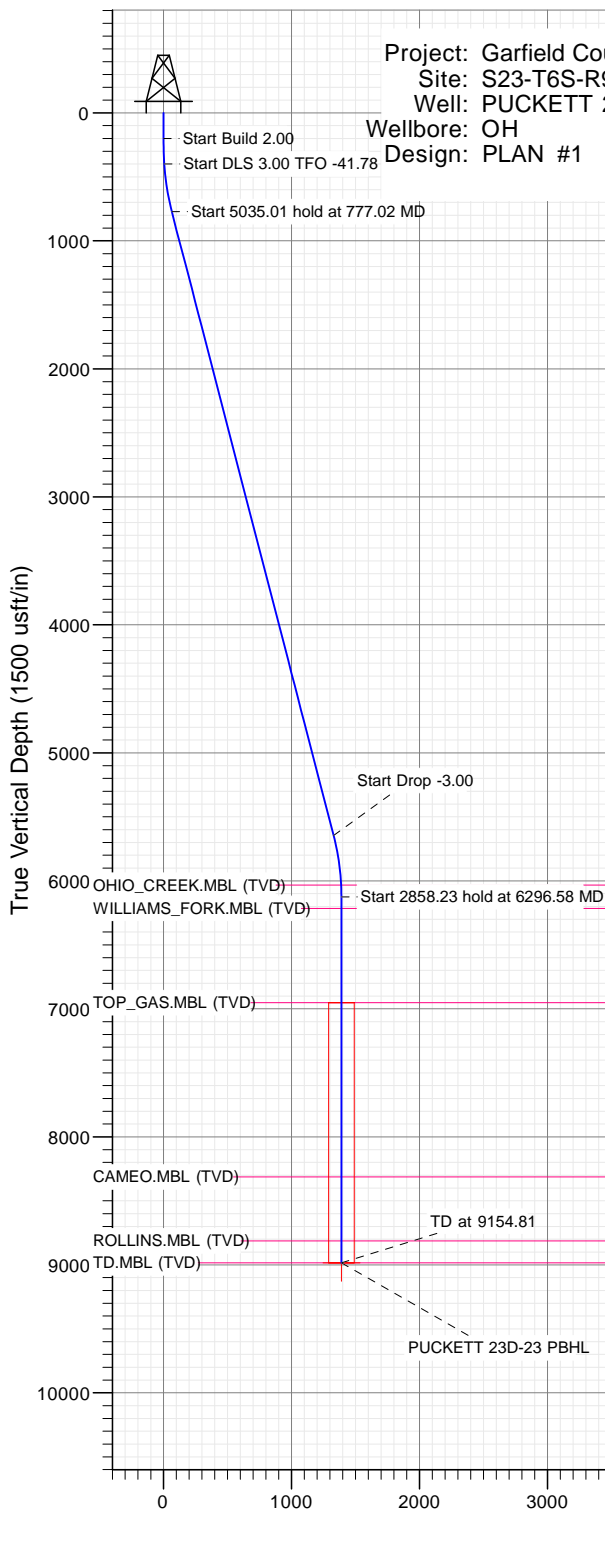




## SECTION DETAILS

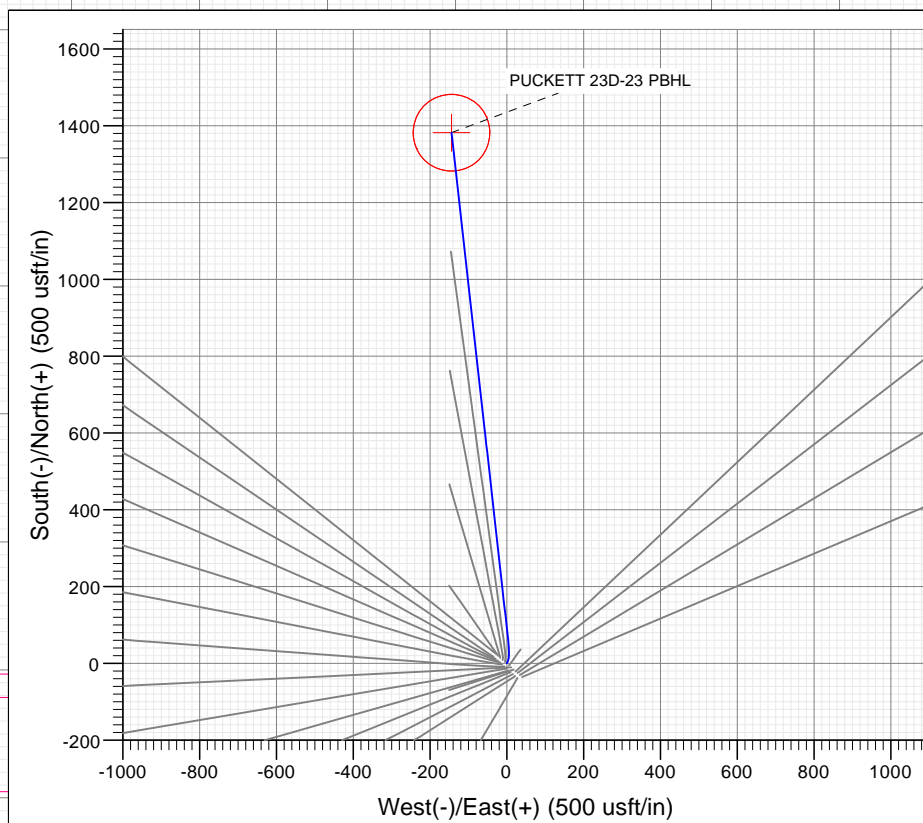
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	400.00	4.00	25.00	399.84	6.32	2.95	2.00	25.00	5.99	
4	777.02	14.54	353.62	771.57	65.46	3.25	3.00	-41.78	64.77	
5	5812.03	14.54	353.62	5645.40	1321.41	-137.10	0.00	0.00	1328.50	
6	6296.58	0.00	0.00	6124.77	1382.17	-143.89	3.00	180.00	1389.64	
7	9154.81	0.00	0.00	8983.00	1382.17	-143.89	0.00	0.00	1389.64	PUCKETT 23D-23 PBHL



Type	Target	Target	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD
Name	TD	TD	TD	TD	TD	TD	TD	TD
PUCKETT 23D-23 PBHL	TD	TD	TD	354.06	TD	TD	TD	TD

PLAN #1  
PUCKETT 23D-23  
16XXX-LR  
30' KB @ 8462.00usft  
Ground Level @ 8432.00  
NAD 1927 - Western US  
Well PUCKETT 23D-23, True North

Latitude 39.503141  
Longitude -108.187351



TVDP	MD	Formation
6033.00	6204.78	OHIO_CREEK.MBL (TVD)
6214.00	6385.81	WILLIAMS_FORK.MBL (TVD)
6951.00	7122.81	TOP_GAS.MBL (TVD)
8313.00	8484.81	CAMEO.MBL (TVD)
8813.00	8984.81	ROLLINS.MBL (TVD)
8983.00	9154.81	TD.MBL (TVD)



Azimuths to True North  
Magnetic North: 9.77°

Magnetic Field  
Strength: 51800.0snT  
Dip Angle: 65.85°  
Date: 9/14/2016  
Model: HDGM

## WELL DETAILS: PUCKETT 23D-23

+N/-S	+E/-W	Northing	Ground Level:	8432.00	Latitude	Longitude
0.00	0.00	14357523.00	Easting	2433863.00	39.503141	-108.187351

CATHEDRAL



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 23D-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 23D-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 23D-23					
Well Position	+N/-S	0.00 usft	Northing:	14,357,523.00 usft	Latitude:	39.503141
	+E/-W	0.00 usft	Easting:	2,433,863.00 usft	Longitude:	-108.187351
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	354.06

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
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	
400.00	4.00	25.00	399.84	6.32	2.95	2.00	2.00	0.00	25.00	
777.02	14.54	353.62	771.57	65.46	3.25	3.00	2.79	-8.32	-41.78	
5,812.03	14.54	353.62	5,645.40	1,321.41	-137.10	0.00	0.00	0.00	0.00	
6,296.58	0.00	0.00	6,124.77	1,382.17	-143.89	3.00	-3.00	0.00	180.00	
9,154.81	0.00	0.00	8,983.00	1,382.17	-143.89	0.00	0.00	0.00	0.00	PUCKETT 23D-23 PE

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 23D-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 23D-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	Start Build 2.00
300.00	2.00	25.00	299.98	1.58	0.74	1.50	2.00	2.00	
400.00	4.00	25.00	399.84	6.32	2.95	5.99	2.00	2.00	Start DLS 3.00 TFO -41.78
500.00	6.55	7.20	499.41	15.15	5.14	14.53	3.00	2.55	
600.00	9.37	359.67	598.44	28.95	5.81	28.19	3.00	2.82	
700.00	12.27	355.64	696.65	47.69	4.95	46.92	3.00	2.90	
777.02	14.54	353.62	771.57	65.46	3.25	64.77	3.00	2.94	Start 5035.01 hold at 777.02 MD
800.00	14.54	353.62	793.82	71.19	2.61	70.54	0.00	0.00	
900.00	14.54	353.62	890.61	96.13	-0.18	95.64	0.00	0.00	
1,000.00	14.54	353.62	987.41	121.08	-2.96	120.73	0.00	0.00	
1,100.00	14.54	353.62	1,084.21	146.02	-5.75	145.83	0.00	0.00	
1,200.00	14.54	353.62	1,181.01	170.97	-8.54	170.93	0.00	0.00	
1,300.00	14.54	353.62	1,277.81	195.91	-11.33	196.03	0.00	0.00	
1,400.00	14.54	353.62	1,374.61	220.86	-14.11	221.13	0.00	0.00	
1,500.00	14.54	353.62	1,471.41	245.80	-16.90	246.23	0.00	0.00	
1,600.00	14.54	353.62	1,568.21	270.74	-19.69	271.33	0.00	0.00	
1,700.00	14.54	353.62	1,665.01	295.69	-22.48	296.43	0.00	0.00	
1,800.00	14.54	353.62	1,761.80	320.63	-25.26	321.53	0.00	0.00	
1,900.00	14.54	353.62	1,858.60	345.58	-28.05	346.62	0.00	0.00	
2,000.00	14.54	353.62	1,955.40	370.52	-30.84	371.72	0.00	0.00	
2,100.00	14.54	353.62	2,052.20	395.47	-33.63	396.82	0.00	0.00	
2,200.00	14.54	353.62	2,149.00	420.41	-36.41	421.92	0.00	0.00	
2,300.00	14.54	353.62	2,245.80	445.36	-39.20	447.02	0.00	0.00	
2,400.00	14.54	353.62	2,342.60	470.30	-41.99	472.12	0.00	0.00	
2,500.00	14.54	353.62	2,439.40	495.24	-44.78	497.22	0.00	0.00	
2,600.00	14.54	353.62	2,536.19	520.19	-47.56	522.32	0.00	0.00	
2,700.00	14.54	353.62	2,632.99	545.13	-50.35	547.42	0.00	0.00	
2,800.00	14.54	353.62	2,729.79	570.08	-53.14	572.52	0.00	0.00	
2,900.00	14.54	353.62	2,826.59	595.02	-55.93	597.61	0.00	0.00	
3,000.00	14.54	353.62	2,923.39	619.97	-58.71	622.71	0.00	0.00	
3,100.00	14.54	353.62	3,020.19	644.91	-61.50	647.81	0.00	0.00	
3,200.00	14.54	353.62	3,116.99	669.85	-64.29	672.91	0.00	0.00	
3,300.00	14.54	353.62	3,213.79	694.80	-67.08	698.01	0.00	0.00	
3,400.00	14.54	353.62	3,310.58	719.74	-69.87	723.11	0.00	0.00	
3,500.00	14.54	353.62	3,407.38	744.69	-72.65	748.21	0.00	0.00	
3,600.00	14.54	353.62	3,504.18	769.63	-75.44	773.31	0.00	0.00	
3,700.00	14.54	353.62	3,600.98	794.58	-78.23	798.41	0.00	0.00	
3,800.00	14.54	353.62	3,697.78	819.52	-81.02	823.50	0.00	0.00	
3,900.00	14.54	353.62	3,794.58	844.47	-83.80	848.60	0.00	0.00	
4,000.00	14.54	353.62	3,891.38	869.41	-86.59	873.70	0.00	0.00	
4,100.00	14.54	353.62	3,988.18	894.35	-89.38	898.80	0.00	0.00	
4,200.00	14.54	353.62	4,084.98	919.30	-92.17	923.90	0.00	0.00	
4,300.00	14.54	353.62	4,181.77	944.24	-94.95	949.00	0.00	0.00	
4,400.00	14.54	353.62	4,278.57	969.19	-97.74	974.10	0.00	0.00	
4,500.00	14.54	353.62	4,375.37	994.13	-100.53	999.20	0.00	0.00	
4,600.00	14.54	353.62	4,472.17	1,019.08	-103.32	1,024.30	0.00	0.00	
4,700.00	14.54	353.62	4,568.97	1,044.02	-106.10	1,049.39	0.00	0.00	
4,800.00	14.54	353.62	4,665.77	1,068.96	-108.89	1,074.49	0.00	0.00	
4,900.00	14.54	353.62	4,762.57	1,093.91	-111.68	1,099.59	0.00	0.00	
5,000.00	14.54	353.62	4,859.37	1,118.85	-114.47	1,124.69	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 23D-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 23D-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
5,100.00	14.54	353.62	4,956.16	1,143.80	-117.25	1,149.79	0.00	0.00	
5,200.00	14.54	353.62	5,052.96	1,168.74	-120.04	1,174.89	0.00	0.00	
5,300.00	14.54	353.62	5,149.76	1,193.69	-122.83	1,199.99	0.00	0.00	
5,400.00	14.54	353.62	5,246.56	1,218.63	-125.62	1,225.09	0.00	0.00	
5,500.00	14.54	353.62	5,343.36	1,243.58	-128.40	1,250.19	0.00	0.00	
5,600.00	14.54	353.62	5,440.16	1,268.52	-131.19	1,275.29	0.00	0.00	
5,700.00	14.54	353.62	5,536.96	1,293.46	-133.98	1,300.38	0.00	0.00	
5,800.00	14.54	353.62	5,633.76	1,318.41	-136.77	1,325.48	0.00	0.00	
5,812.03	14.54	353.62	5,645.40	1,321.41	-137.10	1,328.50	0.00	0.00	Start Drop -3.00
5,900.00	11.90	353.62	5,731.03	1,341.40	-139.34	1,348.61	3.00	-3.00	
6,000.00	8.90	353.62	5,829.38	1,359.33	-141.34	1,366.66	3.00	-3.00	
6,100.00	5.90	353.62	5,928.54	1,372.12	-142.77	1,379.53	3.00	-3.00	
6,200.00	2.90	353.62	6,028.23	1,379.74	-143.62	1,387.20	3.00	-3.00	
6,204.78	2.75	353.62	6,033.00	1,379.98	-143.65	1,387.43	3.00	-3.00	OHIO_CREEK.MBL (TVD)
6,296.58	0.00	0.00	6,124.77	1,382.17	-143.89	1,389.64	3.00	-3.00	Start 2858.23 hold at 6296.58 MD
6,300.00	0.00	0.00	6,128.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,385.81	0.00	0.00	6,214.00	1,382.17	-143.89	1,389.64	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,400.00	0.00	0.00	6,228.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,500.00	0.00	0.00	6,328.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,600.00	0.00	0.00	6,428.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,700.00	0.00	0.00	6,528.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,800.00	0.00	0.00	6,628.19	1,382.17	-143.89	1,389.64	0.00	0.00	
6,900.00	0.00	0.00	6,728.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,000.00	0.00	0.00	6,828.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,100.00	0.00	0.00	6,928.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,122.81	0.00	0.00	6,951.00	1,382.17	-143.89	1,389.64	0.00	0.00	TOP_GAS.MBL (TVD)
7,200.00	0.00	0.00	7,028.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,300.00	0.00	0.00	7,128.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,400.00	0.00	0.00	7,228.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,500.00	0.00	0.00	7,328.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,600.00	0.00	0.00	7,428.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,700.00	0.00	0.00	7,528.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,800.00	0.00	0.00	7,628.19	1,382.17	-143.89	1,389.64	0.00	0.00	
7,900.00	0.00	0.00	7,728.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,000.00	0.00	0.00	7,828.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,100.00	0.00	0.00	7,928.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,200.00	0.00	0.00	8,028.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,300.00	0.00	0.00	8,128.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,400.00	0.00	0.00	8,228.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,484.81	0.00	0.00	8,313.00	1,382.17	-143.89	1,389.64	0.00	0.00	CAMEO.MBL (TVD)
8,500.00	0.00	0.00	8,328.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,600.00	0.00	0.00	8,428.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,700.00	0.00	0.00	8,528.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,800.00	0.00	0.00	8,628.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,900.00	0.00	0.00	8,728.19	1,382.17	-143.89	1,389.64	0.00	0.00	
8,984.81	0.00	0.00	8,813.00	1,382.17	-143.89	1,389.64	0.00	0.00	ROLLINS.MBL (TVD)
9,000.00	0.00	0.00	8,828.19	1,382.17	-143.89	1,389.64	0.00	0.00	
9,100.00	0.00	0.00	8,928.19	1,382.17	-143.89	1,389.64	0.00	0.00	
9,154.81	0.00	0.00	8,983.00	1,382.17	-143.89	1,389.64	0.00	0.00	TD at 9154.81 - 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 23D-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 23D-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 23D-23 PBHI	0.00	0.00	8,983.00	1,382.17	-143.89	14,358,900.00	2,433,676.00	39.506934	-108.187861
- plan hits target center									
- Circle (radius 100.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,204.78	6,033.00	OHIO_CREEK.MBL (TVD)				
6,385.81	6,214.00	WILLIAMS_FORK.MBL (TVD)				
7,122.81	6,951.00	TOP_GAS.MBL (TVD)				
8,484.81	8,313.00	CAMEO.MBL (TVD)				
8,984.81	8,813.00	ROLLINS.MBL (TVD)				
9,154.81	8,983.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
200.00	200.00	0.00	0.00	Start Build 2.00	
400.00	399.84	6.32	2.95	Start DLS 3.00 TFO -41.78	
777.02	771.57	65.46	3.25	Start 5035.01 hold at 777.02 MD	
5,812.03	5,645.40	1,321.41	-137.10	Start Drop -3.00	
6,296.58	6,124.77	1,382.17	-143.89	Start 2858.23 hold at 6296.58 MD	
9,154.81	8,983.00	1,382.17	-143.89	TD at 9154.81	