



## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT H2 797 SWD
<b>Project:</b>	Garfield County, CO	<b>TVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT H2 797 SWD	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

<b>Project</b>	Garfield County, CO		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	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 H2 797 SWD				
Well Position	+N/-S	0.0 usft	Northing:	609,292.43 usft	Latitude:	39.475692
	+E/-W	0.0 usft	Easting:	1,243,692.86 usft	Longitude:	-108.179581
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	8,477.0 usft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	3/6/2015	9.90	65.82	51,969

<b>Design</b>	FINAL				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	131.00	

<b>Survey Program</b>	<b>Date</b>	3/18/2015			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
145.0	6,300.0	Survey #1 (DD)	ISCWSA MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usf)</b>	<b>Build Rate (°/100u)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
145.0	0.50	232.10	145.0	-0.4	-0.5	-0.1	0.34	0.34		
182.0	0.60	226.60	182.0	-0.6	-0.8	-0.2	0.31	0.27		
213.0	0.60	208.40	213.0	-0.9	-1.0	-0.2	0.61	0.00		
244.0	0.60	195.60	244.0	-1.2	-1.1	0.0	0.43	0.00		
275.0	0.70	196.90	275.0	-1.5	-1.2	0.1	0.33	0.32		
305.0	0.60	175.80	305.0	-1.8	-1.2	0.3	0.86	-0.33		
336.0	0.60	168.90	336.0	-2.2	-1.2	0.5	0.23	0.00		
367.0	0.40	151.80	367.0	-2.4	-1.1	0.8	0.80	-0.65		
397.0	0.50	127.20	397.0	-2.6	-0.9	1.0	0.72	0.33		
427.0	0.70	85.80	427.0	-2.7	-0.7	1.2	1.55	0.67		
457.0	0.80	86.40	457.0	-2.6	-0.3	1.5	0.33	0.33		
488.0	0.90	82.20	488.0	-2.6	0.2	1.8	0.38	0.32		

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<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT H2 797 SWD	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	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
519.0	1.00	92.90	519.0	-2.6	0.7	2.2	0.66	0.32	
579.0	0.60	96.00	579.0	-2.6	1.5	2.9	0.67	-0.67	
611.0	0.40	93.90	611.0	-2.6	1.8	3.1	0.63	-0.63	
705.0	0.20	90.80	705.0	-2.7	2.3	3.5	0.21	-0.21	
800.0	0.10	61.70	800.0	-2.6	2.5	3.7	0.13	-0.11	
895.0	0.30	27.10	895.0	-2.4	2.7	3.6	0.24	0.21	
989.0	0.40	82.80	989.0	-2.1	3.2	3.8	0.36	0.11	
1,084.0	0.70	127.90	1,084.0	-2.4	4.0	4.6	0.53	0.32	
1,178.0	0.60	111.30	1,178.0	-3.0	4.9	5.6	0.23	-0.11	
1,272.0	2.10	333.30	1,271.9	-1.6	4.6	4.5	2.74	1.60	
1,367.0	0.50	305.30	1,366.9	0.2	3.4	2.5	1.76	-1.68	
1,461.0	0.40	218.80	1,460.9	0.2	2.9	2.1	0.66	-0.11	
1,556.0	1.20	337.10	1,555.9	0.8	2.3	1.2	1.51	0.84	
1,649.0	1.40	340.50	1,648.9	2.8	1.5	-0.7	0.23	0.22	
1,743.0	0.90	335.40	1,742.9	4.6	0.8	-2.3	0.54	-0.53	
1,838.0	1.10	341.70	1,837.8	6.1	0.3	-3.8	0.24	0.21	
1,932.0	1.20	341.50	1,931.8	7.9	-0.3	-5.4	0.11	0.11	
2,027.0	1.50	345.60	2,026.8	10.0	-1.0	-7.3	0.33	0.32	
2,121.0	1.70	346.80	2,120.8	12.6	-1.6	-9.5	0.22	0.21	
2,216.0	2.10	344.60	2,215.7	15.6	-2.4	-12.1	0.43	0.42	
2,310.0	2.50	345.00	2,309.6	19.3	-3.4	-15.2	0.43	0.43	
2,405.0	2.80	346.50	2,404.5	23.5	-4.4	-18.8	0.32	0.32	
2,425.0	2.90	344.40	2,424.5	24.5	-4.7	-19.6	0.72	0.50	
2,500.0	3.10	338.80	2,499.4	28.2	-5.9	-23.0	0.47	0.27	
2,595.0	2.10	335.30	2,594.3	32.2	-7.6	-26.8	1.07	-1.05	
2,689.0	1.20	315.10	2,688.3	34.5	-9.0	-29.4	1.13	-0.96	
2,784.0	0.40	224.00	2,783.3	34.9	-9.9	-30.4	1.34	-0.84	
2,878.0	1.10	172.80	2,877.2	33.8	-10.1	-29.8	0.96	0.74	
2,973.0	0.40	133.70	2,972.2	32.7	-9.7	-28.7	0.87	-0.74	
3,067.0	0.70	132.80	3,066.2	32.0	-9.0	-27.8	0.32	0.32	
3,162.0	0.70	99.90	3,161.2	31.5	-8.0	-26.8	0.42	0.00	
3,256.0	1.50	251.20	3,255.2	31.0	-8.6	-26.9	2.28	0.85	
3,351.0	2.20	186.60	3,350.2	28.8	-10.0	-26.5	2.17	0.74	
3,446.0	2.20	189.60	3,445.1	25.2	-10.5	-24.5	0.12	0.00	
3,540.0	2.00	184.30	3,539.0	21.8	-11.0	-22.6	0.30	-0.21	
3,635.0	1.40	148.60	3,634.0	19.2	-10.5	-20.5	1.25	-0.63	
3,730.0	1.30	153.70	3,729.0	17.2	-9.4	-18.4	0.16	-0.11	
3,824.0	1.60	153.20	3,822.9	15.1	-8.3	-16.2	0.32	0.32	
3,919.0	1.50	157.60	3,917.9	12.7	-7.3	-13.9	0.16	-0.11	
4,013.0	0.90	129.70	4,011.9	11.1	-6.2	-12.0	0.87	-0.64	
4,108.0	0.90	139.60	4,106.9	10.1	-5.2	-10.5	0.16	0.00	
4,202.0	1.10	167.60	4,200.9	8.7	-4.5	-9.1	0.55	0.21	
4,297.0	0.50	109.10	4,295.9	7.6	-3.9	-8.0	0.99	-0.63	
4,391.0	0.60	107.80	4,389.9	7.3	-3.1	-7.1	0.11	0.11	
4,486.0	0.70	154.40	4,484.9	6.7	-2.3	-6.1	0.55	0.11	
4,581.0	0.50	100.70	4,579.8	6.1	-1.7	-5.2	0.60	-0.21	
4,675.0	0.60	123.40	4,673.8	5.7	-0.9	-4.4	0.25	0.11	
4,770.0	1.00	70.10	4,768.8	5.7	0.3	-3.5	0.84	0.42	
4,864.0	1.00	168.90	4,862.8	5.2	1.3	-2.5	1.62	0.00	
4,959.0	2.20	197.50	4,957.8	2.6	0.9	-1.1	1.48	1.26	
5,053.0	0.50	164.20	5,051.8	0.5	0.4	0.0	1.92	-1.81	
5,148.0	0.20	102.40	5,146.8	0.1	0.7	0.5	0.47	-0.32	
5,243.0	0.10	359.00	5,241.8	0.1	0.9	0.6	0.26	-0.11	

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<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT H2 797 SWD	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	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
5,338.0	0.10	290.90	5,336.8	0.3	0.8	0.4	0.12	0.00	
5,433.0	0.10	252.70	5,431.8	0.3	0.6	0.3	0.07	0.00	
5,526.0	0.20	278.00	5,524.8	0.3	0.4	0.1	0.13	0.11	
5,621.0	0.40	296.30	5,619.8	0.4	-0.1	-0.3	0.23	0.21	
5,715.0	0.70	268.00	5,713.8	0.6	-0.9	-1.1	0.42	0.32	
5,810.0	0.50	271.60	5,808.7	0.5	-1.9	-1.8	0.21	-0.21	
5,905.0	0.90	238.50	5,903.7	0.2	-3.0	-2.4	0.58	0.42	
5,999.0	0.70	241.90	5,997.7	-0.5	-4.1	-2.8	0.22	-0.21	
6,094.0	0.80	237.80	6,092.7	-1.1	-5.2	-3.2	0.12	0.11	
6,188.0	1.30	232.70	6,186.7	-2.1	-6.6	-3.6	0.54	0.53	
6,245.0	1.60	231.30	6,243.7	-3.0	-7.7	-3.9	0.53	0.53	LAST CES SURVEY @ 6245' MD
6,300.0	1.60	231.30	6,298.7	-4.0	-8.9	-4.1	0.00	0.00	PTB @ 6300' 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 13B-1 BHL - survey misses target center by 3140.0usft at 6300.0usft MD (6298.7 TVD, -4.0 N, -8.9 E) - Circle (radius 50.0)	0.00	0.00	8,892.0	-903.6	1,515.9	608,344.54	1,245,181.50	39.473211	-108.174211
PUBKETT H2 797 SWD - survey misses target center by 551.4usft at 6300.0usft MD (6298.7 TVD, -4.0 N, -8.9 E) - Circle (radius 50.0)	0.00	0.00	6,850.0	0.0	0.0	609,292.43	1,243,692.86	39.475692	-108.179581
PUCKETT 13B-1 TGT - survey misses target center by 2075.6usft at 6300.0usft MD (6298.7 TVD, -4.0 N, -8.9 E) - Point	0.00	0.00	7,382.0	-903.6	1,515.9	608,344.54	1,245,181.50	39.473211	-108.174211

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,245.0	6,243.7	-3.0	-7.7	LAST CES SURVEY @ 6245' MD
6,300.0	6,298.7	-4.0	-8.9	PTB @ 6300' MD

Checked By: _____	Approved By: _____	Date: _____
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