

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well PUCKETT 13A-19
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 8181.0usft
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 8181.0usft
Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

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	Latitude:	39.503013
From:	Map	Easting:	2,441,222.80 usft	Longitude:	-108.161271
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.81 °

Well	PUCKETT 13A-19					
Well Position	+N/-S	0.0 usft	Northing:	14,357,706.40 usft	Latitude:	39.503007
	+E/-W	0.0 usft	Easting:	2,441,254.40 usft	Longitude:	-108.161159
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,151.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	2/16/2016	9.80	65.87	51,868

Design	PLAN #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	39.72

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
915.7	18.47	39.72	905.0	75.7	62.9	3.00	3.00	0.00	39.72	
6,780.7	18.47	39.72	6,468.0	1,504.8	1,250.2	0.00	0.00	0.00	0.00	
7,396.3	0.00	0.00	7,073.0	1,580.5	1,313.1	3.00	-3.00	0.00	180.00	
9,466.3	0.00	0.00	9,143.0	1,580.5	1,313.1	0.00	0.00	0.00	0.00	PUCKETT 13A-19 PE

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Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	Start Build 3.00
400.0	3.00	39.72	400.0	2.0	1.7	2.6	3.00	3.00	
500.0	6.00	39.72	499.6	8.0	6.7	10.5	3.00	3.00	
600.0	9.00	39.72	598.8	18.1	15.0	23.5	3.00	3.00	
700.0	12.00	39.72	697.1	32.1	26.7	41.7	3.00	3.00	
800.0	15.00	39.72	794.3	50.1	41.6	65.1	3.00	3.00	
900.0	18.00	39.72	890.2	71.9	59.7	93.5	3.00	3.00	
915.7	18.47	39.72	905.0	75.7	62.9	98.4	3.00	3.00	Start 5865.0 hold at 915.7 MD
1,000.0	18.47	39.72	985.0	96.2	79.9	125.1	0.00	0.00	
1,100.0	18.47	39.72	1,079.9	120.6	100.2	156.8	0.00	0.00	
1,200.0	18.47	39.72	1,174.7	145.0	120.4	188.5	0.00	0.00	
1,300.0	18.47	39.72	1,269.6	169.3	140.7	220.1	0.00	0.00	
1,400.0	18.47	39.72	1,364.4	193.7	160.9	251.8	0.00	0.00	
1,500.0	18.47	39.72	1,459.3	218.1	181.2	283.5	0.00	0.00	
1,600.0	18.47	39.72	1,554.1	242.4	201.4	315.2	0.00	0.00	
1,700.0	18.47	39.72	1,649.0	266.8	221.7	346.9	0.00	0.00	
1,800.0	18.47	39.72	1,743.8	291.2	241.9	378.5	0.00	0.00	
1,900.0	18.47	39.72	1,838.7	315.5	262.1	410.2	0.00	0.00	
2,000.0	18.47	39.72	1,933.5	339.9	282.4	441.9	0.00	0.00	
2,100.0	18.47	39.72	2,028.4	364.3	302.6	473.6	0.00	0.00	
2,200.0	18.47	39.72	2,123.2	388.6	322.9	505.3	0.00	0.00	
2,300.0	18.47	39.72	2,218.1	413.0	343.1	536.9	0.00	0.00	
2,400.0	18.47	39.72	2,312.9	437.4	363.4	568.6	0.00	0.00	
2,500.0	18.47	39.72	2,407.8	461.7	383.6	600.3	0.00	0.00	
2,600.0	18.47	39.72	2,502.6	486.1	403.9	632.0	0.00	0.00	
2,700.0	18.47	39.72	2,597.5	510.5	424.1	663.7	0.00	0.00	
2,800.0	18.47	39.72	2,692.3	534.8	444.3	695.3	0.00	0.00	
2,900.0	18.47	39.72	2,787.2	559.2	464.6	727.0	0.00	0.00	
3,000.0	18.47	39.72	2,882.0	583.6	484.8	758.7	0.00	0.00	
3,100.0	18.47	39.72	2,976.9	607.9	505.1	790.4	0.00	0.00	
3,200.0	18.47	39.72	3,071.7	632.3	525.3	822.1	0.00	0.00	
3,300.0	18.47	39.72	3,166.6	656.7	545.6	853.7	0.00	0.00	
3,400.0	18.47	39.72	3,261.4	681.0	565.8	885.4	0.00	0.00	
3,500.0	18.47	39.72	3,356.3	705.4	586.1	917.1	0.00	0.00	
3,600.0	18.47	39.72	3,451.1	729.8	606.3	948.8	0.00	0.00	
3,700.0	18.47	39.72	3,546.0	754.1	626.5	980.5	0.00	0.00	
3,800.0	18.47	39.72	3,640.8	778.5	646.8	1,012.1	0.00	0.00	
3,900.0	18.47	39.72	3,735.7	802.9	667.0	1,043.8	0.00	0.00	
4,000.0	18.47	39.72	3,830.5	827.2	687.3	1,075.5	0.00	0.00	
4,100.0	18.47	39.72	3,925.4	851.6	707.5	1,107.2	0.00	0.00	
4,200.0	18.47	39.72	4,020.2	876.0	727.8	1,138.9	0.00	0.00	
4,300.0	18.47	39.72	4,115.1	900.3	748.0	1,170.5	0.00	0.00	
4,400.0	18.47	39.72	4,209.9	924.7	768.3	1,202.2	0.00	0.00	
4,500.0	18.47	39.72	4,304.8	949.1	788.5	1,233.9	0.00	0.00	
4,600.0	18.47	39.72	4,399.6	973.4	808.8	1,265.6	0.00	0.00	
4,700.0	18.47	39.72	4,494.5	997.8	829.0	1,297.3	0.00	0.00	
4,800.0	18.47	39.72	4,589.3	1,022.2	849.2	1,328.9	0.00	0.00	
4,900.0	18.47	39.72	4,684.2	1,046.6	869.5	1,360.6	0.00	0.00	
5,000.0	18.47	39.72	4,779.0	1,070.9	889.7	1,392.3	0.00	0.00	

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Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
Well:	PUCKETT 13A-19	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	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
5,100.0	18.47	39.72	4,873.9	1,095.3	910.0	1,424.0	0.00	0.00	
5,200.0	18.47	39.72	4,968.7	1,119.7	930.2	1,455.7	0.00	0.00	
5,300.0	18.47	39.72	5,063.6	1,144.0	950.5	1,487.3	0.00	0.00	
5,400.0	18.47	39.72	5,158.4	1,168.4	970.7	1,519.0	0.00	0.00	
5,500.0	18.47	39.72	5,253.3	1,192.8	991.0	1,550.7	0.00	0.00	
5,600.0	18.47	39.72	5,348.1	1,217.1	1,011.2	1,582.4	0.00	0.00	
5,700.0	18.47	39.72	5,443.0	1,241.5	1,031.4	1,614.1	0.00	0.00	
5,800.0	18.47	39.72	5,537.8	1,265.9	1,051.7	1,645.7	0.00	0.00	
5,900.0	18.47	39.72	5,632.7	1,290.2	1,071.9	1,677.4	0.00	0.00	
6,000.0	18.47	39.72	5,727.5	1,314.6	1,092.2	1,709.1	0.00	0.00	
6,100.0	18.47	39.72	5,822.4	1,339.0	1,112.4	1,740.8	0.00	0.00	
6,200.0	18.47	39.72	5,917.2	1,363.3	1,132.7	1,772.5	0.00	0.00	
6,218.8	18.47	39.72	5,935.0	1,367.9	1,136.5	1,778.4	0.00	0.00	OHIO_CREEK.MBL (TVD)
6,300.0	18.47	39.72	6,012.1	1,387.7	1,152.9	1,804.1	0.00	0.00	
6,400.0	18.47	39.72	6,106.9	1,412.1	1,173.2	1,835.8	0.00	0.00	
6,500.0	18.47	39.72	6,201.8	1,436.4	1,193.4	1,867.5	0.00	0.00	
6,512.9	18.47	39.72	6,214.0	1,439.6	1,196.0	1,871.6	0.00	0.00	WILLIAMS_FORK.MBL (TVD)
6,600.0	18.47	39.72	6,296.6	1,460.8	1,213.6	1,899.2	0.00	0.00	
6,700.0	18.47	39.72	6,391.5	1,485.2	1,233.9	1,930.9	0.00	0.00	
6,780.7	18.47	39.72	6,468.0	1,504.8	1,250.2	1,956.4	0.00	0.00	Start Drop -3.00
6,800.0	17.89	39.72	6,486.3	1,509.5	1,254.1	1,962.4	3.00	-3.00	
6,900.0	14.89	39.72	6,582.3	1,531.2	1,272.1	1,990.7	3.00	-3.00	
7,000.0	11.89	39.72	6,679.5	1,549.0	1,286.9	2,013.8	3.00	-3.00	
7,100.0	8.89	39.72	6,777.9	1,562.8	1,298.4	2,031.8	3.00	-3.00	
7,200.0	5.89	39.72	6,877.0	1,572.7	1,306.6	2,044.7	3.00	-3.00	
7,300.0	2.89	39.72	6,976.7	1,578.6	1,311.5	2,052.4	3.00	-3.00	
7,396.3	0.00	0.00	7,073.0	1,580.5	1,313.1	2,054.8	3.00	-3.00	Start 2070.0 hold at 7396.3 MD - TOP_GAS.ME
7,400.0	0.00	0.00	7,076.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
7,500.0	0.00	0.00	7,176.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
7,600.0	0.00	0.00	7,276.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
7,700.0	0.00	0.00	7,376.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
7,800.0	0.00	0.00	7,476.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
7,900.0	0.00	0.00	7,576.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,000.0	0.00	0.00	7,676.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,100.0	0.00	0.00	7,776.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,200.0	0.00	0.00	7,876.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,300.0	0.00	0.00	7,976.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,400.0	0.00	0.00	8,076.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,500.0	0.00	0.00	8,176.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,600.0	0.00	0.00	8,276.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,700.0	0.00	0.00	8,376.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,800.0	0.00	0.00	8,476.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
8,900.0	0.00	0.00	8,576.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,000.0	0.00	0.00	8,676.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,066.3	0.00	0.00	8,743.0	1,580.5	1,313.1	2,054.8	0.00	0.00	CAMEO.MBL (TVD)
9,100.0	0.00	0.00	8,776.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,200.0	0.00	0.00	8,876.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,300.0	0.00	0.00	8,976.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,316.3	0.00	0.00	8,993.0	1,580.5	1,313.1	2,054.8	0.00	0.00	ROLLINS.MBL (TVD)
9,400.0	0.00	0.00	9,076.7	1,580.5	1,313.1	2,054.8	0.00	0.00	
9,466.3	0.00	0.00	9,143.0	1,580.5	1,313.1	2,054.8	0.00	0.00	TD at 9466.3 - TD.MBL (TVD)

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Site:	S24-T6N-R97W (MESA P24)	North Reference:	True
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Wellbore:	OH		
Design:	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 13A-19 PBHL	0.00	0.00	9,143.0	1,580.5	1,313.1	14,359,327.50	2,442,517.00	39.507345	-108.156507
- plan hits target center									
- Circle (radius 50.0)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
6,218.8	5,935.0	OHIO_CREEK.MBL (TVD)				
6,512.9	6,214.0	WILLIAMS_FORK.MBL (TVD)				
7,396.3	7,073.0	TOP_GAS.MBL (TVD)				
9,066.3	8,743.0	CAMEO.MBL (TVD)				
9,316.3	8,993.0	ROLLINS.MBL (TVD)				
9,466.3	9,143.0	TD.MBL (TVD)				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
300.0	300.0	0.0	0.0	Start Build 3.00	
915.7	905.0	75.7	62.9	Start 5865.0 hold at 915.7 MD	
6,780.7	6,468.0	1,504.8	1,250.2	Start Drop -3.00	
7,396.3	7,073.0	1,580.5	1,313.1	Start 2070.0 hold at 7396.3 MD	
9,466.3	9,143.0	1,580.5	1,313.1	TD at 9466.3	