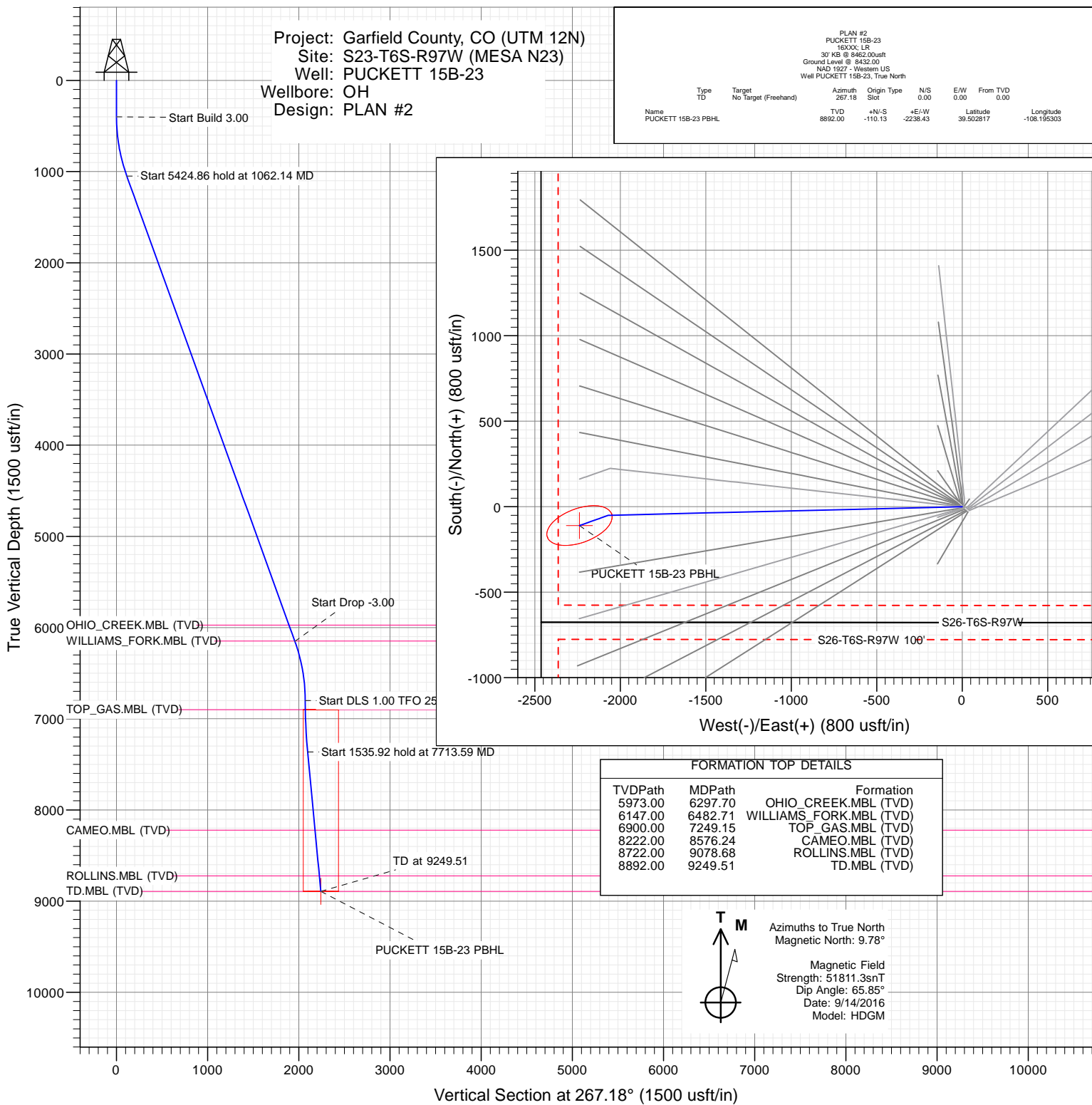




## SECTION DETAILS

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	Target
2	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	1062.14	19.86	268.62	1048.96	-2.74	-113.60	3.00	268.62	113.60	
4	6487.01	19.86	268.62	6151.04	-47.26	-1956.40	0.00	0.00	1956.36	
5	7149.15	0.00	0.00	6800.00	-50.00	-2070.00	3.00	180.00	2069.96	
6	7713.59	5.64	250.35	7363.53	-59.34	-2096.16	1.00	250.35	2096.55	
7	9249.51	5.64	250.35	8892.00	-110.13	-2238.43	0.00	0.00	2241.14	PUCKETT 15B-23 PBHL



CATHEDRAL

## WELL DETAILS: PUCKETT 15B-23

+N/-S	+E/-W	Northing	Ground Level:	8432.00	Latitude	Longitude
0.00	0.00	14357515.00	Easting	2433856.90	39.503119	-108.187373



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 15B-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 15B-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 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 15B-23					
Well Position	+N/-S	0.00 usft	Northing:	14,357,515.00 usft	Latitude:	39.503119
	+E/-W	0.00 usft	Easting:	2,433,856.90 usft	Longitude:	-108.187373
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	9.78	65.85	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>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	267.18

<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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,062.14	19.86	268.62	1,048.96	-2.74	-113.60	3.00	3.00	0.00	268.62	
6,487.01	19.86	268.62	6,151.04	-47.26	-1,956.40	0.00	0.00	0.00	0.00	
7,149.15	0.00	0.00	6,800.00	-50.00	-2,070.00	3.00	-3.00	0.00	180.00	
7,713.59	5.64	250.35	7,363.53	-59.34	-2,096.16	1.00	1.00	-19.43	250.35	
9,249.51	5.64	250.35	8,892.00	-110.13	-2,238.43	0.00	0.00	0.00	0.00	PUCKETT 15B-23 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 15B-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 15B-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	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00
500.00	3.00	268.62	499.95	-0.06	-2.62	2.62	3.00	3.00	
600.00	6.00	268.62	599.63	-0.25	-10.46	10.46	3.00	3.00	
700.00	9.00	268.62	698.77	-0.57	-23.51	23.51	3.00	3.00	
800.00	12.00	268.62	797.08	-1.01	-41.72	41.72	3.00	3.00	
900.00	15.00	268.62	894.31	-1.57	-65.06	65.06	3.00	3.00	
1,000.00	18.00	268.62	990.18	-2.26	-93.45	93.45	3.00	3.00	
1,062.14	19.86	268.62	1,048.96	-2.74	-113.60	113.60	3.00	3.00	Start 5424.86 hold at 1062.14 MD
1,100.00	19.86	268.62	1,084.56	-3.05	-126.46	126.46	0.00	0.00	
1,200.00	19.86	268.62	1,178.61	-3.88	-160.43	160.43	0.00	0.00	
1,300.00	19.86	268.62	1,272.66	-4.70	-194.40	194.40	0.00	0.00	
1,400.00	19.86	268.62	1,366.71	-5.52	-228.37	228.37	0.00	0.00	
1,500.00	19.86	268.62	1,460.76	-6.34	-262.34	262.34	0.00	0.00	
1,600.00	19.86	268.62	1,554.81	-7.16	-296.31	296.30	0.00	0.00	
1,700.00	19.86	268.62	1,648.86	-7.98	-330.28	330.27	0.00	0.00	
1,800.00	19.86	268.62	1,742.91	-8.80	-364.25	364.24	0.00	0.00	
1,900.00	19.86	268.62	1,836.96	-9.62	-398.22	398.21	0.00	0.00	
2,000.00	19.86	268.62	1,931.01	-10.44	-432.19	432.18	0.00	0.00	
2,100.00	19.86	268.62	2,025.06	-11.26	-466.16	466.15	0.00	0.00	
2,200.00	19.86	268.62	2,119.11	-12.08	-500.13	500.12	0.00	0.00	
2,300.00	19.86	268.62	2,213.16	-12.90	-534.10	534.08	0.00	0.00	
2,400.00	19.86	268.62	2,307.21	-13.72	-568.07	568.05	0.00	0.00	
2,500.00	19.86	268.62	2,401.26	-14.54	-602.03	602.02	0.00	0.00	
2,600.00	19.86	268.62	2,495.31	-15.36	-636.00	635.99	0.00	0.00	
2,700.00	19.86	268.62	2,589.36	-16.18	-669.97	669.96	0.00	0.00	
2,800.00	19.86	268.62	2,683.41	-17.00	-703.94	703.93	0.00	0.00	
2,900.00	19.86	268.62	2,777.46	-17.82	-737.91	737.90	0.00	0.00	
3,000.00	19.86	268.62	2,871.51	-18.64	-771.88	771.87	0.00	0.00	
3,100.00	19.86	268.62	2,965.56	-19.47	-805.85	805.83	0.00	0.00	
3,200.00	19.86	268.62	3,059.61	-20.29	-839.82	839.80	0.00	0.00	
3,300.00	19.86	268.62	3,153.66	-21.11	-873.79	873.77	0.00	0.00	
3,400.00	19.86	268.62	3,247.71	-21.93	-907.76	907.74	0.00	0.00	
3,500.00	19.86	268.62	3,341.76	-22.75	-941.73	941.71	0.00	0.00	
3,600.00	19.86	268.62	3,435.81	-23.57	-975.70	975.68	0.00	0.00	
3,700.00	19.86	268.62	3,529.86	-24.39	-1,009.67	1,009.65	0.00	0.00	
3,800.00	19.86	268.62	3,623.91	-25.21	-1,043.64	1,043.61	0.00	0.00	
3,900.00	19.86	268.62	3,717.96	-26.03	-1,077.61	1,077.58	0.00	0.00	
4,000.00	19.86	268.62	3,812.01	-26.85	-1,111.58	1,111.55	0.00	0.00	
4,100.00	19.86	268.62	3,906.06	-27.67	-1,145.55	1,145.52	0.00	0.00	
4,200.00	19.86	268.62	4,000.11	-28.49	-1,179.51	1,179.49	0.00	0.00	
4,300.00	19.86	268.62	4,094.16	-29.31	-1,213.48	1,213.46	0.00	0.00	
4,400.00	19.86	268.62	4,188.21	-30.13	-1,247.45	1,247.43	0.00	0.00	
4,500.00	19.86	268.62	4,282.26	-30.95	-1,281.42	1,281.40	0.00	0.00	
4,600.00	19.86	268.62	4,376.31	-31.77	-1,315.39	1,315.36	0.00	0.00	
4,700.00	19.86	268.62	4,470.36	-32.59	-1,349.36	1,349.33	0.00	0.00	
4,800.00	19.86	268.62	4,564.41	-33.41	-1,383.33	1,383.30	0.00	0.00	
4,900.00	19.86	268.62	4,658.46	-34.23	-1,417.30	1,417.27	0.00	0.00	
5,000.00	19.86	268.62	4,752.51	-35.05	-1,451.27	1,451.24	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 15B-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 15B-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	19.86	268.62	4,846.56	-35.88	-1,485.24	1,485.21	0.00	0.00	
5,200.00	19.86	268.62	4,940.61	-36.70	-1,519.21	1,519.18	0.00	0.00	
5,300.00	19.86	268.62	5,034.66	-37.52	-1,553.18	1,553.15	0.00	0.00	
5,400.00	19.86	268.62	5,128.71	-38.34	-1,587.15	1,587.11	0.00	0.00	
5,500.00	19.86	268.62	5,222.76	-39.16	-1,621.12	1,621.08	0.00	0.00	
5,600.00	19.86	268.62	5,316.81	-39.98	-1,655.09	1,655.05	0.00	0.00	
5,700.00	19.86	268.62	5,410.86	-40.80	-1,689.06	1,689.02	0.00	0.00	
5,800.00	19.86	268.62	5,504.91	-41.62	-1,723.02	1,722.99	0.00	0.00	
5,900.00	19.86	268.62	5,598.96	-42.44	-1,756.99	1,756.96	0.00	0.00	
6,000.00	19.86	268.62	5,693.01	-43.26	-1,790.96	1,790.93	0.00	0.00	
6,100.00	19.86	268.62	5,787.06	-44.08	-1,824.93	1,824.89	0.00	0.00	
6,200.00	19.86	268.62	5,881.11	-44.90	-1,858.90	1,858.86	0.00	0.00	
6,297.70	19.86	268.62	5,973.00	-45.70	-1,892.09	1,892.05	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,300.00	19.86	268.62	5,975.16	-45.72	-1,892.87	1,892.83	0.00	0.00	
6,400.00	19.86	268.62	6,069.21	-46.54	-1,926.84	1,926.80	0.00	0.00	
6,482.71	19.86	268.62	6,147.00	-47.22	-1,954.94	1,954.90	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,487.01	19.86	268.62	6,151.04	-47.26	-1,956.40	1,956.36	0.00	0.00	Start Drop -3.00
6,500.00	19.47	268.62	6,163.28	-47.36	-1,960.77	1,960.73	3.00	-3.00	
6,600.00	16.47	268.62	6,258.39	-48.11	-1,991.62	1,991.57	3.00	-3.00	
6,700.00	13.47	268.62	6,354.98	-48.73	-2,017.44	2,017.40	3.00	-3.00	
6,800.00	10.47	268.62	6,452.79	-49.23	-2,038.18	2,038.14	3.00	-3.00	
6,900.00	7.47	268.62	6,551.56	-49.61	-2,053.78	2,053.73	3.00	-3.00	
7,000.00	4.47	268.62	6,651.00	-49.86	-2,064.18	2,064.14	3.00	-3.00	
7,100.00	1.47	268.62	6,750.86	-49.98	-2,069.37	2,069.32	3.00	-3.00	
7,149.15	0.00	0.00	6,800.00	-50.00	-2,070.00	2,069.96	3.00	-3.00	Start DLS 1.00 TFO 250.35
7,200.00	0.51	250.35	6,850.85	-50.08	-2,070.21	2,070.17	1.00	1.00	
7,249.15	1.00	250.35	6,900.00	-50.29	-2,070.82	2,070.79	1.00	1.00	TOP_GAS.MBL (TVD)
7,300.00	1.51	250.35	6,950.83	-50.67	-2,071.87	2,071.86	1.00	1.00	
7,400.00	2.51	250.35	7,050.77	-51.85	-2,075.17	2,075.21	1.00	1.00	
7,500.00	3.51	250.35	7,150.63	-53.61	-2,080.11	2,080.24	1.00	1.00	
7,600.00	4.51	250.35	7,250.39	-55.96	-2,086.70	2,086.93	1.00	1.00	
7,700.00	5.51	250.35	7,350.00	-58.90	-2,094.92	2,095.28	1.00	1.00	
7,713.59	5.64	250.35	7,363.53	-59.34	-2,096.16	2,096.55	1.00	1.00	Start 1535.92 hold at 7713.59 MD
7,800.00	5.64	250.35	7,449.52	-62.20	-2,104.17	2,104.68	0.00	0.00	
7,900.00	5.64	250.35	7,549.03	-65.50	-2,113.43	2,114.10	0.00	0.00	
8,000.00	5.64	250.35	7,648.55	-68.81	-2,122.69	2,123.51	0.00	0.00	
8,100.00	5.64	250.35	7,748.07	-72.12	-2,131.96	2,132.92	0.00	0.00	
8,200.00	5.64	250.35	7,847.58	-75.42	-2,141.22	2,142.34	0.00	0.00	
8,300.00	5.64	250.35	7,947.10	-78.73	-2,150.48	2,151.75	0.00	0.00	
8,400.00	5.64	250.35	8,046.61	-82.04	-2,159.74	2,161.17	0.00	0.00	
8,500.00	5.64	250.35	8,146.13	-85.34	-2,169.01	2,170.58	0.00	0.00	
8,576.24	5.64	250.35	8,222.00	-87.87	-2,176.07	2,177.76	0.00	0.00	CAMEO.MBL (TVD)
8,600.00	5.64	250.35	8,245.64	-88.65	-2,178.27	2,179.99	0.00	0.00	
8,700.00	5.64	250.35	8,345.16	-91.96	-2,187.53	2,189.41	0.00	0.00	
8,800.00	5.64	250.35	8,444.67	-95.26	-2,196.80	2,198.82	0.00	0.00	
8,900.00	5.64	250.35	8,544.19	-98.57	-2,206.06	2,208.24	0.00	0.00	
9,000.00	5.64	250.35	8,643.70	-101.88	-2,215.32	2,217.65	0.00	0.00	
9,078.68	5.64	250.35	8,722.00	-104.48	-2,222.61	2,225.06	0.00	0.00	ROLLINS.MBL (TVD)
9,100.00	5.64	250.35	8,743.22	-105.18	-2,224.58	2,227.07	0.00	0.00	
9,200.00	5.64	250.35	8,842.73	-108.49	-2,233.85	2,236.48	0.00	0.00	
9,249.51	5.64	250.35	8,892.00	-110.13	-2,238.43	2,241.14	0.00	0.00	TD at 9249.51 - 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 15B-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 15B-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 15B-23 PBHL	0.00	0.00	8,892.00	-110.13	-2,238.43	14,357,335.00	2,431,623.00	39.502817	-108.195303
- plan hits target center									
- Ellipse (radii L200.00 W100.00 on 250.00 azi)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,297.70	5,973.00	OHIO_CREEK.MBL (TVD)				
6,482.71	6,147.00	WILLIAMS_FORK.MBL (TVD)				
7,249.15	6,900.00	TOP_GAS.MBL (TVD)				
8,576.24	8,222.00	CAMEO.MBL (TVD)				
9,078.68	8,722.00	ROLLINS.MBL (TVD)				
9,249.51	8,892.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
400.00	400.00	0.00	0.00	Start Build 3.00	
1,062.14	1,048.96	-2.74	-113.60	Start 5424.86 hold at 1062.14 MD	
6,487.01	6,151.04	-47.26	-1,956.40	Start Drop -3.00	
7,149.15	6,800.00	-50.00	-2,070.00	Start DLS 1.00 TFO 250.35	
7,713.59	7,363.53	-59.34	-2,096.16	Start 1535.92 hold at 7713.59 MD	
9,249.51	8,892.00	-110.13	-2,238.43	TD at 9249.51	