



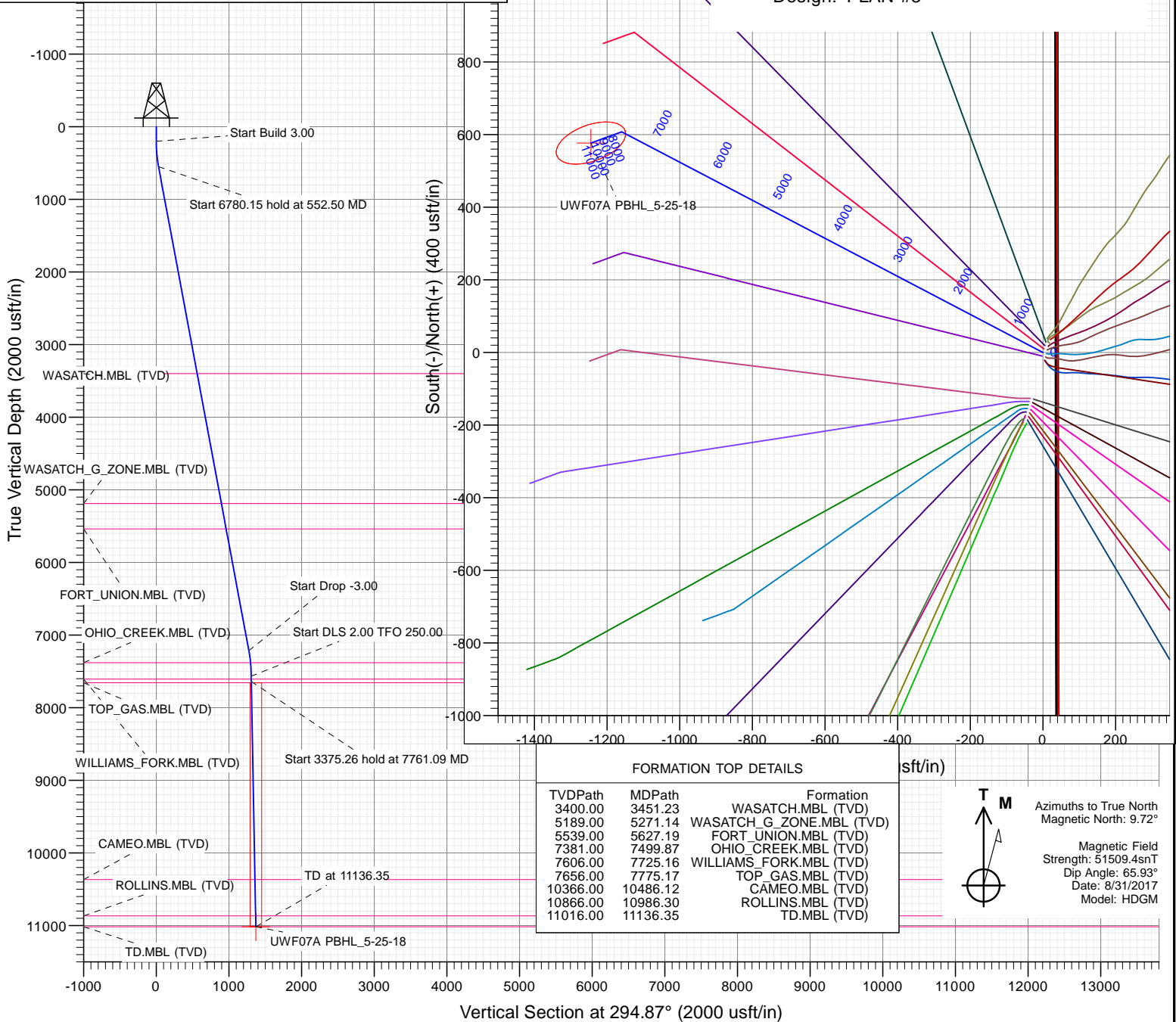
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	552.50	10.58	297.67	550.51	15.06	-28.73	3.00	297.67	32.40	
4	7332.65	10.58	297.67	7215.49	592.87	-1130.76	0.00	0.00	1275.24	
5	7685.16	0.00	0.00	7566.00	607.93	-1159.49	3.00	180.00	1307.64	
6	7761.09	1.52	250.00	7641.92	607.59	-1160.44	2.00	250.00	1308.36	
7	11136.35	1.52	250.00	1016.00	577.00	-1244.49	0.00	0.00	1371.75	UWF07A PBHL_5-25-18

PLAN #3
UWF07A-04H H04 596
30 KS @ 8300.00usft
Ground Level @ 8270.00
NAD 1987 - Western US
Well UWF07A-04H H04 596, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From
TD	No Target (Freehand)	294.87	Slot	0.00	0.00	0.00	TVD
Name	UWF07A PBHL_5-25-18	TVD	+N/-S	+E/-W	Latitude	Longitude	
		11016.00	577.00	-1244.49	39.647742	-108.168747	

Project: Garfield County, CO (UTM 12N)
Site: S4-T5S-R96W (H04) (RIG: HP 329)
Well: UWF07A-04H H04 596
Wellbore: OH
Design: PLAN #3



WELL DETAILS: UWF07A-04H H04 596

8270.00
+N/-S 0.00 +E/-W 0.00 Northing 14409812.60 Easting 2438714.80 Latitude 39.646158 Longitude -108.164329

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF07A-04H H04 596
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8300.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8300.00usft
Site:	S4-T5S-R96W (H04) (RIG: HP 329)	North Reference:	True
Well:	UWF07A-04H H04 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

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	S4-T5S-R96W (H04) (RIG: HP 329), Gravity=0.99755		
Site Position:		Northing:	14,409,713.20 usft
From:	Map	Easting:	2,438,700.39 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	39.645887
		Longitude:	-108.164391
		Grid Convergence:	1.81 °

Well	UWF07A-04H H04 596					
Well Position	+N/-S	0.00 usft	Northing:	14,409,812.60 usft	Latitude:	39.646158
	+E/-W	0.00 usft	Easting:	2,438,714.80 usft	Longitude:	-108.164329
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	8,270.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	8/31/2017	9.72	65.93	51,509.40000000

Design	PLAN #3			
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	294.87

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
552.50	10.58	297.67	550.51	15.06	-28.73	3.00	3.00	0.00	297.67	
7,332.65	10.58	297.67	7,215.49	592.87	-1,130.76	0.00	0.00	0.00	0.00	
7,685.16	0.00	0.00	7,566.00	607.93	-1,159.49	3.00	-3.00	0.00	180.00	
7,761.09	1.52	250.00	7,641.92	607.59	-1,160.44	2.00	2.00	-144.86	250.00	
11,136.35	1.52	250.00	11,016.00	577.00	-1,244.49	0.00	0.00	0.00	0.00	UWF07A PBHL_5-25-

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF07A-04H H04 596
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8300.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8300.00usft
Site:	S4-T5S-R96W (H04) (RIG: HP 329)	North Reference:	True
Well:	UWF07A-04H H04 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
300.00	3.00	297.67	299.95	1.22	-2.32	2.61	3.00	3.00	
400.00	6.00	297.67	399.63	4.86	-9.27	10.45	3.00	3.00	
500.00	9.00	297.67	498.77	10.92	-20.82	23.49	3.00	3.00	
552.50	10.58	297.67	550.51	15.06	-28.73	32.40	3.00	3.00	Start 6780.15 hold at 552.50 MD
600.00	10.58	297.67	597.20	19.11	-36.45	41.11	0.00	0.00	
700.00	10.58	297.67	695.50	27.63	-52.70	59.44	0.00	0.00	
800.00	10.58	297.67	793.80	36.15	-68.96	77.77	0.00	0.00	
900.00	10.58	297.67	892.10	44.68	-85.21	96.10	0.00	0.00	
1,000.00	10.58	297.67	990.40	53.20	-101.46	114.43	0.00	0.00	
1,100.00	10.58	297.67	1,088.70	61.72	-117.72	132.76	0.00	0.00	
1,200.00	10.58	297.67	1,187.00	70.24	-133.97	151.09	0.00	0.00	
1,300.00	10.58	297.67	1,285.31	78.77	-150.23	169.42	0.00	0.00	
1,400.00	10.58	297.67	1,383.61	87.29	-166.48	187.75	0.00	0.00	
1,500.00	10.58	297.67	1,481.91	95.81	-182.73	206.08	0.00	0.00	
1,600.00	10.58	297.67	1,580.21	104.33	-198.99	224.41	0.00	0.00	
1,700.00	10.58	297.67	1,678.51	112.85	-215.24	242.74	0.00	0.00	
1,800.00	10.58	297.67	1,776.81	121.38	-231.49	261.07	0.00	0.00	
1,900.00	10.58	297.67	1,875.12	129.90	-247.75	279.40	0.00	0.00	
2,000.00	10.58	297.67	1,973.42	138.42	-264.00	297.73	0.00	0.00	
2,100.00	10.58	297.67	2,071.72	146.94	-280.26	316.07	0.00	0.00	
2,200.00	10.58	297.67	2,170.02	155.46	-296.51	334.40	0.00	0.00	
2,300.00	10.58	297.67	2,268.32	163.99	-312.76	352.73	0.00	0.00	
2,400.00	10.58	297.67	2,366.62	172.51	-329.02	371.06	0.00	0.00	
2,500.00	10.58	297.67	2,464.92	181.03	-345.27	389.39	0.00	0.00	
2,600.00	10.58	297.67	2,563.23	189.55	-361.53	407.72	0.00	0.00	
2,700.00	10.58	297.67	2,661.53	198.07	-377.78	426.05	0.00	0.00	
2,800.00	10.58	297.67	2,759.83	206.60	-394.03	444.38	0.00	0.00	
2,900.00	10.58	297.67	2,858.13	215.12	-410.29	462.71	0.00	0.00	
3,000.00	10.58	297.67	2,956.43	223.64	-426.54	481.04	0.00	0.00	
3,100.00	10.58	297.67	3,054.73	232.16	-442.79	499.37	0.00	0.00	
3,200.00	10.58	297.67	3,153.03	240.68	-459.05	517.70	0.00	0.00	
3,300.00	10.58	297.67	3,251.34	249.21	-475.30	536.03	0.00	0.00	
3,400.00	10.58	297.67	3,349.64	257.73	-491.56	554.36	0.00	0.00	
3,451.23	10.58	297.67	3,400.00	262.09	-499.88	563.75	0.00	0.00	WASATCH.MBL (TVD)
3,500.00	10.58	297.67	3,447.94	266.25	-507.81	572.69	0.00	0.00	
3,600.00	10.58	297.67	3,546.24	274.77	-524.06	591.02	0.00	0.00	
3,700.00	10.58	297.67	3,644.54	283.29	-540.32	609.36	0.00	0.00	
3,800.00	10.58	297.67	3,742.84	291.82	-556.57	627.69	0.00	0.00	
3,900.00	10.58	297.67	3,841.15	300.34	-572.82	646.02	0.00	0.00	
4,000.00	10.58	297.67	3,939.45	308.86	-589.08	664.35	0.00	0.00	
4,100.00	10.58	297.67	4,037.75	317.38	-605.33	682.68	0.00	0.00	
4,200.00	10.58	297.67	4,136.05	325.91	-621.59	701.01	0.00	0.00	
4,300.00	10.58	297.67	4,234.35	334.43	-637.84	719.34	0.00	0.00	
4,400.00	10.58	297.67	4,332.65	342.95	-654.09	737.67	0.00	0.00	
4,500.00	10.58	297.67	4,430.95	351.47	-670.35	756.00	0.00	0.00	
4,600.00	10.58	297.67	4,529.26	359.99	-686.60	774.33	0.00	0.00	
4,700.00	10.58	297.67	4,627.56	368.52	-702.85	792.66	0.00	0.00	
4,800.00	10.58	297.67	4,725.86	377.04	-719.11	810.99	0.00	0.00	
4,900.00	10.58	297.67	4,824.16	385.56	-735.36	829.32	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF07A-04H H04 596
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8300.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8300.00usft
Site:	S4-T5S-R96W (H04) (RIG: HP 329)	North Reference:	True
Well:	UWF07A-04H H04 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

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
5,000.00	10.58	297.67	4,922.46	394.08	-751.62	847.65	0.00	0.00	
5,100.00	10.58	297.67	5,020.76	402.60	-767.87	865.98	0.00	0.00	
5,200.00	10.58	297.67	5,119.07	411.13	-784.12	884.31	0.00	0.00	
5,271.14	10.58	297.67	5,189.00	417.19	-795.69	897.36	0.00	0.00	WASATCH_G_ZONE.MBL (TVD)
5,300.00	10.58	297.67	5,217.37	419.65	-800.38	902.65	0.00	0.00	
5,400.00	10.58	297.67	5,315.67	428.17	-816.63	920.98	0.00	0.00	
5,500.00	10.58	297.67	5,413.97	436.69	-832.89	939.31	0.00	0.00	
5,600.00	10.58	297.67	5,512.27	445.21	-849.14	957.64	0.00	0.00	
5,627.19	10.58	297.67	5,539.00	447.53	-853.56	962.62	0.00	0.00	FORT_UNION.MBL (TVD)
5,700.00	10.58	297.67	5,610.57	453.74	-865.39	975.97	0.00	0.00	
5,800.00	10.58	297.67	5,708.87	462.26	-881.65	994.30	0.00	0.00	
5,900.00	10.58	297.67	5,807.18	470.78	-897.90	1,012.63	0.00	0.00	
6,000.00	10.58	297.67	5,905.48	479.30	-914.15	1,030.96	0.00	0.00	
6,100.00	10.58	297.67	6,003.78	487.82	-930.41	1,049.29	0.00	0.00	
6,200.00	10.58	297.67	6,102.08	496.35	-946.66	1,067.62	0.00	0.00	
6,300.00	10.58	297.67	6,200.38	504.87	-962.92	1,085.95	0.00	0.00	
6,400.00	10.58	297.67	6,298.68	513.39	-979.17	1,104.28	0.00	0.00	
6,500.00	10.58	297.67	6,396.98	521.91	-995.42	1,122.61	0.00	0.00	
6,600.00	10.58	297.67	6,495.29	530.43	-1,011.68	1,140.94	0.00	0.00	
6,700.00	10.58	297.67	6,593.59	538.96	-1,027.93	1,159.27	0.00	0.00	
6,800.00	10.58	297.67	6,691.89	547.48	-1,044.18	1,177.60	0.00	0.00	
6,900.00	10.58	297.67	6,790.19	556.00	-1,060.44	1,195.93	0.00	0.00	
7,000.00	10.58	297.67	6,888.49	564.52	-1,076.69	1,214.27	0.00	0.00	
7,100.00	10.58	297.67	6,986.79	573.05	-1,092.95	1,232.60	0.00	0.00	
7,200.00	10.58	297.67	7,085.10	581.57	-1,109.20	1,250.93	0.00	0.00	
7,300.00	10.58	297.67	7,183.40	590.09	-1,125.45	1,269.26	0.00	0.00	
7,332.65	10.58	297.67	7,215.49	592.87	-1,130.76	1,275.24	0.00	0.00	Start Drop -3.00
7,400.00	8.55	297.67	7,281.90	598.07	-1,140.67	1,286.42	3.00	-3.00	
7,499.87	5.56	297.67	7,381.00	603.76	-1,151.54	1,298.67	3.00	-3.00	OHIO_CREEK.MBL (TVD)
7,500.00	5.55	297.67	7,381.13	603.77	-1,151.55	1,298.69	3.00	-3.00	
7,600.00	2.55	297.67	7,480.87	607.05	-1,157.81	1,305.75	3.00	-3.00	
7,685.16	0.00	0.00	7,566.00	607.93	-1,159.49	1,307.64	3.00	-3.00	Start DLS 2.00 TFO 250.00
7,700.00	0.30	250.00	7,580.84	607.92	-1,159.53	1,307.67	2.00	2.00	
7,725.16	0.80	250.00	7,606.00	607.84	-1,159.75	1,307.84	2.00	2.00	WILLIAMS_FORK.MBL (TVD)
7,761.09	1.52	250.00	7,641.92	607.59	-1,160.44	1,308.36	2.00	2.00	Start 3375.26 hold at 7761.09 MD
7,775.17	1.52	250.00	7,656.00	607.46	-1,160.79	1,308.62	0.00	0.00	TOP_GAS.MBL (TVD)
7,800.00	1.52	250.00	7,680.82	607.24	-1,161.40	1,309.09	0.00	0.00	
7,900.00	1.52	250.00	7,780.79	606.33	-1,163.90	1,310.96	0.00	0.00	
8,000.00	1.52	250.00	7,880.75	605.43	-1,166.39	1,312.84	0.00	0.00	
8,100.00	1.52	250.00	7,980.72	604.52	-1,168.88	1,314.72	0.00	0.00	
8,200.00	1.52	250.00	8,080.68	603.61	-1,171.37	1,316.60	0.00	0.00	
8,300.00	1.52	250.00	8,180.65	602.71	-1,173.86	1,318.48	0.00	0.00	
8,400.00	1.52	250.00	8,280.61	601.80	-1,176.35	1,320.36	0.00	0.00	
8,500.00	1.52	250.00	8,380.58	600.89	-1,178.84	1,322.23	0.00	0.00	
8,600.00	1.52	250.00	8,480.54	599.99	-1,181.33	1,324.11	0.00	0.00	
8,700.00	1.52	250.00	8,580.51	599.08	-1,183.82	1,325.99	0.00	0.00	
8,800.00	1.52	250.00	8,680.47	598.18	-1,186.31	1,327.87	0.00	0.00	
8,900.00	1.52	250.00	8,780.44	597.27	-1,188.80	1,329.75	0.00	0.00	
9,000.00	1.52	250.00	8,880.40	596.36	-1,191.29	1,331.62	0.00	0.00	
9,100.00	1.52	250.00	8,980.37	595.46	-1,193.78	1,333.50	0.00	0.00	
9,200.00	1.52	250.00	9,080.33	594.55	-1,196.27	1,335.38	0.00	0.00	
9,300.00	1.52	250.00	9,180.29	593.64	-1,198.76	1,337.26	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF07A-04H H04 596
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8300.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8300.00usft
Site:	S4-T5S-R96W (H04) (RIG: HP 329)	North Reference:	True
Well:	UWF07A-04H H04 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

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
9,400.00	1.52	250.00	9,280.26	592.74	-1,201.25	1,339.14	0.00	0.00	
9,500.00	1.52	250.00	9,380.22	591.83	-1,203.74	1,341.02	0.00	0.00	
9,600.00	1.52	250.00	9,480.19	590.93	-1,206.23	1,342.89	0.00	0.00	
9,700.00	1.52	250.00	9,580.15	590.02	-1,208.72	1,344.77	0.00	0.00	
9,800.00	1.52	250.00	9,680.12	589.11	-1,211.21	1,346.65	0.00	0.00	
9,900.00	1.52	250.00	9,780.08	588.21	-1,213.70	1,348.53	0.00	0.00	
10,000.00	1.52	250.00	9,880.05	587.30	-1,216.19	1,350.41	0.00	0.00	
10,100.00	1.52	250.00	9,980.01	586.39	-1,218.68	1,352.28	0.00	0.00	
10,200.00	1.52	250.00	10,079.98	585.49	-1,221.17	1,354.16	0.00	0.00	
10,300.00	1.52	250.00	10,179.94	584.58	-1,223.67	1,356.04	0.00	0.00	
10,400.00	1.52	250.00	10,279.91	583.68	-1,226.16	1,357.92	0.00	0.00	
10,486.12	1.52	250.00	10,366.00	582.89	-1,228.30	1,359.54	0.00	0.00	CAMEO.MBL (TVD)
10,500.00	1.52	250.00	10,379.87	582.77	-1,228.65	1,359.80	0.00	0.00	
10,600.00	1.52	250.00	10,479.84	581.86	-1,231.14	1,361.68	0.00	0.00	
10,700.00	1.52	250.00	10,579.80	580.96	-1,233.63	1,363.55	0.00	0.00	
10,800.00	1.52	250.00	10,679.77	580.05	-1,236.12	1,365.43	0.00	0.00	
10,900.00	1.52	250.00	10,779.73	579.14	-1,238.61	1,367.31	0.00	0.00	
10,986.30	1.52	250.00	10,866.00	578.36	-1,240.76	1,368.93	0.00	0.00	ROLLINS.MBL (TVD)
11,000.00	1.52	250.00	10,879.70	578.24	-1,241.10	1,369.19	0.00	0.00	
11,100.00	1.52	250.00	10,979.66	577.33	-1,243.59	1,371.07	0.00	0.00	
11,136.35	1.52	250.00	11,016.00	577.00	-1,244.49	1,371.75	0.00	0.00	TD at 11136.35 - TD.MBL (TVD) - UWF07A PBL

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
UWF07A PBHL_5-25-18	0.00	0.00	11,016.00	577.00	-1,244.49	14,410,350.00	2,437,452.70	39.647742	-108.168747
- 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 (°)	
3,451.23	3,400.00	WASATCH.MBL (TVD)				
5,271.14	5,189.00	WASATCH_G_ZONE.MBL (TVD)				
5,627.19	5,539.00	FORT_UNION.MBL (TVD)				
7,499.87	7,381.00	OHIO_CREEK.MBL (TVD)				
7,725.16	7,606.00	WILLIAMS_FORK.MBL (TVD)				
7,775.17	7,656.00	TOP_GAS.MBL (TVD)				
10,486.12	10,366.00	CAMEO.MBL (TVD)				
10,986.30	10,866.00	ROLLINS.MBL (TVD)				
11,136.35	11,016.00	TD.MBL (TVD)				

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF07A-04H H04 596
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8300.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8300.00usft
Site:	S4-T5S-R96W (H04) (RIG: HP 329)	North Reference:	True
Well:	UWF07A-04H H04 596	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 3.00
552.50	550.51	15.06	-28.73	Start 6780.15 hold at 552.50 MD
7,332.65	7,215.49	592.87	-1,130.76	Start Drop -3.00
7,685.16	7,566.00	607.93	-1,159.49	Start DLS 2.00 TFO 250.00
7,761.09	7,641.92	607.59	-1,160.44	Start 3375.26 hold at 7761.09 MD
11,136.35	11,016.00	577.00	-1,244.49	TD at 11136.35