



## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well NPR 11D-14 596 - Slot NPR 11D-14 596
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	GL + KB @ 6459.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	GL + KB @ 6459.00usft
<b>Site:</b>	NPR H15 596 (POD 1)	<b>North Reference:</b>	True
<b>Well:</b>	NPR 11D-14 596	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1		

<b>Project</b>	Garfield County, CO (UTM 12N)		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site		NPR H15 596 (POD 1)			
Site Position:		Northing:	14,399,246.80 usft	Latitude:	39.616700
From:	Map	Easting:	2,444,190.70 usft	Longitude:	-108.146092
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.82 °

Well	NPR 11D-14 596 - Slot NPR 11D-14 596					
Well Position	+N/-S	0.00 usft	Northing:	14,399,206.10 usft	Latitude:	39.616587
	+E/-W	0.00 usft	Easting:	2,444,209.90 usft	Longitude:	-108.146029
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	6,429.00 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</b>
			(°)	(°)	(nT)
	HDGM_FILE	6/13/2018	9.65	65.92	51,455.00000000

<b>Design</b>	PLAN #1			
<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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	57.25

<b>Plan Sections</b>										
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	
175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	0.00	
275.00	3.00	90.00	274.95	0.00	2.62	3.00	3.00	0.00	90.00	
455.00	3.00	90.00	454.71	0.00	12.04	0.00	0.00	0.00	0.00	
1,156.27	23.50	57.34	1,134.05	76.32	149.67	3.00	2.92	-4.66	-36.84	
5,683.12	23.50	57.34	5,285.30	1,050.59	1,669.67	0.00	0.00	0.00	0.00	
6,466.62	0.00	0.00	6,047.00	1,136.10	1,803.08	3.00	-3.00	0.00	180.00	
6,545.20	1.57	250.00	6,125.57	1,135.74	1,802.07	2.00	2.00	-139.98	250.00	
9,803.85	1.57	250.00	9,383.00	1,105.17	1,718.08	0.00	0.00	0.00	0.00	NPR 11D-14 596 PBH

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<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	GL + KB @ 6459.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	GL + KB @ 6459.00usft
<b>Site:</b>	NPR H15 596 (POD 1)	<b>North Reference:</b>	True
<b>Well:</b>	NPR 11D-14 596	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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 (°/100u)	Comments / Formations
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	
175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
200.00	0.75	90.00	200.00	0.00	0.16	0.14	3.00	3.00	
275.00	3.00	90.00	274.95	0.00	2.62	2.20	3.00	3.00	Start 180.00 hold at 275.00 MD
300.00	3.00	90.00	299.92	0.00	3.93	3.30	0.00	0.00	
400.00	3.00	90.00	399.78	0.00	9.16	7.70	0.00	0.00	
455.00	3.00	90.00	454.71	0.00	12.04	10.12	0.00	0.00	Start DLS 3.00 TFO -36.84
500.00	4.16	78.77	499.62	0.32	14.82	12.63	3.00	2.58	
600.00	6.99	68.05	599.14	3.30	24.02	21.98	3.00	2.83	
700.00	9.91	63.55	698.04	9.41	37.37	36.52	3.00	2.93	
800.00	12.88	61.10	796.06	18.63	54.83	56.20	3.00	2.96	
900.00	15.85	59.55	892.93	30.94	76.37	80.96	3.00	2.98	
1,000.00	18.83	58.48	988.37	46.30	101.91	110.76	3.00	2.98	
1,100.00	21.82	57.70	1,082.13	64.68	131.38	145.49	3.00	2.99	
1,156.27	23.50	57.34	1,134.05	76.32	149.67	167.17	3.00	2.99	Start 4526.86 hold at 1156.27 MD
1,200.00	23.50	57.34	1,174.15	85.73	164.36	184.61	0.00	0.00	
1,300.00	23.50	57.34	1,265.86	107.26	197.93	224.49	0.00	0.00	
1,400.00	23.50	57.34	1,357.56	128.78	231.51	264.37	0.00	0.00	
1,500.00	23.50	57.34	1,449.26	150.30	265.09	304.26	0.00	0.00	
1,600.00	23.50	57.34	1,540.97	171.82	298.66	344.14	0.00	0.00	
1,664.38	23.50	57.34	1,600.00	185.68	320.28	369.82	0.00	0.00	WASATCH.MBL (TVD)
1,700.00	23.50	57.34	1,632.67	193.34	332.24	384.02	0.00	0.00	
1,800.00	23.50	57.34	1,724.37	214.87	365.82	423.91	0.00	0.00	
1,900.00	23.50	57.34	1,816.07	236.39	399.40	463.79	0.00	0.00	
2,000.00	23.50	57.34	1,907.78	257.91	432.97	503.67	0.00	0.00	
2,100.00	23.50	57.34	1,999.48	279.43	466.55	543.55	0.00	0.00	
2,200.00	23.50	57.34	2,091.18	300.95	500.13	583.44	0.00	0.00	
2,300.00	23.50	57.34	2,182.88	322.48	533.71	623.32	0.00	0.00	
2,400.00	23.50	57.34	2,274.59	344.00	567.28	663.20	0.00	0.00	
2,500.00	23.50	57.34	2,366.29	365.52	600.86	703.08	0.00	0.00	
2,600.00	23.50	57.34	2,457.99	387.04	634.44	742.97	0.00	0.00	
2,700.00	23.50	57.34	2,549.69	408.56	668.01	782.85	0.00	0.00	
2,800.00	23.50	57.34	2,641.40	430.09	701.59	822.73	0.00	0.00	
2,900.00	23.50	57.34	2,733.10	451.61	735.17	862.61	0.00	0.00	
3,000.00	23.50	57.34	2,824.80	473.13	768.75	902.50	0.00	0.00	
3,100.00	23.50	57.34	2,916.50	494.65	802.32	942.38	0.00	0.00	
3,200.00	23.50	57.34	3,008.21	516.17	835.90	982.26	0.00	0.00	
3,300.00	23.50	57.34	3,099.91	537.70	869.48	1,022.14	0.00	0.00	
3,400.00	23.50	57.34	3,191.61	559.22	903.06	1,062.03	0.00	0.00	
3,500.00	23.50	57.34	3,283.32	580.74	936.63	1,101.91	0.00	0.00	
3,600.00	23.50	57.34	3,375.02	602.26	970.21	1,141.79	0.00	0.00	
3,700.00	23.50	57.34	3,466.72	623.78	1,003.79	1,181.67	0.00	0.00	
3,781.00	23.50	57.34	3,541.00	641.22	1,030.98	1,213.98	0.00	0.00	WASATCH_G_ZONE.MBL (TVD)
3,800.00	23.50	57.34	3,558.42	645.31	1,037.36	1,221.56	0.00	0.00	
3,900.00	23.50	57.34	3,650.13	666.83	1,070.94	1,261.44	0.00	0.00	
4,000.00	23.50	57.34	3,741.83	688.35	1,104.52	1,301.32	0.00	0.00	
4,100.00	23.50	57.34	3,833.53	709.87	1,138.10	1,341.21	0.00	0.00	
4,111.42	23.50	57.34	3,844.00	712.33	1,141.93	1,345.76	0.00	0.00	FORT_UNION.MBL (TVD)
4,200.00	23.50	57.34	3,925.23	731.39	1,171.67	1,381.09	0.00	0.00	
4,300.00	23.50	57.34	4,016.94	752.92	1,205.25	1,420.97	0.00	0.00	
4,400.00	23.50	57.34	4,108.64	774.44	1,238.83	1,460.85	0.00	0.00	

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<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	GL + KB @ 6459.00usft
<b>Site:</b>	NPR H15 596 (POD 1)	<b>North Reference:</b>	True
<b>Well:</b>	NPR 11D-14 596	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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 (°/100u)	Comments / Formations
4,500.00	23.50	57.34	4,200.34	795.96	1,272.41	1,500.74	0.00	0.00	
4,600.00	23.50	57.34	4,292.04	817.48	1,305.98	1,540.62	0.00	0.00	
4,700.00	23.50	57.34	4,383.75	839.00	1,339.56	1,580.50	0.00	0.00	
4,800.00	23.50	57.34	4,475.45	860.53	1,373.14	1,620.38	0.00	0.00	
4,900.00	23.50	57.34	4,567.15	882.05	1,406.71	1,660.27	0.00	0.00	
5,000.00	23.50	57.34	4,658.86	903.57	1,440.29	1,700.15	0.00	0.00	
5,100.00	23.50	57.34	4,750.56	925.09	1,473.87	1,740.03	0.00	0.00	
5,200.00	23.50	57.34	4,842.26	946.61	1,507.45	1,779.91	0.00	0.00	
5,300.00	23.50	57.34	4,933.96	968.13	1,541.02	1,819.80	0.00	0.00	
5,400.00	23.50	57.34	5,025.67	989.66	1,574.60	1,859.68	0.00	0.00	
5,500.00	23.50	57.34	5,117.37	1,011.18	1,608.18	1,899.56	0.00	0.00	
5,600.00	23.50	57.34	5,209.07	1,032.70	1,641.76	1,939.44	0.00	0.00	
5,683.12	23.50	57.34	5,285.30	1,050.59	1,669.67	1,972.60	0.00	0.00	Start Drop -3.00
5,700.00	23.00	57.34	5,300.80	1,054.19	1,675.27	1,979.26	3.00	-3.00	
5,800.00	20.00	57.34	5,393.84	1,073.96	1,706.12	2,015.90	3.00	-3.00	
5,900.00	17.00	57.34	5,488.66	1,091.08	1,732.83	2,047.63	3.00	-3.00	
6,000.00	14.00	57.34	5,585.01	1,105.50	1,755.33	2,074.34	3.00	-3.00	
6,100.00	11.00	57.34	5,682.63	1,117.17	1,773.55	2,095.98	3.00	-3.00	
6,200.00	8.00	57.34	5,781.25	1,126.08	1,787.44	2,112.48	3.00	-3.00	
6,281.33	5.56	57.34	5,862.00	1,131.26	1,795.52	2,122.08	3.00	-3.00	OHIO_CREEK.MBL (TVD)
6,300.00	5.00	57.34	5,880.59	1,132.19	1,796.96	2,123.80	3.00	-3.00	
6,400.00	2.00	57.34	5,980.40	1,135.48	1,802.10	2,129.90	3.00	-3.00	
6,466.62	0.00	0.00	6,047.00	1,136.10	1,803.08	2,131.06	3.00	-3.00	Start DLS 2.00 TFO 250.00
6,500.00	0.67	250.00	6,080.38	1,136.04	1,802.90	2,130.87	2.00	2.00	
6,516.62	1.00	250.00	6,097.00	1,135.96	1,802.67	2,130.64	2.00	2.00	WILLIAMS_FORK.MBL (TVD)
6,545.20	1.57	250.00	6,125.57	1,135.74	1,802.07	2,130.01	2.00	2.00	Start 3258.65 hold at 6545.20 MD
6,566.64	1.57	250.00	6,147.00	1,135.54	1,801.51	2,129.44	0.00	0.00	TOP_GAS.MBL (TVD)
6,600.00	1.57	250.00	6,180.35	1,135.22	1,800.65	2,128.55	0.00	0.00	
6,700.00	1.57	250.00	6,280.31	1,134.28	1,798.08	2,125.87	0.00	0.00	
6,800.00	1.57	250.00	6,380.28	1,133.35	1,795.50	2,123.20	0.00	0.00	
6,900.00	1.57	250.00	6,480.24	1,132.41	1,792.92	2,120.52	0.00	0.00	
7,000.00	1.57	250.00	6,580.20	1,131.47	1,790.35	2,117.85	0.00	0.00	
7,100.00	1.57	250.00	6,680.16	1,130.53	1,787.77	2,115.17	0.00	0.00	
7,200.00	1.57	250.00	6,780.13	1,129.59	1,785.19	2,112.50	0.00	0.00	
7,300.00	1.57	250.00	6,880.09	1,128.66	1,782.61	2,109.82	0.00	0.00	
7,400.00	1.57	250.00	6,980.05	1,127.72	1,780.04	2,107.15	0.00	0.00	
7,500.00	1.57	250.00	7,080.01	1,126.78	1,777.46	2,104.47	0.00	0.00	
7,600.00	1.57	250.00	7,179.97	1,125.84	1,774.88	2,101.80	0.00	0.00	
7,700.00	1.57	250.00	7,279.94	1,124.90	1,772.31	2,099.12	0.00	0.00	
7,800.00	1.57	250.00	7,379.90	1,123.97	1,769.73	2,096.45	0.00	0.00	
7,900.00	1.57	250.00	7,479.86	1,123.03	1,767.15	2,093.77	0.00	0.00	
8,000.00	1.57	250.00	7,579.82	1,122.09	1,764.57	2,091.10	0.00	0.00	
8,100.00	1.57	250.00	7,679.79	1,121.15	1,762.00	2,088.42	0.00	0.00	
8,200.00	1.57	250.00	7,779.75	1,120.21	1,759.42	2,085.75	0.00	0.00	
8,300.00	1.57	250.00	7,879.71	1,119.27	1,756.84	2,083.07	0.00	0.00	
8,400.00	1.57	250.00	7,979.67	1,118.34	1,754.26	2,080.40	0.00	0.00	
8,500.00	1.57	250.00	8,079.64	1,117.40	1,751.69	2,077.72	0.00	0.00	
8,600.00	1.57	250.00	8,179.60	1,116.46	1,749.11	2,075.05	0.00	0.00	
8,700.00	1.57	250.00	8,279.56	1,115.52	1,746.53	2,072.37	0.00	0.00	
8,800.00	1.57	250.00	8,379.52	1,114.58	1,743.96	2,069.70	0.00	0.00	
8,900.00	1.57	250.00	8,479.49	1,113.65	1,741.38	2,067.02	0.00	0.00	
9,000.00	1.57	250.00	8,579.45	1,112.71	1,738.80	2,064.35	0.00	0.00	

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<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	GL + KB @ 6459.00usft
<b>Site:</b>	NPR H15 596 (POD 1)	<b>North Reference:</b>	True
<b>Well:</b>	NPR 11D-14 596	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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 (°/100u)	Comments / Formations
9,100.00	1.57	250.00	8,679.41	1,111.77	1,736.22	2,061.67	0.00	0.00	
9,153.61	1.57	250.00	8,733.00	1,111.27	1,734.84	2,060.24	0.00	0.00	CAMEO.MBL (TVD)
9,200.00	1.57	250.00	8,779.37	1,110.83	1,733.65	2,059.00	0.00	0.00	
9,300.00	1.57	250.00	8,879.34	1,109.89	1,731.07	2,056.32	0.00	0.00	
9,400.00	1.57	250.00	8,979.30	1,108.96	1,728.49	2,053.65	0.00	0.00	
9,500.00	1.57	250.00	9,079.26	1,108.02	1,725.91	2,050.97	0.00	0.00	
9,600.00	1.57	250.00	9,179.22	1,107.08	1,723.34	2,048.30	0.00	0.00	
9,653.80	1.57	250.00	9,233.00	1,106.57	1,721.95	2,046.86	0.00	0.00	ROLLINS.MBL (TVD)
9,700.00	1.57	250.00	9,279.18	1,106.14	1,720.76	2,045.62	0.00	0.00	
9,800.00	1.57	250.00	9,379.15	1,105.20	1,718.18	2,042.95	0.00	0.00	
9,803.85	1.57	250.00	9,383.00	1,105.17	1,718.08	2,042.84	0.00	0.00	TD at 9803.85 - TD.MBL (TVD) - NPR 11D-14 5

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
NPR 11D-14 596 PBHL	0.00	0.00	9,383.00	1,105.17	1,718.08	14,400,365.30	2,445,892.00	39.619620	-108.139932
- plan hits target center									
- Ellipse (radii L100.00 W50.00 on 250.00 azi)									

### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,664.38	1,600.00	WASATCH.MBL (TVD)			
3,781.00	3,541.00	WASATCH_G_ZONE.MBL (TVD)			
4,111.42	3,844.00	FORT_UNION.MBL (TVD)			
6,281.33	5,862.00	OHIO_CREEK.MBL (TVD)			
6,516.62	6,097.00	WILLIAMS_FORK.MBL (TVD)			
6,566.64	6,147.00	TOP_GAS.MBL (TVD)			
9,153.61	8,733.00	CAMEO.MBL (TVD)			
9,653.80	9,233.00	ROLLINS.MBL (TVD)			
9,803.85	9,383.00	TD.MBL (TVD)			

### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
175.00	175.00	0.00	0.00	Start Build 3.00
275.00	274.95	0.00	2.62	Start 180.00 hold at 275.00 MD
455.00	454.71	0.00	12.04	Start DLS 3.00 TFO -36.84
1,156.27	1,134.05	76.32	149.67	Start 4526.86 hold at 1156.27 MD
5,683.12	5,285.30	1,050.59	1,669.67	Start Drop -3.00
6,466.62	6,047.00	1,136.10	1,803.08	Start DLS 2.00 TFO 250.00
6,545.20	6,125.57	1,135.74	1,802.07	Start 3258.65 hold at 6545.20 MD
9,803.85	9,383.00	1,105.17	1,718.08	TD at 9803.85