



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1338.2	34.15	287.15	1272.1	97.1	-314.6	3.00	287.15	329.3	
4	4847.1	34.15	287.15	4175.9	677.9	-2196.6	0.00	0.00	2298.9	
5	5985.3	0.00	0.00	5248.0	775.0	-2511.3	3.00	180.00	2628.1	PUCKETT 31A-18 PBHL
6	7718.3	0.00	0.00	6981.0	775.0	-2511.3	0.00	0.00	2628.1	PUCKETT 31A-18 PBHL

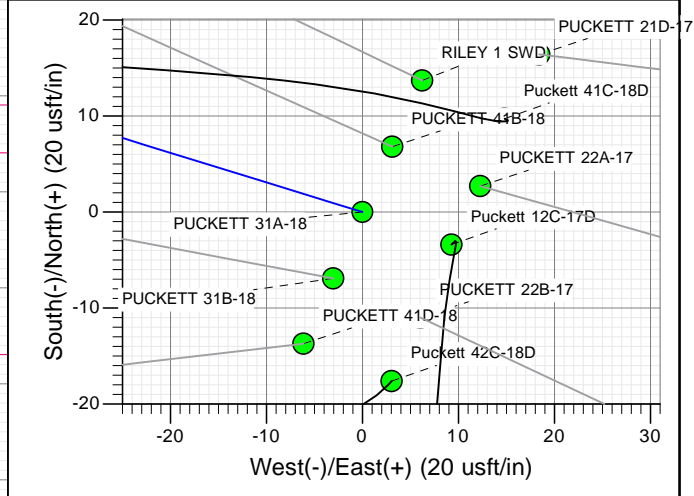
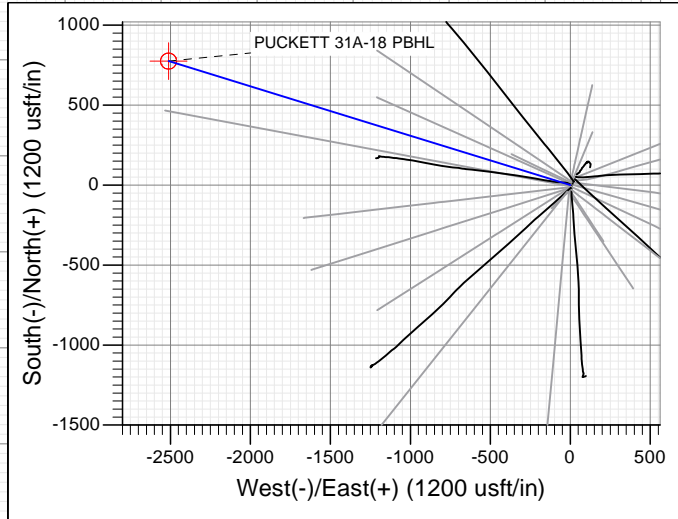
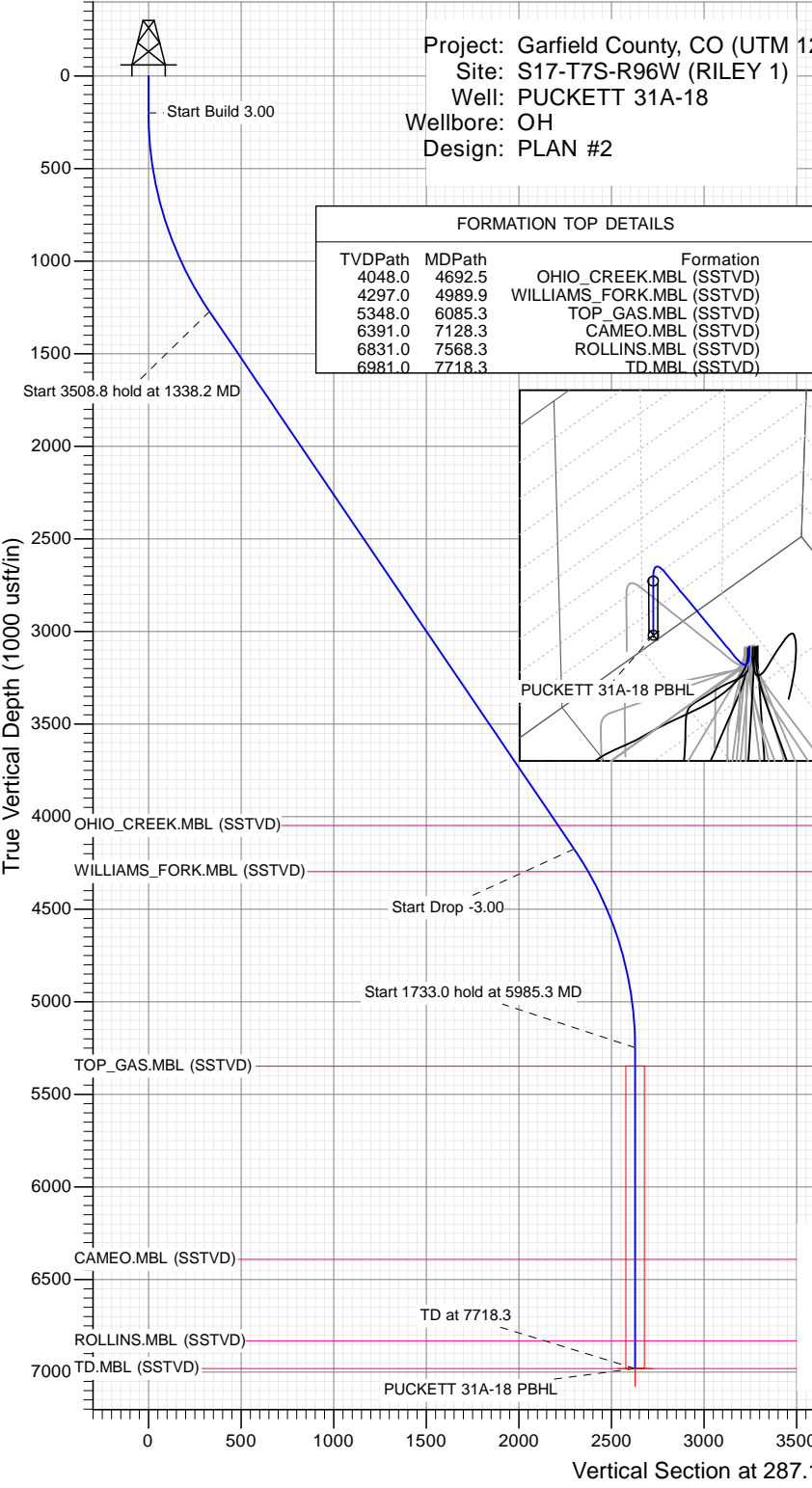
Project: Garfield County, CO (UTM 12  
 Site: S17-T7S-R96W (RILEY 1)  
 Well: PUCKETT 31A-18  
 Wellbore: OH  
 Design: PLAN #2

PLAN #2  
 PUCKETT 31A-18  
 15XXX; LR  
 KB @ 6764.0usft  
 Ground Level @ 6734.0  
 NAD 1927 - Western US  
 Well PUCKETT 31A-18, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	287.15	Slot	0.0	0.0	0.0
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
PUCKETT 31A-18 PBHL		6981.0	775.0	-2511.3	39.441058	-108.146890

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4048.0	4692.5	OHIO_CREEK.MBL (SSTVD)
4297.0	4989.9	WILLIAMS_FORK.MBL (SSTVD)
5348.0	6085.3	TOP_GAS.MBL (SSTVD)
6391.0	7128.3	CAMEO.MBL (SSTVD)
6831.0	7568.3	ROLLINS.MBL (SSTVD)
6981.0	7718.3	TD.MBL (SSTVD)



**T M**  
 Azimuths to True North  
 Magnetic North: 9.75°  
 Magnetic Field  
 Strength: 51971.4snT  
 Dip Angle: 65.73°  
 Date: 11/19/2015  
 Model: HDGM

**CASING DETAILS**  
 No casing data is available



WELL DETAILS: PUCKETT 31A-18

+N/-S	+E/-W	Northing	Ground Level:	6734.0
0.0	0.0	14335670.10	Easting	2448495.10
			Latitude	39.441931
			Longitude	-108.138001

## Planning Report

<b>Database:</b> USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b> Well PUCKETT 31A-18
<b>Company:</b> Caerus Oil & Gas	<b>TVD Reference:</b> KB @ 6764.0usft
<b>Project:</b> Garfield County, CO (UTM 12N)	<b>MD Reference:</b> KB @ 6764.0usft
<b>Site:</b> S17-T7S-R96W (RILEY 1)	<b>North Reference:</b> True
<b>Well:</b> PUCKETT 31A-18	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> PLAN #2	

<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)			

<b>Site</b> S17-T7S-R96W (RILEY 1)			
<b>Site Position:</b>	<b>Northing:</b> 14,335,697.50 usft	<b>Latitude:</b> 39.442005	
<b>From:</b> Map	<b>Easting:</b> 2,448,508.30 usft	<b>Longitude:</b> -108.137952	
<b>Position Uncertainty:</b> 0.0 usft	<b>Slot Radius:</b> 13-3/16"	<b>Grid Convergence:</b> 1.82 °	

<b>Well</b> PUCKETT 31A-18			
<b>Well Position</b>	<b>+N/-S</b> 0.0 usft	<b>Northing:</b> 14,335,670.10 usft	<b>Latitude:</b> 39.441931
	<b>+E/-W</b> 0.0 usft	<b>Easting:</b> 2,448,495.10 usft	<b>Longitude:</b> -108.138001
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b> 0.0 usft	<b>Ground Level:</b> 6,734.0 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>
	HDGM	11/19/2015	(°) 9.75	(°) 65.73	(nT) 51,971

<b>Design</b> PLAN #2				
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b> PLAN	<b>Tie On Depth:</b> 0.0		
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft) 0.0	(usft) 0.0	(usft) 0.0	(°) 287.15

<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	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00		
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00		
1,338.2	34.15	287.15	1,272.1	97.1	-314.6	3.00	3.00	0.00	287.15		
4,847.1	34.15	287.15	4,175.9	677.9	-2,196.6	0.00	0.00	0.00	0.00		
5,985.3	0.00	0.00	5,248.0	775.0	-2,511.3	3.00	-3.00	0.00	180.00		
7,718.3	0.00	0.00	6,981.0	775.0	-2,511.3	0.00	0.00	0.00	0.00	PUCKETT 31A-18 PE	

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 31A-18
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	KB @ 6764.0usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	KB @ 6764.0usft
<b>Site:</b>	S17-T7S-R96W (RILEY 1)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 31A-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	Start Build 3.00
300.0	3.00	287.15	300.0	0.8	-2.5	2.6	3.00	3.00	
400.0	6.00	287.15	399.6	3.1	-10.0	10.5	3.00	3.00	
500.0	9.00	287.15	498.8	6.9	-22.5	23.5	3.00	3.00	
600.0	12.00	287.15	597.1	12.3	-39.9	41.7	3.00	3.00	
700.0	15.00	287.15	694.3	19.2	-62.2	65.1	3.00	3.00	
800.0	18.00	287.15	790.2	27.6	-89.3	93.5	3.00	3.00	
900.0	21.00	287.15	884.4	37.4	-121.2	126.9	3.00	3.00	
1,000.0	24.00	287.15	976.8	48.7	-157.8	165.1	3.00	3.00	
1,100.0	27.00	287.15	1,067.1	61.4	-198.9	208.2	3.00	3.00	
1,200.0	30.00	287.15	1,154.9	75.5	-244.5	255.9	3.00	3.00	
1,300.0	33.00	287.15	1,240.2	90.9	-294.4	308.1	3.00	3.00	
1,338.2	34.15	287.15	1,272.1	97.1	-314.6	329.3	3.00	3.00	Start 3508.8 hold at 1338.2 MD
1,400.0	34.15	287.15	1,323.2	107.3	-347.7	363.9	0.00	0.00	
1,500.0	34.15	287.15	1,405.9	123.9	-401.4	420.1	0.00	0.00	
1,600.0	34.15	287.15	1,488.7	140.4	-455.0	476.2	0.00	0.00	
1,700.0	34.15	287.15	1,571.4	157.0	-508.7	532.3	0.00	0.00	
1,800.0	34.15	287.15	1,654.2	173.5	-562.3	588.5	0.00	0.00	
1,900.0	34.15	287.15	1,737.0	190.1	-615.9	644.6	0.00	0.00	
2,000.0	34.15	287.15	1,819.7	206.6	-669.6	700.7	0.00	0.00	
2,100.0	34.15	287.15	1,902.5	223.2	-723.2	756.9	0.00	0.00	
2,200.0	34.15	287.15	1,985.2	239.7	-776.8	813.0	0.00	0.00	
2,300.0	34.15	287.15	2,068.0	256.3	-830.5	869.1	0.00	0.00	
2,400.0	34.15	287.15	2,150.8	272.8	-884.1	925.3	0.00	0.00	
2,500.0	34.15	287.15	2,233.5	289.4	-937.7	981.4	0.00	0.00	
2,600.0	34.15	287.15	2,316.3	306.0	-991.4	1,037.5	0.00	0.00	
2,700.0	34.15	287.15	2,399.0	322.5	-1,045.0	1,093.7	0.00	0.00	
2,800.0	34.15	287.15	2,481.8	339.1	-1,098.7	1,149.8	0.00	0.00	
2,900.0	34.15	287.15	2,564.5	355.6	-1,152.3	1,205.9	0.00	0.00	
3,000.0	34.15	287.15	2,647.3	372.2	-1,205.9	1,262.1	0.00	0.00	
3,100.0	34.15	287.15	2,730.1	388.7	-1,259.6	1,318.2	0.00	0.00	
3,200.0	34.15	287.15	2,812.8	405.3	-1,313.2	1,374.3	0.00	0.00	
3,300.0	34.15	287.15	2,895.6	421.8	-1,366.8	1,430.4	0.00	0.00	
3,400.0	34.15	287.15	2,978.3	438.4	-1,420.5	1,486.6	0.00	0.00	
3,500.0	34.15	287.15	3,061.1	454.9	-1,474.1	1,542.7	0.00	0.00	
3,600.0	34.15	287.15	3,143.9	471.5	-1,527.7	1,598.8	0.00	0.00	
3,700.0	34.15	287.15	3,226.6	488.0	-1,581.4	1,655.0	0.00	0.00	
3,800.0	34.15	287.15	3,309.4	504.6	-1,635.0	1,711.1	0.00	0.00	
3,900.0	34.15	287.15	3,392.1	521.1	-1,688.7	1,767.2	0.00	0.00	
4,000.0	34.15	287.15	3,474.9	537.7	-1,742.3	1,823.4	0.00	0.00	
4,100.0	34.15	287.15	3,557.7	554.3	-1,795.9	1,879.5	0.00	0.00	
4,200.0	34.15	287.15	3,640.4	570.8	-1,849.6	1,935.6	0.00	0.00	
4,300.0	34.15	287.15	3,723.2	587.4	-1,903.2	1,991.8	0.00	0.00	
4,400.0	34.15	287.15	3,805.9	603.9	-1,956.8	2,047.9	0.00	0.00	
4,500.0	34.15	287.15	3,888.7	620.5	-2,010.5	2,104.0	0.00	0.00	
4,600.0	34.15	287.15	3,971.5	637.0	-2,064.1	2,160.2	0.00	0.00	
4,692.5	34.15	287.15	4,048.0	652.3	-2,113.7	2,212.1	0.00	0.00	OHIO_CREEK.MBL (SSTVD)
4,700.0	34.15	287.15	4,054.2	653.6	-2,117.7	2,216.3	0.00	0.00	
4,800.0	34.15	287.15	4,137.0	670.1	-2,171.4	2,272.4	0.00	0.00	
4,847.1	34.15	287.15	4,175.9	677.9	-2,196.6	2,298.9	0.00	0.00	Start Drop -3.00

## Planning Report

<b>Database:</b> USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b> Well PUCKETT 31A-18
<b>Company:</b> Caerus Oil & Gas	<b>TVD Reference:</b> KB @ 6764.0usft
<b>Project:</b> Garfield County, CO (UTM 12N)	<b>MD Reference:</b> KB @ 6764.0usft
<b>Site:</b> S17-T7S-R96W (RILEY 1)	<b>North Reference:</b> True
<b>Well:</b> PUCKETT 31A-18	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Wellbore:</b> OH	
<b>Design:</b> PLAN #2	

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
4,900.0	32.56	287.15	4,220.1	686.5	-2,224.4	2,328.0	3.00	-3.00	
4,989.9	29.86	287.15	4,297.0	700.2	-2,268.9	2,374.5	3.00	-3.00	WILLIAMS_FORK.MBL (SSTVD)
5,000.0	29.56	287.15	4,305.8	701.7	-2,273.7	2,379.5	3.00	-3.00	
5,100.0	26.56	287.15	4,394.0	715.6	-2,318.7	2,426.6	3.00	-3.00	
5,200.0	23.56	287.15	4,484.6	728.1	-2,359.1	2,468.9	3.00	-3.00	
5,300.0	20.56	287.15	4,577.3	739.1	-2,395.0	2,506.5	3.00	-3.00	
5,400.0	17.56	287.15	4,671.8	748.8	-2,426.2	2,539.1	3.00	-3.00	
5,500.0	14.56	287.15	4,767.9	756.9	-2,452.7	2,566.8	3.00	-3.00	
5,600.0	11.56	287.15	4,865.3	763.6	-2,474.2	2,589.4	3.00	-3.00	
5,700.0	8.56	287.15	4,963.7	768.7	-2,490.9	2,606.9	3.00	-3.00	
5,800.0	5.56	287.15	5,063.0	772.4	-2,502.7	2,619.1	3.00	-3.00	
5,900.0	2.56	287.15	5,162.7	774.5	-2,509.4	2,626.2	3.00	-3.00	
5,985.3	0.00	0.00	5,248.0	775.0	-2,511.3	2,628.1	3.00	-3.00	Start 1733.0 hold at 5985.3 MD
6,000.0	0.00	0.00	5,262.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,085.3	0.00	0.00	5,348.0	775.0	-2,511.3	2,628.1	0.00	0.00	TOP_GAS.MBL (SSTVD)
6,100.0	0.00	0.00	5,362.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,200.0	0.00	0.00	5,462.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,300.0	0.00	0.00	5,562.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,400.0	0.00	0.00	5,662.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,500.0	0.00	0.00	5,762.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,600.0	0.00	0.00	5,862.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,700.0	0.00	0.00	5,962.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,800.0	0.00	0.00	6,062.7	775.0	-2,511.3	2,628.1	0.00	0.00	
6,900.0	0.00	0.00	6,162.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,000.0	0.00	0.00	6,262.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,100.0	0.00	0.00	6,362.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,128.3	0.00	0.00	6,391.0	775.0	-2,511.3	2,628.1	0.00	0.00	CAMEO.MBL (SSTVD)
7,200.0	0.00	0.00	6,462.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,300.0	0.00	0.00	6,562.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,400.0	0.00	0.00	6,662.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,500.0	0.00	0.00	6,762.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,568.3	0.00	0.00	6,831.0	775.0	-2,511.3	2,628.1	0.00	0.00	ROLLINS.MBL (SSTVD)
7,600.0	0.00	0.00	6,862.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,700.0	0.00	0.00	6,962.7	775.0	-2,511.3	2,628.1	0.00	0.00	
7,718.3	0.00	0.00	6,981.0	775.0	-2,511.3	2,628.1	0.00	0.00	TD at 7718.3 - TD.MBL (SSTVD)

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 31A-18 PBHL - hit/miss target - Shape - Circle (radius 50.0)	0.00	0.00	6,981.0	775.0	-2,511.3	14,336,365.00	2,445,960.50	39.444058	-108.146890

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 31A-18
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	KB @ 6764.0usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	KB @ 6764.0usft
<b>Site:</b>	S17-T7S-R96W (RILEY 1)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 31A-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,692.5	4,048.0	OHIO_CREEK.MBL (SSTVD)		0.00	
4,989.9	4,297.0	WILLIAMS_FORK.MBL (SSTVD)		0.00	
6,085.3	5,348.0	TOP_GAS.MBL (SSTVD)		0.00	
7,128.3	6,391.0	CAMEO.MBL (SSTVD)		0.00	
7,568.3	6,831.0	ROLLINS.MBL (SSTVD)		0.00	
7,718.3	6,981.0	TD.MBL (SSTVD)		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.0	200.0	0.0	0.0	Start Build 3.00	
1,338.2	1,272.1	97.1	-314.6	Start 3508.8 hold at 1338.2 MD	
4,847.1	4,175.9	677.9	-2,196.6	Start Drop -3.00	
5,985.3	5,248.0	775.0	-2,511.3	Start 1733.0 hold at 5985.3 MD	
7,718.3	6,981.0	775.0	-2,511.3	TD at 7718.3	