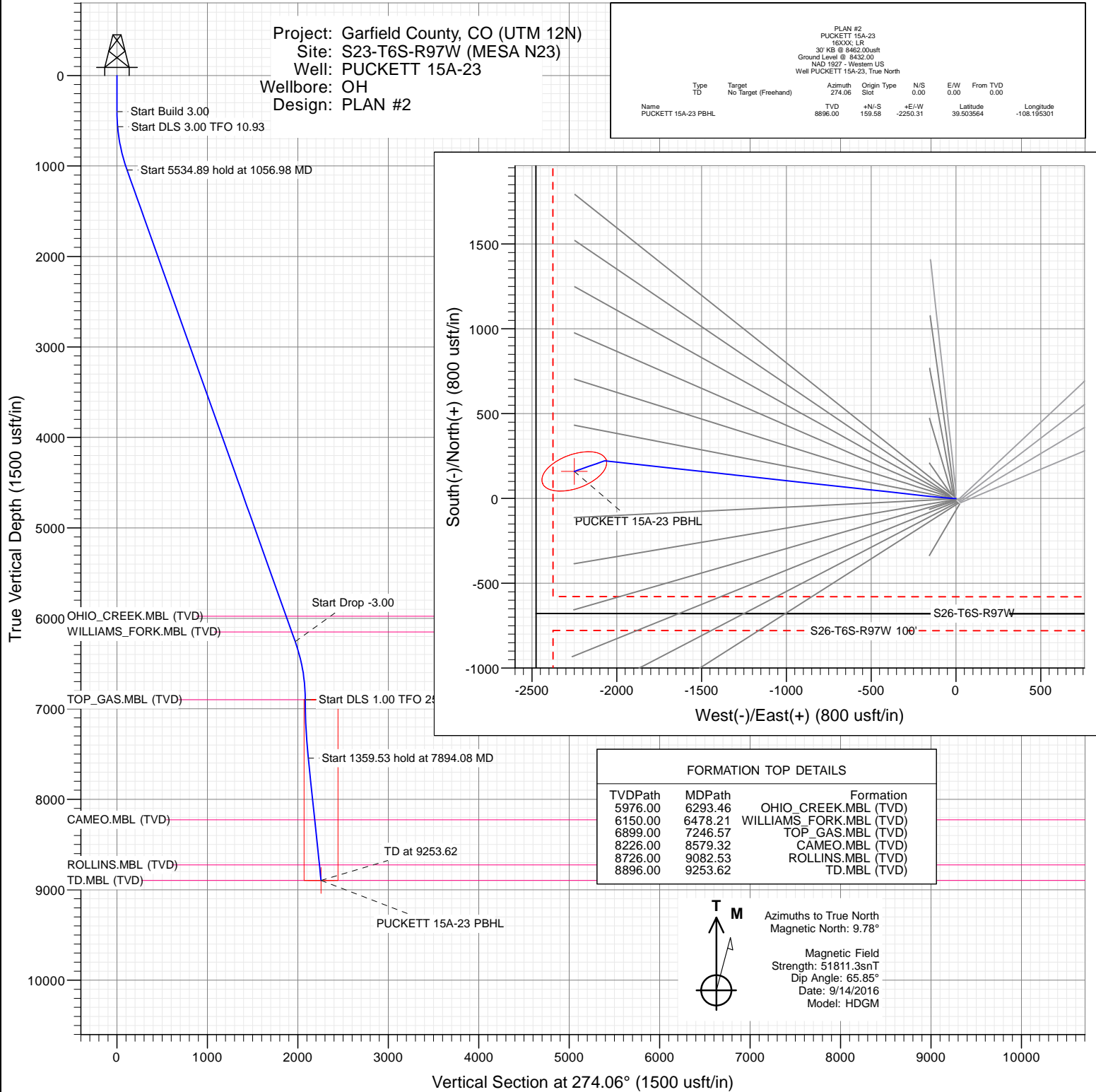




SECTION DETAILS

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	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	566.67	5.00	268.00	566.46	-0.25	-7.26	3.00	268.00	7.23	
4	1056.98	19.64	276.23	1044.20	7.99	-111.10	3.00	10.93	111.39	
5	6591.86	19.64	276.23	6257.05	209.94	-1960.53	0.00	0.00	1970.47	
6	7246.57	0.00	0.00	6899.00	222.00	-2071.00	3.00	180.00	2081.52	
7	7894.08	6.48	250.81	7545.14	209.98	-2105.52	1.00	250.81	2115.10	
8	9253.62	6.48	250.81	8896.00	159.58	-2250.31	0.00	0.00	2255.96	PUCKETT 15A-23 PBHL



WELL DETAILS: PUCKETT 15A-23

+N/-S	+E/-W	Northing	Ground Level:	8432.00	Latitude	Longitude
0.00	0.00	14357517.80	Easting	2433869.20	39.503126	-108.187329



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 15A-23
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8462.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8462.00usft
Site:	S23-T6S-R97W (MESA N23)	North Reference:	True
Well:	PUCKETT 15A-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #2		

Project	Garfield County, CO (UTM 12N)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

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

Well	PUCKETT 15A-23		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	39.503126
		Longitude:	-108.187329
		Ground Level:	8,432.00 usft

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

Design	PLAN #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	274.06

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(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	
566.67	5.00	268.00	566.46	-0.25	-7.26	3.00	3.00	0.00	268.00	
1,056.98	19.64	276.23	1,044.20	7.99	-111.10	3.00	2.99	1.68	10.93	
6,591.86	19.64	276.23	6,257.05	209.94	-1,960.53	0.00	0.00	0.00	0.00	
7,246.57	0.00	0.00	6,899.00	222.00	-2,071.00	3.00	-3.00	0.00	180.00	
7,894.08	6.48	250.81	7,545.14	209.98	-2,105.52	1.00	1.00	-16.86	250.81	
9,253.62	6.48	250.81	8,896.00	159.58	-2,250.31	0.00	0.00	0.00	0.00	PUCKETT 15A-23 PE

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 15A-23
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8462.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8462.00usft
Site:	S23-T6S-R97W (MESA N23)	North Reference:	True
Well:	PUCKETT 15A-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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	268.00	499.95	-0.09	-2.62	2.60	3.00	3.00	
566.67	5.00	268.00	566.46	-0.25	-7.26	7.23	3.00	3.00	Start DLS 3.00 TFO 10.93
600.00	5.98	269.82	599.64	-0.31	-10.45	10.40	3.00	2.95	
700.00	8.96	272.87	698.78	0.06	-23.45	23.39	3.00	2.97	
800.00	11.95	274.41	797.10	1.25	-41.55	41.53	3.00	2.99	
900.00	14.94	275.33	894.35	3.24	-64.71	64.77	3.00	2.99	
1,000.00	17.93	275.96	990.26	6.04	-92.86	93.05	3.00	2.99	
1,056.98	19.64	276.23	1,044.20	7.99	-111.10	111.39	3.00	3.00	Start 5534.89 hold at 1056.98 MD
1,100.00	19.64	276.23	1,084.72	9.56	-125.48	125.84	0.00	0.00	
1,200.00	19.64	276.23	1,178.90	13.21	-158.89	159.43	0.00	0.00	
1,300.00	19.64	276.23	1,273.08	16.86	-192.31	193.02	0.00	0.00	
1,400.00	19.64	276.23	1,367.26	20.51	-225.72	226.61	0.00	0.00	
1,500.00	19.64	276.23	1,461.44	24.16	-259.14	260.20	0.00	0.00	
1,600.00	19.64	276.23	1,555.62	27.80	-292.55	293.78	0.00	0.00	
1,700.00	19.64	276.23	1,649.81	31.45	-325.96	327.37	0.00	0.00	
1,800.00	19.64	276.23	1,743.99	35.10	-359.38	360.96	0.00	0.00	
1,900.00	19.64	276.23	1,838.17	38.75	-392.79	394.55	0.00	0.00	
2,000.00	19.64	276.23	1,932.35	42.40	-426.21	428.14	0.00	0.00	
2,100.00	19.64	276.23	2,026.53	46.05	-459.62	461.73	0.00	0.00	
2,200.00	19.64	276.23	2,120.71	49.70	-493.03	495.31	0.00	0.00	
2,300.00	19.64	276.23	2,214.90	53.34	-526.45	528.90	0.00	0.00	
2,400.00	19.64	276.23	2,309.08	56.99	-559.86	562.49	0.00	0.00	
2,500.00	19.64	276.23	2,403.26	60.64	-593.28	596.08	0.00	0.00	
2,600.00	19.64	276.23	2,497.44	64.29	-626.69	629.67	0.00	0.00	
2,700.00	19.64	276.23	2,591.62	67.94	-660.10	663.26	0.00	0.00	
2,800.00	19.64	276.23	2,685.80	71.59	-693.52	696.85	0.00	0.00	
2,900.00	19.64	276.23	2,779.99	75.24	-726.93	730.43	0.00	0.00	
3,000.00	19.64	276.23	2,874.17	78.88	-760.35	764.02	0.00	0.00	
3,100.00	19.64	276.23	2,968.35	82.53	-793.76	797.61	0.00	0.00	
3,200.00	19.64	276.23	3,062.53	86.18	-827.18	831.20	0.00	0.00	
3,300.00	19.64	276.23	3,156.71	89.83	-860.59	864.79	0.00	0.00	
3,400.00	19.64	276.23	3,250.89	93.48	-894.00	898.38	0.00	0.00	
3,500.00	19.64	276.23	3,345.08	97.13	-927.42	931.96	0.00	0.00	
3,600.00	19.64	276.23	3,439.26	100.78	-960.83	965.55	0.00	0.00	
3,700.00	19.64	276.23	3,533.44	104.42	-994.25	999.14	0.00	0.00	
3,800.00	19.64	276.23	3,627.62	108.07	-1,027.66	1,032.73	0.00	0.00	
3,900.00	19.64	276.23	3,721.80	111.72	-1,061.07	1,066.32	0.00	0.00	
4,000.00	19.64	276.23	3,815.98	115.37	-1,094.49	1,099.91	0.00	0.00	
4,100.00	19.64	276.23	3,910.17	119.02	-1,127.90	1,133.50	0.00	0.00	
4,200.00	19.64	276.23	4,004.35	122.67	-1,161.32	1,167.08	0.00	0.00	
4,300.00	19.64	276.23	4,098.53	126.32	-1,194.73	1,200.67	0.00	0.00	
4,400.00	19.64	276.23	4,192.71	129.97	-1,228.14	1,234.26	0.00	0.00	
4,500.00	19.64	276.23	4,286.89	133.61	-1,261.56	1,267.85	0.00	0.00	
4,600.00	19.64	276.23	4,381.07	137.26	-1,294.97	1,301.44	0.00	0.00	
4,700.00	19.64	276.23	4,475.26	140.91	-1,328.39	1,335.03	0.00	0.00	
4,800.00	19.64	276.23	4,569.44	144.56	-1,361.80	1,368.61	0.00	0.00	
4,900.00	19.64	276.23	4,663.62	148.21	-1,395.21	1,402.20	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 15A-23
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8462.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8462.00usft
Site:	S23-T6S-R97W (MESA N23)	North Reference:	True
Well:	PUCKETT 15A-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
5,000.00	19.64	276.23	4,757.80	151.86	-1,428.63	1,435.79	0.00	0.00	
5,100.00	19.64	276.23	4,851.98	155.51	-1,462.04	1,469.38	0.00	0.00	
5,200.00	19.64	276.23	4,946.16	159.15	-1,495.46	1,502.97	0.00	0.00	
5,300.00	19.64	276.23	5,040.35	162.80	-1,528.87	1,536.56	0.00	0.00	
5,400.00	19.64	276.23	5,134.53	166.45	-1,562.28	1,570.15	0.00	0.00	
5,500.00	19.64	276.23	5,228.71	170.10	-1,595.70	1,603.73	0.00	0.00	
5,600.00	19.64	276.23	5,322.89	173.75	-1,629.11	1,637.32	0.00	0.00	
5,700.00	19.64	276.23	5,417.07	177.40	-1,662.53	1,670.91	0.00	0.00	
5,800.00	19.64	276.23	5,511.25	181.05	-1,695.94	1,704.50	0.00	0.00	
5,900.00	19.64	276.23	5,605.44	184.69	-1,729.35	1,738.09	0.00	0.00	
6,000.00	19.64	276.23	5,699.62	188.34	-1,762.77	1,771.68	0.00	0.00	
6,100.00	19.64	276.23	5,793.80	191.99	-1,796.18	1,805.26	0.00	0.00	
6,200.00	19.64	276.23	5,887.98	195.64	-1,829.60	1,838.85	0.00	0.00	
6,293.46	19.64	276.23	5,976.00	199.05	-1,860.82	1,870.24	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,300.00	19.64	276.23	5,982.16	199.29	-1,863.01	1,872.44	0.00	0.00	
6,400.00	19.64	276.23	6,076.34	202.94	-1,896.43	1,906.03	0.00	0.00	
6,478.21	19.64	276.23	6,150.00	205.79	-1,922.56	1,932.30	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,500.00	19.64	276.23	6,170.53	206.59	-1,929.84	1,939.62	0.00	0.00	
6,591.86	19.64	276.23	6,257.05	209.94	-1,960.53	1,970.47	0.00	0.00	Start Drop -3.00
6,600.00	19.40	276.23	6,264.71	210.23	-1,963.24	1,973.19	3.00	-3.00	
6,700.00	16.40	276.23	6,359.86	213.57	-1,993.78	2,003.90	3.00	-3.00	
6,800.00	13.40	276.23	6,456.49	216.36	-2,019.34	2,029.58	3.00	-3.00	
6,900.00	10.40	276.23	6,554.33	218.60	-2,039.83	2,050.18	3.00	-3.00	
7,000.00	7.40	276.23	6,653.12	220.27	-2,055.20	2,065.63	3.00	-3.00	
7,100.00	4.40	276.23	6,752.58	221.39	-2,065.41	2,075.90	3.00	-3.00	
7,200.00	1.40	276.23	6,852.44	221.94	-2,070.44	2,080.95	3.00	-3.00	
7,246.57	0.00	0.00	6,899.00	222.00	-2,071.00	2,081.52	3.00	-3.00	Start DLS 1.00 TFO 250.81 - TOP_GAS.MBL (1
7,300.00	0.53	250.81	6,952.43	221.92	-2,071.24	2,081.74	1.00	1.00	
7,400.00	1.53	250.81	7,052.41	221.32	-2,072.94	2,083.40	1.00	1.00	
7,500.00	2.53	250.81	7,152.35	220.16	-2,076.29	2,086.66	1.00	1.00	
7,600.00	3.53	250.81	7,252.21	218.42	-2,081.29	2,091.53	1.00	1.00	
7,700.00	4.53	250.81	7,351.96	216.10	-2,087.94	2,097.99	1.00	1.00	
7,800.00	5.53	250.81	7,451.57	213.22	-2,096.22	2,106.05	1.00	1.00	
7,894.08	6.48	250.81	7,545.14	209.98	-2,105.52	2,115.10	1.00	1.00	Start 1359.53 hold at 7894.08 MD
7,900.00	6.48	250.81	7,551.02	209.76	-2,106.15	2,115.71	0.00	0.00	
8,000.00	6.48	250.81	7,650.38	206.06	-2,116.80	2,126.07	0.00	0.00	
8,100.00	6.48	250.81	7,749.74	202.35	-2,127.45	2,136.43	0.00	0.00	
8,200.00	6.48	250.81	7,849.10	198.64	-2,138.10	2,146.79	0.00	0.00	
8,300.00	6.48	250.81	7,948.47	194.93	-2,148.75	2,157.16	0.00	0.00	
8,400.00	6.48	250.81	8,047.83	191.23	-2,159.40	2,167.52	0.00	0.00	
8,500.00	6.48	250.81	8,147.19	187.52	-2,170.05	2,177.88	0.00	0.00	
8,579.32	6.48	250.81	8,226.00	184.58	-2,178.50	2,186.10	0.00	0.00	CAMEO.MBL (TVD)
8,600.00	6.48	250.81	8,246.55	183.81	-2,180.70	2,188.24	0.00	0.00	
8,700.00	6.48	250.81	8,345.91	180.10	-2,191.35	2,198.60	0.00	0.00	
8,800.00	6.48	250.81	8,445.28	176.39	-2,202.00	2,208.96	0.00	0.00	
8,900.00	6.48	250.81	8,544.64	172.69	-2,212.65	2,219.32	0.00	0.00	
9,000.00	6.48	250.81	8,644.00	168.98	-2,223.30	2,229.69	0.00	0.00	
9,082.53	6.48	250.81	8,726.00	165.92	-2,232.09	2,238.24	0.00	0.00	ROLLINS.MBL (TVD)
9,100.00	6.48	250.81	8,743.36	165.27	-2,233.95	2,240.05	0.00	0.00	
9,200.00	6.48	250.81	8,842.73	161.56	-2,244.60	2,250.41	0.00	0.00	
9,253.62	6.48	250.81	8,896.00	159.58	-2,250.31	2,255.96	0.00	0.00	TD at 9253.62 - TD.MBL (TVD)

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 15A-23
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8462.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8462.00usft
Site:	S23-T6S-R97W (MESA N23)	North Reference:	True
Well:	PUCKETT 15A-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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 15A-23 PBHL	0.00	0.00	8,896.00	159.58	-2,250.31	14,357,607.00	2,431,615.00	39.503564	-108.195301
- 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)			(°)	(°)	
6,293.46	5,976.00	OHIO_CREEK.MBL (TVD)				
6,478.21	6,150.00	WILLIAMS_FORK.MBL (TVD)				
7,246.57	6,899.00	TOP_GAS.MBL (TVD)				
8,579.32	8,226.00	CAMEO.MBL (TVD)				
9,082.53	8,726.00	ROLLINS.MBL (TVD)				
9,253.62	8,896.00	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	
566.67	566.46	-0.25	-7.26	Start DLS 3.00 TFO 10.93	
1,056.98	1,044.20	7.99	-111.10	Start 5534.89 hold at 1056.98 MD	
6,591.86	6,257.05	209.94	-1,960.53	Start Drop -3.00	
7,246.57	6,899.00	222.00	-2,071.00	Start DLS 1.00 TFO 250.81	
7,894.08	7,545.14	209.98	-2,105.52	Start 1359.53 hold at 7894.08 MD	
9,253.62	8,896.00	159.58	-2,250.31	TD at 9253.62	