



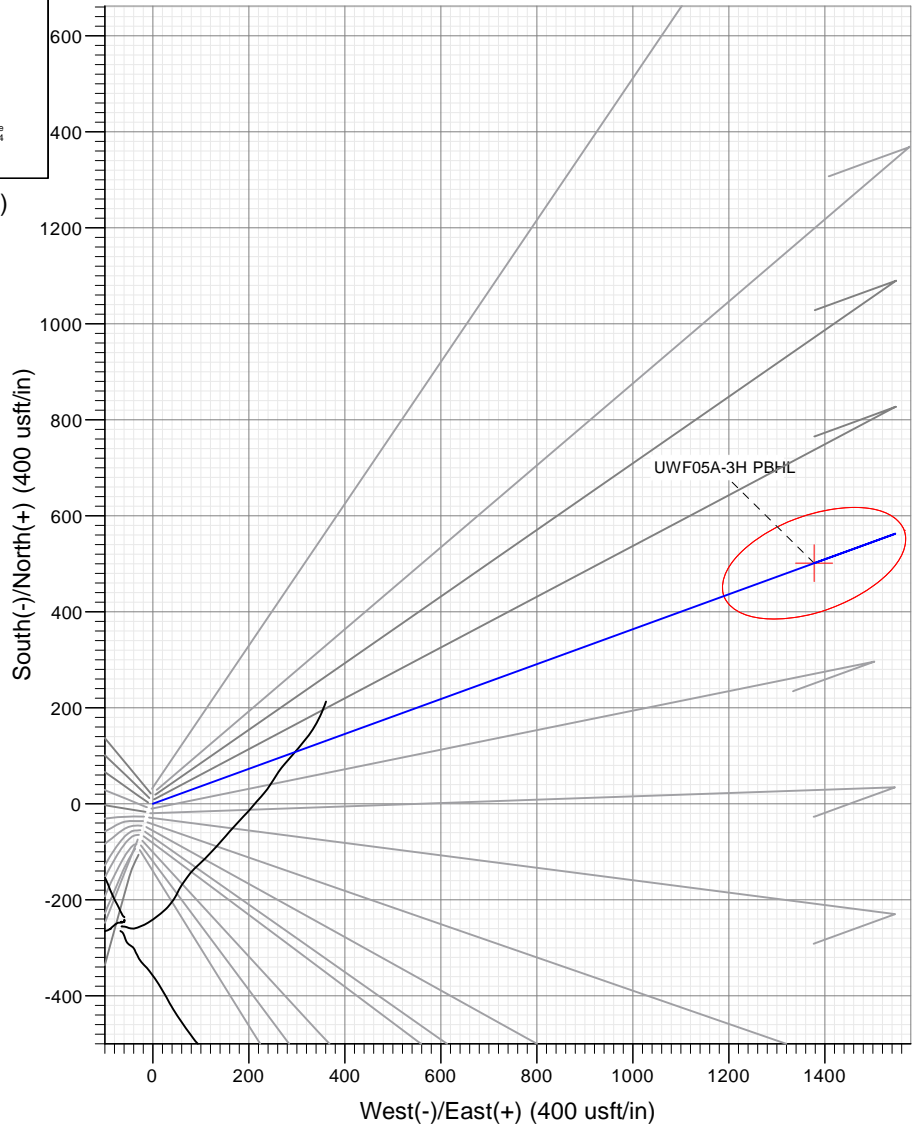
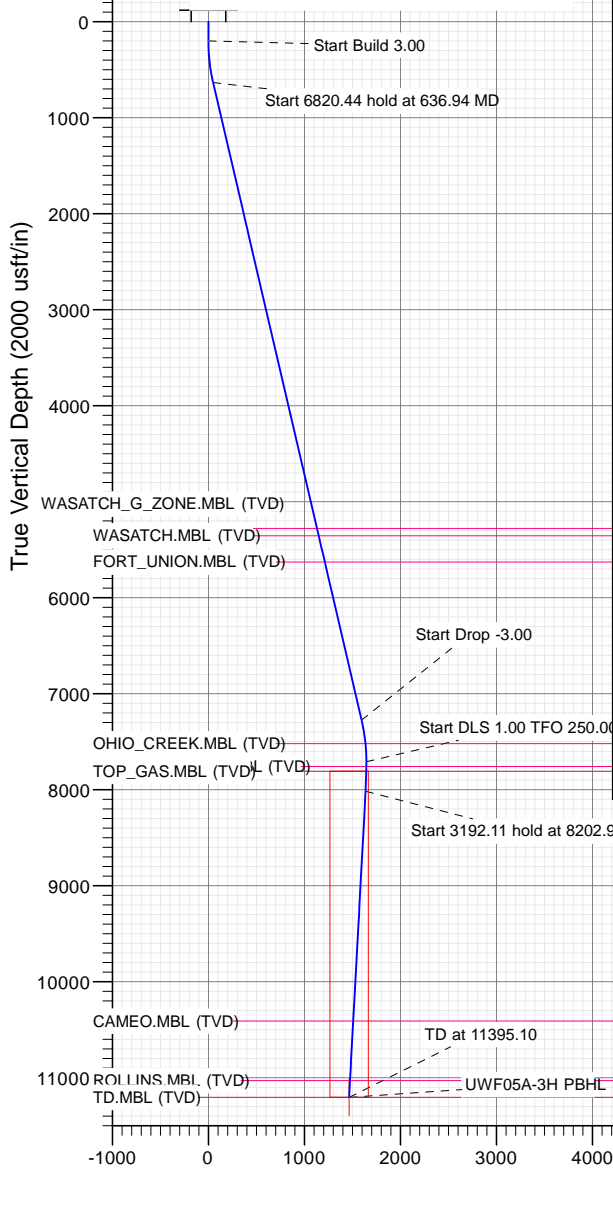
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	636.94	13.11	70.01	633.14	17.01	46.77	3.00	70.01	49.77	
4	7457.38	13.11	70.01	7275.86	545.85	1500.38	0.00	0.00	1596.59	
5	7894.32	0.00	0.00	7709.00	562.86	1547.15	3.00	180.00	1646.35	
6	8202.99	3.09	250.00	8017.52	560.02	1539.34	1.00	250.00	1638.04	
7	11395.10	3.09	250.00	11205.00	501.22	1377.82	0.00	0.00	1466.16	UWF05A-3H PBHL

PLAN #1
UWF05A-03H H04 596
30 KS @ 8300.00ust
Ground Level @ 8270.00
NAD 1987 - Western US
Well UWF05A-03H H04 596, True North

Type	Target	Azimuth	Origin	Type	N/S	E/W	From
TD	No Target (Freehand)	70.01	Slot	0.00	0.00	0.00	TVD
Name	UWF05A-3H PBHL	TVD	+N/-S	+E/-W	Latitude	Longitude	
		11205.00	501.22	1377.82	39.647553	-108.159394	

Project: Garfield County, CO (UTM 12N)
Site: S4-T5S-R96W (H04)
Well: UWF05A-03H H04 596
Wellbore: OH
Design: PLAN #1



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5279.00	5407.10	WASATCH_G_ZONE.MBL (TVD)
5355.00	5485.13	WASATCH.MBL (TVD)
5629.00	5766.46	FORT_UNION.MBL (TVD)
7521.00	7706.02	OHIO_CREEK.MBL (TVD)
7759.00	7944.32	WILLIAMS_FORK.MBL (TVD)
7809.00	7994.33	TOP_GAS.MBL (TVD)
10410.00	10598.95	CAMEO.MBL (TVD)
11030.00	11219.85	ROLLINS.MBL (TVD)
11205.00	11395.10	TD.MBL (TVD)



Azimuths to True North
Magnetic North: 9.72°

Magnetic Field
Strength: 51509.4snT
Dip Angle: 65.93°
Date: 8/31/2017
Model: HDGM

WELL DETAILS: UWF05A-03H H04 596

8270.00
+N/-S 0.00 +E/-W 0.00 Northing 14409820.00 Easting 2438726.90 Latitude 39.646178 Longitude -108.164285

CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF05A-03H 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)	North Reference:	True
Well:	UWF05A-03H H04 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		S4-T5S-R96W (H04)			
Site Position:		Northing:	14,409,713.20 usft	Latitude:	39.645887
From:	Map	Easting:	2,438,700.39 usft	Longitude:	-108.164391
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.81 °

Well	UWF05A-03H H04 596					
Well Position	+N/-S	0.00 usft	Northing:	14,409,820.00 usft	Latitude:	39.646178
	+E/-W	0.00 usft	Easting:	2,438,726.90 usft	Longitude:	-108.164285
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 #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	70.01	

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
636.94	13.11	70.01	633.14	17.01	46.77	3.00	3.00	0.00	70.01	
7,457.38	13.11	70.01	7,275.86	545.85	1,500.38	0.00	0.00	0.00	0.00	
7,894.32	0.00	0.00	7,709.00	562.86	1,547.15	3.00	-3.00	0.00	180.00	
8,202.99	3.09	250.00	8,017.52	560.02	1,539.34	1.00	1.00	-35.64	250.00	
11,395.10	3.09	250.00	11,205.00	501.22	1,377.82	0.00	0.00	0.00	0.00	UWF05A-3H PBHL

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF05A-03H 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)	North Reference:	True
Well:	UWF05A-03H H04 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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
300.00	3.00	70.01	299.95	0.89	2.46	2.62	3.00	3.00	
400.00	6.00	70.01	399.63	3.58	9.83	10.46	3.00	3.00	
500.00	9.00	70.01	498.77	8.04	22.10	23.51	3.00	3.00	
600.00	12.00	70.01	597.08	14.27	39.22	41.74	3.00	3.00	
636.94	13.11	70.01	633.14	17.01	46.77	49.77	3.00	3.00	
700.00	13.11	70.01	694.56	21.90	60.21	64.07	0.00	0.00	
800.00	13.11	70.01	791.95	29.66	81.52	86.75	0.00	0.00	
900.00	13.11	70.01	889.34	37.41	102.83	109.42	0.00	0.00	
1,000.00	13.11	70.01	986.74	45.16	124.14	132.10	0.00	0.00	
1,100.00	13.11	70.01	1,084.13	52.92	145.46	154.78	0.00	0.00	
1,200.00	13.11	70.01	1,181.53	60.67	166.77	177.46	0.00	0.00	
1,300.00	13.11	70.01	1,278.92	68.42	188.08	200.14	0.00	0.00	
1,400.00	13.11	70.01	1,376.32	76.18	209.39	222.82	0.00	0.00	
1,500.00	13.11	70.01	1,473.71	83.93	230.71	245.50	0.00	0.00	
1,600.00	13.11	70.01	1,571.10	91.69	252.02	268.18	0.00	0.00	
1,700.00	13.11	70.01	1,668.50	99.44	273.33	290.86	0.00	0.00	
1,800.00	13.11	70.01	1,765.89	107.19	294.64	313.54	0.00	0.00	
1,900.00	13.11	70.01	1,863.29	114.95	315.96	336.22	0.00	0.00	
2,000.00	13.11	70.01	1,960.68	122.70	337.27	358.90	0.00	0.00	
2,100.00	13.11	70.01	2,058.08	130.45	358.58	381.58	0.00	0.00	
2,200.00	13.11	70.01	2,155.47	138.21	379.90	404.25	0.00	0.00	
2,300.00	13.11	70.01	2,252.86	145.96	401.21	426.93	0.00	0.00	
2,400.00	13.11	70.01	2,350.26	153.71	422.52	449.61	0.00	0.00	
2,500.00	13.11	70.01	2,447.65	161.47	443.83	472.29	0.00	0.00	
2,600.00	13.11	70.01	2,545.05	169.22	465.15	494.97	0.00	0.00	
2,700.00	13.11	70.01	2,642.44	176.98	486.46	517.65	0.00	0.00	
2,800.00	13.11	70.01	2,739.84	184.73	507.77	540.33	0.00	0.00	
2,900.00	13.11	70.01	2,837.23	192.48	529.08	563.01	0.00	0.00	
3,000.00	13.11	70.01	2,934.62	200.24	550.40	585.69	0.00	0.00	
3,100.00	13.11	70.01	3,032.02	207.99	571.71	608.37	0.00	0.00	
3,200.00	13.11	70.01	3,129.41	215.74	593.02	631.05	0.00	0.00	
3,300.00	13.11	70.01	3,226.81	223.50	614.33	653.73	0.00	0.00	
3,400.00	13.11	70.01	3,324.20	231.25	635.65	676.41	0.00	0.00	
3,500.00	13.11	70.01	3,421.60	239.01	656.96	699.09	0.00	0.00	
3,600.00	13.11	70.01	3,518.99	246.76	678.27	721.76	0.00	0.00	
3,700.00	13.11	70.01	3,616.38	254.51	699.59	744.44	0.00	0.00	
3,800.00	13.11	70.01	3,713.78	262.27	720.90	767.12	0.00	0.00	
3,900.00	13.11	70.01	3,811.17	270.02	742.21	789.80	0.00	0.00	
4,000.00	13.11	70.01	3,908.57	277.77	763.52	812.48	0.00	0.00	
4,100.00	13.11	70.01	4,005.96	285.53	784.84	835.16	0.00	0.00	
4,200.00	13.11	70.01	4,103.36	293.28	806.15	857.84	0.00	0.00	
4,300.00	13.11	70.01	4,200.75	301.03	827.46	880.52	0.00	0.00	
4,400.00	13.11	70.01	4,298.14	308.79	848.77	903.20	0.00	0.00	
4,500.00	13.11	70.01	4,395.54	316.54	870.09	925.88	0.00	0.00	
4,600.00	13.11	70.01	4,492.93	324.30	891.40	948.56	0.00	0.00	
4,700.00	13.11	70.01	4,590.33	332.05	912.71	971.24	0.00	0.00	
4,800.00	13.11	70.01	4,687.72	339.80	934.02	993.92	0.00	0.00	
4,900.00	13.11	70.01	4,785.12	347.56	955.34	1,016.59	0.00	0.00	
5,000.00	13.11	70.01	4,882.51	355.31	976.65	1,039.27	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF05A-03H 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)	North Reference:	True
Well:	UWF05A-03H H04 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
5,100.00	13.11	70.01	4,979.90	363.06	997.96	1,061.95	0.00	0.00	
5,200.00	13.11	70.01	5,077.30	370.82	1,019.28	1,084.63	0.00	0.00	
5,300.00	13.11	70.01	5,174.69	378.57	1,040.59	1,107.31	0.00	0.00	
5,400.00	13.11	70.01	5,272.09	386.32	1,061.90	1,129.99	0.00	0.00	
5,407.10	13.11	70.01	5,279.00	386.87	1,063.41	1,131.60	0.00	0.00	WASATCH_G_ZONE.MBL (TVD)
5,485.13	13.11	70.01	5,355.00	392.93	1,080.04	1,149.30	0.00	0.00	WASATCH.MBL (TVD)
5,500.00	13.11	70.01	5,369.48	394.08	1,083.21	1,152.67	0.00	0.00	
5,600.00	13.11	70.01	5,466.88	401.83	1,104.53	1,175.35	0.00	0.00	
5,700.00	13.11	70.01	5,564.27	409.59	1,125.84	1,198.03	0.00	0.00	
5,766.46	13.11	70.01	5,629.00	414.74	1,140.00	1,213.10	0.00	0.00	FORT_UNION.MBL (TVD)
5,800.00	13.11	70.01	5,661.66	417.34	1,147.15	1,220.71	0.00	0.00	
5,900.00	13.11	70.01	5,759.06	425.09	1,168.46	1,243.39	0.00	0.00	
6,000.00	13.11	70.01	5,856.45	432.85	1,189.78	1,266.07	0.00	0.00	
6,100.00	13.11	70.01	5,953.85	440.60	1,211.09	1,288.75	0.00	0.00	
6,200.00	13.11	70.01	6,051.24	448.35	1,232.40	1,311.43	0.00	0.00	
6,300.00	13.11	70.01	6,148.64	456.11	1,253.72	1,334.10	0.00	0.00	
6,400.00	13.11	70.01	6,246.03	463.86	1,275.03	1,356.78	0.00	0.00	
6,500.00	13.11	70.01	6,343.42	471.61	1,296.34	1,379.46	0.00	0.00	
6,600.00	13.11	70.01	6,440.82	479.37	1,317.65	1,402.14	0.00	0.00	
6,700.00	13.11	70.01	6,538.21	487.12	1,338.97	1,424.82	0.00	0.00	
6,800.00	13.11	70.01	6,635.61	494.88	1,360.28	1,447.50	0.00	0.00	
6,900.00	13.11	70.01	6,733.00	502.63	1,381.59	1,470.18	0.00	0.00	
7,000.00	13.11	70.01	6,830.40	510.38	1,402.90	1,492.86	0.00	0.00	
7,100.00	13.11	70.01	6,927.79	518.14	1,424.22	1,515.54	0.00	0.00	
7,200.00	13.11	70.01	7,025.19	525.89	1,445.53	1,538.22	0.00	0.00	
7,300.00	13.11	70.01	7,122.58	533.64	1,466.84	1,560.90	0.00	0.00	
7,400.00	13.11	70.01	7,219.97	541.40	1,488.15	1,583.58	0.00	0.00	
7,457.38	13.11	70.01	7,275.86	545.85	1,500.38	1,596.59	0.00	0.00	
7,500.00	11.83	70.01	7,317.47	548.99	1,509.03	1,605.79	3.00	-3.00	
7,600.00	8.83	70.01	7,415.84	555.12	1,525.88	1,623.72	3.00	-3.00	
7,700.00	5.83	70.01	7,515.01	559.48	1,537.87	1,636.48	3.00	-3.00	
7,706.02	5.65	70.01	7,521.00	559.69	1,538.43	1,637.08	3.00	-3.00	OHIO_CREEK.MBL (TVD)
7,800.00	2.83	70.01	7,614.72	562.06	1,544.96	1,644.03	3.00	-3.00	
7,894.32	0.00	0.00	7,709.00	562.86	1,547.15	1,646.35	3.00	-3.00	
7,900.00	0.06	250.00	7,714.68	562.86	1,547.15	1,646.35	1.00	1.00	
7,944.32	0.50	250.00	7,759.00	562.79	1,546.94	1,646.14	1.00	1.00	WILLIAMS_FORK.MBL (TVD)
7,994.33	1.00	250.00	7,809.00	562.56	1,546.33	1,645.48	1.00	1.00	TOP_GAS.MBL (TVD)
8,000.00	1.06	250.00	7,814.67	562.53	1,546.23	1,645.38	1.00	1.00	
8,100.00	2.06	250.00	7,914.63	561.60	1,543.68	1,642.66	1.00	1.00	
8,200.00	3.06	250.00	8,014.53	560.07	1,539.49	1,638.20	1.00	1.00	
8,202.99	3.09	250.00	8,017.52	560.02	1,539.34	1,638.04	1.00	1.00	
8,300.00	3.09	250.00	8,114.39	558.23	1,534.43	1,632.82	0.00	0.00	
8,400.00	3.09	250.00	8,214.24	556.39	1,529.37	1,627.43	0.00	0.00	
8,500.00	3.09	250.00	8,314.10	554.55	1,524.31	1,622.05	0.00	0.00	
8,600.00	3.09	250.00	8,413.95	552.70	1,519.25	1,616.66	0.00	0.00	
8,700.00	3.09	250.00	8,513.81	550.86	1,514.19	1,611.28	0.00	0.00	
8,800.00	3.09	250.00	8,613.66	549.02	1,509.13	1,605.90	0.00	0.00	
8,900.00	3.09	250.00	8,713.52	547.18	1,504.07	1,600.51	0.00	0.00	
9,000.00	3.09	250.00	8,813.37	545.34	1,499.01	1,595.13	0.00	0.00	
9,100.00	3.09	250.00	8,913.23	543.50	1,493.95	1,589.74	0.00	0.00	
9,200.00	3.09	250.00	9,013.08	541.65	1,488.89	1,584.36	0.00	0.00	
9,300.00	3.09	250.00	9,112.94	539.81	1,483.83	1,578.97	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well UWF05A-03H 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)	North Reference:	True
Well:	UWF05A-03H H04 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
9,400.00	3.09	250.00	9,212.79	537.97	1,478.77	1,573.59	0.00	0.00	
9,500.00	3.09	250.00	9,312.65	536.13	1,473.71	1,568.20	0.00	0.00	
9,600.00	3.09	250.00	9,412.50	534.29	1,468.65	1,562.82	0.00	0.00	
9,700.00	3.09	250.00	9,512.36	532.44	1,463.59	1,557.43	0.00	0.00	
9,800.00	3.09	250.00	9,612.21	530.60	1,458.53	1,552.05	0.00	0.00	
9,900.00	3.09	250.00	9,712.07	528.76	1,453.47	1,546.66	0.00	0.00	
10,000.00	3.09	250.00	9,811.92	526.92	1,448.41	1,541.28	0.00	0.00	
10,100.00	3.09	250.00	9,911.78	525.08	1,443.35	1,535.89	0.00	0.00	
10,200.00	3.09	250.00	10,011.63	523.24	1,438.29	1,530.51	0.00	0.00	
10,300.00	3.09	250.00	10,111.49	521.39	1,433.23	1,525.13	0.00	0.00	
10,400.00	3.09	250.00	10,211.34	519.55	1,428.17	1,519.74	0.00	0.00	
10,500.00	3.09	250.00	10,311.20	517.71	1,423.11	1,514.36	0.00	0.00	
10,598.95	3.09	250.00	10,410.00	515.89	1,418.11	1,509.03	0.00	0.00	CAMEO.MBL (TVD)
10,600.00	3.09	250.00	10,411.05	515.87	1,418.05	1,508.97	0.00	0.00	
10,700.00	3.09	250.00	10,510.90	514.03	1,412.99	1,503.59	0.00	0.00	
10,800.00	3.09	250.00	10,610.76	512.18	1,407.93	1,498.20	0.00	0.00	
10,900.00	3.09	250.00	10,710.61	510.34	1,402.87	1,492.82	0.00	0.00	
11,000.00	3.09	250.00	10,810.47	508.50	1,397.81	1,487.43	0.00	0.00	
11,100.00	3.09	250.00	10,910.32	506.66	1,392.75	1,482.05	0.00	0.00	
11,200.00	3.09	250.00	11,010.18	504.82	1,387.69	1,476.66	0.00	0.00	
11,219.85	3.09	250.00	11,030.00	504.45	1,386.69	1,475.59	0.00	0.00	ROLLINS.MBL (TVD)
11,300.00	3.09	250.00	11,110.03	502.98	1,382.63	1,471.28	0.00	0.00	
11,395.10	3.09	250.00	11,205.00	501.22	1,377.82	1,466.16	0.00	0.00	TD.MBL (TVD)

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									
UWF05A-3H PBHL	0.00	0.00	11,205.00	501.22	1,377.82	14,410,364.50	2,440,088.20	39.647553	-108.159394
- plan hits target center									
- Ellipse (radii L200.00 W100.00 on 250.00 azi)									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,407.10	5,279.00	WASATCH_G_ZONE.MBL (TVD)			
5,485.13	5,355.00	WASATCH.MBL (TVD)			
5,766.46	5,629.00	FORT_UNION.MBL (TVD)			
7,706.02	7,521.00	OHIO_CREEK.MBL (TVD)			
7,944.32	7,759.00	WILLIAMS_FORK.MBL (TVD)			
7,994.33	7,809.00	TOP_GAS.MBL (TVD)			
10,598.95	10,410.00	CAMEO.MBL (TVD)			
11,219.85	11,030.00	ROLLINS.MBL (TVD)			
11,395.10	11,205.00	TD.MBL (TVD)			