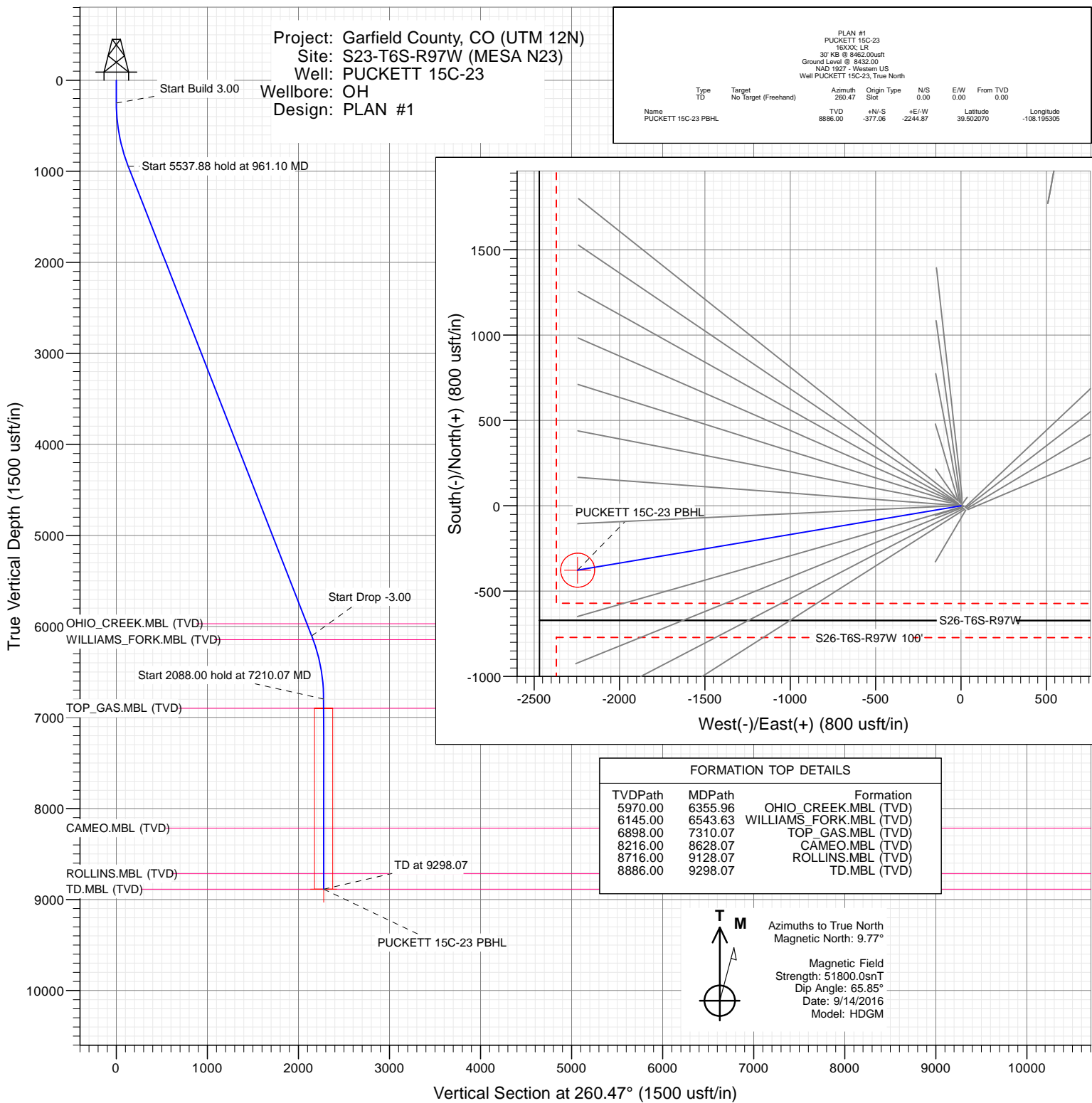




# SECTION DETAILS

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	961.10	21.33	260.47	944.78	-21.68	-129.05	3.00	260.47	130.86	
4	6498.98	21.33	260.47	6103.22	-355.38	-2115.82	0.00	0.00	2145.46	
5	7210.07	0.00	0.00	6798.00	-377.06	-2244.87	3.00	180.00	2276.32	
6	9298.07	0.00	0.00	8886.00	-377.06	-2244.87	0.00	0.00	2276.32	PUCKETT 15C-23 PBHL



## WELL DETAILS: PUCKETT 15C-23

+N/-S	+E/-W	Northing	Ground Level:	8432.00	Latitude	Longitude
0.00	0.00	14357510.00	Easting	2433863.00	39.503105	-108.187352



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 15C-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 15C-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1		

<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)		

Site		S23-T6S-R97W (MESA N23)			
Site Position:		Northing:	14,357,518.00 usft	Latitude:	39.503127
From:	Map	Easting:	2,433,869.00 usft	Longitude:	-108.187330
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.79 °

Well	PUCKETT 15C-23					
Well Position	+N/-S	0.00 usft	Northing:	14,357,510.00 usft	Latitude:	39.503105
	+E/-W	0.00 usft	Easting:	2,433,863.00 usft	Longitude:	-108.187352
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,432.00 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>
			(°)	(°)	(nT)
	HDGM	9/14/2016	9.77	65.85	51,800

<b>Design</b>	PLAN #1			
<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>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	260.47

<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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
961.10	21.33	260.47	944.78	-21.68	-129.05	3.00	3.00	0.00	260.47	
6,498.98	21.33	260.47	6,103.22	-355.38	-2,115.82	0.00	0.00	0.00	0.00	
7,210.07	0.00	0.00	6,798.00	-377.06	-2,244.87	3.00	-3.00	0.00	180.00	
9,298.07	0.00	0.00	8,886.00	-377.06	-2,244.87	0.00	0.00	0.00	0.00	PUCKETT 15C-23 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 15C-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 15C-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
300.00	1.50	260.47	299.99	-0.11	-0.65	0.65	3.00	3.00	
400.00	4.50	260.47	399.85	-0.98	-5.81	5.89	3.00	3.00	
500.00	7.50	260.47	499.29	-2.71	-16.11	16.34	3.00	3.00	
600.00	10.50	260.47	598.04	-5.30	-31.54	31.98	3.00	3.00	
700.00	13.50	260.47	695.85	-8.74	-52.04	52.77	3.00	3.00	
800.00	16.50	260.47	792.43	-13.03	-77.56	78.65	3.00	3.00	
900.00	19.50	260.47	887.52	-18.15	-108.03	109.55	3.00	3.00	
961.10	21.33	260.47	944.78	-21.68	-129.05	130.86	3.00	3.00	Start 5537.88 hold at 961.10 MD
1,000.00	21.33	260.47	981.02	-24.02	-143.01	145.01	0.00	0.00	
1,100.00	21.33	260.47	1,074.17	-30.05	-178.88	181.39	0.00	0.00	
1,200.00	21.33	260.47	1,167.31	-36.07	-214.76	217.77	0.00	0.00	
1,300.00	21.33	260.47	1,260.46	-42.10	-250.64	254.15	0.00	0.00	
1,400.00	21.33	260.47	1,353.61	-48.12	-286.51	290.53	0.00	0.00	
1,500.00	21.33	260.47	1,446.76	-54.15	-322.39	326.90	0.00	0.00	
1,600.00	21.33	260.47	1,539.91	-60.18	-358.26	363.28	0.00	0.00	
1,700.00	21.33	260.47	1,633.06	-66.20	-394.14	399.66	0.00	0.00	
1,800.00	21.33	260.47	1,726.20	-72.23	-430.02	436.04	0.00	0.00	
1,900.00	21.33	260.47	1,819.35	-78.25	-465.89	472.42	0.00	0.00	
2,000.00	21.33	260.47	1,912.50	-84.28	-501.77	508.80	0.00	0.00	
2,100.00	21.33	260.47	2,005.65	-90.30	-537.64	545.18	0.00	0.00	
2,200.00	21.33	260.47	2,098.80	-96.33	-573.52	581.55	0.00	0.00	
2,300.00	21.33	260.47	2,191.95	-102.36	-609.40	617.93	0.00	0.00	
2,400.00	21.33	260.47	2,285.09	-108.38	-645.27	654.31	0.00	0.00	
2,500.00	21.33	260.47	2,378.24	-114.41	-681.15	690.69	0.00	0.00	
2,600.00	21.33	260.47	2,471.39	-120.43	-717.02	727.07	0.00	0.00	
2,700.00	21.33	260.47	2,564.54	-126.46	-752.90	763.45	0.00	0.00	
2,800.00	21.33	260.47	2,657.69	-132.49	-788.78	799.83	0.00	0.00	
2,900.00	21.33	260.47	2,750.84	-138.51	-824.65	836.20	0.00	0.00	
3,000.00	21.33	260.47	2,843.98	-144.54	-860.53	872.58	0.00	0.00	
3,100.00	21.33	260.47	2,937.13	-150.56	-896.40	908.96	0.00	0.00	
3,200.00	21.33	260.47	3,030.28	-156.59	-932.28	945.34	0.00	0.00	
3,300.00	21.33	260.47	3,123.43	-162.61	-968.16	981.72	0.00	0.00	
3,400.00	21.33	260.47	3,216.58	-168.64	-1,004.03	1,018.10	0.00	0.00	
3,500.00	21.33	260.47	3,309.72	-174.67	-1,039.91	1,054.48	0.00	0.00	
3,600.00	21.33	260.47	3,402.87	-180.69	-1,075.79	1,090.85	0.00	0.00	
3,700.00	21.33	260.47	3,496.02	-186.72	-1,111.66	1,127.23	0.00	0.00	
3,800.00	21.33	260.47	3,589.17	-192.74	-1,147.54	1,163.61	0.00	0.00	
3,900.00	21.33	260.47	3,682.32	-198.77	-1,183.41	1,199.99	0.00	0.00	
4,000.00	21.33	260.47	3,775.47	-204.80	-1,219.29	1,236.37	0.00	0.00	
4,100.00	21.33	260.47	3,868.61	-210.82	-1,255.17	1,272.75	0.00	0.00	
4,200.00	21.33	260.47	3,961.76	-216.85	-1,291.04	1,309.13	0.00	0.00	
4,300.00	21.33	260.47	4,054.91	-222.87	-1,326.92	1,345.50	0.00	0.00	
4,400.00	21.33	260.47	4,148.06	-228.90	-1,362.79	1,381.88	0.00	0.00	
4,500.00	21.33	260.47	4,241.21	-234.93	-1,398.67	1,418.26	0.00	0.00	
4,600.00	21.33	260.47	4,334.36	-240.95	-1,434.55	1,454.64	0.00	0.00	
4,700.00	21.33	260.47	4,427.50	-246.98	-1,470.42	1,491.02	0.00	0.00	
4,800.00	21.33	260.47	4,520.65	-253.00	-1,506.30	1,527.40	0.00	0.00	
4,900.00	21.33	260.47	4,613.80	-259.03	-1,542.17	1,563.78	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 15C-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 15C-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
5,000.00	21.33	260.47	4,706.95	-265.05	-1,578.05	1,600.15	0.00	0.00	
5,100.00	21.33	260.47	4,800.10	-271.08	-1,613.93	1,636.53	0.00	0.00	
5,200.00	21.33	260.47	4,893.25	-277.11	-1,649.80	1,672.91	0.00	0.00	
5,300.00	21.33	260.47	4,986.39	-283.13	-1,685.68	1,709.29	0.00	0.00	
5,400.00	21.33	260.47	5,079.54	-289.16	-1,721.55	1,745.67	0.00	0.00	
5,500.00	21.33	260.47	5,172.69	-295.18	-1,757.43	1,782.05	0.00	0.00	
5,600.00	21.33	260.47	5,265.84	-301.21	-1,793.31	1,818.43	0.00	0.00	
5,700.00	21.33	260.47	5,358.99	-307.24	-1,829.18	1,854.80	0.00	0.00	
5,800.00	21.33	260.47	5,452.13	-313.26	-1,865.06	1,891.18	0.00	0.00	
5,900.00	21.33	260.47	5,545.28	-319.29	-1,900.93	1,927.56	0.00	0.00	
6,000.00	21.33	260.47	5,638.43	-325.31	-1,936.81	1,963.94	0.00	0.00	
6,100.00	21.33	260.47	5,731.58	-331.34	-1,972.69	2,000.32	0.00	0.00	
6,200.00	21.33	260.47	5,824.73	-337.36	-2,008.56	2,036.70	0.00	0.00	
6,300.00	21.33	260.47	5,917.88	-343.39	-2,044.44	2,073.08	0.00	0.00	
6,355.96	21.33	260.47	5,970.00	-346.76	-2,064.51	2,093.43	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,400.00	21.33	260.47	6,011.02	-349.42	-2,080.31	2,109.45	0.00	0.00	
6,498.98	21.33	260.47	6,103.22	-355.38	-2,115.82	2,145.46	0.00	0.00	Start Drop -3.00
6,500.00	21.30	260.47	6,104.17	-355.44	-2,116.19	2,145.83	3.00	-3.00	
6,543.63	19.99	260.47	6,145.00	-357.99	-2,131.36	2,161.22	3.00	-3.00	WILLIAMS_FORK.MBL (TVD)
6,600.00	18.30	260.47	6,198.25	-361.05	-2,149.60	2,179.71	3.00	-3.00	
6,700.00	15.30	260.47	6,293.97	-365.84	-2,178.10	2,208.61	3.00	-3.00	
6,800.00	12.30	260.47	6,391.07	-369.79	-2,201.62	2,232.46	3.00	-3.00	
6,900.00	9.30	260.47	6,489.29	-372.90	-2,220.11	2,251.20	3.00	-3.00	
7,000.00	6.30	260.47	6,588.35	-375.14	-2,233.49	2,264.78	3.00	-3.00	
7,100.00	3.30	260.47	6,687.99	-376.53	-2,241.75	2,273.15	3.00	-3.00	
7,200.00	0.30	260.47	6,787.93	-377.05	-2,244.85	2,276.29	3.00	-3.00	
7,210.07	0.00	0.00	6,798.00	-377.06	-2,244.87	2,276.32	3.00	-3.00	Start 2088.00 hold at 7210.07 MD
7,300.00	0.00	0.00	6,887.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,310.07	0.00	0.00	6,898.00	-377.06	-2,244.87	2,276.32	0.00	0.00	TOP_GAS.MBL (TVD)
7,400.00	0.00	0.00	6,987.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,500.00	0.00	0.00	7,087.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,600.00	0.00	0.00	7,187.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,700.00	0.00	0.00	7,287.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,800.00	0.00	0.00	7,387.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
7,900.00	0.00	0.00	7,487.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,000.00	0.00	0.00	7,587.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,100.00	0.00	0.00	7,687.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,200.00	0.00	0.00	7,787.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,300.00	0.00	0.00	7,887.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,400.00	0.00	0.00	7,987.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,500.00	0.00	0.00	8,087.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,600.00	0.00	0.00	8,187.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,628.07	0.00	0.00	8,216.00	-377.06	-2,244.87	2,276.32	0.00	0.00	CAMEO.MBL (TVD)
8,700.00	0.00	0.00	8,287.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,800.00	0.00	0.00	8,387.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
8,900.00	0.00	0.00	8,487.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
9,000.00	0.00	0.00	8,587.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
9,100.00	0.00	0.00	8,687.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
9,128.07	0.00	0.00	8,716.00	-377.06	-2,244.87	2,276.32	0.00	0.00	ROLLINS.MBL (TVD)
9,200.00	0.00	0.00	8,787.93	-377.06	-2,244.87	2,276.32	0.00	0.00	
9,298.07	0.00	0.00	8,886.00	-377.06	-2,244.87	2,276.32	0.00	0.00	TD at 9298.07 - TD.MBL (TVD)

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 15C-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 15C-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PUCKETT 15C-23 PBHI	0.00	0.00	8,886.00	-377.06	-2,244.87	14,357,063.00	2,431,631.00	39.502070	-108.195305
- plan hits target center									
- Circle (radius 100.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,355.96	5,970.00	OHIO_CREEK.MBL (TVD)				
6,543.63	6,145.00	WILLIAMS_FORK.MBL (TVD)				
7,310.07	6,898.00	TOP_GAS.MBL (TVD)				
8,628.07	8,216.00	CAMEO.MBL (TVD)				
9,128.07	8,716.00	ROLLINS.MBL (TVD)				
9,298.07	8,886.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
250.00	250.00	0.00	0.00	Start Build 3.00	
961.10	944.78	-21.68	-129.05	Start 5537.88 hold at 961.10 MD	
6,498.98	6,103.22	-355.38	-2,115.82	Start Drop -3.00	
7,210.07	6,798.00	-377.06	-2,244.87	Start 2088.00 hold at 7210.07 MD	
9,298.07	8,886.00	-377.06	-2,244.87	TD at 9298.07	