



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 41A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Site:</b>	S23-T6S-R97W (MESA C23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 41A-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)		

Site		S23-T6S-R97W (MESA C23)			
Site Position:		Northing:	14,361,896.90 usft	Latitude:	39.515068
From:	Map	Easting:	2,434,697.40 usft	Longitude:	-108.183912
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.79 °

Well	PUCKETT 41A-23					
Well Position	+N/-S	0.00 usft	Northing:	14,361,881.90 usft	Latitude:	39.515026
	+E/-W	0.00 usft	Easting:	2,434,707.80 usft	Longitude:	-108.183876
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,532.00 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	6/16/2016	9.80	65.87	51,812

<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>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	83.24

<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	
612.24	8.24	83.24	610.82	3.49	29.40	2.00	2.00	0.00	83.24	
6,749.03	8.24	83.24	6,684.18	107.09	903.31	0.00	0.00	0.00	0.00	
7,161.27	0.00	0.00	7,095.00	110.57	932.72	2.00	-2.00	0.00	180.00	
9,313.27	0.00	0.00	9,247.00	110.57	932.72	0.00	0.00	0.00	0.00	PUCKETT 41A-23 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 41A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Site:</b>	S23-T6S-R97W (MESA C23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 41A-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	
300.00	2.00	83.24	299.98	0.21	1.73	1.75	2.00	2.00	
400.00	4.00	83.24	399.84	0.82	6.93	6.98	2.00	2.00	
500.00	6.00	83.24	499.45	1.85	15.58	15.69	2.00	2.00	
600.00	8.00	83.24	598.70	3.28	27.69	27.88	2.00	2.00	
612.24	8.24	83.24	610.82	3.49	29.40	29.61	2.00	2.00	
700.00	8.24	83.24	697.67	4.97	41.90	42.19	0.00	0.00	
800.00	8.24	83.24	796.64	6.66	56.14	56.53	0.00	0.00	
900.00	8.24	83.24	895.60	8.34	70.38	70.87	0.00	0.00	
1,000.00	8.24	83.24	994.57	10.03	84.62	85.21	0.00	0.00	
1,100.00	8.24	83.24	1,093.54	11.72	98.86	99.56	0.00	0.00	
1,200.00	8.24	83.24	1,192.50	13.41	113.10	113.90	0.00	0.00	
1,300.00	8.24	83.24	1,291.47	15.10	127.34	128.24	0.00	0.00	
1,400.00	8.24	83.24	1,390.44	16.78	141.58	142.58	0.00	0.00	
1,500.00	8.24	83.24	1,489.40	18.47	155.82	156.92	0.00	0.00	
1,600.00	8.24	83.24	1,588.37	20.16	170.07	171.26	0.00	0.00	
1,700.00	8.24	83.24	1,687.34	21.85	184.31	185.60	0.00	0.00	
1,800.00	8.24	83.24	1,786.30	23.54	198.55	199.94	0.00	0.00	
1,900.00	8.24	83.24	1,885.27	25.23	212.79	214.28	0.00	0.00	
2,000.00	8.24	83.24	1,984.24	26.91	227.03	228.62	0.00	0.00	
2,100.00	8.24	83.24	2,083.20	28.60	241.27	242.96	0.00	0.00	
2,200.00	8.24	83.24	2,182.17	30.29	255.51	257.30	0.00	0.00	
2,300.00	8.24	83.24	2,281.13	31.98	269.75	271.64	0.00	0.00	
2,400.00	8.24	83.24	2,380.10	33.67	283.99	285.98	0.00	0.00	
2,500.00	8.24	83.24	2,479.07	35.36	298.23	300.32	0.00	0.00	
2,600.00	8.24	83.24	2,578.03	37.04	312.47	314.66	0.00	0.00	
2,700.00	8.24	83.24	2,677.00	38.73	326.71	329.00	0.00	0.00	
2,800.00	8.24	83.24	2,775.97	40.42	340.95	343.34	0.00	0.00	
2,900.00	8.24	83.24	2,874.93	42.11	355.19	357.68	0.00	0.00	
3,000.00	8.24	83.24	2,973.90	43.80	369.43	372.02	0.00	0.00	
3,100.00	8.24	83.24	3,072.87	45.48	383.67	386.36	0.00	0.00	
3,200.00	8.24	83.24	3,171.83	47.17	397.91	400.70	0.00	0.00	
3,300.00	8.24	83.24	3,270.80	48.86	412.15	415.04	0.00	0.00	
3,400.00	8.24	83.24	3,369.77	50.55	426.39	429.38	0.00	0.00	
3,500.00	8.24	83.24	3,468.73	52.24	440.63	443.72	0.00	0.00	
3,600.00	8.24	83.24	3,567.70	53.93	454.88	458.06	0.00	0.00	
3,700.00	8.24	83.24	3,666.67	55.61	469.12	472.40	0.00	0.00	
3,800.00	8.24	83.24	3,765.63	57.30	483.36	486.74	0.00	0.00	
3,900.00	8.24	83.24	3,864.60	58.99	497.60	501.08	0.00	0.00	
4,000.00	8.24	83.24	3,963.56	60.68	511.84	515.42	0.00	0.00	
4,100.00	8.24	83.24	4,062.53	62.37	526.08	529.76	0.00	0.00	
4,200.00	8.24	83.24	4,161.50	64.05	540.32	544.10	0.00	0.00	
4,300.00	8.24	83.24	4,260.46	65.74	554.56	558.44	0.00	0.00	
4,400.00	8.24	83.24	4,359.43	67.43	568.80	572.78	0.00	0.00	
4,500.00	8.24	83.24	4,458.40	69.12	583.04	587.12	0.00	0.00	
4,600.00	8.24	83.24	4,557.36	70.81	597.28	601.46	0.00	0.00	
4,700.00	8.24	83.24	4,656.33	72.50	611.52	615.80	0.00	0.00	
4,800.00	8.24	83.24	4,755.30	74.18	625.76	630.14	0.00	0.00	
4,900.00	8.24	83.24	4,854.26	75.87	640.00	644.48	0.00	0.00	
5,000.00	8.24	83.24	4,953.23	77.56	654.24	658.82	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 41A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Site:</b>	S23-T6S-R97W (MESA C23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 41A-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	8.24	83.24	5,052.20	79.25	668.48	673.16	0.00	0.00	
5,200.00	8.24	83.24	5,151.16	80.94	682.72	687.50	0.00	0.00	
5,300.00	8.24	83.24	5,250.13	82.63	696.96	701.84	0.00	0.00	
5,400.00	8.24	83.24	5,349.09	84.31	711.20	716.18	0.00	0.00	
5,500.00	8.24	83.24	5,448.06	86.00	725.44	730.52	0.00	0.00	
5,600.00	8.24	83.24	5,547.03	87.69	739.69	744.86	0.00	0.00	
5,700.00	8.24	83.24	5,645.99	89.38	753.93	759.20	0.00	0.00	
5,800.00	8.24	83.24	5,744.96	91.07	768.17	773.55	0.00	0.00	
5,900.00	8.24	83.24	5,843.93	92.75	782.41	787.89	0.00	0.00	
6,000.00	8.24	83.24	5,942.89	94.44	796.65	802.23	0.00	0.00	
6,100.00	8.24	83.24	6,041.86	96.13	810.89	816.57	0.00	0.00	
6,200.00	8.24	83.24	6,140.83	97.82	825.13	830.91	0.00	0.00	
6,277.98	8.24	83.24	6,218.00	99.14	836.23	842.09	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,300.00	8.24	83.24	6,239.79	99.51	839.37	845.25	0.00	0.00	
6,400.00	8.24	83.24	6,338.76	101.20	853.61	859.59	0.00	0.00	
6,500.00	8.24	83.24	6,437.73	102.88	867.85	873.93	0.00	0.00	
6,516.44	8.24	83.24	6,454.00	103.16	870.19	876.28	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,600.00	8.24	83.24	6,536.69	104.57	882.09	888.27	0.00	0.00	
6,700.00	8.24	83.24	6,635.66	106.26	896.33	902.61	0.00	0.00	
6,749.03	8.24	83.24	6,684.18	107.09	903.31	909.64	0.00	0.00	
6,800.00	7.23	83.24	6,734.69	107.90	910.13	916.50	2.00	-2.00	
6,900.00	5.23	83.24	6,834.09	109.17	920.89	927.34	2.00	-2.00	
7,000.00	3.23	83.24	6,933.82	110.04	928.21	934.71	2.00	-2.00	
7,100.00	1.23	83.24	7,033.74	110.50	932.07	938.59	2.00	-2.00	
7,161.27	0.00	0.00	7,095.00	110.57	932.72	939.25	2.00	-2.00	
7,200.00	0.00	0.00	7,133.73	110.57	932.72	939.25	0.00	0.00	
7,261.27	0.00	0.00	7,195.00	110.57	932.72	939.25	0.00	0.00	TOP_GAS.MBL (TVD)
7,300.00	0.00	0.00	7,233.73	110.57	932.72	939.25	0.00	0.00	
7,400.00	0.00	0.00	7,333.73	110.57	932.72	939.25	0.00	0.00	
7,500.00	0.00	0.00	7,433.73	110.57	932.72	939.25	0.00	0.00	
7,600.00	0.00	0.00	7,533.73	110.57	932.72	939.25	0.00	0.00	
7,700.00	0.00	0.00	7,633.73	110.57	932.72	939.25	0.00	0.00	
7,800.00	0.00	0.00	7,733.73	110.57	932.72	939.25	0.00	0.00	
7,900.00	0.00	0.00	7,833.73	110.57	932.72	939.25	0.00	0.00	
8,000.00	0.00	0.00	7,933.73	110.57	932.72	939.25	0.00	0.00	
8,100.00	0.00	0.00	8,033.73	110.57	932.72	939.25	0.00	0.00	
8,200.00	0.00	0.00	8,133.73	110.57	932.72	939.25	0.00	0.00	
8,300.00	0.00	0.00	8,233.73	110.57	932.72	939.25	0.00	0.00	
8,400.00	0.00	0.00	8,333.73	110.57	932.72	939.25	0.00	0.00	
8,500.00	0.00	0.00	8,433.73	110.57	932.72	939.25	0.00	0.00	
8,600.00	0.00	0.00	8,533.73	110.57	932.72	939.25	0.00	0.00	
8,700.00	0.00	0.00	8,633.73	110.57	932.72	939.25	0.00	0.00	
8,800.00	0.00	0.00	8,733.73	110.57	932.72	939.25	0.00	0.00	
8,900.00	0.00	0.00	8,833.73	110.57	932.72	939.25	0.00	0.00	
9,000.00	0.00	0.00	8,933.73	110.57	932.72	939.25	0.00	0.00	
9,100.00	0.00	0.00	9,033.73	110.57	932.72	939.25	0.00	0.00	
9,163.27	0.00	0.00	9,097.00	110.57	932.72	939.25	0.00	0.00	ROLLINS.MBL (TVD)
9,200.00	0.00	0.00	9,133.73	110.57	932.72	939.25	0.00	0.00	
9,300.00	0.00	0.00	9,233.73	110.57	932.72	939.25	0.00	0.00	
9,313.27	0.00	0.00	9,247.00	110.57	932.72	939.25	0.00	0.00	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 41A-23
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 8562.00usft (H&P 330)
<b>Site:</b>	S23-T6S-R97W (MESA C23)	<b>North Reference:</b>	True
<b>Well:</b>	PUCKETT 41A-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #2		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
PUCKETT 41A-23 PBHL	0.00	0.00	9,247.00	110.57	932.72	14,362,021.60	2,435,636.60	39.515329	-108.180572
- plan hits target center									
- Circle (radius 50.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,277.98	6,218.00	OHIO_CREEK.MBL (TVD)				
6,516.44	6,454.00	WILLIAMS_FORK.MBL (TVD)				
7,261.27	7,195.00	TOP_GAS.MBL (TVD)				
9,163.27	9,097.00	ROLLINS.MBL (TVD)				
9,313.27	9,247.00	TD.MBL (TVD)				