

Project: Rio Blanco County, CO
 Site: PCU B27 197 Pad
 Well: RNPU B27 FED 11A-22 197
 Wellbore: OH
 Design: Prelim #1
 Latitude: 39.940981
 Longitude: -108.268489
 Ground Level: 6510.0
 WELL @ 6540.0usft (30')

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2482.0	2573.2	Orange Marker
2632.0	2730.6	Wasatch
5508.0	5748.5	Wasatch G
5979.0	6242.7	Fort Union
7475.0	7793.2	Ohio Creek
8225.0	8543.4	Williams Fork
11093.0	11411.8	Cameo
11643.0	11961.9	Rollins
11741.0	12059.9	Cozzette
12341.0	12660.0	Corcoran

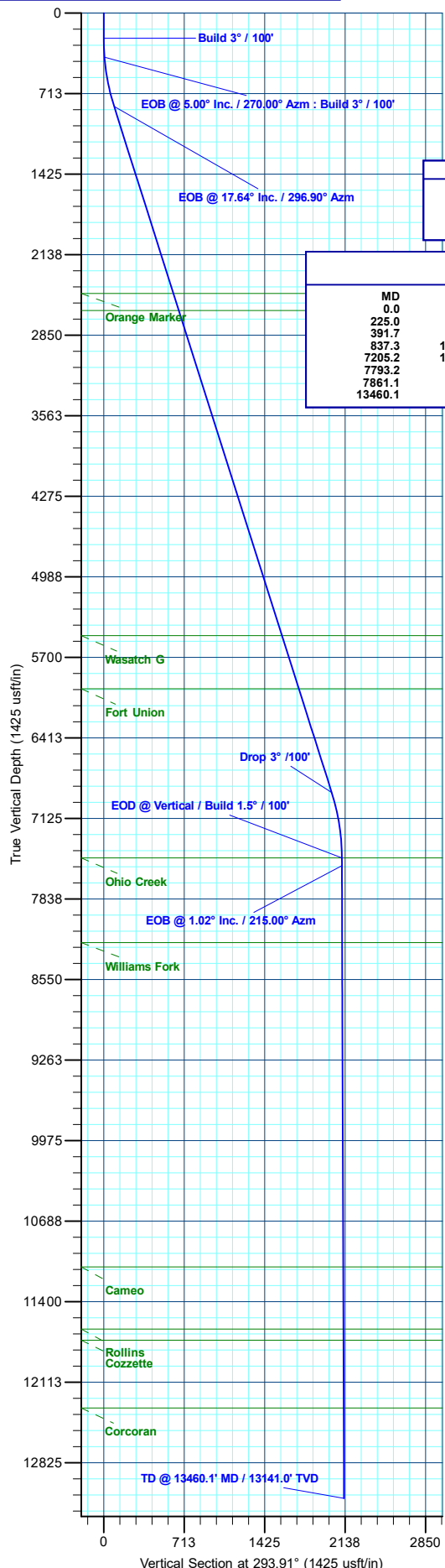
REFERENCE INFORMATION	
Co-ordinate (N/E) Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22, True North
Vertical (TVD) Reference:	WELL @ 6540.0usft (30')
Section (VS) Reference:	Slot - 11A-22(0.0N, 0.0E)
Measured Depth Reference:	WELL @ 6540.0usft (30')
Calculation Method:	Minimum Curvature

WELL DETAILS: RNPU B27 FED 11A-22 197					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14516276.00	2406108.70	39.940981	-108.268489
11A-22					

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

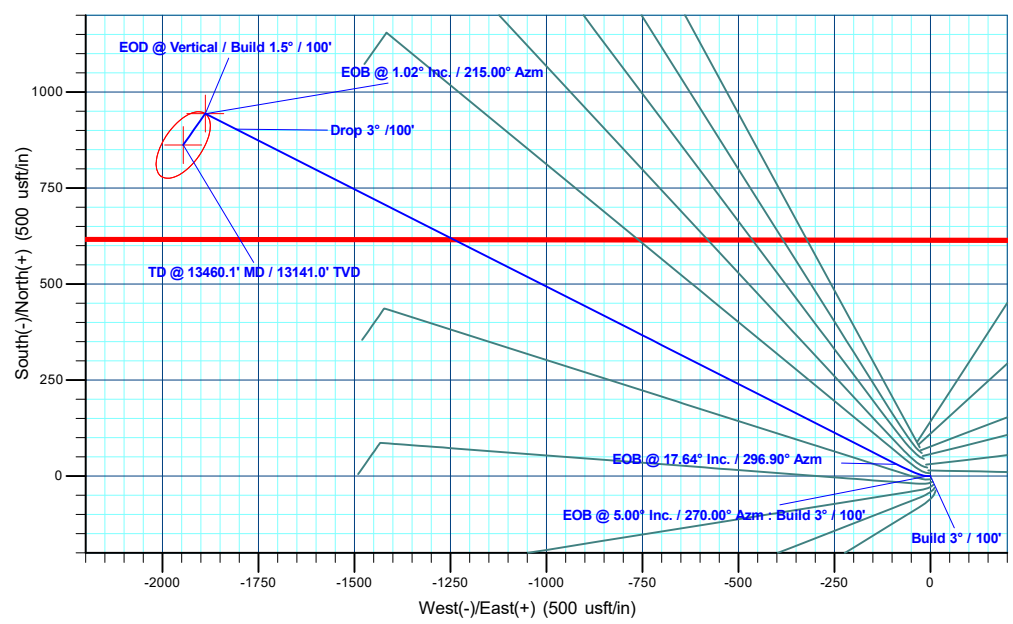
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
11A-22 - OHCR	7475.0	944.4	-1888.3	14517162.13	2404192.33	39.943572	-108.275222
11A-22 - PBHL	13141.0	862.5	-1945.7	14517078.50	2404137.50	39.943347	-108.275426

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 @ 5.00° Inc. / 270.00° Azm : Build 3° / 100'	
391.7	5.00	270.00	391.5	0.0	-7.3	3.00	270.00	6.6	EOB @ 17.64° Inc. / 296.90° Azm	
837.3	17.64	296.90	827.2	30.7	-87.3	3.00	36.37	92.2	Drop 3° / 100'	
7205.2	17.64	296.90	6896.2	903.8	-1808.2	0.00	0.00	2019.4	EOD @ Vertical / Build 1.5° / 100'	
7793.2	0.00	0.00	7475.0	944.4	-1888.3	3.00	180.00	2109.0	EOB @ 1.02° Inc. / 215.00° Azm	
7861.1	1.02	215.00	7542.8	943.9	-1888.7	1.50	215.00	2109.2	EOB @ 1.02° Inc. / 215.00° Azm	
13460.1	1.02	215.00	13141.0	862.5	-1945.7	0.00	0.00	2128.3	TD @ 13460.1' MD / 13141.0' TVD	



T M Azimuths to True North
 Magnetic North: 9.15°

Magnetic Field
 Strength: 51080.6nT
 Dip Angle: 65.83°
 Date: 9/30/2022
 Model: HDGM2022





QB Energy Operating, LLC

Rio Blanco County, CO

PCU B27 197 Pad

RNPU B27 FED 11A-22 197 - Slot 11A-22

OH

Plan: Prelim #1

KLX Well Planning Report

03 October, 2024



Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #1		

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 11A-22 197 - Slot 11A-22					
Well Position	+N/-S	30.0 usft	Northing:	14,516,276.00 usft	Latitude:	39.940981
	+E/-W	-11.2 usft	Easting:	2,406,108.70 usft	Longitude:	-108.268489
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 #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	293.91

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		
391.7	5.00	270.00	391.5	0.0	-7.3	3.00	3.00	0.00	270.00		
837.3	17.64	296.90	827.7	30.7	-87.3	3.00	2.84	6.04	36.37		
7,205.2	17.64	296.90	6,896.2	903.8	-1,808.2	0.00	0.00	0.00	0.00		
7,793.2	0.00	0.00	7,475.0	944.4	-1,888.3	3.00	-3.00	0.00	180.00	11A-22 - OHCR	
7,861.1	1.02	215.00	7,542.8	943.9	-1,888.7	1.50	1.50	-213.81	215.00		
13,460.1	1.02	215.00	13,141.0	862.5	-1,945.7	0.00	0.00	0.00	0.00	11A-22 - PBHL	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #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	270.00	300.0	0.0	-1.5	1.3	3.00	3.00	0.00
EOB @ 5.00° Inc. / 270.00° Azm : Build 3° / 100'									
391.7	5.00	270.00	391.5	0.0	-7.3	6.6	3.00	3.00	0.00
400.0	5.20	271.63	399.8	0.0	-8.0	7.3	3.00	2.44	19.62
500.0	7.86	284.24	499.1	1.8	-19.2	18.3	3.00	2.65	12.60
600.0	10.69	290.36	597.8	6.7	-34.5	34.3	3.00	2.84	6.12
700.0	13.60	293.91	695.5	14.7	-53.9	55.3	3.00	2.91	3.55
800.0	16.54	296.23	792.1	25.8	-77.5	81.3	3.00	2.94	2.32
EOB @ 17.64° Inc. / 296.90° Azm									
837.3	17.64	296.90	827.7	30.7	-87.3	92.2	3.00	2.95	1.80
900.0	17.64	296.90	887.5	39.3	-104.2	111.2	0.00	0.00	0.00
1,000.0	17.64	296.90	982.8	53.0	-131.2	141.5	0.00	0.00	0.00
1,100.0	17.64	296.90	1,078.1	66.7	-158.3	171.7	0.00	0.00	0.00
1,200.0	17.64	296.90	1,173.4	80.4	-185.3	202.0	0.00	0.00	0.00
1,300.0	17.64	296.90	1,268.7	94.1	-212.3	232.2	0.00	0.00	0.00
1,400.0	17.64	296.90	1,364.0	107.8	-239.3	262.5	0.00	0.00	0.00
1,500.0	17.64	296.90	1,459.3	121.5	-266.4	292.8	0.00	0.00	0.00
1,600.0	17.64	296.90	1,554.6	135.3	-293.4	323.0	0.00	0.00	0.00
1,700.0	17.64	296.90	1,649.9	149.0	-320.4	353.3	0.00	0.00	0.00
1,800.0	17.64	296.90	1,745.2	162.7	-347.4	383.6	0.00	0.00	0.00
1,900.0	17.64	296.90	1,840.5	176.4	-374.5	413.8	0.00	0.00	0.00
2,000.0	17.64	296.90	1,935.8	190.1	-401.5	444.1	0.00	0.00	0.00
2,100.0	17.64	296.90	2,031.1	203.8	-428.5	474.4	0.00	0.00	0.00
2,200.0	17.64	296.90	2,126.4	217.5	-455.6	504.6	0.00	0.00	0.00
2,300.0	17.64	296.90	2,221.7	231.2	-482.6	534.9	0.00	0.00	0.00
2,400.0	17.64	296.90	2,317.0	244.9	-509.6	565.1	0.00	0.00	0.00
2,500.0	17.64	296.90	2,412.3	258.7	-536.6	595.4	0.00	0.00	0.00
Orange Marker									
2,573.2	17.64	296.90	2,482.0	268.7	-556.4	617.6	0.00	0.00	0.00
2,600.0	17.64	296.90	2,507.6	272.4	-563.7	625.7	0.00	0.00	0.00
2,700.0	17.64	296.90	2,602.9	286.1	-590.7	655.9	0.00	0.00	0.00
Wasatch									
2,730.6	17.64	296.90	2,632.0	290.3	-598.9	665.2	0.00	0.00	0.00
2,800.0	17.64	296.90	2,698.1	299.8	-617.7	686.2	0.00	0.00	0.00
2,900.0	17.64	296.90	2,793.4	313.5	-644.7	716.5	0.00	0.00	0.00
3,000.0	17.64	296.90	2,888.7	327.2	-671.8	746.7	0.00	0.00	0.00
3,100.0	17.64	296.90	2,984.0	340.9	-698.8	777.0	0.00	0.00	0.00
3,200.0	17.64	296.90	3,079.3	354.6	-725.8	807.2	0.00	0.00	0.00
3,300.0	17.64	296.90	3,174.6	368.3	-752.8	837.5	0.00	0.00	0.00
3,400.0	17.64	296.90	3,269.9	382.0	-779.9	867.8	0.00	0.00	0.00
3,500.0	17.64	296.90	3,365.2	395.8	-806.9	898.0	0.00	0.00	0.00
3,600.0	17.64	296.90	3,460.5	409.5	-833.9	928.3	0.00	0.00	0.00
3,700.0	17.64	296.90	3,555.8	423.2	-860.9	958.6	0.00	0.00	0.00
3,800.0	17.64	296.90	3,651.1	436.9	-888.0	988.8	0.00	0.00	0.00
3,900.0	17.64	296.90	3,746.4	450.6	-915.0	1,019.1	0.00	0.00	0.00
4,000.0	17.64	296.90	3,841.7	464.3	-942.0	1,049.4	0.00	0.00	0.00
4,100.0	17.64	296.90	3,937.0	478.0	-969.0	1,079.6	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #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	17.64	296.90	4,032.3	491.7	-996.1	1,109.9	0.00	0.00	0.00	
4,300.0	17.64	296.90	4,127.6	505.4	-1,023.1	1,140.1	0.00	0.00	0.00	
4,400.0	17.64	296.90	4,222.9	519.1	-1,050.1	1,170.4	0.00	0.00	0.00	
4,500.0	17.64	296.90	4,318.2	532.9	-1,077.1	1,200.7	0.00	0.00	0.00	
4,600.0	17.64	296.90	4,413.5	546.6	-1,104.2	1,230.9	0.00	0.00	0.00	
4,700.0	17.64	296.90	4,508.8	560.3	-1,131.2	1,261.2	0.00	0.00	0.00	
4,800.0	17.64	296.90	4,604.1	574.0	-1,158.2	1,291.5	0.00	0.00	0.00	
4,900.0	17.64	296.90	4,699.4	587.7	-1,185.2	1,321.7	0.00	0.00	0.00	
5,000.0	17.64	296.90	4,794.7	601.4	-1,212.3	1,352.0	0.00	0.00	0.00	
5,100.0	17.64	296.90	4,890.0	615.1	-1,239.3	1,382.3	0.00	0.00	0.00	
5,200.0	17.64	296.90	4,985.3	628.8	-1,266.3	1,412.5	0.00	0.00	0.00	
5,300.0	17.64	296.90	5,080.6	642.5	-1,293.3	1,442.8	0.00	0.00	0.00	
5,400.0	17.64	296.90	5,175.9	656.3	-1,320.4	1,473.0	0.00	0.00	0.00	
5,500.0	17.64	296.90	5,271.2	670.0	-1,347.4	1,503.3	0.00	0.00	0.00	
5,600.0	17.64	296.90	5,366.5	683.7	-1,374.4	1,533.6	0.00	0.00	0.00	
5,700.0	17.64	296.90	5,461.8	697.4	-1,401.5	1,563.8	0.00	0.00	0.00	
Wasatch G										
5,748.5	17.64	296.90	5,508.0	704.0	-1,414.6	1,578.5	0.00	0.00	0.00	
5,800.0	17.64	296.90	5,557.1	711.1	-1,428.5	1,594.1	0.00	0.00	0.00	
5,900.0	17.64	296.90	5,652.4	724.8	-1,455.5	1,624.4	0.00	0.00	0.00	
6,000.0	17.64	296.90	5,747.7	738.5	-1,482.5	1,654.6	0.00	0.00	0.00	
6,100.0	17.64	296.90	5,843.0	752.2	-1,509.6	1,684.9	0.00	0.00	0.00	
6,200.0	17.64	296.90	5,938.3	765.9	-1,536.6	1,715.1	0.00	0.00	0.00	
Fort Union										
6,242.7	17.64	296.90	5,979.0	771.8	-1,548.1	1,728.1	0.00	0.00	0.00	
6,300.0	17.64	296.90	6,033.6	779.6	-1,563.6	1,745.4	0.00	0.00	0.00	
6,400.0	17.64	296.90	6,128.9	793.4	-1,590.6	1,775.7	0.00	0.00	0.00	
6,500.0	17.64	296.90	6,224.2	807.1	-1,617.7	1,805.9	0.00	0.00	0.00	
6,600.0	17.64	296.90	6,319.5	820.8	-1,644.7	1,836.2	0.00	0.00	0.00	
6,700.0	17.64	296.90	6,414.8	834.5	-1,671.7	1,866.5	0.00	0.00	0.00	
6,800.0	17.64	296.90	6,510.1	848.2	-1,698.7	1,896.7	0.00	0.00	0.00	
6,900.0	17.64	296.90	6,605.4	861.9	-1,725.8	1,927.0	0.00	0.00	0.00	
7,000.0	17.64	296.90	6,700.6	875.6	-1,752.8	1,957.3	0.00	0.00	0.00	
7,100.0	17.64	296.90	6,795.9	889.3	-1,779.8	1,987.5	0.00	0.00	0.00	
Drop 3° /100'										
7,205.2	17.64	296.90	6,896.2	903.8	-1,808.2	2,019.4	0.00	0.00	0.00	
7,300.0	14.80	296.90	6,987.2	915.7	-1,831.9	2,045.8	3.00	-3.00	0.00	
7,400.0	11.80	296.90	7,084.5	926.1	-1,852.4	2,068.8	3.00	-3.00	0.00	
7,500.0	8.80	296.90	7,182.9	934.2	-1,868.3	2,086.6	3.00	-3.00	0.00	
7,600.0	5.80	296.90	7,282.1	940.0	-1,879.6	2,099.3	3.00	-3.00	0.00	
7,700.0	2.80	296.90	7,381.8	943.4	-1,886.3	2,106.8	3.00	-3.00	0.00	
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek										
7,793.2	0.00	0.00	7,475.0	944.4	-1,888.3	2,109.0	3.00	-3.00	0.00	
7,800.0	0.10	215.00	7,481.8	944.4	-1,888.3	2,109.0	1.50	1.50	0.00	
EOB @ 1.02° Inc. / 215.00° Azm										
7,861.1	1.02	215.00	7,542.8	943.9	-1,888.7	2,109.2	1.50	1.50	0.00	
7,900.0	1.02	215.00	7,581.7	943.3	-1,889.1	2,109.3	0.00	0.00	0.00	
8,000.0	1.02	215.00	7,681.7	941.9	-1,890.1	2,109.6	0.00	0.00	0.00	
8,100.0	1.02	215.00	7,781.7	940.4	-1,891.1	2,110.0	0.00	0.00	0.00	
8,200.0	1.02	215.00	7,881.7	939.0	-1,892.1	2,110.3	0.00	0.00	0.00	
8,300.0	1.02	215.00	7,981.7	937.5	-1,893.2	2,110.7	0.00	0.00	0.00	
8,400.0	1.02	215.00	8,081.7	936.1	-1,894.2	2,111.0	0.00	0.00	0.00	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #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)	
8,500.0	1.02	215.00	8,181.6	934.6	-1,895.2	2,111.3	0.00	0.00	0.00	
Williams Fork										
8,543.4	1.02	215.00	8,225.0	934.0	-1,895.6	2,111.5	0.00	0.00	0.00	
8,600.0	1.02	215.00	8,281.6	933.2	-1,896.2	2,111.7	0.00	0.00	0.00	
8,700.0	1.02	215.00	8,381.6	931.7	-1,897.2	2,112.0	0.00	0.00	0.00	
8,800.0	1.02	215.00	8,481.6	930.2	-1,898.2	2,112.4	0.00	0.00	0.00	
8,900.0	1.02	215.00	8,581.6	928.8	-1,899.3	2,112.7	0.00	0.00	0.00	
9,000.0	1.02	215.00	8,681.6	927.3	-1,900.3	2,113.1	0.00	0.00	0.00	
9,100.0	1.02	215.00	8,781.6	925.9	-1,901.3	2,113.4	0.00	0.00	0.00	
9,200.0	1.02	215.00	8,881.5	924.4	-1,902.3	2,113.7	0.00	0.00	0.00	
9,300.0	1.02	215.00	8,981.5	923.0	-1,903.3	2,114.1	0.00	0.00	0.00	
9,400.0	1.02	215.00	9,081.5	921.5	-1,904.4	2,114.4	0.00	0.00	0.00	
9,500.0	1.02	215.00	9,181.5	920.1	-1,905.4	2,114.8	0.00	0.00	0.00	
9,600.0	1.02	215.00	9,281.5	918.6	-1,906.4	2,115.1	0.00	0.00	0.00	
9,700.0	1.02	215.00	9,381.5	917.2	-1,907.4	2,115.4	0.00	0.00	0.00	
9,800.0	1.02	215.00	9,481.4	915.7	-1,908.4	2,115.8	0.00	0.00	0.00	
9,900.0	1.02	215.00	9,581.4	914.2	-1,909.5	2,116.1	0.00	0.00	0.00	
10,000.0	1.02	215.00	9,681.4	912.8	-1,910.5	2,116.5	0.00	0.00	0.00	
10,100.0	1.02	215.00	9,781.4	911.3	-1,911.5	2,116.8	0.00	0.00	0.00	
10,200.0	1.02	215.00	9,881.4	909.9	-1,912.5	2,117.2	0.00	0.00	0.00	
10,300.0	1.02	215.00	9,981.4	908.4	-1,913.5	2,117.5	0.00	0.00	0.00	
10,400.0	1.02	215.00	10,081.3	907.0	-1,914.5	2,117.8	0.00	0.00	0.00	
10,500.0	1.02	215.00	10,181.3	905.5	-1,915.6	2,118.2	0.00	0.00	0.00	
10,600.0	1.02	215.00	10,281.3	904.1	-1,916.6	2,118.5	0.00	0.00	0.00	
10,700.0	1.02	215.00	10,381.3	902.6	-1,917.6	2,118.9	0.00	0.00	0.00	
10,800.0	1.02	215.00	10,481.3	901.2	-1,918.6	2,119.2	0.00	0.00	0.00	
10,900.0	1.02	215.00	10,581.3	899.7	-1,919.6	2,119.5	0.00	0.00	0.00	
11,000.0	1.02	215.00	10,681.3	898.3	-1,920.7	2,119.9	0.00	0.00	0.00	
11,100.0	1.02	215.00	10,781.2	896.8	-1,921.7	2,120.2	0.00	0.00	0.00	
11,200.0	1.02	215.00	10,881.2	895.3	-1,922.7	2,120.6	0.00	0.00	0.00	
11,300.0	1.02	215.00	10,981.2	893.9	-1,923.7	2,120.9	0.00	0.00	0.00	
11,400.0	1.02	215.00	11,081.2	892.4	-1,924.7	2,121.3	0.00	0.00	0.00	
Cameo										
11,411.8	1.02	215.00	11,093.0	892.3	-1,924.8	2,121.3	0.00	0.00	0.00	
11,500.0	1.02	215.00	11,181.2	891.0	-1,925.7	2,121.6	0.00	0.00	0.00	
11,600.0	1.02	215.00	11,281.2	889.5	-1,926.8	2,121.9	0.00	0.00	0.00	
11,700.0	1.02	215.00	11,381.1	888.1	-1,927.8	2,122.3	0.00	0.00	0.00	
11,800.0	1.02	215.00	11,481.1	886.6	-1,928.8	2,122.6	0.00	0.00	0.00	
11,900.0	1.02	215.00	11,581.1	885.2	-1,929.8	2,123.0	0.00	0.00	0.00	
Rollins										
11,961.9	1.02	215.00	11,643.0	884.3	-1,930.4	2,123.2	0.00	0.00	0.00	
12,000.0	1.02	215.00	11,681.1	883.7	-1,930.8	2,123.3	0.00	0.00	0.00	
Cozzette										
12,059.9	1.02	215.00	11,741.0	882.8	-1,931.4	2,123.5	0.00	0.00	0.00	
12,100.0	1.02	215.00	11,781.1	882.3	-1,931.9	2,123.6	0.00	0.00	0.00	
12,200.0	1.02	215.00	11,881.1	880.8	-1,932.9	2,124.0	0.00	0.00	0.00	
12,300.0	1.02	215.00	11,981.0	879.3	-1,933.9	2,124.3	0.00	0.00	0.00	
12,400.0	1.02	215.00	12,081.0	877.9	-1,934.9	2,124.7	0.00	0.00	0.00	
12,500.0	1.02	215.00	12,181.0	876.4	-1,935.9	2,125.0	0.00	0.00	0.00	
12,600.0	1.02	215.00	12,281.0	875.0	-1,936.9	2,125.4	0.00	0.00	0.00	
Corcoran										
12,660.0	1.02	215.00	12,341.0	874.1	-1,937.6	2,125.6	0.00	0.00	0.00	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #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)	
12,700.0	1.02	215.00	12,381.0	873.5	-1,938.0	2,125.7	0.00	0.00	0.00	
12,800.0	1.02	215.00	12,481.0	872.1	-1,939.0	2,126.0	0.00	0.00	0.00	
12,900.0	1.02	215.00	12,581.0	870.6	-1,940.0	2,126.4	0.00	0.00	0.00	
13,000.0	1.02	215.00	12,680.9	869.2	-1,941.0	2,126.7	0.00	0.00	0.00	
13,100.0	1.02	215.00	12,780.9	867.7	-1,942.0	2,127.1	0.00	0.00	0.00	
13,200.0	1.02	215.00	12,880.9	866.3	-1,943.1	2,127.4	0.00	0.00	0.00	
13,300.0	1.02	215.00	12,980.9	864.8	-1,944.1	2,127.7	0.00	0.00	0.00	
13,400.0	1.02	215.00	13,080.9	863.4	-1,945.1	2,128.1	0.00	0.00	0.00	
TD @ 13460.1' MD / 13141.0' TVD										
13,460.1	1.02	215.00	13,141.0	862.5	-1,945.7	2,128.3	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	
11A-22 - OHCR - hit/miss target - Shape - Point	0.00	0.00	7,475.0	944.4	-1,888.3	14,517,162.13	2,404,192.33	39.943572	-108.275222	
11A-22 - PBHL - plan hits target center - Ellipse (radii L100.0 W50.0 on 215.00 azi)	0.00	0.00	13,141.0	862.5	-1,945.7	14,517,078.50	2,404,137.50	39.943348	-108.275426	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,573.2	2,482.0	Orange Marker				
2,730.6	2,632.0	Wasatch				
5,748.5	5,508.0	Wasatch G				
6,242.7	5,979.0	Fort Union				
7,793.2	7,475.0	Ohio Creek				
8,543.4	8,225.0	Williams Fork				
11,411.8	11,093.0	Cameo				
11,961.9	11,643.0	Rollins				
12,059.9	11,741.0	Cozzette				
12,660.0	12,341.0	Corcoran				

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 11A-22 197 - Slot 11A-22
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:	RNPU B27 FED 11A-22 197	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim #1		

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'
391.7	391.5	0.0	-7.3	EOB @ 5.00° Inc. / 270.00° Azm : Build 3° / 100'
837.3	827.7	30.7	-87.3	EOB @ 17.64° Inc. / 296.90° Azm
7,205.2	6,896.2	903.8	-1,808.2	Drop 3° /100'
7,793.2	7,475.0	944.4	-1,888.3	EOD @ Vertical / Build 1.5° / 100'
7,861.1	7,542.8	943.9	-1,888.7	EOB @ 1.02° Inc. / 215.00° Azm
13,460.1	13,141.0	862.5	-1,945.7	TD @ 13460.1' MD / 13141.0' TVD