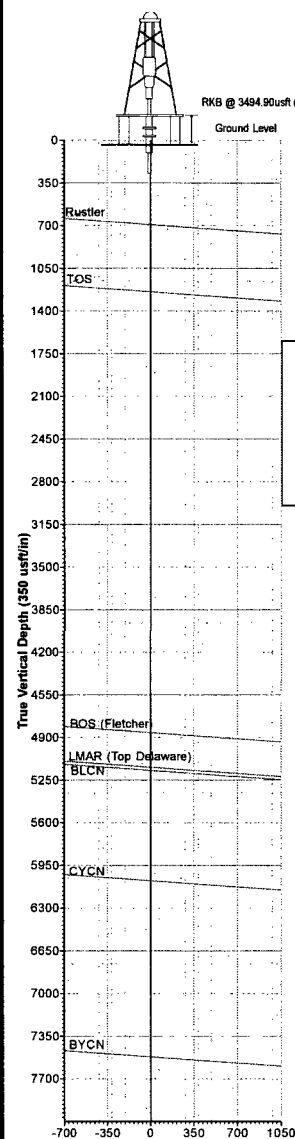


PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.48°
Magnetic North: 8.23°

Magnetic Field
Strength: 47933.4nT
Dip Angle: 59.91°
Date: 10/4/2018
Model: MVHD



WELL DETAILS							
3489.90							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
0.00	0.00	451668.30	776140.50	32° 14' 18.95917 N	103° 26' 24.85500 W		
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - Van Gogh Fie 101H	9035.00	109.80	-1.00	451779.20	776139.50	32° 14' 20.04672 N	103° 26' 24.85601 W
LTP - Van Gogh Fie 101H	9361.40	-4965.50	42.60	446699.80	776183.10	32° 13' 29.78164 N	103° 26' 24.84007 W
BHL - Van Gogh Fie 101H	9365.00	-5019.50	43.00	446649.80	776183.50	32° 13' 29.28684 N	103° 26' 24.84025 W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
2	8598.77	0.00	0.00	856.77	0.00	0.00	0.00	0.00	0.00	KOP_Begm 12.00°100' Build
3	9272.40	85.88	179.51	9035.00	-443.11	3.80	12.00	179.51	443.13	LP_Hole 15.68° Incal 179.51° Azm
4	13862.84	85.88	179.51	9365.00	-5019.50	43.00	0.00	0.00	5019.69	BLH - Ven Gough Fac 101H

LEGEND

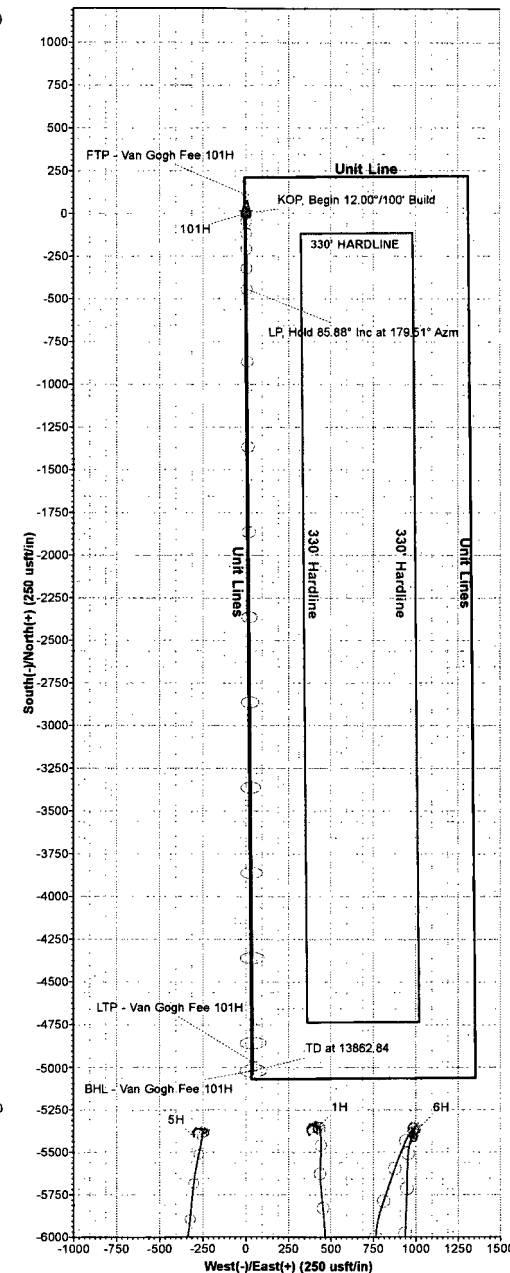
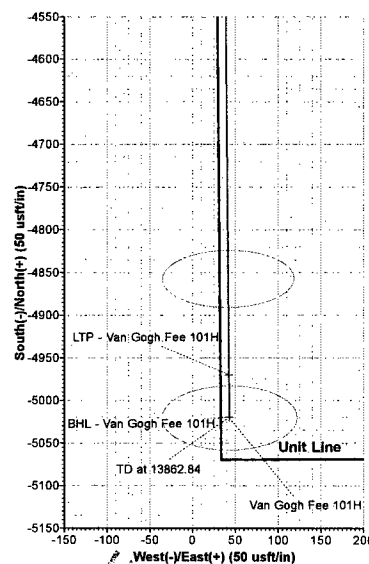
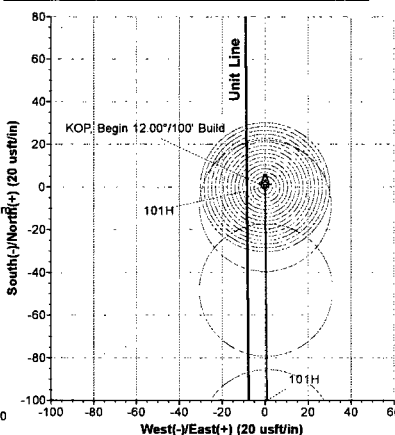
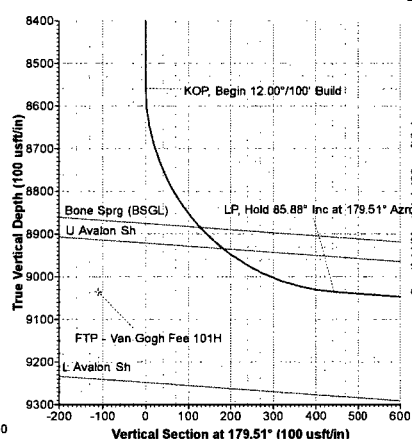
———— 1H, OH / Job 1411672, Surveys (Ensign 153) V0
———— 5H, OH / Job 1513787, Surveys (Ensign 153) V0
———— 6H, OH / Job 1412377, Surveys (Ensign 153) V0
———— 6H, ST / Job 1412377, Surveys (Ensign 153) V0
———— Well #5, Wellbore #1, Wellbore #1 V0
———— Plan 1

FORMATION TOP DETAILS				
TVPdPath	MDPath	Formation	DipAngle	DipD
690.90	690.90	Rustler	4.12	179.51
1241.90	1241.90	TOS	4.12	179.51
4860.90	4860.90	BOS (Fletcher)	4.12	179.51
5144.90	5144.90	LMAR (Top Dewatare)	4.12	179.51
5170.90	5170.90	BLCN	4.12	179.51
6074.90	6074.90	CVCN	4.12	179.51
7518.90	7518.90	BVCN	4.12	179.51
8884.12	8916.72	Bone Sprng (BSGL)	4.12	179.51
8934.03	8990.50	U Aviation SH	4.12	179.51

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 101H, Grid North
Latitude: 32° 14' 18.95917 N
Longitude: 103° 26' 28.245500 W
Grid East: 776140.50
Grid North: 451669.30
Scale Factor: 1.000

Geomagnetic Model: MVHD
Sample Date: 04-Oct-18
Magnetic Declination: 6.71°
Dip Angle from Horizontal: 49.93°
Magnetic Field Strength: 57331.38353451nT

To convert a Magnetic Direction to a Grid Direction, Add 6.23°
To convert a Magnetic Direction to a True Direction, Add 6.71° East
To convert a True Direction to a Grid Direction, Subtract 0.48°



West(-)East(+) (50 usft/in)

NOCSB OCL

OCT 12 2018

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