

Project: Rio Blanco County, CO
 Site: PCU B27 197 Pad
 Well: RNPU B27 FED 14C-22 197
 Wellbore: OH
 Design: Prelim #2
 Latitude: 39.941186
 Longitude: -108.268589
 Ground Level: 6510.0
 RKB @ 6540.0usft (30')

FORMATION TOP DETAILS

TVDPth	MDPath	Formation
2513.0	2664.6	Orange Marker
2653.0	2817.5	Wasatch
5577.0	6012.4	Wasatch G
6047.0	6525.9	Fort Union
7561.0	8131.4	Ohio Creek
8311.0	8881.5	Williams Fork
11207.0	11777.9	Cameo
11757.0	12328.0	Rollins
11853.0	12424.0	Cozzette
12453.0	13024.1	Corcoran

REFERENCE INFORMATION

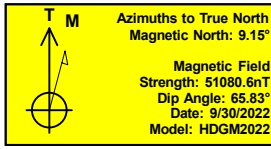
Co-ordinate (N/E) Reference: Well RNPU B27 FED 14C-22 197 - Slot 14C-22, True North
 Vertical (TVD) Reference: RKB @ 6540.0usft (30')
 Section (VS) Reference: Slot - 14C-22(0.0N, 0.0E)
 Measured Depth Reference: RKB @ 6540.0usft (30')
 Calculation Method: Minimum Curvature

WELL DETAILS: RNPU B27 FED 14C-22 197

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14516350.10	2406078.50	39.941186	-108.268589

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

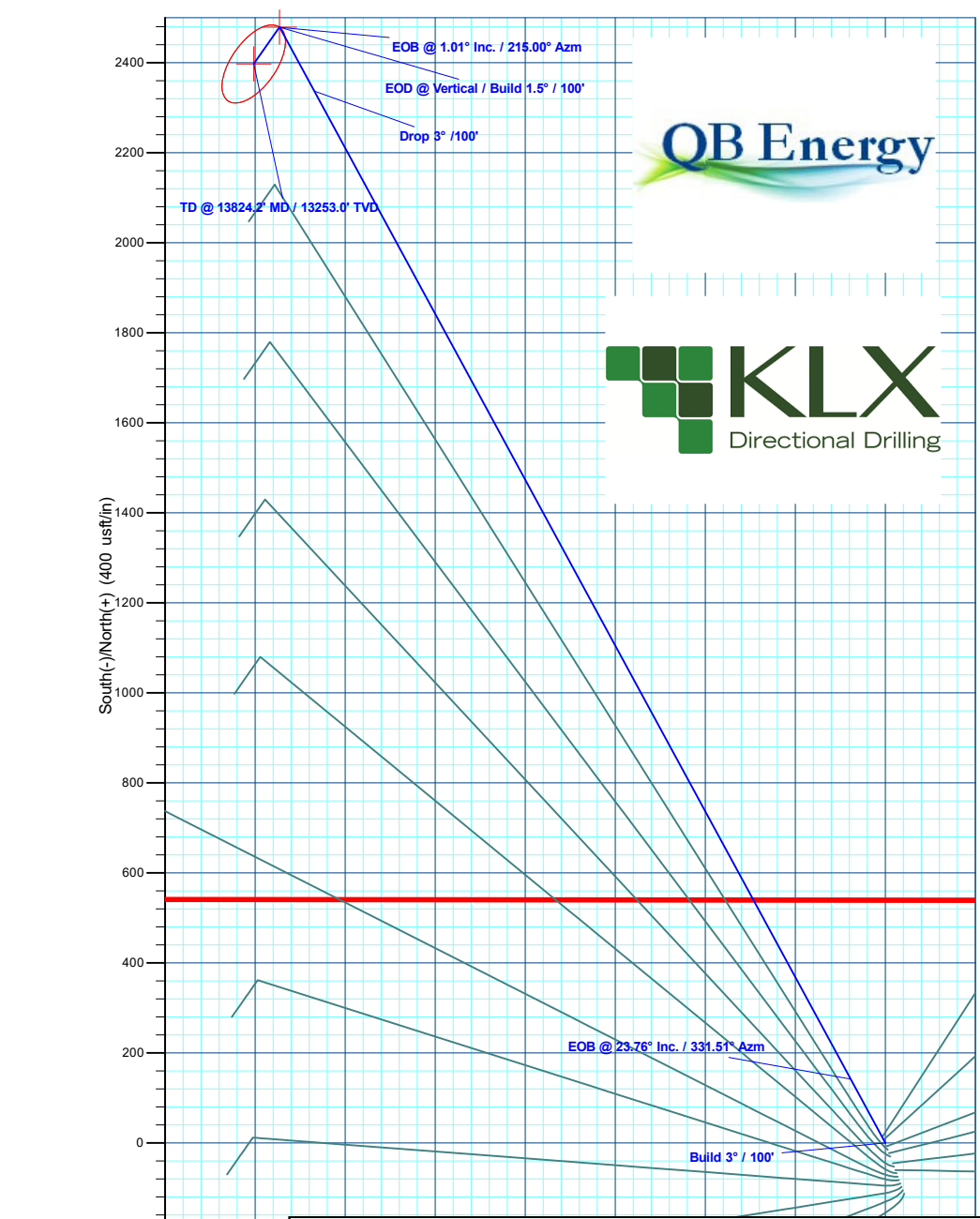
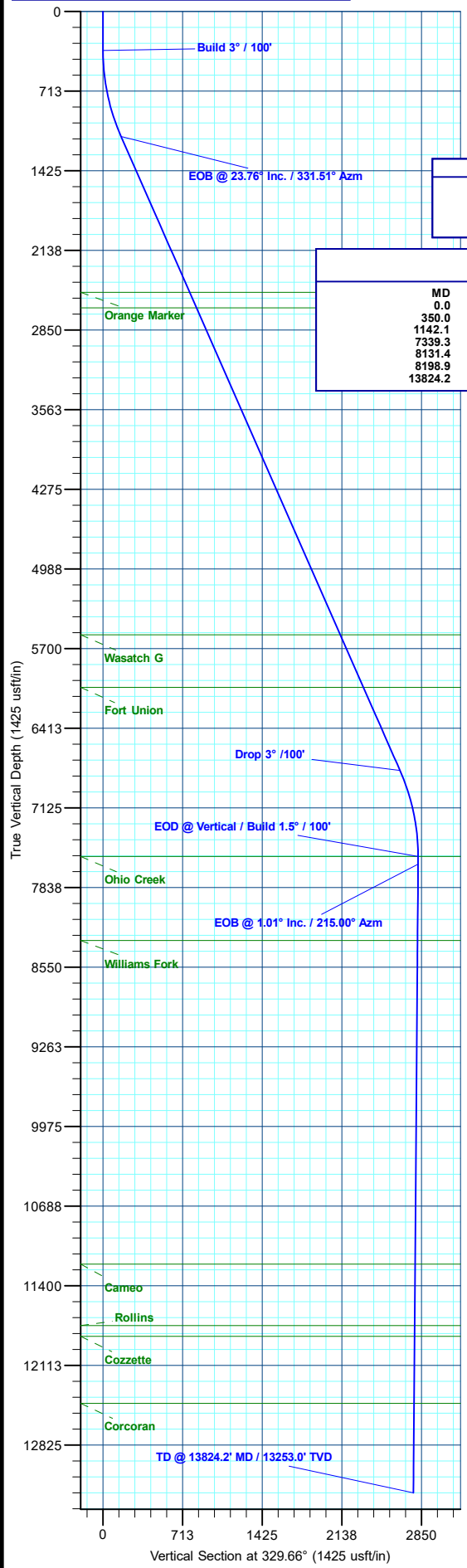


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
14C-22 - OHCR	7561.0	2479.2	-1345.7	14518786.93	2404657.53	39.947990	-108.273387
14C-22 - PBHL	13253.0	2397.3	-1403.1	14518703.30	2404602.70	39.947766	-108.273591

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Build 3° / 100'
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0	EOB @ 23.76° Inc. / 331.51° Azm
1142.1	23.76	331.51	1119.5	142.3	-77.2	3.00	331.51	161.8	Drop 3° / 100'
7339.3	23.76	331.51	6791.5	2336.9	-1268.5	0.00	0.00	2657.6	EOD @ Vertical / Build 1.5° / 100'
8131.4	0.00	0.00	7561.0	2479.2	-1345.7	3.00	180.00	2819.4	EOB @ 1.01° Inc. / 215.00° Azm
8198.9	1.01	215.00	7628.5	2478.7	-1346.0	1.50	215.00	2819.2	EOB @ 1.01° Inc. / 215.00° Azm
13824.2	1.01	215.00	13253.0	2397.3	-1403.1	0.00	0.00	2777.7	TD @ 13824.2' MD / 13253.0' TVD



Plan: Prelim #2 (RNPU B27 FED 14C-22 197/OH)
 Created By: Will Jircik Date: 18:59, October 03 2024



QB Energy Operating, LLC

Rio Blanco County, CO

PCU B27 197 Pad

RNPU B27 FED 14C-22 197 - Slot 14C-22

OH

Plan: Prelim #2

KLX Well Planning Report

03 October, 2024



Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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	RNPU B27 FED 14C-22 197 - Slot 14C-22		
Well Position	+N/-S 105.0 usft	Northing: 14,516,350.10 usft	Latitude: 39.941187
	+E/-W -39.1 usft	Easting: 2,406,078.50 usft	Longitude: -108.268589
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	329.66

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		
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00		
1,142.1	23.76	331.51	1,119.5	142.3	-77.2	3.00	3.00	0.00	331.51		
7,339.3	23.76	331.51	6,791.5	2,336.9	-1,268.5	0.00	0.00	0.00	0.00		
8,131.4	0.00	0.00	7,561.0	2,479.2	-1,345.7	3.00	-3.00	0.00	180.00	14C-22 - OHCR	
8,198.9	1.01	215.00	7,628.5	2,478.7	-1,346.0	1.50	1.50	-214.81	215.00		
13,824.2	1.01	215.00	13,253.0	2,397.3	-1,403.1	0.00	0.00	0.00	0.00	14C-22 - PBHL	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 3° / 100'									
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	1.50	331.51	400.0	0.6	-0.3	0.7	3.00	3.00	0.00
500.0	4.50	331.51	499.8	5.2	-2.8	5.9	3.00	3.00	0.00
600.0	7.50	331.51	599.3	14.4	-7.8	16.3	3.00	3.00	0.00
700.0	10.50	331.51	698.0	28.1	-15.3	32.0	3.00	3.00	0.00
800.0	13.50	331.51	795.8	46.4	-25.2	52.7	3.00	3.00	0.00
900.0	16.50	331.51	892.4	69.1	-37.5	78.6	3.00	3.00	0.00
1,000.0	19.50	331.51	987.5	96.3	-52.3	109.5	3.00	3.00	0.00
1,100.0	22.50	331.51	1,080.9	127.8	-69.4	145.3	3.00	3.00	0.00
EOB @ 23.76° Inc. / 331.51° Azm									
1,142.1	23.76	331.51	1,119.5	142.3	-77.2	161.8	3.00	3.00	0.00
1,200.0	23.76	331.51	1,172.6	162.8	-88.4	185.2	0.00	0.00	0.00
1,300.0	23.76	331.51	1,264.1	198.2	-107.6	225.4	0.00	0.00	0.00
1,400.0	23.76	331.51	1,355.6	233.6	-126.8	265.7	0.00	0.00	0.00
1,500.0	23.76	331.51	1,447.1	269.0	-146.0	306.0	0.00	0.00	0.00
1,600.0	23.76	331.51	1,538.7	304.5	-165.3	346.2	0.00	0.00	0.00
1,700.0	23.76	331.51	1,630.2	339.9	-184.5	386.5	0.00	0.00	0.00
1,800.0	23.76	331.51	1,721.7	375.3	-203.7	426.8	0.00	0.00	0.00
1,900.0	23.76	331.51	1,813.2	410.7	-222.9	467.1	0.00	0.00	0.00
2,000.0	23.76	331.51	1,904.8	446.1	-242.1	507.3	0.00	0.00	0.00
2,100.0	23.76	331.51	1,996.3	481.5	-261.4	547.6	0.00	0.00	0.00
2,200.0	23.76	331.51	2,087.8	516.9	-280.6	587.9	0.00	0.00	0.00
2,300.0	23.76	331.51	2,179.3	552.3	-299.8	628.1	0.00	0.00	0.00
2,400.0	23.76	331.51	2,270.9	587.8	-319.0	668.4	0.00	0.00	0.00
2,500.0	23.76	331.51	2,362.4	623.2	-338.3	708.7	0.00	0.00	0.00
2,600.0	23.76	331.51	2,453.9	658.6	-357.5	749.0	0.00	0.00	0.00
Orange Marker									
2,664.6	23.76	331.51	2,513.0	681.5	-369.9	775.0	0.00	0.00	0.00
2,700.0	23.76	331.51	2,545.4	694.0	-376.7	789.2	0.00	0.00	0.00
2,800.0	23.76	331.51	2,636.9	729.4	-395.9	829.5	0.00	0.00	0.00
Wasatch									
2,817.5	23.76	331.51	2,653.0	735.6	-399.3	836.6	0.00	0.00	0.00
2,900.0	23.76	331.51	2,728.5	764.8	-415.1	869.8	0.00	0.00	0.00
3,000.0	23.76	331.51	2,820.0	800.2	-434.4	910.1	0.00	0.00	0.00
3,100.0	23.76	331.51	2,911.5	835.7	-453.6	950.3	0.00	0.00	0.00
3,200.0	23.76	331.51	3,003.0	871.1	-472.8	990.6	0.00	0.00	0.00
3,300.0	23.76	331.51	3,094.6	906.5	-492.0	1,030.9	0.00	0.00	0.00
3,400.0	23.76	331.51	3,186.1	941.9	-511.3	1,071.1	0.00	0.00	0.00
3,500.0	23.76	331.51	3,277.6	977.3	-530.5	1,111.4	0.00	0.00	0.00
3,600.0	23.76	331.51	3,369.1	1,012.7	-549.7	1,151.7	0.00	0.00	0.00
3,700.0	23.76	331.51	3,460.7	1,048.1	-568.9	1,192.0	0.00	0.00	0.00
3,800.0	23.76	331.51	3,552.2	1,083.5	-588.1	1,232.2	0.00	0.00	0.00
3,900.0	23.76	331.51	3,643.7	1,119.0	-607.4	1,272.5	0.00	0.00	0.00
4,000.0	23.76	331.51	3,735.2	1,154.4	-626.6	1,312.8	0.00	0.00	0.00
4,100.0	23.76	331.51	3,826.7	1,189.8	-645.8	1,353.0	0.00	0.00	0.00
4,200.0	23.76	331.51	3,918.3	1,225.2	-665.0	1,393.3	0.00	0.00	0.00
4,300.0	23.76	331.51	4,009.8	1,260.6	-684.3	1,433.6	0.00	0.00	0.00
4,400.0	23.76	331.51	4,101.3	1,296.0	-703.5	1,473.9	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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)
4,500.0	23.76	331.51	4,192.8	1,331.4	-722.7	1,514.1	0.00	0.00	0.00
4,600.0	23.76	331.51	4,284.4	1,366.8	-741.9	1,554.4	0.00	0.00	0.00
4,700.0	23.76	331.51	4,375.9	1,402.3	-761.1	1,594.7	0.00	0.00	0.00
4,800.0	23.76	331.51	4,467.4	1,437.7	-780.4	1,635.0	0.00	0.00	0.00
4,900.0	23.76	331.51	4,558.9	1,473.1	-799.6	1,675.2	0.00	0.00	0.00
5,000.0	23.76	331.51	4,650.5	1,508.5	-818.8	1,715.5	0.00	0.00	0.00
5,100.0	23.76	331.51	4,742.0	1,543.9	-838.0	1,755.8	0.00	0.00	0.00
5,200.0	23.76	331.51	4,833.5	1,579.3	-857.2	1,796.0	0.00	0.00	0.00
5,300.0	23.76	331.51	4,925.0	1,614.7	-876.5	1,836.3	0.00	0.00	0.00
5,400.0	23.76	331.51	5,016.5	1,650.1	-895.7	1,876.6	0.00	0.00	0.00
5,500.0	23.76	331.51	5,108.1	1,685.6	-914.9	1,916.9	0.00	0.00	0.00
5,600.0	23.76	331.51	5,199.6	1,721.0	-934.1	1,957.1	0.00	0.00	0.00
5,700.0	23.76	331.51	5,291.1	1,756.4	-953.4	1,997.4	0.00	0.00	0.00
5,800.0	23.76	331.51	5,382.6	1,791.8	-972.6	2,037.7	0.00	0.00	0.00
5,900.0	23.76	331.51	5,474.2	1,827.2	-991.8	2,077.9	0.00	0.00	0.00
6,000.0	23.76	331.51	5,565.7	1,862.6	-1,011.0	2,118.2	0.00	0.00	0.00
Wasatch G									
6,012.4	23.76	331.51	5,577.0	1,867.0	-1,013.4	2,123.2	0.00	0.00	0.00
6,100.0	23.76	331.51	5,657.2	1,898.0	-1,030.2	2,158.5	0.00	0.00	0.00
6,200.0	23.76	331.51	5,748.7	1,933.4	-1,049.5	2,198.8	0.00	0.00	0.00
6,300.0	23.76	331.51	5,840.3	1,968.9	-1,068.7	2,239.0	0.00	0.00	0.00
6,400.0	23.76	331.51	5,931.8	2,004.3	-1,087.9	2,279.3	0.00	0.00	0.00
6,500.0	23.76	331.51	6,023.3	2,039.7	-1,107.1	2,319.6	0.00	0.00	0.00
Fort Union									
6,525.9	23.76	331.51	6,047.0	2,048.9	-1,112.1	2,330.0	0.00	0.00	0.00
6,600.0	23.76	331.51	6,114.8	2,075.1	-1,126.4	2,359.9	0.00	0.00	0.00
6,700.0	23.76	331.51	6,206.3	2,110.5	-1,145.6	2,400.1	0.00	0.00	0.00
6,800.0	23.76	331.51	6,297.9	2,145.9	-1,164.8	2,440.4	0.00	0.00	0.00
6,900.0	23.76	331.51	6,389.4	2,181.3	-1,184.0	2,480.7	0.00	0.00	0.00
7,000.0	23.76	331.51	6,480.9	2,216.7	-1,203.2	2,520.9	0.00	0.00	0.00
7,100.0	23.76	331.51	6,572.4	2,252.2	-1,222.5	2,561.2	0.00	0.00	0.00
7,200.0	23.76	331.51	6,664.0	2,287.6	-1,241.7	2,601.5	0.00	0.00	0.00
7,300.0	23.76	331.51	6,755.5	2,323.0	-1,260.9	2,641.8	0.00	0.00	0.00
Drop 3° /100'									
7,339.3	23.76	331.51	6,791.5	2,336.9	-1,268.5	2,657.6	0.00	0.00	0.00
7,400.0	21.94	331.51	6,847.4	2,357.6	-1,279.7	2,681.1	3.00	-3.00	0.00
7,500.0	18.94	331.51	6,941.1	2,388.3	-1,296.4	2,716.0	3.00	-3.00	0.00
7,600.0	15.94	331.51	7,036.5	2,414.6	-1,310.7	2,746.0	3.00	-3.00	0.00
7,700.0	12.94	331.51	7,133.3	2,436.6	-1,322.6	2,770.9	3.00	-3.00	0.00
7,800.0	9.94	331.51	7,231.3	2,454.0	-1,332.0	2,790.7	3.00	-3.00	0.00
7,900.0	6.94	331.51	7,330.2	2,466.9	-1,339.0	2,805.4	3.00	-3.00	0.00
8,000.0	3.94	331.51	7,429.7	2,475.2	-1,343.5	2,814.9	3.00	-3.00	0.00
8,100.0	0.94	331.51	7,529.6	2,479.0	-1,345.6	2,819.1	3.00	-3.00	0.00
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek									
8,131.4	0.00	0.00	7,561.0	2,479.2	-1,345.7	2,819.4	3.00	-3.00	90.85
EOB @ 1.01° Inc. / 215.00° Azm									
8,198.9	1.01	215.00	7,628.5	2,478.7	-1,346.0	2,819.2	1.50	1.50	-214.81
8,200.0	1.01	215.00	7,629.6	2,478.7	-1,346.1	2,819.1	0.00	0.00	0.00
8,300.0	1.01	215.00	7,729.6	2,477.2	-1,347.1	2,818.4	0.00	0.00	0.00
8,400.0	1.01	215.00	7,829.6	2,475.8	-1,348.1	2,817.7	0.00	0.00	0.00
8,500.0	1.01	215.00	7,929.6	2,474.3	-1,349.1	2,816.9	0.00	0.00	0.00
8,600.0	1.01	215.00	8,029.6	2,472.9	-1,350.1	2,816.2	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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)	
8,700.0	1.01	215.00	8,129.6	2,471.5	-1,351.1	2,815.5	0.00	0.00	0.00	
8,800.0	1.01	215.00	8,229.5	2,470.0	-1,352.1	2,814.7	0.00	0.00	0.00	
Williams Fork										
8,881.5	1.01	215.00	8,311.0	2,468.8	-1,353.0	2,814.1	0.00	0.00	0.00	
8,900.0	1.01	215.00	8,329.5	2,468.6	-1,353.1	2,814.0	0.00	0.00	0.00	
9,000.0	1.01	215.00	8,429.5	2,467.1	-1,354.2	2,813.2	0.00	0.00	0.00	
9,100.0	1.01	215.00	8,529.5	2,465.7	-1,355.2	2,812.5	0.00	0.00	0.00	
9,200.0	1.01	215.00	8,629.5	2,464.2	-1,356.2	2,811.8	0.00	0.00	0.00	
9,300.0	1.01	215.00	8,729.5	2,462.8	-1,357.2	2,811.0	0.00	0.00	0.00	
9,400.0	1.01	215.00	8,829.4	2,461.3	-1,358.2	2,810.3	0.00	0.00	0.00	
9,500.0	1.01	215.00	8,929.4	2,459.9	-1,359.2	2,809.6	0.00	0.00	0.00	
9,600.0	1.01	215.00	9,029.4	2,458.4	-1,360.2	2,808.8	0.00	0.00	0.00	
9,700.0	1.01	215.00	9,129.4	2,457.0	-1,361.3	2,808.1	0.00	0.00	0.00	
9,800.0	1.01	215.00	9,229.4	2,455.5	-1,362.3	2,807.4	0.00	0.00	0.00	
9,900.0	1.01	215.00	9,329.4	2,454.1	-1,363.3	2,806.6	0.00	0.00	0.00	
10,000.0	1.01	215.00	9,429.4	2,452.6	-1,364.3	2,805.9	0.00	0.00	0.00	
10,100.0	1.01	215.00	9,529.3	2,451.2	-1,365.3	2,805.1	0.00	0.00	0.00	
10,200.0	1.01	215.00	9,629.3	2,449.7	-1,366.3	2,804.4	0.00	0.00	0.00	
10,300.0	1.01	215.00	9,729.3	2,448.3	-1,367.3	2,803.7	0.00	0.00	0.00	
10,400.0	1.01	215.00	9,829.3	2,446.8	-1,368.4	2,802.9	0.00	0.00	0.00	
10,500.0	1.01	215.00	9,929.3	2,445.4	-1,369.4	2,802.2	0.00	0.00	0.00	
10,600.0	1.01	215.00	10,029.3	2,443.9	-1,370.4	2,801.5	0.00	0.00	0.00	
10,700.0	1.01	215.00	10,129.2	2,442.5	-1,371.4	2,800.7	0.00	0.00	0.00	
10,800.0	1.01	215.00	10,229.2	2,441.1	-1,372.4	2,800.0	0.00	0.00	0.00	
10,900.0	1.01	215.00	10,329.2	2,439.6	-1,373.4	2,799.2	0.00	0.00	0.00	
11,000.0	1.01	215.00	10,429.2	2,438.2	-1,374.4	2,798.5	0.00	0.00	0.00	
11,100.0	1.01	215.00	10,529.2	2,436.7	-1,375.4	2,797.8	0.00	0.00	0.00	
11,200.0	1.01	215.00	10,629.2	2,435.3	-1,376.5	2,797.0	0.00	0.00	0.00	
11,300.0	1.01	215.00	10,729.2	2,433.8	-1,377.5	2,796.3	0.00	0.00	0.00	
11,400.0	1.01	215.00	10,829.1	2,432.4	-1,378.5	2,795.6	0.00	0.00	0.00	
11,500.0	1.01	215.00	10,929.1	2,430.9	-1,379.5	2,794.8	0.00	0.00	0.00	
11,600.0	1.01	215.00	11,029.1	2,429.5	-1,380.5	2,794.1	0.00	0.00	0.00	
11,700.0	1.01	215.00	11,129.1	2,428.0	-1,381.5	2,793.3	0.00	0.00	0.00	
Cameo										
11,777.9	1.01	215.00	11,207.0	2,426.9	-1,382.3	2,792.8	0.00	0.00	0.00	
11,800.0	1.01	215.00	11,229.1	2,426.6	-1,382.5	2,792.6	0.00	0.00	0.00	
11,900.0	1.01	215.00	11,329.1	2,425.1	-1,383.6	2,791.9	0.00	0.00	0.00	
12,000.0	1.01	215.00	11,429.0	2,423.7	-1,384.6	2,791.1	0.00	0.00	0.00	
12,100.0	1.01	215.00	11,529.0	2,422.2	-1,385.6	2,790.4	0.00	0.00	0.00	
12,200.0	1.01	215.00	11,629.0	2,420.8	-1,386.6	2,789.7	0.00	0.00	0.00	
12,300.0	1.01	215.00	11,729.0	2,419.3	-1,387.6	2,788.9	0.00	0.00	0.00	
Rollins										
12,328.0	1.01	215.00	11,757.0	2,418.9	-1,387.9	2,788.7	0.00	0.00	0.00	
12,400.0	1.01	215.00	11,829.0	2,417.9	-1,388.6	2,788.2	0.00	0.00	0.00	
Cozzette										
12,424.0	1.01	215.00	11,853.0	2,417.5	-1,388.9	2,788.0	0.00	0.00	0.00	
12,500.0	1.01	215.00	11,929.0	2,416.4	-1,389.6	2,787.4	0.00	0.00	0.00	
12,600.0	1.01	215.00	12,028.9	2,415.0	-1,390.7	2,786.7	0.00	0.00	0.00	
12,700.0	1.01	215.00	12,128.9	2,413.6	-1,391.7	2,786.0	0.00	0.00	0.00	
12,800.0	1.01	215.00	12,228.9	2,412.1	-1,392.7	2,785.2	0.00	0.00	0.00	
12,900.0	1.01	215.00	12,328.9	2,410.7	-1,393.7	2,784.5	0.00	0.00	0.00	
13,000.0	1.01	215.00	12,428.9	2,409.2	-1,394.7	2,783.8	0.00	0.00	0.00	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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)
Corcoran									
13,024.1	1.01	215.00	12,453.0	2,408.9	-1,395.0	2,783.6	0.00	0.00	0.00
13,100.0	1.01	215.00	12,528.9	2,407.8	-1,395.7	2,783.0	0.00	0.00	0.00
13,200.0	1.01	215.00	12,628.9	2,406.3	-1,396.7	2,782.3	0.00	0.00	0.00
13,300.0	1.01	215.00	12,728.8	2,404.9	-1,397.7	2,781.5	0.00	0.00	0.00
13,400.0	1.01	215.00	12,828.8	2,403.4	-1,398.8	2,780.8	0.00	0.00	0.00
13,500.0	1.01	215.00	12,928.8	2,402.0	-1,399.8	2,780.1	0.00	0.00	0.00
13,600.0	1.01	215.00	13,028.8	2,400.5	-1,400.8	2,779.3	0.00	0.00	0.00
13,700.0	1.01	215.00	13,128.8	2,399.1	-1,401.8	2,778.6	0.00	0.00	0.00
13,800.0	1.01	215.00	13,228.8	2,397.6	-1,402.8	2,777.9	0.00	0.00	0.00
TD @ 13824.2' MD / 13253.0' TVD									
13,824.2	1.01	215.00	13,253.0	2,397.3	-1,403.1	2,777.7	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
14C-22 - OHCR - hit/miss target - Shape - Point	0.00	0.00	7,561.0	2,479.2	-1,345.7	14,518,786.93	2,404,657.53	39.947990	-108.273387
14C-22 - PBHL - plan hits target center - Ellipse (radii L100.0 W50.0 on 215.00 azi)	0.00	0.00	13,253.0	2,397.3	-1,403.1	14,518,703.30	2,404,602.70	39.947766	-108.273592

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,664.6	2,513.0	Orange Marker				
2,817.5	2,653.0	Wasatch				
6,012.4	5,577.0	Wasatch G				
6,525.9	6,047.0	Fort Union				
8,131.4	7,561.0	Ohio Creek				
8,881.5	8,311.0	Williams Fork				
11,777.9	11,207.0	Cameo				
12,328.0	11,757.0	Rollins				
12,424.0	11,853.0	Cozzette				
13,024.1	12,453.0	Corcoran				

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 14C-22 197 - Slot 14C-22
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 14C-22 197	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)	
350.0	350.0	0.0	0.0	Build 3° / 100'
1,142.1	1,119.5	142.3	-77.2	EOB @ 23.76° Inc. / 331.51° Azm
7,339.3	6,791.5	2,336.9	-1,268.5	Drop 3° /100'
8,131.4	7,561.0	2,479.2	-1,345.7	EOD @ Vertical / Build 1.5° / 100'
8,198.9	7,628.5	2,478.7	-1,346.0	EOB @ 1.01° Inc. / 215.00° Azm
13,824.2	13,253.0	2,397.3	-1,403.1	TD @ 13824.2' MD / 13253.0' TVD