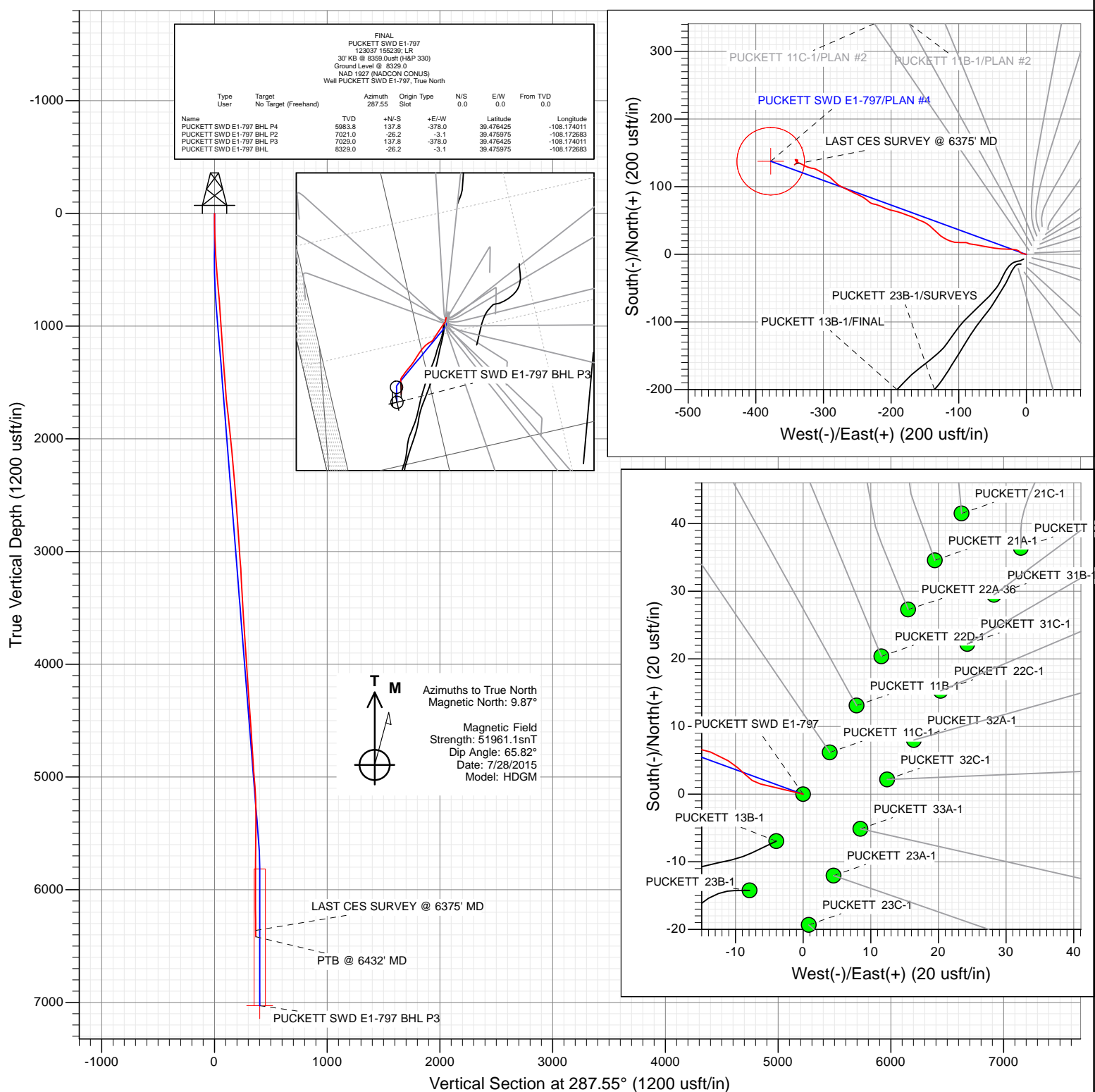




Project: Garfield County, CO
 Site: S1-T7S-R97W (Mesa E1 797)
 Well: PUCKETT SWD E1-797
 Wellbore: VH
 Design: FINAL



WELL DETAILS: PUCKETT SWD E1-797

Ground Level: 8329.0
 Northing: 609364.26
 Easting: 1245646.15
 Latitude: 39.476047
 Longitude: -108.172672



Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT SWD E1-797
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT SWD E1-797	North Reference:	True
Wellbore:	VH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	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		S1-T7S-R97W (Mesa E1 797)			
Site Position:		Northing:	609,370.34 usft	Latitude:	39.476064
From:	Lat/Long	Easting:	1,245,650.28 usft	Longitude:	-108.172658
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.69 °

Well	PUCKETT SWD E1-797					
Well Position	+N/-S	0.0 usft	Northing:	609,364.26 usft	Latitude:	39.476047
	+E/-W	0.0 usft	Easting:	1,245,646.15 usft	Longitude:	-108.172672
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,329.0 usft

Wellbore	VH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/28/2015	9.87	65.82	51,961

Design	FINAL				
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	287.55	

Survey Program	Date	8/3/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
275.0	6,432.0	Survey #1 (VH)	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		
275.0	2.70	283.40	274.9	1.5	-6.3	6.5	0.98	0.98		
305.0	2.50	304.30	304.9	2.0	-7.5	7.8	3.21	-0.67		
336.0	2.60	316.80	335.8	2.9	-8.6	9.1	1.82	0.32		
397.0	3.50	303.10	396.8	5.0	-11.1	12.1	1.89	1.48		
488.0	4.30	279.50	487.5	7.0	-16.8	18.1	1.95	0.88		
579.0	5.40	270.40	578.2	7.6	-24.4	25.6	1.47	1.21		
674.0	5.40	272.80	672.8	7.9	-33.4	34.2	0.24	0.00		
768.0	4.40	278.50	766.5	8.6	-41.3	42.0	1.18	-1.06		
863.0	4.00	277.50	861.2	9.6	-48.2	48.9	0.43	-0.42		
957.0	4.00	279.00	955.0	10.5	-54.7	55.3	0.11	0.00		
1,052.0	3.90	281.20	1,049.7	11.7	-61.2	61.8	0.19	-0.11		
1,146.0	4.00	281.60	1,143.5	13.0	-67.5	68.3	0.11	0.11		

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT SWD E1-797
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT SWD E1-797	North Reference:	True
Wellbore:	VH	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
1,240.0	4.50	278.60	1,237.3	14.2	-74.4	75.2	0.58	0.53	
1,335.0	3.70	276.80	1,332.0	15.1	-81.1	81.9	0.85	-0.84	
1,430.0	4.10	293.80	1,426.8	16.8	-87.2	88.3	1.28	0.42	
1,524.0	4.30	263.30	1,520.6	17.8	-93.8	94.8	2.36	0.21	
1,619.0	5.10	271.90	1,615.2	17.5	-101.6	102.1	1.12	0.84	
1,714.0	7.30	288.10	1,709.7	19.5	-111.5	112.2	2.94	2.32	
1,808.0	6.80	301.00	1,803.0	24.2	-122.0	123.6	1.76	-0.53	
1,903.0	5.90	312.90	1,897.4	30.5	-130.4	133.5	1.67	-0.95	
1,998.0	5.90	316.30	1,991.9	37.3	-137.3	142.2	0.37	0.00	
2,092.0	5.70	306.80	2,085.4	43.6	-144.4	150.8	1.04	-0.21	
2,187.0	6.50	292.00	2,179.9	48.4	-153.2	160.6	1.85	0.84	
2,282.0	4.70	296.50	2,274.4	52.2	-161.6	169.9	1.95	-1.89	
2,376.0	4.00	290.50	2,368.2	55.1	-168.2	176.9	0.89	-0.74	
2,468.0	4.50	290.70	2,459.9	57.5	-174.5	183.7	0.54	0.54	
2,594.0	4.50	290.10	2,585.5	60.9	-183.8	193.6	0.04	0.00	
2,689.0	4.30	285.00	2,680.2	63.1	-190.7	200.9	0.46	-0.21	
2,783.0	4.60	282.20	2,774.0	64.8	-197.8	208.2	0.39	0.32	
2,878.0	3.30	292.30	2,868.7	66.7	-204.1	214.7	1.55	-1.37	
2,972.0	3.80	294.00	2,962.5	68.9	-209.4	220.5	0.54	0.53	
3,067.0	3.80	288.50	3,057.3	71.2	-215.3	226.8	0.38	0.00	
3,162.0	3.70	289.30	3,152.1	73.2	-221.2	233.0	0.12	-0.11	
3,255.0	3.10	280.30	3,245.0	74.7	-226.5	238.5	0.86	-0.65	
3,351.0	3.70	306.60	3,340.8	77.0	-231.5	244.0	1.72	0.62	
3,445.0	3.40	308.70	3,434.6	80.5	-236.1	249.4	0.35	-0.32	
3,539.0	3.70	306.20	3,528.4	84.1	-240.8	254.9	0.36	0.32	
3,634.0	3.40	291.10	3,623.3	86.9	-245.9	260.6	1.03	-0.32	
3,728.0	2.90	293.10	3,717.1	88.8	-250.6	265.8	0.54	-0.53	
3,823.0	4.10	298.60	3,811.9	91.4	-255.8	271.5	1.31	1.26	
3,917.0	4.20	294.80	3,905.7	94.5	-261.9	278.2	0.31	0.11	
4,012.0	3.90	299.00	4,000.5	97.5	-267.9	284.8	0.44	-0.32	
4,106.0	3.50	290.70	4,094.3	100.0	-273.4	290.8	0.71	-0.43	
4,201.0	4.60	310.30	4,189.0	103.5	-279.0	297.2	1.85	1.16	
4,295.0	4.70	317.10	4,282.7	108.8	-284.5	304.1	0.60	0.11	
4,390.0	4.40	307.20	4,377.4	113.9	-290.0	310.9	0.88	-0.32	
4,484.0	3.90	296.80	4,471.2	117.5	-295.8	317.4	0.96	-0.53	
4,578.0	3.80	303.60	4,565.0	120.6	-301.2	323.6	0.50	-0.11	
4,673.0	3.60	296.50	4,659.8	123.7	-306.5	329.5	0.53	-0.21	
4,767.0	3.60	293.80	4,753.6	126.2	-311.8	335.4	0.18	0.00	
4,862.0	3.60	273.70	4,848.4	127.6	-317.6	341.3	1.32	0.00	
4,957.0	4.50	296.80	4,943.2	129.5	-323.9	347.8	1.94	0.95	
5,051.0	4.60	295.20	5,036.9	132.8	-330.6	355.2	0.17	0.11	
5,146.0	3.70	292.20	5,131.6	135.5	-336.8	362.0	0.97	-0.95	
5,241.0	1.10	327.90	5,226.5	137.5	-340.2	365.8	3.03	-2.74	
5,335.0	1.40	324.10	5,320.5	139.2	-341.3	367.4	0.33	0.32	
5,430.0	0.50	98.00	5,415.5	140.0	-341.6	367.9	1.88	-0.95	
5,524.0	0.80	93.20	5,509.5	140.0	-340.5	366.9	0.32	0.32	
5,619.0	0.70	97.60	5,604.5	139.8	-339.3	365.7	0.12	-0.11	
5,713.0	0.10	105.40	5,698.5	139.7	-338.6	365.0	0.64	-0.64	
5,808.0	0.40	149.00	5,793.5	139.4	-338.4	364.7	0.35	0.32	
5,902.0	0.70	189.90	5,887.5	138.6	-338.3	364.4	0.51	0.32	
5,997.0	0.60	190.90	5,982.5	137.5	-338.5	364.2	0.11	-0.11	
6,092.0	0.60	203.20	6,077.5	136.6	-338.8	364.2	0.14	0.00	
6,186.0	0.60	216.80	6,171.5	135.7	-339.3	364.4	0.15	0.00	

Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT SWD E1-797
Project:	Garfield County, CO	TVD Reference:	30' KB @ 8359.0usft (H&P 330)
Site:	S1-T7S-R97W (Mesa E1 797)	MD Reference:	30' KB @ 8359.0usft (H&P 330)
Well:	PUCKETT SWD E1-797	North Reference:	True
Wellbore:	VH	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
6,280.0	0.90	223.20	6,265.5	134.8	-340.1	364.9	0.33	0.32	
6,375.0	1.50	231.70	6,360.4	133.5	-341.6	365.9	0.66	0.63	LAST CES SURVEY @ 6375' MD
6,432.0	1.50	231.70	6,417.4	132.6	-342.8	366.8	0.00	0.00	PTB @ 6432' MD

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PUCKETT SWD E1-797 - actual wellpath misses target center by 39.4usft at 5998.4usft MD (5983.9 TVD, 137.5 N, -338.5 E) - Circle (radius 50.0)	0.00	0.00	5,983.8	137.8	-378.0	609,513.08	1,245,272.41	39.476425	-108.174011
PUCKETT SWD E1-797 - actual wellpath misses target center by 1948.0usft at 6432.0usft MD (6417.4 TVD, 132.6 N, -342.8 E) - Point	0.00	0.00	8,329.0	-26.2	-3.1	609,338.15	1,245,642.28	39.475975	-108.172683
PUCKETT SWD E1-797 - actual wellpath misses target center by 612.6usft at 6432.0usft MD (6417.4 TVD, 132.6 N, -342.8 E) - Circle (radius 50.0)	0.00	0.00	7,029.0	137.8	-378.0	609,513.08	1,245,272.41	39.476425	-108.174011
PUCKETT SWD E1-797 - actual wellpath misses target center by 710.5usft at 6432.0usft MD (6417.4 TVD, 132.6 N, -342.8 E) - Point	0.00	0.00	7,021.0	-26.2	-3.1	609,338.15	1,245,642.28	39.475975	-108.172683

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,375.0	6,360.4	133.5	-341.6	LAST CES SURVEY @ 6375' MD	
6,432.0	6,417.4	132.6	-342.8	PTB @ 6432' MD	

Checked By: _____	Approved By: _____	Date: _____
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