



Well: Middlepark 18-05-2L
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	3910.39	38.21	101.46	3771.91	-121.88	601.49	2.00	6.98	Begin 38.21° tangent
4	6433.78	38.21	101.46	5754.73	-431.85	2131.15	0.00	24.74	Begin 10°/100' build
5	7418.53	90.00	357.67	6277.00	150.62	2507.04	10.00	673.08	LP Begin 90° lateral
6	17123.68	90.00	357.67	6277.00	9847.74	2112.42	0.00	10071.75	PBHL/TD 17123.67 MD/6277.00 TVD

DESIGN TARGET DETAILS

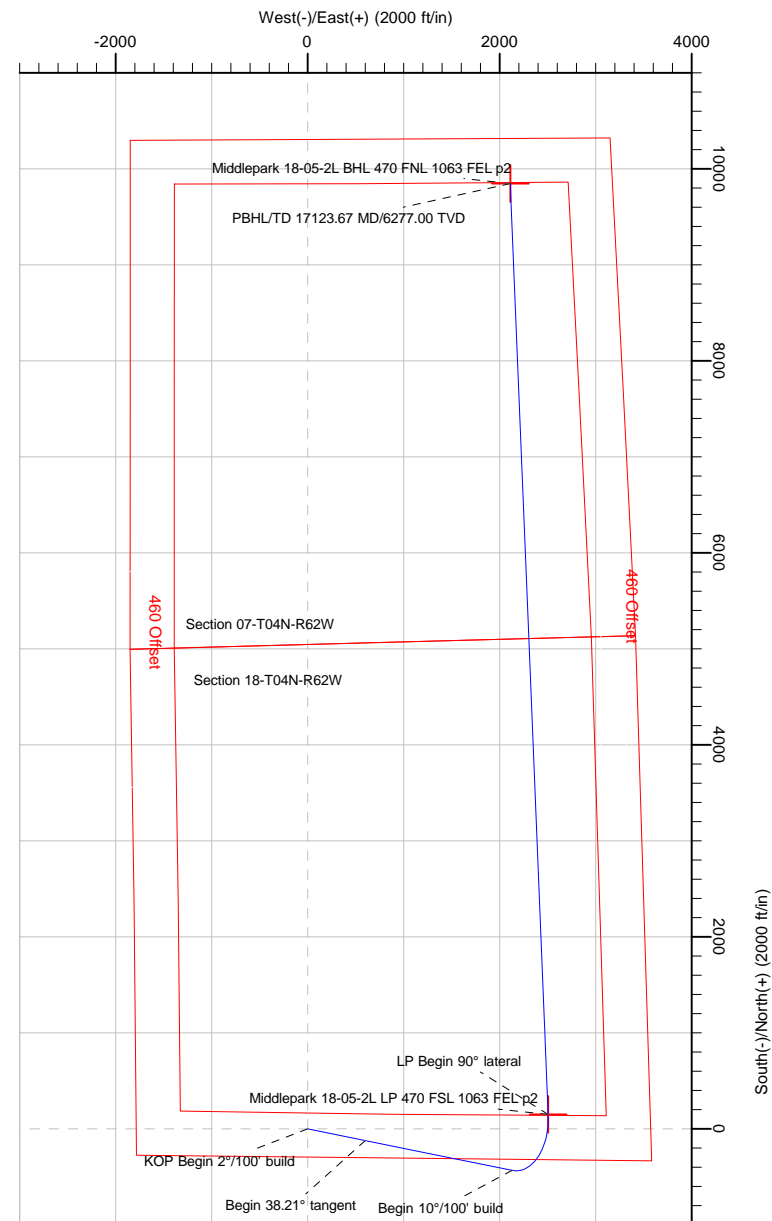
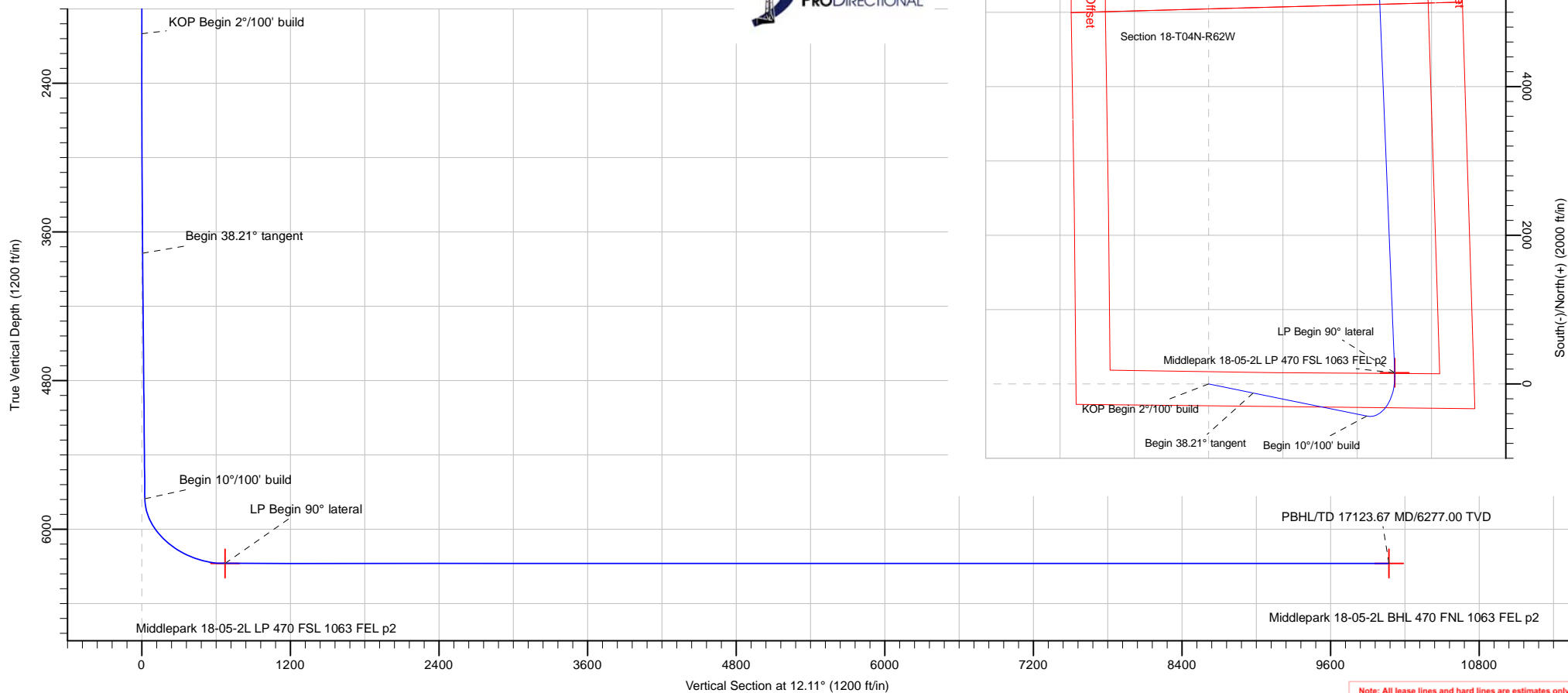
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Middlepark 18-05-2L BHL 470 FNL 1063 FEL p2	6277.00	9847.74	2112.42	14648644.05	1818059.85	40.33302400	-104.36257024
Middlepark 18-05-2L LP 470 FSL 1063 FEL p2	6277.00	150.62	2507.04	14638950.00	1818523.42	40.30639622	-104.36115788



Azimuths to True North
Magnetic North: 8.18°

Magnetic Field
Strength: 52247.5nT
Dip Angle: 66.90°
Date: 4/22/2018
Model: HDGM

Middlepark 18-05-2L Surf loc: 295 FSL 1784 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
14638781.56	1816017.52	40.30598299	-104.37014994



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 18-05-2L
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 18-05-2L	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 18-05-2L, Surf loc: 295 FSL 1784 FWL Section 18-T04N-R62W			
Well Position	+N/-S	-2,380.58 ft	Northing:	14,638,781.56 usft
	+E/-W	1,226.77 ft	Easting:	1,816,017.52 usft
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	52,247.50000000

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	12.11

Plan Survey Tool Program	Date	4/26/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,123.68	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	
3,910.39	38.21	101.46	3,771.91	-121.88	601.49	2.00	2.00	0.00	101.46	
6,433.78	38.21	101.46	5,754.73	-431.85	2,131.15	0.00	0.00	0.00	0.00	
7,418.53	90.00	357.67	6,277.00	150.62	2,507.04	10.00	5.26	-10.54	-100.91	Middlepark 18-05-2L I
17,123.68	90.00	357.67	6,277.00	9,847.74	2,112.42	0.00	0.00	0.00	0.00	Middlepark 18-05-2L I

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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 18-05-2L	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	101.46	2,099.98	-0.35	1.71	0.02	2.00	2.00	0.00
2,200.00	4.00	101.46	2,199.84	-1.39	6.84	0.08	2.00	2.00	0.00
2,300.00	6.00	101.46	2,299.45	-3.12	15.38	0.18	2.00	2.00	0.00
2,400.00	8.00	101.46	2,398.70	-5.54	27.32	0.32	2.00	2.00	0.00
2,500.00	10.00	101.46	2,497.47	-8.64	42.66	0.50	2.00	2.00	0.00
2,600.00	12.00	101.46	2,595.62	-12.43	61.36	0.71	2.00	2.00	0.00
2,700.00	14.00	101.46	2,693.06	-16.90	83.40	0.97	2.00	2.00	0.00
2,800.00	16.00	101.46	2,789.64	-22.04	108.77	1.26	2.00	2.00	0.00
2,900.00	18.00	101.46	2,885.27	-27.85	137.42	1.59	2.00	2.00	0.00
3,000.00	20.00	101.46	2,979.82	-34.31	169.33	1.97	2.00	2.00	0.00
3,100.00	22.00	101.46	3,073.17	-41.43	204.45	2.37	2.00	2.00	0.00
3,200.00	24.00	101.46	3,165.21	-49.19	242.74	2.82	2.00	2.00	0.00
3,300.00	26.00	101.46	3,255.84	-57.58	284.16	3.30	2.00	2.00	0.00
3,400.00	28.00	101.46	3,344.94	-66.60	328.65	3.81	2.00	2.00	0.00
3,500.00	30.00	101.46	3,432.39	-76.22	376.16	4.37	2.00	2.00	0.00
3,600.00	32.00	101.46	3,518.11	-86.45	426.64	4.95	2.00	2.00	0.00
3,700.00	34.00	101.46	3,601.97	-97.27	480.02	5.57	2.00	2.00	0.00
3,800.00	36.00	101.46	3,683.88	-108.66	536.23	6.22	2.00	2.00	0.00
3,900.00	38.00	101.46	3,763.74	-120.61	595.21	6.91	2.00	2.00	0.00
3,910.39	38.21	101.46	3,771.92	-121.88	601.49	6.98	2.00	2.00	0.00
Begin 38.21° tangent									
4,000.00	38.21	101.46	3,842.33	-132.89	655.81	7.61	0.00	0.00	0.00
4,100.00	38.21	101.46	3,920.91	-145.18	716.43	8.32	0.00	0.00	0.00
4,200.00	38.21	101.46	3,999.48	-157.46	777.05	9.02	0.00	0.00	0.00
4,300.00	38.21	101.46	4,078.06	-169.74	837.67	9.72	0.00	0.00	0.00
4,400.00	38.21	101.46	4,156.64	-182.03	898.29	10.43	0.00	0.00	0.00
4,500.00	38.21	101.46	4,235.22	-194.31	958.91	11.13	0.00	0.00	0.00
4,600.00	38.21	101.46	4,313.79	-206.59	1,019.53	11.83	0.00	0.00	0.00
4,700.00	38.21	101.46	4,392.37	-218.88	1,080.15	12.54	0.00	0.00	0.00
4,800.00	38.21	101.46	4,470.95	-231.16	1,140.77	13.24	0.00	0.00	0.00
4,900.00	38.21	101.46	4,549.53	-243.45	1,201.39	13.94	0.00	0.00	0.00

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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 18-05-2L	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	38.21	101.46	4,628.10	-255.73	1,262.01	14.65	0.00	0.00	0.00
5,100.00	38.21	101.46	4,706.68	-268.01	1,322.63	15.35	0.00	0.00	0.00
5,200.00	38.21	101.46	4,785.26	-280.30	1,383.24	16.05	0.00	0.00	0.00
5,300.00	38.21	101.46	4,863.84	-292.58	1,443.86	16.76	0.00	0.00	0.00
5,400.00	38.21	101.46	4,942.41	-304.86	1,504.48	17.46	0.00	0.00	0.00
5,500.00	38.21	101.46	5,020.99	-317.15	1,565.10	18.17	0.00	0.00	0.00
5,600.00	38.21	101.46	5,099.57	-329.43	1,625.72	18.87	0.00	0.00	0.00
5,700.00	38.21	101.46	5,178.14	-341.72	1,686.34	19.57	0.00	0.00	0.00
5,800.00	38.21	101.46	5,256.72	-354.00	1,746.96	20.28	0.00	0.00	0.00
5,900.00	38.21	101.46	5,335.30	-366.28	1,807.58	20.98	0.00	0.00	0.00
6,000.00	38.21	101.46	5,413.88	-378.57	1,868.20	21.68	0.00	0.00	0.00
6,100.00	38.21	101.46	5,492.45	-390.85	1,928.82	22.39	0.00	0.00	0.00
6,200.00	38.21	101.46	5,571.03	-403.13	1,989.44	23.09	0.00	0.00	0.00
6,300.00	38.21	101.46	5,649.61	-415.42	2,050.06	23.79	0.00	0.00	0.00
6,400.00	38.21	101.46	5,728.19	-427.70	2,110.68	24.50	0.00	0.00	0.00
6,433.78	38.21	101.46	5,754.73	-431.85	2,131.15	24.74	0.00	0.00	0.00
Begin 10°/100' build									
6,500.00	37.44	90.72	5,807.10	-436.18	2,171.39	28.95	10.00	-1.17	-16.21
6,600.00	38.15	74.41	5,886.32	-428.23	2,231.69	49.36	10.00	0.71	-16.31
6,700.00	40.98	59.32	5,963.58	-403.14	2,289.78	86.08	10.00	2.83	-15.09
6,800.00	45.53	46.29	6,036.54	-361.64	2,343.91	138.01	10.00	4.55	-13.02
6,900.00	51.33	35.38	6,102.97	-305.01	2,392.43	203.55	10.00	5.80	-10.91
7,000.00	57.99	26.22	6,160.86	-234.97	2,433.87	280.73	10.00	6.66	-9.17
7,100.00	65.21	18.34	6,208.45	-153.64	2,466.97	367.19	10.00	7.22	-7.87
7,200.00	72.80	11.36	6,244.29	-63.50	2,490.73	460.31	10.00	7.59	-6.98
7,300.00	80.61	4.93	6,267.29	32.72	2,504.41	557.26	10.00	7.81	-6.42
7,400.00	88.53	358.80	6,276.76	132.10	2,507.61	655.10	10.00	7.92	-6.14
7,418.53	90.00	357.67	6,277.00	150.62	2,507.04	673.08	10.00	7.94	-6.07
LP Begin 90° lateral									
7,500.00	90.00	357.67	6,277.00	232.02	2,503.73	751.98	0.00	0.00	0.00
7,600.00	90.00	357.67	6,277.00	331.94	2,499.66	848.82	0.00	0.00	0.00
7,700.00	90.00	357.67	6,277.00	431.85	2,495.59	945.67	0.00	0.00	0.00
7,800.00	90.00	357.67	6,277.00	531.77	2,491.53	1,042.51	0.00	0.00	0.00
7,900.00	90.00	357.67	6,277.00	631.69	2,487.46	1,139.35	0.00	0.00	0.00
8,000.00	90.00	357.67	6,277.00	731.60	2,483.40	1,236.19	0.00	0.00	0.00
8,100.00	90.00	357.67	6,277.00	831.52	2,479.33	1,333.03	0.00	0.00	0.00
8,200.00	90.00	357.67	6,277.00	931.44	2,475.26	1,429.88	0.00	0.00	0.00
8,300.00	90.00	357.67	6,277.00	1,031.36	2,471.20	1,526.72	0.00	0.00	0.00
8,400.00	90.00	357.67	6,277.00	1,131.27	2,467.13	1,623.56	0.00	0.00	0.00
8,500.00	90.00	357.67	6,277.00	1,231.19	2,463.07	1,720.40	0.00	0.00	0.00
8,600.00	90.00	357.67	6,277.00	1,331.11	2,459.00	1,817.24	0.00	0.00	0.00
8,700.00	90.00	357.67	6,277.00	1,431.03	2,454.93	1,914.09	0.00	0.00	0.00
8,800.00	90.00	357.67	6,277.00	1,530.94	2,450.87	2,010.93	0.00	0.00	0.00
8,900.00	90.00	357.67	6,277.00	1,630.86	2,446.80	2,107.77	0.00	0.00	0.00
9,000.00	90.00	357.67	6,277.00	1,730.78	2,442.74	2,204.61	0.00	0.00	0.00
9,100.00	90.00	357.67	6,277.00	1,830.69	2,438.67	2,301.46	0.00	0.00	0.00
9,200.00	90.00	357.67	6,277.00	1,930.61	2,434.60	2,398.30	0.00	0.00	0.00
9,300.00	90.00	357.67	6,277.00	2,030.53	2,430.54	2,495.14	0.00	0.00	0.00
9,400.00	90.00	357.67	6,277.00	2,130.45	2,426.47	2,591.98	0.00	0.00	0.00
9,500.00	90.00	357.67	6,277.00	2,230.36	2,422.41	2,688.82	0.00	0.00	0.00
9,600.00	90.00	357.67	6,277.00	2,330.28	2,418.34	2,785.67	0.00	0.00	0.00
9,700.00	90.00	357.67	6,277.00	2,430.20	2,414.27	2,882.51	0.00	0.00	0.00
9,800.00	90.00	357.67	6,277.00	2,530.12	2,410.21	2,979.35	0.00	0.00	0.00
9,900.00	90.00	357.67	6,277.00	2,630.03	2,406.14	3,076.19	0.00	0.00	0.00

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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 18-05-2L	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	357.67	6,277.00	2,729.95	2,402.07	3,173.03	0.00	0.00	0.00
10,100.00	90.00	357.67	6,277.00	2,829.87	2,398.01	3,269.88	0.00	0.00	0.00
10,200.00	90.00	357.67	6,277.00	2,929.78	2,393.94	3,366.72	0.00	0.00	0.00
10,300.00	90.00	357.67	6,277.00	3,029.70	2,389.88	3,463.56	0.00	0.00	0.00
10,400.00	90.00	357.67	6,277.00	3,129.62	2,385.81	3,560.40	0.00	0.00	0.00
10,500.00	90.00	357.67	6,277.00	3,229.54	2,381.74	3,657.24	0.00	0.00	0.00
10,600.00	90.00	357.67	6,277.00	3,329.45	2,377.68	3,754.09	0.00	0.00	0.00
10,700.00	90.00	357.67	6,277.00	3,429.37	2,373.61	3,850.93	0.00	0.00	0.00
10,800.00	90.00	357.67	6,277.00	3,529.29	2,369.55	3,947.77	0.00	0.00	0.00
10,900.00	90.00	357.67	6,277.00	3,629.21	2,365.48	4,044.61	0.00	0.00	0.00
11,000.00	90.00	357.67	6,277.00	3,729.12	2,361.41	4,141.46	0.00	0.00	0.00
11,100.00	90.00	357.67	6,277.00	3,829.04	2,357.35	4,238.30	0.00	0.00	0.00
11,200.00	90.00	357.67	6,277.00	3,928.96	2,353.28	4,335.14	0.00	0.00	0.00
11,300.00	90.00	357.67	6,277.00	4,028.88	2,349.22	4,431.98	0.00	0.00	0.00
11,400.00	90.00	357.67	6,277.00	4,128.79	2,345.15	4,528.82	0.00	0.00	0.00
11,500.00	90.00	357.67	6,277.00	4,228.71	2,341.08	4,625.67	0.00	0.00	0.00
11,600.00	90.00	357.67	6,277.00	4,328.63	2,337.02	4,722.51	0.00	0.00	0.00
11,700.00	90.00	357.67	6,277.00	4,428.54	2,332.95	4,819.35	0.00	0.00	0.00
11,800.00	90.00	357.67	6,277.00	4,528.46	2,328.89	4,916.19	0.00	0.00	0.00
11,900.00	90.00	357.67	6,277.00	4,628.38	2,324.82	5,013.03	0.00	0.00	0.00
12,000.00	90.00	357.67	6,277.00	4,728.30	2,320.75	5,109.88	0.00	0.00	0.00
12,100.00	90.00	357.67	6,277.00	4,828.21	2,316.69	5,206.72	0.00	0.00	0.00
12,200.00	90.00	357.67	6,277.00	4,928.13	2,312.62	5,303.56	0.00	0.00	0.00
12,300.00	90.00	357.67	6,277.00	5,028.05	2,308.55	5,400.40	0.00	0.00	0.00
12,400.00	90.00	357.67	6,277.00	5,127.97	2,304.49	5,497.25	0.00	0.00	0.00
12,500.00	90.00	357.67	6,277.00	5,227.88	2,300.42	5,594.09	0.00	0.00	0.00
12,600.00	90.00	357.67	6,277.00	5,327.80	2,296.36	5,690.93	0.00	0.00	0.00
12,700.00	90.00	357.67	6,277.00	5,427.72	2,292.29	5,787.77	0.00	0.00	0.00
12,800.00	90.00	357.67	6,277.00	5,527.63	2,288.22	5,884.61	0.00	0.00	0.00
12,900.00	90.00	357.67	6,277.00	5,627.55	2,284.16	5,981.46	0.00	0.00	0.00
13,000.00	90.00	357.67	6,277.00	5,727.47	2,280.09	6,078.30	0.00	0.00	0.00
13,100.00	90.00	357.67	6,277.00	5,827.39	2,276.03	6,175.14	0.00	0.00	0.00
13,200.00	90.00	357.67	6,277.00	5,927.30	2,271.96	6,271.98	0.00	0.00	0.00
13,300.00	90.00	357.67	6,277.00	6,027.22	2,267.89	6,368.82	0.00	0.00	0.00
13,400.00	90.00	357.67	6,277.00	6,127.14	2,263.83	6,465.67	0.00	0.00	0.00
13,500.00	90.00	357.67	6,277.00	6,227.06	2,259.76	6,562.51	0.00	0.00	0.00
13,600.00	90.00	357.67	6,277.00	6,326.97	2,255.70	6,659.35	0.00	0.00	0.00
13,700.00	90.00	357.67	6,277.00	6,426.89	2,251.63	6,756.19	0.00	0.00	0.00
13,800.00	90.00	357.67	6,277.00	6,526.81	2,247.56	6,853.03	0.00	0.00	0.00
13,900.00	90.00	357.67	6,277.00	6,626.73	2,243.50	6,949.88	0.00	0.00	0.00
14,000.00	90.00	357.67	6,277.00	6,726.64	2,239.43	7,046.72	0.00	0.00	0.00
14,100.00	90.00	357.67	6,277.00	6,826.56	2,235.37	7,143.56	0.00	0.00	0.00
14,200.00	90.00	357.67	6,277.00	6,926.48	2,231.30	7,240.40	0.00	0.00	0.00
14,300.00	90.00	357.67	6,277.00	7,026.39	2,227.23	7,337.25	0.00	0.00	0.00
14,400.00	90.00	357.67	6,277.00	7,126.31	2,223.17	7,434.09	0.00	0.00	0.00
14,500.00	90.00	357.67	6,277.00	7,226.23	2,219.10	7,530.93	0.00	0.00	0.00
14,600.00	90.00	357.67	6,277.00	7,326.15	2,215.03	7,627.77	0.00	0.00	0.00
14,700.00	90.00	357.67	6,277.00	7,426.06	2,210.97	7,724.61	0.00	0.00	0.00
14,800.00	90.00	357.67	6,277.00	7,525.98	2,206.90	7,821.46	0.00	0.00	0.00
14,900.00	90.00	357.67	6,277.00	7,625.90	2,202.84	7,918.30	0.00	0.00	0.00
15,000.00	90.00	357.67	6,277.00	7,725.82	2,198.77	8,015.14	0.00	0.00	0.00
15,100.00	90.00	357.67	6,277.00	7,825.73	2,194.70	8,111.98	0.00	0.00	0.00
15,200.00	90.00	357.67	6,277.00	7,925.65	2,190.64	8,208.82	0.00	0.00	0.00
15,300.00	90.00	357.67	6,277.00	8,025.57	2,186.57	8,305.67	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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	357.67	6,277.00	8,125.48	2,182.51	8,402.51	0.00	0.00	0.00
15,500.00	90.00	357.67	6,277.00	8,225.40	2,178.44	8,499.35	0.00	0.00	0.00
15,600.00	90.00	357.67	6,277.00	8,325.32	2,174.37	8,596.19	0.00	0.00	0.00
15,700.00	90.00	357.67	6,277.00	8,425.24	2,170.31	8,693.03	0.00	0.00	0.00
15,800.00	90.00	357.67	6,277.00	8,525.15	2,166.24	8,789.88	0.00	0.00	0.00
15,900.00	90.00	357.67	6,277.00	8,625.07	2,162.18	8,886.72	0.00	0.00	0.00
16,000.00	90.00	357.67	6,277.00	8,724.99	2,158.11	8,983.56	0.00	0.00	0.00
16,100.00	90.00	357.67	6,277.00	8,824.91	2,154.04	9,080.40	0.00	0.00	0.00
16,200.00	90.00	357.67	6,277.00	8,924.82	2,149.98	9,177.25	0.00	0.00	0.00
16,300.00	90.00	357.67	6,277.00	9,024.74	2,145.91	9,274.09	0.00	0.00	0.00
16,400.00	90.00	357.67	6,277.00	9,124.66	2,141.85	9,370.93	0.00	0.00	0.00
16,500.00	90.00	357.67	6,277.00	9,224.57	2,137.78	9,467.77	0.00	0.00	0.00
16,600.00	90.00	357.67	6,277.00	9,324.49	2,133.71	9,564.61	0.00	0.00	0.00
16,700.00	90.00	357.67	6,277.00	9,424.41	2,129.65	9,661.46	0.00	0.00	0.00
16,800.00	90.00	357.67	6,277.00	9,524.33	2,125.58	9,758.30	0.00	0.00	0.00
16,900.00	90.00	357.67	6,277.00	9,624.24	2,121.51	9,855.14	0.00	0.00	0.00
17,000.00	90.00	357.67	6,277.00	9,724.16	2,117.45	9,951.98	0.00	0.00	0.00
17,100.00	90.00	357.67	6,277.00	9,824.08	2,113.38	10,048.82	0.00	0.00	0.00
17,123.67	90.00	357.67	6,277.00	9,847.73	2,112.42	10,071.75	0.00	0.00	0.00
PBHL/TD 17123.67 MD/6277.00 TVD									
17,123.68	90.00	357.67	6,277.00	9,847.74	2,112.42	10,071.75	0.00	0.00	0.00

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 18-05-2L LP	0.00	0.00	6,277.00	150.62	2,507.04	14,638,950.00	1,818,523.42	40.30639623	-104.36115788
- plan hits target center									
- Point									
Middlepark 18-05-2L BH	0.00	0.00	6,277.00	9,847.74	2,112.42	14,648,644.05	1,818,059.85	40.33302400	-104.36257024
- plan hits target center									
- Point									

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	
3,910.39	3,771.92	-121.88	601.49	Begin 38.21° tangent	
6,433.78	5,754.73	-431.85	2,131.15	Begin 10°/100' build	
7,418.53	6,277.00	150.62	2,507.04	LP Begin 90° lateral	
17,123.67	6,277.00	9,847.73	2,112.42	PBHL/TD 17123.67 MD/6277.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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 18-05-2L, Surf loc: 295 FSL 1784 FWL Section 18-T04N-R62W					
Well Position	+N/-S	0.00 ft	Northing:	14,638,781.56 usft	Latitude:	40.30598299
	+E/-W	0.00 ft	Easting:	1,816,017.52 usft	Longitude:	-104.37014995
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	52,247.50000000

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	12.11

Plan Survey Tool Program	Date	4/26/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,123.68 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	
3,910.39	38.21	101.46	3,771.91	-121.88	601.49	2.00	2.00	0.00	101.46	
6,433.78	38.21	101.46	5,754.73	-431.85	2,131.15	0.00	0.00	0.00	0.00	
7,418.53	90.00	357.67	6,277.00	150.62	2,507.04	10.00	5.26	-10.54	-100.91	Middlepark 18-05-2L I
17,123.68	90.00	357.67	6,277.00	9,847.74	2,112.42	0.00	0.00	0.00	0.00	Middlepark 18-05-2L I

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
100.00	0.00	0.00	100.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
200.00	0.00	0.00	200.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
300.00	0.00	0.00	300.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
400.00	0.00	0.00	400.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
500.00	0.00	0.00	500.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
600.00	0.00	0.00	600.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
700.00	0.00	0.00	700.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
800.00	0.00	0.00	800.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
900.00	0.00	0.00	900.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,638,781.56	1,816,017.52	40.30598299	-104.37014995
KOP Begin 2°/100' build									
2,100.00	2.00	101.46	2,099.98	-0.35	1.71	14,638,781.22	1,816,019.23	40.30598204	-104.37014381
2,200.00	4.00	101.46	2,199.84	-1.39	6.84	14,638,780.22	1,816,024.37	40.30597919	-104.37012541
2,300.00	6.00	101.46	2,299.45	-3.12	15.38	14,638,778.55	1,816,032.92	40.30597443	-104.37009478
2,400.00	8.00	101.46	2,398.70	-5.54	27.32	14,638,776.21	1,816,044.88	40.30596779	-104.37005194
2,500.00	10.00	101.46	2,497.47	-8.64	42.66	14,638,773.22	1,816,060.24	40.30595926	-104.36999695
2,600.00	12.00	101.46	2,595.62	-12.43	61.36	14,638,769.56	1,816,078.96	40.30594885	-104.36992988
2,700.00	14.00	101.46	2,693.06	-16.90	83.40	14,638,765.25	1,816,101.04	40.30593658	-104.36985081
2,800.00	16.00	101.46	2,789.64	-22.04	108.77	14,638,760.29	1,816,126.44	40.30592247	-104.36975983
2,900.00	18.00	101.46	2,885.27	-27.85	137.42	14,638,754.69	1,816,155.13	40.30590653	-104.36965706
3,000.00	20.00	101.46	2,979.82	-34.31	169.33	14,638,748.45	1,816,187.09	40.30588877	-104.36954262
3,100.00	22.00	101.46	3,073.17	-41.43	204.45	14,638,741.58	1,816,222.26	40.30586923	-104.36941665
3,200.00	24.00	101.46	3,165.21	-49.19	242.74	14,638,734.10	1,816,260.60	40.30584792	-104.36927931
3,300.00	26.00	101.46	3,255.84	-57.58	284.16	14,638,726.00	1,816,302.08	40.30582487	-104.36913076
3,400.00	28.00	101.46	3,344.94	-66.60	328.65	14,638,717.30	1,816,346.64	40.30580011	-104.36897117
3,500.00	30.00	101.46	3,432.39	-76.22	376.16	14,638,708.01	1,816,394.22	40.30577367	-104.36880076
3,600.00	32.00	101.46	3,518.11	-86.45	426.64	14,638,698.14	1,816,444.76	40.30574559	-104.36861972
3,700.00	34.00	101.46	3,601.97	-97.27	480.02	14,638,687.70	1,816,498.21	40.30571588	-104.36842828
3,800.00	36.00	101.46	3,683.88	-108.66	536.23	14,638,676.71	1,816,554.51	40.30568460	-104.36822666
3,900.00	38.00	101.46	3,763.74	-120.61	595.21	14,638,665.18	1,816,613.57	40.30565178	-104.36801512
3,910.39	38.21	101.46	3,771.92	-121.88	601.49	14,638,663.95	1,816,619.86	40.30564828	-104.36799258
Begin 38.21° tangent									
4,000.00	38.21	101.46	3,842.33	-132.89	655.81	14,638,653.33	1,816,674.26	40.30561805	-104.36779775
4,100.00	38.21	101.46	3,920.91	-145.18	716.43	14,638,641.48	1,816,734.96	40.30558432	-104.36758033
4,200.00	38.21	101.46	3,999.48	-157.46	777.05	14,638,629.63	1,816,795.67	40.30555058	-104.36736291
4,300.00	38.21	101.46	4,078.06	-169.74	837.67	14,638,617.78	1,816,856.38	40.30551685	-104.36714549
4,400.00	38.21	101.46	4,156.64	-182.03	898.29	14,638,605.92	1,816,917.08	40.30548311	-104.36692807
4,500.00	38.21	101.46	4,235.22	-194.31	958.91	14,638,594.07	1,816,977.79	40.30544937	-104.36671065
4,600.00	38.21	101.46	4,313.79	-206.59	1,019.53	14,638,582.22	1,817,038.49	40.30541564	-104.36649323
4,700.00	38.21	101.46	4,392.37	-218.88	1,080.15	14,638,570.37	1,817,099.20	40.30538190	-104.36627581
4,800.00	38.21	101.46	4,470.95	-231.16	1,140.77	14,638,558.51	1,817,159.90	40.30534816	-104.36605839
4,900.00	38.21	101.46	4,549.53	-243.45	1,201.39	14,638,546.66	1,817,220.61	40.30531442	-104.36584097
5,000.00	38.21	101.46	4,628.10	-255.73	1,262.01	14,638,534.81	1,817,281.31	40.30528068	-104.36562355

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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	38.21	101.46	4,706.68	-268.01	1,322.63	14,638,522.96	1,817,342.02	40.30524695	-104.36540613
5,200.00	38.21	101.46	4,785.26	-280.30	1,383.24	14,638,511.10	1,817,402.72	40.30521321	-104.36518871
5,300.00	38.21	101.46	4,863.84	-292.58	1,443.86	14,638,499.25	1,817,463.43	40.30517947	-104.36497129
5,400.00	38.21	101.46	4,942.41	-304.86	1,504.48	14,638,487.40	1,817,524.13	40.30514573	-104.36475387
5,500.00	38.21	101.46	5,020.99	-317.15	1,565.10	14,638,475.55	1,817,584.84	40.30511199	-104.36453646
5,600.00	38.21	101.46	5,099.57	-329.43	1,625.72	14,638,463.70	1,817,645.54	40.30507824	-104.36431904
5,700.00	38.21	101.46	5,178.14	-341.72	1,686.34	14,638,451.84	1,817,706.25	40.30504450	-104.36410162
5,800.00	38.21	101.46	5,256.72	-354.00	1,746.96	14,638,439.99	1,817,766.95	40.30501076	-104.36388420
5,900.00	38.21	101.46	5,335.30	-366.28	1,807.58	14,638,428.14	1,817,827.66	40.30497702	-104.36366679
6,000.00	38.21	101.46	5,413.88	-378.57	1,868.20	14,638,416.29	1,817,888.36	40.30494328	-104.36344937
6,100.00	38.21	101.46	5,492.45	-390.85	1,928.82	14,638,404.43	1,817,949.07	40.30490953	-104.36323195
6,200.00	38.21	101.46	5,571.03	-403.13	1,989.44	14,638,392.58	1,818,009.77	40.30487579	-104.36301453
6,300.00	38.21	101.46	5,649.61	-415.42	2,050.06	14,638,380.73	1,818,070.48	40.30484204	-104.36279712
6,400.00	38.21	101.46	5,728.19	-427.70	2,110.68	14,638,368.88	1,818,131.18	40.30480830	-104.36257970
6,433.78	38.21	101.46	5,754.73	-431.85	2,131.15	14,638,364.87	1,818,151.69	40.30479690	-104.36250626
Begin 10°/100' build									
6,500.00	37.44	90.72	5,807.10	-436.18	2,171.39	14,638,360.84	1,818,191.96	40.30478502	-104.36236193
6,600.00	38.15	74.41	5,886.32	-428.23	2,231.69	14,638,369.20	1,818,252.19	40.30480681	-104.36214568
6,700.00	40.98	59.32	5,963.58	-403.14	2,289.78	14,638,394.72	1,818,310.11	40.30487571	-104.36193731
6,800.00	45.53	46.29	6,036.54	-361.64	2,343.91	14,638,436.59	1,818,363.94	40.30498964	-104.36174315
6,900.00	51.33	35.38	6,102.97	-305.01	2,392.43	14,638,493.57	1,818,412.06	40.30514513	-104.36156910
7,000.00	57.99	26.22	6,160.86	-234.97	2,433.87	14,638,563.90	1,818,453.00	40.30533745	-104.36142044
7,100.00	65.21	18.34	6,208.45	-153.64	2,466.97	14,638,645.47	1,818,485.52	40.30556077	-104.36130169
7,200.00	72.80	11.36	6,244.29	-63.50	2,490.73	14,638,735.78	1,818,508.63	40.30580829	-104.36121647
7,300.00	80.61	4.93	6,267.29	32.72	2,504.41	14,638,832.09	1,818,521.63	40.30607250	-104.36116735
7,400.00	88.53	358.80	6,276.76	132.10	2,507.61	14,638,931.48	1,818,524.12	40.30634537	-104.36115584
7,418.53	90.00	357.67	6,277.00	150.62	2,507.04	14,638,950.00	1,818,523.42	40.30639622	-104.36115788
LP Begin 90° lateral									
7,500.00	90.00	357.67	6,277.00	232.02	2,503.73	14,639,031.37	1,818,519.53	40.30661975	-104.36116973
7,600.00	90.00	357.67	6,277.00	331.94	2,499.66	14,639,131.26	1,818,514.75	40.30689412	-104.36118428
7,700.00	90.00	357.67	6,277.00	431.85	2,495.59	14,639,231.15	1,818,509.98	40.30716849	-104.36119883
7,800.00	90.00	357.67	6,277.00	531.77	2,491.53	14,639,331.03	1,818,505.20	40.30744286	-104.36121338
7,900.00	90.00	357.67	6,277.00	631.69	2,487.46	14,639,430.92	1,818,500.42	40.30771723	-104.36122793
8,000.00	90.00	357.67	6,277.00	731.60	2,483.40	14,639,530.80	1,818,495.65	40.30799159	-104.36124247
8,100.00	90.00	357.67	6,277.00	831.52	2,479.33	14,639,630.69	1,818,490.87	40.30826596	-104.36125702
8,200.00	90.00	357.67	6,277.00	931.44	2,475.26	14,639,730.57	1,818,486.09	40.30854033	-104.36127157
8,300.00	90.00	357.67	6,277.00	1,031.36	2,471.20	14,639,830.46	1,818,481.32	40.30881470	-104.36128612
8,400.00	90.00	357.67	6,277.00	1,131.27	2,467.13	14,639,930.34	1,818,476.54	40.30908907	-104.36130067
8,500.00	90.00	357.67	6,277.00	1,231.19	2,463.07	14,640,030.23	1,818,471.76	40.30936343	-104.36131522
8,600.00	90.00	357.67	6,277.00	1,331.11	2,459.00	14,640,130.12	1,818,466.99	40.30963780	-104.36132976
8,700.00	90.00	357.67	6,277.00	1,431.03	2,454.93	14,640,230.00	1,818,462.21	40.30991217	-104.36134431
8,800.00	90.00	357.67	6,277.00	1,530.94	2,450.87	14,640,329.89	1,818,457.43	40.31018654	-104.36135886
8,900.00	90.00	357.67	6,277.00	1,630.86	2,446.80	14,640,429.77	1,818,452.66	40.31046091	-104.36137341
9,000.00	90.00	357.67	6,277.00	1,730.78	2,442.74	14,640,529.66	1,818,447.88	40.31073528	-104.36138796
9,100.00	90.00	357.67	6,277.00	1,830.69	2,438.67	14,640,629.54	1,818,443.10	40.31100964	-104.36140251
9,200.00	90.00	357.67	6,277.00	1,930.61	2,434.60	14,640,729.43	1,818,438.33	40.31128401	-104.36141706
9,300.00	90.00	357.67	6,277.00	2,030.53	2,430.54	14,640,829.32	1,818,433.55	40.31155838	-104.36143161
9,400.00	90.00	357.67	6,277.00	2,130.45	2,426.47	14,640,929.20	1,818,428.77	40.31183275	-104.36144616
9,500.00	90.00	357.67	6,277.00	2,230.36	2,422.41	14,641,029.09	1,818,424.00	40.31210712	-104.36146071
9,600.00	90.00	357.67	6,277.00	2,330.28	2,418.34	14,641,128.97	1,818,419.22	40.31238148	-104.36147526
9,700.00	90.00	357.67	6,277.00	2,430.20	2,414.27	14,641,228.86	1,818,414.45	40.31265585	-104.36148981
9,800.00	90.00	357.67	6,277.00	2,530.12	2,410.21	14,641,328.74	1,818,409.67	40.31293021	-104.36150436
9,900.00	90.00	357.67	6,277.00	2,630.03	2,406.14	14,641,428.63	1,818,404.89	40.31320458	-104.36151891
10,000.00	90.00	357.67	6,277.00	2,729.95	2,402.07	14,641,528.52	1,818,400.12	40.31347895	-104.36153346

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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	357.67	6,277.00	2,829.87	2,398.01	14,641,628.40	1,818,395.34	40.31375331	-104.36154801
10,200.00	90.00	357.67	6,277.00	2,929.78	2,393.94	14,641,728.29	1,818,390.56	40.31402768	-104.36156256
10,300.00	90.00	357.67	6,277.00	3,029.70	2,389.88	14,641,828.17	1,818,385.79	40.31430205	-104.36157711
10,400.00	90.00	357.67	6,277.00	3,129.62	2,385.81	14,641,928.06	1,818,381.01	40.31457642	-104.36159166
10,500.00	90.00	357.67	6,277.00	3,229.54	2,381.74	14,642,027.94	1,818,376.23	40.31485078	-104.36160621
10,600.00	90.00	357.67	6,277.00	3,329.45	2,377.68	14,642,127.83	1,818,371.46	40.31512515	-104.36162076
10,700.00	90.00	357.67	6,277.00	3,429.37	2,373.61	14,642,227.72	1,818,366.68	40.31539952	-104.36163531
10,800.00	90.00	357.67	6,277.00	3,529.29	2,369.55	14,642,327.60	1,818,361.90	40.31567389	-104.36164987
10,900.00	90.00	357.67	6,277.00	3,629.21	2,365.48	14,642,427.49	1,818,357.13	40.31594826	-104.36166442
11,000.00	90.00	357.67	6,277.00	3,729.12	2,361.41	14,642,527.37	1,818,352.35	40.31622262	-104.36167897
11,100.00	90.00	357.67	6,277.00	3,829.04	2,357.35	14,642,627.26	1,818,347.57	40.31649699	-104.36169352
11,200.00	90.00	357.67	6,277.00	3,928.96	2,353.28	14,642,727.14	1,818,342.80	40.31677136	-104.36170807
11,300.00	90.00	357.67	6,277.00	4,028.88	2,349.22	14,642,827.03	1,818,338.02	40.31704573	-104.36172262
11,400.00	90.00	357.67	6,277.00	4,128.79	2,345.15	14,642,926.91	1,818,333.24	40.31732010	-104.36173717
11,500.00	90.00	357.67	6,277.00	4,228.71	2,341.08	14,643,026.80	1,818,328.47	40.31759446	-104.36175173
11,600.00	90.00	357.67	6,277.00	4,328.63	2,337.02	14,643,126.69	1,818,323.69	40.31786883	-104.36176628
11,700.00	90.00	357.67	6,277.00	4,428.54	2,332.95	14,643,226.57	1,818,318.91	40.31814320	-104.36178083
11,800.00	90.00	357.67	6,277.00	4,528.46	2,328.89	14,643,326.46	1,818,314.14	40.31841757	-104.36179538
11,900.00	90.00	357.67	6,277.00	4,628.38	2,324.82	14,643,426.34	1,818,309.36	40.31869193	-104.36180993
12,000.00	90.00	357.67	6,277.00	4,728.30	2,320.75	14,643,526.23	1,818,304.59	40.31896630	-104.36182449
12,100.00	90.00	357.67	6,277.00	4,828.21	2,316.69	14,643,626.11	1,818,299.81	40.31924067	-104.36183904
12,200.00	90.00	357.67	6,277.00	4,928.13	2,312.62	14,643,726.00	1,818,295.03	40.31951504	-104.36185359
12,300.00	90.00	357.67	6,277.00	5,028.05	2,308.55	14,643,825.89	1,818,290.26	40.31978940	-104.36186814
12,400.00	90.00	357.67	6,277.00	5,127.97	2,304.49	14,643,925.77	1,818,285.48	40.32006377	-104.36188270
12,500.00	90.00	357.67	6,277.00	5,227.88	2,300.42	14,644,025.66	1,818,280.70	40.32033814	-104.36189725
12,600.00	90.00	357.67	6,277.00	5,327.80	2,296.36	14,644,125.54	1,818,275.93	40.32061251	-104.36191180
12,700.00	90.00	357.67	6,277.00	5,427.72	2,292.29	14,644,225.43	1,818,271.15	40.32088687	-104.36192636
12,800.00	90.00	357.67	6,277.00	5,527.63	2,288.22	14,644,325.31	1,818,266.37	40.32116124	-104.36194091
12,900.00	90.00	357.67	6,277.00	5,627.55	2,284.16	14,644,425.20	1,818,261.60	40.32143561	-104.36195546
13,000.00	90.00	357.67	6,277.00	5,727.47	2,280.09	14,644,525.09	1,818,256.82	40.32170998	-104.36197002
13,100.00	90.00	357.67	6,277.00	5,827.39	2,276.03	14,644,624.97	1,818,252.04	40.32198434	-104.36198457
13,200.00	90.00	357.67	6,277.00	5,927.30	2,271.96	14,644,724.86	1,818,247.27	40.32225871	-104.36199912
13,300.00	90.00	357.67	6,277.00	6,027.22	2,267.89	14,644,824.74	1,818,242.49	40.32253308	-104.36201368
13,400.00	90.00	357.67	6,277.00	6,127.14	2,263.83	14,644,924.63	1,818,237.71	40.32280745	-104.36202823
13,500.00	90.00	357.67	6,277.00	6,227.06	2,259.76	14,645,024.51	1,818,232.94	40.32308181	-104.36204278
13,600.00	90.00	357.67	6,277.00	6,326.97	2,255.70	14,645,124.40	1,818,228.16	40.32335618	-104.36205734
13,700.00	90.00	357.67	6,277.00	6,426.89	2,251.63	14,645,224.28	1,818,223.38	40.32363055	-104.36207189
13,800.00	90.00	357.67	6,277.00	6,526.81	2,247.56	14,645,324.17	1,818,218.61	40.32390492	-104.36208645
13,900.00	90.00	357.67	6,277.00	6,626.73	2,243.50	14,645,424.06	1,818,213.83	40.32417928	-104.36210100
14,000.00	90.00	357.67	6,277.00	6,726.64	2,239.43	14,645,523.94	1,818,209.05	40.32445365	-104.36211556
14,100.00	90.00	357.67	6,277.00	6,826.56	2,235.37	14,645,623.83	1,818,204.28	40.32472802	-104.36213011
14,200.00	90.00	357.67	6,277.00	6,926.48	2,231.30	14,645,723.71	1,818,199.50	40.32500239	-104.36214466
14,300.00	90.00	357.67	6,277.00	7,026.39	2,227.23	14,645,823.60	1,818,194.72	40.32527675	-104.36215922
14,400.00	90.00	357.67	6,277.00	7,126.31	2,223.17	14,645,923.48	1,818,189.95	40.32555112	-104.36217377
14,500.00	90.00	357.67	6,277.00	7,226.23	2,219.10	14,646,023.37	1,818,185.17	40.32582549	-104.36218833
14,600.00	90.00	357.67	6,277.00	7,326.15	2,215.03	14,646,123.26	1,818,180.40	40.32609986	-104.36220288
14,700.00	90.00	357.67	6,277.00	7,426.06	2,210.97	14,646,223.14	1,818,175.62	40.32637422	-104.36221744
14,800.00	90.00	357.67	6,277.00	7,525.98	2,206.90	14,646,323.03	1,818,170.84	40.32664859	-104.36223199
14,900.00	90.00	357.67	6,277.00	7,625.90	2,202.84	14,646,422.91	1,818,166.07	40.32692296	-104.36224655
15,000.00	90.00	357.67	6,277.00	7,725.82	2,198.77	14,646,522.80	1,818,161.29	40.32719732	-104.36226111
15,100.00	90.00	357.67	6,277.00	7,825.73	2,194.70	14,646,622.68	1,818,156.51	40.32747169	-104.36227566
15,200.00	90.00	357.67	6,277.00	7,925.65	2,190.64	14,646,722.57	1,818,151.74	40.32774606	-104.36229022
15,300.00	90.00	357.67	6,277.00	8,025.57	2,186.57	14,646,822.46	1,818,146.96	40.32802043	-104.36230477
15,400.00	90.00	357.67	6,277.00	8,125.48	2,182.51	14,646,922.34	1,818,142.18	40.32829479	-104.36231933
15,500.00	90.00	357.67	6,277.00	8,225.40	2,178.44	14,647,022.23	1,818,137.41	40.32856916	-104.36233388

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-05-2L
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 18-05-2L	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	357.67	6,277.00	8,325.32	2,174.37	14,647,122.11	1,818,132.63	40.32884353	-104.36234844
15,700.00	90.00	357.67	6,277.00	8,425.24	2,170.31	14,647,222.00	1,818,127.85	40.32911790	-104.36236300
15,800.00	90.00	357.67	6,277.00	8,525.15	2,166.24	14,647,321.88	1,818,123.08	40.32939226	-104.36237755
15,900.00	90.00	357.67	6,277.00	8,625.07	2,162.18	14,647,421.77	1,818,118.30	40.32966663	-104.36239211
16,000.00	90.00	357.67	6,277.00	8,724.99	2,158.11	14,647,521.66	1,818,113.52	40.32994100	-104.36240667
16,100.00	90.00	357.67	6,277.00	8,824.91	2,154.04	14,647,621.54	1,818,108.75	40.33021536	-104.36242122
16,200.00	90.00	357.67	6,277.00	8,924.82	2,149.98	14,647,721.43	1,818,103.97	40.33048973	-104.36243578
16,300.00	90.00	357.67	6,277.00	9,024.74	2,145.91	14,647,821.31	1,818,099.19	40.33076410	-104.36245034
16,400.00	90.00	357.67	6,277.00	9,124.66	2,141.85	14,647,921.20	1,818,094.42	40.33103846	-104.36246489
16,500.00	90.00	357.67	6,277.00	9,224.57	2,137.78	14,648,021.08	1,818,089.64	40.33131283	-104.36247945
16,600.00	90.00	357.67	6,277.00	9,324.49	2,133.71	14,648,120.97	1,818,084.86	40.33158720	-104.36249401
16,700.00	90.00	357.67	6,277.00	9,424.41	2,129.65	14,648,220.85	1,818,080.09	40.33186157	-104.36250856
16,800.00	90.00	357.67	6,277.00	9,524.33	2,125.58	14,648,320.74	1,818,075.31	40.33213593	-104.36252312
16,900.00	90.00	357.67	6,277.00	9,624.24	2,121.51	14,648,420.63	1,818,070.53	40.33241030	-104.36253768
17,000.00	90.00	357.67	6,277.00	9,724.16	2,117.45	14,648,520.51	1,818,065.76	40.33268467	-104.36255224
17,100.00	90.00	357.67	6,277.00	9,824.08	2,113.38	14,648,620.40	1,818,060.98	40.33295903	-104.36256679
17,123.67	90.00	357.67	6,277.00	9,847.73	2,112.42	14,648,644.04	1,818,059.85	40.33302398	-104.36257024
PBHL/TD 17123.67 MD/6277.00 TVD									
17,123.68	90.00	357.67	6,277.00	9,847.74	2,112.42	14,648,644.05	1,818,059.85	40.33302400	-104.36257024

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 18-05-2L LP	0.00	0.00	6,277.00	150.62	2,507.04	14,638,950.00	1,818,523.42	40.30639623	-104.36115788
- plan hits target center									
- Point									
Middlepark 18-05-2L BH	0.00	0.00	6,277.00	9,847.74	2,112.42	14,648,644.05	1,818,059.85	40.33302400	-104.36257024
- 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
3,910.39	3,771.92	-121.88	601.49	Begin 38.21° tangent
6,433.78	5,754.73	-431.85	2,131.15	Begin 10°/100' build
7,418.53	6,277.00	150.62	2,507.04	LP Begin 90° lateral
17,123.67	6,277.00	9,847.73	2,112.42	PBHL/TD 17123.67 MD/6277.00 TVD