



Weld County, Colorado
Section 10 & 15 T04N-R63W
70 Ranch 10-8-4L
plan1

Azimuth Corrections:

To convert a Magnetic Direction to a True Direction, Add 8.17° East

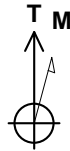
70 Ranch 10-8-4L			
Surf Loc: 62 FNL 1603 FWL Section 10-T04N-R63W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=4603+25 @ 4628.01ft			
Northing	Easting	Latitude	Longitude
14648779.99	1799787.43	40.33374000	-104.42813000

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	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	KOP Begin 10°/100' build
3	5412.25	41.23	282.19	5377.59	29.96	-138.82	10.00	-16.02	Begin 41.22° tangent section
4	6302.18	41.23	282.19	6046.93	153.79	-712.09	0.00	-82.18	Begin 10°/100' build/turn
5	7287.36	90.02	179.22	6547.00	-418.77	-1131.51	10.00	529.26	LP Begin 90.02° lateral section
6	16880.54	90.02	179.22	6544.00	-10011.06	-1000.93	0.00	10060.97	PBHL/TD 16880.54 MD/6544.00 TVD

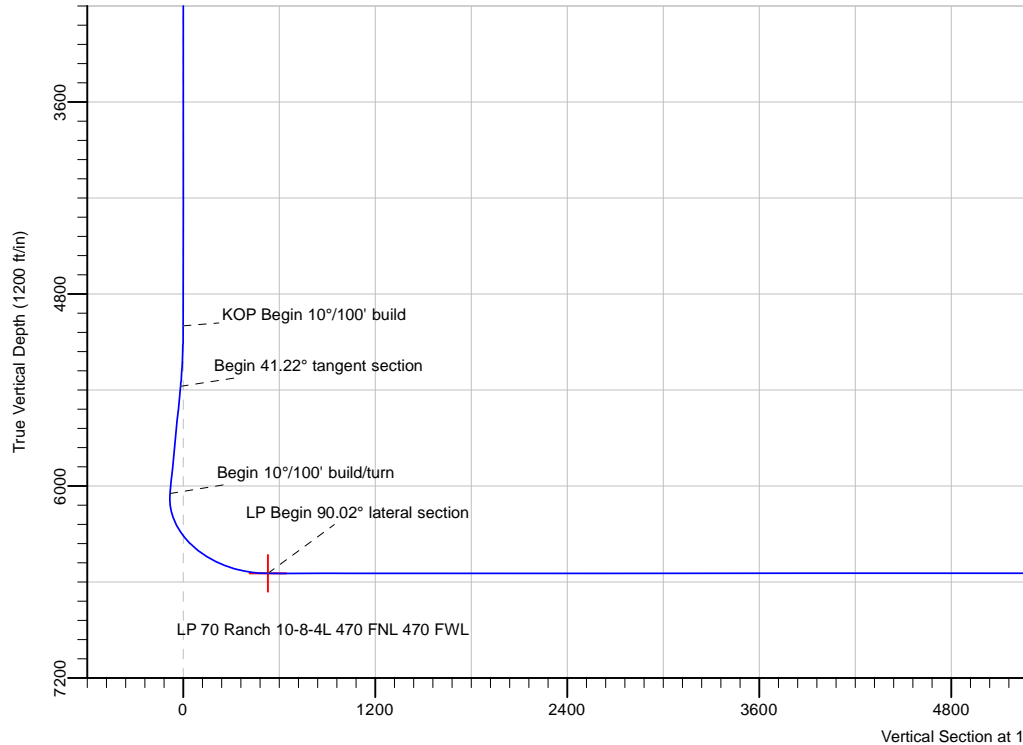
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL 70 Ranch 10-8-4L 470 FSL 528 FWL	6544.00	-10011.06	-1000.93	14638762.69	1798851.20	40.30625000	-104.43172000
LP 70 Ranch 10-8-4L 470 FNL 470 FWL	6547.00	-418.77	-1131.51	14648353.92	1798658.65	40.33259000	-104.43219000



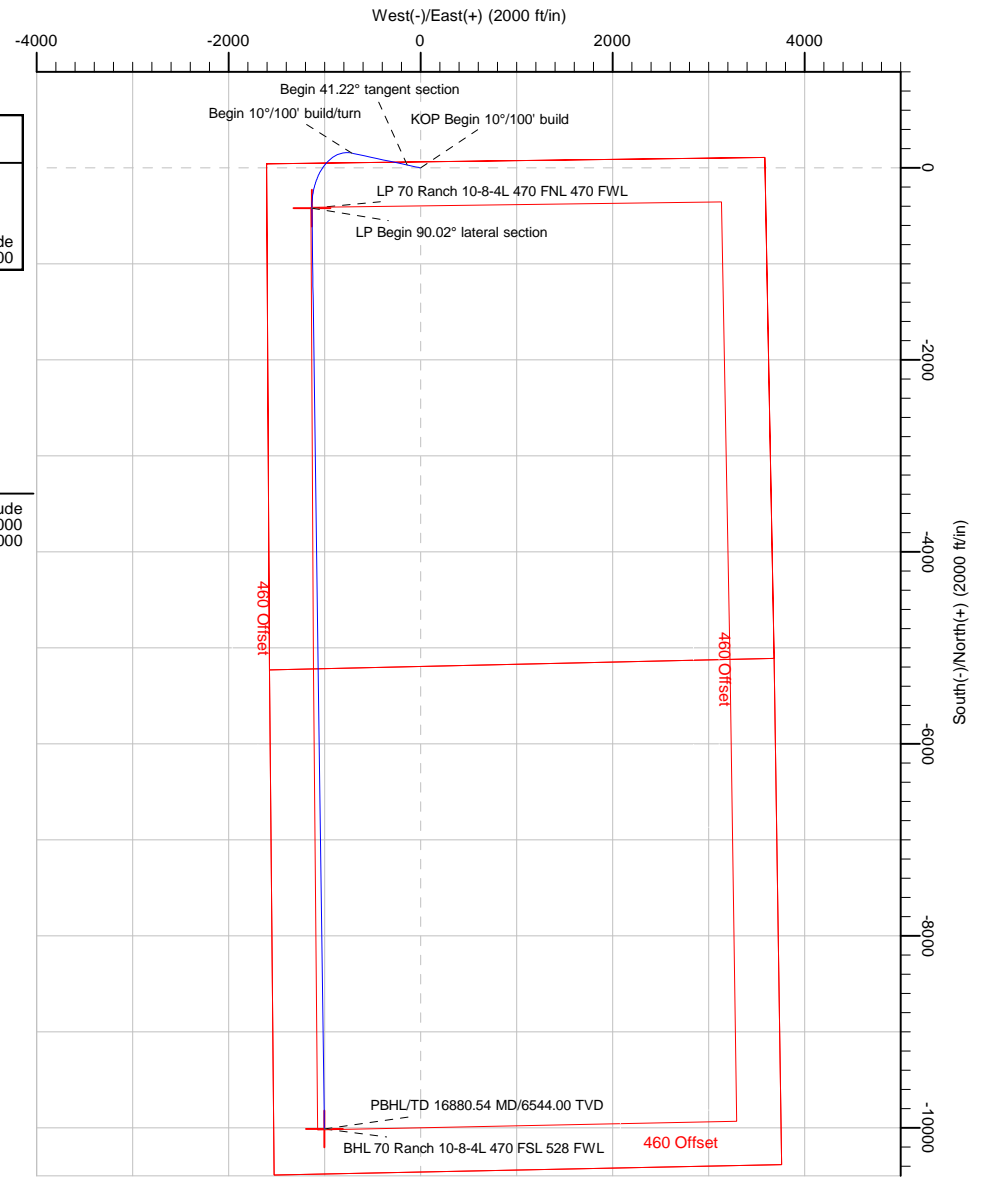
Azimuths to True North
Magnetic North: 8.17°

Magnetic Field
Strength: 52358.2snT
Dip Angle: 66.97°
Date: 5/7/2017
Model: HDGM



Date: 12:55, May 09 2017

Vertical Section at 185.71° (1200 ft/in)



PBHL/TD 16880.54 MD/6544.00 TVD

BHL 70 Ranch 10-8-4L 470 FSL 528 FWL

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 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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 10 & 15 T04N-R63W				
Site Position:		Northing:	14,648,687.65 usft	Latitude:	40.33348000
From:	Lat/Long	Easting:	1,800,150.33 usft	Longitude:	-104.42683000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 °

Well	70 Ranch 10-8-4L, Surf Loc: 62 FNL 1603 FWL Section 10-T04N-R63W					
Well Position	+N/-S	94.69 ft	Northing:	14,648,779.99 usft	Latitude:	40.33374000
	+E/-W	-362.30 ft	Easting:	1,799,787.43 usft	Longitude:	-104.42813000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,603.01 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/7/2017	8.17	66.97	52,358.20000000

Design	plan1			
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	185.71

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,880.54	plan1 (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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,412.25	41.23	282.19	5,377.59	29.98	-138.82	10.00	10.00	0.00	282.19	
6,302.18	41.23	282.19	6,046.93	153.79	-712.09	0.00	0.00	0.00	0.00	
7,287.36	90.02	179.22	6,547.00	-418.77	-1,131.51	10.00	4.95	-10.45	-99.81	LP 70 Ranch 10-8-4L
16,880.54	90.02	179.22	6,544.00	-10,011.06	-1,000.93	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-8-4

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.01	0.00	0.00	2,500.01	0.00	0.00	0.00	0.00	0.00	0.00
2,600.01	0.00	0.00	2,600.01	0.00	0.00	0.00	0.00	0.00	0.00
2,700.01	0.00	0.00	2,700.01	0.00	0.00	0.00	0.00	0.00	0.00
2,800.01	0.00	0.00	2,800.01	0.00	0.00	0.00	0.00	0.00	0.00
2,900.01	0.00	0.00	2,900.01	0.00	0.00	0.00	0.00	0.00	0.00
3,000.01	0.00	0.00	3,000.01	0.00	0.00	0.00	0.00	0.00	0.00
3,100.01	0.00	0.00	3,100.01	0.00	0.00	0.00	0.00	0.00	0.00
3,200.01	0.00	0.00	3,200.01	0.00	0.00	0.00	0.00	0.00	0.00
3,300.01	0.00	0.00	3,300.01	0.00	0.00	0.00	0.00	0.00	0.00
3,400.01	0.00	0.00	3,400.01	0.00	0.00	0.00	0.00	0.00	0.00
3,500.01	0.00	0.00	3,500.01	0.00	0.00	0.00	0.00	0.00	0.00
3,600.01	0.00	0.00	3,600.01	0.00	0.00	0.00	0.00	0.00	0.00
3,700.01	0.00	0.00	3,700.01	0.00	0.00	0.00	0.00	0.00	0.00
3,800.01	0.00	0.00	3,800.01	0.00	0.00	0.00	0.00	0.00	0.00
3,900.01	0.00	0.00	3,900.01	0.00	0.00	0.00	0.00	0.00	0.00
4,000.01	0.00	0.00	4,000.01	0.00	0.00	0.00	0.00	0.00	0.00
4,100.01	0.00	0.00	4,100.01	0.00	0.00	0.00	0.00	0.00	0.00
4,200.01	0.00	0.00	4,200.01	0.00	0.00	0.00	0.00	0.00	0.00
4,300.01	0.00	0.00	4,300.01	0.00	0.00	0.00	0.00	0.00	0.00
4,400.01	0.00	0.00	4,400.01	0.00	0.00	0.00	0.00	0.00	0.00
4,500.01	0.00	0.00	4,500.01	0.00	0.00	0.00	0.00	0.00	0.00
4,600.01	0.00	0.00	4,600.01	0.00	0.00	0.00	0.00	0.00	0.00
4,700.01	0.00	0.00	4,700.01	0.00	0.00	0.00	0.00	0.00	0.00
4,800.01	0.00	0.00	4,800.01	0.00	0.00	0.00	0.00	0.00	0.00
4,900.01	0.00	0.00	4,900.01	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 10°/100' build									
5,000.01	0.00	282.19	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	282.19	5,099.50	1.84	-8.51	-0.98	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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)
5,200.01	20.00	282.19	5,195.97	7.29	-33.78	-3.90	10.00	10.00	0.00
5,300.01	30.00	282.19	5,286.49	16.21	-75.04	-8.66	10.00	10.00	0.00
5,400.01	40.00	282.19	5,368.30	28.30	-131.03	-15.12	10.00	10.00	0.00
5,412.25	41.23	282.19	5,377.59	29.98	-138.82	-16.02	10.01	10.01	0.00
Begin 41.22° tangent section									
5,500.01	41.23	282.19	5,443.60	42.19	-195.35	-22.55	0.00	0.00	0.00
5,600.01	41.23	282.19	5,518.81	56.10	-259.77	-29.98	0.00	0.00	0.00
5,700.01	41.23	282.19	5,594.02	70.01	-324.19	-37.41	0.00	0.00	0.00
5,800.01	41.23	282.19	5,669.23	83.92	-388.60	-44.85	0.00	0.00	0.00
5,900.01	41.23	282.19	5,744.45	97.84	-453.02	-52.28	0.00	0.00	0.00
6,000.01	41.23	282.19	5,819.66	111.75	-517.44	-59.72	0.00	0.00	0.00
6,100.01	41.23	282.19	5,894.87	125.66	-581.86	-67.15	0.00	0.00	0.00
6,200.01	41.23	282.19	5,970.08	139.57	-646.27	-74.58	0.00	0.00	0.00
6,300.01	41.23	282.19	6,045.30	153.48	-710.69	-82.02	0.00	0.00	0.00
6,302.18	41.23	282.19	6,046.93	153.79	-712.09	-82.18	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,400.01	40.51	267.25	6,121.09	159.08	-775.49	-81.14	10.00	-0.73	-15.27
6,500.01	41.78	252.15	6,196.58	147.28	-839.80	-63.00	10.00	1.26	-15.10
6,600.01	44.88	238.27	6,269.48	118.44	-901.68	-28.15	10.00	3.10	-13.88
6,700.01	49.47	226.13	6,337.58	73.43	-959.23	22.36	10.00	4.59	-12.14
6,800.01	55.15	215.72	6,398.80	13.63	-1,010.71	86.99	10.00	5.68	-10.42
6,900.01	61.60	206.73	6,451.28	-59.16	-1,054.56	163.78	10.00	6.45	-8.99
7,000.01	68.57	198.82	6,493.43	-142.71	-1,089.44	250.39	10.00	6.97	-7.92
7,100.01	75.88	191.64	6,523.97	-234.49	-1,114.30	344.19	10.00	7.31	-7.18
7,200.01	83.39	184.92	6,541.97	-331.72	-1,128.38	442.33	10.00	7.51	-6.72
7,287.36	90.02	179.22	6,547.00	-418.77	-1,131.51	529.26	10.00	7.59	-6.52
LP Begin 90.02° lateral section									
7,300.01	90.02	179.22	6,547.00	-431.43	-1,131.33	541.84	0.00	0.00	0.00
7,400.01	90.02	179.22	6,546.96	-531.42	-1,129.97	641.20	0.00	0.00	0.00
7,500.02	90.02	179.22	6,546.93	-631.41	-1,128.61	740.56	0.00	0.00	0.00
7,600.02	90.02	179.22	6,546.90	-731.40	-1,127.25	839.92	0.00	0.00	0.00
7,700.02	90.02	179.22	6,546.87	-831.39	-1,125.89	939.28	0.00	0.00	0.00
7,800.02	90.02	179.22	6,546.84	-931.38	-1,124.53	1,038.64	0.00	0.00	0.00
7,900.02	90.02	179.22	6,546.81	-1,031.37	-1,123.17	1,138.00	0.00	0.00	0.00
8,000.02	90.02	179.22	6,546.78	-1,131.37	-1,121.81	1,237.36	0.00	0.00	0.00
8,100.02	90.02	179.22	6,546.75	-1,231.36	-1,120.45	1,336.72	0.00	0.00	0.00
8,200.02	90.02	179.22	6,546.71	-1,331.35	-1,119.08	1,436.08	0.00	0.00	0.00
8,300.02	90.02	179.22	6,546.68	-1,431.34	-1,117.72	1,535.44	0.00	0.00	0.00
8,400.02	90.02	179.22	6,546.65	-1,531.33	-1,116.36	1,634.79	0.00	0.00	0.00
8,500.02	90.02	179.22	6,546.62	-1,631.32	-1,115.00	1,734.15	0.00	0.00	0.00
8,600.02	90.02	179.22	6,546.59	-1,731.31	-1,113.64	1,833.51	0.00	0.00	0.00
8,700.02	90.02	179.22	6,546.56	-1,831.30	-1,112.28	1,932.87	0.00	0.00	0.00
8,800.02	90.02	179.22	6,546.53	-1,931.29	-1,110.92	2,032.23	0.00	0.00	0.00
8,900.02	90.02	179.22	6,546.50	-2,031.28	-1,109.56	2,131.59	0.00	0.00	0.00
9,000.02	90.02	179.22	6,546.46	-2,131.27	-1,108.19	2,230.95	0.00	0.00	0.00
9,100.02	90.02	179.22	6,546.43	-2,231.27	-1,106.83	2,330.31	0.00	0.00	0.00
9,200.02	90.02	179.22	6,546.40	-2,331.26	-1,105.47	2,429.67	0.00	0.00	0.00
9,300.02	90.02	179.22	6,546.37	-2,431.25	-1,104.11	2,529.03	0.00	0.00	0.00
9,400.02	90.02	179.22	6,546.34	-2,531.24	-1,102.75	2,628.39	0.00	0.00	0.00
9,500.02	90.02	179.22	6,546.31	-2,631.23	-1,101.39	2,727.75	0.00	0.00	0.00
9,600.02	90.02	179.22	6,546.28	-2,731.22	-1,100.03	2,827.11	0.00	0.00	0.00
9,700.02	90.02	179.22	6,546.25	-2,831.21	-1,098.67	2,926.47	0.00	0.00	0.00
9,800.02	90.02	179.22	6,546.21	-2,931.20	-1,097.31	3,025.83	0.00	0.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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)
9,900.02	90.02	179.22	6,546.18	-3,031.19	-1,095.94	3,125.19	0.00	0.00	0.00
10,000.02	90.02	179.22	6,546.15	-3,131.18	-1,094.58	3,224.55	0.00	0.00	0.00
10,100.02	90.02	179.22	6,546.12	-3,231.17	-1,093.22	3,323.91	0.00	0.00	0.00
10,200.02	90.02	179.22	6,546.09	-3,331.17	-1,091.86	3,423.26	0.00	0.00	0.00
10,300.02	90.02	179.22	6,546.06	-3,431.16	-1,090.50	3,522.62	0.00	0.00	0.00
10,400.02	90.02	179.22	6,546.03	-3,531.15	-1,089.14	3,621.98	0.00	0.00	0.00
10,500.02	90.02	179.22	6,546.00	-3,631.14	-1,087.78	3,721.34	0.00	0.00	0.00
10,600.02	90.02	179.22	6,545.96	-3,731.13	-1,086.42	3,820.70	0.00	0.00	0.00
10,700.02	90.02	179.22	6,545.93	-3,831.12	-1,085.06	3,920.06	0.00	0.00	0.00
10,800.02	90.02	179.22	6,545.90	-3,931.11	-1,083.69	4,019.42	0.00	0.00	0.00
10,900.02	90.02	179.22	6,545.87	-4,031.10	-1,082.33	4,118.78	0.00	0.00	0.00
11,000.02	90.02	179.22	6,545.84	-4,131.09	-1,080.97	4,218.14	0.00	0.00	0.00
11,100.02	90.02	179.22	6,545.81	-4,231.08	-1,079.61	4,317.50	0.00	0.00	0.00
11,200.02	90.02	179.22	6,545.78	-4,331.08	-1,078.25	4,416.86	0.00	0.00	0.00
11,300.02	90.02	179.22	6,545.75	-4,431.07	-1,076.89	4,516.22	0.00	0.00	0.00
11,400.02	90.02	179.22	6,545.71	-4,531.06	-1,075.53	4,615.58	0.00	0.00	0.00
11,500.02	90.02	179.22	6,545.68	-4,631.05	-1,074.17	4,714.94	0.00	0.00	0.00
11,600.02	90.02	179.22	6,545.65	-4,731.04	-1,072.81	4,814.30	0.00	0.00	0.00
11,700.02	90.02	179.22	6,545.62	-4,831.03	-1,071.44	4,913.66	0.00	0.00	0.00
11,800.02	90.02	179.22	6,545.59	-4,931.02	-1,070.08	5,013.02	0.00	0.00	0.00
11,900.02	90.02	179.22	6,545.56	-5,031.01	-1,068.72	5,112.38	0.00	0.00	0.00
12,000.02	90.02	179.22	6,545.53	-5,131.00	-1,067.36	5,211.74	0.00	0.00	0.00
12,100.02	90.02	179.22	6,545.50	-5,230.99	-1,066.00	5,311.09	0.00	0.00	0.00
12,200.02	90.02	179.22	6,545.46	-5,330.98	-1,064.64	5,410.45	0.00	0.00	0.00
12,300.02	90.02	179.22	6,545.43	-5,430.98	-1,063.28	5,509.81	0.00	0.00	0.00
12,400.03	90.02	179.22	6,545.40	-5,530.97	-1,061.92	5,609.17	0.00	0.00	0.00
12,500.03	90.02	179.22	6,545.37	-5,630.96	-1,060.55	5,708.53	0.00	0.00	0.00
12,600.03	90.02	179.22	6,545.34	-5,730.95	-1,059.19	5,807.89	0.00	0.00	0.00
12,700.03	90.02	179.22	6,545.31	-5,830.94	-1,057.83	5,907.25	0.00	0.00	0.00
12,800.03	90.02	179.22	6,545.28	-5,930.93	-1,056.47	6,006.61	0.00	0.00	0.00
12,900.03	90.02	179.22	6,545.24	-6,030.92	-1,055.11	6,105.97	0.00	0.00	0.00
13,000.03	90.02	179.22	6,545.21	-6,130.91	-1,053.75	6,205.33	0.00	0.00	0.00
13,100.03	90.02	179.22	6,545.18	-6,230.90	-1,052.39	6,304.69	0.00	0.00	0.00
13,200.03	90.02	179.22	6,545.15	-6,330.89	-1,051.03	6,404.05	0.00	0.00	0.00
13,300.03	90.02	179.22	6,545.12	-6,430.88	-1,049.67	6,503.41	0.00	0.00	0.00
13,400.03	90.02	179.22	6,545.09	-6,530.88	-1,048.30	6,602.77	0.00	0.00	0.00
13,500.03	90.02	179.22	6,545.06	-6,630.87	-1,046.94	6,702.13	0.00	0.00	0.00
13,600.03	90.02	179.22	6,545.03	-6,730.86	-1,045.58	6,801.49	0.00	0.00	0.00
13,700.03	90.02	179.22	6,544.99	-6,830.85	-1,044.22	6,900.85	0.00	0.00	0.00
13,800.03	90.02	179.22	6,544.96	-6,930.84	-1,042.86	7,000.21	0.00	0.00	0.00
13,900.03	90.02	179.22	6,544.93	-7,030.83	-1,041.50	7,099.56	0.00	0.00	0.00
14,000.03	90.02	179.22	6,544.90	-7,130.82	-1,040.14	7,198.92	0.00	0.00	0.00
14,100.03	90.02	179.22	6,544.87	-7,230.81	-1,038.78	7,298.28	0.00	0.00	0.00
14,200.03	90.02	179.22	6,544.84	-7,330.80	-1,037.42	7,397.64	0.00	0.00	0.00
14,300.03	90.02	179.22	6,544.81	-7,430.79	-1,036.05	7,497.00	0.00	0.00	0.00
14,400.03	90.02	179.22	6,544.78	-7,530.78	-1,034.69	7,596.36	0.00	0.00	0.00
14,500.03	90.02	179.22	6,544.74	-7,630.78	-1,033.33	7,695.72	0.00	0.00	0.00
14,600.03	90.02	179.22	6,544.71	-7,730.77	-1,031.97	7,795.08	0.00	0.00	0.00
14,700.03	90.02	179.22	6,544.68	-7,830.76	-1,030.61	7,894.44	0.00	0.00	0.00
14,800.03	90.02	179.22	6,544.65	-7,930.75	-1,029.25	7,993.80	0.00	0.00	0.00
14,900.03	90.02	179.22	6,544.62	-8,030.74	-1,027.89	8,093.16	0.00	0.00	0.00
15,000.03	90.02	179.22	6,544.59	-8,130.73	-1,026.53	8,192.52	0.00	0.00	0.00
15,100.03	90.02	179.22	6,544.56	-8,230.72	-1,025.17	8,291.88	0.00	0.00	0.00
15,200.03	90.02	179.22	6,544.53	-8,330.71	-1,023.80	8,391.24	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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)	
15,300.03	90.02	179.22	6,544.49	-8,430.70	-1,022.44	8,490.60	0.00	0.00	0.00	
15,400.03	90.02	179.22	6,544.46	-8,530.69	-1,021.08	8,589.96	0.00	0.00	0.00	
15,500.03	90.02	179.22	6,544.43	-8,630.69	-1,019.72	8,689.32	0.00	0.00	0.00	
15,600.03	90.02	179.22	6,544.40	-8,730.68	-1,018.36	8,788.68	0.00	0.00	0.00	
15,700.03	90.02	179.22	6,544.37	-8,830.67	-1,017.00	8,888.03	0.00	0.00	0.00	
15,800.03	90.02	179.22	6,544.34	-8,930.66	-1,015.64	8,987.39	0.00	0.00	0.00	
15,900.03	90.02	179.22	6,544.31	-9,030.65	-1,014.28	9,086.75	0.00	0.00	0.00	
16,000.03	90.02	179.22	6,544.28	-9,130.64	-1,012.91	9,186.11	0.00	0.00	0.00	
16,100.03	90.02	179.22	6,544.24	-9,230.63	-1,011.55	9,285.47	0.00	0.00	0.00	
16,200.03	90.02	179.22	6,544.21	-9,330.62	-1,010.19	9,384.83	0.00	0.00	0.00	
16,300.03	90.02	179.22	6,544.18	-9,430.61	-1,008.83	9,484.19	0.00	0.00	0.00	
16,400.03	90.02	179.22	6,544.15	-9,530.60	-1,007.47	9,583.55	0.00	0.00	0.00	
16,500.03	90.02	179.22	6,544.12	-9,630.59	-1,006.11	9,682.91	0.00	0.00	0.00	
16,600.03	90.02	179.22	6,544.09	-9,730.59	-1,004.75	9,782.27	0.00	0.00	0.00	
16,700.03	90.02	179.22	6,544.06	-9,830.58	-1,003.39	9,881.63	0.00	0.00	0.00	
16,800.03	90.02	179.22	6,544.03	-9,930.57	-1,002.03	9,980.99	0.00	0.00	0.00	
16,880.54	90.02	179.22	6,544.00	-10,011.06	-1,000.93	10,060.98	0.00	0.00	0.00	
PBHL/TD 16880.54 MD/6544.00 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										
BHL 70 Ranch 10-8-4L 4	0.00	0.00	6,544.00	-10,011.06	-1,000.93	14,638,762.69	1,798,851.20	40.30625000		-104.43172000
- plan hits target center										
- Point										
LP 70 Ranch 10-8-4L 47	0.00	0.00	6,547.00	-418.77	-1,131.51	14,648,353.92	1,798,658.65	40.33259000		-104.43219000
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build	
5,412.25	5,377.59	29.98	-138.82	Begin 41.22° tangent section	
6,302.18	6,046.93	153.79	-712.09	Begin 10°/100' build/turn	
7,287.36	6,547.00	-418.77	-1,131.51	LP Begin 90.02° lateral section	
16,880.54	6,544.00	-10,011.06	-1,000.93	PBHL/TD 16880.54 MD/6544.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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 10 & 15 T04N-R63W		
Site Position:		Northing:	14,648,687.65 usft
From:	Lat/Long	Easting:	1,800,150.33 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	40.33348000
		Longitude:	-104.42683000
		Grid Convergence:	0.37 °

Well	70 Ranch 10-8-4L, Surf Loc: 62 FNL 1603 FWL Section 10-T04N-R63W		
Well Position	+N/-S	0.00 ft	Northing: 14,648,779.99 usft
	+E/-W	0.00 ft	Easting: 1,799,787.43 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 40.33374000
			Longitude: -104.42813000
			Ground Level: 4,603.01 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/7/2017	8.17	66.97	52,358.20000000

Design	plan1			
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	185.71

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,880.54 plan1 (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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,412.25	41.23	282.19	5,377.59	29.98	-138.82	10.00	10.00	0.00	282.19	
6,302.18	41.23	282.19	6,046.93	153.79	-712.09	0.00	0.00	0.00	0.00	
7,287.36	90.02	179.22	6,547.00	-418.77	-1,131.51	10.00	4.95	-10.45	-99.81	LP 70 Ranch 10-8-4L
16,880.54	90.02	179.22	6,544.00	-10,011.06	-1,000.93	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-8-4

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
100.00	0.00	0.00	100.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
200.00	0.00	0.00	200.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
300.00	0.00	0.00	300.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
400.00	0.00	0.00	400.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
500.00	0.00	0.00	500.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
600.00	0.00	0.00	600.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
700.00	0.00	0.00	700.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
800.00	0.00	0.00	800.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
900.00	0.00	0.00	900.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
KOP Begin 10°/100' build									
5,000.01	0.00	282.19	5,000.01	0.00	0.00	14,648,779.99	1,799,787.43	40.33374000	-104.42813000
5,100.01	10.00	282.19	5,099.50	1.84	-8.51	14,648,781.77	1,799,778.91	40.33374504	-104.42816054

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,200.01	20.00	282.19	5,195.97	7.29	-33.78	14,648,787.07	1,799,753.60	40.33376003	-104.42825121
5,300.01	30.00	282.19	5,286.49	16.21	-75.04	14,648,795.71	1,799,712.29	40.33378449	-104.42839925
5,400.01	40.00	282.19	5,368.30	28.30	-131.03	14,648,807.44	1,799,656.22	40.33381770	-104.42860018
5,412.25	41.23	282.19	5,377.59	29.98	-138.82	14,648,809.07	1,799,648.41	40.33382232	-104.42862813
Begin 41.22° tangent section									
5,500.01	41.23	282.19	5,443.60	42.19	-195.35	14,648,820.92	1,799,591.81	40.33385584	-104.42883097
5,600.01	41.23	282.19	5,518.81	56.10	-259.77	14,648,834.41	1,799,527.30	40.33389404	-104.42906211
5,700.01	41.23	282.19	5,594.02	70.01	-324.19	14,648,847.91	1,799,462.80	40.33393224	-104.42929326
5,800.01	41.23	282.19	5,669.23	83.92	-388.60	14,648,861.40	1,799,398.29	40.33397044	-104.42952440
5,900.01	41.23	282.19	5,744.45	97.84	-453.02	14,648,874.90	1,799,333.78	40.33400864	-104.42975554
6,000.01	41.23	282.19	5,819.66	111.75	-517.44	14,648,888.39	1,799,269.28	40.33404684	-104.42998669
6,100.01	41.23	282.19	5,894.87	125.66	-581.86	14,648,901.89	1,799,204.77	40.33408503	-104.43021783
6,200.01	41.23	282.19	5,970.08	139.57	-646.27	14,648,915.38	1,799,140.27	40.33412323	-104.43044897
6,300.01	41.23	282.19	6,045.30	153.48	-710.69	14,648,928.88	1,799,075.76	40.33416143	-104.43068012
6,302.18	41.23	282.19	6,046.93	153.79	-712.09	14,648,929.17	1,799,074.36	40.33416225	-104.43068513
Begin 10°/100' build/turn									
6,400.01	40.51	267.25	6,121.09	159.08	-775.49	14,648,934.06	1,799,010.93	40.33417678	-104.43091264
6,500.01	41.78	252.15	6,196.58	147.28	-839.80	14,648,921.84	1,798,946.69	40.33414438	-104.43114341
6,600.01	44.88	238.27	6,269.48	118.44	-901.68	14,648,892.60	1,798,885.01	40.33406517	-104.43136542
6,700.01	49.47	226.13	6,337.58	73.43	-959.23	14,648,847.22	1,798,827.75	40.33394158	-104.43157192
6,800.01	55.15	215.72	6,398.80	13.63	-1,010.71	14,648,787.09	1,798,776.65	40.33377736	-104.43175664
6,900.01	61.60	206.73	6,451.28	-59.16	-1,054.56	14,648,714.02	1,798,733.27	40.33357749	-104.43191397
7,000.01	68.57	198.82	6,493.43	-142.71	-1,089.44	14,648,630.25	1,798,698.93	40.33334806	-104.43203912
7,100.01	75.88	191.64	6,523.97	-234.49	-1,114.30	14,648,538.30	1,798,674.67	40.33309602	-104.43212830
7,200.01	83.39	184.92	6,541.97	-331.72	-1,128.38	14,648,440.99	1,798,661.22	40.33282905	-104.43217879
7,287.36	90.02	179.22	6,547.00	-418.77	-1,131.51	14,648,353.92	1,798,658.65	40.33259000	-104.43219000
LP Begin 90.02° lateral section									
7,300.01	90.02	179.22	6,547.00	-431.43	-1,131.33	14,648,341.26	1,798,658.91	40.33255524	-104.43218938
7,400.01	90.02	179.22	6,546.96	-531.42	-1,129.97	14,648,241.28	1,798,660.91	40.33228067	-104.43218448
7,500.02	90.02	179.22	6,546.93	-631.41	-1,128.61	14,648,141.30	1,798,662.92	40.33200610	-104.43217958
7,600.02	90.02	179.22	6,546.90	-731.40	-1,127.25	14,648,041.32	1,798,664.93	40.33173153	-104.43217468
7,700.02	90.02	179.22	6,546.87	-831.39	-1,125.89	14,647,941.34	1,798,666.93	40.33145696	-104.43216978
7,800.02	90.02	179.22	6,546.84	-931.38	-1,124.53	14,647,841.36	1,798,668.94	40.33118239	-104.43216488
7,900.02	90.02	179.22	6,546.81	-1,031.37	-1,123.17	14,647,741.38	1,798,670.95	40.33090782	-104.43215998
8,000.02	90.02	179.22	6,546.78	-1,131.37	-1,121.81	14,647,641.40	1,798,672.96	40.33063325	-104.43215508
8,100.02	90.02	179.22	6,546.75	-1,231.36	-1,120.45	14,647,541.42	1,798,674.96	40.33035868	-104.43215018
8,200.02	90.02	179.22	6,546.71	-1,331.35	-1,119.08	14,647,441.44	1,798,676.97	40.33008411	-104.43214528
8,300.02	90.02	179.22	6,546.68	-1,431.34	-1,117.72	14,647,341.46	1,798,678.98	40.32980954	-104.43214038
8,400.02	90.02	179.22	6,546.65	-1,531.33	-1,116.36	14,647,241.48	1,798,680.98	40.32953497	-104.43213548
8,500.02	90.02	179.22	6,546.62	-1,631.32	-1,115.00	14,647,141.50	1,798,682.99	40.32926040	-104.43213058
8,600.02	90.02	179.22	6,546.59	-1,731.31	-1,113.64	14,647,041.52	1,798,685.00	40.32898583	-104.43212568
8,700.02	90.02	179.22	6,546.56	-1,831.30	-1,112.28	14,646,941.54	1,798,687.01	40.32871126	-104.43212078
8,800.02	90.02	179.22	6,546.53	-1,931.29	-1,110.92	14,646,841.56	1,798,689.01	40.32843669	-104.43211588
8,900.02	90.02	179.22	6,546.50	-2,031.28	-1,109.56	14,646,741.58	1,798,691.02	40.32816212	-104.43211098
9,000.02	90.02	179.22	6,546.46	-2,131.27	-1,108.19	14,646,641.60	1,798,693.03	40.32788755	-104.43210608
9,100.02	90.02	179.22	6,546.43	-2,231.27	-1,106.83	14,646,541.62	1,798,695.03	40.32761298	-104.43210118
9,200.02	90.02	179.22	6,546.40	-2,331.26	-1,105.47	14,646,441.64	1,798,697.04	40.32733841	-104.43209628
9,300.02	90.02	179.22	6,546.37	-2,431.25	-1,104.11	14,646,341.66	1,798,699.05	40.32706384	-104.43209138
9,400.02	90.02	179.22	6,546.34	-2,531.24	-1,102.75	14,646,241.68	1,798,701.06	40.32678927	-104.43208648
9,500.02	90.02	179.22	6,546.31	-2,631.23	-1,101.39	14,646,141.70	1,798,703.06	40.32651470	-104.43208158
9,600.02	90.02	179.22	6,546.28	-2,731.22	-1,100.03	14,646,041.73	1,798,705.07	40.32624013	-104.43207668
9,700.02	90.02	179.22	6,546.25	-2,831.21	-1,098.67	14,645,941.75	1,798,707.08	40.32596556	-104.43207178
9,800.02	90.02	179.22	6,546.21	-2,931.20	-1,097.31	14,645,841.77	1,798,709.08	40.32569099	-104.43206688
9,900.02	90.02	179.22	6,546.18	-3,031.19	-1,095.94	14,645,741.79	1,798,711.09	40.32541642	-104.43206198

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,000.02	90.02	179.22	6,546.15	-3,131.18	-1,094.58	14,645,641.81	1,798,713.10	40.32514185	-104.43205708	
10,100.02	90.02	179.22	6,546.12	-3,231.17	-1,093.22	14,645,541.83	1,798,715.11	40.32486728	-104.43205218	
10,200.02	90.02	179.22	6,546.09	-3,331.17	-1,091.86	14,645,441.85	1,798,717.11	40.32459270	-104.43204728	
10,300.02	90.02	179.22	6,546.06	-3,431.16	-1,090.50	14,645,341.87	1,798,719.12	40.32431813	-104.43204238	
10,400.02	90.02	179.22	6,546.03	-3,531.15	-1,089.14	14,645,241.89	1,798,721.13	40.32404356	-104.43203748	
10,500.02	90.02	179.22	6,546.00	-3,631.14	-1,087.78	14,645,141.91	1,798,723.13	40.32376899	-104.43203258	
10,600.02	90.02	179.22	6,545.96	-3,731.13	-1,086.42	14,645,041.93	1,798,725.14	40.32349442	-104.43202768	
10,700.02	90.02	179.22	6,545.93	-3,831.12	-1,085.06	14,644,941.95	1,798,727.15	40.32321985	-104.43202278	
10,800.02	90.02	179.22	6,545.90	-3,931.11	-1,083.69	14,644,841.97	1,798,729.16	40.32294528	-104.43201788	
10,900.02	90.02	179.22	6,545.87	-4,031.10	-1,082.33	14,644,741.99	1,798,731.16	40.32267071	-104.43201298	
11,000.02	90.02	179.22	6,545.84	-4,131.09	-1,080.97	14,644,642.01	1,798,733.17	40.32239614	-104.43200808	
11,100.02	90.02	179.22	6,545.81	-4,231.08	-1,079.61	14,644,542.03	1,798,735.18	40.32212157	-104.43200318	
11,200.02	90.02	179.22	6,545.78	-4,331.08	-1,078.25	14,644,442.05	1,798,737.18	40.32184700	-104.43199828	
11,300.02	90.02	179.22	6,545.75	-4,431.07	-1,076.89	14,644,342.07	1,798,739.19	40.32157243	-104.43199338	
11,400.02	90.02	179.22	6,545.71	-4,531.06	-1,075.53	14,644,242.09	1,798,741.20	40.32129786	-104.43198848	
11,500.02	90.02	179.22	6,545.68	-4,631.05	-1,074.17	14,644,142.11	1,798,743.20	40.32102329	-104.43198358	
11,600.02	90.02	179.22	6,545.65	-4,731.04	-1,072.81	14,644,042.13	1,798,745.21	40.32074872	-104.43197868	
11,700.02	90.02	179.22	6,545.62	-4,831.03	-1,071.44	14,643,942.15	1,798,747.22	40.32047415	-104.43197378	
11,800.02	90.02	179.22	6,545.59	-4,931.02	-1,070.08	14,643,842.17	1,798,749.23	40.32019958	-104.43196888	
11,900.02	90.02	179.22	6,545.56	-5,031.01	-1,068.72	14,643,742.19	1,798,751.23	40.31992501	-104.43196398	
12,000.02	90.02	179.22	6,545.53	-5,131.00	-1,067.36	14,643,642.21	1,798,753.24	40.31965044	-104.43195909	
12,100.02	90.02	179.22	6,545.50	-5,230.99	-1,066.00	14,643,542.23	1,798,755.25	40.31937586	-104.43195419	
12,200.02	90.02	179.22	6,545.46	-5,330.98	-1,064.64	14,643,442.25	1,798,757.25	40.31910129	-104.43194929	
12,300.02	90.02	179.22	6,545.43	-5,430.98	-1,063.28	14,643,342.27	1,798,759.26	40.31882672	-104.43194439	
12,400.03	90.02	179.22	6,545.40	-5,530.97	-1,061.92	14,643,242.29	1,798,761.27	40.31855215	-104.43193949	
12,500.03	90.02	179.22	6,545.37	-5,630.96	-1,060.55	14,643,142.31	1,798,763.28	40.31827758	-104.43193459	
12,600.03	90.02	179.22	6,545.34	-5,730.95	-1,059.19	14,643,042.33	1,798,765.28	40.31800301	-104.43192969	
12,700.03	90.02	179.22	6,545.31	-5,830.94	-1,057.83	14,642,942.35	1,798,767.29	40.31772844	-104.43192479	
12,800.03	90.02	179.22	6,545.28	-5,930.93	-1,056.47	14,642,842.37	1,798,769.30	40.31745387	-104.43191989	
12,900.03	90.02	179.22	6,545.24	-6,030.92	-1,055.11	14,642,742.39	1,798,771.30	40.31717930	-104.43191499	
13,000.03	90.02	179.22	6,545.21	-6,130.91	-1,053.75	14,642,642.41	1,798,773.31	40.31690473	-104.43191009	
13,100.03	90.02	179.22	6,545.18	-6,230.90	-1,052.39	14,642,542.43	1,798,775.32	40.31663016	-104.43190519	
13,200.03	90.02	179.22	6,545.15	-6,330.89	-1,051.03	14,642,442.45	1,798,777.33	40.31635559	-104.43190030	
13,300.03	90.02	179.22	6,545.12	-6,430.88	-1,049.67	14,642,342.47	1,798,779.33	40.31608102	-104.43189540	
13,400.03	90.02	179.22	6,545.09	-6,530.88	-1,048.30	14,642,242.49	1,798,781.34	40.31580644	-104.43189050	
13,500.03	90.02	179.22	6,545.06	-6,630.87	-1,046.94	14,642,142.51	1,798,783.35	40.31553187	-104.43188560	
13,600.03	90.02	179.22	6,545.03	-6,730.86	-1,045.58	14,642,042.53	1,798,785.35	40.31525730	-104.43188070	
13,700.03	90.02	179.22	6,544.99	-6,830.85	-1,044.22	14,641,942.55	1,798,787.36	40.31498273	-104.43187580	
13,800.03	90.02	179.22	6,544.96	-6,930.84	-1,042.86	14,641,842.57	1,798,789.37	40.31470816	-104.43187090	
13,900.03	90.02	179.22	6,544.93	-7,030.83	-1,041.50	14,641,742.59	1,798,791.38	40.31443359	-104.43186600	
14,000.03	90.02	179.22	6,544.90	-7,130.82	-1,040.14	14,641,642.61	1,798,793.38	40.31415902	-104.43186110	
14,100.03	90.02	179.22	6,544.87	-7,230.81	-1,038.78	14,641,542.63	1,798,795.39	40.31388445	-104.43185621	
14,200.03	90.02	179.22	6,544.84	-7,330.80	-1,037.42	14,641,442.65	1,798,797.40	40.31360988	-104.43185131	
14,300.03	90.02	179.22	6,544.81	-7,430.79	-1,036.05	14,641,342.67	1,798,799.40	40.31333531	-104.43184641	
14,400.03	90.02	179.22	6,544.78	-7,530.78	-1,034.69	14,641,242.69	1,798,801.41	40.31306074	-104.43184151	
14,500.03	90.02	179.22	6,544.74	-7,630.78	-1,033.33	14,641,142.71	1,798,803.42	40.31278618	-104.43183661	
14,600.03	90.02	179.22	6,544.71	-7,730.77	-1,031.97	14,641,042.73	1,798,805.43	40.31251160	-104.43183171	
14,700.03	90.02	179.22	6,544.68	-7,830.76	-1,030.61	14,640,942.75	1,798,807.43	40.31223703	-104.43182681	
14,800.03	90.02	179.22	6,544.65	-7,930.75	-1,029.25	14,640,842.77	1,798,809.44	40.31196246	-104.43182191	
14,900.03	90.02	179.22	6,544.62	-8,030.74	-1,027.89	14,640,742.79	1,798,811.45	40.31168789	-104.43181702	
15,000.03	90.02	179.22	6,544.59	-8,130.73	-1,026.53	14,640,642.81	1,798,813.45	40.31141332	-104.43181212	
15,100.03	90.02	179.22	6,544.56	-8,230.72	-1,025.17	14,640,542.83	1,798,815.46	40.31113875	-104.43180722	
15,200.03	90.02	179.22	6,544.53	-8,330.71	-1,023.80	14,640,442.85	1,798,817.47	40.31086418	-104.43180232	
15,300.03	90.02	179.22	6,544.49	-8,430.70	-1,022.44	14,640,342.87	1,798,819.47	40.31058961	-104.43179742	
15,400.03	90.02	179.22	6,544.46	-8,530.69	-1,021.08	14,640,242.89	1,798,821.48	40.31031504	-104.43179252	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=4603+25 @ 4628.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4603+25 @ 4628.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,500.03	90.02	179.22	6,544.43	-8,630.69	-1,019.72	14,640,142.91	1,798,823.49	40.31004046	-104.43178762
15,600.03	90.02	179.22	6,544.40	-8,730.68	-1,018.36	14,640,042.93	1,798,825.50	40.30976589	-104.43178273
15,700.03	90.02	179.22	6,544.37	-8,830.67	-1,017.00	14,639,942.95	1,798,827.50	40.30949132	-104.43177783
15,800.03	90.02	179.22	6,544.34	-8,930.66	-1,015.64	14,639,842.97	1,798,829.51	40.30921675	-104.43177293
15,900.03	90.02	179.22	6,544.31	-9,030.65	-1,014.28	14,639,742.99	1,798,831.52	40.30894218	-104.43176803
16,000.03	90.02	179.22	6,544.28	-9,130.64	-1,012.91	14,639,643.01	1,798,833.52	40.30866761	-104.43176313
16,100.03	90.02	179.22	6,544.24	-9,230.63	-1,011.55	14,639,543.03	1,798,835.53	40.30839304	-104.43175823
16,200.03	90.02	179.22	6,544.21	-9,330.62	-1,010.19	14,639,443.05	1,798,837.54	40.30811847	-104.43175334
16,300.03	90.02	179.22	6,544.18	-9,430.61	-1,008.83	14,639,343.07	1,798,839.55	40.30784390	-104.43174844
16,400.03	90.02	179.22	6,544.15	-9,530.60	-1,007.47	14,639,243.10	1,798,841.55	40.30756932	-104.43174354
16,500.03	90.02	179.22	6,544.12	-9,630.59	-1,006.11	14,639,143.12	1,798,843.56	40.30729475	-104.43173864
16,600.03	90.02	179.22	6,544.09	-9,730.59	-1,004.75	14,639,043.14	1,798,845.57	40.30702018	-104.43173374
16,700.03	90.02	179.22	6,544.06	-9,830.58	-1,003.39	14,638,943.16	1,798,847.57	40.30674561	-104.43172885
16,800.03	90.02	179.22	6,544.03	-9,930.57	-1,002.03	14,638,843.18	1,798,849.58	40.30647104	-104.43172395
16,880.54	90.02	179.22	6,544.00	-10,011.06	-1,000.93	14,638,762.69	1,798,851.20	40.30625000	-104.43172000
PBHL/TD 16880.54 MD/6544.00 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
BHL 70 Ranch 10-8-4L 4 - plan hits target center - Point	0.00	0.00	6,544.00	-10,011.06	-1,000.93	14,638,762.69	1,798,851.20	40.30625000	-104.43172000
LP 70 Ranch 10-8-4L 47 - plan hits target center - Point	0.00	0.00	6,547.00	-418.77	-1,131.51	14,648,353.92	1,798,658.65	40.33259000	-104.43219000

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build
5,412.25	5,377.59	29.98	-138.82	Begin 41.22° tangent section
6,302.18	6,046.93	153.79	-712.09	Begin 10°/100' build/turn
7,287.36	6,547.00	-418.77	-1,131.51	LP Begin 90.02° lateral section
16,880.54	6,544.00	-10,011.06	-1,000.93	PBHL/TD 16880.54 MD/6544.00 TVD