

Well: Middlepark 18-11-2L
Site: Section 18-T04N-R62W
Project: Weld County, Colorado
Wellbore: Original Hole
Design: plan2

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	3112.25	22.24	116.97	3084.51	-96.70	190.03	2.00	-78.04	Begin 22.24° tangent
4	5873.58	22.24	116.97	5640.34	-570.80	1121.68	0.00	-460.68	Begin 10°/100' build
5	6880.37	90.00	357.66	6280.00	1.07	1326.67	10.00	128.20	LP Begin 90° lateral
6	16565.57	90.00	357.66	6280.00	9678.21	931.71	0.00	9722.96	PBHL/TD 16565.57 MD/6280.00 TVD

DESIGN TARGET DETAILS

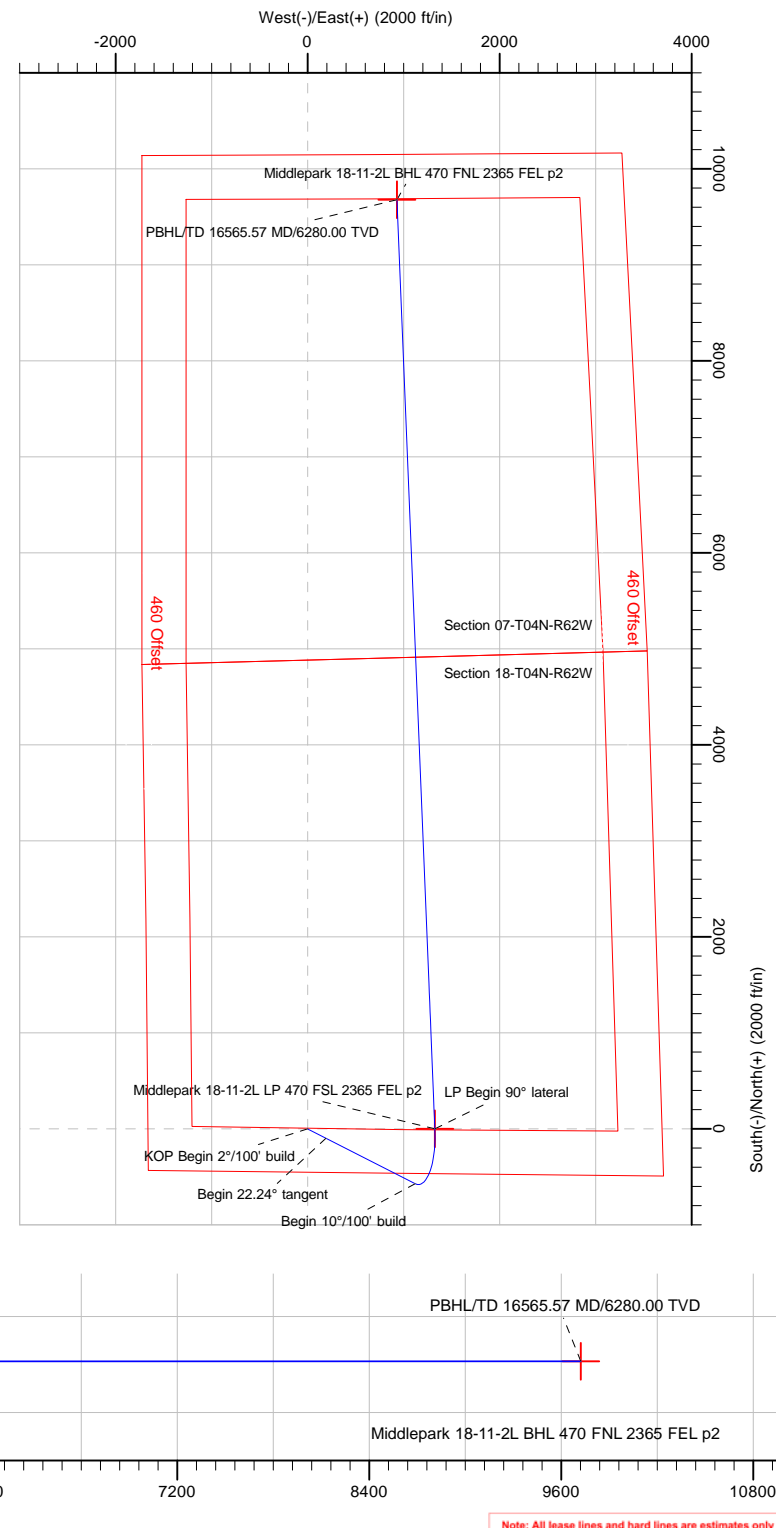
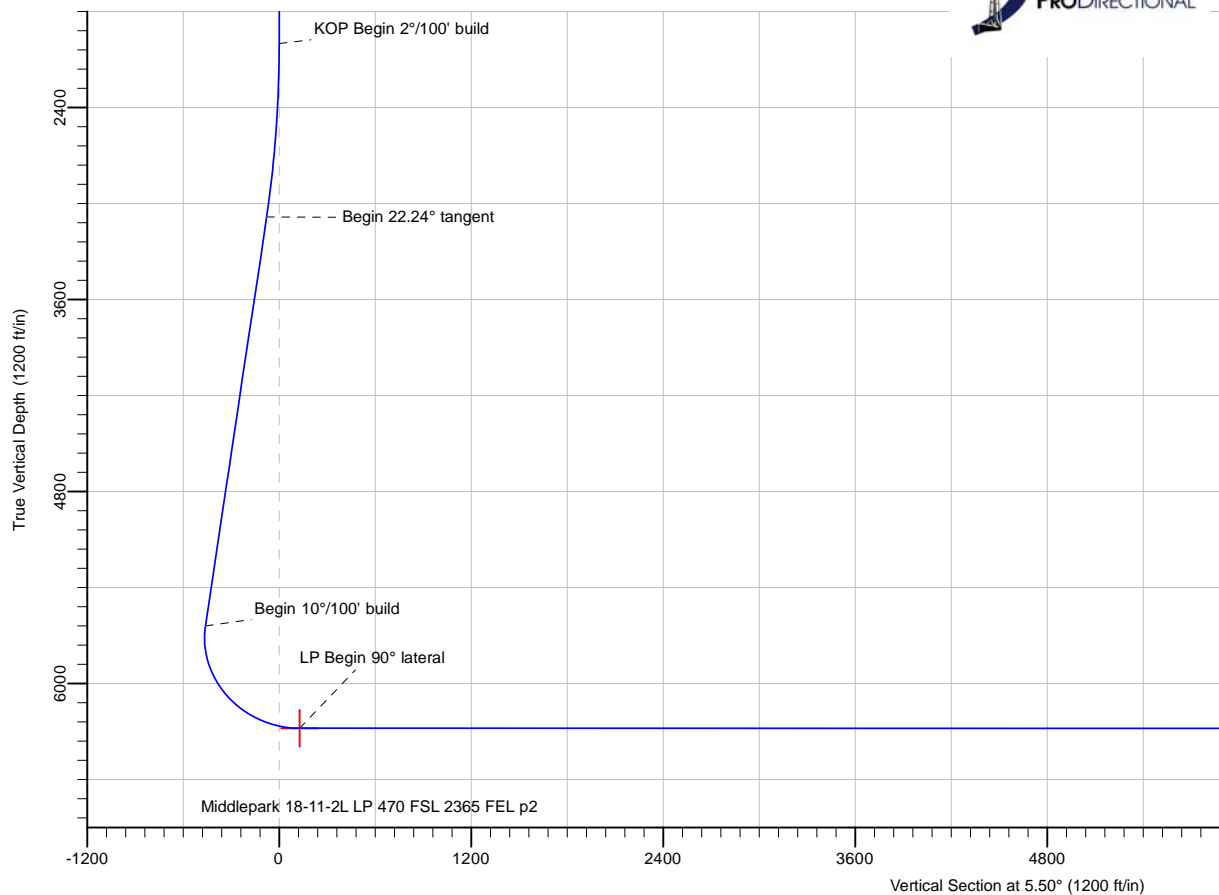
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Middlepark 18-11-2L BHL 470 FNL 2365 FEL p2	6280.00	9678.21	931.71	14648624.07	1816756.76	40.33299481	-104.36724630
Middlepark 18-11-2L LP 470 FSL 2365 FEL p2	6280.00	1.07	1326.67	14638950.00	1817220.48	40.30642193	-104.36583105



Azimuths to True North
Magnetic North: 8.18°

Magnetic Field
Strength: 52247.4snT
Dip Angle: 66.90°
Date: 4/22/2018
Model: HDGM

Middlepark 18-11-2L Surf loc: 452 FSL 1663 FWL Section 18-T04N-R62W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=4557+24 @ 4581.00ft			
Northing	Easting	Latitude	Longitude
14638939.50	1815893.85	40.30641908	-104.37058947



Note: All lease lines and hard lines are estimates only and are subject to customers approval.

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Project	Weld County, Colorado		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	Section 18-T04N-R62W			
Site Position:		Northing:	14,641,153.41 usft	Latitude: 40.31252000
From:	Lat/Long	Easting:	1,814,773.97 usft	Longitude: -104.37455000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.40 °

Well	Middlepark 18-11-2L, Surf loc: 452 FSL 1663 FWL Section 18-T04N-R62W			
Well Position	+N/-S	-2,221.77 ft	Northing:	14,638,939.50 usft
	+E/-W	1,104.21 ft	Easting:	1,815,893.85 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40.30641909
				Longitude: -104.37058948
				Ground Level: 4,557.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/22/2018	8.18	66.90	52,247.40000000

Design	plan2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	5.50

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,565.57	plan2 (Original Hole)	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,112.25	22.24	116.97	3,084.51	-96.70	190.03	2.00	2.00	0.00	116.97	
5,873.58	22.24	116.97	5,640.34	-570.80	1,121.68	0.00	0.00	0.00	0.00	
6,880.37	90.00	357.66	6,280.00	1.07	1,326.67	10.00	6.73	-11.85	-117.46	Middlepark 18-11-2L L
16,565.57	90.00	357.66	6,280.00	9,678.21	931.71	0.00	0.00	0.00	0.00	Middlepark 18-11-2L L

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Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 2°/100' build									
2,100.00	2.00	116.97	2,099.98	-0.79	1.56	-0.64	2.00	2.00	0.00
2,200.00	4.00	116.97	2,199.84	-3.16	6.22	-2.55	2.00	2.00	0.00
2,300.00	6.00	116.97	2,299.45	-7.12	13.99	-5.74	2.00	2.00	0.00
2,400.00	8.00	116.97	2,398.70	-12.64	24.85	-10.21	2.00	2.00	0.00
2,500.00	10.00	116.97	2,497.47	-19.74	38.79	-15.93	2.00	2.00	0.00
2,600.00	12.00	116.97	2,595.62	-28.39	55.79	-22.91	2.00	2.00	0.00
2,700.00	14.00	116.97	2,693.06	-38.59	75.84	-31.15	2.00	2.00	0.00
2,800.00	16.00	116.97	2,789.64	-50.33	98.91	-40.62	2.00	2.00	0.00
2,900.00	18.00	116.97	2,885.27	-63.59	124.96	-51.32	2.00	2.00	0.00
3,000.00	20.00	116.97	2,979.82	-78.36	153.98	-63.24	2.00	2.00	0.00
3,100.00	22.00	116.97	3,073.17	-94.61	185.92	-76.36	2.00	2.00	0.00
3,112.25	22.24	116.97	3,084.52	-96.70	190.03	-78.05	2.00	2.00	0.00
Begin 22.24° tangent									
3,200.00	22.24	116.97	3,165.74	-111.77	219.63	-90.21	0.00	0.00	0.00
3,300.00	22.24	116.97	3,258.29	-128.94	253.37	-104.06	0.00	0.00	0.00
3,400.00	22.24	116.97	3,350.85	-146.10	287.11	-117.92	0.00	0.00	0.00
3,500.00	22.24	116.97	3,443.41	-163.27	320.85	-131.78	0.00	0.00	0.00
3,600.00	22.24	116.97	3,535.97	-180.44	354.59	-145.63	0.00	0.00	0.00
3,700.00	22.24	116.97	3,628.52	-197.61	388.33	-159.49	0.00	0.00	0.00
3,800.00	22.24	116.97	3,721.08	-214.78	422.07	-173.35	0.00	0.00	0.00
3,900.00	22.24	116.97	3,813.64	-231.95	455.81	-187.20	0.00	0.00	0.00
4,000.00	22.24	116.97	3,906.20	-249.12	489.55	-201.06	0.00	0.00	0.00
4,100.00	22.24	116.97	3,998.75	-266.29	523.29	-214.92	0.00	0.00	0.00
4,200.00	22.24	116.97	4,091.31	-283.46	557.03	-228.78	0.00	0.00	0.00
4,300.00	22.24	116.97	4,183.87	-300.63	590.77	-242.63	0.00	0.00	0.00
4,400.00	22.24	116.97	4,276.43	-317.80	624.51	-256.49	0.00	0.00	0.00
4,500.00	22.24	116.97	4,368.98	-334.97	658.25	-270.35	0.00	0.00	0.00
4,600.00	22.24	116.97	4,461.54	-352.13	691.98	-284.20	0.00	0.00	0.00
4,700.00	22.24	116.97	4,554.10	-369.30	725.72	-298.06	0.00	0.00	0.00
4,800.00	22.24	116.97	4,646.65	-386.47	759.46	-311.92	0.00	0.00	0.00
4,900.00	22.24	116.97	4,739.21	-403.64	793.20	-325.77	0.00	0.00	0.00

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Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.00	22.24	116.97	4,831.77	-420.81	826.94	-339.63	0.00	0.00	0.00
5,100.00	22.24	116.97	4,924.33	-437.98	860.68	-353.49	0.00	0.00	0.00
5,200.00	22.24	116.97	5,016.88	-455.15	894.42	-367.35	0.00	0.00	0.00
5,300.00	22.24	116.97	5,109.44	-472.32	928.16	-381.20	0.00	0.00	0.00
5,400.00	22.24	116.97	5,202.00	-489.49	961.90	-395.06	0.00	0.00	0.00
5,500.00	22.24	116.97	5,294.56	-506.66	995.64	-408.92	0.00	0.00	0.00
5,600.00	22.24	116.97	5,387.11	-523.83	1,029.38	-422.77	0.00	0.00	0.00
5,700.00	22.24	116.97	5,479.67	-541.00	1,063.12	-436.63	0.00	0.00	0.00
5,800.00	22.24	116.97	5,572.23	-558.16	1,096.86	-450.49	0.00	0.00	0.00
5,873.58	22.24	116.97	5,640.33	-570.80	1,121.68	-460.68	0.00	0.00	0.00
Begin 10°/100' build									
5,900.00	21.15	110.46	5,664.88	-574.73	1,130.61	-463.75	10.00	-4.14	-24.63
6,000.00	19.72	81.84	5,758.82	-578.65	1,164.30	-464.42	10.00	-1.43	-28.62
6,100.00	22.86	55.42	5,852.20	-565.20	1,197.08	-447.89	10.00	3.14	-26.42
6,200.00	29.13	37.46	5,942.17	-534.78	1,227.96	-414.65	10.00	6.26	-17.96
6,300.00	36.96	25.96	6,026.02	-488.31	1,255.99	-365.71	10.00	7.83	-11.50
6,400.00	45.54	18.15	6,101.18	-427.22	1,280.32	-302.56	10.00	8.59	-7.81
6,500.00	54.52	12.39	6,165.38	-353.34	1,300.23	-227.12	10.00	8.98	-5.76
6,600.00	63.72	7.81	6,216.67	-268.94	1,315.09	-141.68	10.00	9.20	-4.58
6,700.00	73.04	3.91	6,253.48	-176.58	1,324.46	-48.84	10.00	9.32	-3.90
6,800.00	82.43	0.38	6,274.70	-79.05	1,328.05	48.58	10.00	9.39	-3.53
6,880.37	90.00	357.66	6,280.00	1.07	1,326.67	128.19	10.00	9.42	-3.38
LP Begin 90° lateral									
6,900.00	90.00	357.66	6,280.00	20.68	1,325.87	147.64	0.00	0.00	0.00
7,000.00	90.00	357.66	6,280.00	120.60	1,321.80	246.71	0.00	0.00	0.00
7,100.00	90.00	357.66	6,280.00	220.52	1,317.72	345.77	0.00	0.00	0.00
7,200.00	90.00	357.66	6,280.00	320.43	1,313.64	444.84	0.00	0.00	0.00
7,300.00	90.00	357.66	6,280.00	420.35	1,309.56	543.91	0.00	0.00	0.00
7,400.00	90.00	357.66	6,280.00	520.27	1,305.48	642.97	0.00	0.00	0.00
7,500.00	90.00	357.66	6,280.00	620.18	1,301.41	742.04	0.00	0.00	0.00
7,600.00	90.00	357.66	6,280.00	720.10	1,297.33	841.10	0.00	0.00	0.00
7,700.00	90.00	357.66	6,280.00	820.02	1,293.25	940.17	0.00	0.00	0.00
7,800.00	90.00	357.66	6,280.00	919.93	1,289.17	1,039.24	0.00	0.00	0.00
7,900.00	90.00	357.66	6,280.00	1,019.85	1,285.09	1,138.30	0.00	0.00	0.00
8,000.00	90.00	357.66	6,280.00	1,119.77	1,281.02	1,237.37	0.00	0.00	0.00
8,100.00	90.00	357.66	6,280.00	1,219.68	1,276.94	1,336.44	0.00	0.00	0.00
8,200.00	90.00	357.66	6,280.00	1,319.60	1,272.86	1,435.50	0.00	0.00	0.00
8,300.00	90.00	357.66	6,280.00	1,419.52	1,268.78	1,534.57	0.00	0.00	0.00
8,400.00	90.00	357.66	6,280.00	1,519.43	1,264.70	1,633.63	0.00	0.00	0.00
8,500.00	90.00	357.66	6,280.00	1,619.35	1,260.63	1,732.70	0.00	0.00	0.00
8,600.00	90.00	357.66	6,280.00	1,719.27	1,256.55	1,831.77	0.00	0.00	0.00
8,700.00	90.00	357.66	6,280.00	1,819.18	1,252.47	1,930.83	0.00	0.00	0.00
8,800.00	90.00	357.66	6,280.00	1,919.10	1,248.39	2,029.90	0.00	0.00	0.00
8,900.00	90.00	357.66	6,280.00	2,019.02	1,244.31	2,128.96	0.00	0.00	0.00
9,000.00	90.00	357.66	6,280.00	2,118.94	1,240.24	2,228.03	0.00	0.00	0.00
9,100.00	90.00	357.66	6,280.00	2,218.85	1,236.16	2,327.10	0.00	0.00	0.00
9,200.00	90.00	357.66	6,280.00	2,318.77	1,232.08	2,426.16	0.00	0.00	0.00
9,300.00	90.00	357.66	6,280.00	2,418.69	1,228.00	2,525.23	0.00	0.00	0.00
9,400.00	90.00	357.66	6,280.00	2,518.60	1,223.92	2,624.30	0.00	0.00	0.00
9,500.00	90.00	357.66	6,280.00	2,618.52	1,219.85	2,723.36	0.00	0.00	0.00
9,600.00	90.00	357.66	6,280.00	2,718.44	1,215.77	2,822.43	0.00	0.00	0.00
9,700.00	90.00	357.66	6,280.00	2,818.35	1,211.69	2,921.49	0.00	0.00	0.00
9,800.00	90.00	357.66	6,280.00	2,918.27	1,207.61	3,020.56	0.00	0.00	0.00
9,900.00	90.00	357.66	6,280.00	3,018.19	1,203.53	3,119.63	0.00	0.00	0.00

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Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,000.00	90.00	357.66	6,280.00	3,118.10	1,199.46	3,218.69	0.00	0.00	0.00
10,100.00	90.00	357.66	6,280.00	3,218.02	1,195.38	3,317.76	0.00	0.00	0.00
10,200.00	90.00	357.66	6,280.00	3,317.94	1,191.30	3,416.83	0.00	0.00	0.00
10,300.00	90.00	357.66	6,280.00	3,417.85	1,187.22	3,515.89	0.00	0.00	0.00
10,400.00	90.00	357.66	6,280.00	3,517.77	1,183.14	3,614.96	0.00	0.00	0.00
10,500.00	90.00	357.66	6,280.00	3,617.69	1,179.07	3,714.02	0.00	0.00	0.00
10,600.00	90.00	357.66	6,280.00	3,717.60	1,174.99	3,813.09	0.00	0.00	0.00
10,700.00	90.00	357.66	6,280.00	3,817.52	1,170.91	3,912.16	0.00	0.00	0.00
10,800.00	90.00	357.66	6,280.00	3,917.44	1,166.83	4,011.22	0.00	0.00	0.00
10,900.00	90.00	357.66	6,280.00	4,017.35	1,162.75	4,110.29	0.00	0.00	0.00
11,000.00	90.00	357.66	6,280.00	4,117.27	1,158.68	4,209.36	0.00	0.00	0.00
11,100.00	90.00	357.66	6,280.00	4,217.19	1,154.60	4,308.42	0.00	0.00	0.00
11,200.00	90.00	357.66	6,280.00	4,317.11	1,150.52	4,407.49	0.00	0.00	0.00
11,300.00	90.00	357.66	6,280.00	4,417.02	1,146.44	4,506.55	0.00	0.00	0.00
11,400.00	90.00	357.66	6,280.00	4,516.94	1,142.36	4,605.62	0.00	0.00	0.00
11,500.00	90.00	357.66	6,280.00	4,616.86	1,138.29	4,704.69	0.00	0.00	0.00
11,600.00	90.00	357.66	6,280.00	4,716.77	1,134.21	4,803.75	0.00	0.00	0.00
11,700.00	90.00	357.66	6,280.00	4,816.69	1,130.13	4,902.82	0.00	0.00	0.00
11,800.00	90.00	357.66	6,280.00	4,916.61	1,126.05	5,001.89	0.00	0.00	0.00
11,900.00	90.00	357.66	6,280.00	5,016.52	1,121.98	5,100.95	0.00	0.00	0.00
12,000.00	90.00	357.66	6,280.00	5,116.44	1,117.90	5,200.02	0.00	0.00	0.00
12,100.00	90.00	357.66	6,280.00	5,216.36	1,113.82	5,299.08	0.00	0.00	0.00
12,200.00	90.00	357.66	6,280.00	5,316.27	1,109.74	5,398.15	0.00	0.00	0.00
12,300.00	90.00	357.66	6,280.00	5,416.19	1,105.66	5,497.22	0.00	0.00	0.00
12,400.00	90.00	357.66	6,280.00	5,516.11	1,101.59	5,596.28	0.00	0.00	0.00
12,500.00	90.00	357.66	6,280.00	5,616.02	1,097.51	5,695.35	0.00	0.00	0.00
12,600.00	90.00	357.66	6,280.00	5,715.94	1,093.43	5,794.42	0.00	0.00	0.00
12,700.00	90.00	357.66	6,280.00	5,815.86	1,089.35	5,893.48	0.00	0.00	0.00
12,800.00	90.00	357.66	6,280.00	5,915.77	1,085.27	5,992.55	0.00	0.00	0.00
12,900.00	90.00	357.66	6,280.00	6,015.69	1,081.20	6,091.61	0.00	0.00	0.00
13,000.00	90.00	357.66	6,280.00	6,115.61	1,077.12	6,190.68	0.00	0.00	0.00
13,100.00	90.00	357.66	6,280.00	6,215.52	1,073.04	6,289.75	0.00	0.00	0.00
13,200.00	90.00	357.66	6,280.00	6,315.44	1,068.96	6,388.81	0.00	0.00	0.00
13,300.00	90.00	357.66	6,280.00	6,415.36	1,064.88	6,487.88	0.00	0.00	0.00
13,400.00	90.00	357.66	6,280.00	6,515.28	1,060.81	6,586.95	0.00	0.00	0.00
13,500.00	90.00	357.66	6,280.00	6,615.19	1,056.73	6,686.01	0.00	0.00	0.00
13,600.00	90.00	357.66	6,280.00	6,715.11	1,052.65	6,785.08	0.00	0.00	0.00
13,700.00	90.00	357.66	6,280.00	6,815.03	1,048.57	6,884.14	0.00	0.00	0.00
13,800.00	90.00	357.66	6,280.00	6,914.94	1,044.49	6,983.21	0.00	0.00	0.00
13,900.00	90.00	357.66	6,280.00	7,014.86	1,040.42	7,082.28	0.00	0.00	0.00
14,000.00	90.00	357.66	6,280.00	7,114.78	1,036.34	7,181.34	0.00	0.00	0.00
14,100.00	90.00	357.66	6,280.00	7,214.69	1,032.26	7,280.41	0.00	0.00	0.00
14,200.00	90.00	357.66	6,280.00	7,314.61	1,028.18	7,379.48	0.00	0.00	0.00
14,300.00	90.00	357.66	6,280.00	7,414.53	1,024.10	7,478.54	0.00	0.00	0.00
14,400.00	90.00	357.66	6,280.00	7,514.44	1,020.03	7,577.61	0.00	0.00	0.00
14,500.00	90.00	357.66	6,280.00	7,614.36	1,015.95	7,676.67	0.00	0.00	0.00
14,600.00	90.00	357.66	6,280.00	7,714.28	1,011.87	7,775.74	0.00	0.00	0.00
14,700.00	90.00	357.66	6,280.00	7,814.19	1,007.79	7,874.81	0.00	0.00	0.00
14,800.00	90.00	357.66	6,280.00	7,914.11	1,003.71	7,973.87	0.00	0.00	0.00
14,900.00	90.00	357.66	6,280.00	8,014.03	999.64	8,072.94	0.00	0.00	0.00
15,000.00	90.00	357.66	6,280.00	8,113.94	995.56	8,172.01	0.00	0.00	0.00
15,100.00	90.00	357.66	6,280.00	8,213.86	991.48	8,271.07	0.00	0.00	0.00
15,200.00	90.00	357.66	6,280.00	8,313.78	987.40	8,370.14	0.00	0.00	0.00
15,300.00	90.00	357.66	6,280.00	8,413.69	983.32	8,469.20	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,400.00	90.00	357.66	6,280.00	8,513.61	979.25	8,568.27	0.00	0.00	0.00
15,500.00	90.00	357.66	6,280.00	8,613.53	975.17	8,667.34	0.00	0.00	0.00
15,600.00	90.00	357.66	6,280.00	8,713.45	971.09	8,766.40	0.00	0.00	0.00
15,700.00	90.00	357.66	6,280.00	8,813.36	967.01	8,865.47	0.00	0.00	0.00
15,800.00	90.00	357.66	6,280.00	8,913.28	962.93	8,964.54	0.00	0.00	0.00
15,900.00	90.00	357.66	6,280.00	9,013.20	958.86	9,063.60	0.00	0.00	0.00
16,000.00	90.00	357.66	6,280.00	9,113.11	954.78	9,162.67	0.00	0.00	0.00
16,100.00	90.00	357.66	6,280.00	9,213.03	950.70	9,261.73	0.00	0.00	0.00
16,200.00	90.00	357.66	6,280.00	9,312.95	946.62	9,360.80	0.00	0.00	0.00
16,300.00	90.00	357.66	6,280.00	9,412.86	942.54	9,459.87	0.00	0.00	0.00
16,400.00	90.00	357.66	6,280.00	9,512.78	938.47	9,558.93	0.00	0.00	0.00
16,500.00	90.00	357.66	6,280.00	9,612.70	934.39	9,658.00	0.00	0.00	0.00
16,565.57	90.00	357.66	6,280.00	9,678.21	931.71	9,722.96	0.00	0.00	0.00
PBHL/TD 16565.57 MD/6280.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Middlepark 18-11-2L LP	0.00	0.00	6,280.00	1.07	1,326.67	14,638,950.00	1,817,220.48	40.30642194	-104.36583106
- plan hits target center									
- Point									
Middlepark 18-11-2L BH	0.00	0.00	6,280.00	9,678.21	931.71	14,648,624.07	1,816,756.76	40.33299480	-104.36724631
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	KOP Begin 2°/100' build
3,112.25	3,084.52	-96.70	190.03	Begin 22.24° tangent
5,873.58	5,640.33	-570.80	1,121.68	Begin 10°/100' build
6,880.37	6,280.00	1.07	1,326.67	LP Begin 90° lateral
16,565.57	6,280.00	9,678.21	931.71	PBHL/TD 16565.57 MD/6280.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Project	Weld County, Colorado		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Section 18-T04N-R62W			
Site Position:		Northing:	14,641,153.41 usft	Latitude:	40.31252000
From:	Lat/Long	Easting:	1,814,773.97 usft	Longitude:	-104.37455000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well	Middlepark 18-11-2L, Surf loc: 452 FSL 1663 FWL Section 18-T04N-R62W					
Well Position	+N/-S	0.00 ft	Northing:	14,638,939.50 usft	Latitude:	40.30641909
	+E/-W	0.00 ft	Easting:	1,815,893.85 usft	Longitude:	-104.37058948
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,557.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/22/2018	8.18	66.90	52,247.40000000

Design	plan2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	5.50

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,565.57 plan2 (Original Hole)		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,112.25	22.24	116.97	3,084.51	-96.70	190.03	2.00	2.00	0.00	116.97	
5,873.58	22.24	116.97	5,640.34	-570.80	1,121.68	0.00	0.00	0.00	0.00	
6,880.37	90.00	357.66	6,280.00	1.07	1,326.67	10.00	6.73	-11.85	-117.46	Middlepark 18-11-2L L
16,565.57	90.00	357.66	6,280.00	9,678.21	931.71	0.00	0.00	0.00	0.00	Middlepark 18-11-2L E

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
100.00	0.00	0.00	100.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
200.00	0.00	0.00	200.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
300.00	0.00	0.00	300.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
400.00	0.00	0.00	400.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
500.00	0.00	0.00	500.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
600.00	0.00	0.00	600.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
700.00	0.00	0.00	700.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
800.00	0.00	0.00	800.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
900.00	0.00	0.00	900.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,638,939.50	1,815,893.85	40.30641909	-104.37058948
KOP Begin 2°/100' build									
2,100.00	2.00	116.97	2,099.98	-0.79	1.56	14,638,938.72	1,815,895.41	40.30641692	-104.37058390
2,200.00	4.00	116.97	2,199.84	-3.16	6.22	14,638,936.38	1,815,900.09	40.30641040	-104.37056717
2,300.00	6.00	116.97	2,299.45	-7.12	13.99	14,638,932.48	1,815,907.89	40.30639955	-104.37053931
2,400.00	8.00	116.97	2,398.70	-12.64	24.85	14,638,927.03	1,815,918.79	40.30638437	-104.37050036
2,500.00	10.00	116.97	2,497.47	-19.74	38.79	14,638,920.03	1,815,932.78	40.30636489	-104.37045035
2,600.00	12.00	116.97	2,595.62	-28.39	55.79	14,638,911.50	1,815,949.84	40.30634113	-104.37038936
2,700.00	14.00	116.97	2,693.06	-38.59	75.84	14,638,901.44	1,815,969.96	40.30631311	-104.37031746
2,800.00	16.00	116.97	2,789.64	-50.33	98.91	14,638,889.87	1,815,993.11	40.30628088	-104.37023472
2,900.00	18.00	116.97	2,885.27	-63.59	124.96	14,638,876.80	1,816,019.26	40.30624447	-104.37014127
3,000.00	20.00	116.97	2,979.82	-78.36	153.98	14,638,862.24	1,816,048.38	40.30620393	-104.37003720
3,100.00	22.00	116.97	3,073.17	-94.61	185.92	14,638,846.21	1,816,080.43	40.30615930	-104.36992265
3,112.25	22.24	116.97	3,084.52	-96.70	190.03	14,638,844.15	1,816,084.56	40.30615355	-104.36990791
Begin 22.24° tangent									
3,200.00	22.24	116.97	3,165.74	-111.77	219.63	14,638,829.30	1,816,114.27	40.30611218	-104.36980172
3,300.00	22.24	116.97	3,258.29	-128.94	253.37	14,638,812.37	1,816,148.13	40.30606504	-104.36968070
3,400.00	22.24	116.97	3,350.85	-146.10	287.11	14,638,795.44	1,816,181.99	40.30601789	-104.36955969
3,500.00	22.24	116.97	3,443.41	-163.27	320.85	14,638,778.51	1,816,215.85	40.30597074	-104.36943868
3,600.00	22.24	116.97	3,535.97	-180.44	354.59	14,638,761.58	1,816,249.71	40.30592360	-104.36931767
3,700.00	22.24	116.97	3,628.52	-197.61	388.33	14,638,744.65	1,816,283.57	40.30587645	-104.36919665
3,800.00	22.24	116.97	3,721.08	-214.78	422.07	14,638,727.72	1,816,317.43	40.30582930	-104.36907564
3,900.00	22.24	116.97	3,813.64	-231.95	455.81	14,638,710.79	1,816,351.30	40.30578216	-104.36895463
4,000.00	22.24	116.97	3,906.20	-249.12	489.55	14,638,693.86	1,816,385.16	40.30573501	-104.36883362
4,100.00	22.24	116.97	3,998.75	-266.29	523.29	14,638,676.93	1,816,419.02	40.30568786	-104.36871261
4,200.00	22.24	116.97	4,091.31	-283.46	557.03	14,638,660.01	1,816,452.88	40.30564071	-104.36859160
4,300.00	22.24	116.97	4,183.87	-300.63	590.77	14,638,643.08	1,816,486.74	40.30559357	-104.36847058
4,400.00	22.24	116.97	4,276.43	-317.80	624.51	14,638,626.15	1,816,520.60	40.30554642	-104.36834957
4,500.00	22.24	116.97	4,368.98	-334.97	658.25	14,638,609.22	1,816,554.46	40.30549927	-104.36822856
4,600.00	22.24	116.97	4,461.54	-352.13	691.98	14,638,592.29	1,816,588.32	40.30545212	-104.36810755
4,700.00	22.24	116.97	4,554.10	-369.30	725.72	14,638,575.36	1,816,622.18	40.30540497	-104.36798654
4,800.00	22.24	116.97	4,646.65	-386.47	759.46	14,638,558.43	1,816,656.04	40.30535783	-104.36786553
4,900.00	22.24	116.97	4,739.21	-403.64	793.20	14,638,541.50	1,816,689.90	40.30531068	-104.36774452
5,000.00	22.24	116.97	4,831.77	-420.81	826.94	14,638,524.57	1,816,723.76	40.30526353	-104.36762351

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,100.00	22.24	116.97	4,924.33	-437.98	860.68	14,638,507.65	1,816,757.62	40.30521638	-104.36750250
5,200.00	22.24	116.97	5,016.88	-455.15	894.42	14,638,490.72	1,816,791.48	40.30516923	-104.36738149
5,300.00	22.24	116.97	5,109.44	-472.32	928.16	14,638,473.79	1,816,825.34	40.30512208	-104.36726048
5,400.00	22.24	116.97	5,202.00	-489.49	961.90	14,638,456.86	1,816,859.20	40.30507493	-104.36713947
5,500.00	22.24	116.97	5,294.56	-506.66	995.64	14,638,439.93	1,816,893.06	40.30502778	-104.36701846
5,600.00	22.24	116.97	5,387.11	-523.83	1,029.38	14,638,423.00	1,816,926.92	40.30498064	-104.36689745
5,700.00	22.24	116.97	5,479.67	-541.00	1,063.12	14,638,406.07	1,816,960.78	40.30493349	-104.36677645
5,800.00	22.24	116.97	5,572.23	-558.16	1,096.86	14,638,389.14	1,816,994.64	40.30488634	-104.36665544
5,873.58	22.24	116.97	5,640.33	-570.80	1,121.68	14,638,376.69	1,817,019.56	40.30485164	-104.36656640
Begin 10°/100' build									
5,900.00	21.15	110.46	5,664.88	-574.73	1,130.61	14,638,372.82	1,817,028.51	40.30484084	-104.36653439
6,000.00	19.72	81.84	5,758.82	-578.65	1,164.30	14,638,369.13	1,817,062.23	40.30483006	-104.36641355
6,100.00	22.86	55.42	5,852.20	-565.20	1,197.08	14,638,382.82	1,817,094.91	40.30486701	-104.36629598
6,200.00	29.13	37.46	5,942.17	-534.78	1,227.96	14,638,413.46	1,817,125.57	40.30495054	-104.36618523
6,300.00	36.96	25.96	6,026.02	-488.31	1,255.99	14,638,460.12	1,817,153.27	40.30507813	-104.36608468
6,400.00	45.54	18.15	6,101.18	-427.22	1,280.32	14,638,521.39	1,817,177.18	40.30524589	-104.36599738
6,500.00	54.52	12.39	6,165.38	-353.34	1,300.23	14,638,595.40	1,817,196.55	40.30544873	-104.36592599
6,600.00	63.72	7.81	6,216.67	-268.94	1,315.09	14,638,679.91	1,817,210.81	40.30568049	-104.36587267
6,700.00	73.04	3.91	6,253.48	-176.58	1,324.46	14,638,772.34	1,817,219.53	40.30593413	-104.36583904
6,800.00	82.43	0.38	6,274.70	-79.05	1,328.05	14,638,869.89	1,817,222.43	40.30620193	-104.36582613
6,880.37	90.00	357.66	6,280.00	1.07	1,326.67	14,638,949.99	1,817,220.48	40.30642193	-104.36583106
LP Begin 90° lateral									
6,900.00	90.00	357.66	6,280.00	20.68	1,325.87	14,638,969.60	1,817,219.54	40.30647579	-104.36583393
7,000.00	90.00	357.66	6,280.00	120.60	1,321.80	14,639,069.49	1,817,214.75	40.30675015	-104.36584853
7,100.00	90.00	357.66	6,280.00	220.52	1,317.72	14,639,169.37	1,817,209.97	40.30702452	-104.36586314
7,200.00	90.00	357.66	6,280.00	320.43	1,313.64	14,639,269.26	1,817,205.18	40.30729888	-104.36587775
7,300.00	90.00	357.66	6,280.00	420.35	1,309.56	14,639,369.14	1,817,200.39	40.30757325	-104.36589236
7,400.00	90.00	357.66	6,280.00	520.27	1,305.48	14,639,469.03	1,817,195.60	40.30784762	-104.36590696
7,500.00	90.00	357.66	6,280.00	620.18	1,301.41	14,639,568.91	1,817,190.81	40.30812198	-104.36592157
7,600.00	90.00	357.66	6,280.00	720.10	1,297.33	14,639,668.80	1,817,186.03	40.30839635	-104.36593618
7,700.00	90.00	357.66	6,280.00	820.02	1,293.25	14,639,768.68	1,817,181.24	40.30867072	-104.36595079
7,800.00	90.00	357.66	6,280.00	919.93	1,289.17	14,639,868.57	1,817,176.45	40.30894508	-104.36596540
7,900.00	90.00	357.66	6,280.00	1,019.85	1,285.09	14,639,968.45	1,817,171.66	40.30921945	-104.36598001
8,000.00	90.00	357.66	6,280.00	1,119.77	1,281.02	14,640,068.34	1,817,166.87	40.30949382	-104.36599461
8,100.00	90.00	357.66	6,280.00	1,219.68	1,276.94	14,640,168.22	1,817,162.09	40.30976818	-104.36600922
8,200.00	90.00	357.66	6,280.00	1,319.60	1,272.86	14,640,268.11	1,817,157.30	40.31004255	-104.36602383
8,300.00	90.00	357.66	6,280.00	1,419.52	1,268.78	14,640,367.99	1,817,152.51	40.31031692	-104.36603844
8,400.00	90.00	357.66	6,280.00	1,519.43	1,264.70	14,640,467.88	1,817,147.72	40.31059128	-104.36605305
8,500.00	90.00	357.66	6,280.00	1,619.35	1,260.63	14,640,567.76	1,817,142.93	40.31086565	-104.36606766
8,600.00	90.00	357.66	6,280.00	1,719.27	1,256.55	14,640,667.65	1,817,138.15	40.31114001	-104.36608227
8,700.00	90.00	357.66	6,280.00	1,819.18	1,252.47	14,640,767.53	1,817,133.36	40.31141438	-104.36609688
8,800.00	90.00	357.66	6,280.00	1,919.10	1,248.39	14,640,867.42	1,817,128.57	40.31168875	-104.36611149
8,900.00	90.00	357.66	6,280.00	2,019.02	1,244.31	14,640,967.30	1,817,123.78	40.31196311	-104.36612610
9,000.00	90.00	357.66	6,280.00	2,118.94	1,240.24	14,641,067.19	1,817,118.99	40.31223748	-104.36614071
9,100.00	90.00	357.66	6,280.00	2,218.85	1,236.16	14,641,167.07	1,817,114.21	40.31251185	-104.36615532
9,200.00	90.00	357.66	6,280.00	2,318.77	1,232.08	14,641,266.96	1,817,109.42	40.31278621	-104.36616993
9,300.00	90.00	357.66	6,280.00	2,418.69	1,228.00	14,641,366.84	1,817,104.63	40.31306057	-104.36618453
9,400.00	90.00	357.66	6,280.00	2,518.60	1,223.92	14,641,466.73	1,817,099.84	40.31333494	-104.36619914
9,500.00	90.00	357.66	6,280.00	2,618.52	1,219.85	14,641,566.61	1,817,095.05	40.31360930	-104.36621376
9,600.00	90.00	357.66	6,280.00	2,718.44	1,215.77	14,641,666.50	1,817,090.27	40.31388367	-104.36622837
9,700.00	90.00	357.66	6,280.00	2,818.35	1,211.69	14,641,766.38	1,817,085.48	40.31415803	-104.36624298
9,800.00	90.00	357.66	6,280.00	2,918.27	1,207.61	14,641,866.27	1,817,080.69	40.31443240	-104.36625759
9,900.00	90.00	357.66	6,280.00	3,018.19	1,203.53	14,641,966.15	1,817,075.90	40.31470677	-104.36627220
10,000.00	90.00	357.66	6,280.00	3,118.10	1,199.46	14,642,066.04	1,817,071.12	40.31498113	-104.36628681

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.00	90.00	357.66	6,280.00	3,218.02	1,195.38	14,642,165.92	1,817,066.33	40.31525550	-104.36630142
10,200.00	90.00	357.66	6,280.00	3,317.94	1,191.30	14,642,265.81	1,817,061.54	40.31552986	-104.36631603
10,300.00	90.00	357.66	6,280.00	3,417.85	1,187.22	14,642,365.70	1,817,056.75	40.31580423	-104.36633064
10,400.00	90.00	357.66	6,280.00	3,517.77	1,183.14	14,642,465.58	1,817,051.96	40.31607860	-104.36634525
10,500.00	90.00	357.66	6,280.00	3,617.69	1,179.07	14,642,565.47	1,817,047.18	40.31635296	-104.36635986
10,600.00	90.00	357.66	6,280.00	3,717.60	1,174.99	14,642,665.35	1,817,042.39	40.31662733	-104.36637447
10,700.00	90.00	357.66	6,280.00	3,817.52	1,170.91	14,642,765.24	1,817,037.60	40.31690169	-104.36638908
10,800.00	90.00	357.66	6,280.00	3,917.44	1,166.83	14,642,865.12	1,817,032.81	40.31717606	-104.36640370
10,900.00	90.00	357.66	6,280.00	4,017.35	1,162.75	14,642,965.01	1,817,028.02	40.31745043	-104.36641831
11,000.00	90.00	357.66	6,280.00	4,117.27	1,158.68	14,643,064.89	1,817,023.24	40.31772479	-104.36643292
11,100.00	90.00	357.66	6,280.00	4,217.19	1,154.60	14,643,164.78	1,817,018.45	40.31799916	-104.36644753
11,200.00	90.00	357.66	6,280.00	4,317.11	1,150.52	14,643,264.66	1,817,013.66	40.31827352	-104.36646214
11,300.00	90.00	357.66	6,280.00	4,417.02	1,146.44	14,643,364.55	1,817,008.87	40.31854789	-104.36647675
11,400.00	90.00	357.66	6,280.00	4,516.94	1,142.36	14,643,464.43	1,817,004.08	40.31882226	-104.36649137
11,500.00	90.00	357.66	6,280.00	4,616.86	1,138.29	14,643,564.32	1,816,999.30	40.31909662	-104.36650598
11,600.00	90.00	357.66	6,280.00	4,716.77	1,134.21	14,643,664.20	1,816,994.51	40.31937099	-104.36652059
11,700.00	90.00	357.66	6,280.00	4,816.69	1,130.13	14,643,764.09	1,816,989.72	40.31964535	-104.36653520
11,800.00	90.00	357.66	6,280.00	4,916.61	1,126.05	14,643,863.97	1,816,984.93	40.31991972	-104.36654982
11,900.00	90.00	357.66	6,280.00	5,016.52	1,121.98	14,643,963.86	1,816,980.14	40.32019409	-104.36656443
12,000.00	90.00	357.66	6,280.00	5,116.44	1,117.90	14,644,063.74	1,816,975.36	40.32046845	-104.36657904
12,100.00	90.00	357.66	6,280.00	5,216.36	1,113.82	14,644,163.63	1,816,970.57	40.32074282	-104.36659365
12,200.00	90.00	357.66	6,280.00	5,316.27	1,109.74	14,644,263.51	1,816,965.78	40.32101718	-104.36660827
12,300.00	90.00	357.66	6,280.00	5,416.19	1,105.66	14,644,363.40	1,816,960.99	40.32129155	-104.36662288
12,400.00	90.00	357.66	6,280.00	5,516.11	1,101.59	14,644,463.28	1,816,956.21	40.32156592	-104.36663749
12,500.00	90.00	357.66	6,280.00	5,616.02	1,097.51	14,644,563.17	1,816,951.42	40.32184028	-104.36665211
12,600.00	90.00	357.66	6,280.00	5,715.94	1,093.43	14,644,663.05	1,816,946.63	40.32211465	-104.36666672
12,700.00	90.00	357.66	6,280.00	5,815.86	1,089.35	14,644,762.94	1,816,941.84	40.32238901	-104.36668133
12,800.00	90.00	357.66	6,280.00	5,915.77	1,085.27	14,644,862.82	1,816,937.05	40.32266338	-104.36669595
12,900.00	90.00	357.66	6,280.00	6,015.69	1,081.20	14,644,962.71	1,816,932.27	40.32293774	-104.36671056
13,000.00	90.00	357.66	6,280.00	6,115.61	1,077.12	14,645,062.59	1,816,927.48	40.32321211	-104.36672517
13,100.00	90.00	357.66	6,280.00	6,215.52	1,073.04	14,645,162.48	1,816,922.69	40.32348648	-104.36673979
13,200.00	90.00	357.66	6,280.00	6,315.44	1,068.96	14,645,262.36	1,816,917.90	40.32376084	-104.36675440
13,300.00	90.00	357.66	6,280.00	6,415.36	1,064.88	14,645,362.25	1,816,913.11	40.32403521	-104.36676902
13,400.00	90.00	357.66	6,280.00	6,515.28	1,060.81	14,645,462.13	1,816,908.33	40.32430957	-104.36678363
13,500.00	90.00	357.66	6,280.00	6,615.19	1,056.73	14,645,562.02	1,816,903.54	40.32458394	-104.36679824
13,600.00	90.00	357.66	6,280.00	6,715.11	1,052.65	14,645,661.90	1,816,898.75	40.32485830	-104.36681286
13,700.00	90.00	357.66	6,280.00	6,815.03	1,048.57	14,645,761.79	1,816,893.96	40.32513267	-104.36682747
13,800.00	90.00	357.66	6,280.00	6,914.94	1,044.49	14,645,861.67	1,816,889.17	40.32540704	-104.36684209
13,900.00	90.00	357.66	6,280.00	7,014.86	1,040.42	14,645,961.56	1,816,884.39	40.32568140	-104.36685670
14,000.00	90.00	357.66	6,280.00	7,114.78	1,036.34	14,646,061.44	1,816,879.60	40.32595577	-104.36687132
14,100.00	90.00	357.66	6,280.00	7,214.69	1,032.26	14,646,161.33	1,816,874.81	40.32623013	-104.36688593
14,200.00	90.00	357.66	6,280.00	7,314.61	1,028.18	14,646,261.21	1,816,870.02	40.32650450	-104.36690055
14,300.00	90.00	357.66	6,280.00	7,414.53	1,024.10	14,646,361.10	1,816,865.23	40.32677886	-104.36691516
14,400.00	90.00	357.66	6,280.00	7,514.44	1,020.03	14,646,460.98	1,816,860.45	40.32705323	-104.36692978
14,500.00	90.00	357.66	6,280.00	7,614.36	1,015.95	14,646,560.87	1,816,855.66	40.32732759	-104.36694439
14,600.00	90.00	357.66	6,280.00	7,714.28	1,011.87	14,646,660.75	1,816,850.87	40.32760196	-104.36695901
14,700.00	90.00	357.66	6,280.00	7,814.19	1,007.79	14,646,760.64	1,816,846.08	40.32787633	-104.36697362
14,800.00	90.00	357.66	6,280.00	7,914.11	1,003.71	14,646,860.53	1,816,841.29	40.32815069	-104.36698824
14,900.00	90.00	357.66	6,280.00	8,014.03	999.64	14,646,960.41	1,816,836.51	40.32842506	-104.36700286
15,000.00	90.00	357.66	6,280.00	8,113.94	995.56	14,647,060.30	1,816,831.72	40.32869942	-104.36701747
15,100.00	90.00	357.66	6,280.00	8,213.86	991.48	14,647,160.18	1,816,826.93	40.32897379	-104.36703209
15,200.00	90.00	357.66	6,280.00	8,313.78	987.40	14,647,260.07	1,816,822.14	40.32924815	-104.36704670
15,300.00	90.00	357.66	6,280.00	8,413.69	983.32	14,647,359.95	1,816,817.36	40.32952252	-104.36706132
15,400.00	90.00	357.66	6,280.00	8,513.61	979.25	14,647,459.84	1,816,812.57	40.32979688	-104.36707594
15,500.00	90.00	357.66	6,280.00	8,613.53	975.17	14,647,559.72	1,816,807.78	40.33007125	-104.36709055

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-11-2L
Company:	Confluence Resources	TVD Reference:	RKB=4557+24 @ 4581.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4557+24 @ 4581.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-11-2L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	90.00	357.66	6,280.00	8,713.45	971.09	14,647,659.61	1,816,802.99	40.33034561	-104.36710517
15,700.00	90.00	357.66	6,280.00	8,813.36	967.01	14,647,759.49	1,816,798.20	40.33061998	-104.36711978
15,800.00	90.00	357.66	6,280.00	8,913.28	962.93	14,647,859.38	1,816,793.42	40.33089435	-104.36713440
15,900.00	90.00	357.66	6,280.00	9,013.20	958.86	14,647,959.26	1,816,788.63	40.33116871	-104.36714902
16,000.00	90.00	357.66	6,280.00	9,113.11	954.78	14,648,059.15	1,816,783.84	40.33144308	-104.36716364
16,100.00	90.00	357.66	6,280.00	9,213.03	950.70	14,648,159.03	1,816,779.05	40.33171744	-104.36717825
16,200.00	90.00	357.66	6,280.00	9,312.95	946.62	14,648,258.92	1,816,774.26	40.33199181	-104.36719287
16,300.00	90.00	357.66	6,280.00	9,412.86	942.54	14,648,358.80	1,816,769.48	40.33226617	-104.36720749
16,400.00	90.00	357.66	6,280.00	9,512.78	938.47	14,648,458.69	1,816,764.69	40.33254054	-104.36722210
16,500.00	90.00	357.66	6,280.00	9,612.70	934.39	14,648,558.57	1,816,759.90	40.33281490	-104.36723672
16,565.57	90.00	357.66	6,280.00	9,678.21	931.71	14,648,624.07	1,816,756.76	40.33299480	-104.36724631
PBHL/TD 16565.57 MD/6280.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Middlepark 18-11-2L LP - plan hits target center - Point	0.00	0.00	6,280.00	1.07	1,326.67	14,638,950.00	1,817,220.48	40.30642194	-104.36583106
Middlepark 18-11-2L BH - plan hits target center - Point	0.00	0.00	6,280.00	9,678.21	931.71	14,648,624.07	1,816,756.76	40.33299480	-104.36724631

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	KOP Begin 2°/100' build	
3,112.25	3,084.52	-96.70	190.03	Begin 22.24° tangent	
5,873.58	5,640.33	-570.80	1,121.68	Begin 10°/100' build	
6,880.37	6,280.00	1.07	1,326.67	LP Begin 90° lateral	
16,565.57	6,280.00	9,678.21	931.71	PBHL/TD 16565.57 MD/6280.00 TVD	