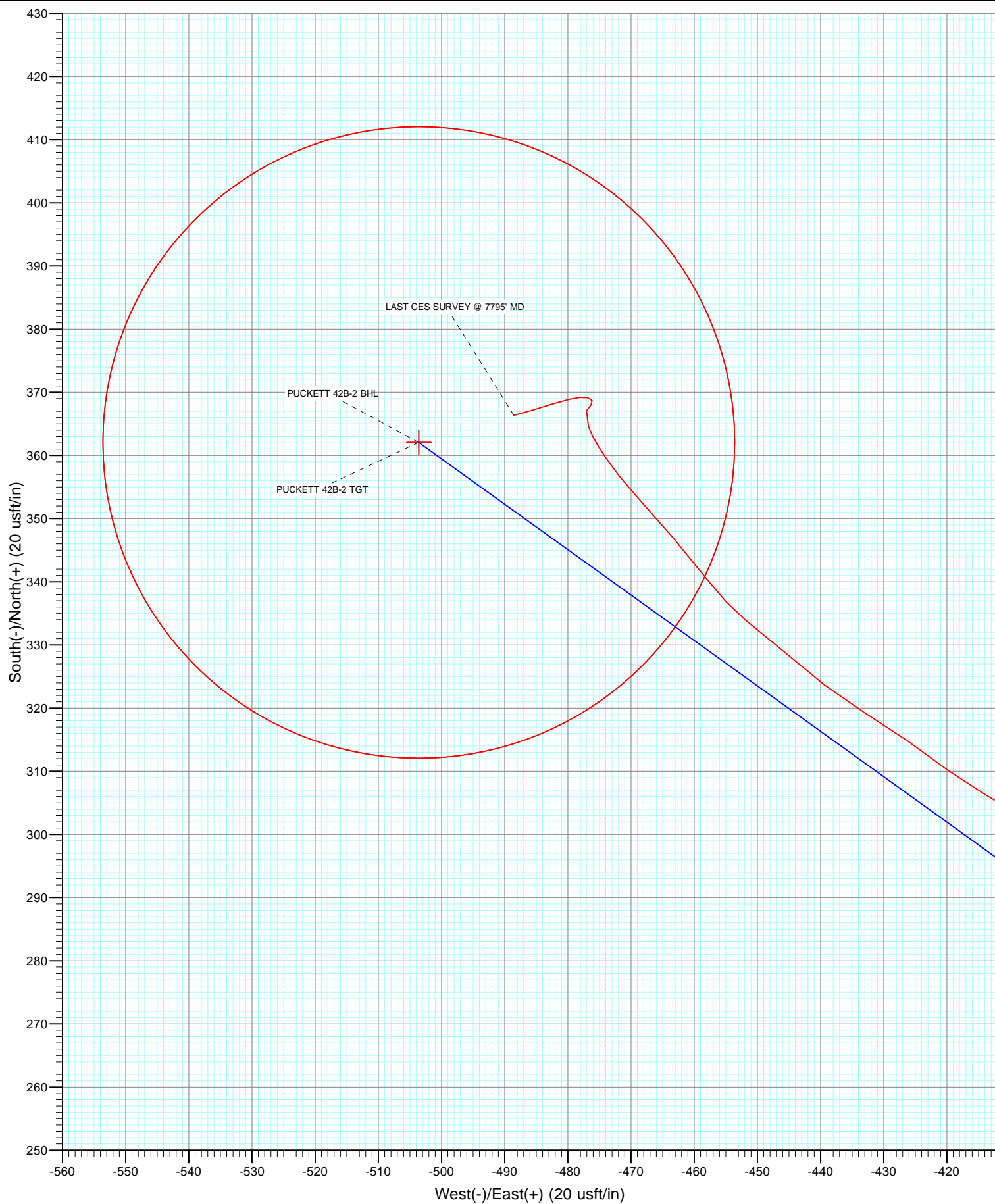


DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PUCKETT 42B-2 TGT	362.1	-503.6	609702.38	1243175.44	39.476775	-108.181456
PUCKETT 42B-2 BHL	362.1	-503.6	609702.38	1243175.44	39.476775	-108.181456



Project: Garfield County, CO
Site: S2-T7S-R97W (Mesa H2)
Well: PUCKETT 42B-2
Wellbore: DD
Design: SURVEYS



Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 42B-2
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8507.0usft (H&P 330)
Site:	S2-T7S-R97W (Mesa H2)	MD Reference:	30' KB @ 8507.0usft (H&P 330)
Well:	PUCKETT 42B-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	SURVEYS	Database:	USA EDM 5000 Multi Users DB

Project	Garfield County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado Central 502		

Site		S2-T7S-R97W (Mesa H2)			
Site Position:		Northing:	609,295.74 usft	Latitude:	39.475700
From:	Lat/Long	Easting:	1,243,680.53 usft	Longitude:	-108.179625
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.69 °

Well	PUCKETT 42B-2					
Well Position	+N/-S	0.0 usft	Northing:	609,325.62 usft	Latitude:	39.475781
	+E/-W	0.0 usft	Easting:	1,243,668.14 usft	Longitude:	-108.179672
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,477.0 usft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/25/2015	9.88	65.82	51,952

Design	SURVEYS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	310.77	

Survey Program	Date	5/2/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
208.0	7,795.0	Survey #1 (DD)	ISCWSA MWD	MWD - Standard	

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		
208.0	1.50	250.00	208.0	-0.9	-2.6	1.3	0.72	0.72		
238.0	2.00	260.00	238.0	-1.2	-3.4	1.9	1.95	1.67		
269.0	2.00	274.70	268.9	-1.2	-4.5	2.6	1.65	0.00		
300.0	2.30	285.30	299.9	-1.0	-5.7	3.6	1.60	0.97		
331.0	2.50	274.80	330.9	-0.8	-6.9	4.7	1.56	0.65		
362.0	3.20	290.40	361.9	-0.4	-8.4	6.1	3.35	2.26		
392.0	4.60	304.30	391.8	0.6	-10.2	8.1	5.60	4.67		
483.0	6.90	306.40	482.3	5.9	-17.6	17.2	2.54	2.53		
575.0	7.60	314.30	573.6	13.4	-26.4	28.7	1.32	0.76		
670.0	8.00	315.40	667.7	22.5	-35.5	41.6	0.45	0.42		
764.0	6.90	308.20	760.9	30.6	-44.6	53.8	1.53	-1.17		
859.0	5.60	308.70	855.4	37.1	-52.7	64.1	1.37	-1.37		

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 42B-2
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8507.0usft (H&P 330)
Site:	S2-T7S-R97W (Mesa H2)	MD Reference:	30' KB @ 8507.0usft (H&P 330)
Well:	PUCKETT 42B-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	SURVEYS	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
953.0	4.80	303.20	949.0	42.1	-59.6	72.6	1.00	-0.85	
1,047.0	5.00	314.80	1,042.6	47.1	-65.7	80.6	1.07	0.21	
1,142.0	6.00	313.90	1,137.2	53.5	-72.3	89.6	1.06	1.05	
1,236.0	4.60	305.90	1,230.8	59.1	-78.9	98.3	1.68	-1.49	
1,331.0	3.00	305.80	1,325.6	62.8	-84.0	104.6	1.68	-1.68	
1,426.0	2.60	355.40	1,420.5	66.4	-86.1	108.6	2.50	-0.42	
1,520.0	3.80	0.40	1,514.3	71.6	-86.3	112.1	1.31	1.28	
1,615.0	4.70	344.80	1,609.1	78.5	-87.3	117.4	1.53	0.95	
1,709.0	6.30	330.70	1,702.6	86.7	-90.8	125.4	2.22	1.70	
1,804.0	7.30	322.30	1,797.0	96.1	-97.1	136.2	1.48	1.05	
1,898.0	7.50	311.80	1,890.2	104.9	-105.3	148.2	1.45	0.21	
1,993.0	6.70	298.90	1,984.5	111.7	-114.8	159.9	1.87	-0.84	
2,087.0	6.40	286.70	2,077.9	115.8	-124.6	170.0	1.51	-0.32	
2,182.0	5.50	288.70	2,172.3	118.8	-134.0	179.1	0.97	-0.95	
2,276.0	4.60	298.50	2,266.0	122.1	-141.6	186.9	1.32	-0.96	
2,371.0	4.80	303.50	2,360.7	126.1	-148.2	194.6	0.48	0.21	
2,485.0	4.90	298.70	2,474.2	131.1	-156.5	204.1	0.37	0.09	
2,692.0	4.90	305.90	2,680.5	140.5	-171.4	221.5	0.30	0.00	
2,787.0	4.80	302.80	2,775.2	145.0	-178.0	229.5	0.30	-0.11	
2,881.0	4.70	302.00	2,868.8	149.2	-184.6	237.2	0.13	-0.11	
2,976.0	5.50	311.40	2,963.5	154.3	-191.3	245.6	1.22	0.84	
3,070.0	5.10	311.70	3,057.1	160.0	-197.8	254.3	0.43	-0.43	
3,164.0	4.80	308.90	3,150.7	165.3	-204.0	262.4	0.41	-0.32	
3,259.0	4.30	309.90	3,245.4	170.0	-209.8	269.9	0.53	-0.53	
3,353.0	5.70	317.90	3,339.0	175.8	-215.6	278.1	1.66	1.49	
3,448.0	5.70	314.90	3,433.6	182.6	-222.1	287.5	0.31	0.00	
3,542.0	5.20	317.40	3,527.1	189.0	-228.3	296.4	0.59	-0.53	
3,637.0	5.00	320.70	3,621.8	195.4	-233.9	304.7	0.37	-0.21	
3,731.0	5.30	299.00	3,715.4	200.7	-240.3	313.0	2.08	0.32	
3,826.0	4.80	302.00	3,810.0	204.9	-247.5	321.2	0.60	-0.53	
3,920.0	4.50	301.10	3,903.7	208.9	-254.0	328.7	0.33	-0.32	
4,015.0	5.60	304.30	3,998.4	213.4	-261.0	337.0	1.19	1.16	
4,109.0	5.70	306.00	4,091.9	218.8	-268.5	346.2	0.21	0.11	
4,203.0	5.70	306.70	4,185.4	224.3	-276.1	355.5	0.07	0.00	
4,298.0	5.30	304.30	4,280.0	229.6	-283.5	364.6	0.49	-0.42	
4,392.0	5.30	307.70	4,373.6	234.7	-290.5	373.3	0.33	0.00	
4,487.0	5.10	308.00	4,468.2	240.0	-297.3	381.9	0.21	-0.21	
4,581.0	4.90	303.50	4,561.8	244.8	-303.9	390.0	0.47	-0.21	
4,676.0	4.70	300.90	4,656.5	249.0	-310.7	397.9	0.31	-0.21	
4,770.0	4.20	297.90	4,750.2	252.6	-317.0	405.0	0.59	-0.53	
4,864.0	5.90	300.50	4,843.9	256.7	-324.2	413.1	1.82	1.81	
4,959.0	5.80	287.70	4,938.4	260.6	-333.0	422.4	1.37	-0.11	
5,054.0	5.30	298.40	5,032.9	264.1	-341.4	431.1	1.21	-0.53	
5,148.0	6.40	303.30	5,126.4	269.1	-349.6	440.5	1.28	1.17	
5,243.0	6.70	302.20	5,220.8	274.9	-358.7	451.2	0.34	0.32	
5,337.0	6.30	299.10	5,314.2	280.4	-367.9	461.7	0.57	-0.43	
5,432.0	5.80	298.60	5,408.7	285.2	-376.6	471.5	0.53	-0.53	
5,526.0	5.30	298.40	5,502.2	289.5	-384.6	480.4	0.53	-0.53	
5,621.0	5.60	301.40	5,596.8	294.0	-392.5	489.2	0.44	0.32	
5,715.0	5.10	299.70	5,690.4	298.5	-400.0	497.9	0.56	-0.53	
5,810.0	4.80	298.60	5,785.0	302.5	-407.2	505.9	0.33	-0.32	
5,904.0	4.30	299.60	5,878.8	306.1	-413.7	513.2	0.54	-0.53	
5,998.0	4.70	306.30	5,972.5	310.1	-419.8	520.5	0.70	0.43	

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 42B-2
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8507.0usft (H&P 330)
Site:	S2-T7S-R97W (Mesa H2)	MD Reference:	30' KB @ 8507.0usft (H&P 330)
Well:	PUCKETT 42B-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	SURVEYS	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
6,093.0	5.00	306.10	6,067.1	314.9	-426.3	528.5	0.32	0.32	
6,188.0	4.50	300.20	6,161.8	319.2	-432.9	536.3	0.74	-0.53	
6,282.0	5.10	308.40	6,255.5	323.6	-439.3	544.1	0.97	0.64	
6,471.0	4.80	310.50	6,443.8	334.0	-451.9	560.4	0.19	-0.16	
6,566.0	5.40	321.90	6,538.4	340.1	-457.7	568.7	1.24	0.63	
6,660.0	5.40	319.60	6,632.0	347.0	-463.3	577.5	0.23	0.00	
6,755.0	5.20	317.60	6,726.6	353.5	-469.1	586.1	0.29	-0.21	
6,850.0	4.40	325.70	6,821.2	359.7	-474.1	593.9	1.10	-0.84	
6,944.0	2.50	341.80	6,915.1	364.7	-476.8	599.2	2.25	-2.02	
7,039.0	0.70	36.40	7,010.0	367.1	-477.1	601.0	2.29	-1.89	
7,133.0	0.70	38.90	7,104.0	368.0	-476.4	601.1	0.03	0.00	
7,228.0	0.40	324.90	7,199.0	368.7	-476.2	601.4	0.74	-0.32	
7,322.0	0.60	285.90	7,293.0	369.1	-476.8	602.2	0.41	0.21	
7,417.0	0.90	264.80	7,388.0	369.2	-478.1	603.1	0.42	0.32	
7,512.0	1.30	256.10	7,483.0	368.9	-479.9	604.3	0.46	0.42	
7,606.0	1.90	253.80	7,576.9	368.2	-482.4	605.8	0.64	0.64	
7,701.0	1.90	251.10	7,671.9	367.2	-485.4	607.4	0.09	0.00	
7,795.0	2.10	257.50	7,765.8	366.3	-488.5	609.2	0.32	0.21	LAST CES SURVEY @ 7795' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT 42B-2 BHL - hit/miss target - Shape	0.00	0.00	8,884.0	362.1	-503.6	609,702.38	1,243,175.44	39.476775	-108.181456
- survey misses target center by 1118.3usft at 7795.0usft MD (7765.8 TVD, 366.3 N, -488.5 E)									
- Circle (radius 50.0)									
PUCKETT 42B-2 TGT - survey misses target center by 27.1usft at 7378.3usft MD (7349.3 TVD, 369.2 N, -477.5 E)	0.00	0.00	7,349.0	362.1	-503.6	609,702.38	1,243,175.44	39.476775	-108.181456
- Point									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,795.0	7,765.8	366.3	-488.5	LAST CES SURVEY @ 7795' MD

Checked By: _____	Approved By: _____	Date: _____
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