



SECTION DETAILS

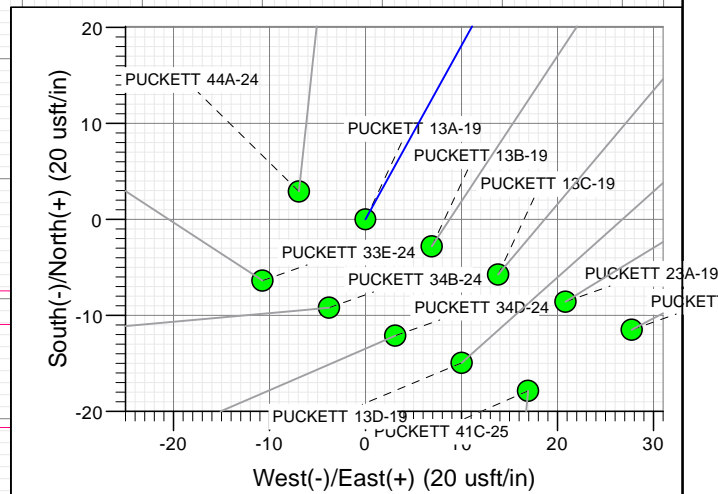
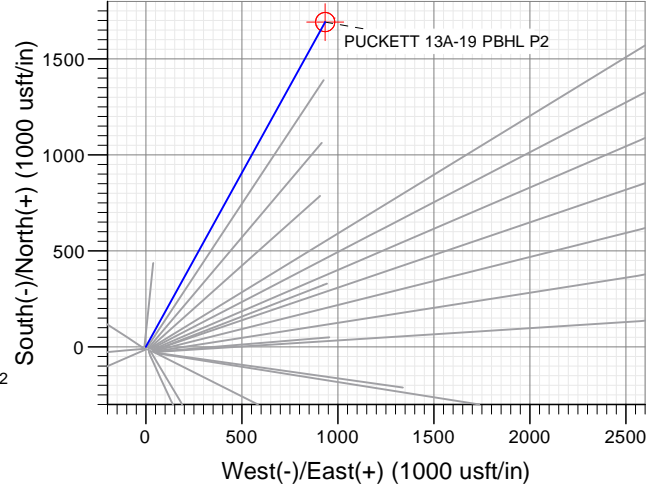
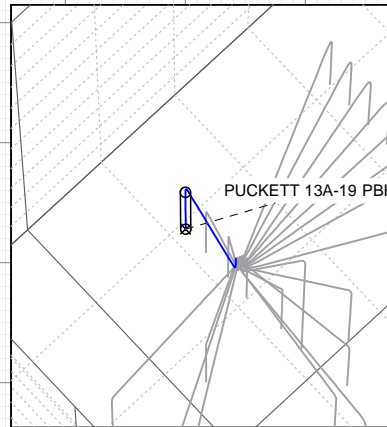
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	877.96	17.34	28.91	869.18	75.97	41.96	3.00	28.91	86.79	
4	6780.83	17.34	28.91	6503.82	1615.91	892.46	0.00	0.001845	98	
5	7358.80	0.00	0.00	7073.00	1691.88	934.42	3.00	180.001932	77	
6	9428.80	0.00	0.00	9143.00	1691.88	934.42	0.00	0.001932	77	PUCKETT 13A-19 PBHL P2

Project: Garfield County, CO (UTM 1
Site: S24-T6N-R97W (MESA P24
Well: PUCKETT 13A-19
Wellbore: OH
Design: PLAN #2

PLAN #2 PUCKETT 13A-19 16X00 LR 30' KB @ 8151.00ft Ground Level @ 8151.00 NAD 1927 - Western US Well PUCKETT 13A-19 - Slot A10, True North									
Type	TD	Target	No Target (Freehand)	Azimuth	Origin Type	N/S	E/W	From TVD	
Name				TVD	+N/-S	+E/-W	Latitude	Longitude	
PUCKETT 13A-19 PBHL				9143.00	1577.67	1320.00	39.507345	-108.156507	
PUCKETT 13A-19 PBHL P2				9143.00	1691.88	934.42	39.507658	-108.157873	

FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
5935.00	6184.94	OHIO_CREEK.MBL (TVD)
6214.00	6477.22	WILLIAMS_FORK.MBL (TVD)
7073.00	7358.80	TOP_GAS.MBL (TVD)
8743.00	9028.80	CAMEO.MBL (TVD)
8993.00	9278.80	ROLLINS.MBL (TVD)
9143.00	9428.80	TD.MBL (TVD)



Azimuths to True North
Magnetic North: 9.80°

Magnetic Field
Strength: 51880.0snT
Dip Angle: 65.87°
Date: 2/16/2016
Model: HDGM

Vertical Section at 28.91° (1600 usft/in)

WELL DETAILS: PUCKETT 13A-19

+N/-S	+E/-W	Northing	Ground Level:	8151.00	Latitude	Longitude
0.00	0.00	14357709.00	Easting	2441247.40	39.503015	-108.161183

A10



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 13A-19 - Slot A10
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	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	S24-T6N-R97W (MESA P24)		
Site Position:		Northing:	14,357,707.60 usft
From:	Map	Easting:	2,441,222.80 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	39.503013
		Longitude:	-108.161271
		Grid Convergence:	1.81 °

Well	PUCKETT 13A-19 - Slot A10					
Well Position	+N/-S	0.00 usft	Northing:	14,357,709.00 usft	Latitude:	39.503015
	+E/-W	0.00 usft	Easting:	2,441,247.40 usft	Longitude:	-108.161183
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,151.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/16/2016	9.80	65.87	51,880.00000000

Design	PLAN #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	28.91	

Plan Sections										
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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
877.96	17.34	28.91	869.18	75.97	41.96	3.00	3.00	0.00	28.91	
6,780.83	17.34	28.91	6,503.82	1,615.91	892.46	0.00	0.00	0.00	0.00	
7,358.80	0.00	0.00	7,073.00	1,691.88	934.42	3.00	-3.00	0.00	180.00	
9,428.80	0.00	0.00	9,143.00	1,691.88	934.42	0.00	0.00	0.00	0.00	PUCKETT 13A-19 PE

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 13A-19 - Slot A10
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	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	Start Build 3.00
400.00	3.00	28.91	399.95	2.29	1.27	2.62	3.00	3.00	
500.00	6.00	28.91	499.63	9.16	5.06	10.46	3.00	3.00	
600.00	9.00	28.91	598.77	20.58	11.37	23.51	3.00	3.00	
700.00	12.00	28.91	697.08	36.53	20.18	41.74	3.00	3.00	
800.00	15.00	28.91	794.31	56.97	31.46	65.08	3.00	3.00	
877.96	17.34	28.91	869.18	75.97	41.96	86.79	3.00	3.00	Start 5902.87 hold at 877.96 MD
900.00	17.34	28.91	890.22	81.72	45.13	93.35	0.00	0.00	
1,000.00	17.34	28.91	985.67	107.81	59.54	123.16	0.00	0.00	
1,100.00	17.34	28.91	1,081.13	133.89	73.95	152.96	0.00	0.00	
1,200.00	17.34	28.91	1,176.58	159.98	88.36	182.76	0.00	0.00	
1,300.00	17.34	28.91	1,272.04	186.07	102.77	212.56	0.00	0.00	
1,400.00	17.34	28.91	1,367.50	212.16	117.17	242.37	0.00	0.00	
1,500.00	17.34	28.91	1,462.95	238.25	131.58	272.17	0.00	0.00	
1,600.00	17.34	28.91	1,558.41	264.33	145.99	301.97	0.00	0.00	
1,700.00	17.34	28.91	1,653.86	290.42	160.40	331.77	0.00	0.00	
1,800.00	17.34	28.91	1,749.32	316.51	174.81	361.58	0.00	0.00	
1,900.00	17.34	28.91	1,844.78	342.60	189.22	391.38	0.00	0.00	
2,000.00	17.34	28.91	1,940.23	368.69	203.62	421.18	0.00	0.00	
2,100.00	17.34	28.91	2,035.69	394.77	218.03	450.98	0.00	0.00	
2,200.00	17.34	28.91	2,131.14	420.86	232.44	480.78	0.00	0.00	
2,300.00	17.34	28.91	2,226.60	446.95	246.85	510.59	0.00	0.00	
2,400.00	17.34	28.91	2,322.06	473.04	261.26	540.39	0.00	0.00	
2,500.00	17.34	28.91	2,417.51	499.13	275.67	570.19	0.00	0.00	
2,600.00	17.34	28.91	2,512.97	525.21	290.07	599.99	0.00	0.00	
2,700.00	17.34	28.91	2,608.42	551.30	304.48	629.80	0.00	0.00	
2,800.00	17.34	28.91	2,703.88	577.39	318.89	659.60	0.00	0.00	
2,900.00	17.34	28.91	2,799.33	603.48	333.30	689.40	0.00	0.00	
3,000.00	17.34	28.91	2,894.79	629.57	347.71	719.20	0.00	0.00	
3,100.00	17.34	28.91	2,990.25	655.65	362.12	749.01	0.00	0.00	
3,200.00	17.34	28.91	3,085.70	681.74	376.52	778.81	0.00	0.00	
3,300.00	17.34	28.91	3,181.16	707.83	390.93	808.61	0.00	0.00	
3,400.00	17.34	28.91	3,276.61	733.92	405.34	838.41	0.00	0.00	
3,500.00	17.34	28.91	3,372.07	760.01	419.75	868.22	0.00	0.00	
3,600.00	17.34	28.91	3,467.53	786.09	434.16	898.02	0.00	0.00	
3,700.00	17.34	28.91	3,562.98	812.18	448.57	927.82	0.00	0.00	
3,800.00	17.34	28.91	3,658.44	838.27	462.97	957.62	0.00	0.00	
3,900.00	17.34	28.91	3,753.89	864.36	477.38	987.43	0.00	0.00	
4,000.00	17.34	28.91	3,849.35	890.45	491.79	1,017.23	0.00	0.00	
4,100.00	17.34	28.91	3,944.80	916.53	506.20	1,047.03	0.00	0.00	
4,200.00	17.34	28.91	4,040.26	942.62	520.61	1,076.83	0.00	0.00	
4,300.00	17.34	28.91	4,135.72	968.71	535.02	1,106.63	0.00	0.00	
4,400.00	17.34	28.91	4,231.17	994.80	549.42	1,136.44	0.00	0.00	
4,500.00	17.34	28.91	4,326.63	1,020.89	563.83	1,166.24	0.00	0.00	
4,600.00	17.34	28.91	4,422.08	1,046.97	578.24	1,196.04	0.00	0.00	
4,700.00	17.34	28.91	4,517.54	1,073.06	592.65	1,225.84	0.00	0.00	
4,800.00	17.34	28.91	4,613.00	1,099.15	607.06	1,255.65	0.00	0.00	
4,900.00	17.34	28.91	4,708.45	1,125.24	621.46	1,285.45	0.00	0.00	
5,000.00	17.34	28.91	4,803.91	1,151.33	635.87	1,315.25	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 13A-19 - Slot A10
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	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
5,100.00	17.34	28.91	4,899.36	1,177.41	650.28	1,345.05	0.00	0.00	
5,200.00	17.34	28.91	4,994.82	1,203.50	664.69	1,374.86	0.00	0.00	
5,300.00	17.34	28.91	5,090.27	1,229.59	679.10	1,404.66	0.00	0.00	
5,400.00	17.34	28.91	5,185.73	1,255.68	693.51	1,434.46	0.00	0.00	
5,500.00	17.34	28.91	5,281.19	1,281.77	707.91	1,464.26	0.00	0.00	
5,600.00	17.34	28.91	5,376.64	1,307.85	722.32	1,494.07	0.00	0.00	
5,700.00	17.34	28.91	5,472.10	1,333.94	736.73	1,523.87	0.00	0.00	
5,800.00	17.34	28.91	5,567.55	1,360.03	751.14	1,553.67	0.00	0.00	
5,900.00	17.34	28.91	5,663.01	1,386.12	765.55	1,583.47	0.00	0.00	
6,000.00	17.34	28.91	5,758.47	1,412.21	779.96	1,613.27	0.00	0.00	
6,100.00	17.34	28.91	5,853.92	1,438.29	794.36	1,643.08	0.00	0.00	
6,184.94	17.34	28.91	5,935.00	1,460.45	806.60	1,668.39	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,200.00	17.34	28.91	5,949.38	1,464.38	808.77	1,672.88	0.00	0.00	
6,300.00	17.34	28.91	6,044.83	1,490.47	823.18	1,702.68	0.00	0.00	
6,400.00	17.34	28.91	6,140.29	1,516.56	837.59	1,732.48	0.00	0.00	
6,477.22	17.34	28.91	6,214.00	1,536.70	848.72	1,755.50	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,500.00	17.34	28.91	6,235.74	1,542.65	852.00	1,762.29	0.00	0.00	
6,600.00	17.34	28.91	6,331.20	1,568.73	866.41	1,792.09	0.00	0.00	
6,700.00	17.34	28.91	6,426.66	1,594.82	880.81	1,821.89	0.00	0.00	
6,780.83	17.34	28.91	6,503.82	1,615.91	892.46	1,845.98	0.00	0.00	Start Drop -3.00
6,800.00	16.76	28.91	6,522.14	1,620.83	895.18	1,851.60	3.00	-3.00	
6,900.00	13.76	28.91	6,618.60	1,643.87	907.90	1,877.93	3.00	-3.00	
7,000.00	10.76	28.91	6,716.31	1,662.46	918.17	1,899.16	3.00	-3.00	
7,100.00	7.76	28.91	6,814.99	1,676.55	925.95	1,915.26	3.00	-3.00	
7,200.00	4.76	28.91	6,914.38	1,686.10	931.23	1,926.17	3.00	-3.00	
7,300.00	1.76	28.91	7,014.21	1,691.09	933.98	1,931.86	3.00	-3.00	
7,358.80	0.00	0.00	7,073.00	1,691.88	934.42	1,932.77	3.00	-3.00	Start 2070.00 hold at 7358.80 MD - TOP_GAS.I
7,400.00	0.00	0.00	7,114.20	1,691.88	934.42	1,932.77	0.00	0.00	
7,500.00	0.00	0.00	7,214.20	1,691.88	934.42	1,932.77	0.00	0.00	
7,600.00	0.00	0.00	7,314.20	1,691.88	934.42	1,932.77	0.00	0.00	
7,700.00	0.00	0.00	7,414.20	1,691.88	934.42	1,932.77	0.00	0.00	
7,800.00	0.00	0.00	7,514.20	1,691.88	934.42	1,932.77	0.00	0.00	
7,900.00	0.00	0.00	7,614.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,000.00	0.00	0.00	7,714.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,100.00	0.00	0.00	7,814.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,200.00	0.00	0.00	7,914.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,300.00	0.00	0.00	8,014.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,400.00	0.00	0.00	8,114.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,500.00	0.00	0.00	8,214.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,600.00	0.00	0.00	8,314.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,700.00	0.00	0.00	8,414.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,800.00	0.00	0.00	8,514.20	1,691.88	934.42	1,932.77	0.00	0.00	
8,900.00	0.00	0.00	8,614.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,000.00	0.00	0.00	8,714.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,028.80	0.00	0.00	8,743.00	1,691.88	934.42	1,932.77	0.00	0.00	CAMEO.MBL (TVD)
9,100.00	0.00	0.00	8,814.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,200.00	0.00	0.00	8,914.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,278.80	0.00	0.00	8,993.00	1,691.88	934.42	1,932.77	0.00	0.00	ROLLINS.MBL (TVD)
9,300.00	0.00	0.00	9,014.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,400.00	0.00	0.00	9,114.20	1,691.88	934.42	1,932.77	0.00	0.00	
9,428.80	0.00	0.00	9,143.00	1,691.88	934.42	1,932.77	0.00	0.00	TD at 9428.80 - TD.MBL (TVD)

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 13A-19 - Slot A10
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.00usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	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 13A-19 PBHL	0.00	0.00	9,143.00	1,691.88	934.42	14,359,429.50	2,442,128.01	39.507658	-108.157873
- plan hits target center									
- Circle (radius 50.00)									
PUCKETT 13A-19 PBHL	0.00	0.00	9,143.00	1,577.67	1,320.00	14,359,327.50	2,442,517.00	39.507345	-108.156507
- plan misses target center by 402.14usft at 9428.80usft MD (9143.00 TVD, 1691.88 N, 934.42 E)									
- Circle (radius 50.00)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,184.94	5,935.00	OHIO_CREEK.MBL (TVD)				
6,477.22	6,214.00	WILLIAMS_FORK.MBL (TVD)				
7,358.80	7,073.00	TOP_GAS.MBL (TVD)				
9,028.80	8,743.00	CAMEO.MBL (TVD)				
9,278.80	8,993.00	ROLLINS.MBL (TVD)				
9,428.80	9,143.00	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
300.00	300.00	0.00	0.00	Start Build 3.00	
877.96	869.18	75.97	41.96	Start 5902.87 hold at 877.96 MD	
6,780.83	6,503.82	1,615.91	892.46	Start Drop -3.00	
7,358.80	7,073.00	1,691.88	934.42	Start 2070.00 hold at 7358.80 MD	
9,428.80	9,143.00	1,691.88	934.42	TD at 9428.80	