

Project: Rio Blanco County, CO
 Site: PCU B27 197 Pad
 Well: RNPU B27 FED 15B-22 197
 Wellbore: OH
 Design: Prelim #2
 Latitude: 39.941042
 Longitude: -108.268519
 Ground Level: 6510.0
 RKB @ 6540.0usft (30')

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
2499.0	2568.3	Orange Marker	
2642.0	2719.1	Wasatch	
5544.0	5780.3	Wasatch G	
6011.0	6273.0	Fort Union	
7516.0	7838.0	Ohio Creek	
8266.0	8588.1	Williams Fork	
11150.0	11472.5	Cameo	
11700.0	12022.6	Rollins	
11794.0	12116.6	Cozzette	
12394.0	12716.7	Corcoran	

REFERENCE INFORMATION	
Co-ordinate (N/E) Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-22, True North
Vertical (TVD) Reference:	RKB @ 6540.0usft (30')
Section (VS) Reference:	Slot - 15B-22(0.0N, 0.0E)
Measured Depth Reference:	RKB @ 6540.0usft (30')
Calculation Method:	Minimum Curvature

WELL DETAILS: RNPU B27 FED 15B-22 197					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14516298.20	6510.0 2406099.60	39.941042	-108.268519

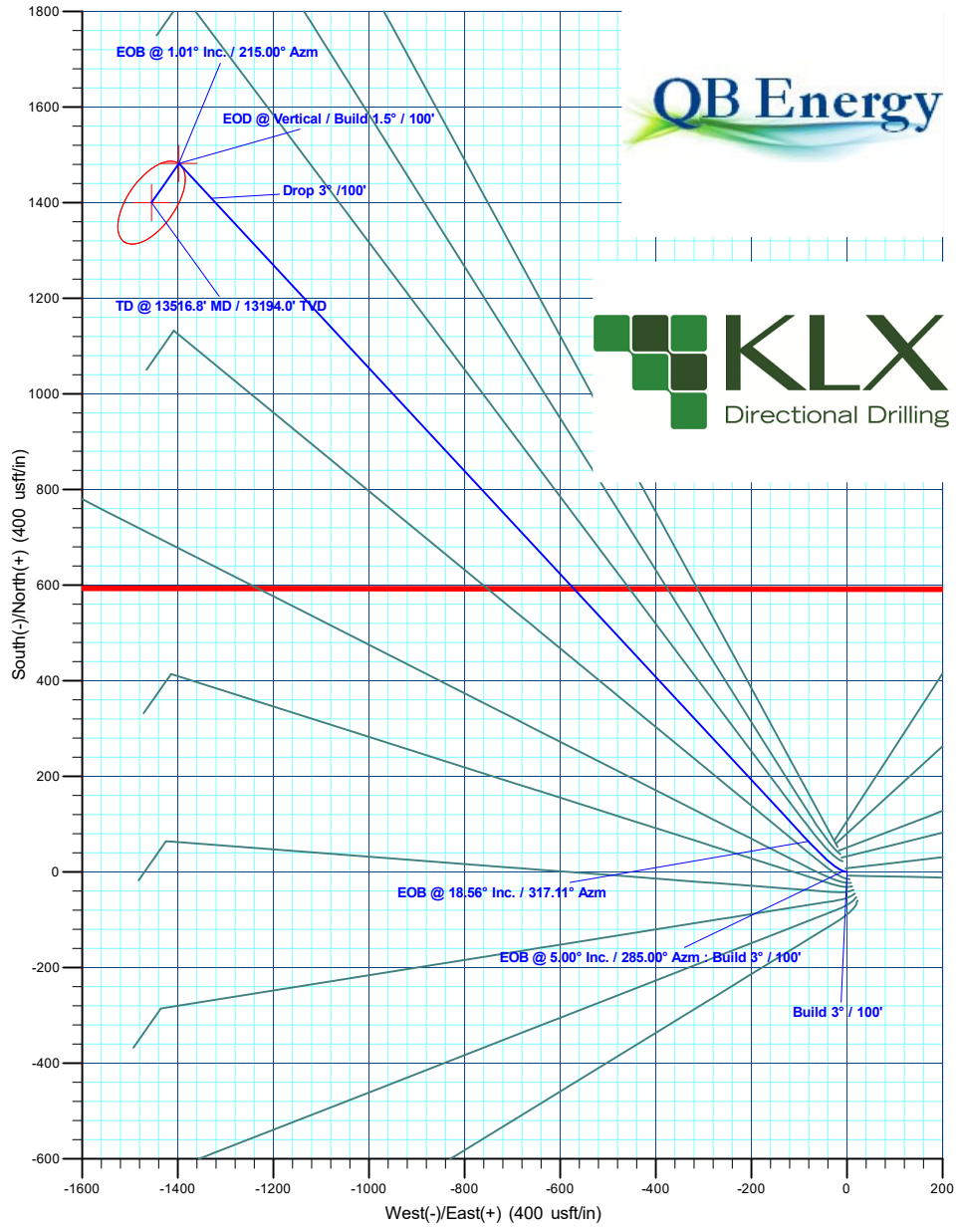
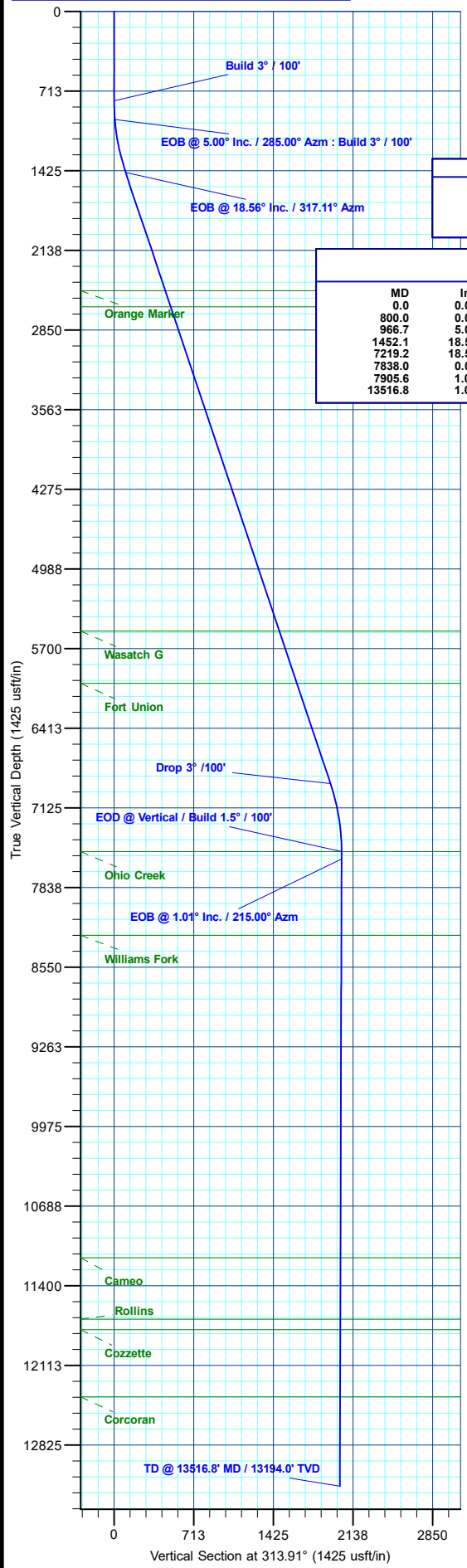
PROJECT DETAILS: Rio Blanco County, CO	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 - Western US
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
System Datum:	Mean Sea Level

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

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
15B-22 - OHCR	7516.0	1482.2	-1397.3	14517736.93	2404657.53	39.945110	-108.273501
15B-22 - PBHL	13194.0	1400.3	-1454.7	14517653.30	2404602.70	39.944885	-108.273706

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	Build 3° / 100'	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	EOB @ 5.00° Inc. / 285.00° Azm : Build 3° / 100'	
966.7	5.00	285.00	966.5	1.9	-7.0	3.00	285.00	6.4	EOB @ 18.56° Inc. / 317.11° Azm	
1452.1	18.56	317.11	1440.9	64.3	-80.4	0.00	42.30	102.5	Drop 3° / 100'	
7219.2	18.56	317.11	6908.1	1409.4	-1329.7	3.00	0.00	1935.5	EOD @ Vertical / Build 1.5° / 100'	
7838.0	0.00	0.00	7516.0	1482.2	-1397.3	3.00	180.00	2034.6	EOD @ Vertical / Build 1.5° / 100'	
7838.0	1.02	215.00	7516.0	1482.2	-1397.3	1.50	215.00	2034.6	EOB @ 1.01° Inc. / 215.00° Azm	
7905.6	1.02	215.00	7516.0	1482.2	-1397.3	1.50	215.00	2034.6	EOB @ 1.01° Inc. / 215.00° Azm	
13516.8	1.02	215.00	13194.0	1400.3	-1454.7	0.00	0.00	2019.2	TD @ 13516.8' MD / 13194.0' TVD	



Plan: Prelim #2 (RNPU B27 FED 15B-22 197/OH)
 Created By: Will Jircik Date: 19:16, October 03 2024



QB Energy Operating, LLC

Rio Blanco County, CO

PCU B27 197 Pad

RNPU B27 FED 15B-22 197 - Slot 15B-22

OH

Plan: Prelim #2

KLX Well Planning Report

03 October, 2024



Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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 15B-22 197 - Slot 15B-22					
Well Position	+N/-S	52.4 usft	Northing:	14,516,298.20 usft	Latitude:	39.941042
	+E/-W	-19.6 usft	Easting:	2,406,099.60 usft	Longitude:	-108.268519
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	313.91

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
966.7	5.00	285.00	966.5	1.9	-7.0	3.00	3.00	0.00	285.00	
1,452.1	18.56	317.11	1,440.9	64.3	-80.4	3.00	2.79	6.62	42.30	
7,219.2	18.56	317.11	6,908.1	1,409.4	-1,329.7	0.00	0.00	0.00	0.00	
7,838.0	0.00	0.00	7,516.0	1,482.2	-1,397.3	3.00	-3.00	0.00	180.00	15B-22 - OHCR
7,905.6	1.02	215.00	7,583.7	1,481.7	-1,397.7	1.50	1.50	-214.27	215.00	
13,516.8	1.02	215.00	13,194.0	1,400.3	-1,454.7	0.00	0.00	0.00	0.00	15B-22 - PBHL

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 3° / 100'									
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	3.00	285.00	900.0	0.7	-2.5	2.3	3.00	3.00	0.00
EOB @ 5.00° Inc. / 285.00° Azm : Build 3° / 100'									
966.7	5.00	285.00	966.5	1.9	-7.0	6.4	3.00	3.00	0.00
1,000.0	5.78	291.70	999.6	2.9	-10.0	9.2	3.00	2.34	20.10
1,100.0	8.40	303.75	1,098.9	8.8	-20.7	21.0	3.00	2.62	12.05
1,200.0	11.21	309.95	1,197.4	19.1	-34.3	37.9	3.00	2.81	6.20
1,300.0	14.10	313.67	1,295.0	33.8	-50.5	59.8	3.00	2.89	3.72
1,400.0	17.03	316.13	1,391.3	52.7	-69.5	86.6	3.00	2.93	2.47
EOB @ 18.56° Inc. / 317.11° Azm									
1,452.1	18.56	317.11	1,440.9	64.3	-80.4	102.5	3.00	2.94	1.89
1,500.0	18.56	317.11	1,486.3	75.5	-90.8	117.8	0.00	0.00	0.00
1,600.0	18.56	317.11	1,581.1	98.8	-112.5	149.5	0.00	0.00	0.00
1,700.0	18.56	317.11	1,675.9	122.1	-134.1	181.3	0.00	0.00	0.00
1,800.0	18.56	317.11	1,770.7	145.4	-155.8	213.1	0.00	0.00	0.00
1,900.0	18.56	317.11	1,865.5	168.8	-177.5	244.9	0.00	0.00	0.00
2,000.0	18.56	317.11	1,960.3	192.1	-199.1	276.7	0.00	0.00	0.00
2,100.0	18.56	317.11	2,055.1	215.4	-220.8	308.5	0.00	0.00	0.00
2,200.0	18.56	317.11	2,149.9	238.7	-242.4	340.2	0.00	0.00	0.00
2,300.0	18.56	317.11	2,244.7	262.1	-264.1	372.0	0.00	0.00	0.00
2,400.0	18.56	317.11	2,339.5	285.4	-285.8	403.8	0.00	0.00	0.00
2,500.0	18.56	317.11	2,434.3	308.7	-307.4	435.6	0.00	0.00	0.00
Orange Marker									
2,568.3	18.56	317.11	2,499.0	324.6	-322.2	457.3	0.00	0.00	0.00
2,600.0	18.56	317.11	2,529.1	332.0	-329.1	467.4	0.00	0.00	0.00
2,700.0	18.56	317.11	2,623.9	355.4	-350.8	499.1	0.00	0.00	0.00
Wasatch									
2,719.1	18.56	317.11	2,642.0	359.8	-354.9	505.2	0.00	0.00	0.00
2,800.0	18.56	317.11	2,718.7	378.7	-372.4	530.9	0.00	0.00	0.00
2,900.0	18.56	317.11	2,813.5	402.0	-394.1	562.7	0.00	0.00	0.00
3,000.0	18.56	317.11	2,908.3	425.3	-415.7	594.5	0.00	0.00	0.00
3,100.0	18.56	317.11	3,003.1	448.7	-437.4	626.3	0.00	0.00	0.00
3,200.0	18.56	317.11	3,097.9	472.0	-459.1	658.1	0.00	0.00	0.00
3,300.0	18.56	317.11	3,192.7	495.3	-480.7	689.8	0.00	0.00	0.00
3,400.0	18.56	317.11	3,287.5	518.6	-502.4	721.6	0.00	0.00	0.00
3,500.0	18.56	317.11	3,382.3	542.0	-524.1	753.4	0.00	0.00	0.00
3,600.0	18.56	317.11	3,477.1	565.3	-545.7	785.2	0.00	0.00	0.00
3,700.0	18.56	317.11	3,571.9	588.6	-567.4	817.0	0.00	0.00	0.00
3,800.0	18.56	317.11	3,666.7	611.9	-589.0	848.7	0.00	0.00	0.00
3,900.0	18.56	317.11	3,761.5	635.2	-610.7	880.5	0.00	0.00	0.00
4,000.0	18.56	317.11	3,856.3	658.6	-632.4	912.3	0.00	0.00	0.00
4,100.0	18.56	317.11	3,951.1	681.9	-654.0	944.1	0.00	0.00	0.00
4,200.0	18.56	317.11	4,045.9	705.2	-675.7	975.9	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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)	
4,300.0	18.56	317.11	4,140.7	728.5	-697.4	1,007.7	0.00	0.00	0.00	
4,400.0	18.56	317.11	4,235.5	751.9	-719.0	1,039.4	0.00	0.00	0.00	
4,500.0	18.56	317.11	4,330.3	775.2	-740.7	1,071.2	0.00	0.00	0.00	
4,600.0	18.56	317.11	4,425.1	798.5	-762.3	1,103.0	0.00	0.00	0.00	
4,700.0	18.56	317.11	4,519.9	821.8	-784.0	1,134.8	0.00	0.00	0.00	
4,800.0	18.56	317.11	4,614.7	845.2	-805.7	1,166.6	0.00	0.00	0.00	
4,900.0	18.56	317.11	4,709.5	868.5	-827.3	1,198.4	0.00	0.00	0.00	
5,000.0	18.56	317.11	4,804.2	891.8	-849.0	1,230.1	0.00	0.00	0.00	
5,100.0	18.56	317.11	4,899.0	915.1	-870.7	1,261.9	0.00	0.00	0.00	
5,200.0	18.56	317.11	4,993.8	938.5	-892.3	1,293.7	0.00	0.00	0.00	
5,300.0	18.56	317.11	5,088.6	961.8	-914.0	1,325.5	0.00	0.00	0.00	
5,400.0	18.56	317.11	5,183.4	985.1	-935.6	1,357.3	0.00	0.00	0.00	
5,500.0	18.56	317.11	5,278.2	1,008.4	-957.3	1,389.0	0.00	0.00	0.00	
5,600.0	18.56	317.11	5,373.0	1,031.7	-979.0	1,420.8	0.00	0.00	0.00	
5,700.0	18.56	317.11	5,467.8	1,055.1	-1,000.6	1,452.6	0.00	0.00	0.00	
Wasatch G										
5,780.3	18.56	317.11	5,544.0	1,073.8	-1,018.0	1,478.1	0.00	0.00	0.00	
5,800.0	18.56	317.11	5,562.6	1,078.4	-1,022.3	1,484.4	0.00	0.00	0.00	
5,900.0	18.56	317.11	5,657.4	1,101.7	-1,044.0	1,516.2	0.00	0.00	0.00	
6,000.0	18.56	317.11	5,752.2	1,125.0	-1,065.6	1,548.0	0.00	0.00	0.00	
6,100.0	18.56	317.11	5,847.0	1,148.4	-1,087.3	1,579.7	0.00	0.00	0.00	
6,200.0	18.56	317.11	5,941.8	1,171.7	-1,108.9	1,611.5	0.00	0.00	0.00	
Fort Union										
6,273.0	18.56	317.11	6,011.0	1,188.7	-1,124.8	1,634.7	0.00	0.00	0.00	
6,300.0	18.56	317.11	6,036.6	1,195.0	-1,130.6	1,643.3	0.00	0.00	0.00	
6,400.0	18.56	317.11	6,131.4	1,218.3	-1,152.3	1,675.1	0.00	0.00	0.00	
6,500.0	18.56	317.11	6,226.2	1,241.7	-1,173.9	1,706.9	0.00	0.00	0.00	
6,600.0	18.56	317.11	6,321.0	1,265.0	-1,195.6	1,738.6	0.00	0.00	0.00	
6,700.0	18.56	317.11	6,415.8	1,288.3	-1,217.3	1,770.4	0.00	0.00	0.00	
6,800.0	18.56	317.11	6,510.6	1,311.6	-1,238.9	1,802.2	0.00	0.00	0.00	
6,900.0	18.56	317.11	6,605.4	1,335.0	-1,260.6	1,834.0	0.00	0.00	0.00	
7,000.0	18.56	317.11	6,700.2	1,358.3	-1,282.2	1,865.8	0.00	0.00	0.00	
7,100.0	18.56	317.11	6,795.0	1,381.6	-1,303.9	1,897.6	0.00	0.00	0.00	
7,200.0	18.56	317.11	6,889.8	1,404.9	-1,325.6	1,929.3	0.00	0.00	0.00	
Drop 3° /100'										
7,219.2	18.56	317.11	6,908.1	1,409.4	-1,329.7	1,935.5	0.00	0.00	0.00	
7,300.0	16.14	317.11	6,985.1	1,427.1	-1,346.1	1,959.5	3.00	-3.00	0.00	
7,400.0	13.14	317.11	7,081.9	1,445.6	-1,363.3	1,984.7	3.00	-3.00	0.00	
7,500.0	10.14	317.11	7,179.8	1,460.4	-1,377.0	2,004.9	3.00	-3.00	0.00	
7,600.0	7.14	317.11	7,278.7	1,471.4	-1,387.3	2,019.9	3.00	-3.00	0.00	
7,700.0	4.14	317.11	7,378.2	1,478.6	-1,394.0	2,029.7	3.00	-3.00	0.00	
7,800.0	1.14	317.11	7,478.1	1,481.9	-1,397.1	2,034.3	3.00	-3.00	0.00	
EOD @ Vertical / Build 1.5° / 100' - Ohio Creek										
7,838.0	0.00	0.00	7,516.0	1,482.2	-1,397.3	2,034.6	3.00	-3.00	0.00	
EOB @ 1.01° Inc. / 215.00° Azm										
7,905.6	1.02	215.00	7,583.7	1,481.7	-1,397.7	2,034.5	1.50	1.50	0.00	
8,000.0	1.02	215.00	7,678.0	1,480.3	-1,398.6	2,034.3	0.00	0.00	0.00	
8,100.0	1.02	215.00	7,778.0	1,478.9	-1,399.7	2,034.0	0.00	0.00	0.00	
8,200.0	1.02	215.00	7,878.0	1,477.4	-1,400.7	2,033.7	0.00	0.00	0.00	
8,300.0	1.02	215.00	7,978.0	1,476.0	-1,401.7	2,033.5	0.00	0.00	0.00	
8,400.0	1.02	215.00	8,078.0	1,474.5	-1,402.7	2,033.2	0.00	0.00	0.00	
8,500.0	1.02	215.00	8,178.0	1,473.1	-1,403.7	2,032.9	0.00	0.00	0.00	

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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)
Williams Fork									
8,588.1	1.02	215.00	8,266.0	1,471.8	-1,404.6	2,032.7	0.00	0.00	0.00
8,600.0	1.02	215.00	8,277.9	1,471.6	-1,404.7	2,032.6	0.00	0.00	0.00
8,700.0	1.02	215.00	8,377.9	1,470.2	-1,405.8	2,032.4	0.00	0.00	0.00
8,800.0	1.02	215.00	8,477.9	1,468.7	-1,406.8	2,032.1	0.00	0.00	0.00
8,900.0	1.02	215.00	8,577.9	1,467.3	-1,407.8	2,031.8	0.00	0.00	0.00
9,000.0	1.02	215.00	8,677.9	1,465.8	-1,408.8	2,031.5	0.00	0.00	0.00
9,100.0	1.02	215.00	8,777.9	1,464.4	-1,409.8	2,031.3	0.00	0.00	0.00
9,200.0	1.02	215.00	8,877.8	1,462.9	-1,410.8	2,031.0	0.00	0.00	0.00
9,300.0	1.02	215.00	8,977.8	1,461.5	-1,411.9	2,030.7	0.00	0.00	0.00
9,400.0	1.02	215.00	9,077.8	1,460.0	-1,412.9	2,030.4	0.00	0.00	0.00
9,500.0	1.02	215.00	9,177.8	1,458.6	-1,413.9	2,030.2	0.00	0.00	0.00
9,600.0	1.02	215.00	9,277.8	1,457.1	-1,414.9	2,029.9	0.00	0.00	0.00
9,700.0	1.02	215.00	9,377.8	1,455.7	-1,415.9	2,029.6	0.00	0.00	0.00
9,800.0	1.02	215.00	9,477.7	1,454.2	-1,416.9	2,029.4	0.00	0.00	0.00
9,900.0	1.02	215.00	9,577.7	1,452.8	-1,418.0	2,029.1	0.00	0.00	0.00
10,000.0	1.02	215.00	9,677.7	1,451.3	-1,419.0	2,028.8	0.00	0.00	0.00
10,100.0	1.02	215.00	9,777.7	1,449.9	-1,420.0	2,028.5	0.00	0.00	0.00
10,200.0	1.02	215.00	9,877.7	1,448.4	-1,421.0	2,028.3	0.00	0.00	0.00
10,300.0	1.02	215.00	9,977.7	1,447.0	-1,422.0	2,028.0	0.00	0.00	0.00
10,400.0	1.02	215.00	10,077.7	1,445.5	-1,423.0	2,027.7	0.00	0.00	0.00
10,500.0	1.02	215.00	10,177.6	1,444.1	-1,424.1	2,027.4	0.00	0.00	0.00
10,600.0	1.02	215.00	10,277.6	1,442.6	-1,425.1	2,027.2	0.00	0.00	0.00
10,700.0	1.02	215.00	10,377.6	1,441.2	-1,426.1	2,026.9	0.00	0.00	0.00
10,800.0	1.02	215.00	10,477.6	1,439.7	-1,427.1	2,026.6	0.00	0.00	0.00
10,900.0	1.02	215.00	10,577.6	1,438.3	-1,428.1	2,026.3	0.00	0.00	0.00
11,000.0	1.02	215.00	10,677.6	1,436.8	-1,429.1	2,026.1	0.00	0.00	0.00
11,100.0	1.02	215.00	10,777.5	1,435.4	-1,430.1	2,025.8	0.00	0.00	0.00
11,200.0	1.02	215.00	10,877.5	1,433.9	-1,431.2	2,025.5	0.00	0.00	0.00
11,300.0	1.02	215.00	10,977.5	1,432.5	-1,432.2	2,025.2	0.00	0.00	0.00
11,400.0	1.02	215.00	11,077.5	1,431.0	-1,433.2	2,025.0	0.00	0.00	0.00
Cameo									
11,472.5	1.02	215.00	11,150.0	1,430.0	-1,433.9	2,024.8	0.00	0.00	0.00
11,500.0	1.02	215.00	11,177.5	1,429.6	-1,434.2	2,024.7	0.00	0.00	0.00
11,600.0	1.02	215.00	11,277.5	1,428.1	-1,435.2	2,024.4	0.00	0.00	0.00
11,700.0	1.02	215.00	11,377.4	1,426.7	-1,436.2	2,024.1	0.00	0.00	0.00
11,800.0	1.02	215.00	11,477.4	1,425.2	-1,437.3	2,023.9	0.00	0.00	0.00
11,900.0	1.02	215.00	11,577.4	1,423.8	-1,438.3	2,023.6	0.00	0.00	0.00
12,000.0	1.02	215.00	11,677.4	1,422.3	-1,439.3	2,023.3	0.00	0.00	0.00
Rollins									
12,022.6	1.02	215.00	11,700.0	1,422.0	-1,439.5	2,023.3	0.00	0.00	0.00
12,100.0	1.02	215.00	11,777.4	1,420.9	-1,440.3	2,023.0	0.00	0.00	0.00
Cozzette									
12,116.6	1.02	215.00	11,794.0	1,420.6	-1,440.5	2,023.0	0.00	0.00	0.00
12,200.0	1.02	215.00	11,877.4	1,419.4	-1,441.3	2,022.8	0.00	0.00	0.00
12,300.0	1.02	215.00	11,977.4	1,418.0	-1,442.3	2,022.5	0.00	0.00	0.00
12,400.0	1.02	215.00	12,077.3	1,416.5	-1,443.4	2,022.2	0.00	0.00	0.00
12,500.0	1.02	215.00	12,177.3	1,415.1	-1,444.4	2,021.9	0.00	0.00	0.00
12,600.0	1.02	215.00	12,277.3	1,413.6	-1,445.4	2,021.7	0.00	0.00	0.00
12,700.0	1.02	215.00	12,377.3	1,412.1	-1,446.4	2,021.4	0.00	0.00	0.00
Corcoran									
12,716.7	1.02	215.00	12,394.0	1,411.9	-1,446.6	2,021.4	0.00	0.00	0.00

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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)	
12,800.0	1.02	215.00	12,477.3	1,410.7	-1,447.4	2,021.1	0.00	0.00	0.00	
12,900.0	1.02	215.00	12,577.3	1,409.2	-1,448.4	2,020.9	0.00	0.00	0.00	
13,000.0	1.02	215.00	12,677.2	1,407.8	-1,449.5	2,020.6	0.00	0.00	0.00	
13,100.0	1.02	215.00	12,777.2	1,406.3	-1,450.5	2,020.3	0.00	0.00	0.00	
13,200.0	1.02	215.00	12,877.2	1,404.9	-1,451.5	2,020.0	0.00	0.00	0.00	
13,300.0	1.02	215.00	12,977.2	1,403.4	-1,452.5	2,019.8	0.00	0.00	0.00	
13,400.0	1.02	215.00	13,077.2	1,402.0	-1,453.5	2,019.5	0.00	0.00	0.00	
13,500.0	1.02	215.00	13,177.2	1,400.5	-1,454.5	2,019.2	0.00	0.00	0.00	
TD @ 13516.8' MD / 13194.0' TVD										
13,516.8	1.02	215.00	13,194.0	1,400.3	-1,454.7	2,019.2	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	
15B-22 - OHCR - hit/miss target - Shape - Point	0.00	0.00	7,516.0	1,482.2	-1,397.3	14,517,736.93	2,404,657.53	39.945110	-108.273502	
15B-22 - PBHL - plan hits target center - Ellipse (radii L100.0 W50.0 on 215.00 azi)	0.00	0.00	13,194.0	1,400.3	-1,454.7	14,517,653.30	2,404,602.70	39.944885	-108.273706	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,568.3	2,499.0	Orange Marker				
2,719.1	2,642.0	Wasatch				
5,780.3	5,544.0	Wasatch G				
6,273.0	6,011.0	Fort Union				
7,838.0	7,516.0	Ohio Creek				
8,588.1	8,266.0	Williams Fork				
11,472.5	11,150.0	Cameo				
12,022.6	11,700.0	Rollins				
12,116.6	11,794.0	Cozzette				
12,716.7	12,394.0	Corcoran				

Database:	KLXDirectional-AD	Local Co-ordinate Reference:	Well RNPU B27 FED 15B-22 197 - Slot 15B-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 15B-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)	
800.0	800.0	0.0	0.0	Build 3° / 100'
966.7	966.5	1.9	-7.0	EOB @ 5.00° Inc. / 285.00° Azm : Build 3° / 100'
1,452.1	1,440.9	64.3	-80.4	EOB @ 18.56° Inc. / 317.11° Azm
7,219.2	6,908.1	1,409.4	-1,329.7	Drop 3° /100'
7,838.0	7,516.0	1,482.2	-1,397.3	EOD @ Vertical / Build 1.5° / 100'
7,905.6	7,583.7	1,481.7	-1,397.7	EOB @ 1.01° Inc. / 215.00° Azm
13,516.8	13,194.0	1,400.3	-1,454.7	TD @ 13516.8' MD / 13194.0' TVD