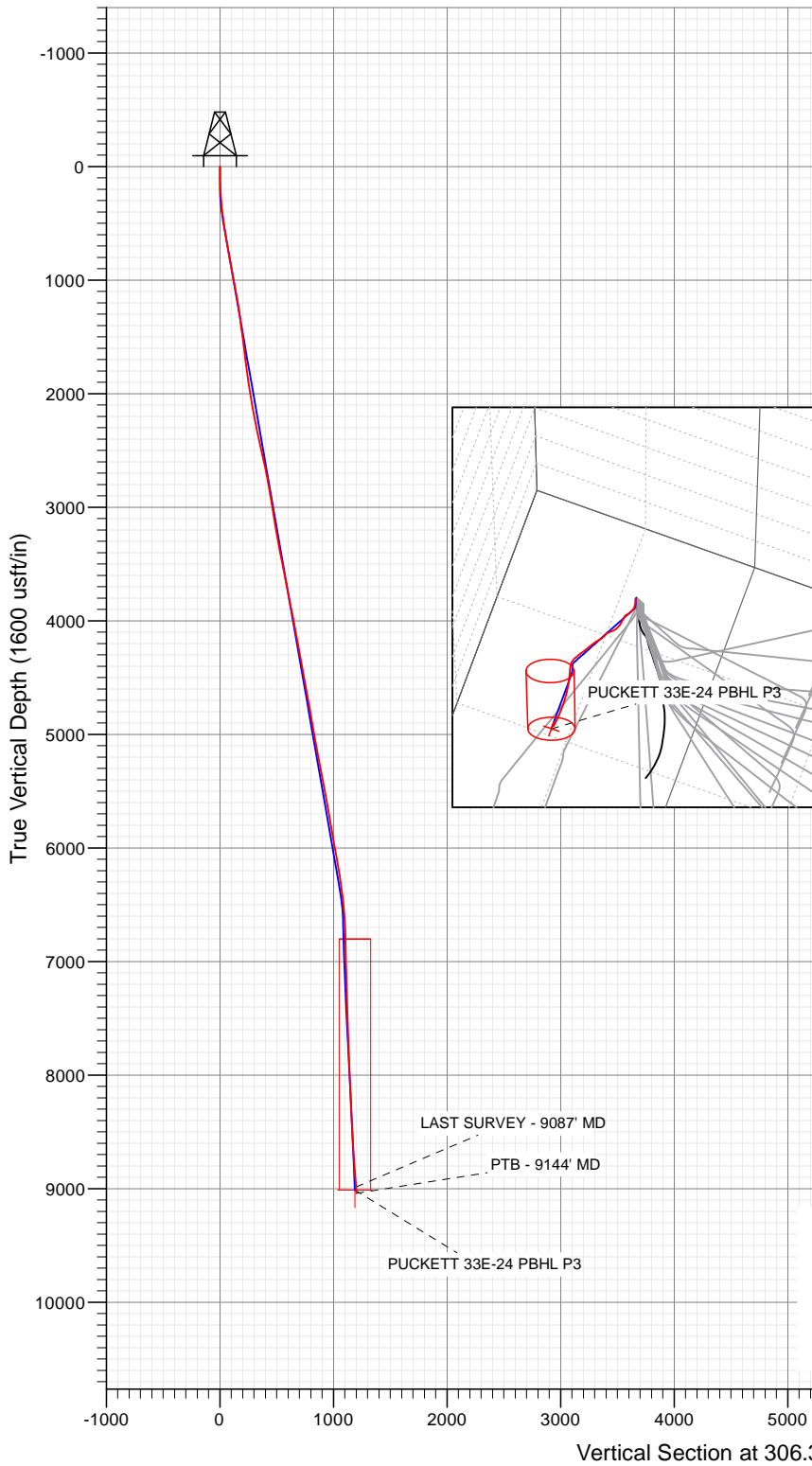


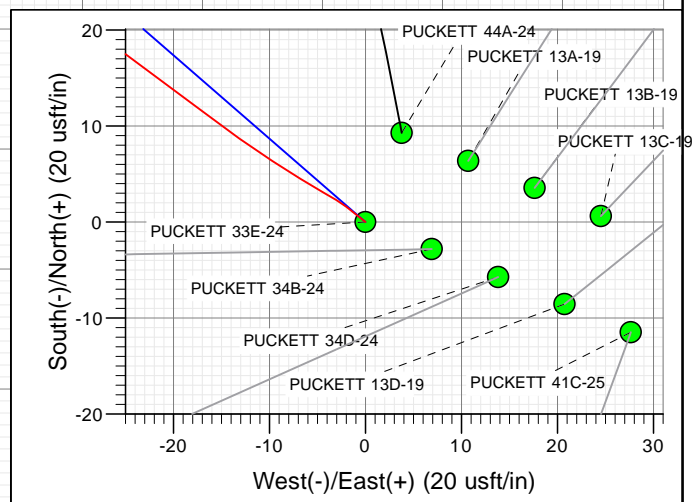
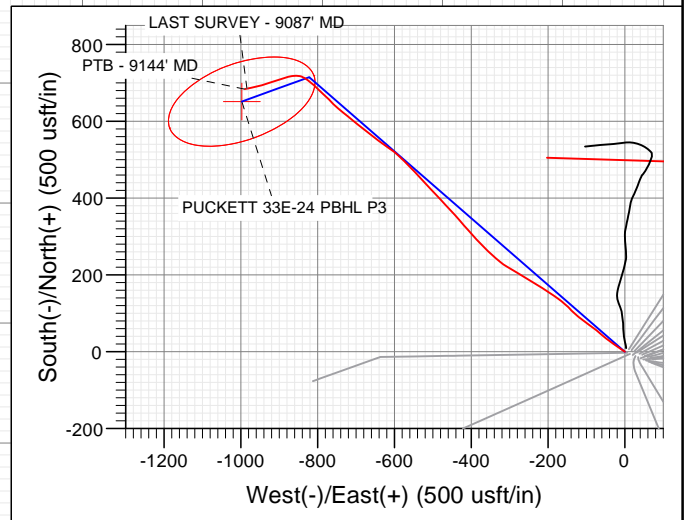


Project: Garfield County, CO (UTM 12N)
 Site: S24-T6N-R97W (MESA P24)
 Well: PUCKETT 33E-24
 Wellbore: OH
 Design: FINAL



FINAL
 PUCKETT 33E-24
 290837 175167 LR
 30' KB @ 8151.00usft
 Ground Level @ 8151.00
 NAD 1927 - Western US
 Well PUCKETT 33E-24 - Slot B11, True North

Name	Type	User	Target	No. Target (Freehand)	Azimuth	Origin Type	Slot	N/S	E/W	From TVD
PUCKETT 33E-24 PBHL					9014.00			+N/-S	-E/+W	
PUCKETT 33E-24 PBHL P3					9014.00			652.29	-1343.60	
								651.37	-997.45	
									39.504788	
									-108.164755	



Azimuths to True North
 Magnetic North: 9.67°

Magnetic Field
 Strength: 51683.4snT
 Dip Angle: 65.82°
 Date: 10/4/2017
 Model: HDGM



WELL DETAILS: PUCKETT 33E-24

+N/-S 0.00 +E/-W 0.00 Northing 14357702.30 Ground Level: 8151.00 Easting 2441236.90 Latitude 39.502998 Longitude -108.161221

B11



Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 33E-24 - Slot B11
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	MD Reference:	30' KB @ 8181.00usft
Well:	PUCKETT 33E-24	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.81 °

Well	PUCKETT 33E-24 - Slot B11					
Well Position	+N/-S	0.00 usft	Northing:	14,357,702.30 usft	Latitude:	39.502998
	+E/-W	0.00 usft	Easting:	2,441,236.90 usft	Longitude:	-108.161221
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	10/4/2017	9.67	65.82	51,683.40000000

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	306.38	

Survey Program	Date	10/10/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
144.00	482.00	Survey #1 (OH)	INC+TREND	Inclinometer + known azi trend	
574.00	9,144.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
144.00	2.02	308.57	143.97	1.58	-1.98	2.54	1.40	1.40	
174.00	2.73	301.18	173.94	2.28	-3.01	3.78	2.57	2.37	
205.00	3.08	299.51	204.90	3.07	-4.37	5.34	1.16	1.13	
297.00	4.70	302.94	296.69	6.34	-9.68	11.55	1.78	1.76	
389.00	6.64	307.34	388.24	11.62	-17.07	20.64	2.16	2.11	
482.00	7.52	305.75	480.53	18.43	-26.29	32.10	0.97	0.95	
574.00	8.57	303.56	571.62	25.74	-36.89	44.96	1.19	1.14	
668.00	9.49	309.53	664.46	34.55	-48.70	59.70	1.40	0.98	
762.00	9.98	310.94	757.10	44.82	-60.83	75.56	0.58	0.52	
857.00	10.59	309.09	850.57	55.71	-73.82	92.48	0.73	0.64	
951.00	11.29	307.78	942.87	66.80	-87.80	110.31	0.79	0.74	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 33E-24 - Slot B11
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	MD Reference:	30' KB @ 8181.00usft
Well:	PUCKETT 33E-24	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
1,046.00	11.56	303.38	1,035.99	77.73	-103.10	129.11	0.96	0.28	
1,140.00	10.42	308.83	1,128.26	88.24	-117.59	147.01	1.64	-1.21	
1,234.00	8.35	315.25	1,221.00	98.42	-129.01	162.25	2.46	-2.20	
1,328.00	7.16	314.63	1,314.14	107.39	-137.99	174.79	1.27	-1.27	
1,422.00	7.43	312.96	1,407.38	115.64	-146.61	186.63	0.37	0.29	
1,516.00	7.69	311.47	1,500.56	123.95	-155.77	198.93	0.35	0.28	
1,610.00	7.47	307.60	1,593.74	131.84	-165.32	211.30	0.59	-0.23	
1,704.00	7.08	304.17	1,686.99	138.83	-174.95	223.20	0.62	-0.41	
1,798.00	7.52	305.05	1,780.22	145.61	-184.78	235.14	0.48	0.47	
1,893.00	8.04	304.96	1,874.35	152.99	-195.32	247.99	0.55	0.55	
1,987.00	8.97	301.62	1,967.31	160.60	-206.94	261.87	1.12	0.99	
2,081.00	9.58	302.24	2,060.08	168.61	-219.80	276.97	0.66	0.65	
2,175.00	10.24	301.18	2,152.68	177.11	-233.57	293.10	0.73	0.70	
2,269.00	11.12	302.33	2,245.05	186.28	-248.37	310.46	0.96	0.94	
2,363.00	11.78	300.57	2,337.18	196.01	-264.29	329.05	0.79	0.70	
2,457.00	12.66	301.27	2,429.05	206.24	-281.36	348.85	0.95	0.94	
2,594.00	12.74	301.36	2,562.70	221.89	-307.09	378.85	0.06	0.06	
2,688.00	11.78	307.51	2,654.56	233.13	-323.56	398.77	1.72	-1.02	
2,783.00	10.55	313.31	2,747.76	245.00	-337.58	417.10	1.75	-1.29	
2,877.00	10.37	312.79	2,840.20	256.65	-350.05	434.05	0.22	-0.19	
2,972.00	9.54	311.38	2,933.77	267.66	-362.23	450.39	0.91	-0.87	
3,067.00	9.84	318.06	3,027.42	278.91	-373.56	466.19	1.22	0.32	
3,161.00	9.27	318.59	3,120.11	290.56	-383.94	481.45	0.61	-0.61	
3,256.00	9.89	317.09	3,213.79	302.28	-394.55	496.95	0.70	0.65	
3,351.00	10.59	317.80	3,307.27	314.72	-405.97	513.52	0.75	0.74	
3,445.00	11.51	318.41	3,399.53	328.13	-418.00	531.16	0.99	0.98	
3,540.00	11.12	318.32	3,492.68	342.06	-430.38	549.39	0.41	-0.41	
3,635.00	10.85	317.80	3,585.94	355.53	-442.48	567.12	0.30	-0.28	
3,729.00	11.56	317.97	3,678.15	369.08	-454.73	585.02	0.76	0.76	
3,824.00	11.34	316.92	3,771.26	382.97	-467.48	603.53	0.32	-0.23	
3,919.00	11.56	316.83	3,864.37	396.73	-480.38	622.07	0.23	0.23	
4,012.00	11.16	316.83	3,955.55	410.09	-492.91	640.08	0.43	-0.43	
4,107.00	11.29	317.00	4,048.73	423.60	-505.54	658.27	0.14	0.14	
4,201.00	10.85	318.15	4,140.98	436.92	-517.72	675.97	0.52	-0.47	
4,295.00	10.06	318.23	4,233.42	449.63	-529.09	692.67	0.84	-0.84	
4,388.00	10.68	315.77	4,324.90	461.87	-540.51	709.12	0.82	0.67	
4,482.00	10.28	314.46	4,417.33	473.98	-552.57	726.02	0.50	-0.43	
4,576.00	10.59	316.74	4,509.78	486.15	-564.48	742.82	0.55	0.33	
4,670.00	10.59	314.81	4,602.18	498.53	-576.53	759.86	0.38	0.00	
4,764.00	9.98	313.22	4,694.66	510.19	-588.59	776.49	0.72	-0.65	
4,857.00	10.11	307.95	4,786.24	520.73	-600.90	792.65	1.00	0.14	
4,951.00	9.84	304.08	4,878.82	530.31	-614.06	808.93	0.77	-0.29	
5,045.00	9.84	305.05	4,971.44	539.42	-627.29	824.98	0.18	0.00	
5,138.00	10.68	307.78	5,062.95	549.26	-640.61	841.54	1.04	0.90	
5,232.00	10.59	307.69	5,155.34	559.88	-654.32	858.88	0.10	-0.10	
5,326.00	10.20	306.55	5,247.79	570.12	-667.85	875.84	0.47	-0.41	
5,420.00	11.12	309.01	5,340.17	580.78	-681.58	893.22	1.09	0.98	
5,513.00	10.77	309.62	5,431.48	591.97	-695.24	910.86	0.40	-0.38	
5,607.00	10.37	308.65	5,523.88	602.85	-708.61	928.08	0.47	-0.43	
5,701.00	9.98	309.09	5,616.41	613.27	-721.54	944.67	0.42	-0.41	
5,794.00	9.89	308.04	5,708.01	623.27	-734.08	960.70	0.22	-0.10	
5,888.00	10.11	310.85	5,800.58	633.64	-746.68	977.00	0.57	0.23	
5,981.00	10.06	315.60	5,892.15	644.79	-758.54	993.15	0.90	-0.05	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 33E-24 - Slot B11
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8181.00usft
Site:	S24-T6N-R97W (MESA P24)	MD Reference:	30' KB @ 8181.00usft
Well:	PUCKETT 33E-24	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
6,075.00	10.28	314.54	5,984.67	656.54	-770.26	1,009.56	0.31	0.23	
6,170.00	10.55	313.49	6,078.11	668.47	-782.62	1,026.58	0.35	0.28	
6,264.00	9.45	313.66	6,170.68	679.72	-794.44	1,042.77	1.17	-1.17	
6,359.00	8.57	312.26	6,264.50	689.86	-805.32	1,057.55	0.95	-0.93	
6,453.00	7.95	311.29	6,357.53	698.86	-815.39	1,070.99	0.68	-0.66	
6,547.00	6.37	307.51	6,450.79	706.33	-824.41	1,082.69	1.75	-1.68	
6,642.00	4.88	300.66	6,545.33	711.60	-832.07	1,091.98	1.72	-1.57	
6,735.00	3.69	296.26	6,638.07	714.94	-838.16	1,098.86	1.33	-1.28	
6,829.00	2.59	287.47	6,731.93	716.91	-842.89	1,103.84	1.27	-1.17	
6,924.00	1.36	271.92	6,826.87	717.60	-846.07	1,106.81	1.40	-1.29	
7,017.00	1.19	293.89	6,919.85	718.02	-848.05	1,108.66	0.55	-0.18	
7,300.00	1.85	270.07	7,202.75	719.22	-855.31	1,115.21	0.32	0.23	
7,582.00	2.77	254.43	7,484.52	717.40	-866.43	1,123.08	0.39	0.33	
7,864.00	3.34	260.75	7,766.12	714.25	-881.10	1,133.02	0.23	0.20	
8,147.00	4.22	249.59	8,048.51	709.29	-898.99	1,144.49	0.40	0.31	
8,429.00	5.14	251.17	8,329.56	701.59	-920.68	1,157.38	0.33	0.33	
8,711.00	5.36	253.81	8,610.38	693.84	-945.28	1,172.59	0.12	0.08	
8,993.00	6.42	259.52	8,890.89	687.30	-973.43	1,191.38	0.43	0.38	
9,087.00	6.64	258.12	8,984.28	685.23	-983.92	1,198.59	0.29	0.23	LAST SURVEY - 9087' MD
9,144.00	6.64	258.12	9,040.90	683.87	-990.37	1,202.98	0.00	0.00	PTB - 9144' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 33E-24 PBHL	0.00	0.00	9,014.00	652.29	-1,343.60	14,358,311.90	2,439,873.40	39.504788	-108.165981
- hit/miss target									
- actual wellpath misses target center by 355.66usft at 9144.00usft MD (9040.90 TVD, 683.87 N, -990.37 E)									
- Point									
PUCKETT 33E-24 PBHL	0.00	0.00	9,014.00	651.37	-997.45	14,358,321.90	2,440,219.41	39.504785	-108.164755
- actual wellpath misses target center by 34.61usft at 9118.86usft MD (9015.92 TVD, 684.47 N, -987.52 E)									
- Ellipse (radii L200.00 W100.00 on 250.00 azi)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
9,087.00	8,984.28	685.23	-983.92	LAST SURVEY - 9087' MD	
9,144.00	9,040.90	683.87	-990.37	PTB - 9144' MD	

Checked By: _____ Approved By: _____ Date: _____