

Well: Middlepark 18-16-1L
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	2368.07	7.36	180.01	2367.06	-23.61	0.00	2.00	-23.61	Begin 7.36° tangent
4	5603.31	7.36	180.01	5575.63	-438.14	-0.08	0.00	-438.13	Begin 10°/100' build
5	6576.92	90.00	359.63	6222.00	130.08	-4.27	10.00	130.11	LP Begin 90° lateral
6	16232.52	90.00	359.63	6222.00	9785.49	-66.07	0.00	9785.71	PBHL/TD 16232.52 MD/6222.00 TVD

DESIGN TARGET DETAILS

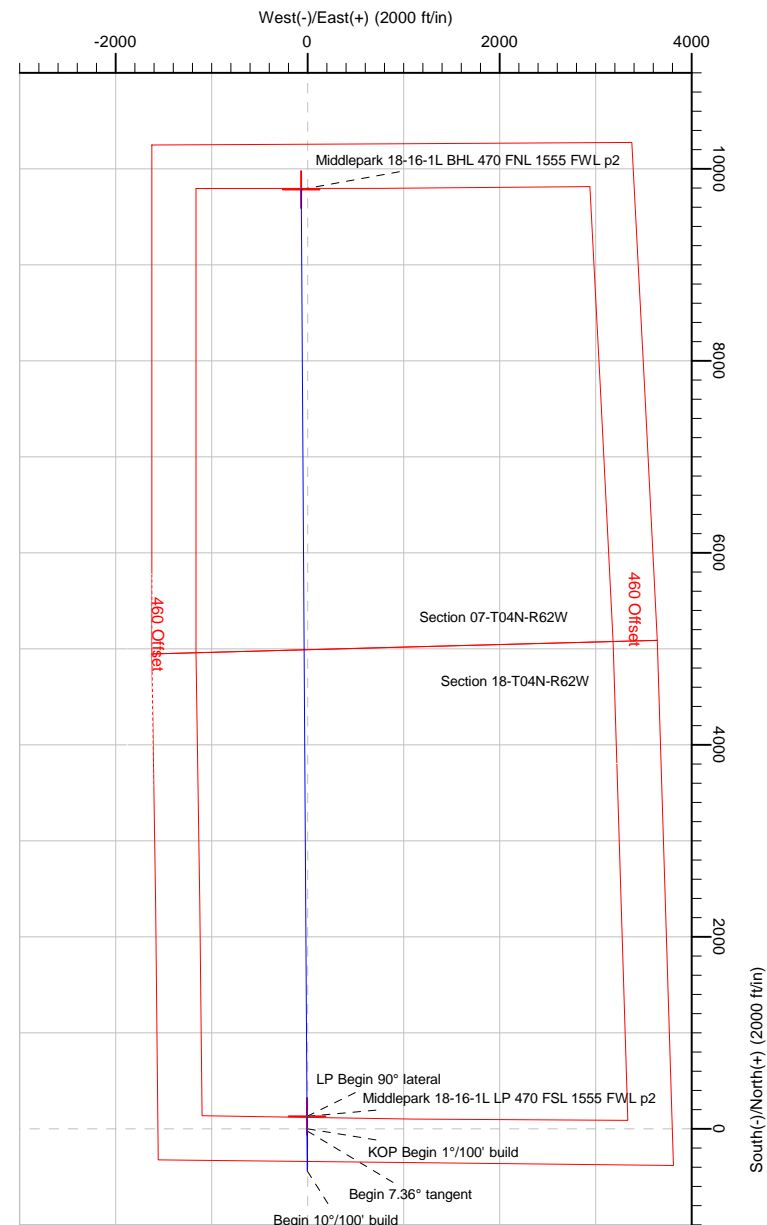
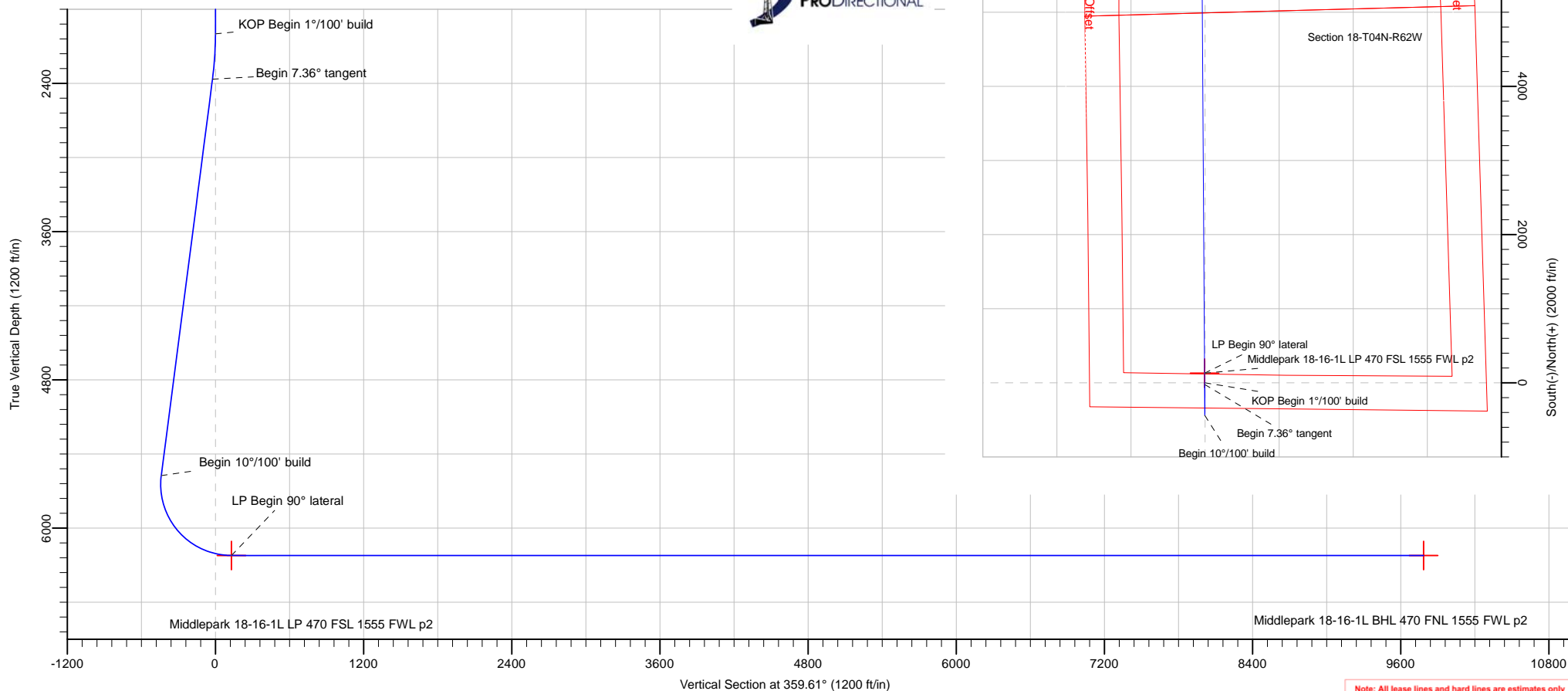
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Middlepark 18-16-1L BHL 470 FNL 1555 FWL p2	6222.00	9785.49	-66.07	14648613.02	1815655.14	40.33298602	-104.37119925
Middlepark 18-16-1L LP 470 FSL 1555 FWL p2	6222.00	130.08	-4.27	14638958.32	1815785.52	40.30647288	-104.37097754



Azimuths to True North
Magnetic North: 8.18°

Magnetic Field
Strength: 52247.3snT
Dip Angle: 66.90°
Date: 4/22/2018
Model: HDGM

Middlepark 18-16-1L Surf loc: 340 FSL 1558 FWL Section 18-T04N-R62W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=4559+24 @ 4583.00ft			
Northing	Easting	Latitude	Longitude
14638828.27	1815790.71	40.30611567	-104.37096223



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 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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 18-16-1L, Surf loc: 340 FSL 1558 FWL Section 18-T04N-R62W					
Well Position	+N/-S	-2,332.27 ft	Northing:	14,638,828.27 usft	Latitude:	40.30611568
	+E/-W	1,000.29 ft	Easting:	1,815,790.71 usft	Longitude:	-104.37096224
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,559.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/22/2018	8.18	66.90	52,247.30000000

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	359.61

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,232.13	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	
2,368.07	7.36	180.01	2,367.06	-23.61	0.00	2.00	2.00	0.00	180.01	
5,603.31	7.36	180.01	5,575.63	-438.14	-0.08	0.00	0.00	0.00	0.00	
6,576.92	90.00	359.63	6,222.00	130.08	-4.27	10.00	8.49	18.45	179.62	Middlepark 18-16-1L I
16,232.52	90.00	359.63	6,222.00	9,785.49	-66.07	0.00	0.00	0.00	0.00	Middlepark 18-16-1L I

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Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	180.01	2,099.98	-1.75	0.00	-1.75	2.00	2.00	0.00
2,200.00	4.00	180.01	2,199.84	-6.98	0.00	-6.98	2.00	2.00	0.00
2,300.00	6.00	180.01	2,299.45	-15.69	0.00	-15.69	2.00	2.00	0.00
2,368.07	7.36	180.01	2,367.06	-23.61	0.00	-23.61	2.00	2.00	0.00
Begin 7.36° tangent									
2,400.00	7.36	180.01	2,398.73	-27.70	-0.01	-27.70	0.00	0.00	0.00
2,500.00	7.36	180.01	2,497.90	-40.52	-0.01	-40.52	0.00	0.00	0.00
2,600.00	7.36	180.01	2,597.08	-53.33	-0.01	-53.33	0.00	0.00	0.00
2,700.00	7.36	180.01	2,696.25	-66.14	-0.01	-66.14	0.00	0.00	0.00
2,800.00	7.36	180.01	2,795.43	-78.95	-0.01	-78.95	0.00	0.00	0.00
2,900.00	7.36	180.01	2,894.60	-91.77	-0.02	-91.77	0.00	0.00	0.00
3,000.00	7.36	180.01	2,993.78	-104.58	-0.02	-104.58	0.00	0.00	0.00
3,100.00	7.36	180.01	3,092.96	-117.39	-0.02	-117.39	0.00	0.00	0.00
3,200.00	7.36	180.01	3,192.13	-130.21	-0.02	-130.20	0.00	0.00	0.00
3,300.00	7.36	180.01	3,291.31	-143.02	-0.03	-143.02	0.00	0.00	0.00
3,400.00	7.36	180.01	3,390.48	-155.83	-0.03	-155.83	0.00	0.00	0.00
3,500.00	7.36	180.01	3,489.66	-168.64	-0.03	-168.64	0.00	0.00	0.00
3,600.00	7.36	180.01	3,588.83	-181.46	-0.03	-181.45	0.00	0.00	0.00
3,700.00	7.36	180.01	3,688.01	-194.27	-0.04	-194.26	0.00	0.00	0.00
3,800.00	7.36	180.01	3,787.19	-207.08	-0.04	-207.08	0.00	0.00	0.00
3,900.00	7.36	180.01	3,886.36	-219.90	-0.04	-219.89	0.00	0.00	0.00
4,000.00	7.36	180.01	3,985.54	-232.71	-0.04	-232.70	0.00	0.00	0.00
4,100.00	7.36	180.01	4,084.71	-245.52	-0.04	-245.51	0.00	0.00	0.00
4,200.00	7.36	180.01	4,183.89	-258.33	-0.05	-258.33	0.00	0.00	0.00
4,300.00	7.36	180.01	4,283.06	-271.15	-0.05	-271.14	0.00	0.00	0.00
4,400.00	7.36	180.01	4,382.24	-283.96	-0.05	-283.95	0.00	0.00	0.00
4,500.00	7.36	180.01	4,481.42	-296.77	-0.05	-296.76	0.00	0.00	0.00
4,600.00	7.36	180.01	4,580.59	-309.58	-0.06	-309.58	0.00	0.00	0.00
4,700.00	7.36	180.01	4,679.77	-322.40	-0.06	-322.39	0.00	0.00	0.00
4,800.00	7.36	180.01	4,778.94	-335.21	-0.06	-335.20	0.00	0.00	0.00
4,900.00	7.36	180.01	4,878.12	-348.02	-0.06	-348.01	0.00	0.00	0.00

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Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	7.36	180.01	4,977.30	-360.84	-0.07	-360.83	0.00	0.00	0.00
5,100.00	7.36	180.01	5,076.47	-373.65	-0.07	-373.64	0.00	0.00	0.00
5,200.00	7.36	180.01	5,175.65	-386.46	-0.07	-386.45	0.00	0.00	0.00
5,300.00	7.36	180.01	5,274.82	-399.27	-0.07	-399.26	0.00	0.00	0.00
5,400.00	7.36	180.01	5,374.00	-412.09	-0.07	-412.08	0.00	0.00	0.00
5,500.00	7.36	180.01	5,473.17	-424.90	-0.08	-424.89	0.00	0.00	0.00
5,600.00	7.36	180.01	5,572.35	-437.71	-0.08	-437.70	0.00	0.00	0.00
5,603.31	7.36	180.01	5,575.63	-438.14	-0.08	-438.13	0.00	0.00	0.00
Begin 10°/100' build									
5,700.00	2.31	358.42	5,672.11	-442.39	-0.13	-442.38	10.00	-5.23	184.52
5,800.00	12.31	359.41	5,771.18	-429.69	-0.30	-429.68	10.00	10.00	0.99
5,900.00	22.31	359.51	5,866.53	-399.98	-0.57	-399.97	10.00	10.00	0.10
6,000.00	32.31	359.56	5,955.27	-354.16	-0.94	-354.15	10.00	10.00	0.04
6,100.00	42.31	359.58	6,034.71	-293.63	-1.39	-293.62	10.00	10.00	0.02
6,200.00	52.31	359.60	6,102.43	-220.23	-1.92	-220.21	10.00	10.00	0.02
6,300.00	62.31	359.61	6,156.37	-136.18	-2.51	-136.16	10.00	10.00	0.01
6,400.00	72.31	359.62	6,194.90	-44.04	-3.13	-44.01	10.00	10.00	0.01
6,500.00	82.31	359.63	6,216.84	53.39	-3.77	53.42	10.00	10.00	0.01
6,576.92	90.00	359.63	6,222.00	130.08	-4.27	130.11	10.00	10.00	0.01
LP Begin 90° lateral									
6,600.00	90.00	359.63	6,222.00	153.16	-4.41	153.19	0.00	0.00	0.00
6,700.00	90.00	359.63	6,222.00	253.16	-5.05	253.19	0.00	0.00	0.00
6,800.00	90.00	359.63	6,222.00	353.16	-5.69	353.19	0.00	0.00	0.00
6,900.00	90.00	359.63	6,222.00	453.15	-6.33	453.19	0.00	0.00	0.00
7,000.00	90.00	359.63	6,222.00	553.15	-6.97	553.19	0.00	0.00	0.00
7,100.00	90.00	359.63	6,222.00	653.15	-7.61	653.19	0.00	0.00	0.00
7,200.00	90.00	359.63	6,222.00	753.15	-8.25	753.19	0.00	0.00	0.00
7,300.00	90.00	359.63	6,222.00	853.15	-8.89	853.19	0.00	0.00	0.00
7,400.00	90.00	359.63	6,222.00	953.14	-9.53	953.19	0.00	0.00	0.00
7,500.00	90.00	359.63	6,222.00	1,053.14	-10.17	1,053.19	0.00	0.00	0.00
7,600.00	90.00	359.63	6,222.00	1,153.14	-10.81	1,153.19	0.00	0.00	0.00
7,700.00	90.00	359.63	6,222.00	1,253.14	-11.46	1,253.19	0.00	0.00	0.00
7,800.00	90.00	359.63	6,222.00	1,353.14	-12.10	1,353.19	0.00	0.00	0.00
7,900.00	90.00	359.63	6,222.00	1,453.13	-12.74	1,453.19	0.00	0.00	0.00
8,000.00	90.00	359.63	6,222.00	1,553.13	-13.38	1,553.19	0.00	0.00	0.00
8,100.00	90.00	359.63	6,222.00	1,653.13	-14.02	1,653.19	0.00	0.00	0.00
8,200.00	90.00	359.63	6,222.00	1,753.13	-14.66	1,753.19	0.00	0.00	0.00
8,300.00	90.00	359.63	6,222.00	1,853.13	-15.30	1,853.19	0.00	0.00	0.00
8,400.00	90.00	359.63	6,222.00	1,953.12	-15.94	1,953.19	0.00	0.00	0.00
8,500.00	90.00	359.63	6,222.00	2,053.12	-16.58	2,053.19	0.00	0.00	0.00
8,600.00	90.00	359.63	6,222.00	2,153.12	-17.22	2,153.19	0.00	0.00	0.00
8,700.00	90.00	359.63	6,222.00	2,253.12	-17.86	2,253.19	0.00	0.00	0.00
8,800.00	90.00	359.63	6,222.00	2,353.12	-18.50	2,353.19	0.00	0.00	0.00
8,900.00	90.00	359.63	6,222.00	2,453.11	-19.14	2,453.19	0.00	0.00	0.00
9,000.00	90.00	359.63	6,222.00	2,553.11	-19.78	2,553.19	0.00	0.00	0.00
9,100.00	90.00	359.63	6,222.00	2,653.11	-20.42	2,653.19	0.00	0.00	0.00
9,200.00	90.00	359.63	6,222.00	2,753.11	-21.06	2,753.19	0.00	0.00	0.00
9,300.00	90.00	359.63	6,222.00	2,853.11	-21.70	2,853.19	0.00	0.00	0.00
9,400.00	90.00	359.63	6,222.00	2,953.10	-22.34	2,953.19	0.00	0.00	0.00
9,500.00	90.00	359.63	6,222.00	3,053.10	-22.98	3,053.19	0.00	0.00	0.00
9,600.00	90.00	359.63	6,222.00	3,153.10	-23.62	3,153.19	0.00	0.00	0.00
9,700.00	90.00	359.63	6,222.00	3,253.10	-24.26	3,253.19	0.00	0.00	0.00
9,800.00	90.00	359.63	6,222.00	3,353.10	-24.90	3,353.19	0.00	0.00	0.00
9,900.00	90.00	359.63	6,222.00	3,453.09	-25.54	3,453.19	0.00	0.00	0.00

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Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	6,222.00	3,553.09	-26.18	3,553.19	0.00	0.00	0.00
10,100.00	90.00	359.63	6,222.00	3,653.09	-26.82	3,653.19	0.00	0.00	0.00
10,200.00	90.00	359.63	6,222.00	3,753.09	-27.46	3,753.19	0.00	0.00	0.00
10,300.00	90.00	359.63	6,222.00	3,853.09	-28.10	3,853.19	0.00	0.00	0.00
10,400.00	90.00	359.63	6,222.00	3,953.08	-28.74	3,953.19	0.00	0.00	0.00
10,500.00	90.00	359.63	6,222.00	4,053.08	-29.38	4,053.19	0.00	0.00	0.00
10,600.00	90.00	359.63	6,222.00	4,153.08	-30.02	4,153.19	0.00	0.00	0.00
10,700.00	90.00	359.63	6,222.00	4,253.08	-30.66	4,253.19	0.00	0.00	0.00
10,800.00	90.00	359.63	6,222.00	4,353.07	-31.30	4,353.19	0.00	0.00	0.00
10,900.00	90.00	359.63	6,222.00	4,453.07	-31.94	4,453.19	0.00	0.00	0.00
11,000.00	90.00	359.63	6,222.00	4,553.07	-32.58	4,553.19	0.00	0.00	0.00
11,100.00	90.00	359.63	6,222.00	4,653.07	-33.22	4,653.19	0.00	0.00	0.00
11,200.00	90.00	359.63	6,222.00	4,753.07	-33.86	4,753.19	0.00	0.00	0.00
11,300.00	90.00	359.63	6,222.00	4,853.06	-34.50	4,853.19	0.00	0.00	0.00
11,400.00	90.00	359.63	6,222.00	4,953.06	-35.14	4,953.19	0.00	0.00	0.00
11,500.00	90.00	359.63	6,222.00	5,053.06	-35.78	5,053.19	0.00	0.00	0.00
11,600.00	90.00	359.63	6,222.00	5,153.06	-36.42	5,153.19	0.00	0.00	0.00
11,700.00	90.00	359.63	6,222.00	5,253.06	-37.06	5,253.19	0.00	0.00	0.00
11,800.00	90.00	359.63	6,222.00	5,353.05	-37.70	5,353.19	0.00	0.00	0.00
11,900.00	90.00	359.63	6,222.00	5,453.05	-38.34	5,453.19	0.00	0.00	0.00
12,000.00	90.00	359.63	6,222.00	5,553.05	-38.98	5,553.19	0.00	0.00	0.00
12,100.00	90.00	359.63	6,222.00	5,653.05	-39.62	5,653.19	0.00	0.00	0.00
12,200.00	90.00	359.63	6,222.00	5,753.05	-40.26	5,753.19	0.00	0.00	0.00
12,300.00	90.00	359.63	6,222.00	5,853.04	-40.90	5,853.19	0.00	0.00	0.00
12,400.00	90.00	359.63	6,222.00	5,953.04	-41.54	5,953.19	0.00	0.00	0.00
12,500.00	90.00	359.63	6,222.00	6,053.04	-42.18	6,053.19	0.00	0.00	0.00
12,600.00	90.00	359.63	6,222.00	6,153.04	-42.82	6,153.19	0.00	0.00	0.00
12,700.00	90.00	359.63	6,222.00	6,253.04	-43.46	6,253.19	0.00	0.00	0.00
12,800.00	90.00	359.63	6,222.00	6,353.03	-44.10	6,353.19	0.00	0.00	0.00
12,900.00	90.00	359.63	6,222.00	6,453.03	-44.74	6,453.19	0.00	0.00	0.00
13,000.00	90.00	359.63	6,222.00	6,553.03	-45.38	6,553.19	0.00	0.00	0.00
13,100.00	90.00	359.63	6,222.00	6,653.03	-46.02	6,653.19	0.00	0.00	0.00
13,200.00	90.00	359.63	6,222.00	6,753.03	-46.66	6,753.19	0.00	0.00	0.00
13,300.00	90.00	359.63	6,222.00	6,853.02	-47.30	6,853.19	0.00	0.00	0.00
13,400.00	90.00	359.63	6,222.00	6,953.02	-47.94	6,953.19	0.00	0.00	0.00
13,500.00	90.00	359.63	6,222.00	7,053.02	-48.58	7,053.19	0.00	0.00	0.00
13,600.00	90.00	359.63	6,222.00	7,153.02	-49.22	7,153.19	0.00	0.00	0.00
13,700.00	90.00	359.63	6,222.00	7,253.02	-49.86	7,253.19	0.00	0.00	0.00
13,800.00	90.00	359.63	6,222.00	7,353.01	-50.50	7,353.19	0.00	0.00	0.00
13,900.00	90.00	359.63	6,222.00	7,453.01	-51.14	7,453.19	0.00	0.00	0.00
14,000.00	90.00	359.63	6,222.00	7,553.01	-51.78	7,553.19	0.00	0.00	0.00
14,100.00	90.00	359.63	6,222.00	7,653.01	-52.42	7,653.19	0.00	0.00	0.00
14,200.00	90.00	359.63	6,222.00	7,753.01	-53.06	7,753.19	0.00	0.00	0.00
14,300.00	90.00	359.63	6,222.00	7,853.00	-53.70	7,853.19	0.00	0.00	0.00
14,400.00	90.00	359.63	6,222.00	7,953.00	-54.34	7,953.19	0.00	0.00	0.00
14,500.00	90.00	359.63	6,222.00	8,053.00	-54.98	8,053.19	0.00	0.00	0.00
14,600.00	90.00	359.63	6,222.00	8,153.00	-55.62	8,153.19	0.00	0.00	0.00
14,700.00	90.00	359.63	6,222.00	8,253.00	-56.26	8,253.19	0.00	0.00	0.00
14,800.00	90.00	359.63	6,222.00	8,352.99	-56.90	8,353.19	0.00	0.00	0.00
14,900.00	90.00	359.63	6,222.00	8,452.99	-57.54	8,453.19	0.00	0.00	0.00
15,000.00	90.00	359.63	6,222.00	8,552.99	-58.18	8,553.19	0.00	0.00	0.00
15,100.00	90.00	359.63	6,222.00	8,652.99	-58.82	8,653.19	0.00	0.00	0.00
15,200.00	90.00	359.63	6,222.00	8,752.98	-59.46	8,753.19	0.00	0.00	0.00
15,300.00	90.00	359.63	6,222.00	8,852.98	-60.10	8,853.19	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	6,222.00	8,952.98	-60.74	8,953.19	0.00	0.00	0.00
15,500.00	90.00	359.63	6,222.00	9,052.98	-61.38	9,053.19	0.00	0.00	0.00
15,600.00	90.00	359.63	6,222.00	9,152.98	-62.02	9,153.19	0.00	0.00	0.00
15,700.00	90.00	359.63	6,222.00	9,252.97	-62.66	9,253.19	0.00	0.00	0.00
15,800.00	90.00	359.63	6,222.00	9,352.97	-63.30	9,353.19	0.00	0.00	0.00
15,900.00	90.00	359.63	6,222.00	9,452.97	-63.94	9,453.19	0.00	0.00	0.00
16,000.00	90.00	359.63	6,222.00	9,552.97	-64.58	9,553.19	0.00	0.00	0.00
16,100.00	90.00	359.63	6,222.00	9,652.97	-65.22	9,653.19	0.00	0.00	0.00
16,200.00	90.00	359.63	6,222.00	9,752.96	-65.86	9,753.19	0.00	0.00	0.00
16,232.52	90.00	359.63	6,222.00	9,785.48	-66.07	9,785.71	0.00	0.00	0.00
PBHL/TD 16232.52 MD/6222.00 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 18-16-1L LP	0.00	0.00	6,222.00	130.08	-4.27	14,638,958.32	1,815,785.52	40.30647288	-104.37097754
- plan hits target center									
- Point									
Middlepark 18-16-1L BH	0.00	0.00	6,222.00	9,785.49	-66.07	14,648,613.02	1,815,655.14	40.33298602	-104.37119926
- 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 1°/100' build
2,368.07	2,367.06	-23.61	0.00	Begin 7.36° tangent
5,603.31	5,575.63	-438.14	-0.08	Begin 10°/100' build
6,576.92	6,222.00	130.08	-4.27	LP Begin 90° lateral
16,232.52	6,222.00	9,785.48	-66.07	PBHL/TD 16232.52 MD/6222.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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 18-16-1L, Surf loc: 340 FSL 1558 FWL Section 18-T04N-R62W					
Well Position	+N/-S	0.00 ft	Northing:	14,638,828.27 usft	Latitude:	40.30611568
	+E/-W	0.00 ft	Easting:	1,815,790.71 usft	Longitude:	-104.37096224
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,559.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/22/2018	8.18	66.90	52,247.30000000

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	359.61

Plan Survey Tool Program	Date	4/27/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,232.13 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	
2,368.07	7.36	180.01	2,367.06	-23.61	0.00	2.00	2.00	0.00	180.01	
5,603.31	7.36	180.01	5,575.63	-438.14	-0.08	0.00	0.00	0.00	0.00	
6,576.92	90.00	359.63	6,222.00	130.08	-4.27	10.00	8.49	18.45	179.62	Middlepark 18-16-1L I
16,232.52	90.00	359.63	6,222.00	9,785.49	-66.07	0.00	0.00	0.00	0.00	Middlepark 18-16-1L I

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
100.00	0.00	0.00	100.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
200.00	0.00	0.00	200.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
300.00	0.00	0.00	300.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
400.00	0.00	0.00	400.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
500.00	0.00	0.00	500.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
600.00	0.00	0.00	600.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
700.00	0.00	0.00	700.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
800.00	0.00	0.00	800.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
900.00	0.00	0.00	900.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,638,828.27	1,815,790.71	40.30611568	-104.37096224
KOP Begin 1°/100' build									
2,100.00	2.00	180.01	2,099.98	-1.75	0.00	14,638,826.52	1,815,790.72	40.30611089	-104.37096224
2,200.00	4.00	180.01	2,199.84	-6.98	0.00	14,638,821.29	1,815,790.76	40.30609651	-104.37096224
2,300.00	6.00	180.01	2,299.45	-15.69	0.00	14,638,812.57	1,815,790.82	40.30607258	-104.37096225
2,368.07	7.36	180.01	2,367.06	-23.61	0.00	14,638,804.66	1,815,790.87	40.30605084	-104.37096225
Begin 7.36° tangent									
2,400.00	7.36	180.01	2,398.73	-27.70	-0.01	14,638,800.56	1,815,790.90	40.30603960	-104.37096226
2,500.00	7.36	180.01	2,497.90	-40.52	-0.01	14,638,787.75	1,815,790.99	40.30600442	-104.37096226
2,600.00	7.36	180.01	2,597.08	-53.33	-0.01	14,638,774.94	1,815,791.08	40.30596924	-104.37096227
2,700.00	7.36	180.01	2,696.25	-66.14	-0.01	14,638,762.13	1,815,791.17	40.30593406	-104.37096228
2,800.00	7.36	180.01	2,795.43	-78.95	-0.01	14,638,749.31	1,815,791.26	40.30589887	-104.37096229
2,900.00	7.36	180.01	2,894.60	-91.77	-0.02	14,638,736.50	1,815,791.35	40.30586369	-104.37096230
3,000.00	7.36	180.01	2,993.78	-104.58	-0.02	14,638,723.69	1,815,791.43	40.30582851	-104.37096231
3,100.00	7.36	180.01	3,092.96	-117.39	-0.02	14,638,710.88	1,815,791.52	40.30579332	-104.37096231
3,200.00	7.36	180.01	3,192.13	-130.21	-0.02	14,638,698.06	1,815,791.61	40.30575814	-104.37096232
3,300.00	7.36	180.01	3,291.31	-143.02	-0.03	14,638,685.25	1,815,791.70	40.30572296	-104.37096233
3,400.00	7.36	180.01	3,390.48	-155.83	-0.03	14,638,672.44	1,815,791.79	40.30568777	-104.37096234
3,500.00	7.36	180.01	3,489.66	-168.64	-0.03	14,638,659.63	1,815,791.88	40.30565259	-104.37096235
3,600.00	7.36	180.01	3,588.83	-181.46	-0.03	14,638,646.82	1,815,791.97	40.30561741	-104.37096236
3,700.00	7.36	180.01	3,688.01	-194.27	-0.04	14,638,634.00	1,815,792.06	40.30558222	-104.37096236
3,800.00	7.36	180.01	3,787.19	-207.08	-0.04	14,638,621.19	1,815,792.14	40.30554704	-104.37096237
3,900.00	7.36	180.01	3,886.36	-219.90	-0.04	14,638,608.38	1,815,792.23	40.30551186	-104.37096238
4,000.00	7.36	180.01	3,985.54	-232.71	-0.04	14,638,595.57	1,815,792.32	40.30547667	-104.37096239
4,100.00	7.36	180.01	4,084.71	-245.52	-0.04	14,638,582.75	1,815,792.41	40.30544149	-104.37096240
4,200.00	7.36	180.01	4,183.89	-258.33	-0.05	14,638,569.94	1,815,792.50	40.30540631	-104.37096241
4,300.00	7.36	180.01	4,283.06	-271.15	-0.05	14,638,557.13	1,815,792.59	40.30537112	-104.37096241
4,400.00	7.36	180.01	4,382.24	-283.96	-0.05	14,638,544.32	1,815,792.68	40.30533594	-104.37096242
4,500.00	7.36	180.01	4,481.42	-296.77	-0.05	14,638,531.50	1,815,792.76	40.30530076	-104.37096243
4,600.00	7.36	180.01	4,580.59	-309.58	-0.06	14,638,518.69	1,815,792.85	40.30526557	-104.37096244
4,700.00	7.36	180.01	4,679.77	-322.40	-0.06	14,638,505.88	1,815,792.94	40.30523039	-104.37096245
4,800.00	7.36	180.01	4,778.94	-335.21	-0.06	14,638,493.07	1,815,793.03	40.30519521	-104.37096245
4,900.00	7.36	180.01	4,878.12	-348.02	-0.06	14,638,480.25	1,815,793.12	40.30516003	-104.37096246
5,000.00	7.36	180.01	4,977.30	-360.84	-0.07	14,638,467.44	1,815,793.21	40.30512484	-104.37096247

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	7.36	180.01	5,076.47	-373.65	-0.07	14,638,454.63	1,815,793.30	40.30508966	-104.37096248
5,200.00	7.36	180.01	5,175.65	-386.46	-0.07	14,638,441.82	1,815,793.39	40.30505448	-104.37096249
5,300.00	7.36	180.01	5,274.82	-399.27	-0.07	14,638,429.00	1,815,793.47	40.30501929	-104.37096250
5,400.00	7.36	180.01	5,374.00	-412.09	-0.07	14,638,416.19	1,815,793.56	40.30498411	-104.37096250
5,500.00	7.36	180.01	5,473.17	-424.90	-0.08	14,638,403.38	1,815,793.65	40.30494893	-104.37096251
5,600.00	7.36	180.01	5,572.35	-437.71	-0.08	14,638,390.57	1,815,793.74	40.30491374	-104.37096252
5,603.31	7.36	180.01	5,575.63	-438.14	-0.08	14,638,390.14	1,815,793.74	40.30491258	-104.37096252
Begin 10°/100' build									
5,700.00	2.31	358.42	5,672.11	-442.39	-0.13	14,638,385.88	1,815,793.72	40.30490089	-104.37096272
5,800.00	12.31	359.41	5,771.18	-429.69	-0.30	14,638,398.59	1,815,793.46	40.30493577	-104.37096331
5,900.00	22.31	359.51	5,866.53	-399.98	-0.57	14,638,428.29	1,815,792.98	40.30501735	-104.37096428
6,000.00	32.31	359.56	5,955.27	-354.16	-0.94	14,638,474.11	1,815,792.29	40.30514317	-104.37096561
6,100.00	42.31	359.58	6,034.71	-293.63	-1.39	14,638,534.63	1,815,791.40	40.30530938	-104.37096724
6,200.00	52.31	359.60	6,102.43	-220.23	-1.92	14,638,608.03	1,815,790.35	40.30551095	-104.37096913
6,300.00	62.31	359.61	6,156.37	-136.18	-2.51	14,638,692.08	1,815,789.17	40.30574174	-104.37097123
6,400.00	72.31	359.62	6,194.90	-44.04	-3.13	14,638,784.21	1,815,787.89	40.30599475	-104.37097346
6,500.00	82.31	359.63	6,216.84	53.39	-3.77	14,638,881.63	1,815,786.56	40.30626229	-104.37097576
6,576.92	90.00	359.63	6,222.00	130.08	-4.27	14,638,958.31	1,815,785.52	40.30647287	-104.37097754
LP Begin 90° lateral									
6,600.00	90.00	359.63	6,222.00	153.16	-4.41	14,638,981.39	1,815,785.21	40.30653625	-104.37097807
6,700.00	90.00	359.63	6,222.00	253.16	-5.05	14,639,081.38	1,815,783.86	40.30681084	-104.37098037
6,800.00	90.00	359.63	6,222.00	353.16	-5.69	14,639,181.37	1,815,782.51	40.30708543	-104.37098266
6,900.00	90.00	359.63	6,222.00	453.15	-6.33	14,639,281.36	1,815,781.16	40.30736002	-104.37098496
7,000.00	90.00	359.63	6,222.00	553.15	-6.97	14,639,381.36	1,815,779.81	40.30763460	-104.37098725
7,100.00	90.00	359.63	6,222.00	653.15	-7.61	14,639,481.35	1,815,778.46	40.30790919	-104.37098955
7,200.00	90.00	359.63	6,222.00	753.15	-8.25	14,639,581.34	1,815,777.11	40.30818378	-104.37099185
7,300.00	90.00	359.63	6,222.00	853.15	-8.89	14,639,681.33	1,815,775.76	40.30845837	-104.37099414
7,400.00	90.00	359.63	6,222.00	953.14	-9.53	14,639,781.32	1,815,774.41	40.30873296	-104.37099644
7,500.00	90.00	359.63	6,222.00	1,053.14	-10.17	14,639,881.31	1,815,773.06	40.30900755	-104.37099873
7,600.00	90.00	359.63	6,222.00	1,153.14	-10.81	14,639,981.30	1,815,771.71	40.30928214	-104.37100103
7,700.00	90.00	359.63	6,222.00	1,253.14	-11.46	14,640,081.29	1,815,770.36	40.30955673	-104.37100333
7,800.00	90.00	359.63	6,222.00	1,353.14	-12.10	14,640,181.28	1,815,769.01	40.30983131	-104.37100562
7,900.00	90.00	359.63	6,222.00	1,453.13	-12.74	14,640,281.27	1,815,767.66	40.31010590	-104.37100792
8,000.00	90.00	359.63	6,222.00	1,553.13	-13.38	14,640,381.26	1,815,766.30	40.31038049	-104.37101021
8,100.00	90.00	359.63	6,222.00	1,653.13	-14.02	14,640,481.25	1,815,764.95	40.31065508	-104.37101251
8,200.00	90.00	359.63	6,222.00	1,753.13	-14.66	14,640,581.24	1,815,763.60	40.31092967	-104.37101481
8,300.00	90.00	359.63	6,222.00	1,853.13	-15.30	14,640,681.23	1,815,762.25	40.31120426	-104.37101710
8,400.00	90.00	359.63	6,222.00	1,953.12	-15.94	14,640,781.22	1,815,760.90	40.31147885	-104.37101940
8,500.00	90.00	359.63	6,222.00	2,053.12	-16.58	14,640,881.22	1,815,759.55	40.31175344	-104.37102170
8,600.00	90.00	359.63	6,222.00	2,153.12	-17.22	14,640,981.21	1,815,758.20	40.31202802	-104.37102399
8,700.00	90.00	359.63	6,222.00	2,253.12	-17.86	14,641,081.20	1,815,756.85	40.31230261	-104.37102629
8,800.00	90.00	359.63	6,222.00	2,353.12	-18.50	14,641,181.19	1,815,755.50	40.31257720	-104.37102858
8,900.00	90.00	359.63	6,222.00	2,453.11	-19.14	14,641,281.18	1,815,754.15	40.31285178	-104.37103088
9,000.00	90.00	359.63	6,222.00	2,553.11	-19.78	14,641,381.17	1,815,752.80	40.31312637	-104.37103318
9,100.00	90.00	359.63	6,222.00	2,653.11	-20.42	14,641,481.16	1,815,751.45	40.31340096	-104.37103547
9,200.00	90.00	359.63	6,222.00	2,753.11	-21.06	14,641,581.15	1,815,750.10	40.31367555	-104.37103777
9,300.00	90.00	359.63	6,222.00	2,853.11	-21.70	14,641,681.14	1,815,748.75	40.31395013	-104.37104006
9,400.00	90.00	359.63	6,222.00	2,953.10	-22.34	14,641,781.13	1,815,747.40	40.31422472	-104.37104236
9,500.00	90.00	359.63	6,222.00	3,053.10	-22.98	14,641,881.12	1,815,746.05	40.31449931	-104.37104466
9,600.00	90.00	359.63	6,222.00	3,153.10	-23.62	14,641,981.11	1,815,744.70	40.31477390	-104.37104695
9,700.00	90.00	359.63	6,222.00	3,253.10	-24.26	14,642,081.10	1,815,743.35	40.31504849	-104.37104925
9,800.00	90.00	359.63	6,222.00	3,353.10	-24.90	14,642,181.09	1,815,742.00	40.31532308	-104.37105155
9,900.00	90.00	359.63	6,222.00	3,453.09	-25.54	14,642,281.09	1,815,740.65	40.31559767	-104.37105384
10,000.00	90.00	359.63	6,222.00	3,553.09	-26.18	14,642,381.08	1,815,739.30	40.31587225	-104.37105614



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	6,222.00	3,653.09	-26.82	14,642,481.07	1,815,737.95	40.31614684	-104.37105843
10,200.00	90.00	359.63	6,222.00	3,753.09	-27.46	14,642,581.06	1,815,736.60	40.31642143	-104.37106073
10,300.00	90.00	359.63	6,222.00	3,853.09	-28.10	14,642,681.05	1,815,735.25	40.31669602	-104.37106303
10,400.00	90.00	359.63	6,222.00	3,953.08	-28.74	14,642,781.04	1,815,733.90	40.31697061	-104.37106532
10,500.00	90.00	359.63	6,222.00	4,053.08	-29.38	14,642,881.03	1,815,732.55	40.31724520	-104.37106762
10,600.00	90.00	359.63	6,222.00	4,153.08	-30.02	14,642,981.02	1,815,731.20	40.31751979	-104.37106992
10,700.00	90.00	359.63	6,222.00	4,253.08	-30.66	14,643,081.01	1,815,729.85	40.31779437	-104.37107221
10,800.00	90.00	359.63	6,222.00	4,353.07	-31.30	14,643,181.00	1,815,728.50	40.31806896	-104.37107451
10,900.00	90.00	359.63	6,222.00	4,453.07	-31.94	14,643,280.99	1,815,727.15	40.31834355	-104.37107680
11,000.00	90.00	359.63	6,222.00	4,553.07	-32.58	14,643,380.98	1,815,725.80	40.31861814	-104.37107910
11,100.00	90.00	359.63	6,222.00	4,653.07	-33.22	14,643,480.97	1,815,724.45	40.31889273	-104.37108140
11,200.00	90.00	359.63	6,222.00	4,753.07	-33.86	14,643,580.96	1,815,723.09	40.31916732	-104.37108369
11,300.00	90.00	359.63	6,222.00	4,853.06	-34.50	14,643,680.95	1,815,721.74	40.31944190	-104.37108599
11,400.00	90.00	359.63	6,222.00	4,953.06	-35.14	14,643,780.95	1,815,720.39	40.31971649	-104.37108829
11,500.00	90.00	359.63	6,222.00	5,053.06	-35.78	14,643,880.94	1,815,719.04	40.31999108	-104.37109058
11,600.00	90.00	359.63	6,222.00	5,153.06	-36.42	14,643,980.93	1,815,717.69	40.32026567	-104.37109288
11,700.00	90.00	359.63	6,222.00	5,253.06	-37.06	14,644,080.92	1,815,716.34	40.32054026	-104.37109517
11,800.00	90.00	359.63	6,222.00	5,353.05	-37.70	14,644,180.91	1,815,714.99	40.32081485	-104.37109747
11,900.00	90.00	359.63	6,222.00	5,453.05	-38.34	14,644,280.90	1,815,713.64	40.32108943	-104.37109977
12,000.00	90.00	359.63	6,222.00	5,553.05	-38.98	14,644,380.89	1,815,712.29	40.32136402	-104.37110206
12,100.00	90.00	359.63	6,222.00	5,653.05	-39.62	14,644,480.88	1,815,710.94	40.32163861	-104.37110436
12,200.00	90.00	359.63	6,222.00	5,753.05	-40.26	14,644,580.87	1,815,709.59	40.32191320	-104.37110666
12,300.00	90.00	359.63	6,222.00	5,853.04	-40.90	14,644,680.86	1,815,708.24	40.32218779	-104.37110895
12,400.00	90.00	359.63	6,222.00	5,953.04	-41.54	14,644,780.85	1,815,706.89	40.32246237	-104.37111125
12,500.00	90.00	359.63	6,222.00	6,053.04	-42.18	14,644,880.84	1,815,705.54	40.32273696	-104.37111354
12,600.00	90.00	359.63	6,222.00	6,153.04	-42.82	14,644,980.83	1,815,704.19	40.32301155	-104.37111584
12,700.00	90.00	359.63	6,222.00	6,253.04	-43.46	14,645,080.82	1,815,702.84	40.32328614	-104.37111814
12,800.00	90.00	359.63	6,222.00	6,353.03	-44.10	14,645,180.81	1,815,701.49	40.32356073	-104.37112043
12,900.00	90.00	359.63	6,222.00	6,453.03	-44.74	14,645,280.81	1,815,700.14	40.32383532	-104.37112273
13,000.00	90.00	359.63	6,222.00	6,553.03	-45.38	14,645,380.80	1,815,698.79	40.32410990	-104.37112503
13,100.00	90.00	359.63	6,222.00	6,653.03	-46.02	14,645,480.79	1,815,697.44	40.32438449	-104.37112732
13,200.00	90.00	359.63	6,222.00	6,753.03	-46.66	14,645,580.78	1,815,696.09	40.32465908	-104.37112962
13,300.00	90.00	359.63	6,222.00	6,853.02	-47.30	14,645,680.77	1,815,694.74	40.32493367	-104.37113192
13,400.00	90.00	359.63	6,222.00	6,953.02	-47.94	14,645,780.76	1,815,693.39	40.32520826	-104.37113421
13,500.00	90.00	359.63	6,222.00	7,053.02	-48.58	14,645,880.75	1,815,692.04	40.32548284	-104.37113651
13,600.00	90.00	359.63	6,222.00	7,153.02	-49.22	14,645,980.74	1,815,690.69	40.32575743	-104.37113880
13,700.00	90.00	359.63	6,222.00	7,253.02	-49.86	14,646,080.73	1,815,689.34	40.32603202	-104.37114110
13,800.00	90.00	359.63	6,222.00	7,353.01	-50.50	14,646,180.72	1,815,687.99	40.32630661	-104.37114340
13,900.00	90.00	359.63	6,222.00	7,453.01	-51.14	14,646,280.71	1,815,686.64	40.32658120	-104.37114569
14,000.00	90.00	359.63	6,222.00	7,553.01	-51.78	14,646,380.70	1,815,685.29	40.32685578	-104.37114799
14,100.00	90.00	359.63	6,222.00	7,653.01	-52.42	14,646,480.69	1,815,683.94	40.32713037	-104.37115029
14,200.00	90.00	359.63	6,222.00	7,753.01	-53.06	14,646,580.68	1,815,682.59	40.32740496	-104.37115258
14,300.00	90.00	359.63	6,222.00	7,853.00	-53.70	14,646,680.68	1,815,681.24	40.32767955	-104.37115488
14,400.00	90.00	359.63	6,222.00	7,953.00	-54.34	14,646,780.67	1,815,679.89	40.32795414	-104.37115718
14,500.00	90.00	359.63	6,222.00	8,053.00	-54.98	14,646,880.66	1,815,678.53	40.32822872	-104.37115947
14,600.00	90.00	359.63	6,222.00	8,153.00	-55.62	14,646,980.65	1,815,677.18	40.32850331	-104.37116177
14,700.00	90.00	359.63	6,222.00	8,253.00	-56.26	14,647,080.64	1,815,675.83	40.32877790	-104.37116406
14,800.00	90.00	359.63	6,222.00	8,352.99	-56.90	14,647,180.63	1,815,674.48	40.32905249	-104.37116636
14,900.00	90.00	359.63	6,222.00	8,452.99	-57.54	14,647,280.62	1,815,673.13	40.32932707	-104.37116866
15,000.00	90.00	359.63	6,222.00	8,552.99	-58.18	14,647,380.61	1,815,671.78	40.32960166	-104.37117095
15,100.00	90.00	359.63	6,222.00	8,652.99	-58.82	14,647,480.60	1,815,670.43	40.32987625	-104.37117325
15,200.00	90.00	359.63	6,222.00	8,752.98	-59.46	14,647,580.59	1,815,669.08	40.33015084	-104.37117555
15,300.00	90.00	359.63	6,222.00	8,852.98	-60.10	14,647,680.58	1,815,667.73	40.33042543	-104.37117784
15,400.00	90.00	359.63	6,222.00	8,952.98	-60.74	14,647,780.57	1,815,666.38	40.33070001	-104.37118014
15,500.00	90.00	359.63	6,222.00	9,052.98	-61.38	14,647,880.56	1,815,665.03	40.33097460	-104.37118244

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Middlepark 18-16-1L
Company:	Confluence Resources	TVD Reference:	RKB=4559+24 @ 4583.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4559+24 @ 4583.00ft
Site:	Section 18-T04N-R62W	North Reference:	True
Well:	Middlepark 18-16-1L	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	6,222.00	9,152.98	-62.02	14,647,980.55	1,815,663.68	40.33124919	-104.37118473
15,700.00	90.00	359.63	6,222.00	9,252.97	-62.66	14,648,080.54	1,815,662.33	40.33152378	-104.37118703
15,800.00	90.00	359.63	6,222.00	9,352.97	-63.30	14,648,180.54	1,815,660.98	40.33179836	-104.37118933
15,900.00	90.00	359.63	6,222.00	9,452.97	-63.94	14,648,280.53	1,815,659.63	40.33207295	-104.37119162
16,000.00	90.00	359.63	6,222.00	9,552.97	-64.58	14,648,380.52	1,815,658.28	40.33234754	-104.37119392
16,100.00	90.00	359.63	6,222.00	9,652.97	-65.22	14,648,480.51	1,815,656.93	40.33262213	-104.37119621
16,200.00	90.00	359.63	6,222.00	9,752.96	-65.86	14,648,580.50	1,815,655.58	40.33289672	-104.37119851
16,232.52	90.00	359.63	6,222.00	9,785.48	-66.07	14,648,613.02	1,815,655.14	40.33298601	-104.37119926
PBHL/TD 16232.52 MD/6222.00 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 18-16-1L LP	0.00	0.00	6,222.00	130.08	-4.27	14,638,958.32	1,815,785.52	40.30647288	-104.37097754
- plan hits target center									
- Point									
Middlepark 18-16-1L BH	0.00	0.00	6,222.00	9,785.49	-66.07	14,648,613.02	1,815,655.14	40.33298602	-104.37119926
- 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 1°/100' build
2,368.07	2,367.06	-23.61	0.00	Begin 7.36° tangent
5,603.31	5,575.63	-438.14	-0.08	Begin 10°/100' build
6,576.92	6,222.00	130.08	-4.27	LP Begin 90° lateral
16,232.52	6,222.00	9,785.48	-66.07	PBHL/TD 16232.52 MD/6222.00 TVD