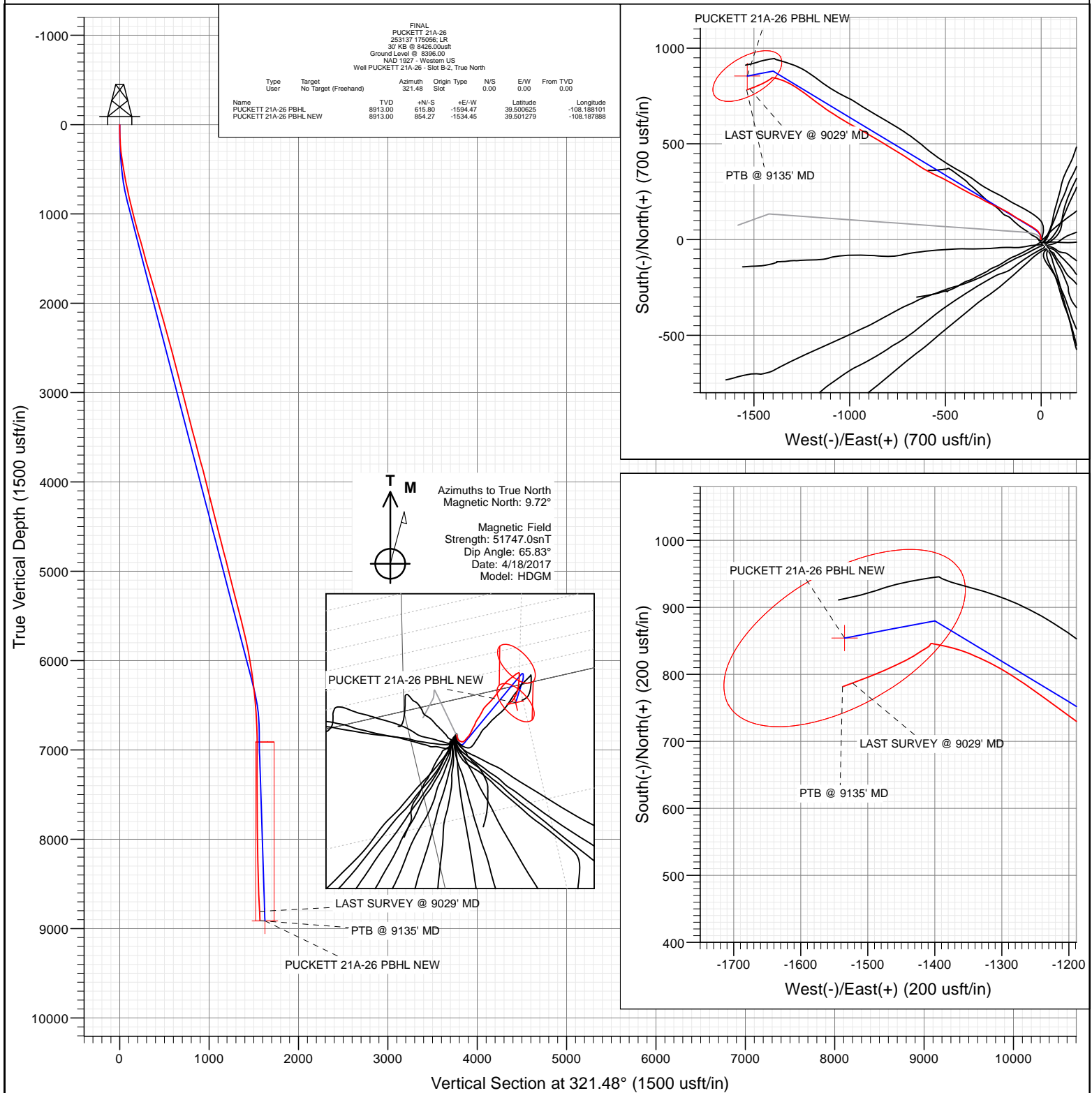




Project: Garfield County, CO (UTM 12N)
 Site: S26-T6S-R97W (697 26A)
 Well: PUCKETT 21A-26
 Wellbore: OH
 Design: FINAL



Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 21A-26 - Slot B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8426.00usft
Site:	S26-T6S-R97W (697 26A)	MD Reference:	30' KB @ 8426.00usft
Well:	PUCKETT 21A-26	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		S26-T6S-R97W (697 26A)				
Site Position:		Northing:	14,356,905.20 usft	Latitude:	39.501458	
From:	Map	Easting:	2,433,730.50 usft	Longitude:	-108.187888	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.79 °

Well	PUCKETT 21A-26 - Slot B-2					
Well Position	+N/-S	0.00 usft	Northing:	14,356,034.39 usft	Latitude:	39.498935
	+E/-W	0.00 usft	Easting:	2,435,292.96 usft	Longitude:	-108.182453
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	8,396.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/18/2017	9.72	65.83	51,747

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	321.48	

Survey Program	Date	4/27/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
148.00	9,135.00	Survey #1 (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		
148.00	2.20	344.14	147.96	2.73	-0.78	2.62	1.49	1.49		
178.00	3.12	353.80	177.93	4.10	-1.02	3.84	3.40	3.07		
209.00	3.82	351.09	208.87	5.96	-1.27	5.45	2.32	2.26		
301.00	7.56	352.41	300.40	14.99	-2.55	13.31	4.07	4.07		
393.00	9.32	335.71	391.42	27.78	-6.41	25.73	3.26	1.91		
484.00	9.01	320.41	481.27	39.99	-13.99	40.00	2.69	-0.34		
575.00	10.20	310.57	571.00	50.72	-24.65	55.04	2.22	1.31		
670.00	12.00	299.50	664.23	61.06	-39.64	72.46	2.93	1.89		
764.00	12.83	302.75	756.03	71.52	-56.92	91.40	1.15	0.88		
859.00	14.19	302.48	848.40	83.47	-75.61	112.40	1.43	1.43		
953.00	15.12	299.06	939.34	95.62	-96.05	134.63	1.35	0.99		
1,048.00	14.81	298.53	1,031.12	107.43	-117.55	157.26	0.36	-0.33		

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 21A-26 - Slot B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8426.00usft
Site:	S26-T6S-R97W (697 26A)	MD Reference:	30' KB @ 8426.00usft
Well:	PUCKETT 21A-26	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
1,142.00	15.34	302.92	1,121.89	119.93	-138.54	180.11	1.34	0.56	
1,237.00	16.96	303.98	1,213.14	134.50	-160.58	205.24	1.73	1.71	
1,331.00	17.84	298.62	1,302.84	149.07	-184.59	231.59	1.94	0.94	
1,426.00	17.23	294.05	1,393.43	161.77	-210.22	257.48	1.58	-0.64	
1,521.00	16.61	294.57	1,484.32	173.15	-235.41	282.08	0.67	-0.65	
1,615.00	17.62	296.51	1,574.15	185.09	-260.36	306.96	1.23	1.07	
1,710.00	18.02	299.23	1,664.60	198.68	-286.05	333.59	0.97	0.42	
1,804.00	18.28	298.70	1,753.92	212.86	-311.67	360.64	0.33	0.28	
1,899.00	18.33	293.34	1,844.12	225.93	-338.46	387.55	1.77	0.05	
1,994.00	17.97	295.45	1,934.39	238.15	-365.41	413.89	0.79	-0.38	
2,088.00	17.45	298.53	2,023.94	251.11	-390.88	439.90	1.14	-0.55	
2,183.00	16.96	301.34	2,114.69	265.12	-415.23	466.02	1.02	-0.52	
2,278.00	16.74	299.94	2,205.61	279.16	-438.92	491.76	0.49	-0.23	
2,372.00	16.52	297.91	2,295.68	292.17	-462.46	516.60	0.66	-0.23	
2,467.00	16.44	297.56	2,386.78	304.71	-486.32	541.27	0.13	-0.08	
2,509.00	17.14	296.42	2,426.99	310.22	-497.13	552.30	1.84	1.67	
2,603.00	17.01	296.24	2,516.84	322.46	-521.87	577.29	0.15	-0.14	
2,697.00	16.52	295.28	2,606.85	334.25	-546.28	601.72	0.60	-0.52	
2,792.00	15.95	296.95	2,698.06	345.93	-570.13	625.71	0.78	-0.60	
2,886.00	15.43	299.06	2,788.56	357.86	-592.58	649.02	0.82	-0.55	
2,981.00	15.03	300.73	2,880.22	370.29	-614.21	672.22	0.62	-0.42	
3,075.00	15.60	303.36	2,970.89	383.47	-635.25	695.63	0.96	0.61	
3,169.00	14.41	303.54	3,061.68	396.88	-655.55	718.77	1.27	-1.27	
3,264.00	14.68	304.07	3,153.63	410.16	-675.38	741.50	0.32	0.28	
3,358.00	15.86	302.92	3,244.31	423.81	-696.02	765.04	1.30	1.26	
3,453.00	15.78	302.40	3,335.72	437.79	-717.83	789.56	0.17	-0.08	
3,547.00	15.07	302.31	3,426.33	451.17	-738.95	813.18	0.76	-0.76	
3,642.00	15.47	301.69	3,517.97	464.42	-760.17	836.76	0.45	0.42	
3,736.00	15.56	300.46	3,608.55	477.40	-781.70	860.33	0.36	0.10	
3,830.00	15.86	302.40	3,699.04	490.67	-803.41	884.24	0.64	0.32	
3,925.00	16.61	301.25	3,790.25	504.67	-825.98	909.24	0.86	0.79	
4,019.00	15.47	300.73	3,880.59	518.05	-848.25	933.57	1.22	-1.21	
4,114.00	15.91	300.29	3,972.05	531.09	-870.38	957.56	0.48	0.46	
4,208.00	14.85	299.14	4,062.68	543.46	-892.03	980.72	1.17	-1.13	
4,302.00	14.85	299.50	4,153.54	555.25	-913.03	1,003.03	0.10	0.00	
4,397.00	15.21	300.29	4,245.29	567.53	-934.39	1,025.94	0.44	0.38	
4,491.00	15.25	299.50	4,335.99	579.84	-955.80	1,048.90	0.22	0.04	
4,586.00	15.12	298.27	4,427.67	591.86	-977.58	1,071.87	0.37	-0.14	
4,680.00	14.94	298.70	4,518.46	603.49	-999.01	1,094.31	0.23	-0.19	
4,775.00	15.51	301.08	4,610.12	615.92	-1,020.63	1,117.50	0.89	0.60	
4,869.00	15.69	301.78	4,700.66	629.11	-1,042.20	1,141.25	0.28	0.19	
4,964.00	15.56	302.66	4,792.15	642.75	-1,063.84	1,165.40	0.28	-0.14	
5,059.00	14.90	302.31	4,883.81	656.15	-1,084.89	1,189.00	0.70	-0.69	
5,153.00	14.85	302.66	4,974.66	669.11	-1,105.25	1,211.82	0.11	-0.05	
5,248.00	14.55	304.95	5,066.56	682.52	-1,125.28	1,234.78	0.69	-0.32	
5,342.00	15.03	307.93	5,157.44	696.77	-1,144.57	1,257.95	0.96	0.51	
5,437.00	15.03	307.05	5,249.19	711.77	-1,164.12	1,281.85	0.24	0.00	
5,531.00	14.94	306.44	5,340.00	726.31	-1,183.59	1,305.36	0.19	-0.10	
5,626.00	14.85	305.91	5,431.80	740.72	-1,203.31	1,328.91	0.17	-0.09	
5,721.00	14.99	306.35	5,523.60	755.15	-1,223.06	1,352.50	0.19	0.15	
5,815.00	14.02	305.47	5,614.60	768.96	-1,242.13	1,375.18	1.06	-1.03	
5,910.00	13.93	305.38	5,706.79	782.26	-1,260.82	1,397.22	0.10	-0.09	
6,004.00	12.35	303.54	5,798.33	794.36	-1,278.43	1,417.66	1.74	-1.68	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 21A-26 - Slot B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8426.00usft
Site:	S26-T6S-R97W (697 26A)	MD Reference:	30' KB @ 8426.00usft
Well:	PUCKETT 21A-26	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
6,099.00	11.43	299.94	5,891.29	804.67	-1,295.05	1,436.08	1.24	-0.97	
6,193.00	10.68	298.35	5,983.55	813.46	-1,310.79	1,452.75	0.86	-0.80	
6,288.00	10.20	295.01	6,076.97	821.20	-1,326.16	1,468.38	0.81	-0.51	
6,382.00	9.05	294.05	6,169.65	827.73	-1,340.45	1,482.39	1.24	-1.22	
6,477.00	8.13	290.53	6,263.58	833.13	-1,353.57	1,494.78	1.11	-0.97	
6,571.00	7.03	287.02	6,356.76	837.14	-1,365.29	1,505.23	1.27	-1.17	
6,666.00	6.46	284.55	6,451.10	840.19	-1,376.02	1,514.29	0.67	-0.60	
6,760.00	5.54	280.78	6,544.59	842.36	-1,385.60	1,521.96	1.06	-0.98	
6,855.00	4.44	282.71	6,639.23	844.03	-1,393.69	1,528.30	1.17	-1.16	
6,949.00	3.25	280.07	6,733.01	845.30	-1,399.86	1,533.14	1.28	-1.27	
7,044.00	1.80	283.76	6,827.92	846.12	-1,403.97	1,536.34	1.54	-1.53	
7,138.00	0.57	231.12	6,921.90	846.18	-1,405.76	1,537.50	1.62	-1.31	
7,327.00	0.79	196.75	7,110.88	844.34	-1,406.87	1,536.75	0.24	0.12	
7,516.00	1.06	225.23	7,299.86	841.86	-1,408.49	1,535.82	0.28	0.14	
7,705.00	2.33	242.02	7,488.78	838.83	-1,413.12	1,536.33	0.71	0.67	
7,894.00	3.12	238.94	7,677.56	834.37	-1,420.92	1,537.70	0.42	0.42	
8,083.00	4.22	235.42	7,866.17	827.77	-1,431.05	1,538.85	0.59	0.58	
8,273.00	4.61	245.36	8,055.61	820.62	-1,443.75	1,541.16	0.45	0.21	
8,462.00	5.41	243.60	8,243.89	813.49	-1,458.63	1,544.85	0.43	0.42	
8,650.00	6.42	247.03	8,430.88	805.45	-1,476.25	1,549.53	0.57	0.54	
8,839.00	7.65	248.17	8,618.46	796.65	-1,497.66	1,555.97	0.65	0.65	
9,029.00	8.57	250.10	8,806.55	787.13	-1,522.71	1,564.12	0.50	0.48	LAST SURVEY @ 9029' MD
9,135.00	8.57	250.10	8,911.37	781.75	-1,537.56	1,569.17	0.00	0.00	PTB @ 9135' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PUCKETT 21A-26 PBHL	0.00	0.00	8,913.00	615.80	-1,594.47	14,356,600.00	2,433,680.00	39.500625	-108.188101
- actual wellpath misses target center by 175.44usft at 9135.00usft MD (8911.37 TVD, 781.75 N, -1537.56 E)									
- Ellipse (radii L200.00 W100.00 on 240.00 azi)									
PUCKETT 21A-26 PBHL	0.00	0.00	8,913.00	854.27	-1,534.45	14,356,840.23	2,433,732.53	39.501279	-108.187888
- actual wellpath misses target center by 72.56usft at 9132.50usft MD (8908.90 TVD, 781.88 N, -1537.21 E)									
- Ellipse (radii L200.00 W100.00 on 240.00 azi)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
9,029.00	8,806.55	787.13	-1,522.71	LAST SURVEY @ 9029' MD	
9,135.00	8,911.37	781.75	-1,537.56	PTB @ 9135' MD	

Checked By: _____ Approved By: _____ Date: _____