



**PHOENIX**  
TECHNOLOGY SERVICES

**COG Operating LLC**  
Lea County, NM (NAD27 NME)  
Harrier Federal Com  
303H

OH  
Plan 1 08-23-19

## **Anticollision Report**

23 August, 2019





**PHOENIX**  
TECHNOLOGY SERVICES

## **COG Operating LLC**

**Lea County, NM (NAD27 NME)**

**Harrier Federal Com**

**303H**

**OH**

**Plan: Plan 1 08-23-19**

## **Standard Planning Report**

**23 August, 2019**





Planning Report



**Database:** USA Compass  
**Company:** COG Operating LLC  
**Project:** Lea County, NM (NAD27 NME)  
**Site:** Harrier Federal Com  
**Well:** 303H  
**Wellbore:** OH  
**Design:** Plan 1 08-23-19

**Local Co-ordinate Reference:** Well 303H  
**TVD Reference:** RKB @ 3271.80usft (Pioneer 84)  
**MD Reference:** RKB @ 3271.80usft (Pioneer 84)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Lea County, NM (NAD27 NME)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Harrier Federal Com				
<b>Site Position:</b>		<b>Northing:</b>	398,195.60 usft	<b>Latitude:</b>	32° 5' 34.543518 N
<b>From:</b>	Map	<b>Easting:</b>	710,683.50 usft	<b>Longitude:</b>	103° 39' 10.862860 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.36 °

<b>Well</b>	303H					
<b>Well Position</b>	<b>+N/-S</b>	-9,819.40 usft	<b>Northing:</b>	388,376.20 usft	<b>Latitude:</b>	32° 3' 57.291060 N
	<b>+E/-W</b>	1,287.40 usft	<b>Easting:</b>	711,970.90 usft	<b>Longitude:</b>	103° 38' 56.622106 W
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	3,246.80 usft

<b>Wellbore</b>	OH					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>	
	MVHD	10/22/2019	6.62	59.67	47,705.10858720	

<b>Design</b>	Plan 1 08-23-19				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	359.18	

<b>Plan Survey Tool Program</b>	<b>Date</b>	8/23/2019			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	19,249.61 Plan 1 08-23-19 (OH)	MWD+HRGM OWSG MWD + HRGM		



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**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Buld 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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,400.07	8.00	202.43	5,398.77	-25.78	-10.64	2.00	2.00	0.00	202.43	
6,553.76	8.00	202.43	6,541.23	-174.22	-71.92	0.00	0.00	0.00	0.00	
6,953.83	0.00	0.00	6,940.00	-200.00	-82.56	2.00	-2.00	0.00	180.00	
8,508.92	0.00	0.00	8,495.09	-200.00	-82.56	0.00	0.00	0.00	0.00	
9,415.99	90.71	359.65	9,068.00	380.02	-86.08	10.00	10.00	-0.04	359.65	
14,035.30	90.71	359.65	9,011.00	4,998.89	-114.09	0.00	0.00	0.00	0.00	5000' VS - Harrier F
14,053.27	91.07	359.65	9,010.72	5,016.86	-114.20	2.00	2.00	0.00	0.00	
19,249.61	91.07	359.65	8,914.00	10,212.20	-145.70	0.00	0.00	0.00	0.00	BHL - Harrier Feder



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Local Co-ordinate Reference: Well 303H  
 TVD Reference: RKB @ 3271.80usft (Pioneer 84)  
 MD Reference: RKB @ 3271.80usft (Pioneer 84)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>KOP, Begin 2.00°/100' Build</b>										
5,100.00	2.00	202.43	5,099.98	-1.61	-0.67	-1.60	2.00	2.00	0.00	
5,200.00	4.00	202.43	5,199.84	-6.45	-2.66	-6.41	2.00	2.00	0.00	
5,300.00	6.00	202.43	5,299.45	-14.51	-5.99	-14.42	2.00	2.00	0.00	
5,400.00	8.00	202.43	5,398.70	-25.77	-10.64	-25.62	2.00	2.00	0.00	
5,400.07	8.00	202.43	5,398.77	-25.78	-10.64	-25.63	2.00	2.00	0.00	
<b>Hold 8.00° Inc at 202.43° Azm</b>										
5,500.00	8.00	202.43	5,497.73	-38.64	-15.95	-38.41	0.00	0.00	0.00	
5,600.00	8.00	202.43	5,596.75	-51.50	-21.26	-51.20	0.00	0.00	0.00	
5,700.00	8.00	202.43	5,695.78	-64.37	-26.57	-63.98	0.00	0.00	0.00	
5,800.00	8.00	202.43	5,794.81	-77.24	-31.88	-76.77	0.00	0.00	0.00	
5,900.00	8.00	202.43	5,893.83	-90.10	-37.19	-89.56	0.00	0.00	0.00	
6,000.00	8.00	202.43	5,992.86	-102.97	-42.51	-102.35	0.00	0.00	0.00	
6,100.00	8.00	202.43	6,091.89	-115.84	-47.82	-115.14	0.00	0.00	0.00	
6,200.00	8.00	202.43	6,190.91	-128.70	-53.13	-127.93	0.00	0.00	0.00	
6,300.00	8.00	202.43	6,289.94	-141.57	-58.44	-140.72	0.00	0.00	0.00	
6,400.00	8.00	202.43	6,388.97	-154.44	-63.75	-153.51	0.00	0.00	0.00	
6,500.00	8.00	202.43	6,487.99	-167.30	-69.06	-166.30	0.00	0.00	0.00	
6,553.76	8.00	202.43	6,541.23	-174.22	-71.92	-173.18	0.00	0.00	0.00	
<b>Begin 2.00°/100' Drop</b>										
6,600.00	7.08	202.43	6,587.07	-179.83	-74.23	-178.75	2.00	-2.00	0.00	
6,700.00	5.08	202.43	6,686.50	-189.61	-78.27	-188.48	2.00	-2.00	0.00	
6,800.00	3.08	202.43	6,786.24	-196.18	-80.98	-195.01	2.00	-2.00	0.00	
6,900.00	1.08	202.43	6,886.17	-199.53	-82.37	-198.34	2.00	-2.00	0.00	
6,953.83	0.00	0.00	6,940.00	-200.00	-82.56	-198.80	2.00	-2.00	0.00	
<b>Begin Vertical Hold</b>										
8,508.92	0.00	0.00	8,495.09	-200.00	-82.56	-198.80	0.00	0.00	0.00	
<b>KOP2, Begin 10.00°/100' Build</b>										
8,600.00	9.11	359.65	8,585.75	-192.78	-82.60	-191.58	10.00	10.00	0.00	
8,700.00	19.11	359.65	8,682.65	-168.43	-82.75	-167.23	10.00	10.00	0.00	
8,800.00	29.11	359.65	8,773.81	-127.64	-83.00	-126.44	10.00	10.00	0.00	
8,900.00	39.11	359.65	8,856.50	-71.64	-83.34	-70.44	10.00	10.00	0.00	
9,000.00	49.11	359.65	8,928.21	-2.12	-83.76	-0.93	10.00	10.00	0.00	
9,100.00	59.11	359.65	8,986.77	78.78	-84.25	79.98	10.00	10.00	0.00	
9,200.00	69.11	359.65	9,030.38	168.63	-84.80	169.82	10.00	10.00	0.00	
9,300.00	79.11	359.65	9,057.73	264.68	-85.38	265.88	10.00	10.00	0.00	
9,400.00	89.11	359.65	9,067.98	364.03	-85.98	365.22	10.00	10.00	0.00	
9,415.99	90.71	359.65	9,068.00	380.02	-86.08	381.21	10.00	10.00	0.00	
<b>LP, Hold 90.71° Inc at 359.65° Azm</b>										
9,500.00	90.71	359.65	9,066.97	464.02	-86.59	465.21	0.00	0.00	0.00	
9,600.00	90.71	359.65	9,065.73	564.01	-87.19	565.20	0.00	0.00	0.00	
9,700.00	90.71	359.65	9,064.50	664.00	-87.80	665.19	0.00	0.00	0.00	
9,800.00	90.71	359.65	9,063.27	763.99	-88.41	765.17	0.00	0.00	0.00	
9,900.00	90.71	359.65	9,062.03	863.98	-89.01	865.16	0.00	0.00	0.00	
10,000.00	90.71	359.65	9,060.80	963.97	-89.62	965.15	0.00	0.00	0.00	
10,100.00	90.71	359.65	9,059.56	1,063.96	-90.23	1,065.14	0.00	0.00	0.00	
10,200.00	90.71	359.65	9,058.33	1,163.95	-90.83	1,165.13	0.00	0.00	0.00	
10,300.00	90.71	359.65	9,057.10	1,263.94	-91.44	1,265.12	0.00	0.00	0.00	
10,400.00	90.71	359.65	9,055.86	1,363.93	-92.04	1,365.11	0.00	0.00	0.00	
10,500.00	90.71	359.65	9,054.63	1,463.92	-92.65	1,465.10	0.00	0.00	0.00	
10,600.00	90.71	359.65	9,053.39	1,563.92	-93.26	1,565.09	0.00	0.00	0.00	



Planning Report



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Local Co-ordinate Reference: Well 303H  
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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)	
10,700.00	90.71	359.65	9,052.16	1,663.91	-93.86	1,665.08	0.00	0.00	0.00	
10,800.00	90.71	359.65	9,050.93	1,763.90	-94.47	1,765.06	0.00	0.00	0.00	
10,900.00	90.71	359.65	9,049.69	1,863.89	-95.08	1,865.05	0.00	0.00	0.00	
11,000.00	90.71	359.65	9,048.46	1,963.88	-95.68	1,965.04	0.00	0.00	0.00	
11,100.00	90.71	359.65	9,047.22	2,063.87	-96.29	2,065.03	0.00	0.00	0.00	
11,200.00	90.71	359.65	9,045.99	2,163.86	-96.90	2,165.02	0.00	0.00	0.00	
11,300.00	90.71	359.65	9,044.75	2,263.85	-97.50	2,265.01	0.00	0.00	0.00	
11,400.00	90.71	359.65	9,043.52	2,363.84	-98.11	2,365.00	0.00	0.00	0.00	
11,500.00	90.71	359.65	9,042.29	2,463.83	-98.71	2,464.99	0.00	0.00	0.00	
11,600.00	90.71	359.65	9,041.05	2,563.82	-99.32	2,564.98	0.00	0.00	0.00	
11,700.00	90.71	359.65	9,039.82	2,663.81	-99.93	2,664.97	0.00	0.00	0.00	
11,800.00	90.71	359.65	9,038.58	2,763.80	-100.53	2,764.95	0.00	0.00	0.00	
11,900.00	90.71	359.65	9,037.35	2,863.79	-101.14	2,864.94	0.00	0.00	0.00	
12,000.00	90.71	359.65	9,036.12	2,963.78	-101.75	2,964.93	0.00	0.00	0.00	
12,100.00	90.71	359.65	9,034.88	3,063.77	-102.35	3,064.92	0.00	0.00	0.00	
12,200.00	90.71	359.65	9,033.65	3,163.76	-102.96	3,164.91	0.00	0.00	0.00	
12,300.00	90.71	359.65	9,032.41	3,263.75	-103.57	3,264.90	0.00	0.00	0.00	
12,400.00	90.71	359.65	9,031.18	3,363.75	-104.17	3,364.89	0.00	0.00	0.00	
12,500.00	90.71	359.65	9,029.95	3,463.74	-104.78	3,464.88	0.00	0.00	0.00	
12,600.00	90.71	359.65	9,028.71	3,563.73	-105.38	3,564.87	0.00	0.00	0.00	
12,700.00	90.71	359.65	9,027.48	3,663.72	-105.99	3,664.86	0.00	0.00	0.00	
12,800.00	90.71	359.65	9,026.24	3,763.71	-106.60	3,764.84	0.00	0.00	0.00	
12,900.00	90.71	359.65	9,025.01	3,863.70	-107.20	3,864.83	0.00	0.00	0.00	
13,000.00	90.71	359.65	9,023.78	3,963.69	-107.81	3,964.82	0.00	0.00	0.00	
13,100.00	90.71	359.65	9,022.54	4,063.68	-108.42	4,064.81	0.00	0.00	0.00	
13,200.00	90.71	359.65	9,021.31	4,163.67	-109.02	4,164.80	0.00	0.00	0.00	
13,300.00	90.71	359.65	9,020.07	4,263.66	-109.63	4,264.79	0.00	0.00	0.00	
13,400.00	90.71	359.65	9,018.84	4,363.65	-110.24	4,364.78	0.00	0.00	0.00	
13,500.00	90.71	359.65	9,017.61	4,463.64	-110.84	4,464.77	0.00	0.00	0.00	
13,600.00	90.71	359.65	9,016.37	4,563.63	-111.45	4,564.76	0.00	0.00	0.00	
13,700.00	90.71	359.65	9,015.14	4,663.62	-112.05	4,664.75	0.00	0.00	0.00	
13,800.00	90.71	359.65	9,013.90	4,763.61	-112.66	4,764.74	0.00	0.00	0.00	
13,900.00	90.71	359.65	9,012.67	4,863.60	-113.27	4,864.72	0.00	0.00	0.00	
14,000.00	90.71	359.65	9,011.44	4,963.59	-113.87	4,964.71	0.00	0.00	0.00	
14,035.30	90.71	359.65	9,011.00	4,998.89	-114.09	5,000.00	0.00	0.00	0.00	
<b>Begin 2.00°/100' Build</b>										
14,053.27	91.07	359.65	9,010.72	5,016.86	-114.20	5,017.97	2.00	2.00	0.00	
<b>Hold 91.07° Inc</b>										
14,100.00	91.07	359.65	9,009.85	5,063.58	-114.48	5,064.70	0.00	0.00	0.00	
14,200.00	91.07	359.65	9,007.99	5,163.56	-115.09	5,164.68	0.00	0.00	0.00	
14,300.00	91.07	359.65	9,006.13	5,263.54	-115.69	5,264.66	0.00	0.00	0.00	
14,400.00	91.07	359.65	9,004.27	5,363.52	-116.30	5,364.63	0.00	0.00	0.00	
14,500.00	91.07	359.65	9,002.41	5,463.50	-116.91	5,464.61	0.00	0.00	0.00	
14,600.00	91.07	359.65	9,000.55	5,563.48	-117.51	5,564.59	0.00	0.00	0.00	
14,700.00	91.07	359.65	8,998.68	5,663.46	-118.12	5,664.57	0.00	0.00	0.00	
14,800.00	91.07	359.65	8,996.82	5,763.44	-118.72	5,764.55	0.00	0.00	0.00	
14,900.00	91.07	359.65	8,994.96	5,863.43	-119.33	5,864.53	0.00	0.00	0.00	
15,000.00	91.07	359.65	8,993.10	5,963.41	-119.94	5,964.51	0.00	0.00	0.00	
15,100.00	91.07	359.65	8,991.24	6,063.39	-120.54	6,064.49	0.00	0.00	0.00	
15,200.00	91.07	359.65	8,989.38	6,163.37	-121.15	6,164.47	0.00	0.00	0.00	
15,300.00	91.07	359.65	8,987.52	6,263.35	-121.76	6,264.45	0.00	0.00	0.00	
15,400.00	91.07	359.65	8,985.65	6,363.33	-122.36	6,364.43	0.00	0.00	0.00	
15,500.00	91.07	359.65	8,983.79	6,463.31	-122.97	6,464.41	0.00	0.00	0.00	
15,600.00	91.07	359.65	8,981.93	6,563.29	-123.58	6,564.39	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)
15,700.00	91.07	359.65	8,980.07	6,663.27	-124.18	6,664.37	0.00	0.00	0.00
15,800.00	91.07	359.65	8,978.21	6,763.25	-124.79	6,764.35	0.00	0.00	0.00
15,900.00	91.07	359.65	8,976.35	6,863.23	-125.39	6,864.32	0.00	0.00	0.00
16,000.00	91.07	359.65	8,974.49	6,963.21	-126.00	6,964.30	0.00	0.00	0.00
16,100.00	91.07	359.65	8,972.63	7,063.20	-126.61	7,064.28	0.00	0.00	0.00
16,200.00	91.07	359.65	8,970.76	7,163.18	-127.21	7,164.26	0.00	0.00	0.00
16,300.00	91.07	359.65	8,968.90	7,263.16	-127.82	7,264.24	0.00	0.00	0.00
16,400.00	91.07	359.65	8,967.04	7,363.14	-128.43	7,364.22	0.00	0.00	0.00
16,500.00	91.07	359.65	8,965.18	7,463.12	-129.03	7,464.20	0.00	0.00	0.00
16,600.00	91.07	359.65	8,963.32	7,563.10	-129.64	7,564.18	0.00	0.00	0.00
16,700.00	91.07	359.65	8,961.46	7,663.08	-130.24	7,664.16	0.00	0.00	0.00
16,800.00	91.07	359.65	8,959.60	7,763.06	-130.85	7,764.14	0.00	0.00	0.00
16,900.00	91.07	359.65	8,957.73	7,863.04	-131.46	7,864.12	0.00	0.00	0.00
17,000.00	91.07	359.65	8,955.87	7,963.02	-132.06	7,964.10	0.00	0.00	0.00
17,100.00	91.07	359.65	8,954.01	8,063.00	-132.67	8,064.08	0.00	0.00	0.00
17,200.00	91.07	359.65	8,952.15	8,162.98	-133.28	8,164.06	0.00	0.00	0.00
17,300.00	91.07	359.65	8,950.29	8,262.97	-133.88	8,264.03	0.00	0.00	0.00
17,400.00	91.07	359.65	8,948.43	8,362.95	-134.49	8,364.01	0.00	0.00	0.00
17,500.00	91.07	359.65	8,946.57	8,462.93	-135.10	8,463.99	0.00	0.00	0.00
17,600.00	91.07	359.65	8,944.71	8,562.91	-135.70	8,563.97	0.00	0.00	0.00
17,700.00	91.07	359.65	8,942.84	8,662.89	-136.31	8,663.95	0.00	0.00	0.00
17,800.00	91.07	359.65	8,940.98	8,762.87	-136.91	8,763.93	0.00	0.00	0.00
17,900.00	91.07	359.65	8,939.12	8,862.85	-137.52	8,863.91	0.00	0.00	0.00
18,000.00	91.07	359.65	8,937.26	8,962.83	-138.13	8,963.89	0.00	0.00	0.00
18,100.00	91.07	359.65	8,935.40	9,062.81	-138.73	9,063.87	0.00	0.00	0.00
18,200.00	91.07	359.65	8,933.54	9,162.79	-139.34	9,163.85	0.00	0.00	0.00
18,300.00	91.07	359.65	8,931.68	9,262.77	-139.95	9,263.83	0.00	0.00	0.00
18,400.00	91.07	359.65	8,929.81	9,362.76	-140.55	9,363.81	0.00	0.00	0.00
18,500.00	91.07	359.65	8,927.95	9,462.74	-141.16	9,463.79	0.00	0.00	0.00
18,600.00	91.07	359.65	8,926.09	9,562.72	-141.77	9,563.77	0.00	0.00	0.00
18,700.00	91.07	359.65	8,924.23	9,662.70	-142.37	9,663.75	0.00	0.00	0.00
18,800.00	91.07	359.65	8,922.37	9,762.68	-142.98	9,763.72	0.00	0.00	0.00
18,900.00	91.07	359.65	8,920.51	9,862.66	-143.58	9,863.70	0.00	0.00	0.00
19,000.00	91.07	359.65	8,918.65	9,962.64	-144.19	9,963.68	0.00	0.00	0.00
19,100.00	91.07	359.65	8,916.78	10,062.62	-144.80	10,063.66	0.00	0.00	0.00
19,200.00	91.07	359.65	8,914.92	10,162.60	-145.40	10,163.64	0.00	0.00	0.00
19,249.61	91.07	359.65	8,914.00	10,212.20	-145.70	10,213.24	0.00	0.00	0.00

TD at 19249.61



Planning Report



Database: USA Compass  
 Company: COG Operating LLC  
 Project: Lea County, NM (NAD27 NME)  
 Site: Harrier Federal Com  
 Well: 303H  
 Wellbore: OH  
 Design: Plan 1 08-23-19

Local Co-ordinate Reference: Well 303H  
 TVD Reference: RKB @ 3271.80usft (Pioneer 84)  
 MD Reference: RKB @ 3271.80usft (Pioneer 84)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - Harrier Federal - plan hits target center - Point	0.00	0.00	8,914.00	10,212.20	-145.70	398,588.40	711,825.19	32° 5' 38.359150 N	3° 38' 57.562809 W
LTP - Harrier Federal - plan hits target center - Point	0.00	0.00	8,914.93	10,162.20	-145.40	398,538.40	711,825.50	32° 5' 37.864337 N	3° 38' 57.562960 W
5000' VS - Harrier Fec - plan hits target center - Point	0.00	0.00	9,011.00	4,998.89	-114.09	393,375.08	711,856.81	32° 4' 46.766760 N	3° 38' 57.579614 W
FTP - Harrier Federal - plan misses target center by 292.88usft at 8909.91usft MD (8864.14 TVD, -65.32 N, -83.38 E) - Point	0.00	0.00	9,068.00	-275.60	-82.10	388,100.60	711,888.80	32° 3' 54.568893 N	3° 38' 57.596455 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
686.80	686.80	Rustler		-0.71	359.18
1,054.80	1,054.80	TOS		-0.71	359.18
4,374.80	4,374.80	BOS (Fletcher)		-0.71	359.18
4,574.80	4,574.80	LMAR (Top Delaware)		-0.71	359.18
4,612.80	4,612.80	BLCN		-0.71	359.18
5,631.03	5,627.48	CYCN		-0.71	359.18
7,246.09	7,232.26	BYCN		-0.71	359.18
8,824.80	8,795.21	Bone Sprg (BSGL)		-0.71	359.18

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,000.00	5,000.00	0.00	0.00	KOP, Begin 2.00°/100' Build
5,400.07	5,398.77	-25.78	-10.64	Hold 8.00° Inc at 202.43° Azm
6,553.76	6,541.23	-174.22	-71.92	Begin 2.00°/100' Drop
6,953.83	6,940.00	-200.00	-82.56	Begin Vertical Hold
8,508.92	8,495.09	-200.00	-82.56	KOP2, Begin 10.00°/100' Build
9,415.99	9,068.00	380.02	-86.08	LP, Hold 90.71° Inc at 359.65° Azm
14,035.30	9,011.00	4,998.89	-114.09	Begin 2.00°/100' Build
14,053.27	9,010.72	5,016.86	-114.20	Hold 91.07° Inc
19,249.61	8,914.00	10,212.20	-145.70	TD at 19249.61