



Well: Middlepark 18-20-2L
 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 1°/100' build
3	2700.57	14.01	246.71	2693.61	-33.70	-78.29	2.00	-25.91	Begin 14.01° tangent
4	5776.41	14.01	246.71	5677.93	-328.18	-762.30	0.00	-252.31	Begin 10°/100' build
5	6730.53	90.00	359.63	6289.00	241.32	-906.38	10.00	328.52	LP Begin 90° lateral
6	16373.00	90.00	359.63	6289.00	9883.59	-968.00	0.00	9930.88	PBHL/TD 16373.00 MD/6289.00 TVD

DESIGN TARGET DETAILS

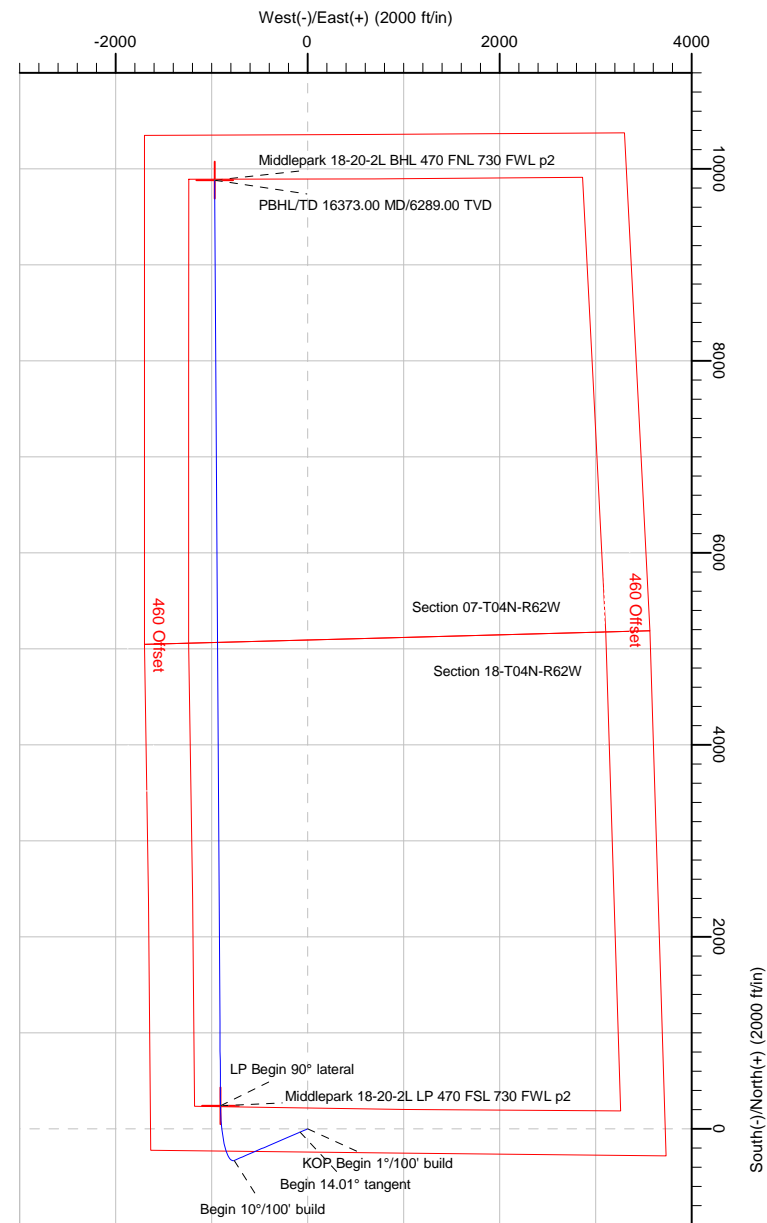
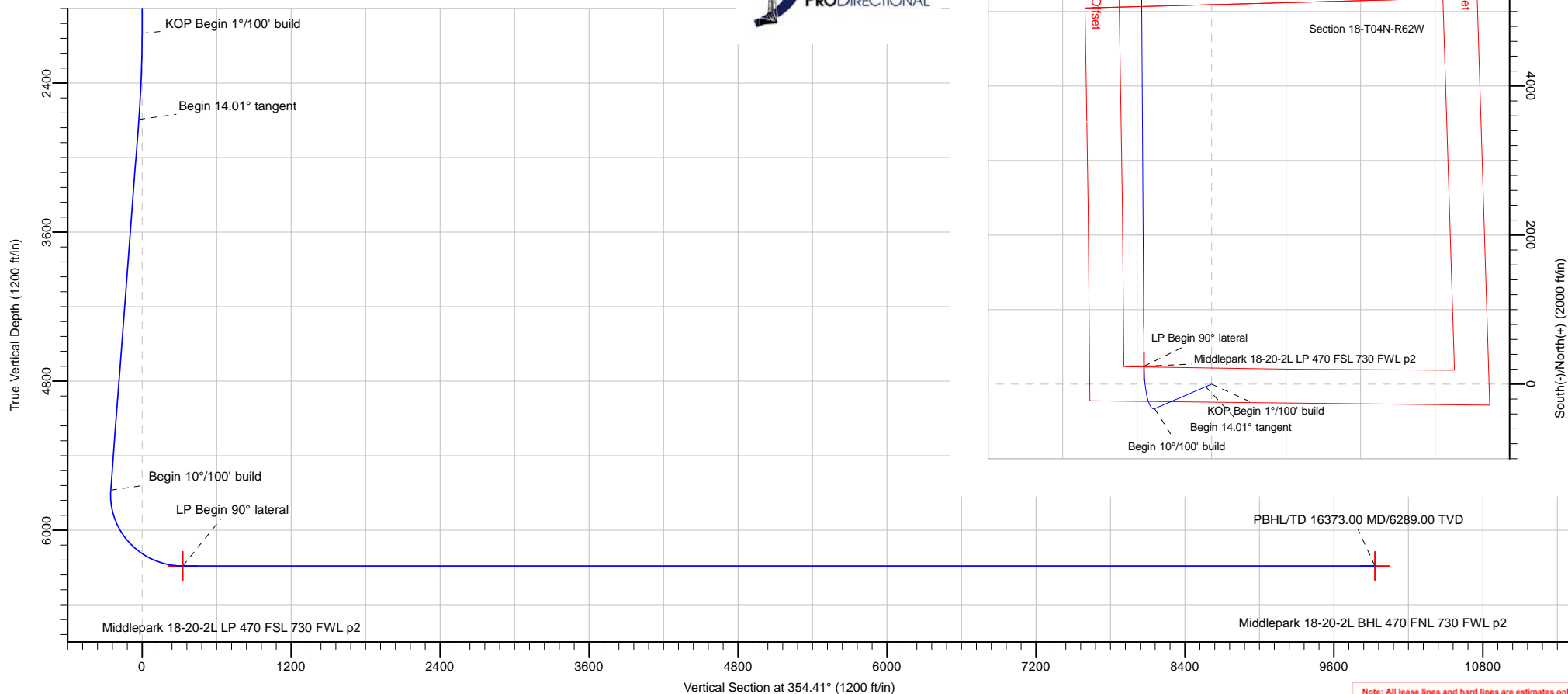
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Middlepark 18-20-2L BHL 470 FNL 730 FWL p2	6289.00	9883.59	-968.00	14648606.12	1814830.17	40.33298313	-104.37415947
Middlepark 18-20-2L LP 470 FSL 730 FWL p2	6289.00	241.32	-906.38	14638964.55	1814960.30	40.30650604	-104.37393715



Azimuths to True North
 Magnetic North: 8.18°

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

Middlepark 18-20-2L Surf loc: 242 FSL 1634 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
14638729.68	1815868.37	40.30584344	-104.37068621



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 18-20-2L
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 18-20-2L	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 18-20-2L, Surf loc: 242 FSL 1634 FWL Section 18-T04N-R62W					
Well Position	+N/-S	-2,431.40 ft	Northing:	14,638,729.68 usft	Latitude:	40.30584345
	+E/-W	1,077.25 ft	Easting:	1,815,868.37 usft	Longitude:	-104.37068621
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	354.41

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,373.00	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	
2,700.57	14.01	246.71	2,693.61	-33.70	-78.29	2.00	2.00	0.00	246.71	
5,776.41	14.01	246.71	5,677.93	-328.18	-762.30	0.00	0.00	0.00	0.00	
6,730.53	90.00	359.63	6,289.00	241.32	-906.38	10.00	7.96	11.84	112.31	Middlepark 18-20-2L I
16,373.00	90.00	359.63	6,289.00	9,883.59	-968.00	0.00	0.00	0.00	0.00	Middlepark 18-20-2L 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 18-20-2L	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 1°/100' build									
2,100.00	2.00	246.71	2,099.98	-0.69	-1.60	-0.53	2.00	2.00	0.00
2,200.00	4.00	246.71	2,199.84	-2.76	-6.41	-2.12	2.00	2.00	0.00
2,300.00	6.00	246.71	2,299.45	-6.21	-14.41	-4.77	2.00	2.00	0.00
2,400.00	8.00	246.71	2,398.70	-11.02	-25.61	-8.48	2.00	2.00	0.00
2,500.00	10.00	246.71	2,497.47	-17.21	-39.98	-13.23	2.00	2.00	0.00
2,600.00	12.00	246.71	2,595.62	-24.75	-57.50	-19.03	2.00	2.00	0.00
2,700.00	14.00	246.71	2,693.06	-33.65	-78.16	-25.87	2.00	2.00	0.00
2,700.57	14.01	246.71	2,693.61	-33.70	-78.29	-25.91	1.99	1.99	0.00
Begin 14.01° tangent									
2,800.00	14.01	246.71	2,790.08	-43.22	-100.40	-33.23	0.00	0.00	0.00
2,900.00	14.01	246.71	2,887.10	-52.80	-122.64	-40.59	0.00	0.00	0.00
3,000.00	14.01	246.71	2,984.13	-62.37	-144.88	-47.95	0.00	0.00	0.00
3,100.00	14.01	246.71	3,081.15	-71.94	-167.11	-55.31	0.00	0.00	0.00
3,200.00	14.01	246.71	3,178.18	-81.52	-189.35	-62.67	0.00	0.00	0.00
3,300.00	14.01	246.71	3,275.20	-91.09	-211.59	-70.03	0.00	0.00	0.00
3,400.00	14.01	246.71	3,372.23	-100.67	-233.83	-77.39	0.00	0.00	0.00
3,500.00	14.01	246.71	3,469.25	-110.24	-256.07	-84.75	0.00	0.00	0.00
3,600.00	14.01	246.71	3,566.28	-119.81	-278.30	-92.12	0.00	0.00	0.00
3,700.00	14.01	246.71	3,663.30	-129.39	-300.54	-99.48	0.00	0.00	0.00
3,800.00	14.01	246.71	3,760.33	-138.96	-322.78	-106.84	0.00	0.00	0.00
3,900.00	14.01	246.71	3,857.35	-148.53	-345.02	-114.20	0.00	0.00	0.00
4,000.00	14.01	246.71	3,954.38	-158.11	-367.26	-121.56	0.00	0.00	0.00
4,100.00	14.01	246.71	4,051.40	-167.68	-389.50	-128.92	0.00	0.00	0.00
4,200.00	14.01	246.71	4,148.43	-177.26	-411.73	-136.28	0.00	0.00	0.00
4,300.00	14.01	246.71	4,245.45	-186.83	-433.97	-143.64	0.00	0.00	0.00
4,400.00	14.01	246.71	4,342.48	-196.40	-456.21	-151.00	0.00	0.00	0.00
4,500.00	14.01	246.71	4,439.50	-205.98	-478.45	-158.36	0.00	0.00	0.00
4,600.00	14.01	246.71	4,536.53	-215.55	-500.69	-165.72	0.00	0.00	0.00
4,700.00	14.01	246.71	4,633.55	-225.12	-522.92	-173.08	0.00	0.00	0.00
4,800.00	14.01	246.71	4,730.58	-234.70	-545.16	-180.44	0.00	0.00	0.00
4,900.00	14.01	246.71	4,827.60	-244.27	-567.40	-187.80	0.00	0.00	0.00

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Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-20-2L	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	14.01	246.71	4,924.63	-253.85	-589.64	-195.16	0.00	0.00	0.00
5,100.00	14.01	246.71	5,021.65	-263.42	-611.88	-202.52	0.00	0.00	0.00
5,200.00	14.01	246.71	5,118.67	-272.99	-634.12	-209.88	0.00	0.00	0.00
5,300.00	14.01	246.71	5,215.70	-282.57	-656.35	-217.24	0.00	0.00	0.00
5,400.00	14.01	246.71	5,312.72	-292.14	-678.59	-224.61	0.00	0.00	0.00
5,500.00	14.01	246.71	5,409.75	-301.72	-700.83	-231.97	0.00	0.00	0.00
5,600.00	14.01	246.71	5,506.77	-311.29	-723.07	-239.33	0.00	0.00	0.00
5,700.00	14.01	246.71	5,603.80	-320.86	-745.31	-246.69	0.00	0.00	0.00
5,776.41	14.01	246.71	5,677.93	-328.18	-762.30	-252.31	0.00	0.00	0.00
Begin 10°/100' build									
5,800.00	13.29	256.24	5,700.86	-329.95	-767.56	-253.56	10.00	-3.05	40.41
5,900.00	14.66	298.18	5,798.14	-326.70	-789.94	-248.15	10.00	1.37	41.94
6,000.00	21.21	323.32	5,893.37	-306.17	-811.95	-225.57	10.00	6.55	25.14
6,100.00	29.68	335.86	5,983.65	-268.97	-832.94	-186.50	10.00	8.47	12.54
6,200.00	38.84	343.05	6,066.24	-216.25	-852.26	-132.15	10.00	9.16	7.19
6,300.00	48.29	347.81	6,138.64	-149.60	-869.32	-64.15	10.00	9.45	4.77
6,400.00	57.89	351.34	6,198.63	-71.04	-883.61	15.43	10.00	9.60	3.53
6,500.00	67.57	354.19	6,244.41	17.03	-894.70	104.16	10.00	9.68	2.85
6,600.00	77.28	356.66	6,274.57	111.94	-902.24	199.35	10.00	9.72	2.47
6,700.00	87.02	358.95	6,288.21	210.80	-906.00	298.11	10.00	9.74	2.29
6,730.53	90.00	359.63	6,289.00	241.32	-906.38	328.52	10.00	9.75	2.24
LP Begin 90° lateral									
6,800.00	90.00	359.63	6,289.00	310.79	-906.82	397.70	0.00	0.00	0.00
6,900.00	90.00	359.63	6,289.00	410.78	-907.46	497.28	0.00	0.00	0.00
7,000.00	90.00	359.63	6,289.00	510.78	-908.10	596.87	0.00	0.00	0.00
7,100.00	90.00	359.63	6,289.00	610.78	-908.74	696.45	0.00	0.00	0.00
7,200.00	90.00	359.63	6,289.00	710.78	-909.38	796.03	0.00	0.00	0.00
7,300.00	90.00	359.63	6,289.00	810.78	-910.02	895.62	0.00	0.00	0.00
7,400.00	90.00	359.63	6,289.00	910.77	-910.66	995.20	0.00	0.00	0.00
7,500.00	90.00	359.63	6,289.00	1,010.77	-911.30	1,094.79	0.00	0.00	0.00
7,600.00	90.00	359.63	6,289.00	1,110.77	-911.94	1,194.37	0.00	0.00	0.00
7,700.00	90.00	359.63	6,289.00	1,210.77	-912.58	1,293.96	0.00	0.00	0.00
7,800.00	90.00	359.63	6,289.00	1,310.77	-913.21	1,393.54	0.00	0.00	0.00
7,900.00	90.00	359.63	6,289.00	1,410.76	-913.85	1,493.12	0.00	0.00	0.00
8,000.00	90.00	359.63	6,289.00	1,510.76	-914.49	1,592.71	0.00	0.00	0.00
8,100.00	90.00	359.63	6,289.00	1,610.76	-915.13	1,692.29	0.00	0.00	0.00
8,200.00	90.00	359.63	6,289.00	1,710.76	-915.77	1,791.88	0.00	0.00	0.00
8,300.00	90.00	359.63	6,289.00	1,810.76	-916.41	1,891.46	0.00	0.00	0.00
8,400.00	90.00	359.63	6,289.00	1,910.75	-917.05	1,991.04	0.00	0.00	0.00
8,500.00	90.00	359.63	6,289.00	2,010.75	-917.69	2,090.63	0.00	0.00	0.00
8,600.00	90.00	359.63	6,289.00	2,110.75	-918.33	2,190.21	0.00	0.00	0.00
8,700.00	90.00	359.63	6,289.00	2,210.75	-918.97	2,289.80	0.00	0.00	0.00
8,800.00	90.00	359.63	6,289.00	2,310.75	-919.60	2,389.38	0.00	0.00	0.00
8,900.00	90.00	359.63	6,289.00	2,410.74	-920.24	2,488.96	0.00	0.00	0.00
9,000.00	90.00	359.63	6,289.00	2,510.74	-920.88	2,588.55	0.00	0.00	0.00
9,100.00	90.00	359.63	6,289.00	2,610.74	-921.52	2,688.13	0.00	0.00	0.00
9,200.00	90.00	359.63	6,289.00	2,710.74	-922.16	2,787.72	0.00	0.00	0.00
9,300.00	90.00	359.63	6,289.00	2,810.74	-922.80	2,887.30	0.00	0.00	0.00
9,400.00	90.00	359.63	6,289.00	2,910.73	-923.44	2,986.88	0.00	0.00	0.00
9,500.00	90.00	359.63	6,289.00	3,010.73	-924.08	3,086.47	0.00	0.00	0.00
9,600.00	90.00	359.63	6,289.00	3,110.73	-924.72	3,186.05	0.00	0.00	0.00
9,700.00	90.00	359.63	6,289.00	3,210.73	-925.36	3,285.64	0.00	0.00	0.00
9,800.00	90.00	359.63	6,289.00	3,310.73	-926.00	3,385.22	0.00	0.00	0.00
9,900.00	90.00	359.63	6,289.00	3,410.72	-926.63	3,484.80	0.00	0.00	0.00

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Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-20-2L	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	359.63	6,289.00	3,510.72	-927.27	3,584.39	0.00	0.00	0.00
10,100.00	90.00	359.63	6,289.00	3,610.72	-927.91	3,683.97	0.00	0.00	0.00
10,200.00	90.00	359.63	6,289.00	3,710.72	-928.55	3,783.56	0.00	0.00	0.00
10,300.00	90.00	359.63	6,289.00	3,810.72	-929.19	3,883.14	0.00	0.00	0.00
10,400.00	90.00	359.63	6,289.00	3,910.71	-929.83	3,982.72	0.00	0.00	0.00
10,500.00	90.00	359.63	6,289.00	4,010.71	-930.47	4,082.31	0.00	0.00	0.00
10,600.00	90.00	359.63	6,289.00	4,110.71	-931.11	4,181.89	0.00	0.00	0.00
10,700.00	90.00	359.63	6,289.00	4,210.71	-931.75	4,281.48	0.00	0.00	0.00
10,800.00	90.00	359.63	6,289.00	4,310.71	-932.39	4,381.06	0.00	0.00	0.00
10,900.00	90.00	359.63	6,289.00	4,410.70	-933.02	4,480.65	0.00	0.00	0.00
11,000.00	90.00	359.63	6,289.00	4,510.70	-933.66	4,580.23	0.00	0.00	0.00
11,100.00	90.00	359.63	6,289.00	4,610.70	-934.30	4,679.81	0.00	0.00	0.00
11,200.00	90.00	359.63	6,289.00	4,710.70	-934.94	4,779.40	0.00	0.00	0.00
11,300.00	90.00	359.63	6,289.00	4,810.70	-935.58	4,878.98	0.00	0.00	0.00
11,400.00	90.00	359.63	6,289.00	4,910.69	-936.22	4,978.57	0.00	0.00	0.00
11,500.00	90.00	359.63	6,289.00	5,010.69	-936.86	5,078.15	0.00	0.00	0.00
11,600.00	90.00	359.63	6,289.00	5,110.69	-937.50	5,177.73	0.00	0.00	0.00
11,700.00	90.00	359.63	6,289.00	5,210.69	-938.14	5,277.32	0.00	0.00	0.00
11,800.00	90.00	359.63	6,289.00	5,310.68	-938.78	5,376.90	0.00	0.00	0.00
11,900.00	90.00	359.63	6,289.00	5,410.68	-939.41	5,476.49	0.00	0.00	0.00
12,000.00	90.00	359.63	6,289.00	5,510.68	-940.05	5,576.07	0.00	0.00	0.00
12,100.00	90.00	359.63	6,289.00	5,610.68	-940.69	5,675.65	0.00	0.00	0.00
12,200.00	90.00	359.63	6,289.00	5,710.68	-941.33	5,775.24	0.00	0.00	0.00
12,300.00	90.00	359.63	6,289.00	5,810.67	-941.97	5,874.82	0.00	0.00	0.00
12,400.00	90.00	359.63	6,289.00	5,910.67	-942.61	5,974.41	0.00	0.00	0.00
12,500.00	90.00	359.63	6,289.00	6,010.67	-943.25	6,073.99	0.00	0.00	0.00
12,600.00	90.00	359.63	6,289.00	6,110.67	-943.89	6,173.57	0.00	0.00	0.00
12,700.00	90.00	359.63	6,289.00	6,210.67	-944.53	6,273.16	0.00	0.00	0.00
12,800.00	90.00	359.63	6,289.00	6,310.66	-945.17	6,372.74	0.00	0.00	0.00
12,900.00	90.00	359.63	6,289.00	6,410.66	-945.81	6,472.33	0.00	0.00	0.00
13,000.00	90.00	359.63	6,289.00	6,510.66	-946.44	6,571.91	0.00	0.00	0.00
13,100.00	90.00	359.63	6,289.00	6,610.66	-947.08	6,671.49	0.00	0.00	0.00
13,200.00	90.00	359.63	6,289.00	6,710.66	-947.72	6,771.08	0.00	0.00	0.00
13,300.00	90.00	359.63	6,289.00	6,810.65	-948.36	6,870.66	0.00	0.00	0.00
13,400.00	90.00	359.63	6,289.00	6,910.65	-949.00	6,970.25	0.00	0.00	0.00
13,500.00	90.00	359.63	6,289.00	7,010.65	-949.64	7,069.83	0.00	0.00	0.00
13,600.00	90.00	359.63	6,289.00	7,110.65	-950.28	7,169.42	0.00	0.00	0.00
13,700.00	90.00	359.63	6,289.00	7,210.65	-950.92	7,269.00	0.00	0.00	0.00
13,800.00	90.00	359.63	6,289.00	7,310.64	-951.56	7,368.58	0.00	0.00	0.00
13,900.00	90.00	359.63	6,289.00	7,410.64	-952.20	7,468.17	0.00	0.00	0.00
14,000.00	90.00	359.63	6,289.00	7,510.64	-952.83	7,567.75	0.00	0.00	0.00
14,100.00	90.00	359.63	6,289.00	7,610.64	-953.47	7,667.34	0.00	0.00	0.00
14,200.00	90.00	359.63	6,289.00	7,710.64	-954.11	7,766.92	0.00	0.00	0.00
14,300.00	90.00	359.63	6,289.00	7,810.63	-954.75	7,866.50	0.00	0.00	0.00
14,400.00	90.00	359.63	6,289.00	7,910.63	-955.39	7,966.09	0.00	0.00	0.00
14,500.00	90.00	359.63	6,289.00	8,010.63	-956.03	8,065.67	0.00	0.00	0.00
14,600.00	90.00	359.63	6,289.00	8,110.63	-956.67	8,165.26	0.00	0.00	0.00
14,700.00	90.00	359.63	6,289.00	8,210.63	-957.31	8,264.84	0.00	0.00	0.00
14,800.00	90.00	359.63	6,289.00	8,310.62	-957.95	8,364.42	0.00	0.00	0.00
14,900.00	90.00	359.63	6,289.00	8,410.62	-958.59	8,464.01	0.00	0.00	0.00
15,000.00	90.00	359.63	6,289.00	8,510.62	-959.23	8,563.59	0.00	0.00	0.00
15,100.00	90.00	359.63	6,289.00	8,610.62	-959.86	8,663.18	0.00	0.00	0.00
15,200.00	90.00	359.63	6,289.00	8,710.62	-960.50	8,762.76	0.00	0.00	0.00
15,300.00	90.00	359.63	6,289.00	8,810.61	-961.14	8,862.34	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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	359.63	6,289.00	8,910.61	-961.78	8,961.93	0.00	0.00	0.00	
15,500.00	90.00	359.63	6,289.00	9,010.61	-962.42	9,061.51	0.00	0.00	0.00	
15,600.00	90.00	359.63	6,289.00	9,110.61	-963.06	9,161.10	0.00	0.00	0.00	
15,700.00	90.00	359.63	6,289.00	9,210.61	-963.70	9,260.68	0.00	0.00	0.00	
15,800.00	90.00	359.63	6,289.00	9,310.60	-964.34	9,360.26	0.00	0.00	0.00	
15,900.00	90.00	359.63	6,289.00	9,410.60	-964.98	9,459.85	0.00	0.00	0.00	
16,000.00	90.00	359.63	6,289.00	9,510.60	-965.62	9,559.43	0.00	0.00	0.00	
16,100.00	90.00	359.63	6,289.00	9,610.60	-966.25	9,659.02	0.00	0.00	0.00	
16,200.00	90.00	359.63	6,289.00	9,710.60	-966.89	9,758.60	0.00	0.00	0.00	
16,300.00	90.00	359.63	6,289.00	9,810.59	-967.53	9,858.19	0.00	0.00	0.00	
16,373.00	90.00	359.63	6,289.00	9,883.59	-968.00	9,930.88	0.00	0.00	0.00	
PBHL/TD 16373.00 MD/6289.00 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 18-20-2L LP	0.00	0.00	6,289.00	241.32	-906.38	14,638,964.55	1,814,960.30	40.30650604	-104.37393716	
- plan hits target center										
- Point										
Middlepark 18-20-2L BH	0.00	0.00	6,289.00	9,883.59	-968.00	14,648,606.12	1,814,830.17	40.33298312	-104.37415947	
- 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 1°/100' build	
2,700.57	2,693.61	-33.70	-78.29	Begin 14.01° tangent	
5,776.41	5,677.93	-328.18	-762.30	Begin 10°/100' build	
6,730.53	6,289.00	241.32	-906.38	LP Begin 90° lateral	
16,373.00	6,289.00	9,883.59	-968.00	PBHL/TD 16373.00 MD/6289.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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 18-20-2L, Surf loc: 242 FSL 1634 FWL Section 18-T04N-R62W					
Well Position	+N/-S	0.00 ft	Northing:	14,638,729.68 usft	Latitude:	40.30584345
	+E/-W	0.00 ft	Easting:	1,815,868.37 usft	Longitude:	-104.37068621
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	354.41

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,373.00 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	
2,700.57	14.01	246.71	2,693.61	-33.70	-78.29	2.00	2.00	0.00	246.71	
5,776.41	14.01	246.71	5,677.93	-328.18	-762.30	0.00	0.00	0.00	0.00	
6,730.53	90.00	359.63	6,289.00	241.32	-906.38	10.00	7.96	11.84	112.31	Middlepark 18-20-2L I
16,373.00	90.00	359.63	6,289.00	9,883.59	-968.00	0.00	0.00	0.00	0.00	Middlepark 18-20-2L I

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
100.00	0.00	0.00	100.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
200.00	0.00	0.00	200.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
300.00	0.00	0.00	300.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
400.00	0.00	0.00	400.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
500.00	0.00	0.00	500.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
600.00	0.00	0.00	600.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
700.00	0.00	0.00	700.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
800.00	0.00	0.00	800.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
900.00	0.00	0.00	900.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,638,729.68	1,815,868.37	40.30584345	-104.37068621
KOP Begin 1°/100' build									
2,100.00	2.00	246.71	2,099.98	-0.69	-1.60	14,638,728.98	1,815,866.77	40.30584155	-104.37069196
2,200.00	4.00	246.71	2,199.84	-2.76	-6.41	14,638,726.87	1,815,861.98	40.30583587	-104.37070920
2,300.00	6.00	246.71	2,299.45	-6.21	-14.41	14,638,723.37	1,815,854.00	40.30582641	-104.37073791
2,400.00	8.00	246.71	2,398.70	-11.02	-25.61	14,638,718.47	1,815,842.84	40.30581317	-104.37077806
2,500.00	10.00	246.71	2,497.47	-17.21	-39.98	14,638,712.18	1,815,828.52	40.30579619	-104.37082959
2,600.00	12.00	246.71	2,595.62	-24.75	-57.50	14,638,704.51	1,815,811.05	40.30577547	-104.37089245
2,700.00	14.00	246.71	2,693.06	-33.65	-78.16	14,638,695.47	1,815,790.45	40.30575105	-104.37096655
2,700.57	14.01	246.71	2,693.61	-33.70	-78.29	14,638,695.42	1,815,790.32	40.30575090	-104.37096701
Begin 14.01° tangent									
2,800.00	14.01	246.71	2,790.08	-43.22	-100.40	14,638,685.74	1,815,768.28	40.30572476	-104.37104631
2,900.00	14.01	246.71	2,887.10	-52.80	-122.64	14,638,676.01	1,815,746.11	40.30569847	-104.37112607
3,000.00	14.01	246.71	2,984.13	-62.37	-144.88	14,638,666.28	1,815,723.94	40.30567218	-104.37120584
3,100.00	14.01	246.71	3,081.15	-71.94	-167.11	14,638,656.55	1,815,701.77	40.30564589	-104.37128560
3,200.00	14.01	246.71	3,178.18	-81.52	-189.35	14,638,646.82	1,815,679.60	40.30561960	-104.37136536
3,300.00	14.01	246.71	3,275.20	-91.09	-211.59	14,638,637.08	1,815,657.43	40.30559331	-104.37144512
3,400.00	14.01	246.71	3,372.23	-100.67	-233.83	14,638,627.35	1,815,635.26	40.30556702	-104.37152488
3,500.00	14.01	246.71	3,469.25	-110.24	-256.07	14,638,617.62	1,815,613.09	40.30554073	-104.37160464
3,600.00	14.01	246.71	3,566.28	-119.81	-278.30	14,638,607.89	1,815,590.92	40.30551444	-104.37168440
3,700.00	14.01	246.71	3,663.30	-129.39	-300.54	14,638,598.16	1,815,568.76	40.30548815	-104.37176416
3,800.00	14.01	246.71	3,760.33	-138.96	-322.78	14,638,588.43	1,815,546.59	40.30546186	-104.37184392
3,900.00	14.01	246.71	3,857.35	-148.53	-345.02	14,638,578.70	1,815,524.42	40.30543557	-104.37192368
4,000.00	14.01	246.71	3,954.38	-158.11	-367.26	14,638,568.96	1,815,502.25	40.30540928	-104.37200345
4,100.00	14.01	246.71	4,051.40	-167.68	-389.50	14,638,559.23	1,815,480.08	40.30538299	-104.37208321
4,200.00	14.01	246.71	4,148.43	-177.26	-411.73	14,638,549.50	1,815,457.91	40.30535670	-104.37216297
4,300.00	14.01	246.71	4,245.45	-186.83	-433.97	14,638,539.77	1,815,435.74	40.30533041	-104.37224273
4,400.00	14.01	246.71	4,342.48	-196.40	-456.21	14,638,530.04	1,815,413.57	40.30530412	-104.37232249
4,500.00	14.01	246.71	4,439.50	-205.98	-478.45	14,638,520.31	1,815,391.40	40.30527783	-104.37240225
4,600.00	14.01	246.71	4,536.53	-215.55	-500.69	14,638,510.57	1,815,369.23	40.30525154	-104.37248201
4,700.00	14.01	246.71	4,633.55	-225.12	-522.92	14,638,500.84	1,815,347.06	40.30522525	-104.37256177
4,800.00	14.01	246.71	4,730.58	-234.70	-545.16	14,638,491.11	1,815,324.89	40.30519896	-104.37264153
4,900.00	14.01	246.71	4,827.60	-244.27	-567.40	14,638,481.38	1,815,302.72	40.30517267	-104.37272129
5,000.00	14.01	246.71	4,924.63	-253.85	-589.64	14,638,471.65	1,815,280.55	40.30514638	-104.37280105

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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	14.01	246.71	5,021.65	-263.42	-611.88	14,638,461.92	1,815,258.38	40.30512009	-104.37288081
5,200.00	14.01	246.71	5,118.67	-272.99	-634.12	14,638,452.19	1,815,236.21	40.30509380	-104.37296057
5,300.00	14.01	246.71	5,215.70	-282.57	-656.35	14,638,442.45	1,815,214.04	40.30506751	-104.37304033
5,400.00	14.01	246.71	5,312.72	-292.14	-678.59	14,638,432.72	1,815,191.87	40.30504122	-104.37312009
5,500.00	14.01	246.71	5,409.75	-301.72	-700.83	14,638,422.99	1,815,169.70	40.30501492	-104.37319985
5,600.00	14.01	246.71	5,506.77	-311.29	-723.07	14,638,413.26	1,815,147.53	40.30498863	-104.37327961
5,700.00	14.01	246.71	5,603.80	-320.86	-745.31	14,638,403.53	1,815,125.36	40.30496234	-104.37335937
5,776.41	14.01	246.71	5,677.93	-328.18	-762.30	14,638,396.09	1,815,108.42	40.30494225	-104.37342031
Begin 10°/100' build									
5,800.00	13.29	256.24	5,700.86	-329.95	-767.56	14,638,394.28	1,815,103.18	40.30493738	-104.37343917
5,900.00	14.66	298.18	5,798.14	-326.70	-789.94	14,638,397.37	1,815,080.78	40.30494630	-104.37351943
6,000.00	21.21	323.32	5,893.37	-306.17	-811.95	14,638,417.75	1,815,058.62	40.30500269	-104.37359841
6,100.00	29.68	335.86	5,983.65	-268.97	-832.94	14,638,454.79	1,815,037.36	40.30510482	-104.37367368
6,200.00	38.84	343.05	6,066.24	-216.25	-852.26	14,638,507.38	1,815,017.67	40.30524960	-104.37374298
6,300.00	48.29	347.81	6,138.64	-149.60	-869.32	14,638,573.91	1,815,000.13	40.30543262	-104.37380420
6,400.00	57.89	351.34	6,198.63	-71.04	-883.61	14,638,652.36	1,814,985.28	40.30564832	-104.37385546
6,500.00	67.57	354.19	6,244.41	17.03	-894.70	14,638,740.35	1,814,973.58	40.30589016	-104.37389523
6,600.00	77.28	356.66	6,274.57	111.94	-902.24	14,638,835.20	1,814,965.36	40.30615078	-104.37392228
6,700.00	87.02	358.95	6,288.21	210.80	-906.00	14,638,934.04	1,814,960.89	40.30642226	-104.37393580
6,730.53	90.00	359.63	6,289.00	241.32	-906.38	14,638,964.55	1,814,960.30	40.30650605	-104.37393716
LP Begin 90° lateral									
6,800.00	90.00	359.63	6,289.00	310.79	-906.82	14,639,034.01	1,814,959.36	40.30669680	-104.37393876
6,900.00	90.00	359.63	6,289.00	410.78	-907.46	14,639,134.00	1,814,958.01	40.30697139	-104.37394106
7,000.00	90.00	359.63	6,289.00	510.78	-908.10	14,639,233.99	1,814,956.66	40.30724598	-104.37394337
7,100.00	90.00	359.63	6,289.00	610.78	-908.74	14,639,333.98	1,814,955.31	40.30752057	-104.37394568
7,200.00	90.00	359.63	6,289.00	710.78	-909.38	14,639,433.98	1,814,953.96	40.30779516	-104.37394798
7,300.00	90.00	359.63	6,289.00	810.78	-910.02	14,639,533.97	1,814,952.62	40.30806975	-104.37395029
7,400.00	90.00	359.63	6,289.00	910.77	-910.66	14,639,633.96	1,814,951.27	40.30834434	-104.37395259
7,500.00	90.00	359.63	6,289.00	1,010.77	-911.30	14,639,733.95	1,814,949.92	40.30861893	-104.37395490
7,600.00	90.00	359.63	6,289.00	1,110.77	-911.94	14,639,833.94	1,814,948.57	40.30889351	-104.37395720
7,700.00	90.00	359.63	6,289.00	1,210.77	-912.58	14,639,933.93	1,814,947.22	40.30916810	-104.37395951
7,800.00	90.00	359.63	6,289.00	1,310.77	-913.21	14,640,033.92	1,814,945.87	40.30944269	-104.37396181
7,900.00	90.00	359.63	6,289.00	1,410.76	-913.85	14,640,133.91	1,814,944.52	40.30971728	-104.37396412
8,000.00	90.00	359.63	6,289.00	1,510.76	-914.49	14,640,233.90	1,814,943.17	40.30999187	-104.37396642
8,100.00	90.00	359.63	6,289.00	1,610.76	-915.13	14,640,333.89	1,814,941.82	40.31026646	-104.37396873
8,200.00	90.00	359.63	6,289.00	1,710.76	-915.77	14,640,433.88	1,814,940.47	40.31054105	-104.37397103
8,300.00	90.00	359.63	6,289.00	1,810.76	-916.41	14,640,533.87	1,814,939.12	40.31081564	-104.37397334
8,400.00	90.00	359.63	6,289.00	1,910.75	-917.05	14,640,633.86	1,814,937.77	40.31109023	-104.37397565
8,500.00	90.00	359.63	6,289.00	2,010.75	-917.69	14,640,733.85	1,814,936.42	40.31136481	-104.37397795
8,600.00	90.00	359.63	6,289.00	2,110.75	-918.33	14,640,833.84	1,814,935.07	40.31163940	-104.37398026
8,700.00	90.00	359.63	6,289.00	2,210.75	-918.97	14,640,933.84	1,814,933.72	40.31191399	-104.37398256
8,800.00	90.00	359.63	6,289.00	2,310.75	-919.60	14,641,033.83	1,814,932.37	40.31218858	-104.37398487
8,900.00	90.00	359.63	6,289.00	2,410.74	-920.24	14,641,133.82	1,814,931.02	40.31246317	-104.37398717
9,000.00	90.00	359.63	6,289.00	2,510.74	-920.88	14,641,233.81	1,814,929.67	40.31273776	-104.37398948
9,100.00	90.00	359.63	6,289.00	2,610.74	-921.52	14,641,333.80	1,814,928.32	40.31301234	-104.37399178
9,200.00	90.00	359.63	6,289.00	2,710.74	-922.16	14,641,433.79	1,814,926.97	40.31328692	-104.37399409
9,300.00	90.00	359.63	6,289.00	2,810.74	-922.80	14,641,533.78	1,814,925.62	40.31356151	-104.37399639
9,400.00	90.00	359.63	6,289.00	2,910.73	-923.44	14,641,633.77	1,814,924.27	40.31383610	-104.37399870
9,500.00	90.00	359.63	6,289.00	3,010.73	-924.08	14,641,733.76	1,814,922.93	40.31411069	-104.37400101
9,600.00	90.00	359.63	6,289.00	3,110.73	-924.72	14,641,833.75	1,814,921.58	40.31438528	-104.37400331
9,700.00	90.00	359.63	6,289.00	3,210.73	-925.36	14,641,933.74	1,814,920.23	40.31465987	-104.37400562
9,800.00	90.00	359.63	6,289.00	3,310.73	-926.00	14,642,033.73	1,814,918.88	40.31493446	-104.37400792
9,900.00	90.00	359.63	6,289.00	3,410.72	-926.63	14,642,133.72	1,814,917.53	40.31520904	-104.37401023
10,000.00	90.00	359.63	6,289.00	3,510.72	-927.27	14,642,233.71	1,814,916.18	40.31548363	-104.37401253

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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	359.63	6,289.00	3,610.72	-927.91	14,642,333.71	1,814,914.83	40.31575822	-104.37401484	
10,200.00	90.00	359.63	6,289.00	3,710.72	-928.55	14,642,433.70	1,814,913.48	40.31603281	-104.37401714	
10,300.00	90.00	359.63	6,289.00	3,810.72	-929.19	14,642,533.69	1,814,912.13	40.31630740	-104.37401945	
10,400.00	90.00	359.63	6,289.00	3,910.71	-929.83	14,642,633.68	1,814,910.78	40.31658199	-104.37402175	
10,500.00	90.00	359.63	6,289.00	4,010.71	-930.47	14,642,733.67	1,814,909.43	40.31685658	-104.37402406	
10,600.00	90.00	359.63	6,289.00	4,110.71	-931.11	14,642,833.66	1,814,908.08	40.31713116	-104.37402637	
10,700.00	90.00	359.63	6,289.00	4,210.71	-931.75	14,642,933.65	1,814,906.73	40.31740575	-104.37402867	
10,800.00	90.00	359.63	6,289.00	4,310.71	-932.39	14,643,033.64	1,814,905.38	40.31768034	-104.37403098	
10,900.00	90.00	359.63	6,289.00	4,410.70	-933.02	14,643,133.63	1,814,904.03	40.31795493	-104.37403328	
11,000.00	90.00	359.63	6,289.00	4,510.70	-933.66	14,643,233.62	1,814,902.68	40.31822952	-104.37403559	
11,100.00	90.00	359.63	6,289.00	4,610.70	-934.30	14,643,333.61	1,814,901.33	40.31850411	-104.37403789	
11,200.00	90.00	359.63	6,289.00	4,710.70	-934.94	14,643,433.60	1,814,899.98	40.31877870	-104.37404020	
11,300.00	90.00	359.63	6,289.00	4,810.70	-935.58	14,643,533.59	1,814,898.63	40.31905328	-104.37404250	
11,400.00	90.00	359.63	6,289.00	4,910.69	-936.22	14,643,633.58	1,814,897.28	40.31932787	-104.37404481	
11,500.00	90.00	359.63	6,289.00	5,010.69	-936.86	14,643,733.57	1,814,895.93	40.31960246	-104.37404712	
11,600.00	90.00	359.63	6,289.00	5,110.69	-937.50	14,643,833.57	1,814,894.58	40.31987705	-104.37404942	
11,700.00	90.00	359.63	6,289.00	5,210.69	-938.14	14,643,933.56	1,814,893.24	40.32015164	-104.37405173	
11,800.00	90.00	359.63	6,289.00	5,310.68	-938.78	14,644,033.55	1,814,891.89	40.32042623	-104.37405403	
11,900.00	90.00	359.63	6,289.00	5,410.68	-939.41	14,644,133.54	1,814,890.54	40.32070081	-104.37405634	
12,000.00	90.00	359.63	6,289.00	5,510.68	-940.05	14,644,233.53	1,814,889.19	40.32097540	-104.37405864	
12,100.00	90.00	359.63	6,289.00	5,610.68	-940.69	14,644,333.52	1,814,887.84	40.32124999	-104.37406095	
12,200.00	90.00	359.63	6,289.00	5,710.68	-941.33	14,644,433.51	1,814,886.49	40.32152458	-104.37406325	
12,300.00	90.00	359.63	6,289.00	5,810.67	-941.97	14,644,533.50	1,814,885.14	40.32179917	-104.37406556	
12,400.00	90.00	359.63	6,289.00	5,910.67	-942.61	14,644,633.49	1,814,883.79	40.32207376	-104.37406787	
12,500.00	90.00	359.63	6,289.00	6,010.67	-943.25	14,644,733.48	1,814,882.44	40.32234834	-104.37407017	
12,600.00	90.00	359.63	6,289.00	6,110.67	-943.89	14,644,833.47	1,814,881.09	40.32262293	-104.37407248	
12,700.00	90.00	359.63	6,289.00	6,210.67	-944.53	14,644,933.46	1,814,879.74	40.32289752	-104.37407478	
12,800.00	90.00	359.63	6,289.00	6,310.66	-945.17	14,645,033.45	1,814,878.39	40.32317211	-104.37407709	
12,900.00	90.00	359.63	6,289.00	6,410.66	-945.81	14,645,133.44	1,814,877.04	40.32344670	-104.37407939	
13,000.00	90.00	359.63	6,289.00	6,510.66	-946.44	14,645,233.44	1,814,875.69	40.32372128	-104.37408170	
13,100.00	90.00	359.63	6,289.00	6,610.66	-947.08	14,645,333.43	1,814,874.34	40.32399587	-104.37408400	
13,200.00	90.00	359.63	6,289.00	6,710.66	-947.72	14,645,433.42	1,814,872.99	40.32427046	-104.37408631	
13,300.00	90.00	359.63	6,289.00	6,810.65	-948.36	14,645,533.41	1,814,871.64	40.32454505	-104.37408862	
13,400.00	90.00	359.63	6,289.00	6,910.65	-949.00	14,645,633.40	1,814,870.29	40.32481964	-104.37409092	
13,500.00	90.00	359.63	6,289.00	7,010.65	-949.64	14,645,733.39	1,814,868.94	40.32509422	-104.37409323	
13,600.00	90.00	359.63	6,289.00	7,110.65	-950.28	14,645,833.38	1,814,867.59	40.32536881	-104.37409553	
13,700.00	90.00	359.63	6,289.00	7,210.65	-950.92	14,645,933.37	1,814,866.24	40.32564340	-104.37409784	
13,800.00	90.00	359.63	6,289.00	7,310.64	-951.56	14,646,033.36	1,814,864.89	40.32591799	-104.37410014	
13,900.00	90.00	359.63	6,289.00	7,410.64	-952.20	14,646,133.35	1,814,863.54	40.32619258	-104.37410245	
14,000.00	90.00	359.63	6,289.00	7,510.64	-952.83	14,646,233.34	1,814,862.20	40.32646717	-104.37410476	
14,100.00	90.00	359.63	6,289.00	7,610.64	-953.47	14,646,333.33	1,814,860.85	40.32674175	-104.37410706	
14,200.00	90.00	359.63	6,289.00	7,710.64	-954.11	14,646,433.32	1,814,859.50	40.32701634	-104.37410937	
14,300.00	90.00	359.63	6,289.00	7,810.63	-954.75	14,646,533.31	1,814,858.15	40.32729093	-104.37411167	
14,400.00	90.00	359.63	6,289.00	7,910.63	-955.39	14,646,633.31	1,814,856.80	40.32756552	-104.37411398	
14,500.00	90.00	359.63	6,289.00	8,010.63	-956.03	14,646,733.30	1,814,855.45	40.32784011	-104.37411628	
14,600.00	90.00	359.63	6,289.00	8,110.63	-956.67	14,646,833.29	1,814,854.10	40.32811469	-104.37411859	
14,700.00	90.00	359.63	6,289.00	8,210.63	-957.31	14,646,933.28	1,814,852.75	40.32838928	-104.37412090	
14,800.00	90.00	359.63	6,289.00	8,310.62	-957.95	14,647,033.27	1,814,851.40	40.32866387	-104.37412320	
14,900.00	90.00	359.63	6,289.00	8,410.62	-958.59	14,647,133.26	1,814,850.05	40.32893846	-104.37412551	
15,000.00	90.00	359.63	6,289.00	8,510.62	-959.23	14,647,233.25	1,814,848.70	40.32921304	-104.37412781	
15,100.00	90.00	359.63	6,289.00	8,610.62	-959.86	14,647,333.24	1,814,847.35	40.32948763	-104.37413012	
15,200.00	90.00	359.63	6,289.00	8,710.62	-960.50	14,647,433.23	1,814,846.00	40.32976222	-104.37413242	
15,300.00	90.00	359.63	6,289.00	8,810.61	-961.14	14,647,533.22	1,814,844.65	40.33003681	-104.37413473	
15,400.00	90.00	359.63	6,289.00	8,910.61	-961.78	14,647,633.21	1,814,843.30	40.33031140	-104.37413704	
15,500.00	90.00	359.63	6,289.00	9,010.61	-962.42	14,647,733.20	1,814,841.95	40.33058598	-104.37413934	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-20-2L
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 18-20-2L	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	359.63	6,289.00	9,110.61	-963.06	14,647,833.19	1,814,840.60	40.33086057	-104.37414165
15,700.00	90.00	359.63	6,289.00	9,210.61	-963.70	14,647,933.18	1,814,839.25	40.33113516	-104.37414395
15,800.00	90.00	359.63	6,289.00	9,310.60	-964.34	14,648,033.17	1,814,837.90	40.33140975	-104.37414626
15,900.00	90.00	359.63	6,289.00	9,410.60	-964.98	14,648,133.17	1,814,836.55	40.33168434	-104.37414856
16,000.00	90.00	359.63	6,289.00	9,510.60	-965.62	14,648,233.16	1,814,835.20	40.33195892	-104.37415087
16,100.00	90.00	359.63	6,289.00	9,610.60	-966.25	14,648,333.15	1,814,833.85	40.33223351	-104.37415318
16,200.00	90.00	359.63	6,289.00	9,710.60	-966.89	14,648,433.14	1,814,832.51	40.33250810	-104.37415548
16,300.00	90.00	359.63	6,289.00	9,810.59	-967.53	14,648,533.13	1,814,831.16	40.33278269	-104.37415779
16,373.00	90.00	359.63	6,289.00	9,883.59	-968.00	14,648,606.12	1,814,830.17	40.33298312	-104.37415947
PBHL/TD 16373.00 MD/6289.00 TVD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Middlepark 18-20-2L LP - plan hits target center - Point	0.00	0.00	6,289.00	241.32	-906.38	14,638,964.55	1,814,960.30	40.30650604	-104.37393716
Middlepark 18-20-2L BH - plan hits target center - Point	0.00	0.00	6,289.00	9,883.59	-968.00	14,648,606.12	1,814,830.17	40.33298312	-104.37415947

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 1°/100' build
2,700.57	2,693.61	-33.70	-78.29	Begin 14.01° tangent
5,776.41	5,677.93	-328.18	-762.30	Begin 10°/100' build
6,730.53	6,289.00	241.32	-906.38	LP Begin 90° lateral
16,373.00	6,289.00	9,883.59	-968.00	PBHL/TD 16373.00 MD/6289.00 TVD