

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NPR 25D-16 596 - Slot 25D
Company:	Caerus Oil & Gas	TVD Reference:	GL + KB @ 8321.00usft (Original Well Elev)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	GL + KB @ 8321.00usft (Original Well Elev)
Site:	S16-T5S-R96W NPR B16 596	North Reference:	True
Well:	NPR 25D-16 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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

Site		S16-T5S-R96W NPR B16 596			
Site Position:		Northing:	14,399,939.00 usft	Latitude:	39.619218
From:	Map	Easting:	2,437,053.80 usft	Longitude:	-108.171326
Position Uncertainty:	3.28 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.80 °

Well	NPR 25D-16 596 - Slot 25D					
Well Position	+N/-S	0.00 usft	Northing:	14,399,970.40 usft	Latitude:	39.619304
	+E/-W	0.00 usft	Easting:	2,437,057.10 usft	Longitude:	-108.171311
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	8,291.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM_FILE	6/15/2018	9.65	65.90	51,443.20000000

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	34.75

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	
175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	0.00	
275.00	3.00	80.00	274.95	0.45	2.58	3.00	3.00	0.00	80.00	
545.00	3.00	80.00	544.58	2.91	16.49	0.00	0.00	0.00	0.00	
860.86	11.42	36.24	857.82	29.61	43.18	3.00	2.66	-13.85	-56.25	
7,168.82	11.42	36.24	7,040.99	1,036.54	781.35	0.00	0.00	0.00	0.00	
7,549.35	0.00	0.00	7,419.00	1,067.02	803.69	3.00	-3.00	0.00	180.00	
7,629.81	1.61	250.00	7,499.45	1,066.63	802.63	2.00	2.00	-136.71	250.00	
10,810.61	1.61	250.00	10,679.00	1,036.08	718.69	0.00	0.00	0.00	0.00	NPR 25D-16 596_PB

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Site:	S16-T5S-R96W NPR B16 596	North Reference:	True
Well:	NPR 25D-16 596	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 (°/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	80.00	200.00	0.03	0.16	0.12	3.00	3.00	
275.00	3.00	80.00	274.95	0.45	2.58	1.84	3.00	3.00	Start 270.00 hold at 275.00 MD
300.00	3.00	80.00	299.92	0.68	3.87	2.76	0.00	0.00	
400.00	3.00	80.00	399.78	1.59	9.02	6.45	0.00	0.00	
500.00	3.00	80.00	499.65	2.50	14.17	10.13	0.00	0.00	
545.00	3.00	80.00	544.58	2.91	16.49	11.79	0.00	0.00	Start DLS 3.00 TFO -56.25
600.00	4.15	60.68	599.48	4.13	19.65	14.59	3.00	2.09	
700.00	6.79	45.24	699.02	10.07	27.00	23.66	3.00	2.64	
800.00	9.64	38.64	797.98	20.78	36.43	37.83	3.00	2.85	
860.86	11.42	36.24	857.82	29.61	43.18	48.94	3.00	2.91	Start 6307.96 hold at 860.86 MD
900.00	11.42	36.24	896.18	35.86	47.76	56.69	0.00	0.00	
1,000.00	11.42	36.24	994.21	51.83	59.46	76.47	0.00	0.00	
1,100.00	11.42	36.24	1,092.23	67.79	71.16	96.26	0.00	0.00	
1,200.00	11.42	36.24	1,190.25	83.75	82.86	116.04	0.00	0.00	
1,300.00	11.42	36.24	1,288.27	99.71	94.57	135.83	0.00	0.00	
1,400.00	11.42	36.24	1,386.29	115.68	106.27	155.62	0.00	0.00	
1,500.00	11.42	36.24	1,484.31	131.64	117.97	175.40	0.00	0.00	
1,600.00	11.42	36.24	1,582.33	147.60	129.67	195.19	0.00	0.00	
1,700.00	11.42	36.24	1,680.36	163.57	141.37	214.97	0.00	0.00	
1,800.00	11.42	36.24	1,778.38	179.53	153.08	234.76	0.00	0.00	
1,900.00	11.42	36.24	1,876.40	195.49	164.78	254.55	0.00	0.00	
2,000.00	11.42	36.24	1,974.42	211.45	176.48	274.33	0.00	0.00	
2,100.00	11.42	36.24	2,072.44	227.42	188.18	294.12	0.00	0.00	
2,200.00	11.42	36.24	2,170.46	243.38	199.89	313.90	0.00	0.00	
2,300.00	11.42	36.24	2,268.49	259.34	211.59	333.69	0.00	0.00	
2,400.00	11.42	36.24	2,366.51	275.30	223.29	353.48	0.00	0.00	
2,500.00	11.42	36.24	2,464.53	291.27	234.99	373.26	0.00	0.00	
2,600.00	11.42	36.24	2,562.55	307.23	246.69	393.05	0.00	0.00	
2,700.00	11.42	36.24	2,660.57	323.19	258.40	412.83	0.00	0.00	
2,800.00	11.42	36.24	2,758.59	339.16	270.10	432.62	0.00	0.00	
2,900.00	11.42	36.24	2,856.62	355.12	281.80	452.41	0.00	0.00	
3,000.00	11.42	36.24	2,954.64	371.08	293.50	472.19	0.00	0.00	
3,100.00	11.42	36.24	3,052.66	387.04	305.21	491.98	0.00	0.00	
3,200.00	11.42	36.24	3,150.68	403.01	316.91	511.77	0.00	0.00	
3,300.00	11.42	36.24	3,248.70	418.97	328.61	531.55	0.00	0.00	
3,400.00	11.42	36.24	3,346.72	434.93	340.31	551.34	0.00	0.00	
3,500.00	11.42	36.24	3,444.75	450.90	352.02	571.12	0.00	0.00	
3,556.37	11.42	36.24	3,500.00	459.89	358.61	582.28	0.00	0.00	WASATCH.MBL (TVD)
3,600.00	11.42	36.24	3,542.77	466.86	363.72	590.91	0.00	0.00	
3,700.00	11.42	36.24	3,640.79	482.82	375.42	610.70	0.00	0.00	
3,800.00	11.42	36.24	3,738.81	498.78	387.12	630.48	0.00	0.00	
3,900.00	11.42	36.24	3,836.83	514.75	398.82	650.27	0.00	0.00	
4,000.00	11.42	36.24	3,934.85	530.71	410.53	670.05	0.00	0.00	
4,100.00	11.42	36.24	4,032.88	546.67	422.23	689.84	0.00	0.00	
4,200.00	11.42	36.24	4,130.90	562.64	433.93	709.63	0.00	0.00	
4,300.00	11.42	36.24	4,228.92	578.60	445.63	729.41	0.00	0.00	
4,400.00	11.42	36.24	4,326.94	594.56	457.34	749.20	0.00	0.00	
4,500.00	11.42	36.24	4,424.96	610.52	469.04	768.98	0.00	0.00	
4,600.00	11.42	36.24	4,522.98	626.49	480.74	788.77	0.00	0.00	

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Site:	S16-T5S-R96W NPR B16 596	North Reference:	True
Well:	NPR 25D-16 596	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 (°/100u)	Comments / Formations
4,700.00	11.42	36.24	4,621.01	642.45	492.44	808.56	0.00	0.00	
4,800.00	11.42	36.24	4,719.03	658.41	504.14	828.34	0.00	0.00	
4,900.00	11.42	36.24	4,817.05	674.38	515.85	848.13	0.00	0.00	
5,000.00	11.42	36.24	4,915.07	690.34	527.55	867.91	0.00	0.00	
5,100.00	11.42	36.24	5,013.09	706.30	539.25	887.70	0.00	0.00	
5,146.83	11.42	36.24	5,059.00	713.78	544.73	896.97	0.00	0.00	WASATCH_G_ZONE.MBL (TVD)
5,200.00	11.42	36.24	5,111.11	722.26	550.95	907.49	0.00	0.00	
5,300.00	11.42	36.24	5,209.14	738.23	562.66	927.27	0.00	0.00	
5,400.00	11.42	36.24	5,307.16	754.19	574.36	947.06	0.00	0.00	
5,500.00	11.42	36.24	5,405.18	770.15	586.06	966.84	0.00	0.00	
5,503.90	11.42	36.24	5,409.00	770.77	586.52	967.62	0.00	0.00	FORT_UNION.MBL (TVD)
5,600.00	11.42	36.24	5,503.20	786.11	597.76	986.63	0.00	0.00	
5,700.00	11.42	36.24	5,601.22	802.08	609.47	1,006.42	0.00	0.00	
5,800.00	11.42	36.24	5,699.24	818.04	621.17	1,026.20	0.00	0.00	
5,900.00	11.42	36.24	5,797.27	834.00	632.87	1,045.99	0.00	0.00	
6,000.00	11.42	36.24	5,895.29	849.97	644.57	1,065.77	0.00	0.00	
6,100.00	11.42	36.24	5,993.31	865.93	656.27	1,085.56	0.00	0.00	
6,200.00	11.42	36.24	6,091.33	881.89	667.98	1,105.35	0.00	0.00	
6,300.00	11.42	36.24	6,189.35	897.85	679.68	1,125.13	0.00	0.00	
6,400.00	11.42	36.24	6,287.37	913.82	691.38	1,144.92	0.00	0.00	
6,500.00	11.42	36.24	6,385.40	929.78	703.08	1,164.70	0.00	0.00	
6,600.00	11.42	36.24	6,483.42	945.74	714.79	1,184.49	0.00	0.00	
6,700.00	11.42	36.24	6,581.44	961.71	726.49	1,204.28	0.00	0.00	
6,800.00	11.42	36.24	6,679.46	977.67	738.19	1,224.06	0.00	0.00	
6,900.00	11.42	36.24	6,777.48	993.63	749.89	1,243.85	0.00	0.00	
7,000.00	11.42	36.24	6,875.50	1,009.59	761.59	1,263.63	0.00	0.00	
7,100.00	11.42	36.24	6,973.53	1,025.56	773.30	1,283.42	0.00	0.00	
7,168.82	11.42	36.24	7,040.99	1,036.54	781.35	1,297.04	0.00	0.00	Start Drop -3.00
7,200.00	10.48	36.24	7,071.60	1,041.32	784.85	1,302.96	3.00	-3.00	
7,300.00	7.48	36.24	7,170.36	1,053.91	794.08	1,318.56	3.00	-3.00	
7,358.03	5.74	36.24	7,228.00	1,059.29	798.03	1,325.24	3.00	-3.00	OHIO_CREEK.MBL (TVD)
7,400.00	4.48	36.24	7,269.80	1,062.31	800.24	1,328.97	3.00	-3.00	
7,500.00	1.48	36.24	7,369.66	1,066.50	803.31	1,334.17	3.00	-3.00	
7,549.35	0.00	0.00	7,419.00	1,067.02	803.69	1,334.81	3.00	-3.00	Start DLS 2.00 TFO 250.00
7,599.35	1.00	250.00	7,469.00	1,066.87	803.28	1,334.45	2.00	2.00	WILLIAMS_FORK.MBL (TVD)
7,600.00	1.01	250.00	7,469.65	1,066.86	803.27	1,334.44	2.00	2.00	
7,629.81	1.61	250.00	7,499.45	1,066.63	802.63	1,333.89	2.00	2.00	Start 3180.80 hold at 7629.81 MD
7,649.37	1.61	250.00	7,519.00	1,066.44	802.11	1,333.44	0.00	0.00	TOP_GAS.MBL (TVD)
7,700.00	1.61	250.00	7,569.61	1,065.95	800.78	1,332.28	0.00	0.00	
7,800.00	1.61	250.00	7,669.57	1,064.99	798.14	1,329.98	0.00	0.00	
7,900.00	1.61	250.00	7,769.53	1,064.03	795.50	1,327.69	0.00	0.00	
8,000.00	1.61	250.00	7,869.50	1,063.07	792.86	1,325.40	0.00	0.00	
8,100.00	1.61	250.00	7,969.46	1,062.11	790.22	1,323.10	0.00	0.00	
8,200.00	1.61	250.00	8,069.42	1,061.15	787.58	1,320.81	0.00	0.00	
8,300.00	1.61	250.00	8,169.38	1,060.19	784.94	1,318.52	0.00	0.00	
8,400.00	1.61	250.00	8,269.34	1,059.23	782.30	1,316.22	0.00	0.00	
8,500.00	1.61	250.00	8,369.30	1,058.27	779.66	1,313.93	0.00	0.00	
8,600.00	1.61	250.00	8,469.26	1,057.31	777.03	1,311.64	0.00	0.00	
8,700.00	1.61	250.00	8,569.22	1,056.35	774.39	1,309.34	0.00	0.00	
8,800.00	1.61	250.00	8,669.18	1,055.39	771.75	1,307.05	0.00	0.00	
8,900.00	1.61	250.00	8,769.14	1,054.43	769.11	1,304.76	0.00	0.00	
9,000.00	1.61	250.00	8,869.10	1,053.47	766.47	1,302.46	0.00	0.00	

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Well:	NPR 25D-16 596	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 (°/100u)	Comments / Formations
9,100.00	1.61	250.00	8,969.06	1,052.51	763.83	1,300.17	0.00	0.00	
9,200.00	1.61	250.00	9,069.02	1,051.55	761.19	1,297.88	0.00	0.00	
9,300.00	1.61	250.00	9,168.98	1,050.59	758.55	1,295.58	0.00	0.00	
9,400.00	1.61	250.00	9,268.94	1,049.63	755.91	1,293.29	0.00	0.00	
9,500.00	1.61	250.00	9,368.90	1,048.67	753.27	1,291.00	0.00	0.00	
9,600.00	1.61	250.00	9,468.86	1,047.71	750.64	1,288.70	0.00	0.00	
9,700.00	1.61	250.00	9,568.82	1,046.75	748.00	1,286.41	0.00	0.00	
9,800.00	1.61	250.00	9,668.79	1,045.79	745.36	1,284.12	0.00	0.00	
9,900.00	1.61	250.00	9,768.75	1,044.83	742.72	1,281.82	0.00	0.00	
10,000.00	1.61	250.00	9,868.71	1,043.86	740.08	1,279.53	0.00	0.00	
10,100.00	1.61	250.00	9,968.67	1,042.90	737.44	1,277.24	0.00	0.00	
10,160.36	1.61	250.00	10,029.00	1,042.32	735.85	1,275.85	0.00	0.00	CAMEO.MBL (TVD)
10,200.00	1.61	250.00	10,068.63	1,041.94	734.80	1,274.94	0.00	0.00	
10,300.00	1.61	250.00	10,168.59	1,040.98	732.16	1,272.65	0.00	0.00	
10,400.00	1.61	250.00	10,268.55	1,040.02	729.52	1,270.36	0.00	0.00	
10,500.00	1.61	250.00	10,368.51	1,039.06	726.88	1,268.06	0.00	0.00	
10,600.00	1.61	250.00	10,468.47	1,038.10	724.25	1,265.77	0.00	0.00	
10,660.55	1.61	250.00	10,529.00	1,037.52	722.65	1,264.38	0.00	0.00	ROLLINS.MBL (TVD)
10,700.00	1.61	250.00	10,568.43	1,037.14	721.61	1,263.48	0.00	0.00	
10,800.00	1.61	250.00	10,668.39	1,036.18	718.97	1,261.18	0.00	0.00	
10,810.61	1.61	250.00	10,679.00	1,036.08	718.69	1,260.94	0.00	0.00	TD at 10810.61 - TD.MBL (TVD) - NPR 25D-16

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									
NPR 25D-16 596_PBHL	0.00	0.00	10,679.00	1,036.08	718.69	14,401,028.60	2,437,742.80	39.622148	-108.168761
- 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 (°)	
3,556.37	3,500.00	WASATCH.MBL (TVD)				
5,146.83	5,059.00	WASATCH_G_ZONE.MBL (TVD)				
5,503.90	5,409.00	FORT_UNION.MBL (TVD)				
7,358.03	7,228.00	OHIO_CREEK.MBL (TVD)				
7,599.35	7,469.00	WILLIAMS_FORK.MBL (TVD)				
7,649.37	7,519.00	TOP_GAS.MBL (TVD)				
10,160.36	10,029.00	CAMEO.MBL (TVD)				
10,660.55	10,529.00	ROLLINS.MBL (TVD)				
10,810.61	10,679.00	TD.MBL (TVD)				

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Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well NPR 25D-16 596 - Slot 25D
Company:	Caerus Oil & Gas	TVD Reference:	GL + KB @ 8321.00usft (Original Well Elev)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	GL + KB @ 8321.00usft (Original Well Elev)
Site:	S16-T5S-R96W NPR B16 596	North Reference:	True
Well:	NPR 25D-16 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
175.00	175.00	0.00	0.00	Start Build 3.00
275.00	274.95	0.45	2.58	Start 270.00 hold at 275.00 MD
545.00	544.58	2.91	16.49	Start DLS 3.00 TFO -56.25
860.86	857.82	29.61	43.18	Start 6307.96 hold at 860.86 MD
7,168.82	7,040.99	1,036.54	781.35	Start Drop -3.00
7,549.35	7,419.00	1,067.02	803.69	Start DLS 2.00 TFO 250.00
7,629.81	7,499.45	1,066.63	802.63	Start 3180.80 hold at 7629.81 MD
10,810.61	10,679.00	1,036.08	718.69	TD at 10810.61