



Survey Report

Company:	Caerus Oil & Gas (NAD 27)	Local Co-ordinate Reference:	Well PUCKETT 43B-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 43B-2	North Reference:	True
Wellbore:	DD	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		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 43B-2					
Well Position	+N/-S	0.0 usft	Northing:	609,295.74 usft	Latitude:	39.475700
	+E/-W	0.0 usft	Easting:	1,243,680.53 usft	Longitude:	-108.179625
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	3/28/2015	9.88	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	208.92	

Survey Program	Date	4/6/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
207.0	8,950.0	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		
207.0	2.30	208.80	206.9	-3.6	-2.0	4.2	1.11	1.11		
237.0	3.30	208.10	236.9	-4.9	-2.7	5.6	3.34	3.33		
268.0	4.50	210.60	267.8	-6.8	-3.7	7.7	3.91	3.87		
299.0	6.00	213.60	298.7	-9.2	-5.3	10.6	4.92	4.84		
330.0	7.60	217.20	329.5	-12.1	-7.4	14.2	5.34	5.16		
361.0	8.80	207.40	360.2	-15.9	-9.7	18.6	5.93	3.87		
452.0	10.60	213.30	449.9	-29.1	-17.5	33.9	2.26	1.98		
543.0	11.90	209.40	539.1	-44.2	-26.7	51.6	1.65	1.43		
634.0	11.10	209.60	628.3	-60.0	-35.7	69.8	0.88	-0.88		
729.0	9.60	205.70	721.7	-75.1	-43.6	86.8	1.74	-1.58		
823.0	9.10	200.70	814.5	-89.1	-49.6	102.0	1.01	-0.53		
917.0	9.80	196.40	907.2	-103.8	-54.5	117.2	1.06	0.74		

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Well:	PUCKETT 43B-2	North Reference:	True
Wellbore:	DD	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
1,012.0	9.30	199.40	1,000.9	-118.8	-59.4	132.6	0.74	-0.53	
1,106.0	8.20	201.50	1,093.8	-132.2	-64.3	146.8	1.22	-1.17	
1,201.0	8.20	203.00	1,187.8	-144.7	-69.5	160.2	0.23	0.00	
1,295.0	8.10	208.50	1,280.9	-156.7	-75.2	173.5	0.84	-0.11	
1,390.0	7.70	214.60	1,375.0	-167.8	-82.0	186.6	0.98	-0.42	
1,485.0	8.00	212.50	1,469.1	-178.6	-89.2	199.5	0.44	0.32	
1,579.0	8.80	205.80	1,562.1	-190.6	-95.9	213.2	1.34	0.85	
1,674.0	8.50	211.00	1,656.0	-203.2	-102.6	227.5	0.88	-0.32	
1,768.0	8.70	212.40	1,749.0	-215.1	-110.0	241.5	0.31	0.21	
1,863.0	9.20	211.20	1,842.8	-227.7	-117.8	256.3	0.56	0.53	
1,957.0	8.50	207.20	1,935.7	-240.3	-124.9	270.7	0.99	-0.74	
2,052.0	7.70	207.90	2,029.7	-252.2	-131.1	284.1	0.85	-0.84	
2,146.0	7.30	208.00	2,122.9	-263.0	-136.8	296.4	0.43	-0.43	
2,241.0	7.50	204.80	2,217.1	-274.0	-142.3	308.6	0.48	0.21	
2,335.0	8.00	206.50	2,310.3	-285.4	-147.7	321.2	0.59	0.53	
2,430.0	7.60	210.30	2,404.4	-296.7	-153.9	334.1	0.69	-0.42	
2,493.0	7.70	208.80	2,466.8	-304.0	-158.0	342.5	0.35	0.16	
2,593.0	8.30	209.30	2,565.9	-316.2	-164.8	356.4	0.60	0.60	
2,687.0	7.90	209.20	2,658.9	-327.7	-171.2	369.7	0.43	-0.43	
2,782.0	8.30	209.90	2,753.0	-339.4	-177.8	383.1	0.43	0.42	
2,876.0	8.30	210.20	2,846.0	-351.1	-184.6	396.6	0.05	0.00	
2,971.0	7.70	209.20	2,940.1	-362.6	-191.2	409.8	0.65	-0.63	
3,065.0	7.90	211.40	3,033.2	-373.6	-197.6	422.6	0.38	0.21	
3,159.0	9.10	212.60	3,126.2	-385.4	-205.0	436.5	1.29	1.28	
3,254.0	8.80	210.50	3,220.0	-398.0	-212.7	451.2	0.47	-0.32	
3,348.0	8.00	209.90	3,313.0	-409.9	-219.6	465.0	0.86	-0.85	
3,443.0	9.10	213.00	3,406.9	-421.9	-227.0	479.1	1.26	1.16	
3,537.0	9.10	211.60	3,499.8	-434.5	-235.0	493.9	0.24	0.00	
3,632.0	9.00	211.10	3,593.6	-447.2	-242.7	508.8	0.13	-0.11	
3,726.0	8.70	209.60	3,686.5	-459.7	-250.0	523.3	0.40	-0.32	
3,821.0	8.20	208.50	3,780.4	-471.9	-256.8	537.2	0.55	-0.53	
3,915.0	9.20	211.00	3,873.3	-484.2	-263.9	551.5	1.14	1.06	
4,010.0	9.10	211.70	3,967.1	-497.1	-271.8	566.6	0.16	-0.11	
4,104.0	10.40	215.00	4,059.8	-510.4	-280.5	582.4	1.50	1.38	
4,198.0	11.20	210.90	4,152.1	-525.2	-290.1	600.0	1.18	0.85	
4,293.0	10.90	211.90	4,245.4	-540.7	-299.6	618.2	0.37	-0.32	
4,387.0	10.30	211.50	4,337.7	-555.4	-308.7	635.4	0.64	-0.64	
4,482.0	10.90	204.30	4,431.1	-570.9	-316.8	652.9	1.53	0.63	
4,576.0	10.60	203.30	4,523.5	-586.9	-323.9	670.3	0.38	-0.32	
4,671.0	9.80	200.10	4,617.0	-602.5	-330.1	687.0	1.03	-0.84	
4,765.0	9.40	200.30	4,709.7	-617.2	-335.5	702.5	0.43	-0.43	
4,859.0	8.30	198.80	4,802.5	-630.9	-340.4	716.8	1.20	-1.17	
4,954.0	6.80	198.50	4,896.7	-642.7	-344.4	729.1	1.58	-1.58	
5,049.0	7.30	209.10	4,991.0	-653.3	-349.1	740.6	1.46	0.53	
5,143.0	7.20	208.00	5,084.3	-663.7	-354.8	752.5	0.18	-0.11	
5,238.0	6.90	210.10	5,178.5	-673.9	-360.4	764.2	0.42	-0.32	
5,332.0	6.80	210.30	5,271.9	-683.6	-366.0	775.4	0.11	-0.11	
5,427.0	6.90	208.80	5,366.2	-693.5	-371.6	786.7	0.22	0.11	
5,521.0	7.90	208.50	5,459.4	-704.1	-377.4	798.8	1.06	1.06	
5,615.0	10.00	210.60	5,552.2	-716.8	-384.7	813.4	2.26	2.23	
5,710.0	9.90	210.70	5,645.8	-730.9	-393.0	829.8	0.11	-0.11	
5,804.0	9.80	211.90	5,738.4	-744.6	-401.4	845.9	0.24	-0.11	
5,899.0	9.80	210.60	5,832.0	-758.5	-409.8	862.0	0.23	0.00	

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Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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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
5,993.0	10.00	209.10	5,924.6	-772.5	-417.8	878.2	0.35	0.21	
6,088.0	9.40	204.30	6,018.3	-786.8	-425.0	894.2	1.06	-0.63	
6,183.0	9.60	202.00	6,112.0	-801.2	-431.2	909.8	0.45	0.21	
6,277.0	8.80	208.40	6,204.8	-814.8	-437.5	924.8	1.38	-0.85	
6,372.0	9.00	209.20	6,298.6	-827.6	-444.6	939.5	0.25	0.21	
6,466.0	8.30	207.90	6,391.6	-840.1	-451.4	953.6	0.77	-0.74	
6,561.0	7.50	207.00	6,485.7	-851.6	-457.4	966.6	0.85	-0.84	
6,655.0	7.30	206.70	6,578.9	-862.4	-462.9	978.7	0.22	-0.21	
6,750.0	6.10	210.40	6,673.2	-872.2	-468.1	989.8	1.34	-1.26	
6,845.0	5.80	208.70	6,767.7	-880.8	-473.0	999.7	0.37	-0.32	
6,939.0	4.50	201.20	6,861.3	-888.4	-476.6	1,008.1	1.55	-1.38	
7,034.0	3.00	197.10	6,956.1	-894.2	-478.7	1,014.2	1.60	-1.58	
7,128.0	0.50	211.90	7,050.1	-896.9	-479.6	1,017.0	2.68	-2.66	
7,223.0	0.30	262.50	7,145.1	-897.3	-480.1	1,017.6	0.41	-0.21	
7,317.0	0.40	264.00	7,239.1	-897.4	-480.7	1,017.9	0.11	0.11	
7,412.0	0.40	265.10	7,334.1	-897.4	-481.3	1,018.3	0.01	0.00	
7,507.0	0.50	260.00	7,429.1	-897.5	-482.1	1,018.7	0.11	0.11	
7,601.0	0.50	257.60	7,523.1	-897.7	-482.9	1,019.3	0.02	0.00	
7,696.0	0.60	254.60	7,618.1	-897.9	-483.8	1,019.9	0.11	0.11	
7,790.0	0.80	242.50	7,712.1	-898.3	-484.8	1,020.8	0.26	0.21	
7,885.0	0.60	46.90	7,807.1	-898.3	-485.0	1,020.8	1.46	-0.21	
7,980.0	0.70	24.90	7,902.1	-897.4	-484.4	1,019.8	0.28	0.11	
8,074.0	0.80	47.50	7,996.0	-896.5	-483.7	1,018.6	0.33	0.11	
8,169.0	1.00	45.70	8,091.0	-895.5	-482.6	1,017.2	0.21	0.21	
8,263.0	1.70	219.50	8,185.0	-896.0	-482.9	1,017.8	2.87	0.74	
8,358.0	1.80	222.20	8,280.0	-898.1	-484.8	1,020.6	0.14	0.11	
8,452.0	2.30	252.20	8,373.9	-899.8	-487.6	1,023.4	1.24	0.53	
8,547.0	1.90	238.00	8,468.9	-901.2	-490.8	1,026.2	0.69	-0.42	
8,641.0	1.70	216.40	8,562.8	-903.2	-492.9	1,028.9	0.75	-0.21	
8,736.0	2.00	278.30	8,657.8	-904.1	-495.4	1,030.9	2.02	0.32	
8,830.0	1.90	234.50	8,751.7	-904.7	-498.3	1,032.9	1.55	-0.11	
8,895.0	1.90	213.20	8,816.7	-906.3	-499.8	1,034.9	1.08	0.00	LAST CES SURVEY @ 8895' MD
8,950.0	1.90	213.20	8,871.7	-907.8	-500.8	1,036.7	0.00	0.00	PTB @ 8950' MD

Survey Report

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Site:	S2-T7S-R97W (Mesa H2)	MD Reference:	30' KB @ 8507.0usft (H&P 330)
Well:	PUCKETT 43B-2	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PUCKETT 43B-2 BHL	0.00	0.00	8,849.0	-913.5	-511.2	608,397.74	1,243,142.57	39.473192	-108.181436
- actual wellpath misses target center by 12.6usft at 8927.7usft MD (8849.4 TVD, -907.2 N, -500.3 E)									
- Circle (radius 50.0)									
PUCKETT 43B-2 TGT	0.00	0.00	7,329.0	-913.5	-511.2	608,397.74	1,243,142.57	39.473192	-108.181436
- actual wellpath misses target center by 34.0usft at 7407.1usft MD (7329.2 TVD, -897.4 N, -481.3 E)									
- Point									

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)	Comment	
8,895.0	8,816.7	-906.3	-499.8	LAST CES SURVEY @ 8895' MD	
8,950.0	8,871.7	-907.8	-500.8	PTB @ 8950' MD	

Checked By: _____ Approved By: _____ Date: _____