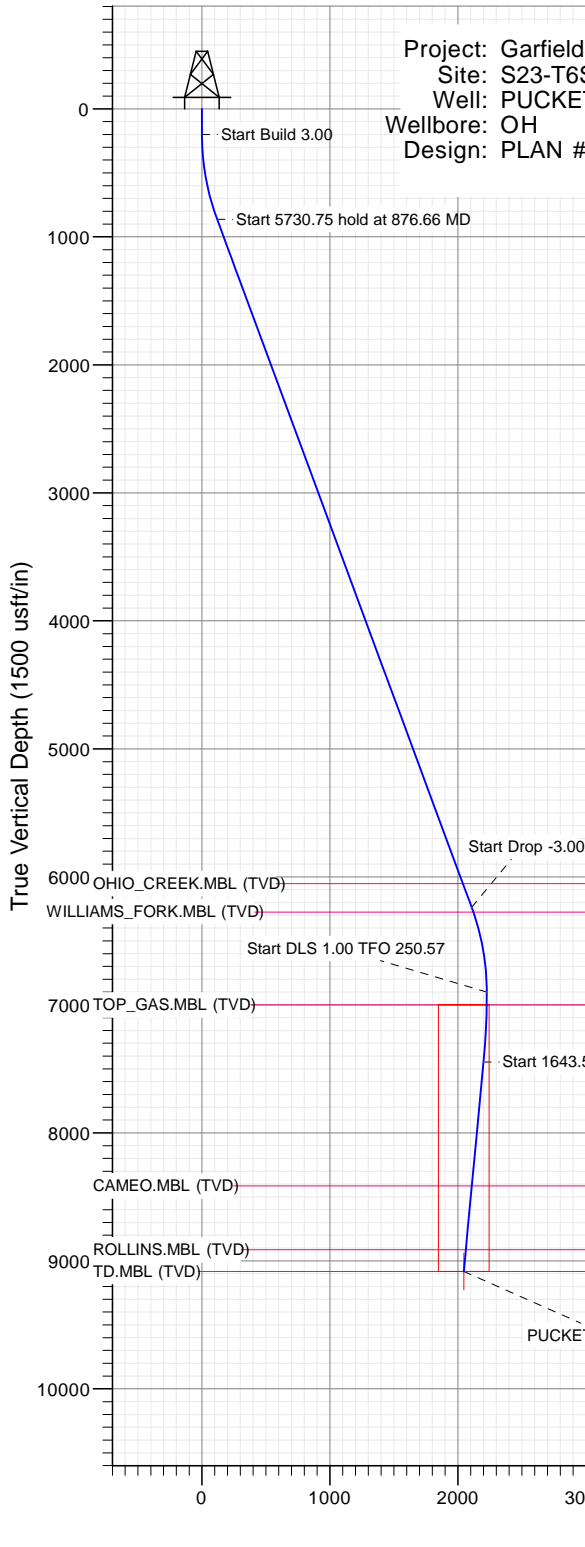




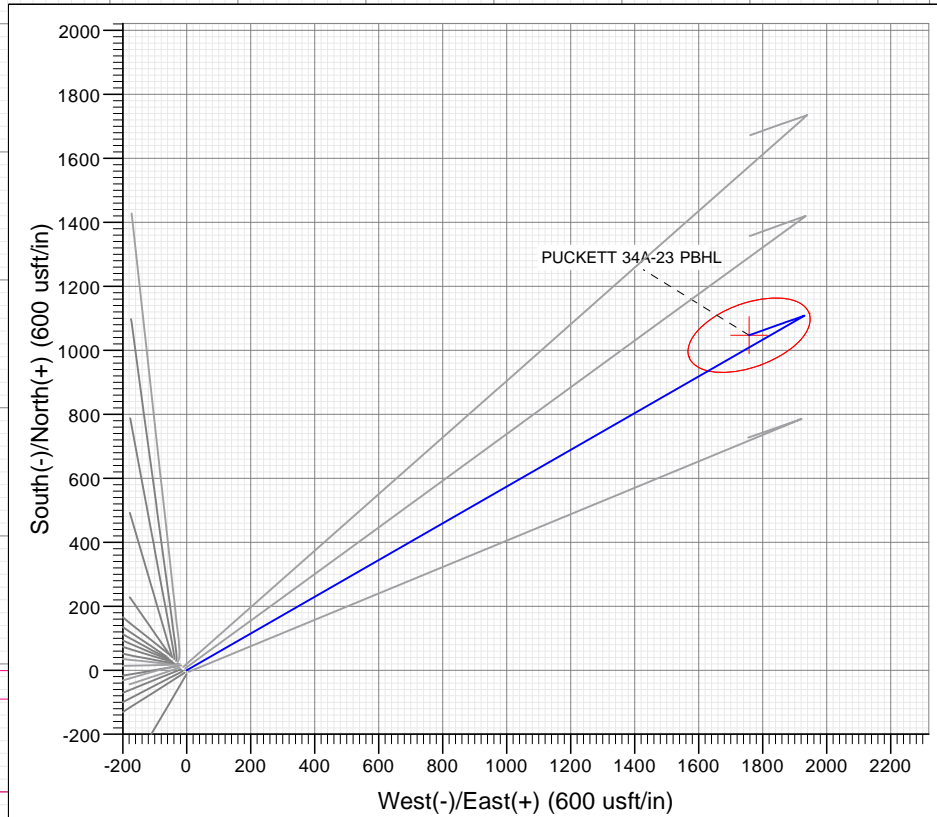
# SECTION DETAILS

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	876.66	20.30	60.14	862.59	59.06	102.87	3.00	60.14	118.61	
4	6607.41	20.30	60.14	6237.41	1048.94	1827.13	0.00	0.00	2106.54	
5	7284.08	0.00	0.00	6900.00	1108.00	1930.00	3.00	180.00	2225.14	
6	7831.84	5.48	250.57	7446.93	1099.30	1905.33	1.00	250.57	2199.49	
7	9475.41	5.48	250.57	9083.00	1047.11	1757.37	0.00	0.00	2045.68	PUCKETT 34A-23 PBHL



Project: Garfield County, CO (UTM 12N)  
Site: S23-T6S-R97W (MESA N23)  
Well: PUCKETT 34A-23  
Wellbore: OH  
Design: PLAN #2

PLAN #2 PUCKETT 34A-23 18X30X LR 30' KB @ 8462.00usft Ground Level @ 8432.00 NAD 1927 - Western US Well PUCKETT 34A-23, True North									
Type	Target	No Target (Freehand)	Azimuth	Origin	Type	N/S	E/W	From	TVD
Name	TD		59.21	Slot		0.00	0.00	0.00	
PUCKETT 34A-23 PBHL			9083.00			+N/-S	+E/-W	Latitude	Longitude
						1047.11	1757.37	39.503071	-108.181024



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
6053.00	6410.80	OHIO_CREEK.MBL (TVD)
6275.00	6647.35	WILLIAMS_FORK.MBL (TVD)
7000.00	7384.08	TOP_GAS.MBL (TVD)
8413.00	8802.34	CAMEO.MBL (TVD)
8913.00	9304.64	ROLLINS.MBL (TVD)
9083.00	9475.41	TD.MBL (TVD)



Azimuths to True North  
Magnetic North: 9.78°

Magnetic Field  
Strength: 51811.3snT  
Dip Angle: 65.85°  
Date: 9/14/2016  
Model: HDGM

Vertical Section at 59.21° (1500 usft/in)

## WELL DETAILS: PUCKETT 34A-23

+N/-S	+E/-W	Northing	Ground Level:	8432.00	Latitude	Longitude
0.00	0.00	14357498.50	Easting	2433892.20	39.503071	-108.187250

CATHEDRAL



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 34A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8462.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8462.00usft
<b>Site:</b>	S23-T6S-R97W (MESA N23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 34A-23	<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>	S23-T6S-R97W (MESA N23)		
<b>Site Position:</b>		<b>Northing:</b>	14,357,518.00 usft
<b>From:</b>	Map	<b>Easting:</b>	2,433,869.00 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16"
		<b>Latitude:</b>	39.503127
		<b>Longitude:</b>	-108.187330
		<b>Grid Convergence:</b>	1.79 °

<b>Well</b>	PUCKETT 34A-23		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft
		<b>Latitude:</b>	39.503071
		<b>Longitude:</b>	-108.187250
		<b>Ground Level:</b>	8,432.00 usft

<b>Wellbore</b>	OH		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
			(°)
	HDGM	9/14/2016	9.78
			Dip Angle (°)
			65.85
			Field Strength (nT)
			51,811.30000000

<b>Design</b>	PLAN #2		
<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>
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			59.21

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(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	
876.66	20.30	60.14	862.59	59.06	102.87	3.00	3.00	0.00	60.14	
6,607.41	20.30	60.14	6,237.41	1,048.94	1,827.13	0.00	0.00	0.00	0.00	
7,284.08	0.00	0.00	6,900.00	1,108.00	1,930.00	3.00	-3.00	0.00	180.00	
7,831.84	5.48	250.57	7,446.93	1,099.30	1,905.33	1.00	1.00	-19.98	250.57	
9,475.41	5.48	250.57	9,083.00	1,047.11	1,757.37	0.00	0.00	0.00	0.00	PUCKETT 34A-23 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 34A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8462.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8462.00usft
<b>Site:</b>	S23-T6S-R97W (MESA N23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 34A-23	<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
0.00	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	60.14	299.95	1.30	2.27	2.62	3.00	3.00	
400.00	6.00	60.14	399.63	5.21	9.07	10.46	3.00	3.00	
500.00	9.00	60.14	498.77	11.71	20.39	23.51	3.00	3.00	
600.00	12.00	60.14	597.08	20.78	36.19	41.73	3.00	3.00	
700.00	15.00	60.14	694.31	32.40	56.44	65.07	3.00	3.00	
800.00	18.00	60.14	790.18	46.54	81.07	93.46	3.00	3.00	
876.66	20.30	60.14	862.59	59.06	102.87	118.61	3.00	3.00	Start 5730.75 hold at 876.66 MD
900.00	20.30	60.14	884.48	63.09	109.90	126.70	0.00	0.00	
1,000.00	20.30	60.14	978.27	80.36	139.98	161.39	0.00	0.00	
1,100.00	20.30	60.14	1,072.06	97.64	170.07	196.08	0.00	0.00	
1,200.00	20.30	60.14	1,165.85	114.91	200.16	230.77	0.00	0.00	
1,300.00	20.30	60.14	1,259.64	132.18	230.25	265.46	0.00	0.00	
1,400.00	20.30	60.14	1,353.43	149.46	260.33	300.15	0.00	0.00	
1,500.00	20.30	60.14	1,447.22	166.73	290.42	334.83	0.00	0.00	
1,600.00	20.30	60.14	1,541.01	184.00	320.51	369.52	0.00	0.00	
1,700.00	20.30	60.14	1,634.79	201.28	350.60	404.21	0.00	0.00	
1,800.00	20.30	60.14	1,728.58	218.55	380.69	438.90	0.00	0.00	
1,900.00	20.30	60.14	1,822.37	235.82	410.77	473.59	0.00	0.00	
2,000.00	20.30	60.14	1,916.16	253.10	440.86	508.28	0.00	0.00	
2,100.00	20.30	60.14	2,009.95	270.37	470.95	542.97	0.00	0.00	
2,200.00	20.30	60.14	2,103.74	287.64	501.04	577.66	0.00	0.00	
2,300.00	20.30	60.14	2,197.53	304.91	531.12	612.35	0.00	0.00	
2,400.00	20.30	60.14	2,291.32	322.19	561.21	647.03	0.00	0.00	
2,500.00	20.30	60.14	2,385.11	339.46	591.30	681.72	0.00	0.00	
2,600.00	20.30	60.14	2,478.89	356.73	621.39	716.41	0.00	0.00	
2,700.00	20.30	60.14	2,572.68	374.01	651.47	751.10	0.00	0.00	
2,800.00	20.30	60.14	2,666.47	391.28	681.56	785.79	0.00	0.00	
2,900.00	20.30	60.14	2,760.26	408.55	711.65	820.48	0.00	0.00	
3,000.00	20.30	60.14	2,854.05	425.83	741.74	855.17	0.00	0.00	
3,100.00	20.30	60.14	2,947.84	443.10	771.83	889.86	0.00	0.00	
3,200.00	20.30	60.14	3,041.63	460.37	801.91	924.55	0.00	0.00	
3,300.00	20.30	60.14	3,135.42	477.65	832.00	959.23	0.00	0.00	
3,400.00	20.30	60.14	3,229.21	494.92	862.09	993.92	0.00	0.00	
3,500.00	20.30	60.14	3,323.00	512.19	892.18	1,028.61	0.00	0.00	
3,600.00	20.30	60.14	3,416.78	529.47	922.26	1,063.30	0.00	0.00	
3,700.00	20.30	60.14	3,510.57	546.74	952.35	1,097.99	0.00	0.00	
3,800.00	20.30	60.14	3,604.36	564.01	982.44	1,132.68	0.00	0.00	
3,900.00	20.30	60.14	3,698.15	581.29	1,012.53	1,167.37	0.00	0.00	
4,000.00	20.30	60.14	3,791.94	598.56	1,042.61	1,202.06	0.00	0.00	
4,100.00	20.30	60.14	3,885.73	615.83	1,072.70	1,236.74	0.00	0.00	
4,200.00	20.30	60.14	3,979.52	633.10	1,102.79	1,271.43	0.00	0.00	
4,300.00	20.30	60.14	4,073.31	650.38	1,132.88	1,306.12	0.00	0.00	
4,400.00	20.30	60.14	4,167.10	667.65	1,162.97	1,340.81	0.00	0.00	
4,500.00	20.30	60.14	4,260.88	684.92	1,193.05	1,375.50	0.00	0.00	
4,600.00	20.30	60.14	4,354.67	702.20	1,223.14	1,410.19	0.00	0.00	
4,700.00	20.30	60.14	4,448.46	719.47	1,253.23	1,444.88	0.00	0.00	
4,800.00	20.30	60.14	4,542.25	736.74	1,283.32	1,479.57	0.00	0.00	
4,900.00	20.30	60.14	4,636.04	754.02	1,313.40	1,514.26	0.00	0.00	
5,000.00	20.30	60.14	4,729.83	771.29	1,343.49	1,548.94	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 34A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8462.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8462.00usft
<b>Site:</b>	S23-T6S-R97W (MESA N23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 34A-23	<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
5,100.00	20.30	60.14	4,823.62	788.56	1,373.58	1,583.63	0.00	0.00	
5,200.00	20.30	60.14	4,917.41	805.84	1,403.67	1,618.32	0.00	0.00	
5,300.00	20.30	60.14	5,011.20	823.11	1,433.76	1,653.01	0.00	0.00	
5,400.00	20.30	60.14	5,104.99	840.38	1,463.84	1,687.70	0.00	0.00	
5,500.00	20.30	60.14	5,198.77	857.66	1,493.93	1,722.39	0.00	0.00	
5,600.00	20.30	60.14	5,292.56	874.93	1,524.02	1,757.08	0.00	0.00	
5,700.00	20.30	60.14	5,386.35	892.20	1,554.11	1,791.77	0.00	0.00	
5,800.00	20.30	60.14	5,480.14	909.47	1,584.19	1,826.45	0.00	0.00	
5,900.00	20.30	60.14	5,573.93	926.75	1,614.28	1,861.14	0.00	0.00	
6,000.00	20.30	60.14	5,667.72	944.02	1,644.37	1,895.83	0.00	0.00	
6,100.00	20.30	60.14	5,761.51	961.29	1,674.46	1,930.52	0.00	0.00	
6,200.00	20.30	60.14	5,855.30	978.57	1,704.54	1,965.21	0.00	0.00	
6,300.00	20.30	60.14	5,949.09	995.84	1,734.63	1,999.90	0.00	0.00	
6,400.00	20.30	60.14	6,042.88	1,013.11	1,764.72	2,034.59	0.00	0.00	
6,410.80	20.30	60.14	6,053.00	1,014.98	1,767.97	2,038.33	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,500.00	20.30	60.14	6,136.66	1,030.39	1,794.81	2,069.28	0.00	0.00	
6,600.00	20.30	60.14	6,230.45	1,047.66	1,824.90	2,103.97	0.00	0.00	
6,607.41	20.30	60.14	6,237.41	1,048.94	1,827.13	2,106.54	0.00	0.00	Start Drop -3.00
6,647.35	19.10	60.14	6,275.00	1,055.64	1,838.80	2,120.00	3.00	-3.00	WILLIAMS_FORK.MBL (TVD)
6,700.00	17.52	60.14	6,324.99	1,063.88	1,853.15	2,136.54	3.00	-3.00	
6,800.00	14.52	60.14	6,421.09	1,077.62	1,877.08	2,164.13	3.00	-3.00	
6,900.00	11.52	60.14	6,518.51	1,088.84	1,896.62	2,186.66	3.00	-3.00	
7,000.00	8.52	60.14	6,616.97	1,097.50	1,911.71	2,204.06	3.00	-3.00	
7,100.00	5.52	60.14	6,716.21	1,103.59	1,922.31	2,216.28	3.00	-3.00	
7,200.00	2.52	60.14	6,815.95	1,107.08	1,928.40	2,223.29	3.00	-3.00	
7,284.08	0.00	0.00	6,900.00	1,108.00	1,930.00	2,225.14	3.00	-3.00	Start DLS 1.00 TFO 250.57
7,300.00	0.16	250.57	6,915.92	1,107.99	1,929.98	2,225.12	1.00	1.00	
7,384.08	1.00	250.57	7,000.00	1,107.71	1,929.18	2,224.29	1.00	1.00	TOP_GAS.MBL (TVD)
7,400.00	1.16	250.57	7,015.92	1,107.61	1,928.89	2,223.99	1.00	1.00	
7,500.00	2.16	250.57	7,115.87	1,106.65	1,926.16	2,221.16	1.00	1.00	
7,600.00	3.16	250.57	7,215.76	1,105.10	1,921.79	2,216.61	1.00	1.00	
7,700.00	4.16	250.57	7,315.56	1,102.98	1,915.77	2,210.35	1.00	1.00	
7,800.00	5.16	250.57	7,415.23	1,100.28	1,908.11	2,202.39	1.00	1.00	
7,831.84	5.48	250.57	7,446.93	1,099.30	1,905.33	2,199.49	1.00	1.00	Start 1643.58 hold at 7831.84 MD
7,900.00	5.48	250.57	7,514.78	1,097.13	1,899.19	2,193.11	0.00	0.00	
8,000.00	5.48	250.57	7,614.32	1,093.96	1,890.19	2,183.75	0.00	0.00	
8,100.00	5.48	250.57	7,713.87	1,090.78	1,881.19	2,174.40	0.00	0.00	
8,200.00	5.48	250.57	7,813.41	1,087.61	1,872.18	2,165.04	0.00	0.00	
8,300.00	5.48	250.57	7,912.95	1,084.43	1,863.18	2,155.68	0.00	0.00	
8,400.00	5.48	250.57	8,012.50	1,081.26	1,854.18	2,146.32	0.00	0.00	
8,500.00	5.48	250.57	8,112.04	1,078.08	1,845.18	2,136.96	0.00	0.00	
8,600.00	5.48	250.57	8,211.58	1,074.91	1,836.18	2,127.60	0.00	0.00	
8,700.00	5.48	250.57	8,311.13	1,071.73	1,827.17	2,118.24	0.00	0.00	
8,800.00	5.48	250.57	8,410.67	1,068.56	1,818.17	2,108.89	0.00	0.00	
8,802.34	5.48	250.57	8,413.00	1,068.48	1,817.96	2,108.67	0.00	0.00	CAMEO.MBL (TVD)
8,900.00	5.48	250.57	8,510.21	1,065.38	1,809.17	2,099.53	0.00	0.00	
9,000.00	5.48	250.57	8,609.76	1,062.21	1,800.17	2,090.17	0.00	0.00	
9,100.00	5.48	250.57	8,709.30	1,059.03	1,791.16	2,080.81	0.00	0.00	
9,200.00	5.48	250.57	8,808.84	1,055.86	1,782.16	2,071.45	0.00	0.00	
9,300.00	5.48	250.57	8,908.39	1,052.68	1,773.16	2,062.09	0.00	0.00	
9,304.64	5.48	250.57	8,913.00	1,052.53	1,772.74	2,061.66	0.00	0.00	ROLLINS.MBL (TVD)
9,400.00	5.48	250.57	9,007.93	1,049.51	1,764.16	2,052.73	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 34A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8462.00usft
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8462.00usft
<b>Site:</b>	S23-T6S-R97W (MESA N23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 34A-23	<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
9,475.41	5.48	250.57	9,083.00	1,047.11	1,757.37	2,045.68	0.00	0.00	TD at 9475.41 - TD.MBL (TVD)

### Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 34A-23 PBHL - plan hits target center - Ellipse (radii L200.00 W100.00 on 250.00 azi)	0.00	0.00	9,083.00	1,047.11	1,757.37	14,358,600.00	2,435,616.00	39.505945	-108.181024

### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,410.80	6,053.00	OHIO_CREEK.MBL (TVD)			
6,647.35	6,275.00	WILLIAMS_FORK.MBL (TVD)			
7,384.08	7,000.00	TOP_GAS.MBL (TVD)			
8,802.34	8,413.00	CAMEO.MBL (TVD)			
9,304.64	8,913.00	ROLLINS.MBL (TVD)			
9,475.41	9,083.00	TD.MBL (TVD)			

### 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
876.66	862.59	59.06	102.87	Start 5730.75 hold at 876.66 MD
6,607.41	6,237.41	1,048.94	1,827.13	Start Drop -3.00
7,284.08	6,900.00	1,108.00	1,930.00	Start DLS 1.00 TFO 250.57
7,831.84	7,446.93	1,099.30	1,905.33	Start 1643.58 hold at 7831.84 MD
9,475.41	9,083.00	1,047.11	1,757.37	TD at 9475.41