

Project: Garfield County, CO
Site: BJU M23A 496 Pad
Well: BJU M23A FED 24C-22 496
Wellbore: Wellbore #1
Design: Design #1
Latitude: 39.684239
Longitude: -108.140194
Ground Level: 8104.0
RKB @ 8134.0usft (30')

PROJECT DETAILS: Garfield County, CO
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
System Datum: Mean Sea Level

REFERENCE INFORMATION
Vertical (TVD) Reference: RKB @ 8134.0usft (30')
Section (VS) Reference: Slot - BJU M23A FED 24C-22 496(0.0N, 0.0E)
Measured Depth Reference: RKB @ 8134.0usft (30')
Calculation Method: Minimum Curvature

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3324.0	3492.1	Wasatch
5724.0	6042.4	Wasatch G
6024.0	6361.2	Fort Union
8008.0	8442.0	Ohio Creek
8008.0	8442.0	TOG
8413.0	8847.1	William Fork
11161.0	11596.0	Cameo
11661.0	12096.2	Rollins

SECTION DETAILS

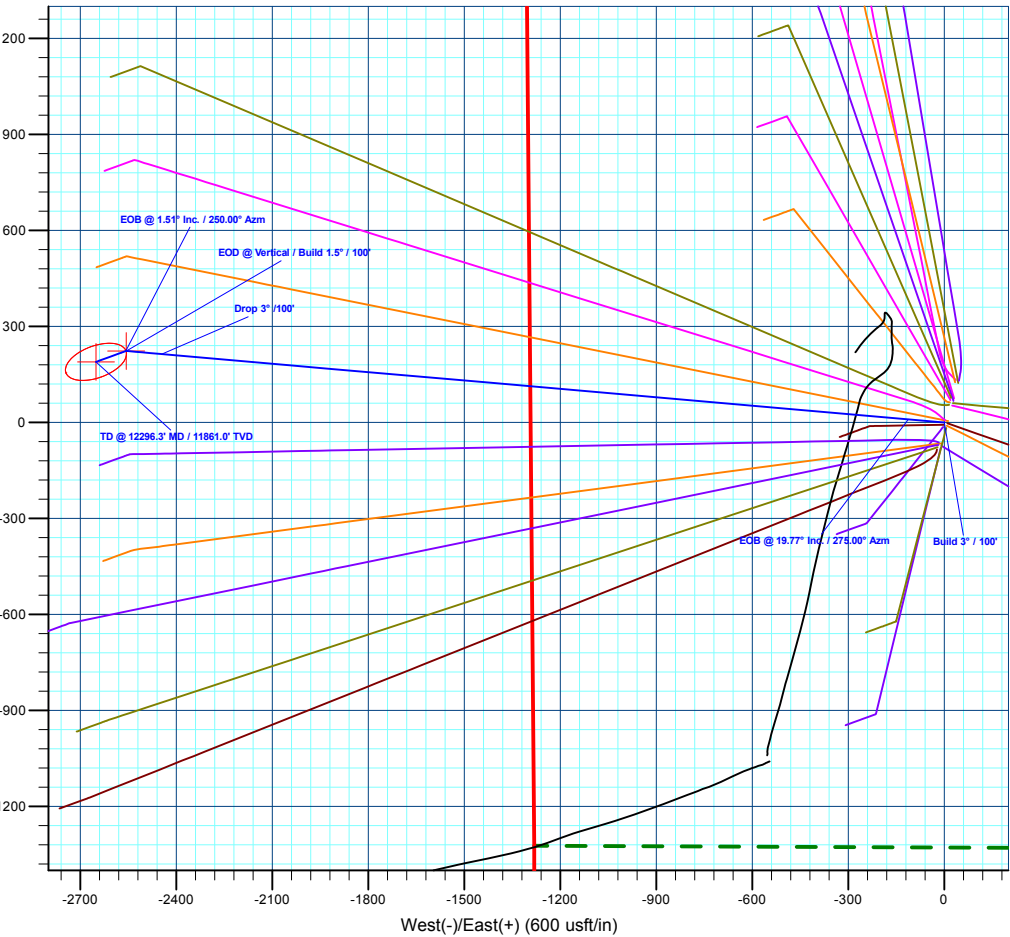
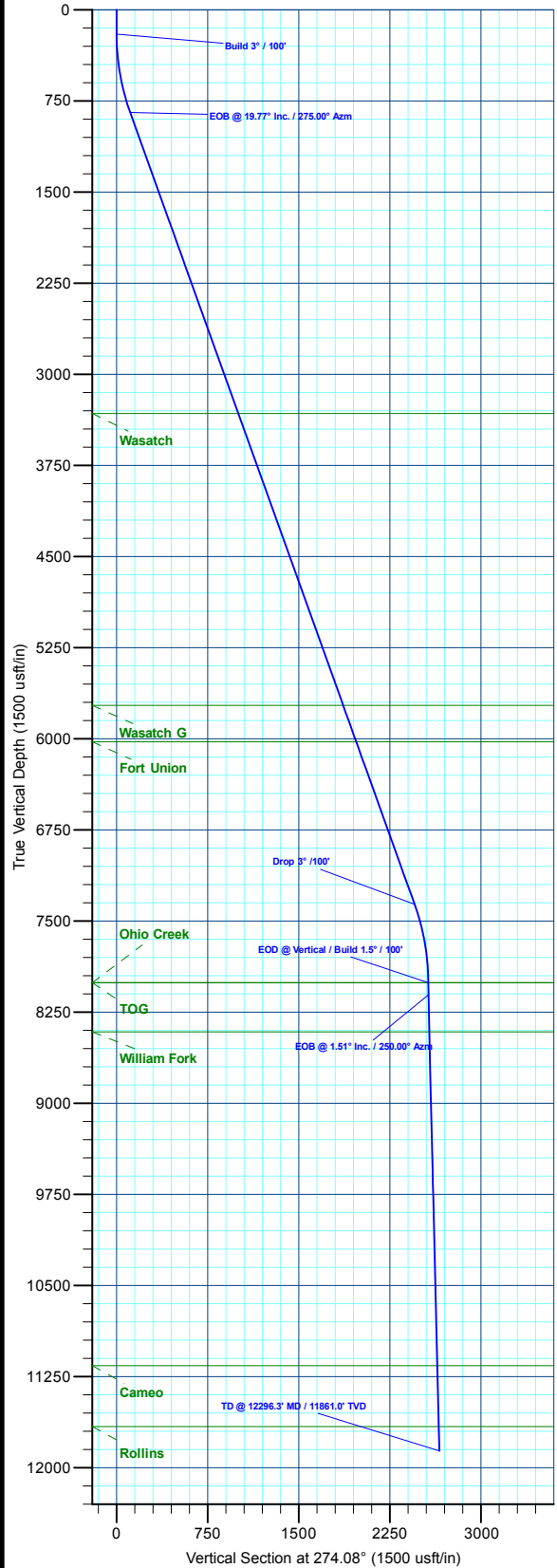
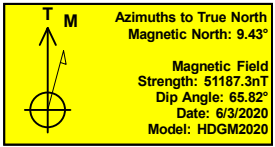
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	Build 3° / 100'
858.9	19.77	275.00	845.9	9.8	-112.1	3.00	275.00	112.5	EOB @ 19.77° Inc. / 275.00° Azm
7783.1	19.77	275.00	7362.1	213.7	-2444.8	0.00	0.00	2453.9	Drop 3° / 100'
8442.0	0.00	0.00	8008.0	223.5	-2556.9	3.00	180.00	2566.4	EOD @ Vertical / Build 1.5° / 100'
8542.4	1.51	250.00	8108.4	223.1	-2558.2	1.50	250.00	2567.6	EOB @ 1.51° Inc. / 250.00° Azm
12296.3	1.51	250.00	11861.0	189.3	-2650.9	0.00	0.00	2657.7	TD @ 12296.3' MD / 11861.0' TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
OHCR - 24C-22	8008.0	223.5	-2556.9	14424038.88	2442505.43	39.684852	-108.149275
PBHL - 24C-22	11861.0	189.3	-2650.9	14424001.70	2442412.60	39.684758	-108.149609

WELL DETAILS: BJU M23A FED 24C-22 496

+N/-S	+E/-W	Ground Level : 8104.0	Northing	Easting	Latitude	Longitude
0.0	0.0		14423897.00	2445068.20	39.684239	-108.140194



Plan: Design #1 (BJU M23A FED 24C-22 496/Wellbore #1)

Created By: Will Jircik

Date: 10:20, June 05 2020



Caerus Oil & Gas

Garfield County, CO

BJU M23A 496 Pad

BJU M23A FED 24C-22 496 - Slot BJU M23A FED 24C-22 496

Wellbore #1

Plan: Design #1

QES Well Planning Report

05 June, 2020



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BJU M23A FED 24C-22 496 - Slot BJU M23A FED 24C-22 496
Company:	Caerus Oil & Gas	TVD Reference:	RKB @ 8134.0usft (30')
Project:	Garfield County, CO	MD Reference:	RKB @ 8134.0usft (30')
Site:	BJU M23A 496 Pad	North Reference:	True
Well:	BJU M23A FED 24C-22 496	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 M23A 496 Pad			
Site Position:		Northing:	14,424,028.50 usft	Latitude: 39.684596
From: Map		Easting:	2,445,109.60 usft	Longitude: -108.140032
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 1.83 °

Well	BJU M23A FED 24C-22 496 - Slot BJU M23A FED 24C-22 496			
Well Position	+N/-S	-130.1 usft	Northing:	14,423,897.00 usft
	+E/-W	-45.6 usft	Easting:	2,445,068.20 usft
Position Uncertainty		0.0 usft	Wellhead Elevation:	Latitude: 39.684239
				Longitude: -108.140194
				Ground Level: 8,104.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	6/3/2020	9.43	65.82	51,187.30000000

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	274.08

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
858.9	19.77	275.00	845.9	9.8	-112.1	3.00	3.00	0.00	275.00	
7,783.1	19.77	275.00	7,362.1	213.7	-2,444.8	0.00	0.00	0.00	0.00	
8,442.0	0.00	0.00	8,008.0	223.5	-2,556.9	3.00	-3.00	0.00	180.00	OHCR - 24C-22
8,542.4	1.51	250.00	8,108.4	223.1	-2,558.2	1.50	1.50	-109.54	250.00	
12,296.3	1.51	250.00	11,861.0	189.3	-2,650.9	0.00	0.00	0.00	0.00	PBHL - 24C-22

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BJU M23A FED 24C-22 496 - Slot BJU M23A FED 24C-22 496
Company:	Caerus Oil & Gas	TVD Reference:	RKB @ 8134.0usft (30')
Project:	Garfield County, CO	MD Reference:	RKB @ 8134.0usft (30')
Site:	BJU M23A 496 Pad	North Reference:	True
Well:	BJU M23A FED 24C-22 496	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
Build 3° / 100'									
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	3.00	275.00	300.0	0.2	-2.6	2.6	3.00	3.00	0.00
400.0	6.00	275.00	399.6	0.9	-10.4	10.5	3.00	3.00	0.00
500.0	9.00	275.00	498.8	2.0	-23.4	23.5	3.00	3.00	0.00
600.0	12.00	275.00	597.1	3.6	-41.6	41.7	3.00	3.00	0.00
700.0	15.00	275.00	694.3	5.7	-64.8	65.1	3.00	3.00	0.00
800.0	18.00	275.00	790.2	8.1	-93.1	93.5	3.00	3.00	0.00
EOB @ 19.77° Inc. / 275.00° Azm									
858.9	19.77	275.00	845.9	9.8	-112.1	112.5	3.00	3.00	0.00
900.0	19.77	275.00	884.6	11.0	-126.0	126.4	0.00	0.00	0.00
1,000.0	19.77	275.00	978.7	14.0	-159.6	160.2	0.00	0.00	0.00
1,100.0	19.77	275.00	1,072.8	16.9	-193.3	194.0	0.00	0.00	0.00
1,200.0	19.77	275.00	1,166.9	19.8	-227.0	227.9	0.00	0.00	0.00
1,300.0	19.77	275.00	1,261.0	22.8	-260.7	261.7	0.00	0.00	0.00
1,400.0	19.77	275.00	1,355.1	25.7	-294.4	295.5	0.00	0.00	0.00
1,500.0	19.77	275.00	1,449.2	28.7	-328.1	329.3	0.00	0.00	0.00
1,600.0	19.77	275.00	1,543.3	31.6	-361.8	363.1	0.00	0.00	0.00
1,700.0	19.77	275.00	1,637.4	34.6	-395.5	396.9	0.00	0.00	0.00
1,800.0	19.77	275.00	1,731.6	37.5	-429.2	430.7	0.00	0.00	0.00
1,900.0	19.77	275.00	1,825.7	40.5	-462.9	464.6	0.00	0.00	0.00
2,000.0	19.77	275.00	1,919.8	43.4	-496.5	498.4	0.00	0.00	0.00
2,100.0	19.77	275.00	2,013.9	46.4	-530.2	532.2	0.00	0.00	0.00
2,200.0	19.77	275.00	2,108.0	49.3	-563.9	566.0	0.00	0.00	0.00
2,300.0	19.77	275.00	2,202.1	52.2	-597.6	599.8	0.00	0.00	0.00
2,400.0	19.77	275.00	2,296.2	55.2	-631.3	633.6	0.00	0.00	0.00
2,500.0	19.77	275.00	2,390.3	58.1	-665.0	667.4	0.00	0.00	0.00
2,600.0	19.77	275.00	2,484.4	61.1	-698.7	701.3	0.00	0.00	0.00
2,700.0	19.77	275.00	2,578.5	64.0	-732.4	735.1	0.00	0.00	0.00
2,800.0	19.77	275.00	2,672.6	67.0	-766.1	768.9	0.00	0.00	0.00
2,900.0	19.77	275.00	2,766.7	69.9	-799.7	802.7	0.00	0.00	0.00
3,000.0	19.77	275.00	2,860.9	72.9	-833.4	836.5	0.00	0.00	0.00
3,100.0	19.77	275.00	2,955.0	75.8	-867.1	870.3	0.00	0.00	0.00
3,200.0	19.77	275.00	3,049.1	78.7	-900.8	904.1	0.00	0.00	0.00
3,300.0	19.77	275.00	3,143.2	81.7	-934.5	938.0	0.00	0.00	0.00
3,400.0	19.77	275.00	3,237.3	84.6	-968.2	971.8	0.00	0.00	0.00
Wasatch									
3,492.1	19.77	275.00	3,324.0	87.4	-999.2	1,002.9	0.00	0.00	0.00
3,500.0	19.77	275.00	3,331.4	87.6	-1,001.9	1,005.6	0.00	0.00	0.00
3,600.0	19.77	275.00	3,425.5	90.5	-1,035.6	1,039.4	0.00	0.00	0.00
3,700.0	19.77	275.00	3,519.6	93.5	-1,069.3	1,073.2	0.00	0.00	0.00
3,800.0	19.77	275.00	3,613.7	96.4	-1,103.0	1,107.0	0.00	0.00	0.00
3,900.0	19.77	275.00	3,707.8	99.4	-1,136.6	1,140.8	0.00	0.00	0.00
4,000.0	19.77	275.00	3,801.9	102.3	-1,170.3	1,174.7	0.00	0.00	0.00
4,100.0	19.77	275.00	3,896.0	105.3	-1,204.0	1,208.5	0.00	0.00	0.00
4,200.0	19.77	275.00	3,990.2	108.2	-1,237.7	1,242.3	0.00	0.00	0.00
4,300.0	19.77	275.00	4,084.3	111.1	-1,271.4	1,276.1	0.00	0.00	0.00
4,400.0	19.77	275.00	4,178.4	114.1	-1,305.1	1,309.9	0.00	0.00	0.00
4,500.0	19.77	275.00	4,272.5	117.0	-1,338.8	1,343.7	0.00	0.00	0.00
4,600.0	19.77	275.00	4,366.6	120.0	-1,372.5	1,377.5	0.00	0.00	0.00
4,700.0	19.77	275.00	4,460.7	122.9	-1,406.2	1,411.3	0.00	0.00	0.00

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Project:	Garfield County, CO	MD Reference:	RKB @ 8134.0usft (30')
Site:	BJU M23A 496 Pad	North Reference:	True
Well:	BJU M23A FED 24C-22 496	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)
4,800.0	19.77	275.00	4,554.8	125.9	-1,439.9	1,445.2	0.00	0.00	0.00
4,900.0	19.77	275.00	4,648.9	128.8	-1,473.5	1,479.0	0.00	0.00	0.00
5,000.0	19.77	275.00	4,743.0	131.8	-1,507.2	1,512.8	0.00	0.00	0.00
5,100.0	19.77	275.00	4,837.1	134.7	-1,540.9	1,546.6	0.00	0.00	0.00
5,200.0	19.77	275.00	4,931.2	137.6	-1,574.6	1,580.4	0.00	0.00	0.00
5,300.0	19.77	275.00	5,025.3	140.6	-1,608.3	1,614.2	0.00	0.00	0.00
5,400.0	19.77	275.00	5,119.4	143.5	-1,642.0	1,648.0	0.00	0.00	0.00
5,500.0	19.77	275.00	5,213.6	146.5	-1,675.7	1,681.9	0.00	0.00	0.00
5,600.0	19.77	275.00	5,307.7	149.4	-1,709.4	1,715.7	0.00	0.00	0.00
5,700.0	19.77	275.00	5,401.8	152.4	-1,743.1	1,749.5	0.00	0.00	0.00
5,800.0	19.77	275.00	5,495.9	155.3	-1,776.8	1,783.3	0.00	0.00	0.00
5,900.0	19.77	275.00	5,590.0	158.3	-1,810.4	1,817.1	0.00	0.00	0.00
6,000.0	19.77	275.00	5,684.1	161.2	-1,844.1	1,850.9	0.00	0.00	0.00
Wasatch G									
6,042.4	19.77	275.00	5,724.0	162.5	-1,858.4	1,865.3	0.00	0.00	0.00
6,100.0	19.77	275.00	5,778.2	164.2	-1,877.8	1,884.7	0.00	0.00	0.00
6,200.0	19.77	275.00	5,872.3	167.1	-1,911.5	1,918.6	0.00	0.00	0.00
6,300.0	19.77	275.00	5,966.4	170.0	-1,945.2	1,952.4	0.00	0.00	0.00
Fort Union									
6,361.2	19.77	275.00	6,024.0	171.8	-1,965.8	1,973.1	0.00	0.00	0.00
6,400.0	19.77	275.00	6,060.5	173.0	-1,978.9	1,986.2	0.00	0.00	0.00
6,500.0	19.77	275.00	6,154.6	175.9	-2,012.6	2,020.0	0.00	0.00	0.00
6,600.0	19.77	275.00	6,248.7	178.9	-2,046.3	2,053.8	0.00	0.00	0.00
6,700.0	19.77	275.00	6,342.9	181.8	-2,080.0	2,087.6	0.00	0.00	0.00
6,800.0	19.77	275.00	6,437.0	184.8	-2,113.6	2,121.4	0.00	0.00	0.00
6,900.0	19.77	275.00	6,531.1	187.7	-2,147.3	2,155.3	0.00	0.00	0.00
7,000.0	19.77	275.00	6,625.2	190.7	-2,181.0	2,189.1	0.00	0.00	0.00
7,100.0	19.77	275.00	6,719.3	193.6	-2,214.7	2,222.9	0.00	0.00	0.00
7,200.0	19.77	275.00	6,813.4	196.5	-2,248.4	2,256.7	0.00	0.00	0.00
7,300.0	19.77	275.00	6,907.5	199.5	-2,282.1	2,290.5	0.00	0.00	0.00
7,400.0	19.77	275.00	7,001.6	202.4	-2,315.8	2,324.3	0.00	0.00	0.00
7,500.0	19.77	275.00	7,095.7	205.4	-2,349.5	2,358.1	0.00	0.00	0.00
7,600.0	19.77	275.00	7,189.8	208.3	-2,383.2	2,392.0	0.00	0.00	0.00
7,700.0	19.77	275.00	7,283.9	211.3	-2,416.9	2,425.8	0.00	0.00	0.00
Drop 3° /100'									
7,783.1	19.77	275.00	7,362.1	213.7	-2,444.8	2,453.9	0.00	0.00	0.00
7,800.0	19.26	275.00	7,378.1	214.2	-2,450.5	2,459.5	3.00	-3.00	0.00
7,900.0	16.26	275.00	7,473.3	216.9	-2,480.9	2,490.0	3.00	-3.00	0.00
8,000.0	13.26	275.00	7,570.0	219.1	-2,506.2	2,515.5	3.00	-3.00	0.00
8,100.0	10.26	275.00	7,667.9	220.9	-2,526.5	2,535.8	3.00	-3.00	0.00
8,200.0	7.26	275.00	7,766.7	222.2	-2,541.7	2,551.1	3.00	-3.00	0.00
8,300.0	4.26	275.00	7,866.2	223.1	-2,551.7	2,561.1	3.00	-3.00	0.00
8,400.0	1.26	275.00	7,966.1	223.5	-2,556.5	2,565.9	3.00	-3.00	0.00
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek - TOG									
8,442.0	0.00	0.00	8,008.0	223.5	-2,556.9	2,566.4	3.00	-3.00	0.00
8,500.0	0.87	250.00	8,066.0	223.4	-2,557.4	2,566.8	1.50	1.50	0.00
EOB @ 1.51° Inc. / 250.00° Azm									
8,542.4	1.51	250.00	8,108.4	223.1	-2,558.2	2,567.6	1.50	1.50	0.00
8,600.0	1.51	250.00	8,166.0	222.6	-2,559.6	2,569.0	0.00	0.00	0.00
8,700.0	1.51	250.00	8,266.0	221.7	-2,562.1	2,571.4	0.00	0.00	0.00
8,800.0	1.51	250.00	8,365.9	220.8	-2,564.5	2,573.8	0.00	0.00	0.00
William Fork									

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Project:	Garfield County, CO	MD Reference:	RKB @ 8134.0usft (30')
Site:	BJU M23A 496 Pad	North Reference:	True
Well:	BJU M23A FED 24C-22 496	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)
8,847.1	1.51	250.00	8,413.0	220.3	-2,565.7	2,574.9	0.00	0.00	0.00
8,900.0	1.51	250.00	8,465.9	219.9	-2,567.0	2,576.2	0.00	0.00	0.00
9,000.0	1.51	250.00	8,565.9	219.0	-2,569.5	2,578.6	0.00	0.00	0.00
9,100.0	1.51	250.00	8,665.8	218.1	-2,572.0	2,581.0	0.00	0.00	0.00
9,200.0	1.51	250.00	8,765.8	217.2	-2,574.4	2,583.4	0.00	0.00	0.00
9,300.0	1.51	250.00	8,865.8	216.3	-2,576.9	2,585.8	0.00	0.00	0.00
9,400.0	1.51	250.00	8,965.7	215.4	-2,579.4	2,588.2	0.00	0.00	0.00
9,500.0	1.51	250.00	9,065.7	214.5	-2,581.8	2,590.6	0.00	0.00	0.00
9,600.0	1.51	250.00	9,165.7	213.6	-2,584.3	2,593.0	0.00	0.00	0.00
9,700.0	1.51	250.00	9,265.6	212.7	-2,586.8	2,595.4	0.00	0.00	0.00
9,800.0	1.51	250.00	9,365.6	211.8	-2,589.2	2,597.8	0.00	0.00	0.00
9,900.0	1.51	250.00	9,465.6	210.9	-2,591.7	2,600.2	0.00	0.00	0.00
10,000.0	1.51	250.00	9,565.5	210.0	-2,594.2	2,602.6	0.00	0.00	0.00
10,100.0	1.51	250.00	9,665.5	209.1	-2,596.7	2,605.0	0.00	0.00	0.00
10,200.0	1.51	250.00	9,765.5	208.2	-2,599.1	2,607.4	0.00	0.00	0.00
10,300.0	1.51	250.00	9,865.4	207.3	-2,601.6	2,609.8	0.00	0.00	0.00
10,400.0	1.51	250.00	9,965.4	206.4	-2,604.1	2,612.2	0.00	0.00	0.00
10,500.0	1.51	250.00	10,065.4	205.5	-2,606.5	2,614.6	0.00	0.00	0.00
10,600.0	1.51	250.00	10,165.3	204.6	-2,609.0	2,617.0	0.00	0.00	0.00
10,700.0	1.51	250.00	10,265.3	203.7	-2,611.5	2,619.4	0.00	0.00	0.00
10,800.0	1.51	250.00	10,365.3	202.8	-2,614.0	2,621.8	0.00	0.00	0.00
10,900.0	1.51	250.00	10,465.2	201.9	-2,616.4	2,624.2	0.00	0.00	0.00
11,000.0	1.51	250.00	10,565.2	201.0	-2,618.9	2,626.6	0.00	0.00	0.00
11,100.0	1.51	250.00	10,665.2	200.1	-2,621.4	2,629.0	0.00	0.00	0.00
11,200.0	1.51	250.00	10,765.1	199.2	-2,623.8	2,631.4	0.00	0.00	0.00
11,300.0	1.51	250.00	10,865.1	198.3	-2,626.3	2,633.8	0.00	0.00	0.00
11,400.0	1.51	250.00	10,965.0	197.4	-2,628.8	2,636.2	0.00	0.00	0.00
11,500.0	1.51	250.00	11,065.0	196.5	-2,631.2	2,638.6	0.00	0.00	0.00
Cameo									
11,596.0	1.51	250.00	11,161.0	195.6	-2,633.6	2,640.9	0.00	0.00	0.00
11,600.0	1.51	250.00	11,165.0	195.6	-2,633.7	2,641.0	0.00	0.00	0.00
11,700.0	1.51	250.00	11,264.9	194.7	-2,636.2	2,643.4	0.00	0.00	0.00
11,800.0	1.51	250.00	11,364.9	193.8	-2,638.7	2,645.8	0.00	0.00	0.00
11,900.0	1.51	250.00	11,464.9	192.9	-2,641.1	2,648.2	0.00	0.00	0.00
12,000.0	1.51	250.00	11,564.8	192.0	-2,643.6	2,650.6	0.00	0.00	0.00
Rollins									
12,096.2	1.51	250.00	11,661.0	191.1	-2,646.0	2,652.9	0.00	0.00	0.00
12,100.0	1.51	250.00	11,664.8	191.1	-2,646.1	2,653.0	0.00	0.00	0.00
12,200.0	1.51	250.00	11,764.8	190.2	-2,648.5	2,655.4	0.00	0.00	0.00
TD @ 12296.3' MD / 11861.0' TVD									
12,296.3	1.51	250.00	11,861.0	189.3	-2,650.9	2,657.7	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well BJU M23A FED 24C-22 496 - Slot BJU M23A FED 24C-22 496
Company:	Caerus Oil & Gas	TVD Reference:	RKB @ 8134.0usft (30')
Project:	Garfield County, CO	MD Reference:	RKB @ 8134.0usft (30')
Site:	BJU M23A 496 Pad	North Reference:	True
Well:	BJU M23A FED 24C-22 496	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
OHCR - 24C-22 - plan hits target center - Point	0.00	0.00	8,008.0	223.5	-2,556.9	14,424,038.88	2,442,505.43	39.684852	-108.149276
PBHL - 24C-22 - plan hits target center - Ellipse (radii L100.0 W50.0 on 250.00 azi)	0.00	0.00	11,861.0	189.3	-2,650.9	14,424,001.70	2,442,412.60	39.684758	-108.149609

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,492.1	3,324.0	Wasatch			
6,042.4	5,724.0	Wasatch G			
6,361.2	6,024.0	Fort Union			
8,442.0	8,008.0	Ohio Creek			
8,442.0	8,008.0	TOG			
8,847.1	8,413.0	William Fork			
11,596.0	11,161.0	Cameo			
12,096.2	11,661.0	Rollins			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.0	200.0	0.0	0.0	Build 3° / 100'
858.9	845.9	9.8	-112.1	EOB @ 19.77° Inc. / 275.00° Azm
7,783.1	7,362.1	213.7	-2,444.8	Drop 3° / 100'
8,442.0	8,008.0	223.5	-2,556.9	EOD @ Vertical / Build 1.5° / 100'
8,542.4	8,108.4	223.1	-2,558.2	EOB @ 1.51° Inc. / 250.00° Azm
12,296.3	11,861.0	189.3	-2,650.9	TD @ 12296.3' MD / 11861.0' TVD