

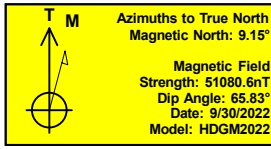
Project: Rio Blanco County, CO
 Site: PCU B27 197 Pad
 Well: RNPU B27 FED 21A-27 197
 Wellbore: OH
 Design: Prelim #2
 Latitude: 39.941063
 Longitude: -108.268529
 Ground Level: 6510.0
 RKB @ 6540.0usft (30')

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
2458.0	2577.8	Orange Marker	
2604.0	2733.7	Wasatch	
5551.0	5879.1	Wasatch G	
6028.0	6388.3	Fort Union	
7536.0	7967.3	Ohio Creek	
8286.0	8717.4	Williams Fork	
11233.0	11664.8	Cameo	
11783.0	12214.9	Rollins	
11878.0	12309.9	Cozzette	
12478.0	12910.0	Corcoran	

REFERENCE INFORMATION	
Co-ordinate (N/E) Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27, True North
Vertical (TVD) Reference:	RKB @ 6540.0usft (30')
Section (VS) Reference:	Slot - 21A-27(0.0N, 0.0E)
Measured Depth Reference:	RKB @ 6540.0usft (30')
Calculation Method:	Minimum Curvature

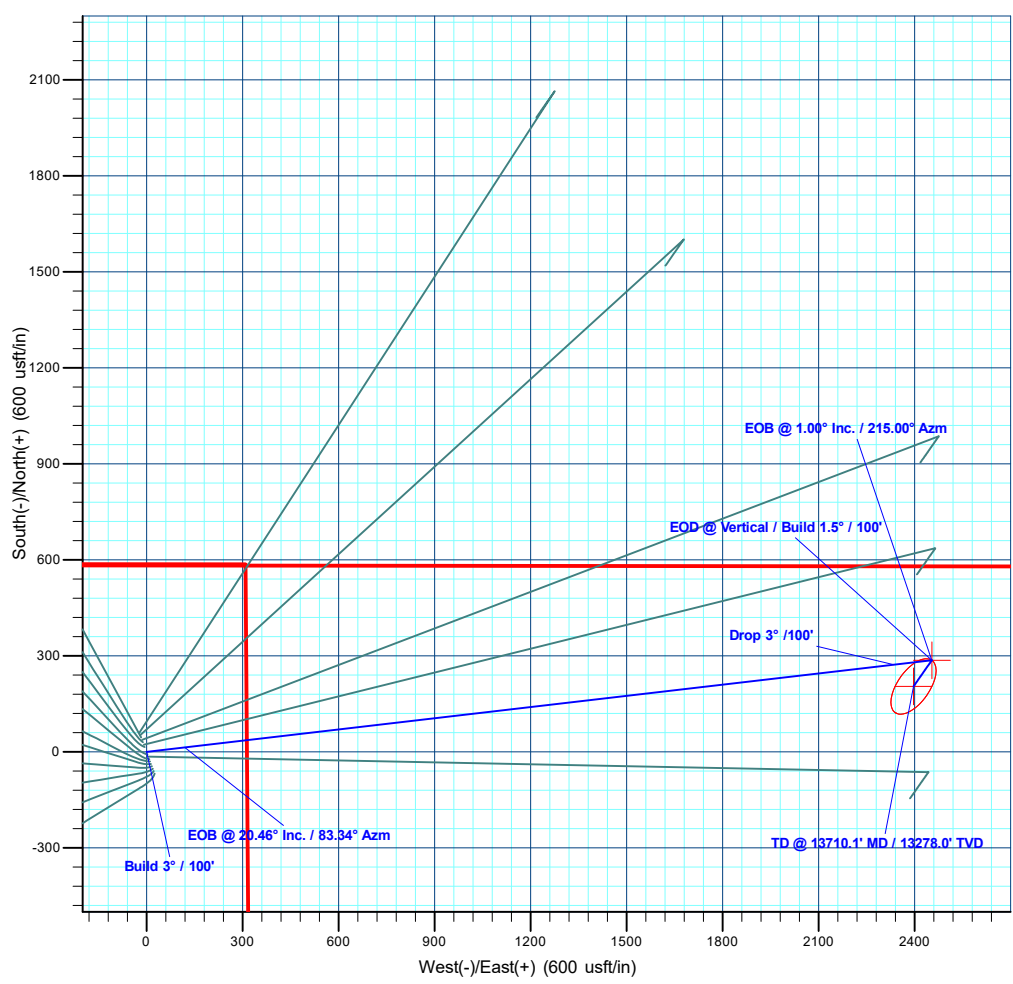
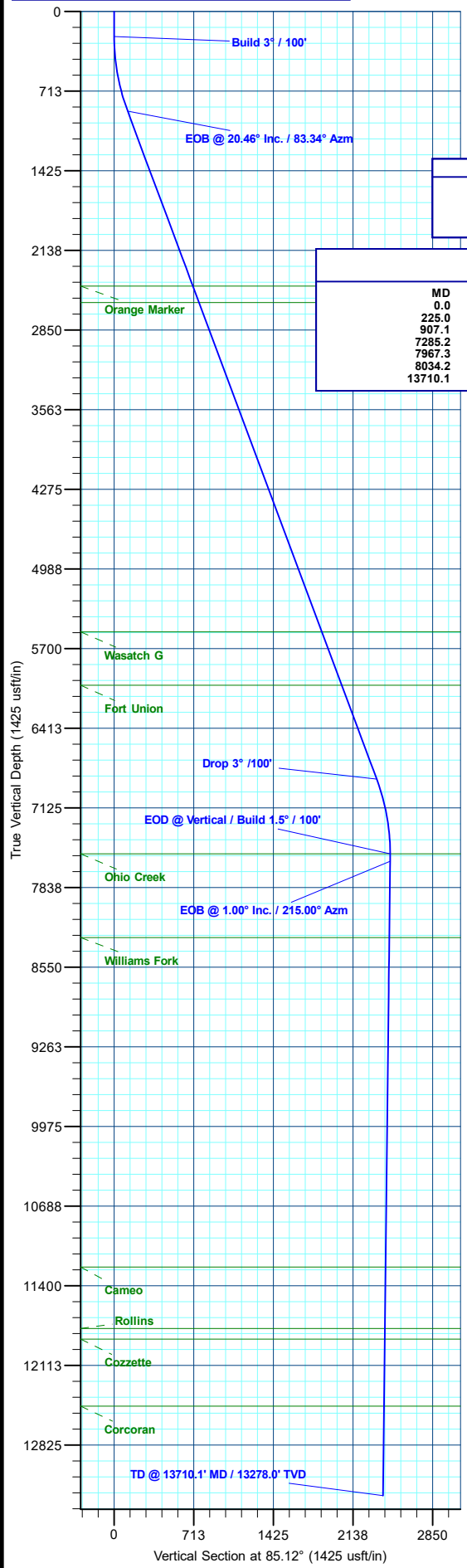
WELL DETAILS: RNPU B27 FED 21A-27 197					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14516305.60	2406096.60	39.941063	-108.268529
21A-27					

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
21A-27 - OHCR	7536.0	286.5	2454.1	14516667.13	2408540.73	39.941849	-108.259780
21A-27 - PBHL	13278.0	204.6	2396.7	14516583.50	2408485.90	39.941624	-108.259984

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'	
225.0	0.00	0.00	225.0	0.0	0.0	0.00	0.00	0.0	EOB @ 20.46° Inc. / 83.34° Azm	
907.1	20.46	83.34	892.7	14.0	119.7	3.00	83.34	120.4	Drop 3° / 100'	
7285.2	20.46	83.34	6868.3	272.6	2334.4	0.00	0.00	2349.1	EOD @ Vertical / Build 1.5° / 100'	
7967.3	0.00	0.00	7536.0	286.5	2454.1	3.00	180.00	2469.5	EOB @ Vertical / Build 1.5° / 100'	
8034.2	1.00	215.00	7602.9	286.0	2453.7	1.50	215.00	2469.2	EOB @ 1.00° Inc. / 215.00° Azm	
13710.1	1.00	215.00	13278.0	204.6	2396.7	0.00	0.00	2405.4	TD @ 13710.1' MD / 13278.0' TVD	



Plan: Prelim #2 (RNPU B27 FED 21A-27 197/OH)
 Created By: Will Jircik Date: 19:24, October 03 2024



QB Energy Operating, LLC

Rio Blanco County, CO

PCU B27 197 Pad

RNPU B27 FED 21A-27 197 - Slot 21A-27

OH

Plan: Prelim #2

KLX Well Planning Report

03 October, 2024



Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-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
From:	Map	Easting:	2,406,120.81 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.940899
		Longitude:	-108.268449
		Grid Convergence:	1.75 °

Well	RNPU B27 FED 21A-27 197 - Slot 21A-27					
Well Position	+N/-S	59.9 usft	Northing:	14,516,305.60 usft	Latitude:	39.941063
	+E/-W	-22.4 usft	Easting:	2,406,096.60 usft	Longitude:	-108.268529
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,510.0 usft

Wellbore	OH				
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			
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	85.12

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		
907.1	20.46	83.34	892.7	14.0	119.7	3.00	3.00	0.00	83.34		
7,285.2	20.46	83.34	6,868.3	272.6	2,334.4	0.00	0.00	0.00	0.00		
7,967.3	0.00	0.00	7,536.0	286.5	2,454.1	3.00	-3.00	0.00	180.00	21A-27 - OHCR	
8,034.2	1.00	215.00	7,602.9	286.0	2,453.7	1.50	1.50	-216.72	215.00		
13,710.1	1.00	215.00	13,278.0	204.6	2,396.7	0.00	0.00	0.00	0.00	21A-27 - PBHL	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-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'									
225.0	0.00	0.00	225.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	2.25	83.34	300.0	0.2	1.5	1.5	3.00	3.00	0.00
400.0	5.25	83.34	399.8	0.9	8.0	8.0	3.00	3.00	0.00
500.0	8.25	83.34	499.1	2.3	19.6	19.8	3.00	3.00	0.00
600.0	11.25	83.34	597.6	4.3	36.4	36.7	3.00	3.00	0.00
700.0	14.25	83.34	695.1	6.8	58.4	58.7	3.00	3.00	0.00
800.0	17.25	83.34	791.4	10.0	85.3	85.9	3.00	3.00	0.00
EOB @ 20.46° Inc. / 83.34° Azm									
907.1	20.46	83.34	892.7	14.0	119.7	120.4	3.00	3.00	0.00
1,000.0	20.46	83.34	979.7	17.7	152.0	152.9	0.00	0.00	0.00
1,100.0	20.46	83.34	1,073.4	21.8	186.7	187.9	0.00	0.00	0.00
1,200.0	20.46	83.34	1,167.1	25.9	221.4	222.8	0.00	0.00	0.00
1,300.0	20.46	83.34	1,260.8	29.9	256.1	257.7	0.00	0.00	0.00
1,400.0	20.46	83.34	1,354.5	34.0	290.9	292.7	0.00	0.00	0.00
1,500.0	20.46	83.34	1,448.2	38.0	325.6	327.6	0.00	0.00	0.00
1,600.0	20.46	83.34	1,541.9	42.1	360.3	362.6	0.00	0.00	0.00
1,700.0	20.46	83.34	1,635.6	46.1	395.0	397.5	0.00	0.00	0.00
1,800.0	20.46	83.34	1,729.3	50.2	429.7	432.5	0.00	0.00	0.00
1,900.0	20.46	83.34	1,822.9	54.2	464.5	467.4	0.00	0.00	0.00
2,000.0	20.46	83.34	1,916.6	58.3	499.2	502.3	0.00	0.00	0.00
2,100.0	20.46	83.34	2,010.3	62.3	533.9	537.3	0.00	0.00	0.00
2,200.0	20.46	83.34	2,104.0	66.4	568.6	572.2	0.00	0.00	0.00
2,300.0	20.46	83.34	2,197.7	70.4	603.4	607.2	0.00	0.00	0.00
2,400.0	20.46	83.34	2,291.4	74.5	638.1	642.1	0.00	0.00	0.00
2,500.0	20.46	83.34	2,385.1	78.6	672.8	677.0	0.00	0.00	0.00
Orange Marker									
2,577.8	20.46	83.34	2,458.0	81.7	699.8	704.2	0.00	0.00	0.00
2,600.0	20.46	83.34	2,478.8	82.6	707.5	712.0	0.00	0.00	0.00
2,700.0	20.46	83.34	2,572.5	86.7	742.3	746.9	0.00	0.00	0.00
Wasatch									
2,733.7	20.46	83.34	2,604.0	88.0	753.9	758.7	0.00	0.00	0.00
2,800.0	20.46	83.34	2,666.2	90.7	777.0	781.9	0.00	0.00	0.00
2,900.0	20.46	83.34	2,759.8	94.8	811.7	816.8	0.00	0.00	0.00
3,000.0	20.46	83.34	2,853.5	98.8	846.4	851.8	0.00	0.00	0.00
3,100.0	20.46	83.34	2,947.2	102.9	881.1	886.7	0.00	0.00	0.00
3,200.0	20.46	83.34	3,040.9	106.9	915.9	921.6	0.00	0.00	0.00
3,300.0	20.46	83.34	3,134.6	111.0	950.6	956.6	0.00	0.00	0.00
3,400.0	20.46	83.34	3,228.3	115.0	985.3	991.5	0.00	0.00	0.00
3,500.0	20.46	83.34	3,322.0	119.1	1,020.0	1,026.5	0.00	0.00	0.00
3,600.0	20.46	83.34	3,415.7	123.2	1,054.8	1,061.4	0.00	0.00	0.00
3,700.0	20.46	83.34	3,509.4	127.2	1,089.5	1,096.4	0.00	0.00	0.00
3,800.0	20.46	83.34	3,603.1	131.3	1,124.2	1,131.3	0.00	0.00	0.00
3,900.0	20.46	83.34	3,696.7	135.3	1,158.9	1,166.2	0.00	0.00	0.00
4,000.0	20.46	83.34	3,790.4	139.4	1,193.6	1,201.2	0.00	0.00	0.00
4,100.0	20.46	83.34	3,884.1	143.4	1,228.4	1,236.1	0.00	0.00	0.00
4,200.0	20.46	83.34	3,977.8	147.5	1,263.1	1,271.1	0.00	0.00	0.00
4,300.0	20.46	83.34	4,071.5	151.5	1,297.8	1,306.0	0.00	0.00	0.00
4,400.0	20.46	83.34	4,165.2	155.6	1,332.5	1,340.9	0.00	0.00	0.00
4,500.0	20.46	83.34	4,258.9	159.6	1,367.3	1,375.9	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-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)
4,600.0	20.46	83.34	4,352.6	163.7	1,402.0	1,410.8	0.00	0.00	0.00
4,700.0	20.46	83.34	4,446.3	167.7	1,436.7	1,445.8	0.00	0.00	0.00
4,800.0	20.46	83.34	4,540.0	171.8	1,471.4	1,480.7	0.00	0.00	0.00
4,900.0	20.46	83.34	4,633.7	175.9	1,506.2	1,515.7	0.00	0.00	0.00
5,000.0	20.46	83.34	4,727.3	179.9	1,540.9	1,550.6	0.00	0.00	0.00
5,100.0	20.46	83.34	4,821.0	184.0	1,575.6	1,585.5	0.00	0.00	0.00
5,200.0	20.46	83.34	4,914.7	188.0	1,610.3	1,620.5	0.00	0.00	0.00
5,300.0	20.46	83.34	5,008.4	192.1	1,645.0	1,655.4	0.00	0.00	0.00
5,400.0	20.46	83.34	5,102.1	196.1	1,679.8	1,690.4	0.00	0.00	0.00
5,500.0	20.46	83.34	5,195.8	200.2	1,714.5	1,725.3	0.00	0.00	0.00
5,600.0	20.46	83.34	5,289.5	204.2	1,749.2	1,760.2	0.00	0.00	0.00
5,700.0	20.46	83.34	5,383.2	208.3	1,783.9	1,795.2	0.00	0.00	0.00
5,800.0	20.46	83.34	5,476.9	212.3	1,818.7	1,830.1	0.00	0.00	0.00
Wasatch G									
5,879.1	20.46	83.34	5,551.0	215.6	1,846.1	1,857.8	0.00	0.00	0.00
5,900.0	20.46	83.34	5,570.6	216.4	1,853.4	1,865.1	0.00	0.00	0.00
6,000.0	20.46	83.34	5,664.2	220.5	1,888.1	1,900.0	0.00	0.00	0.00
6,100.0	20.46	83.34	5,757.9	224.5	1,922.8	1,935.0	0.00	0.00	0.00
6,200.0	20.46	83.34	5,851.6	228.6	1,957.6	1,969.9	0.00	0.00	0.00
6,300.0	20.46	83.34	5,945.3	232.6	1,992.3	2,004.8	0.00	0.00	0.00
Fort Union									
6,388.3	20.46	83.34	6,028.0	236.2	2,022.9	2,035.7	0.00	0.00	0.00
6,400.0	20.46	83.34	6,039.0	236.7	2,027.0	2,039.8	0.00	0.00	0.00
6,500.0	20.46	83.34	6,132.7	240.7	2,061.7	2,074.7	0.00	0.00	0.00
6,600.0	20.46	83.34	6,226.4	244.8	2,096.4	2,109.7	0.00	0.00	0.00
6,700.0	20.46	83.34	6,320.1	248.8	2,131.2	2,144.6	0.00	0.00	0.00
6,800.0	20.46	83.34	6,413.8	252.9	2,165.9	2,179.6	0.00	0.00	0.00
6,900.0	20.46	83.34	6,507.5	256.9	2,200.6	2,214.5	0.00	0.00	0.00
7,000.0	20.46	83.34	6,601.2	261.0	2,235.3	2,249.4	0.00	0.00	0.00
7,100.0	20.46	83.34	6,694.8	265.0	2,270.1	2,284.4	0.00	0.00	0.00
7,200.0	20.46	83.34	6,788.5	269.1	2,304.8	2,319.3	0.00	0.00	0.00
Drop 3° /100'									
7,285.2	20.46	83.34	6,868.3	272.6	2,334.4	2,349.1	0.00	0.00	0.00
7,300.0	20.02	83.34	6,882.2	273.1	2,339.5	2,354.2	3.00	-3.00	0.00
7,400.0	17.02	83.34	6,977.1	276.8	2,371.0	2,385.9	3.00	-3.00	0.00
7,500.0	14.02	83.34	7,073.4	279.9	2,397.6	2,412.7	3.00	-3.00	0.00
7,600.0	11.02	83.34	7,171.0	282.4	2,419.1	2,434.3	3.00	-3.00	0.00
7,700.0	8.02	83.34	7,269.6	284.4	2,435.5	2,450.9	3.00	-3.00	0.00
7,800.0	5.02	83.34	7,369.0	285.7	2,446.8	2,462.2	3.00	-3.00	0.00
7,900.0	2.02	83.34	7,468.8	286.4	2,452.9	2,468.3	3.00	-3.00	0.00
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek									
7,967.3	0.00	0.00	7,536.0	286.5	2,454.1	2,469.5	3.00	-3.00	0.00
8,000.0	0.49	215.00	7,568.7	286.4	2,454.0	2,469.4	1.50	1.50	0.00
EOB @ 1.00° Inc. / 215.00° Azm									
8,034.2	1.00	215.00	7,602.9	286.0	2,453.7	2,469.2	1.50	1.50	0.00
8,100.0	1.00	215.00	7,668.7	285.1	2,453.1	2,468.4	0.00	0.00	0.00
8,200.0	1.00	215.00	7,768.7	283.7	2,452.0	2,467.3	0.00	0.00	0.00
8,300.0	1.00	215.00	7,868.7	282.2	2,451.0	2,466.2	0.00	0.00	0.00
8,400.0	1.00	215.00	7,968.7	280.8	2,450.0	2,465.0	0.00	0.00	0.00
8,500.0	1.00	215.00	8,068.7	279.4	2,449.0	2,463.9	0.00	0.00	0.00
8,600.0	1.00	215.00	8,168.7	277.9	2,448.0	2,462.8	0.00	0.00	0.00
8,700.0	1.00	215.00	8,268.6	276.5	2,447.0	2,461.7	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-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)
Williams Fork									
8,717.4	1.00	215.00	8,286.0	276.2	2,446.9	2,461.5	0.00	0.00	0.00
8,800.0	1.00	215.00	8,368.6	275.1	2,446.0	2,460.6	0.00	0.00	0.00
8,900.0	1.00	215.00	8,468.6	273.6	2,445.0	2,459.4	0.00	0.00	0.00
9,000.0	1.00	215.00	8,568.6	272.2	2,444.0	2,458.3	0.00	0.00	0.00
9,100.0	1.00	215.00	8,668.6	270.8	2,443.0	2,457.2	0.00	0.00	0.00
9,200.0	1.00	215.00	8,768.6	269.3	2,442.0	2,456.1	0.00	0.00	0.00
9,300.0	1.00	215.00	8,868.6	267.9	2,441.0	2,454.9	0.00	0.00	0.00
9,400.0	1.00	215.00	8,968.5	266.5	2,440.0	2,453.8	0.00	0.00	0.00
9,500.0	1.00	215.00	9,068.5	265.0	2,439.0	2,452.7	0.00	0.00	0.00
9,600.0	1.00	215.00	9,168.5	263.6	2,438.0	2,451.6	0.00	0.00	0.00
9,700.0	1.00	215.00	9,268.5	262.1	2,437.0	2,450.4	0.00	0.00	0.00
9,800.0	1.00	215.00	9,368.5	260.7	2,436.0	2,449.3	0.00	0.00	0.00
9,900.0	1.00	215.00	9,468.5	259.3	2,435.0	2,448.2	0.00	0.00	0.00
10,000.0	1.00	215.00	9,568.4	257.8	2,434.0	2,447.1	0.00	0.00	0.00
10,100.0	1.00	215.00	9,668.4	256.4	2,433.0	2,446.0	0.00	0.00	0.00
10,200.0	1.00	215.00	9,768.4	255.0	2,432.0	2,444.8	0.00	0.00	0.00
10,300.0	1.00	215.00	9,868.4	253.5	2,431.0	2,443.7	0.00	0.00	0.00
10,400.0	1.00	215.00	9,968.4	252.1	2,429.9	2,442.6	0.00	0.00	0.00
10,500.0	1.00	215.00	10,068.4	250.7	2,428.9	2,441.5	0.00	0.00	0.00
10,600.0	1.00	215.00	10,168.4	249.2	2,427.9	2,440.3	0.00	0.00	0.00
10,700.0	1.00	215.00	10,268.3	247.8	2,426.9	2,439.2	0.00	0.00	0.00
10,800.0	1.00	215.00	10,368.3	246.4	2,425.9	2,438.1	0.00	0.00	0.00
10,900.0	1.00	215.00	10,468.3	244.9	2,424.9	2,437.0	0.00	0.00	0.00
11,000.0	1.00	215.00	10,568.3	243.5	2,423.9	2,435.8	0.00	0.00	0.00
11,100.0	1.00	215.00	10,668.3	242.1	2,422.9	2,434.7	0.00	0.00	0.00
11,200.0	1.00	215.00	10,768.3	240.6	2,421.9	2,433.6	0.00	0.00	0.00
11,300.0	1.00	215.00	10,868.2	239.2	2,420.9	2,432.5	0.00	0.00	0.00
11,400.0	1.00	215.00	10,968.2	237.8	2,419.9	2,431.4	0.00	0.00	0.00
11,500.0	1.00	215.00	11,068.2	236.3	2,418.9	2,430.2	0.00	0.00	0.00
11,600.0	1.00	215.00	11,168.2	234.9	2,417.9	2,429.1	0.00	0.00	0.00
Cameo									
11,664.8	1.00	215.00	11,233.0	234.0	2,417.2	2,428.4	0.00	0.00	0.00
11,700.0	1.00	215.00	11,268.2	233.5	2,416.9	2,428.0	0.00	0.00	0.00
11,800.0	1.00	215.00	11,368.2	232.0	2,415.9	2,426.9	0.00	0.00	0.00
11,900.0	1.00	215.00	11,468.2	230.6	2,414.9	2,425.7	0.00	0.00	0.00
12,000.0	1.00	215.00	11,568.1	229.2	2,413.9	2,424.6	0.00	0.00	0.00
12,100.0	1.00	215.00	11,668.1	227.7	2,412.9	2,423.5	0.00	0.00	0.00
12,200.0	1.00	215.00	11,768.1	226.3	2,411.9	2,422.4	0.00	0.00	0.00
Rollins									
12,214.9	1.00	215.00	11,783.0	226.1	2,411.7	2,422.2	0.00	0.00	0.00
12,300.0	1.00	215.00	11,868.1	224.8	2,410.9	2,421.2	0.00	0.00	0.00
Cozzette									
12,309.9	1.00	215.00	11,878.0	224.7	2,410.8	2,421.1	0.00	0.00	0.00
12,400.0	1.00	215.00	11,968.1	223.4	2,409.9	2,420.1	0.00	0.00	0.00
12,500.0	1.00	215.00	12,068.1	222.0	2,408.8	2,419.0	0.00	0.00	0.00
12,600.0	1.00	215.00	12,168.0	220.5	2,407.8	2,417.9	0.00	0.00	0.00
12,700.0	1.00	215.00	12,268.0	219.1	2,406.8	2,416.8	0.00	0.00	0.00
12,800.0	1.00	215.00	12,368.0	217.7	2,405.8	2,415.6	0.00	0.00	0.00
12,900.0	1.00	215.00	12,468.0	216.2	2,404.8	2,414.5	0.00	0.00	0.00
Corcoran									
12,910.0	1.00	215.00	12,478.0	216.1	2,404.7	2,414.4	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-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)	
13,000.0	1.00	215.00	12,568.0	214.8	2,403.8	2,413.4	0.00	0.00	0.00	
13,100.0	1.00	215.00	12,668.0	213.4	2,402.8	2,412.3	0.00	0.00	0.00	
13,200.0	1.00	215.00	12,768.0	211.9	2,401.8	2,411.1	0.00	0.00	0.00	
13,300.0	1.00	215.00	12,867.9	210.5	2,400.8	2,410.0	0.00	0.00	0.00	
13,400.0	1.00	215.00	12,967.9	209.1	2,399.8	2,408.9	0.00	0.00	0.00	
13,500.0	1.00	215.00	13,067.9	207.6	2,398.8	2,407.8	0.00	0.00	0.00	
13,600.0	1.00	215.00	13,167.9	206.2	2,397.8	2,406.6	0.00	0.00	0.00	
13,700.0	1.00	215.00	13,267.9	204.8	2,396.8	2,405.5	0.00	0.00	0.00	
TD @ 13710.1' MD / 13278.0' TVD										
13,710.1	1.00	215.00	13,278.0	204.6	2,396.7	2,405.4	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	
21A-27 - OHCR - hit/miss target - Shape - Point	0.00	0.00	7,536.0	286.5	2,454.1	14,516,667.13	2,408,540.73	39.941849	-108.259780	
21A-27 - PBHL - plan hits target center - Ellipse (radii L100.0 W50.0 on 215.00 azi)	0.00	0.00	13,278.0	204.6	2,396.7	14,516,583.50	2,408,485.90	39.941624	-108.259984	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,577.8	2,458.0	Orange Marker				
2,733.7	2,604.0	Wasatch				
5,879.1	5,551.0	Wasatch G				
6,388.3	6,028.0	Fort Union				
7,967.3	7,536.0	Ohio Creek				
8,717.4	8,286.0	Williams Fork				
11,664.8	11,233.0	Cameo				
12,214.9	11,783.0	Rollins				
12,309.9	11,878.0	Cozzette				
12,910.0	12,478.0	Corcoran				

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 21A-27 197 - Slot 21A-27
Company:	QB Energy Operating, LLC	TVD Reference:	RKB @ 6540.0usft (30')
Project:	Rio Blanco County, CO	MD Reference:	RKB @ 6540.0usft (30')
Site:	PCU B27 197 Pad	North Reference:	True
Well:	RNPU B27 FED 21A-27 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #2		

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'
907.1	892.7	14.0	119.7	EOB @ 20.46° Inc. / 83.34° Azm
7,285.2	6,868.3	272.6	2,334.4	Drop 3° /100'
7,967.3	7,536.0	286.5	2,454.1	EOD @ Vertical / Build 1.5° / 100'
8,034.2	7,602.9	286.0	2,453.7	EOB @ 1.00° Inc. / 215.00° Azm
13,710.1	13,278.0	204.6	2,396.7	TD @ 13710.1' MD / 13278.0' TVD