



PHOENIX
TECHNOLOGY SERVICES

**NM OIL CONSERVATION
ARTESIA DISTRICT**

OCT 15 2018

RECEIVED

COG Operating LLC

Eddy County, NM (NAD27 NME)

Roadster State Com

808H

30-015-45319

OH

Plan: Plan 1 10-05-18

Standard Planning Report

05 October, 2018





Planning Report



Database: USA Compass
Company: COG Operating LLC
Project: Eddy County, NM (NAD27 NME)
Site: Roadster State Com
Well: 808H
Wellbore: OH
Design: Plan 1 10-05-18

Local Co-ordinate Reference: Well 808H
TVD Reference: RKB @ 3239.10usft (Ensign 155)
MD Reference: RKB @ 3239.10usft (Ensign 155)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy 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	Roadster State Com				
Site Position:		Northing:	455,885.59 usft	Latitude:	32° 15' 11.74356 N
From:	Map	Easting:	545,131.81 usft	Longitude:	104° 11' 14.43019 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.08 °

Well	808H					
Well Position	+N/-S	99.91 usft	Northing:	455,985.50 usft	Latitude:	32° 15' 10.78502 N
	+E/-W	77,744.69 usft	Easting:	622,876.50 usft	Longitude:	103° 56' 9.08472 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,215.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	10/5/2018	7.01	60.00	47,997.41668076

Design	Plan 1 10-05-18			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.30

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	
9,081.55	0.00	0.00	9,081.55	0.00	0.00	0.00	0.00	0.00	0.00	
9,827.76	89.55	180.30	9,559.00	-473.67	-2.51	12.00	12.00	-24.08	180.30	
19,652.84	89.55	180.30	9,637.00	-10,298.30	-54.50	0.00	0.00	0.00	0.00	BHL - Roadster State



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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
9,081.55	0.00	0.00	9,081.55	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 12.00°/100' Build									
9,100.00	2.21	180.30	9,100.00	-0.36	0.00	0.36	12.00	12.00	0.00
9,200.00	14.21	180.30	9,198.79	-14.62	-0.08	14.62	12.00	12.00	0.00
9,300.00	26.21	180.30	9,292.46	-49.11	-0.26	49.11	12.00	12.00	0.00
9,400.00	38.21	180.30	9,376.91	-102.32	-0.54	102.32	12.00	12.00	0.00
9,500.00	50.21	180.30	9,448.45	-171.92	-0.91	171.92	12.00	12.00	0.00
9,600.00	62.21	180.30	9,503.96	-254.88	-1.35	254.88	12.00	12.00	0.00
9,700.00	74.21	180.30	9,541.01	-347.57	-1.84	347.57	12.00	12.00	0.00
9,800.00	86.21	180.30	9,557.97	-445.93	-2.36	445.94	12.00	12.00	0.00
9,827.76	89.55	180.30	9,559.00	-473.67	-2.51	473.67	12.00	12.00	0.00
LP, Hold 89.55° Inc at 180.30° Azm									
9,900.00	89.55	180.30	9,559.57	-545.90	-2.89	545.91	0.00	0.00	0.00
10,000.00	89.55	180.30	9,560.37	-645.90	-3.42	645.91	0.00	0.00	0.00
10,100.00	89.55	180.30	9,561.16	-745.90	-3.95	745.91	0.00	0.00	0.00
10,200.00	89.55	180.30	9,561.96	-845.89	-4.48	845.90	0.00	0.00	0.00
10,300.00	89.55	180.30	9,562.75	-945.89	-5.01	945.90	0.00	0.00	0.00
10,400.00	89.55	180.30	9,563.54	-1,045.88	-5.53	1,045.90	0.00	0.00	0.00
10,500.00	89.55	180.30	9,564.34	-1,145.88	-6.06	1,145.89	0.00	0.00	0.00
10,600.00	89.55	180.30	9,565.13	-1,245.87	-6.59	1,245.89	0.00	0.00	0.00
10,700.00	89.55	180.30	9,565.92	-1,345.87	-7.12	1,345.89	0.00	0.00	0.00
10,800.00	89.55	180.30	9,566.72	-1,445.86	-7.65	1,445.88	0.00	0.00	0.00
10,900.00	89.55	180.30	9,567.51	-1,545.86	-8.18	1,545.88	0.00	0.00	0.00
11,000.00	89.55	180.30	9,568.31	-1,645.85	-8.71	1,645.88	0.00	0.00	0.00
11,100.00	89.55	180.30	9,569.10	-1,745.85	-9.24	1,745.87	0.00	0.00	0.00
11,200.00	89.55	180.30	9,569.89	-1,845.85	-9.77	1,845.87	0.00	0.00	0.00
11,300.00	89.55	180.30	9,570.69	-1,945.84	-10.30	1,945.87	0.00	0.00	0.00
11,400.00	89.55	180.30	9,571.48	-2,045.84	-10.83	2,045.87	0.00	0.00	0.00
11,500.00	89.55	180.30	9,572.28	-2,145.83	-11.36	2,145.86	0.00	0.00	0.00
11,600.00	89.55	180.30	9,573.07	-2,245.83	-11.89	2,245.86	0.00	0.00	0.00
11,700.00	89.55	180.30	9,573.86	-2,345.82	-12.41	2,345.86	0.00	0.00	0.00
11,800.00	89.55	180.30	9,574.66	-2,445.82	-12.94	2,445.85	0.00	0.00	0.00
11,900.00	89.55	180.30	9,575.45	-2,545.81	-13.47	2,545.85	0.00	0.00	0.00
12,000.00	89.55	180.30	9,576.25	-2,645.81	-14.00	2,645.85	0.00	0.00	0.00
12,100.00	89.55	180.30	9,577.04	-2,745.80	-14.53	2,745.84	0.00	0.00	0.00
12,200.00	89.55	180.30	9,577.83	-2,845.80	-15.06	2,845.84	0.00	0.00	0.00
12,300.00	89.55	180.30	9,578.63	-2,945.80	-15.59	2,945.84	0.00	0.00	0.00
12,400.00	89.55	180.30	9,579.42	-3,045.79	-16.12	3,045.83	0.00	0.00	0.00
12,500.00	89.55	180.30	9,580.21	-3,145.79	-16.65	3,145.83	0.00	0.00	0.00
12,600.00	89.55	180.30	9,581.01	-3,245.78	-17.18	3,245.83	0.00	0.00	0.00
12,700.00	89.55	180.30	9,581.80	-3,345.78	-17.71	3,345.82	0.00	0.00	0.00
12,800.00	89.55	180.30	9,582.60	-3,445.77	-18.24	3,445.82	0.00	0.00	0.00
12,900.00	89.55	180.30	9,583.39	-3,545.77	-18.76	3,545.82	0.00	0.00	0.00
13,000.00	89.55	180.30	9,584.18	-3,645.76	-19.29	3,645.81	0.00	0.00	0.00
13,100.00	89.55	180.30	9,584.98	-3,745.76	-19.82	3,745.81	0.00	0.00	0.00
13,200.00	89.55	180.30	9,585.77	-3,845.75	-20.35	3,845.81	0.00	0.00	0.00
13,300.00	89.55	180.30	9,586.57	-3,945.75	-20.88	3,945.81	0.00	0.00	0.00
13,400.00	89.55	180.30	9,587.36	-4,045.75	-21.41	4,045.80	0.00	0.00	0.00
13,500.00	89.55	180.30	9,588.15	-4,145.74	-21.94	4,145.80	0.00	0.00	0.00
13,600.00	89.55	180.30	9,588.95	-4,245.74	-22.47	4,245.80	0.00	0.00	0.00
13,700.00	89.55	180.30	9,589.74	-4,345.73	-23.00	4,345.79	0.00	0.00	0.00
13,800.00	89.55	180.30	9,590.54	-4,445.73	-23.53	4,445.79	0.00	0.00	0.00
13,900.00	89.55	180.30	9,591.33	-4,545.72	-24.06	4,545.79	0.00	0.00	0.00



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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)
14,000.00	89.55	180.30	9,592.12	-4,645.72	-24.59	4,645.78	0.00	0.00	0.00
14,100.00	89.55	180.30	9,592.92	-4,745.71	-25.11	4,745.78	0.00	0.00	0.00
14,200.00	89.55	180.30	9,593.71	-4,845.71	-25.64	4,845.78	0.00	0.00	0.00
14,300.00	89.55	180.30	9,594.50	-4,945.70	-26.17	4,945.77	0.00	0.00	0.00
14,400.00	89.55	180.30	9,595.30	-5,045.70	-26.70	5,045.77	0.00	0.00	0.00
14,500.00	89.55	180.30	9,596.09	-5,145.70	-27.23	5,145.77	0.00	0.00	0.00
14,600.00	89.55	180.30	9,596.89	-5,245.69	-27.76	5,245.76	0.00	0.00	0.00
14,700.00	89.55	180.30	9,597.68	-5,345.69	-28.29	5,345.76	0.00	0.00	0.00
14,800.00	89.55	180.30	9,598.47	-5,445.68	-28.82	5,445.76	0.00	0.00	0.00
14,900.00	89.55	180.30	9,599.27	-5,545.68	-29.35	5,545.76	0.00	0.00	0.00
15,000.00	89.55	180.30	9,600.06	-5,645.67	-29.88	5,645.75	0.00	0.00	0.00
15,100.00	89.55	180.30	9,600.86	-5,745.67	-30.41	5,745.75	0.00	0.00	0.00
15,200.00	89.55	180.30	9,601.65	-5,845.66	-30.94	5,845.75	0.00	0.00	0.00
15,300.00	89.55	180.30	9,602.44	-5,945.66	-31.47	5,945.74	0.00	0.00	0.00
15,400.00	89.55	180.30	9,603.24	-6,045.65	-31.99	6,045.74	0.00	0.00	0.00
15,500.00	89.55	180.30	9,604.03	-6,145.65	-32.52	6,145.74	0.00	0.00	0.00
15,600.00	89.55	180.30	9,604.83	-6,245.65	-33.05	6,245.73	0.00	0.00	0.00
15,700.00	89.55	180.30	9,605.62	-6,345.64	-33.58	6,345.73	0.00	0.00	0.00
15,800.00	89.55	180.30	9,606.41	-6,445.64	-34.11	6,445.73	0.00	0.00	0.00
15,900.00	89.55	180.30	9,607.21	-6,545.63	-34.64	6,545.72	0.00	0.00	0.00
16,000.00	89.55	180.30	9,608.00	-6,645.63	-35.17	6,645.72	0.00	0.00	0.00
16,100.00	89.55	180.30	9,608.79	-6,745.62	-35.70	6,745.72	0.00	0.00	0.00
16,200.00	89.55	180.30	9,609.59	-6,845.62	-36.23	6,845.71	0.00	0.00	0.00
16,300.00	89.55	180.30	9,610.38	-6,945.61	-36.76	6,945.71	0.00	0.00	0.00
16,400.00	89.55	180.30	9,611.18	-7,045.61	-37.29	7,045.71	0.00	0.00	0.00
16,500.00	89.55	180.30	9,611.97	-7,145.60	-37.82	7,145.70	0.00	0.00	0.00
16,600.00	89.55	180.30	9,612.76	-7,245.60	-38.34	7,245.70	0.00	0.00	0.00
16,700.00	89.55	180.30	9,613.56	-7,345.60	-38.87	7,345.70	0.00	0.00	0.00
16,800.00	89.55	180.30	9,614.35	-7,445.59	-39.40	7,445.70	0.00	0.00	0.00
16,900.00	89.55	180.30	9,615.15	-7,545.59	-39.93	7,545.69	0.00	0.00	0.00
17,000.00	89.55	180.30	9,615.94	-7,645.58	-40.46	7,645.69	0.00	0.00	0.00
17,100.00	89.55	180.30	9,616.73	-7,745.58	-40.99	7,745.69	0.00	0.00	0.00
17,200.00	89.55	180.30	9,617.53	-7,845.57	-41.52	7,845.68	0.00	0.00	0.00
17,300.00	89.55	180.30	9,618.32	-7,945.57	-42.05	7,945.68	0.00	0.00	0.00
17,400.00	89.55	180.30	9,619.12	-8,045.56	-42.58	8,045.68	0.00	0.00	0.00
17,500.00	89.55	180.30	9,619.91	-8,145.56	-43.11	8,145.67	0.00	0.00	0.00
17,600.00	89.55	180.30	9,620.70	-8,245.55	-43.64	8,245.67	0.00	0.00	0.00
17,700.00	89.55	180.30	9,621.50	-8,345.55	-44.17	8,345.67	0.00	0.00	0.00
17,800.00	89.55	180.30	9,622.29	-8,445.55	-44.69	8,445.66	0.00	0.00	0.00
17,900.00	89.55	180.30	9,623.08	-8,545.54	-45.22	8,545.66	0.00	0.00	0.00
18,000.00	89.55	180.30	9,623.88	-8,645.54	-45.75	8,645.66	0.00	0.00	0.00
18,100.00	89.55	180.30	9,624.67	-8,745.53	-46.28	8,745.65	0.00	0.00	0.00
18,200.00	89.55	180.30	9,625.47	-8,845.53	-46.81	8,845.65	0.00	0.00	0.00
18,300.00	89.55	180.30	9,626.26	-8,945.52	-47.34	8,945.65	0.00	0.00	0.00
18,400.00	89.55	180.30	9,627.05	-9,045.52	-47.87	9,045.64	0.00	0.00	0.00
18,500.00	89.55	180.30	9,627.85	-9,145.51	-48.40	9,145.64	0.00	0.00	0.00
18,600.00	89.55	180.30	9,628.64	-9,245.51	-48.93	9,245.64	0.00	0.00	0.00
18,700.00	89.55	180.30	9,629.44	-9,345.50	-49.46	9,345.64	0.00	0.00	0.00
18,800.00	89.55	180.30	9,630.23	-9,445.50	-49.99	9,445.63	0.00	0.00	0.00
18,900.00	89.55	180.30	9,631.02	-9,545.50	-50.52	9,545.63	0.00	0.00	0.00
19,000.00	89.55	180.30	9,631.82	-9,645.49	-51.05	9,645.63	0.00	0.00	0.00
19,100.00	89.55	180.30	9,632.61	-9,745.49	-51.57	9,745.62	0.00	0.00	0.00
19,200.00	89.55	180.30	9,633.41	-9,845.48	-52.10	9,845.62	0.00	0.00	0.00
19,300.00	89.55	180.30	9,634.20	-9,945.48	-52.63	9,945.62	0.00	0.00	0.00



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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)
19,400.00	89.55	180.30	9,634.99	-10,045.47	-53.16	10,045.61	0.00	0.00	0.00
19,500.00	89.55	180.30	9,635.79	-10,145.47	-53.69	10,145.61	0.00	0.00	0.00
19,600.00	89.55	180.30	9,636.58	-10,245.46	-54.22	10,245.61	0.00	0.00	0.00
19,652.84	89.55	180.30	9,637.00	-10,298.30	-54.50	10,298.44	0.00	0.00	0.00

TD at 19652.84

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
FTP - Roadster State Cr	0.00	0.00	9,559.00	-119.90	-1.50	455,865.60	622,875.00	32° 15' 9.59853 N	103° 56' 9.10736 W
- plan misses target center by 119.25usft at 9518.27usft MD (9459.88 TVD, -186.18 N, -0.99 E)									
- Point									
LTP - Roadster State Co	0.00	0.00	9,635.96	-10,168.30	-53.80	445,817.20	622,822.70	32° 13' 30.16026 N	103° 56' 10.14910 W
- plan misses target center by 0.01usft at 19522.83usft MD (9635.97 TVD, -10168.30 N, -53.81 E)									
- Point									
BHL - Roadster State Cr	0.00	0.00	9,637.00	-10,298.30	-54.50	445,687.20	622,822.00	32° 13' 28.87379 N	103° 56' 10.16284 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
9,081.55	9,081.55	0.00	0.00	KOP, Begin 12.00°/100' Build
9,827.76	9,559.00	-473.67	-2.51	LP, Hold 89.55° Inc at 180.30° Azm
19,652.84	9,637.00	-10,298.30	-54.50	TD at 19652.84



Project: Eddy County, NM (NAD27 NME)
Site: Roadster State Com
Well: 800H
Wellbore: OH
Design: Plan 1 10-05-18
Rig: Ensign 155



Asmuth to Grid North
True North: 4.21°
Magnetic North: 8.30°
Magnetic Decl: 4.09°
Grid North: 83.00°
Date: 10/05/18
Scale: 800H

Map System: US State Plane 1027 (East unit)
Datum: NAD27
Zone Name: New Mexico East 3001
Easting: 600000
Northing: 1000000
Scale Factor: 1.000

Local Origin: Well 800H, Grid North
Latitude: 32° 15' 10.7500 N
Longitude: 102° 56' 9.0472 W
Grid East: 623795.00
Grid North: 453983.50
Scale Factor: 1.000

Geometric Model: WVD
Magnetic Declination: 7.01°
Dr Angle from Horizontal: 90.00°
Dr Angle from Vertical: 0.00°
Dr Angle from True North: 4.21°
Dr Angle from Grid North: 8.30°
Dr Angle from True North: 4.21°
Dr Angle from Grid North: 8.30°
Dr Angle from True North: 4.21°
Dr Angle from Grid North: 8.30°

LEGEND
Plan 1 10-05-18

WELL DETAILS				
Well	UWI	Wellbore	East	North
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W

DESIGN TARGET DETAILS				
Well	UWI	Wellbore	East	North
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W

SECTION DETAILS				
Well	UWI	Wellbore	East	North
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W
800H	0.00	453983.50	623795.00	102° 56' 9.0472 W

