

Project: Rio Blanco County, CO
 Site: PCU B27 197 Pad
 Well: PCU B27 FED 11B-27 197
 Wellbore: OH
 Design: Prelim #2
 Latitude: 39.940960
 Longitude: -108.268479
 Ground Level: 6510.0
 WELL @ 6540.0usft (30')

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
2481.0	2527.5	Orange Marker	
2627.0	2677.0	Wasatch	
5496.0	5614.9	Wasatch G	
5969.0	6099.2	Fort Union	
7455.0	7614.3	Ohio Creek	
8205.0	8364.4	Williams Fork	
11068.0	11227.8	Cameo	
11619.0	11777.9	Rollins	
11725.0	11884.9	Cozzette	
12325.0	12485.0	Corcoran	

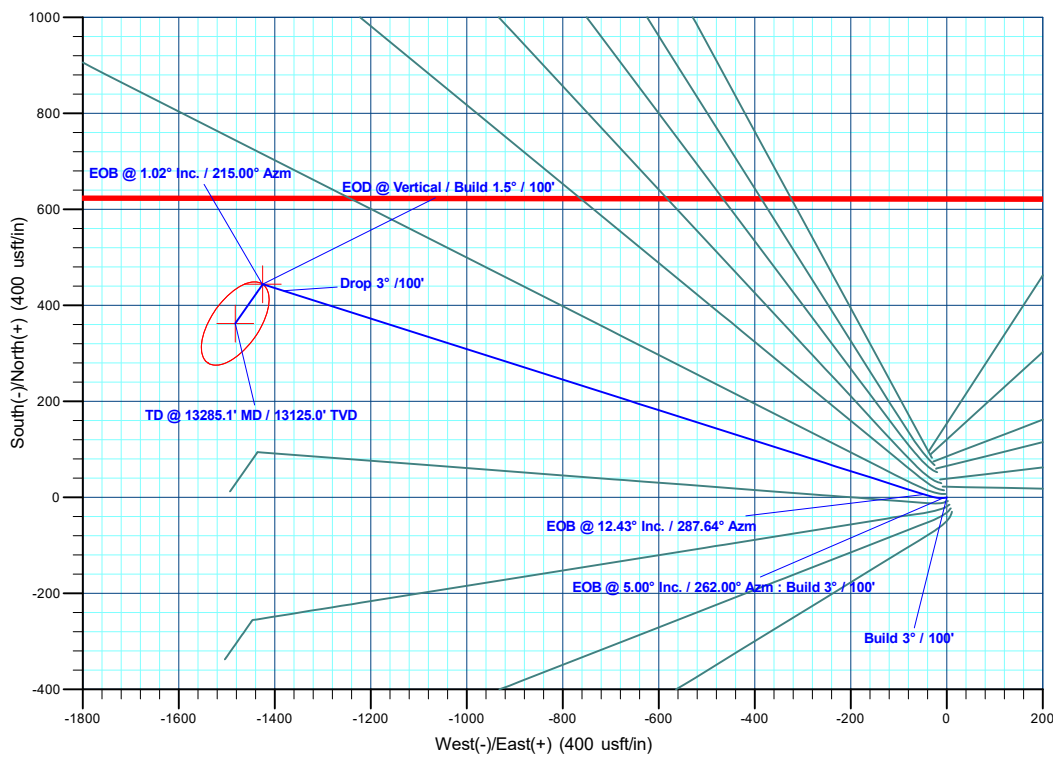
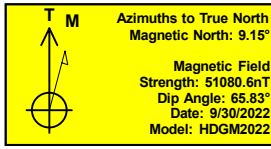
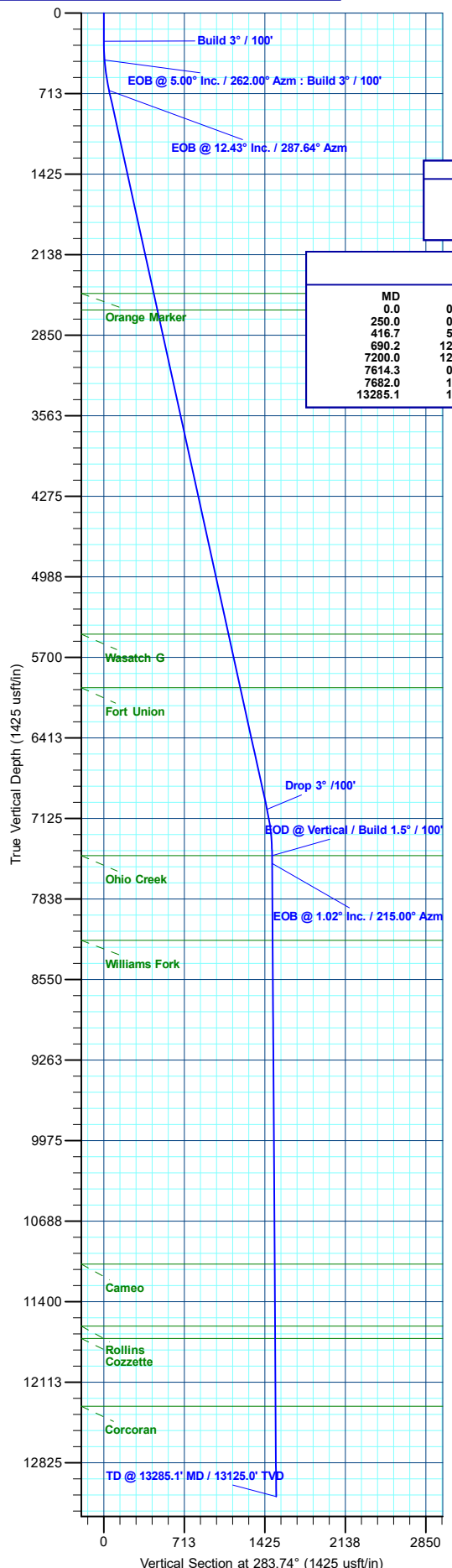
REFERENCE INFORMATION	
Co-ordinate (N/E)	Reference: Well PCU B27 FED 11B-27 197 - Slot 11B-27, True North
Vertical (TVD)	Reference: WELL @ 6540.0usft (30')
Section (VS)	Reference: Slot - 11B-27(0.0N, 0.0E)
Measured Depth	Reference: WELL @ 6540.0usft (30')
Calculation Method:	Minimum Curvature

WELL DETAILS: PCU B27 FED 11B-27 197					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14516268.60	2406111.70	39.940960	-108.268479
6510.0					
11B-27					

PROJECT DETAILS: Rio Blanco 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

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
11B-27 - OHCR	7455.0	444.3	-1424.9	14516669.03	2404673.83	39.942179	-108.273560
11B-27 - PBHL	13125.0	362.4	-1482.3	14516585.40	2404619.00	39.941954	-108.273764

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Build 3° / 100'	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.0	EOB @ 5.00° Inc. / 262.00° Azm : Build 3° / 100'	
416.7	5.00	262.00	416.5	-1.0	-7.2	3.00	262.00	6.3	EOB @ 12.43° Inc. / 287.64° Azm	
690.2	12.43	287.64	686.7	6.3	-47.1	3.00	40.72	47.3	Drop 3° /100'	
7200.0	12.43	287.64	7044.0	430.7	-1382.3	0.00	0.00	1445.0	EOD @ Vertical / Build 1.5° / 100'	
7614.3	0.00	0.00	7455.0	444.3	-1424.9	3.00	180.00	1489.7	EOB @ Vertical / Build 1.5° / 100'	
7682.0	1.02	215.00	7522.8	443.8	-1425.3	1.50	215.00	1489.9	EOB @ 1.02° Inc. / 215.00° Azm	
13285.1	1.02	215.00	13125.0	362.4	-1482.3	0.00	0.00	1525.9	TD @ 13285.1' MD / 13125.0' TVD	



Plan: Prelim #2 (PCU B27 FED 11B-27 197/OH)
 Created By: Will Jircik Date: 18:27, October 03 2024



QB Energy Operating, LLC

Rio Blanco County, CO

PCU B27 197 Pad

PCU B27 FED 11B-27 197 - Slot 11B-27

OH

Plan: Prelim #2

KLX Well Planning Report

03 October, 2024



Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well PCU B27 FED 11B-27 197 - Slot 11B-27
Company:	QB Energy Operating, LLC	TVD Reference:	WELL @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	PCU B27 FED 11B-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

Project	Rio Blanco 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	PCU B27 197 Pad				
Site Position:		Northing:	14,516,246.39 usft	Latitude:	39.940899
From:	Map	Easting:	2,406,120.81 usft	Longitude:	-108.268449
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.75 °

Well	PCU B27 FED 11B-27 197 - Slot 11B-27					
Well Position	+N/-S	22.5 usft	Northing:	14,516,268.60 usft	Latitude:	39.940960
	+E/-W	-8.4 usft	Easting:	2,406,111.70 usft	Longitude:	-108.268479
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,510.0 usft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022	9/30/2022	9.15	65.83	51,080.60000000

Design	Prelim #2
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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 0.0 283.74

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		
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00		
416.7	5.00	262.00	416.5	-1.0	-7.2	3.00	3.00	0.00	262.00		
690.2	12.43	287.64	686.7	6.3	-47.1	3.00	2.72	9.37	40.72		
7,200.0	12.43	287.64	7,044.0	430.7	-1,382.3	0.00	0.00	0.00	0.00		
7,614.3	0.00	0.00	7,455.0	444.3	-1,424.9	3.00	-3.00	0.00	180.00	11B-27 - OHCR	
7,682.0	1.02	215.00	7,522.8	443.8	-1,425.3	1.50	1.50	-213.97	215.00		
13,285.1	1.02	215.00	13,125.0	362.4	-1,482.3	0.00	0.00	0.00	0.00	11B-27 - PBHL	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well PCU B27 FED 11B-27 197 - Slot 11B-27
Company:	QB Energy Operating, LLC	TVD Reference:	WELL @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	PCU B27 FED 11B-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

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'									
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	1.50	262.00	300.0	-0.1	-0.6	0.6	3.00	3.00	0.00
400.0	4.50	262.00	399.8	-0.8	-5.8	5.5	3.00	3.00	0.00
EOB @ 5.00° Inc. / 262.00° Azm : Build 3° / 100'									
416.7	5.00	262.00	416.5	-1.0	-7.2	6.8	3.00	3.00	0.00
500.0	7.08	275.34	499.3	-1.0	-15.9	15.2	3.00	2.50	16.01
600.0	9.84	283.45	598.2	1.5	-30.4	29.9	3.00	2.76	8.11
EOB @ 12.43° Inc. / 287.64° Azm									
690.2	12.43	287.64	686.7	6.3	-47.1	47.3	3.00	2.87	4.64
700.0	12.43	287.64	696.3	6.9	-49.1	49.4	0.00	0.00	0.00
800.0	12.43	287.64	794.0	13.4	-69.6	70.8	0.00	0.00	0.00
900.0	12.43	287.64	891.6	19.9	-90.2	92.3	0.00	0.00	0.00
1,000.0	12.43	287.64	989.3	26.5	-110.7	113.8	0.00	0.00	0.00
1,100.0	12.43	287.64	1,086.9	33.0	-131.2	135.2	0.00	0.00	0.00
1,200.0	12.43	287.64	1,184.6	39.5	-151.7	156.7	0.00	0.00	0.00
1,300.0	12.43	287.64	1,282.2	46.0	-172.2	178.2	0.00	0.00	0.00
1,400.0	12.43	287.64	1,379.9	52.5	-192.7	199.7	0.00	0.00	0.00
1,500.0	12.43	287.64	1,477.5	59.1	-213.2	221.1	0.00	0.00	0.00
1,600.0	12.43	287.64	1,575.2	65.6	-233.7	242.6	0.00	0.00	0.00
1,700.0	12.43	287.64	1,672.9	72.1	-254.2	264.1	0.00	0.00	0.00
1,800.0	12.43	287.64	1,770.5	78.6	-274.7	285.6	0.00	0.00	0.00
1,900.0	12.43	287.64	1,868.2	85.1	-295.3	307.0	0.00	0.00	0.00
2,000.0	12.43	287.64	1,965.8	91.7	-315.8	328.5	0.00	0.00	0.00
2,100.0	12.43	287.64	2,063.5	98.2	-336.3	350.0	0.00	0.00	0.00
2,200.0	12.43	287.64	2,161.1	104.7	-356.8	371.4	0.00	0.00	0.00
2,300.0	12.43	287.64	2,258.8	111.2	-377.3	392.9	0.00	0.00	0.00
2,400.0	12.43	287.64	2,356.5	117.7	-397.8	414.4	0.00	0.00	0.00
2,500.0	12.43	287.64	2,454.1	124.3	-418.3	435.9	0.00	0.00	0.00
Orange Marker									
2,527.5	12.43	287.64	2,481.0	126.1	-424.0	441.8	0.00	0.00	0.00
2,600.0	12.43	287.64	2,551.8	130.8	-438.8	457.3	0.00	0.00	0.00
Wasatch									
2,677.0	12.43	287.64	2,627.0	135.8	-454.6	473.9	0.00	0.00	0.00
2,700.0	12.43	287.64	2,649.4	137.3	-459.3	478.8	0.00	0.00	0.00
2,800.0	12.43	287.64	2,747.1	143.8	-479.8	500.3	0.00	0.00	0.00
2,900.0	12.43	287.64	2,844.7	150.3	-500.4	521.7	0.00	0.00	0.00
3,000.0	12.43	287.64	2,942.4	156.9	-520.9	543.2	0.00	0.00	0.00
3,100.0	12.43	287.64	3,040.1	163.4	-541.4	564.7	0.00	0.00	0.00
3,200.0	12.43	287.64	3,137.7	169.9	-561.9	586.2	0.00	0.00	0.00
3,300.0	12.43	287.64	3,235.4	176.4	-582.4	607.6	0.00	0.00	0.00
3,400.0	12.43	287.64	3,333.0	182.9	-602.9	629.1	0.00	0.00	0.00
3,500.0	12.43	287.64	3,430.7	189.5	-623.4	650.6	0.00	0.00	0.00
3,600.0	12.43	287.64	3,528.3	196.0	-643.9	672.0	0.00	0.00	0.00
3,700.0	12.43	287.64	3,626.0	202.5	-664.4	693.5	0.00	0.00	0.00
3,800.0	12.43	287.64	3,723.7	209.0	-684.9	715.0	0.00	0.00	0.00
3,900.0	12.43	287.64	3,821.3	215.5	-705.5	736.5	0.00	0.00	0.00
4,000.0	12.43	287.64	3,919.0	222.1	-726.0	757.9	0.00	0.00	0.00
4,100.0	12.43	287.64	4,016.6	228.6	-746.5	779.4	0.00	0.00	0.00
4,200.0	12.43	287.64	4,114.3	235.1	-767.0	800.9	0.00	0.00	0.00
4,300.0	12.43	287.64	4,211.9	241.6	-787.5	822.3	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well PCU B27 FED 11B-27 197 - Slot 11B-27
Company:	QB Energy Operating, LLC	TVD Reference:	WELL @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	PCU B27 FED 11B-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

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)
4,400.0	12.43	287.64	4,309.6	248.1	-808.0	843.8	0.00	0.00	0.00
4,500.0	12.43	287.64	4,407.2	254.7	-828.5	865.3	0.00	0.00	0.00
4,600.0	12.43	287.64	4,504.9	261.2	-849.0	886.8	0.00	0.00	0.00
4,700.0	12.43	287.64	4,602.6	267.7	-869.5	908.2	0.00	0.00	0.00
4,800.0	12.43	287.64	4,700.2	274.2	-890.0	929.7	0.00	0.00	0.00
4,900.0	12.43	287.64	4,797.9	280.7	-910.6	951.2	0.00	0.00	0.00
5,000.0	12.43	287.64	4,895.5	287.3	-931.1	972.6	0.00	0.00	0.00
5,100.0	12.43	287.64	4,993.2	293.8	-951.6	994.1	0.00	0.00	0.00
5,200.0	12.43	287.64	5,090.8	300.3	-972.1	1,015.6	0.00	0.00	0.00
5,300.0	12.43	287.64	5,188.5	306.8	-992.6	1,037.1	0.00	0.00	0.00
5,400.0	12.43	287.64	5,286.2	313.3	-1,013.1	1,058.5	0.00	0.00	0.00
5,500.0	12.43	287.64	5,383.8	319.9	-1,033.6	1,080.0	0.00	0.00	0.00
5,600.0	12.43	287.64	5,481.5	326.4	-1,054.1	1,101.5	0.00	0.00	0.00
Wasatch G									
5,614.9	12.43	287.64	5,496.0	327.4	-1,057.2	1,104.7	0.00	0.00	0.00
5,700.0	12.43	287.64	5,579.1	332.9	-1,074.6	1,123.0	0.00	0.00	0.00
5,800.0	12.43	287.64	5,676.8	339.4	-1,095.1	1,144.4	0.00	0.00	0.00
5,900.0	12.43	287.64	5,774.4	345.9	-1,115.7	1,165.9	0.00	0.00	0.00
6,000.0	12.43	287.64	5,872.1	352.5	-1,136.2	1,187.4	0.00	0.00	0.00
Fort Union									
6,099.2	12.43	287.64	5,969.0	358.9	-1,156.5	1,208.7	0.00	0.00	0.00
6,100.0	12.43	287.64	5,969.8	359.0	-1,156.7	1,208.8	0.00	0.00	0.00
6,200.0	12.43	287.64	6,067.4	365.5	-1,177.2	1,230.3	0.00	0.00	0.00
6,300.0	12.43	287.64	6,165.1	372.0	-1,197.7	1,251.8	0.00	0.00	0.00
6,400.0	12.43	287.64	6,262.7	378.5	-1,218.2	1,273.3	0.00	0.00	0.00
6,500.0	12.43	287.64	6,360.4	385.1	-1,238.7	1,294.7	0.00	0.00	0.00
6,600.0	12.43	287.64	6,458.0	391.6	-1,259.2	1,316.2	0.00	0.00	0.00
6,700.0	12.43	287.64	6,555.7	398.1	-1,279.7	1,337.7	0.00	0.00	0.00
6,800.0	12.43	287.64	6,653.4	404.6	-1,300.2	1,359.1	0.00	0.00	0.00
6,900.0	12.43	287.64	6,751.0	411.1	-1,320.8	1,380.6	0.00	0.00	0.00
7,000.0	12.43	287.64	6,848.7	417.7	-1,341.3	1,402.1	0.00	0.00	0.00
7,100.0	12.43	287.64	6,946.3	424.2	-1,361.8	1,423.6	0.00	0.00	0.00
Drop 3° /100'									
7,200.0	12.43	287.64	7,044.0	430.7	-1,382.3	1,445.0	0.00	0.00	0.00
7,300.0	9.43	287.64	7,142.2	436.5	-1,400.4	1,463.9	3.00	-3.00	0.00
7,400.0	6.43	287.64	7,241.2	440.6	-1,413.5	1,477.7	3.00	-3.00	0.00
7,500.0	3.43	287.64	7,340.8	443.2	-1,421.7	1,486.3	3.00	-3.00	0.00
7,600.0	0.43	287.64	7,440.7	444.3	-1,424.9	1,489.6	3.00	-3.00	0.00
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek									
7,614.3	0.00	0.00	7,455.0	444.3	-1,424.9	1,489.7	3.00	-3.00	0.00
EOB @ 1.02° Inc. / 215.00° Azm									
7,682.0	1.02	215.00	7,522.8	443.8	-1,425.3	1,489.9	1.50	1.50	0.00
7,700.0	1.02	215.00	7,540.7	443.5	-1,425.5	1,490.0	0.00	0.00	0.00
7,800.0	1.02	215.00	7,640.7	442.1	-1,426.5	1,490.7	0.00	0.00	0.00
7,900.0	1.02	215.00	7,740.7	440.6	-1,427.5	1,491.3	0.00	0.00	0.00
8,000.0	1.02	215.00	7,840.7	439.2	-1,428.5	1,491.9	0.00	0.00	0.00
8,100.0	1.02	215.00	7,940.7	437.7	-1,429.5	1,492.6	0.00	0.00	0.00
8,200.0	1.02	215.00	8,040.7	436.2	-1,430.6	1,493.2	0.00	0.00	0.00
8,300.0	1.02	215.00	8,140.6	434.8	-1,431.6	1,493.9	0.00	0.00	0.00
Williams Fork									
8,364.4	1.02	215.00	8,205.0	433.9	-1,432.2	1,494.3	0.00	0.00	0.00
8,400.0	1.02	215.00	8,240.6	433.3	-1,432.6	1,494.5	0.00	0.00	0.00
8,500.0	1.02	215.00	8,340.6	431.9	-1,433.6	1,495.2	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well PCU B27 FED 11B-27 197 - Slot 11B-27
Company:	QB Energy Operating, LLC	TVD Reference:	WELL @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	PCU B27 FED 11B-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

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)
8,600.0	1.02	215.00	8,440.6	430.4	-1,434.6	1,495.8	0.00	0.00	0.00
8,700.0	1.02	215.00	8,540.6	429.0	-1,435.6	1,496.4	0.00	0.00	0.00
8,800.0	1.02	215.00	8,640.6	427.5	-1,436.7	1,497.1	0.00	0.00	0.00
8,900.0	1.02	215.00	8,740.5	426.1	-1,437.7	1,497.7	0.00	0.00	0.00
9,000.0	1.02	215.00	8,840.5	424.6	-1,438.7	1,498.4	0.00	0.00	0.00
9,100.0	1.02	215.00	8,940.5	423.2	-1,439.7	1,499.0	0.00	0.00	0.00
9,200.0	1.02	215.00	9,040.5	421.7	-1,440.7	1,499.7	0.00	0.00	0.00
9,300.0	1.02	215.00	9,140.5	420.3	-1,441.7	1,500.3	0.00	0.00	0.00
9,400.0	1.02	215.00	9,240.5	418.8	-1,442.8	1,500.9	0.00	0.00	0.00
9,500.0	1.02	215.00	9,340.4	417.4	-1,443.8	1,501.6	0.00	0.00	0.00
9,600.0	1.02	215.00	9,440.4	415.9	-1,444.8	1,502.2	0.00	0.00	0.00
9,700.0	1.02	215.00	9,540.4	414.5	-1,445.8	1,502.9	0.00	0.00	0.00
9,800.0	1.02	215.00	9,640.4	413.0	-1,446.8	1,503.5	0.00	0.00	0.00
9,900.0	1.02	215.00	9,740.4	411.5	-1,447.9	1,504.2	0.00	0.00	0.00
10,000.0	1.02	215.00	9,840.4	410.1	-1,448.9	1,504.8	0.00	0.00	0.00
10,100.0	1.02	215.00	9,940.4	408.6	-1,449.9	1,505.5	0.00	0.00	0.00
10,200.0	1.02	215.00	10,040.3	407.2	-1,450.9	1,506.1	0.00	0.00	0.00
10,300.0	1.02	215.00	10,140.3	405.7	-1,451.9	1,506.7	0.00	0.00	0.00
10,400.0	1.02	215.00	10,240.3	404.3	-1,452.9	1,507.4	0.00	0.00	0.00
10,500.0	1.02	215.00	10,340.3	402.8	-1,454.0	1,508.0	0.00	0.00	0.00
10,600.0	1.02	215.00	10,440.3	401.4	-1,455.0	1,508.7	0.00	0.00	0.00
10,700.0	1.02	215.00	10,540.3	399.9	-1,456.0	1,509.3	0.00	0.00	0.00
10,800.0	1.02	215.00	10,640.2	398.5	-1,457.0	1,510.0	0.00	0.00	0.00
10,900.0	1.02	215.00	10,740.2	397.0	-1,458.0	1,510.6	0.00	0.00	0.00
11,000.0	1.02	215.00	10,840.2	395.6	-1,459.0	1,511.2	0.00	0.00	0.00
11,100.0	1.02	215.00	10,940.2	394.1	-1,460.1	1,511.9	0.00	0.00	0.00
11,200.0	1.02	215.00	11,040.2	392.7	-1,461.1	1,512.5	0.00	0.00	0.00
Cameo									
11,227.8	1.02	215.00	11,068.0	392.2	-1,461.4	1,512.7	0.00	0.00	0.00
11,300.0	1.02	215.00	11,140.2	391.2	-1,462.1	1,513.2	0.00	0.00	0.00
11,400.0	1.02	215.00	11,240.1	389.7	-1,463.1	1,513.8	0.00	0.00	0.00
11,500.0	1.02	215.00	11,340.1	388.3	-1,464.1	1,514.5	0.00	0.00	0.00
11,600.0	1.02	215.00	11,440.1	386.8	-1,465.2	1,515.1	0.00	0.00	0.00
11,700.0	1.02	215.00	11,540.1	385.4	-1,466.2	1,515.7	0.00	0.00	0.00
Rollins									
11,777.9	1.02	215.00	11,618.0	384.3	-1,467.0	1,516.2	0.00	0.00	0.00
11,800.0	1.02	215.00	11,640.1	383.9	-1,467.2	1,516.4	0.00	0.00	0.00
Cozzette									
11,884.9	1.02	215.00	11,725.0	382.7	-1,468.1	1,516.9	0.00	0.00	0.00
11,900.0	1.02	215.00	11,740.1	382.5	-1,468.2	1,517.0	0.00	0.00	0.00
12,000.0	1.02	215.00	11,840.1	381.0	-1,469.2	1,517.7	0.00	0.00	0.00
12,100.0	1.02	215.00	11,940.0	379.6	-1,470.2	1,518.3	0.00	0.00	0.00
12,200.0	1.02	215.00	12,040.0	378.1	-1,471.3	1,519.0	0.00	0.00	0.00
12,300.0	1.02	215.00	12,140.0	376.7	-1,472.3	1,519.6	0.00	0.00	0.00
12,400.0	1.02	215.00	12,240.0	375.2	-1,473.3	1,520.3	0.00	0.00	0.00
Corcoran									
12,485.0	1.02	215.00	12,325.0	374.0	-1,474.2	1,520.8	0.00	0.00	0.00
12,500.0	1.02	215.00	12,340.0	373.8	-1,474.3	1,520.9	0.00	0.00	0.00
12,600.0	1.02	215.00	12,440.0	372.3	-1,475.3	1,521.5	0.00	0.00	0.00
12,700.0	1.02	215.00	12,539.9	370.9	-1,476.3	1,522.2	0.00	0.00	0.00
12,800.0	1.02	215.00	12,639.9	369.4	-1,477.4	1,522.8	0.00	0.00	0.00
12,900.0	1.02	215.00	12,739.9	368.0	-1,478.4	1,523.5	0.00	0.00	0.00
13,000.0	1.02	215.00	12,839.9	366.5	-1,479.4	1,524.1	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well PCU B27 FED 11B-27 197 - Slot 11B-27
Company:	QB Energy Operating, LLC	TVD Reference:	WELL @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	PCU B27 FED 11B-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

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)	
13,100.0	1.02	215.00	12,939.9	365.0	-1,480.4	1,524.8	0.00	0.00	0.00	
13,200.0	1.02	215.00	13,039.9	363.6	-1,481.4	1,525.4	0.00	0.00	0.00	
TD @ 13285.1' MD / 13125.0' TVD										
13,285.1	1.02	215.00	13,125.0	362.4	-1,482.3	1,525.9	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
11B-27 - OHCR - hit/miss target - Shape - Point	0.00	0.00	7,455.0	444.3	-1,424.9	14,516,669.03	2,404,673.83	39.942179	-108.273560	
11B-27 - PBHL - plan hits target center - Ellipse (radii L100.0 W50.0 on 215.00 azi)	0.00	0.00	13,125.0	362.4	-1,482.3	14,516,585.40	2,404,619.00	39.941955	-108.273764	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,527.5	2,481.0	Orange Marker				
2,677.0	2,627.0	Wasatch				
5,614.9	5,496.0	Wasatch G				
6,099.2	5,969.0	Fort Union				
7,614.3	7,455.0	Ohio Creek				
8,364.4	8,205.0	Williams Fork				
11,227.8	11,068.0	Cameo				
11,777.9	11,618.0	Rollins				
11,884.9	11,725.0	Cozzette				
12,485.0	12,325.0	Corcoran				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
250.0	250.0	0.0	0.0	Build 3° / 100'	
416.7	416.5	-1.0	-7.2	EOB @ 5.00° Inc. / 262.00° Azm : Build 3° / 100'	
690.2	686.7	6.3	-47.1	EOB @ 12.43° Inc. / 287.64° Azm	
7,200.0	7,044.0	430.7	-1,382.3	Drop 3° /100'	
7,614.3	7,455.0	444.3	-1,424.9	EOD @ Vertical / Build 1.5° / 100'	
7,682.0	7,522.8	443.8	-1,425.3	EOB @ 1.02° Inc. / 215.00° Azm	
13,285.1	13,125.0	362.4	-1,482.3	TD @ 13285.1' MD / 13125.0' TVD	