



Caerus Oil & Gas

Garfield County, CO

BJU B26 496 Pad

BJU B26 FED 12D-26 496 - Slot BJU B26 FED 12D-26 496

Wellbore #1

Plan: Design #1

QES Well Planning Report

06 August, 2020



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BJU B26 FED 12D-26 496 - Slot BJU B26 FED 12D-26 496
Company:	Caerus Oil & Gas	TVD Reference:	RKB @ 8241.0usft (30')
Project:	Garfield County, CO	MD Reference:	RKB @ 8241.0usft (30')
Site:	BJU B26 496 Pad	North Reference:	True
Well:	BJU B26 FED 12D-26 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Garfield County, CO		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	BJU B26 496 Pad				
Site Position:		Northing:	14,421,469.70 usft	Latitude:	39.677515
From:	Map	Easting:	2,445,821.30 usft	Longitude:	-108.137796
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.83 °

Well	BJU B26 FED 12D-26 496 - Slot BJU B26 FED 12D-26 496					
Well Position	+N/-S	-64.8 usft	Northing:	14,421,405.00 usft	Latitude:	39.677337
	+E/-W	3.5 usft	Easting:	2,445,826.90 usft	Longitude:	-108.137783
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	8,211.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	8/3/2020	9.42	65.82	51,173.20000000

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	220.81

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
225.0	0.00	0.00	225.0	0.0	0.0	0.00	0.00	0.00	0.00	
458.3	7.00	265.00	457.8	-1.2	-14.2	3.00	3.00	0.00	265.00	
958.3	7.00	265.00	954.0	-6.6	-74.9	0.00	0.00	0.00	0.00	
1,165.0	7.32	213.66	1,159.3	-18.6	-94.7	3.00	0.16	-24.85	-112.79	
7,863.9	7.32	213.66	7,803.5	-729.5	-568.1	0.00	0.00	0.00	0.00	
8,108.1	0.00	0.00	8,047.0	-742.5	-576.8	3.00	-3.00	0.00	180.00	12D-26 - OHCR
8,207.2	1.49	250.00	8,146.2	-742.9	-578.0	1.50	1.50	-110.91	250.00	
12,009.3	1.49	250.00	11,947.0	-776.7	-670.7	0.00	0.00	0.00	0.00	12D-26 - PBHL

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Site:	BJU B26 496 Pad	North Reference:	True
Well:	BJU B26 FED 12D-26 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 3°/100'									
225.0	0.00	0.00	225.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	2.25	265.00	300.0	-0.1	-1.5	1.1	3.00	3.00	0.00
400.0	5.25	265.00	399.8	-0.7	-8.0	5.7	3.00	3.00	0.00
EOB @ 7.00° INC / 265.00° AZM									
458.3	7.00	265.00	457.8	-1.2	-14.2	10.2	3.00	3.00	0.00
500.0	7.00	265.00	499.1	-1.7	-19.2	13.8	0.00	0.00	0.00
600.0	7.00	265.00	598.4	-2.7	-31.4	22.6	0.00	0.00	0.00
700.0	7.00	265.00	697.6	-3.8	-43.5	31.3	0.00	0.00	0.00
800.0	7.00	265.00	796.9	-4.9	-55.7	40.1	0.00	0.00	0.00
900.0	7.00	265.00	896.1	-5.9	-67.8	48.8	0.00	0.00	0.00
Build 3°/100'									
958.3	7.00	265.00	954.0	-6.6	-74.9	53.9	0.00	0.00	0.00
1,000.0	6.62	254.95	995.4	-7.4	-79.7	57.7	3.00	-0.92	-24.13
1,100.0	6.63	228.71	1,094.8	-12.7	-89.6	68.2	3.00	0.01	-26.24
EOB @ 7.32° INC / 213.66° AZM									
1,165.0	7.32	213.66	1,159.3	-18.6	-94.7	76.0	3.00	1.07	-23.16
1,200.0	7.32	213.66	1,194.0	-22.3	-97.2	80.5	0.00	0.00	0.00
1,300.0	7.32	213.66	1,293.2	-33.0	-104.3	93.1	0.00	0.00	0.00
1,400.0	7.32	213.66	1,392.4	-43.6	-111.4	105.8	0.00	0.00	0.00
1,500.0	7.32	213.66	1,491.5	-54.2	-118.4	118.4	0.00	0.00	0.00
1,600.0	7.32	213.66	1,590.7	-64.8	-125.5	131.1	0.00	0.00	0.00
1,700.0	7.32	213.66	1,689.9	-75.4	-132.6	143.7	0.00	0.00	0.00
1,800.0	7.32	213.66	1,789.1	-86.0	-139.6	156.4	0.00	0.00	0.00
1,900.0	7.32	213.66	1,888.3	-96.6	-146.7	169.0	0.00	0.00	0.00
2,000.0	7.32	213.66	1,987.5	-107.2	-153.8	181.7	0.00	0.00	0.00
2,100.0	7.32	213.66	2,086.6	-117.8	-160.8	194.3	0.00	0.00	0.00
2,200.0	7.32	213.66	2,185.8	-128.5	-167.9	207.0	0.00	0.00	0.00
2,300.0	7.32	213.66	2,285.0	-139.1	-175.0	219.6	0.00	0.00	0.00
2,400.0	7.32	213.66	2,384.2	-149.7	-182.0	232.3	0.00	0.00	0.00
2,500.0	7.32	213.66	2,483.4	-160.3	-189.1	244.9	0.00	0.00	0.00
2,600.0	7.32	213.66	2,582.6	-170.9	-196.2	257.6	0.00	0.00	0.00
2,700.0	7.32	213.66	2,681.8	-181.5	-203.2	270.2	0.00	0.00	0.00
2,800.0	7.32	213.66	2,780.9	-192.1	-210.3	282.9	0.00	0.00	0.00
2,900.0	7.32	213.66	2,880.1	-202.7	-217.4	295.5	0.00	0.00	0.00
3,000.0	7.32	213.66	2,979.3	-213.4	-224.4	308.2	0.00	0.00	0.00
3,100.0	7.32	213.66	3,078.5	-224.0	-231.5	320.8	0.00	0.00	0.00
3,200.0	7.32	213.66	3,177.7	-234.6	-238.6	333.5	0.00	0.00	0.00
3,300.0	7.32	213.66	3,276.9	-245.2	-245.6	346.1	0.00	0.00	0.00
Wasatch									
3,346.5	7.32	213.66	3,323.0	-250.1	-248.9	352.0	0.00	0.00	0.00
3,400.0	7.32	213.66	3,376.0	-255.8	-252.7	358.8	0.00	0.00	0.00
3,500.0	7.32	213.66	3,475.2	-266.4	-259.7	371.4	0.00	0.00	0.00
3,600.0	7.32	213.66	3,574.4	-277.0	-266.8	384.1	0.00	0.00	0.00
3,700.0	7.32	213.66	3,673.6	-287.6	-273.9	396.7	0.00	0.00	0.00
3,800.0	7.32	213.66	3,772.8	-298.3	-280.9	409.4	0.00	0.00	0.00
3,900.0	7.32	213.66	3,872.0	-308.9	-288.0	422.0	0.00	0.00	0.00
4,000.0	7.32	213.66	3,971.1	-319.5	-295.1	434.7	0.00	0.00	0.00
4,100.0	7.32	213.66	4,070.3	-330.1	-302.1	447.3	0.00	0.00	0.00

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Well:	BJU B26 FED 12D-26 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,200.0	7.32	213.66	4,169.5	-340.7	-309.2	460.0	0.00	0.00	0.00	
4,300.0	7.32	213.66	4,268.7	-351.3	-316.3	472.6	0.00	0.00	0.00	
4,400.0	7.32	213.66	4,367.9	-361.9	-323.3	485.3	0.00	0.00	0.00	
4,500.0	7.32	213.66	4,467.1	-372.5	-330.4	497.9	0.00	0.00	0.00	
4,600.0	7.32	213.66	4,566.2	-383.1	-337.5	510.6	0.00	0.00	0.00	
4,700.0	7.32	213.66	4,665.4	-393.8	-344.5	523.2	0.00	0.00	0.00	
4,800.0	7.32	213.66	4,764.6	-404.4	-351.6	535.9	0.00	0.00	0.00	
4,900.0	7.32	213.66	4,863.8	-415.0	-358.7	548.5	0.00	0.00	0.00	
5,000.0	7.32	213.66	4,963.0	-425.6	-365.7	561.2	0.00	0.00	0.00	
5,100.0	7.32	213.66	5,062.2	-436.2	-372.8	573.8	0.00	0.00	0.00	
5,200.0	7.32	213.66	5,161.4	-446.8	-379.9	586.5	0.00	0.00	0.00	
5,300.0	7.32	213.66	5,260.5	-457.4	-386.9	599.1	0.00	0.00	0.00	
5,400.0	7.32	213.66	5,359.7	-468.0	-394.0	611.8	0.00	0.00	0.00	
5,500.0	7.32	213.66	5,458.9	-478.7	-401.1	624.4	0.00	0.00	0.00	
5,600.0	7.32	213.66	5,558.1	-489.3	-408.1	637.1	0.00	0.00	0.00	
5,700.0	7.32	213.66	5,657.3	-499.9	-415.2	649.7	0.00	0.00	0.00	
Wasatch G										
5,766.3	7.32	213.66	5,723.0	-506.9	-419.9	658.1	0.00	0.00	0.00	
5,800.0	7.32	213.66	5,756.5	-510.5	-422.3	662.4	0.00	0.00	0.00	
5,900.0	7.32	213.66	5,855.6	-521.1	-429.3	675.0	0.00	0.00	0.00	
6,000.0	7.32	213.66	5,954.8	-531.7	-436.4	687.7	0.00	0.00	0.00	
Fort Union										
6,068.7	7.32	213.66	6,023.0	-539.0	-441.3	696.4	0.00	0.00	0.00	
6,100.0	7.32	213.66	6,054.0	-542.3	-443.5	700.3	0.00	0.00	0.00	
6,200.0	7.32	213.66	6,153.2	-552.9	-450.5	713.0	0.00	0.00	0.00	
6,300.0	7.32	213.66	6,252.4	-563.6	-457.6	725.6	0.00	0.00	0.00	
6,400.0	7.32	213.66	6,351.6	-574.2	-464.7	738.3	0.00	0.00	0.00	
6,500.0	7.32	213.66	6,450.7	-584.8	-471.7	750.9	0.00	0.00	0.00	
6,600.0	7.32	213.66	6,549.9	-595.4	-478.8	763.6	0.00	0.00	0.00	
6,700.0	7.32	213.66	6,649.1	-606.0	-485.9	776.2	0.00	0.00	0.00	
6,800.0	7.32	213.66	6,748.3	-616.6	-492.9	788.9	0.00	0.00	0.00	
6,900.0	7.32	213.66	6,847.5	-627.2	-500.0	801.5	0.00	0.00	0.00	
7,000.0	7.32	213.66	6,946.7	-637.8	-507.1	814.2	0.00	0.00	0.00	
7,100.0	7.32	213.66	7,045.8	-648.4	-514.1	826.8	0.00	0.00	0.00	
7,200.0	7.32	213.66	7,145.0	-659.1	-521.2	839.5	0.00	0.00	0.00	
7,300.0	7.32	213.66	7,244.2	-669.7	-528.3	852.1	0.00	0.00	0.00	
7,400.0	7.32	213.66	7,343.4	-680.3	-535.3	864.8	0.00	0.00	0.00	
7,500.0	7.32	213.66	7,442.6	-690.9	-542.4	877.4	0.00	0.00	0.00	
7,600.0	7.32	213.66	7,541.8	-701.5	-549.5	890.1	0.00	0.00	0.00	
7,700.0	7.32	213.66	7,640.9	-712.1	-556.5	902.7	0.00	0.00	0.00	
7,800.0	7.32	213.66	7,740.1	-722.7	-563.6	915.4	0.00	0.00	0.00	
Drop 3°/100'										
7,863.9	7.32	213.66	7,803.5	-729.5	-568.1	923.4	0.00	0.00	0.00	
7,900.0	6.24	213.66	7,839.4	-733.1	-570.5	927.7	3.00	-3.00	0.00	
8,000.0	3.24	213.66	7,939.0	-739.9	-575.1	935.9	3.00	-3.00	0.00	
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek / TOG										
8,108.1	0.00	0.00	8,047.0	-742.5	-576.8	938.9	3.00	-3.00	0.00	
EOB @ 1.49° INC / 250.00° AZM										
8,207.2	1.49	250.00	8,146.2	-742.9	-578.0	940.0	1.50	1.50	0.00	
8,300.0	1.49	250.00	8,238.9	-743.7	-580.2	942.1	0.00	0.00	0.00	
Williams Fork										
8,381.1	1.49	250.00	8,320.0	-744.5	-582.2	944.0	0.00	0.00	0.00	

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Wellbore:	Wellbore #1		
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Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,400.0	1.49	250.00	8,338.9	-744.6	-582.7	944.4	0.00	0.00	0.00	
8,500.0	1.49	250.00	8,438.8	-745.5	-585.1	946.7	0.00	0.00	0.00	
8,600.0	1.49	250.00	8,538.8	-746.4	-587.5	948.9	0.00	0.00	0.00	
8,700.0	1.49	250.00	8,638.8	-747.3	-590.0	951.2	0.00	0.00	0.00	
8,800.0	1.49	250.00	8,738.7	-748.2	-592.4	953.5	0.00	0.00	0.00	
8,900.0	1.49	250.00	8,838.7	-749.1	-594.9	955.7	0.00	0.00	0.00	
9,000.0	1.49	250.00	8,938.7	-750.0	-597.3	958.0	0.00	0.00	0.00	
9,100.0	1.49	250.00	9,038.6	-750.9	-599.7	960.3	0.00	0.00	0.00	
9,200.0	1.49	250.00	9,138.6	-751.7	-602.2	962.5	0.00	0.00	0.00	
9,300.0	1.49	250.00	9,238.6	-752.6	-604.6	964.8	0.00	0.00	0.00	
9,400.0	1.49	250.00	9,338.5	-753.5	-607.1	967.1	0.00	0.00	0.00	
9,500.0	1.49	250.00	9,438.5	-754.4	-609.5	969.3	0.00	0.00	0.00	
9,600.0	1.49	250.00	9,538.5	-755.3	-611.9	971.6	0.00	0.00	0.00	
9,700.0	1.49	250.00	9,638.4	-756.2	-614.4	973.9	0.00	0.00	0.00	
9,800.0	1.49	250.00	9,738.4	-757.1	-616.8	976.1	0.00	0.00	0.00	
9,900.0	1.49	250.00	9,838.4	-758.0	-619.3	978.4	0.00	0.00	0.00	
10,000.0	1.49	250.00	9,938.3	-758.8	-621.7	980.7	0.00	0.00	0.00	
10,100.0	1.49	250.00	10,038.3	-759.7	-624.1	982.9	0.00	0.00	0.00	
10,200.0	1.49	250.00	10,138.3	-760.6	-626.6	985.2	0.00	0.00	0.00	
10,300.0	1.49	250.00	10,238.2	-761.5	-629.0	987.5	0.00	0.00	0.00	
10,400.0	1.49	250.00	10,338.2	-762.4	-631.5	989.7	0.00	0.00	0.00	
10,500.0	1.49	250.00	10,438.2	-763.3	-633.9	992.0	0.00	0.00	0.00	
10,600.0	1.49	250.00	10,538.1	-764.2	-636.3	994.3	0.00	0.00	0.00	
10,700.0	1.49	250.00	10,638.1	-765.1	-638.8	996.5	0.00	0.00	0.00	
10,800.0	1.49	250.00	10,738.1	-766.0	-641.2	998.8	0.00	0.00	0.00	
10,900.0	1.49	250.00	10,838.0	-766.8	-643.7	1,001.1	0.00	0.00	0.00	
11,000.0	1.49	250.00	10,938.0	-767.7	-646.1	1,003.3	0.00	0.00	0.00	
11,100.0	1.49	250.00	11,038.0	-768.6	-648.5	1,005.6	0.00	0.00	0.00	
11,200.0	1.49	250.00	11,137.9	-769.5	-651.0	1,007.9	0.00	0.00	0.00	
11,300.0	1.49	250.00	11,237.9	-770.4	-653.4	1,010.1	0.00	0.00	0.00	
Cameo										
11,309.1	1.49	250.00	11,247.0	-770.5	-653.6	1,010.3	0.00	0.00	0.00	
11,400.0	1.49	250.00	11,337.9	-771.3	-655.9	1,012.4	0.00	0.00	0.00	
11,500.0	1.49	250.00	11,437.8	-772.2	-658.3	1,014.7	0.00	0.00	0.00	
11,600.0	1.49	250.00	11,537.8	-773.1	-660.7	1,016.9	0.00	0.00	0.00	
11,700.0	1.49	250.00	11,637.8	-773.9	-663.2	1,019.2	0.00	0.00	0.00	
11,800.0	1.49	250.00	11,737.7	-774.8	-665.6	1,021.5	0.00	0.00	0.00	
Rollins										
11,809.3	1.49	250.00	11,747.0	-774.9	-665.8	1,021.7	0.00	0.00	0.00	
11,900.0	1.49	250.00	11,837.7	-775.7	-668.1	1,023.7	0.00	0.00	0.00	
TD @ 12009.3' MD / 11947.0' TVD										
12,009.3	1.49	250.00	11,947.0	-776.7	-670.7	1,026.2	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BJU B26 FED 12D-26 496 - Slot BJU B26 FED 12D-26 496
Company:	Caerus Oil & Gas	TVD Reference:	RKB @ 8241.0usft (30')
Project:	Garfield County, CO	MD Reference:	RKB @ 8241.0usft (30')
Site:	BJU B26 496 Pad	North Reference:	True
Well:	BJU B26 FED 12D-26 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design 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
12D-26 - OHCR - plan hits target center - Ellipse (radii L100.0 W50.0 on 250.00 azi)	0.00	0.00	8,047.0	-742.5	-576.8	14,420,644.49	2,445,274.13	39.675299	-108.139831
12D-26 - PBHL - plan hits target center - Point	0.00	0.00	11,947.0	-776.7	-670.7	14,420,607.30	2,445,181.30	39.675205	-108.140165

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,346.5	3,323.0	Wasatch			
5,766.3	5,723.0	Wasatch G			
6,068.7	6,023.0	Fort Union			
8,108.1	8,047.0	Ohio Creek / TOG			
8,381.1	8,320.0	Williams Fork			
11,309.1	11,247.0	Cameo			
11,809.3	11,747.0	Rollins			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
225.0	225.0	0.0	0.0	Build 3°/100'
458.3	457.8	-1.2	-14.2	EOB @ 7.00° INC / 265.00° AZM
958.3	954.0	-6.6	-74.9	Build 3°/100'
1,165.0	1,159.3	-18.6	-94.7	EOB @ 7.32° INC / 213.66° AZM
7,863.9	7,803.5	-729.5	-568.1	Drop 3°/100'
8,108.1	8,047.0	-742.5	-576.8	EOD @ Vertical / Build 1.5° / 100'
8,207.2	8,146.2	-742.9	-578.0	EOB @ 1.49° INC / 250.00° AZM
12,009.3	11,947.0	-776.7	-670.7	TD @ 12009.3' MD / 11947.0' TVD