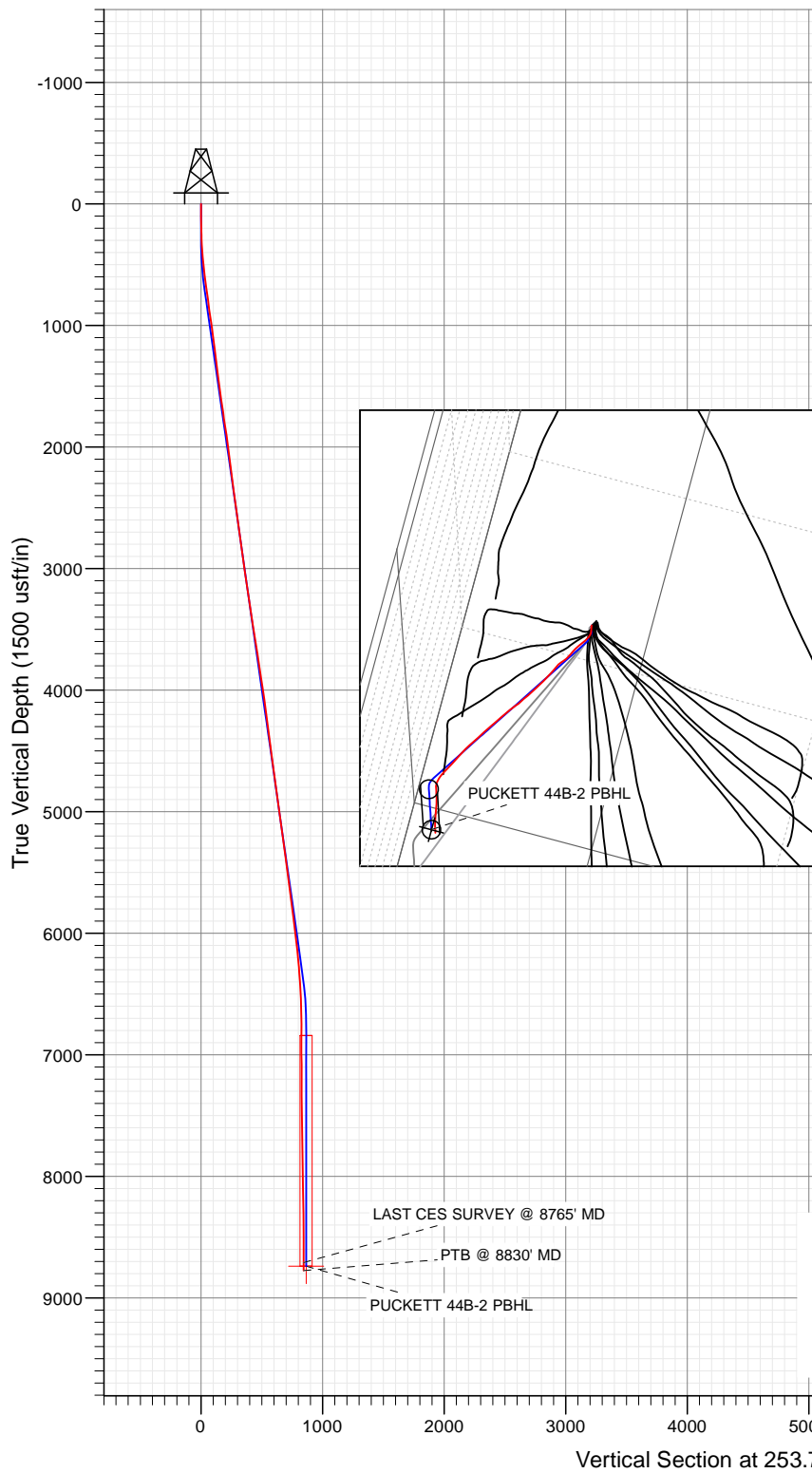
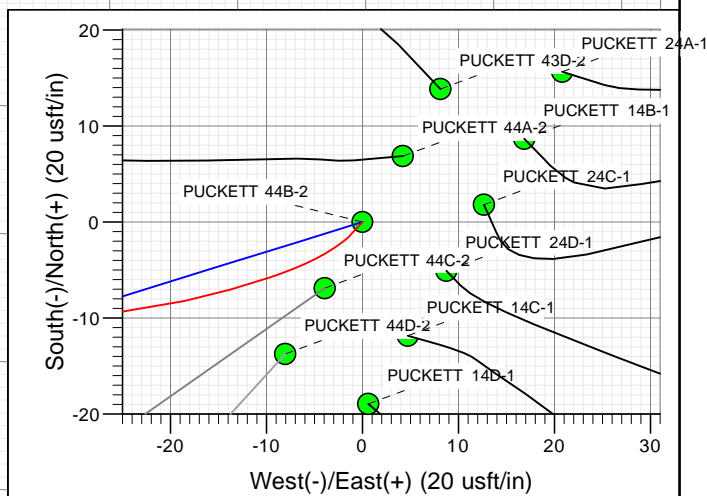
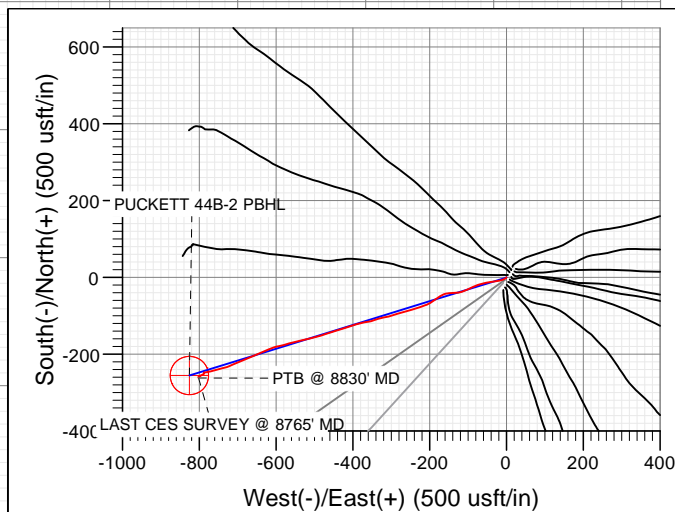




Project: Garfield County, CO (UTM 12N)
Site: S2-T7S-R97W (P2)
Well: PUCKETT 44B-2
Wellbore: OH
Design: FINAL



FINAL PUCKETT 44B-2 156737 165005 LR 30' KB @ 8454.0usft Ground Level @ 8424.0 NAD 1927 - Western US Well PUCKETT 44B-2, True North							
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD	
User	No Target (Freehand)	253.72	Slot	0.0	0.0	0.0	
Name		TVD				Latitude	Longitude
PUCKETT 44B-2 PBHL		8739.0		+N/-S -255.4	+E/-W -825.4	39.469608	-108.181416



Azimuths to True North
Magnetic North: 9.82°
Magnetic Field
Strength: 51907.7snT
Dip Angle: 65.78°
Date: 1/28/2016
Model: HDGM

CASING DETAILS
No casing data is available



WELL DETAILS: PUCKETT 44B-2

+N/-S 0.0	+E/-W 0.0	Northing 14345644.20	Ground Level: Easting 2436736.70	8424.0 Latitude 39.470309	Longitude -108.178494
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Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 44B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8454.0usft
Site:	S2-T7S-R97W (P2)	MD Reference:	30' KB @ 8454.0usft
Well:	PUCKETT 44B-2	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		S2-T7S-R97W (P2)			
Site Position:		Northing:	14,345,665.30 usft	Latitude:	39.470366
From:	Map	Easting:	2,436,748.30 usft	Longitude:	-108.178450
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.79 °

Well	PUCKETT 44B-2					
Well Position	+N/-S	0.0 usft	Northing:	14,345,644.20 usft	Latitude:	39.470309
	+E/-W	0.0 usft	Easting:	2,436,736.70 usft	Longitude:	-108.178494
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,424.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	1/28/2016	9.82	65.78	51,908

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	253.72	

Survey Program	Date	2/2/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
226.0	8,830.0	Survey #1 (OH)	MWD	Geolink MWD	

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	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
226.0	1.10	222.70	226.0	-1.6	-1.5	1.9	0.49	0.49		
287.0	2.10	238.60	287.0	-2.6	-2.8	3.4	1.78	1.64		
318.0	2.80	237.40	317.9	-3.3	-3.9	4.7	2.26	2.26		
365.0	3.90	247.20	364.9	-4.5	-6.4	7.4	2.63	2.34		
410.0	5.00	251.10	409.7	-5.8	-9.7	10.9	2.53	2.44		
503.0	6.40	257.30	502.3	-8.2	-18.5	20.1	1.64	1.51		
595.0	7.00	263.30	593.6	-10.0	-29.1	30.8	1.00	0.65		
690.0	7.50	261.10	687.9	-11.6	-41.0	42.6	0.60	0.53		
784.0	7.90	257.70	781.0	-14.0	-53.4	55.1	0.64	0.43		
879.0	8.00	253.90	875.1	-17.2	-66.1	68.3	0.56	0.11		
974.0	8.50	250.10	969.1	-21.4	-79.0	81.9	0.78	0.53		
1,068.0	8.00	243.50	1,062.2	-26.7	-91.4	95.2	1.14	-0.53		

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 44B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8454.0usft
Site:	S2-T7S-R97W (P2)	MD Reference:	30' KB @ 8454.0usft
Well:	PUCKETT 44B-2	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
1,163.0	7.00	244.00	1,156.3	-32.2	-102.5	107.5	1.05	-1.05	
1,257.0	6.50	251.70	1,249.7	-36.4	-112.7	118.4	1.10	-0.53	
1,352.0	7.20	260.40	1,344.0	-39.1	-123.7	129.7	1.32	0.74	
1,446.0	8.00	268.00	1,437.2	-40.3	-136.1	141.9	1.36	0.85	
1,541.0	8.50	266.10	1,531.2	-41.0	-149.7	155.2	0.60	0.53	
1,635.0	8.00	247.60	1,624.3	-43.9	-162.7	168.5	2.86	-0.53	
1,730.0	8.30	237.40	1,718.3	-50.2	-174.6	181.6	1.55	0.32	
1,824.0	9.40	234.70	1,811.2	-58.2	-186.5	195.4	1.25	1.17	
1,919.0	8.80	238.20	1,905.0	-66.6	-199.0	209.7	0.86	-0.63	
2,014.0	7.60	250.80	1,999.0	-72.5	-211.2	223.0	2.27	-1.26	
2,108.0	6.70	249.90	2,092.3	-76.4	-222.2	234.7	0.96	-0.96	
2,203.0	7.00	252.20	2,186.6	-80.1	-232.9	246.0	0.43	0.32	
2,297.0	7.70	255.20	2,279.8	-83.4	-244.4	258.0	0.85	0.74	
2,391.0	7.50	254.20	2,373.0	-86.7	-256.4	270.4	0.26	-0.21	
2,485.0	7.70	256.00	2,466.2	-89.9	-268.4	282.9	0.33	0.21	
2,597.0	7.60	250.30	2,577.2	-94.2	-282.7	297.8	0.68	-0.09	
2,691.0	7.30	251.00	2,670.4	-98.2	-294.2	309.9	0.33	-0.32	
2,786.0	8.70	257.90	2,764.5	-101.7	-306.9	323.1	1.78	1.47	
2,880.0	8.00	259.80	2,857.5	-104.4	-320.3	336.7	0.80	-0.74	
2,975.0	8.60	251.90	2,951.5	-107.7	-333.6	350.4	1.35	0.63	
3,070.0	7.70	251.30	3,045.5	-112.0	-346.3	363.9	0.95	-0.95	
3,165.0	7.70	258.90	3,139.7	-115.2	-358.6	376.5	1.07	0.00	
3,259.0	8.90	262.30	3,232.7	-117.4	-372.0	390.0	1.38	1.28	
3,354.0	9.50	254.10	3,326.5	-120.6	-386.8	405.1	1.52	0.63	
3,448.0	9.30	251.50	3,419.2	-125.1	-401.5	420.5	0.50	-0.21	
3,543.0	9.00	250.10	3,513.0	-130.1	-415.8	435.6	0.39	-0.32	
3,637.0	8.30	254.80	3,605.9	-134.3	-429.2	449.7	1.06	-0.74	
3,732.0	8.60	252.00	3,699.9	-138.3	-442.6	463.6	0.54	0.32	
3,826.0	8.30	252.70	3,792.9	-142.5	-455.8	477.4	0.34	-0.32	
3,921.0	8.50	252.70	3,886.8	-146.7	-469.0	491.3	0.21	0.21	
4,016.0	8.30	252.70	3,980.8	-150.8	-482.3	505.2	0.21	-0.21	
4,110.0	8.50	254.80	4,073.8	-154.6	-495.4	518.9	0.39	0.21	
4,205.0	7.90	256.40	4,167.9	-158.0	-508.6	532.5	0.68	-0.63	
4,299.0	7.70	257.70	4,261.0	-160.9	-521.0	545.2	0.28	-0.21	
4,393.0	7.30	255.70	4,354.2	-163.7	-532.9	557.4	0.51	-0.43	
4,488.0	7.10	257.70	4,448.4	-166.4	-544.5	569.3	0.34	-0.21	
4,582.0	7.00	255.10	4,541.7	-169.1	-555.7	580.9	0.36	-0.11	
4,677.0	7.80	253.90	4,635.9	-172.4	-567.5	593.1	0.86	0.84	
4,771.0	7.60	256.40	4,729.1	-175.6	-579.7	605.7	0.41	-0.21	
4,866.0	8.10	257.50	4,823.2	-178.6	-592.3	618.6	0.55	0.53	
4,961.0	8.70	251.10	4,917.2	-182.3	-605.7	632.5	1.17	0.63	
5,055.0	8.50	247.70	5,010.1	-187.3	-618.8	646.5	0.58	-0.21	
5,150.0	8.00	245.50	5,104.1	-192.7	-631.3	660.0	0.62	-0.53	
5,244.0	7.40	246.40	5,197.3	-197.8	-642.8	672.5	0.65	-0.64	
5,339.0	7.10	247.40	5,291.5	-202.5	-653.8	684.4	0.34	-0.32	
5,433.0	6.50	248.80	5,384.9	-206.7	-664.2	695.5	0.66	-0.64	
5,528.0	7.60	248.30	5,479.1	-210.9	-675.0	707.1	1.16	1.16	
5,622.0	8.10	247.60	5,572.3	-215.8	-686.9	719.9	0.54	0.53	
5,717.0	7.60	246.30	5,666.4	-220.8	-698.9	732.7	0.56	-0.53	
5,812.0	7.70	247.00	5,760.5	-225.9	-710.5	745.3	0.14	0.11	
5,906.0	7.60	246.60	5,853.7	-230.8	-722.0	757.7	0.12	-0.11	
6,001.0	6.90	254.10	5,947.9	-234.8	-733.2	769.7	1.24	-0.74	
6,095.0	6.60	256.60	6,041.3	-237.6	-743.9	780.7	0.45	-0.32	

Cathedral Energy Services

Survey Report

Company:	Caerus Oil & Gas	Local Co-ordinate Reference:	Well PUCKETT 44B-2
Project:	Garfield County, CO (UTM 12N)	TVD Reference:	30' KB @ 8454.0usft
Site:	S2-T7S-R97W (P2)	MD Reference:	30' KB @ 8454.0usft
Well:	PUCKETT 44B-2	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
6,190.0	6.00	253.10	6,135.7	-240.4	-754.0	791.1	0.75	-0.63	
6,284.0	5.20	256.50	6,229.3	-242.8	-762.8	800.3	0.92	-0.85	
6,379.0	3.90	257.50	6,324.0	-244.5	-770.2	807.8	1.37	-1.37	
6,474.0	3.50	260.30	6,418.8	-245.7	-776.2	813.9	0.46	-0.42	
6,568.0	3.20	257.80	6,512.6	-246.7	-781.6	819.4	0.35	-0.32	
6,663.0	2.10	262.80	6,607.5	-247.5	-785.9	823.7	1.18	-1.16	
6,757.0	0.40	175.80	6,701.5	-248.0	-787.6	825.5	2.25	-1.81	
6,852.0	0.60	93.30	6,796.5	-248.4	-787.0	825.1	0.71	0.21	
6,946.0	0.60	185.60	6,890.5	-248.9	-786.6	824.8	0.92	0.00	
7,041.0	0.70	270.30	6,985.5	-249.4	-787.2	825.6	0.93	0.11	
7,136.0	0.30	147.80	7,080.5	-249.6	-787.7	826.1	0.94	-0.42	
7,230.0	0.30	188.50	7,174.5	-250.1	-787.6	826.1	0.22	0.00	
7,325.0	0.60	172.10	7,269.5	-250.8	-787.6	826.3	0.34	0.32	
7,419.0	0.80	239.70	7,363.4	-251.6	-788.1	827.0	0.85	0.21	
7,514.0	0.70	246.70	7,458.4	-252.2	-789.2	828.2	0.14	-0.11	
7,608.0	0.80	243.00	7,552.4	-252.7	-790.3	829.4	0.12	0.11	
7,703.0	1.30	252.20	7,647.4	-253.3	-791.9	831.2	0.55	0.53	
7,797.0	1.10	247.60	7,741.4	-254.0	-793.7	833.1	0.24	-0.21	
7,892.0	1.10	225.90	7,836.4	-255.0	-795.2	834.8	0.44	0.00	
7,986.0	0.90	221.00	7,930.4	-256.2	-796.4	836.2	0.23	-0.21	
8,176.0	0.80	250.30	8,120.3	-257.7	-798.6	838.8	0.23	-0.05	
8,365.0	0.70	277.80	8,309.3	-258.0	-801.0	841.2	0.20	-0.05	
8,554.0	0.70	178.70	8,498.3	-259.0	-802.1	842.5	0.56	0.00	
8,765.0	0.50	153.10	8,709.3	-261.1	-801.7	842.7	0.16	-0.09	LAST CES SURVEY @ 8765' MD
8,830.0	0.50	153.10	8,774.3	-261.6	-801.4	842.6	0.00	0.00	PTB @ 8830' MD

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
PUCKETT 44B-2 PBHL		0.00	0.00	8,739.0	-255.4	-825.4	14,345,363.10	2,435,919.70	39.469608 -108.181416
- actual wellpath misses target center by 38.5usft at 8765.0usft MD (8709.3 TVD, -261.1 N, -801.7 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,765.0	8,709.3	-261.1	-801.7	LAST CES SURVEY @ 8765' MD	
8,830.0	8,774.3	-261.6	-801.4	PTB @ 8830' MD	

Checked By: _____	Approved By: _____	Date: _____
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