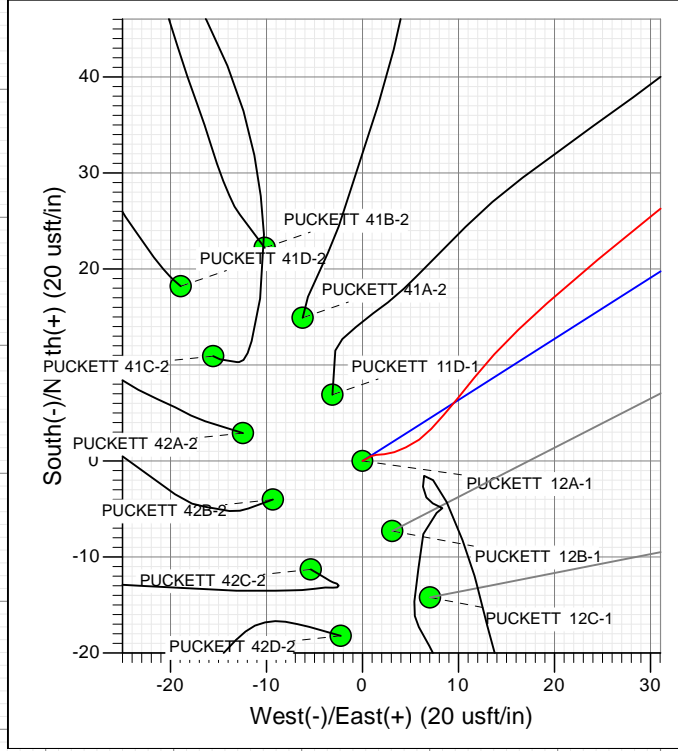
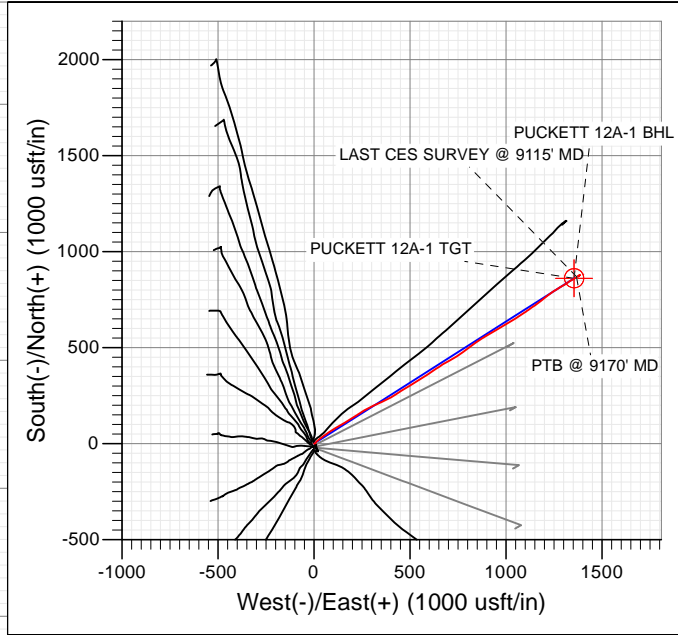
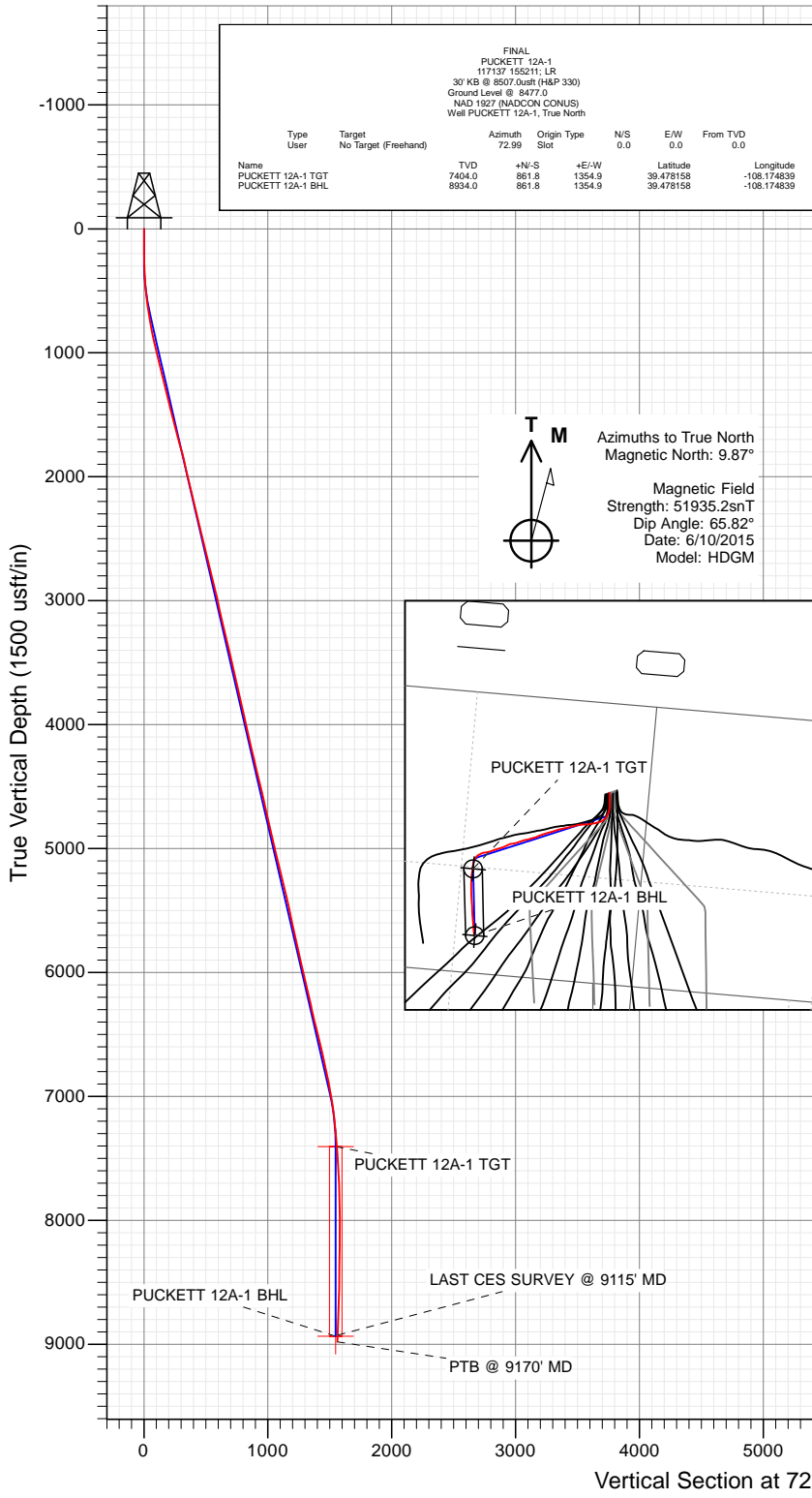




Project: Garfield County, CO  
 Site: S2-T7S-R97W (Mesa H2)  
 Well: PUCKETT 12A-1  
 Wellbore: OH  
 Design: FINAL



WELL DETAILS: PUCKETT 12A-1

Ground Level: 8477.0  
 +N/-S 0.0 +E/-W 0.0 Northing 609329.35 Easting 1243677.57 Latitude 39.475792 Longitude -108.179639



## Survey Report

<b>Company:</b> Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b> Well PUCKETT 12A-1
<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 12A-1	<b>North Reference:</b> True
<b>Wellbore:</b> OH	<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		

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

<b>Well</b> PUCKETT 12A-1				
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	609,329.35 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,243,677.57 usft
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft
			<b>Ground Level:</b>	8,477.0 usft

<b>Wellbore</b> OH					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	6/10/2015	9.87	65.82	51,935

<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	72.99

<b>Survey Program</b>		<b>Date</b> 6/18/2015
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>
211.0	9,170.0	Survey #1 (OH)
		<b>Tool Name</b> ISCWSA MWD
		<b>Description</b> MWD - Standard

<b>Survey</b>									
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	
211.0	0.60	61.90	211.0	0.5	1.0	1.1	0.28	0.28	
273.0	1.90	88.50	273.0	0.7	2.3	2.4	2.24	2.10	
304.0	2.10	68.20	304.0	0.9	3.3	3.5	2.36	0.65	
334.0	2.90	66.20	333.9	1.4	4.5	4.8	2.68	2.67	
396.0	3.30	43.30	395.8	3.4	7.2	7.9	2.08	0.65	
487.0	5.50	38.10	486.6	8.7	11.7	13.7	2.45	2.42	
579.0	8.10	48.60	577.9	16.5	19.3	23.2	3.12	2.83	
673.0	9.80	51.40	670.8	25.8	30.5	36.7	1.87	1.81	
768.0	10.80	54.20	764.2	36.1	44.0	52.7	1.18	1.05	
862.0	12.00	56.10	856.4	46.7	59.3	70.3	1.34	1.28	
957.0	13.70	58.40	949.0	58.1	77.1	90.7	1.87	1.79	
1,051.0	14.50	55.00	1,040.2	70.7	96.2	112.6	1.22	0.85	

## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12A-1
<b>Project:</b>	Garfield County, CO	<b>TD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Site:</b>	S2-T7S-R97W (Mesa H2)	<b>MVD Reference:</b>	30' KB @ 8507.0usft (H&P 330)
<b>Well:</b>	PUCKETT 12A-1	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<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
1,145.0	13.70	55.40	1,131.3	83.7	115.0	134.5	0.86	-0.85	
1,240.0	13.60	63.10	1,223.7	95.2	134.2	156.2	1.91	-0.11	
1,334.0	14.50	62.70	1,314.9	105.6	154.5	178.6	0.96	0.96	
1,429.0	15.30	56.20	1,406.7	118.0	175.5	202.4	1.95	0.84	
1,523.0	14.30	57.90	1,497.5	131.1	195.6	225.4	1.16	-1.06	
1,618.0	14.70	58.60	1,589.5	143.6	215.9	248.4	0.46	0.42	
1,712.0	16.60	55.90	1,680.0	157.3	237.2	272.8	2.16	2.02	
1,807.0	15.50	58.50	1,771.3	171.6	259.2	298.1	1.38	-1.16	
1,901.0	13.70	62.00	1,862.3	183.4	279.8	321.2	2.13	-1.91	
1,996.0	13.30	64.70	1,954.7	193.3	299.6	343.0	0.79	-0.42	
2,090.0	13.40	66.30	2,046.1	202.3	319.3	364.6	0.41	0.11	
2,185.0	13.60	66.70	2,138.5	211.2	339.7	386.6	0.23	0.21	
2,279.0	13.90	65.20	2,229.8	220.3	360.1	408.8	0.50	0.32	
2,374.0	14.00	62.10	2,322.0	230.4	380.6	431.4	0.79	0.11	
2,468.0	14.20	59.80	2,413.2	241.6	400.6	453.7	0.63	0.21	
2,591.0	13.60	57.70	2,532.6	256.9	425.9	482.4	0.64	-0.49	
2,686.0	12.80	55.90	2,625.1	268.7	444.0	503.2	0.95	-0.84	
2,780.0	14.30	60.00	2,716.4	280.4	462.7	524.5	1.89	1.60	
2,875.0	14.70	59.50	2,808.4	292.4	483.2	547.6	0.44	0.42	
2,970.0	14.20	58.70	2,900.4	304.5	503.6	570.6	0.57	-0.53	
3,064.0	13.70	56.60	2,991.6	316.7	522.7	592.5	0.76	-0.53	
3,159.0	12.90	55.90	3,084.1	328.8	540.9	613.4	0.86	-0.84	
3,253.0	13.40	61.00	3,175.6	340.0	559.1	634.1	1.34	0.53	
3,348.0	12.90	58.00	3,268.1	350.9	577.7	655.1	0.89	-0.53	
3,442.0	14.50	55.80	3,359.5	363.1	596.4	676.5	1.79	1.70	
3,537.0	14.50	53.90	3,451.4	376.8	615.8	699.1	0.50	0.00	
3,632.0	13.70	56.60	3,543.6	390.0	634.8	721.1	1.09	-0.84	
3,726.0	13.10	57.60	3,635.0	401.8	653.1	742.1	0.68	-0.64	
3,821.0	13.10	59.20	3,727.5	413.1	671.4	762.9	0.38	0.00	
3,915.0	12.80	60.80	3,819.2	423.6	689.7	783.5	0.50	-0.32	
4,010.0	12.60	61.20	3,911.8	433.8	708.0	803.9	0.23	-0.21	
4,104.0	13.30	58.50	4,003.4	444.3	726.2	824.4	0.98	0.74	
4,199.0	13.20	59.60	4,095.9	455.5	744.8	845.5	0.29	-0.11	
4,293.0	14.30	54.30	4,187.2	467.8	763.5	867.0	1.78	1.17	
4,388.0	13.90	52.50	4,279.4	481.5	782.1	888.8	0.62	-0.42	
4,483.0	13.80	50.40	4,371.6	495.7	799.9	909.9	0.54	-0.11	
4,577.0	14.80	55.10	4,462.7	509.7	818.4	931.7	1.63	1.06	
4,672.0	13.80	57.30	4,554.7	522.8	837.9	954.1	1.20	-1.05	
4,766.0	12.90	54.80	4,646.2	534.9	855.9	974.9	1.14	-0.96	
4,861.0	14.40	57.20	4,738.5	547.4	874.5	996.4	1.69	1.58	
4,956.0	13.20	58.40	4,830.8	559.5	893.6	1,018.2	1.30	-1.26	
5,050.0	12.30	59.20	4,922.5	570.2	911.4	1,038.3	0.98	-0.96	
5,145.0	13.70	59.80	5,015.0	581.1	929.8	1,059.1	1.48	1.47	
5,239.0	14.80	59.50	5,106.1	592.8	949.7	1,081.6	1.17	1.17	
5,334.0	14.20	61.00	5,198.1	604.6	970.4	1,104.8	0.75	-0.63	
5,428.0	14.10	59.90	5,289.2	615.9	990.4	1,127.2	0.31	-0.11	
5,523.0	13.10	58.80	5,381.6	627.3	1,009.6	1,149.0	1.09	-1.05	
5,617.0	12.70	56.60	5,473.2	638.5	1,027.3	1,169.2	0.67	-0.43	
5,712.0	12.90	57.50	5,565.8	650.0	1,045.0	1,189.4	0.30	0.21	
5,806.0	12.10	56.40	5,657.6	661.0	1,062.1	1,209.0	0.89	-0.85	
5,901.0	13.80	57.60	5,750.2	672.6	1,079.9	1,229.5	1.81	1.79	
5,995.0	12.60	58.00	5,841.7	684.1	1,098.1	1,250.2	1.28	-1.28	
6,090.0	14.60	54.10	5,934.0	696.6	1,116.6	1,271.5	2.31	2.11	

## Survey Report

<b>Company:</b>	Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b>	Well PUCKETT 12A-1
<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 12A-1	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<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
6,185.0	14.20	56.00	6,026.1	710.1	1,135.9	1,294.0	0.65	-0.42	
6,279.0	13.30	54.40	6,117.4	722.9	1,154.3	1,315.3	1.04	-0.96	
6,374.0	12.60	55.20	6,210.0	735.1	1,171.7	1,335.5	0.76	-0.74	
6,468.0	13.80	47.10	6,301.5	748.6	1,188.3	1,355.3	2.34	1.28	
6,562.0	15.10	50.90	6,392.5	764.0	1,206.0	1,376.8	1.71	1.38	
6,657.0	15.10	57.70	6,484.2	778.4	1,226.1	1,400.2	1.86	0.00	
6,751.0	13.80	56.50	6,575.3	791.1	1,245.8	1,422.7	1.42	-1.38	
6,846.0	13.10	56.70	6,667.6	803.3	1,264.2	1,443.9	0.74	-0.74	
6,940.0	12.40	58.80	6,759.3	814.4	1,281.8	1,463.9	0.89	-0.74	
7,035.0	11.90	59.70	6,852.2	824.6	1,298.9	1,483.4	0.56	-0.53	
7,130.0	11.00	54.80	6,945.3	834.8	1,314.8	1,501.5	1.39	-0.95	
7,224.0	9.80	58.40	7,037.8	844.1	1,329.0	1,517.8	1.45	-1.28	
7,319.0	6.80	57.60	7,131.8	851.4	1,340.6	1,531.0	3.16	-3.16	
7,413.0	5.90	61.20	7,225.2	856.7	1,349.5	1,541.1	1.05	-0.96	
7,508.0	5.80	59.50	7,319.7	861.5	1,357.9	1,550.6	0.21	-0.11	
7,602.0	4.00	67.20	7,413.3	865.1	1,365.1	1,558.4	2.03	-1.91	
7,697.0	3.10	52.70	7,508.2	868.0	1,370.2	1,564.2	1.33	-0.95	
7,791.0	3.30	51.90	7,602.0	871.2	1,374.3	1,569.1	0.22	0.21	
7,886.0	2.50	50.70	7,696.9	874.2	1,378.1	1,573.5	0.84	-0.84	
7,980.0	2.80	66.00	7,790.8	876.4	1,381.7	1,577.7	0.81	0.32	
8,075.0	1.00	70.20	7,885.7	877.7	1,384.6	1,580.8	1.90	-1.89	
8,169.0	0.30	262.60	7,979.7	877.9	1,385.2	1,581.4	1.38	-0.74	
8,263.0	0.50	276.20	8,073.7	877.9	1,384.5	1,580.8	0.23	0.21	
8,358.0	0.50	274.30	8,168.7	878.0	1,383.7	1,580.0	0.02	0.00	
8,452.0	0.90	216.20	8,262.7	877.4	1,382.8	1,579.1	0.81	0.43	
8,547.0	0.80	212.00	8,357.7	876.3	1,382.1	1,578.0	0.12	-0.11	
8,735.0	1.10	240.20	8,545.7	874.2	1,379.8	1,575.2	0.29	0.16	
8,924.0	1.90	237.50	8,734.6	871.7	1,375.6	1,570.4	0.42	0.42	
9,115.0	2.60	236.20	8,925.5	867.6	1,369.3	1,563.2	0.37	0.37	LAST CES SURVEY @ 9115' MD
9,170.0	2.60	236.20	8,980.4	866.2	1,367.2	1,560.8	0.00	0.00	PTB @ 9170' MD

## Survey Report

<b>Company:</b> Caerus Oil & Gas (NAD 27)	<b>Local Co-ordinate Reference:</b> Well PUCKETT 12A-1
<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 12A-1	<b>North Reference:</b> True
<b>Wellbore:</b> OH	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> FINAL	<b>Database:</b> 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 12A-1 TGT	0.00	0.00	7,404.0	861.8	1,354.9	610,150.83	1,245,057.34	39.478158	-108.174839
- actual wellpath misses target center by 10.0usft at 7591.8usft MD (7403.2 TVD, 864.9 N, 1364.4 E)									
- Point									
PUCKETT 12A-1 BHL	0.00	0.00	8,934.0	861.8	1,354.9	610,150.83	1,245,057.34	39.478158	-108.174839
- actual wellpath misses target center by 17.7usft at 9115.0usft MD (8925.5 TVD, 867.6 N, 1369.3 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
9,115.0	8,925.5	867.6	1,369.3	LAST CES SURVEY @ 9115' MD	
9,170.0	8,980.4	866.2	1,367.2	PTB @ 9170' MD	

Checked By: _____	Approved By: _____	Date: _____
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