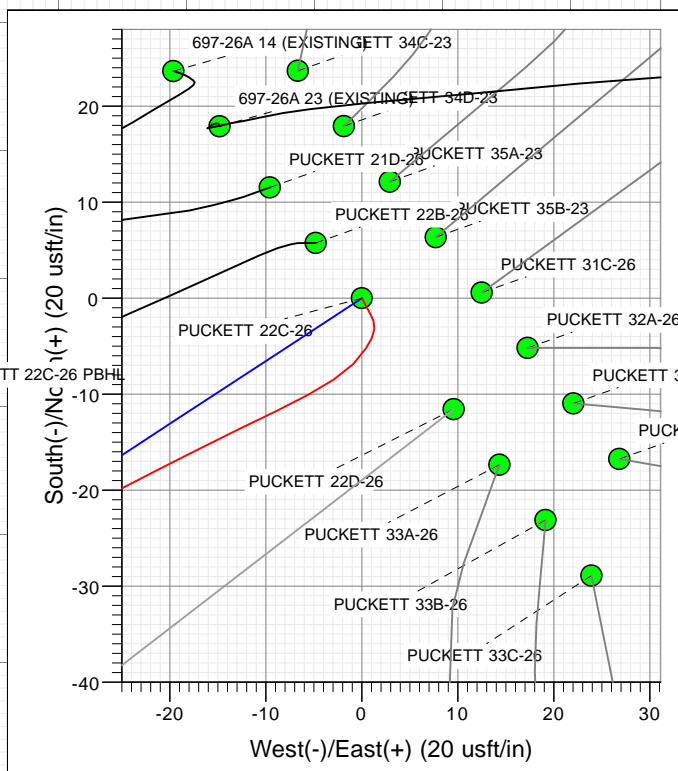
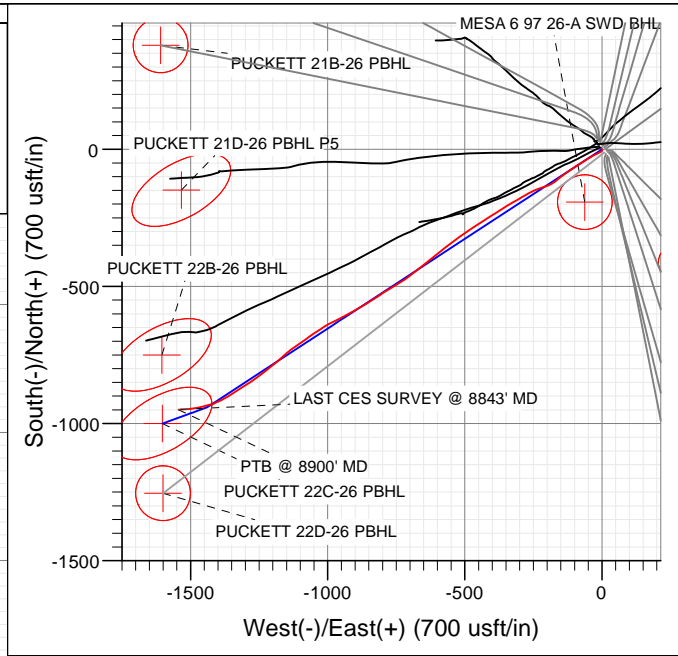
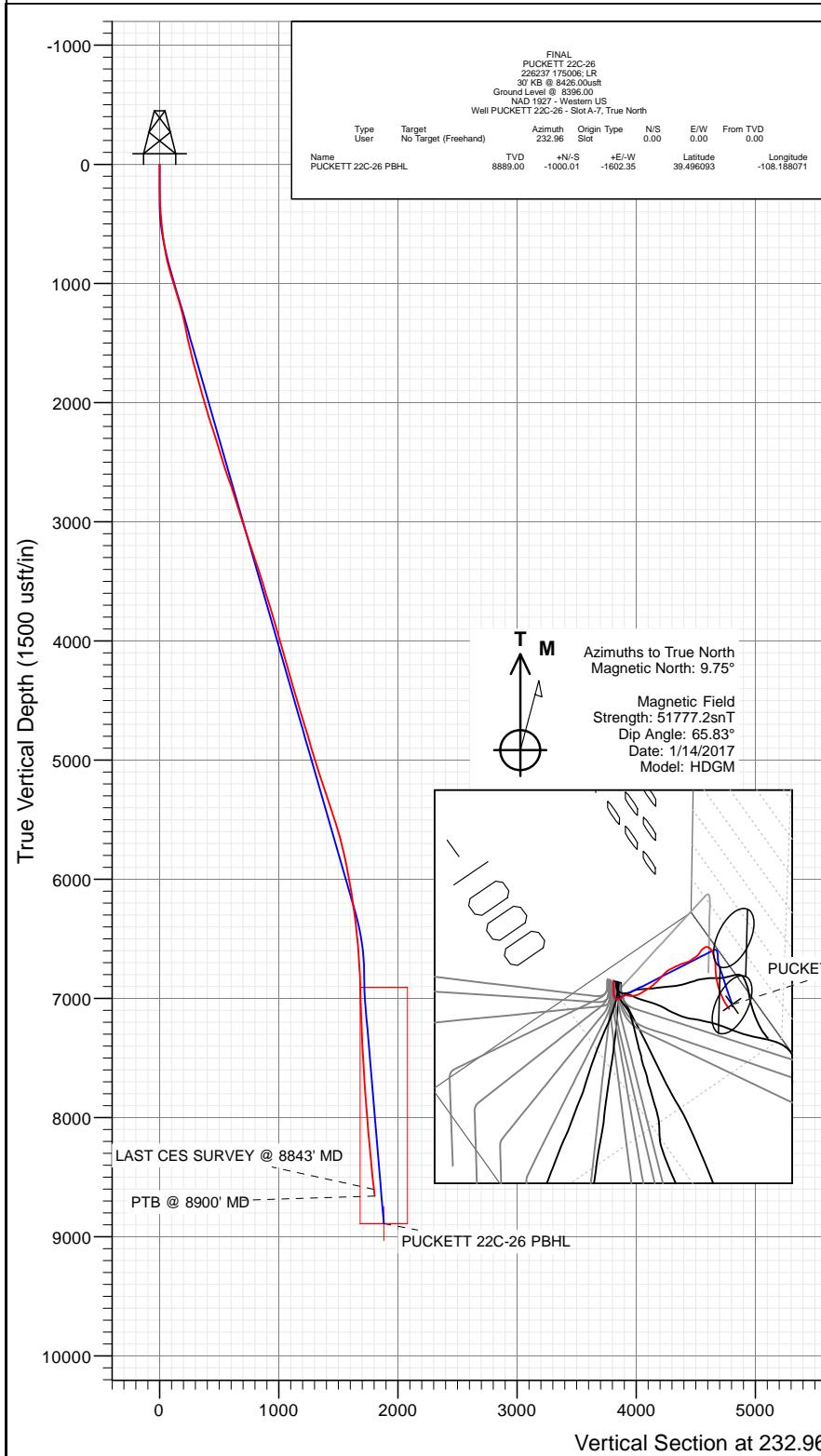
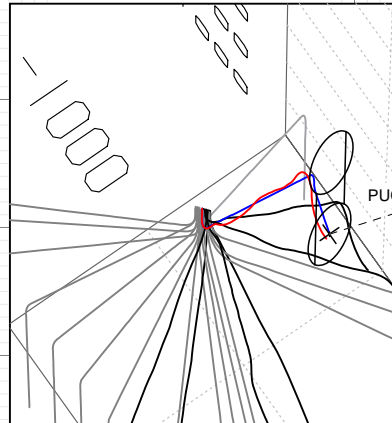




Project: Garfield County, CO (UTM 12N)
 Site: S26-T6S-R97W (697 26A)
 Well: PUCKETT 22C-26
 Wellbore: OH
 Design: FINAL



↑ T M
 Azimuths to True North
 Magnetic North: 9.75°
 Magnetic Field
 Strength: 51777.2nT
 Dip Angle: 65.83°
 Date: 1/14/2017
 Model: HDGM



Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 22C-26 - Slot A-7
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 22C-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
From:	Map	Easting:	2,433,730.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	39.501458
		Longitude:	-108.187888
		Grid Convergence:	1.79 °

Well	PUCKETT 22C-26 - Slot A-7					
Well Position	+N/-S	0.00 usft	Northing:	14,355,999.66 usft	Latitude:	39.498838
	+E/-W	0.00 usft	Easting:	2,435,310.27 usft	Longitude:	-108.182395
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	1/14/2017	9.75	65.83	51,777

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	232.96	

Survey Program	Date	1/24/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
177.00	8,900.00	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		
177.00	1.27	151.34	176.99	-1.72	0.94	0.29	0.72	0.72		
208.00	1.45	162.50	207.98	-2.40	1.22	0.47	1.03	0.58		
238.00	1.76	183.42	237.97	-3.22	1.31	0.89	2.19	1.03		
268.00	2.02	206.71	267.95	-4.15	1.05	1.67	2.68	0.87		
299.00	2.51	211.37	298.93	-5.22	0.45	2.79	1.69	1.58		
390.00	3.52	236.51	389.80	-8.46	-2.92	7.43	1.80	1.11		
481.00	5.10	244.51	480.54	-11.74	-8.90	14.18	1.85	1.74		
573.00	6.90	243.36	572.03	-15.98	-17.53	23.62	1.96	1.96		
668.00	9.01	241.96	666.12	-22.04	-29.20	36.58	2.23	2.22		
762.00	11.16	239.32	758.66	-30.14	-43.52	52.90	2.34	2.29		
857.00	14.19	238.27	851.33	-40.96	-61.34	73.63	3.20	3.19		
951.00	16.52	237.74	941.97	-54.15	-82.44	98.43	2.48	2.48		

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 22C-26 - Slot A-7
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 22C-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
1,046.00	17.10	234.93	1,032.91	-69.39	-105.30	125.85	1.05	0.61	
1,140.00	17.36	236.42	1,122.69	-85.08	-128.29	153.66	0.54	0.28	
1,235.00	14.99	231.59	1,213.93	-100.56	-149.73	180.09	2.87	-2.49	
1,329.00	12.92	230.44	1,305.15	-114.81	-167.36	202.74	2.22	-2.20	
1,424.00	11.47	241.34	1,398.02	-126.10	-183.84	222.70	2.86	-1.53	
1,519.00	12.48	251.19	1,490.96	-133.94	-201.84	241.80	2.40	1.06	
1,613.00	14.94	251.45	1,582.27	-141.07	-222.95	262.94	2.62	2.62	
1,708.00	15.03	246.44	1,674.05	-149.89	-245.85	286.53	1.37	0.09	
1,802.00	14.90	240.73	1,764.86	-160.68	-267.57	310.36	1.57	-0.14	
1,897.00	15.86	239.32	1,856.46	-173.27	-289.39	335.37	1.08	1.01	
1,991.00	16.13	240.02	1,946.82	-186.35	-311.74	361.09	0.35	0.29	
2,086.00	16.88	240.46	2,037.91	-199.74	-335.17	387.86	0.80	0.79	
2,181.00	17.62	237.04	2,128.64	-214.37	-359.24	415.88	1.32	0.78	
2,275.00	17.71	237.39	2,218.20	-229.81	-383.22	444.32	0.15	0.10	
2,370.00	17.58	237.83	2,308.73	-245.24	-407.53	473.02	0.20	-0.14	
2,465.00	17.31	238.00	2,399.36	-260.37	-431.66	501.40	0.29	-0.28	
2,606.00	17.36	235.98	2,533.96	-283.25	-466.89	543.30	0.43	0.04	
2,701.00	18.81	235.01	2,624.27	-299.96	-491.18	572.76	1.56	1.53	
2,795.00	19.64	235.81	2,713.02	-317.53	-516.67	603.68	0.93	0.88	
2,889.00	17.23	232.29	2,802.20	-334.93	-540.75	633.39	2.82	-2.56	
2,984.00	17.27	231.06	2,892.92	-352.40	-562.85	661.55	0.39	0.04	
3,078.00	18.15	234.40	2,982.47	-369.69	-585.61	690.13	1.43	0.94	
3,173.00	17.71	228.33	3,072.86	-387.91	-608.44	719.33	2.02	-0.46	
3,267.00	18.11	231.76	3,162.31	-406.46	-630.59	748.19	1.20	0.43	
3,361.00	18.55	233.26	3,251.54	-424.45	-654.05	777.75	0.69	0.47	
3,456.00	18.81	230.88	3,341.54	-443.15	-678.04	808.16	0.85	0.27	
3,550.00	17.97	231.76	3,430.74	-461.69	-701.19	837.81	0.94	-0.89	
3,645.00	17.31	236.51	3,521.27	-478.56	-724.49	866.56	1.67	-0.69	
3,739.00	17.05	239.67	3,611.08	-493.23	-748.04	894.21	1.03	-0.28	
3,833.00	17.45	239.15	3,700.85	-507.42	-772.04	921.91	0.46	0.43	
3,928.00	16.08	237.30	3,791.81	-521.83	-795.34	949.19	1.55	-1.44	
4,022.00	16.44	236.77	3,882.05	-536.15	-817.42	975.44	0.41	0.38	
4,117.00	16.00	237.21	3,973.27	-550.61	-839.67	1,001.91	0.48	-0.46	
4,211.00	15.78	238.35	4,063.68	-564.33	-861.44	1,027.56	0.41	-0.23	
4,306.00	16.22	240.29	4,155.00	-577.69	-883.96	1,053.58	0.73	0.46	
4,400.00	16.44	239.58	4,245.21	-590.93	-906.84	1,079.81	0.32	0.23	
4,495.00	16.61	242.92	4,336.29	-603.92	-930.52	1,106.54	1.02	0.18	
4,589.00	16.08	242.13	4,426.49	-616.12	-953.99	1,132.62	0.61	-0.56	
4,684.00	15.91	244.86	4,517.81	-627.80	-977.41	1,158.35	0.81	-0.18	
4,778.00	17.14	239.85	4,607.93	-640.23	-1,001.05	1,184.71	2.00	1.31	
4,873.00	17.93	237.04	4,698.52	-655.22	-1,025.43	1,213.20	1.22	0.83	
4,967.00	16.79	236.16	4,788.24	-670.65	-1,048.85	1,241.19	1.24	-1.21	
5,062.00	16.00	232.90	4,879.37	-686.19	-1,070.69	1,267.98	1.28	-0.83	
5,156.00	16.57	235.89	4,969.60	-701.53	-1,092.12	1,294.32	1.08	0.61	
5,251.00	17.71	234.93	5,060.38	-717.42	-1,115.16	1,322.29	1.24	1.20	
5,346.00	18.50	232.64	5,150.68	-734.87	-1,138.97	1,351.80	1.12	0.83	
5,440.00	18.63	228.07	5,239.79	-753.96	-1,161.99	1,381.68	1.55	0.14	
5,535.00	19.16	228.86	5,329.67	-774.35	-1,185.02	1,412.35	0.62	0.56	
5,629.00	17.40	231.67	5,418.93	-793.22	-1,207.67	1,441.79	2.09	-1.87	
5,724.00	17.71	231.67	5,509.50	-810.99	-1,230.14	1,470.44	0.33	0.33	
5,818.00	16.39	233.26	5,599.37	-827.79	-1,251.99	1,497.99	1.49	-1.40	
5,913.00	14.90	235.10	5,690.85	-842.80	-1,272.75	1,523.60	1.65	-1.57	
6,007.00	13.01	238.62	5,782.07	-855.22	-1,291.69	1,546.21	2.20	-2.01	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 22C-26 - Slot A-7
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 22C-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
6,102.00	11.78	237.74	5,874.86	-865.97	-1,309.02	1,566.52	1.31	-1.29	
6,196.00	10.20	234.93	5,967.13	-875.87	-1,323.95	1,584.40	1.77	-1.68	
6,291.00	9.27	237.30	6,060.76	-884.84	-1,337.27	1,600.43	1.07	-0.98	
6,385.00	8.83	240.20	6,153.59	-892.52	-1,349.91	1,615.14	0.67	-0.47	
6,480.00	8.22	238.79	6,247.54	-899.66	-1,362.04	1,629.13	0.68	-0.64	
6,574.00	7.25	235.89	6,340.69	-906.47	-1,372.70	1,641.74	1.11	-1.03	
6,669.00	5.89	240.99	6,435.06	-912.19	-1,381.93	1,652.55	1.56	-1.43	
6,763.00	5.19	246.79	6,528.62	-916.21	-1,390.05	1,661.46	0.95	-0.74	
6,858.00	4.66	246.97	6,623.27	-919.41	-1,397.55	1,669.37	0.56	-0.56	
6,952.00	3.65	254.61	6,717.02	-921.70	-1,403.95	1,675.86	1.22	-1.07	
7,047.00	2.68	238.53	6,811.88	-923.66	-1,408.76	1,680.88	1.37	-1.02	
7,141.00	1.32	232.99	6,905.82	-925.46	-1,411.50	1,684.15	1.46	-1.45	
7,236.00	1.58	243.54	7,000.79	-926.70	-1,413.55	1,686.53	0.39	0.27	
7,425.00	2.15	252.94	7,189.69	-928.90	-1,419.27	1,692.43	0.34	0.30	
7,613.00	2.86	259.10	7,377.51	-930.83	-1,427.25	1,699.95	0.40	0.38	
7,802.00	3.38	252.94	7,566.23	-933.35	-1,437.20	1,709.42	0.33	0.28	
7,991.00	4.79	255.05	7,754.74	-937.02	-1,450.15	1,721.97	0.75	0.75	
8,086.00	5.10	259.10	7,849.39	-938.84	-1,458.13	1,729.43	0.49	0.33	
8,181.00	4.70	256.72	7,944.04	-940.54	-1,466.07	1,736.79	0.47	-0.42	
8,370.00	5.93	259.80	8,132.23	-944.04	-1,483.21	1,752.59	0.67	0.65	
8,559.00	6.15	264.63	8,320.18	-946.72	-1,502.90	1,769.91	0.29	0.12	
8,654.00	6.24	268.32	8,414.62	-947.35	-1,513.13	1,778.45	0.43	0.09	
8,843.00	7.73	265.07	8,602.22	-948.74	-1,536.06	1,797.60	0.82	0.79	LAST CES SURVEY @ 8843' MD
8,900.00	7.90	264.00	8,658.69	-949.48	-1,543.78	1,804.20	0.39	0.30	PTB @ 8900' 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 22C-26 PBHI	0.00	0.00	8,889.00	-1,000.01	-1,602.35	14,354,950.00	2,433,740.00	39.496093	-108.188071
- actual wellpath misses target center by 242.96usft at 8900.00usft MD (8658.69 TVD, -949.48 N, -1543.78 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	
8,843.00	8,602.22	-948.74	-1,536.06	LAST CES SURVEY @ 8843' MD	
8,900.00	8,658.69	-949.48	-1,543.78	PTB @ 8900' MD	

Checked By: _____	Approved By: _____	Date: _____
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