



Weld County, Colorado
Section 10 & 15 T04N-R63W
70 Ranch 10-7-3L
plan1

Azimuth Corrections:

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

70 Ranch 10-7-3L Surf Loc: 75 FNL 1651 FWL Section 10-T04N-R63W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=4604+25 @ 4629.01ft			
Northing	Easting	Latitude	Longitude
14648769.37	1799834.87	40.33371000	-104.42796000

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	5403.59	40.36	285.78	5371.03	37.08	-131.22	10.00	-25.97	Begin 40.36° tangent section
4	6119.34	40.36	285.78	5916.44	163.11	-577.26	0.00	-114.25	Begin 10°/100' build/turn
5	7127.77	90.13	179.05	6443.00	-407.85	-997.73	10.00	489.89	LP Begin 90.13° lateral section
6	16717.75	90.13	179.05	6421.00	-9996.50	-839.22	0.00	10031.67	PBHL/TD 16717.75 MD 6421.00 TVD

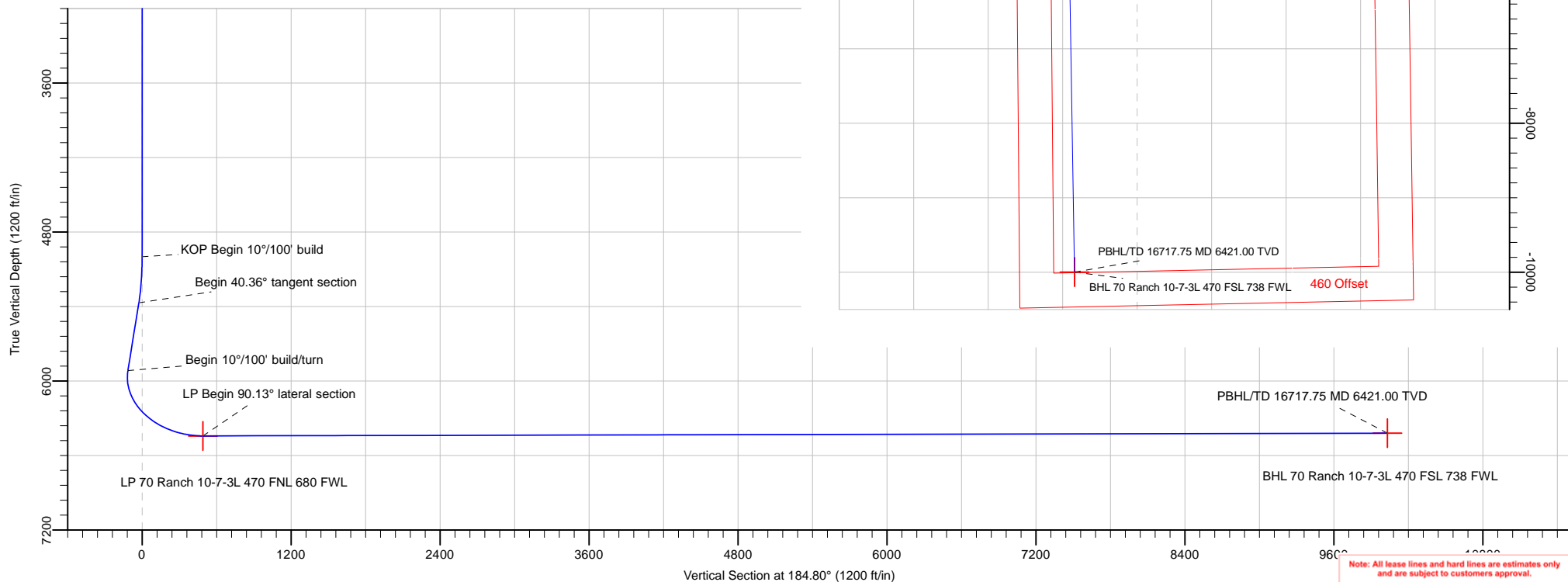
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL 70 Ranch 10-7-3L 470 FSL 738 FWL	6421.00	-9996.50	-839.22	14638767.68	1799060.27	40.30626000	-104.43097000
LP 70 Ranch 10-7-3L 470 FNL 680 FWL	6443.00	-407.85	-997.73	14648355.08	1798839.80	40.33259000	-104.43154000



Azimuths to True North
Magnetic North: 8.17°

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



Date: 12:45, May 09 2017

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 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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 10-7-3L, Surf Loc: 75 FNL 1651 FWL Section 10-T04N-R63W					
Well Position	+N/-S	83.76 ft	Northing:	14,648,769.37 usft	Latitude:	40.33371000
	+E/-W	-314.92 ft	Easting:	1,799,834.87 usft	Longitude:	-104.42796000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,604.01 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	184.80

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,717.75	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	
5,403.59	40.36	285.78	5,371.03	37.08	-131.22	10.00	10.00	0.00	285.78	
6,119.34	40.36	285.78	5,916.44	163.11	-577.26	0.00	0.00	0.00	0.00	
7,127.77	90.13	179.05	6,443.00	-407.85	-997.73	10.00	4.94	-10.58	-102.81	LP 70 Ranch 10-7-3L
16,717.75	90.13	179.05	6,421.00	-9,996.50	-839.22	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-7-3

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	285.78	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	285.78	5,099.50	2.37	-8.38	-1.66	10.00	10.00	0.00

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Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	285.78	5,195.97	9.40	-33.25	-6.58	10.00	10.00	0.00
5,300.01	30.00	285.78	5,286.49	20.87	-73.87	-14.62	10.00	10.00	0.00
5,400.01	40.00	285.78	5,368.30	36.45	-129.00	-25.53	10.00	10.00	0.00
5,403.59	40.36	285.78	5,371.03	37.08	-131.22	-25.97	10.00	10.00	0.00
Begin 40.36° tangent section									
5,500.01	40.36	285.78	5,444.51	54.06	-191.31	-37.86	0.00	0.00	0.00
5,600.01	40.36	285.78	5,520.71	71.67	-253.63	-50.20	0.00	0.00	0.00
5,700.01	40.36	285.78	5,596.91	89.28	-315.95	-62.53	0.00	0.00	0.00
5,800.01	40.36	285.78	5,673.11	106.88	-378.26	-74.87	0.00	0.00	0.00
5,900.01	40.36	285.78	5,749.31	124.49	-440.58	-87.20	0.00	0.00	0.00
6,000.01	40.36	285.78	5,825.51	142.10	-502.90	-99.53	0.00	0.00	0.00
6,100.01	40.36	285.78	5,901.71	159.71	-565.22	-111.87	0.00	0.00	0.00
6,119.34	40.36	285.78	5,916.44	163.11	-577.26	-114.25	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,200.01	39.23	273.28	5,978.52	171.69	-627.95	-118.56	10.00	-1.40	-15.49
6,300.01	39.74	257.55	6,055.90	166.60	-690.89	-108.21	10.00	0.51	-15.74
6,400.01	42.27	242.78	6,131.54	144.26	-752.16	-80.83	10.00	2.53	-14.77
6,500.01	46.49	229.79	6,203.14	105.36	-809.91	-37.23	10.00	4.22	-12.99
6,600.01	51.97	218.72	6,268.53	51.08	-862.37	21.24	10.00	5.48	-11.07
6,700.01	58.34	209.31	6,325.72	-16.94	-907.95	92.83	10.00	6.37	-9.41
6,800.01	65.30	201.16	6,372.98	-96.61	-945.27	175.35	10.00	6.96	-8.15
6,900.01	72.66	193.89	6,408.87	-185.54	-973.19	266.30	10.00	7.36	-7.26
7,000.01	80.26	187.20	6,432.29	-281.00	-990.87	362.91	10.00	7.60	-6.69
7,100.01	87.98	180.81	6,442.54	-380.11	-997.77	462.25	10.00	7.72	-6.39
7,127.77	90.13	179.05	6,443.00	-407.85	-997.73	489.89	10.01	7.76	-6.32
LP Begin 90.13° lateral section									
7,200.01	90.13	179.05	6,442.83	-480.09	-996.54	561.78	0.00	0.00	0.00
7,300.01	90.13	179.05	6,442.60	-580.08	-994.89	661.27	0.00	0.00	0.00
7,400.01	90.13	179.05	6,442.38	-680.06	-993.23	760.77	0.00	0.00	0.00
7,500.02	90.13	179.05	6,442.15	-780.05	-991.58	860.27	0.00	0.00	0.00
7,600.02	90.13	179.05	6,441.92	-880.04	-989.93	959.77	0.00	0.00	0.00
7,700.02	90.13	179.05	6,441.69	-980.02	-988.27	1,059.26	0.00	0.00	0.00
7,800.02	90.13	179.05	6,441.46	-1,080.01	-986.62	1,158.76	0.00	0.00	0.00
7,900.02	90.13	179.05	6,441.23	-1,179.99	-984.97	1,258.26	0.00	0.00	0.00
8,000.02	90.13	179.05	6,441.00	-1,279.98	-983.32	1,357.76	0.00	0.00	0.00
8,100.02	90.13	179.05	6,440.77	-1,379.97	-981.66	1,457.25	0.00	0.00	0.00
8,200.02	90.13	179.05	6,440.54	-1,479.95	-980.01	1,556.75	0.00	0.00	0.00
8,300.02	90.13	179.05	6,440.31	-1,579.94	-978.36	1,656.25	0.00	0.00	0.00
8,400.02	90.13	179.05	6,440.08	-1,679.93	-976.70	1,755.75	0.00	0.00	0.00
8,500.02	90.13	179.05	6,439.85	-1,779.91	-975.05	1,855.24	0.00	0.00	0.00
8,600.02	90.13	179.05	6,439.62	-1,879.90	-973.40	1,954.74	0.00	0.00	0.00
8,700.02	90.13	179.05	6,439.39	-1,979.88	-971.75	2,054.24	0.00	0.00	0.00
8,800.02	90.13	179.05	6,439.16	-2,079.87	-970.09	2,153.74	0.00	0.00	0.00
8,900.02	90.13	179.05	6,438.93	-2,179.86	-968.44	2,253.23	0.00	0.00	0.00
9,000.02	90.13	179.05	6,438.71	-2,279.84	-966.79	2,352.73	0.00	0.00	0.00
9,100.02	90.13	179.05	6,438.48	-2,379.83	-965.13	2,452.23	0.00	0.00	0.00
9,200.02	90.13	179.05	6,438.25	-2,479.82	-963.48	2,551.73	0.00	0.00	0.00
9,300.02	90.13	179.05	6,438.02	-2,579.80	-961.83	2,651.22	0.00	0.00	0.00
9,400.02	90.13	179.05	6,437.79	-2,679.79	-960.18	2,750.72	0.00	0.00	0.00
9,500.02	90.13	179.05	6,437.56	-2,779.77	-958.52	2,850.22	0.00	0.00	0.00
9,600.02	90.13	179.05	6,437.33	-2,879.76	-956.87	2,949.72	0.00	0.00	0.00
9,700.02	90.13	179.05	6,437.10	-2,979.75	-955.22	3,049.21	0.00	0.00	0.00
9,800.02	90.13	179.05	6,436.87	-3,079.73	-953.56	3,148.71	0.00	0.00	0.00

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Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	90.13	179.05	6,436.64	-3,179.72	-951.91	3,248.21	0.00	0.00	0.00	
10,000.02	90.13	179.05	6,436.41	-3,279.71	-950.26	3,347.71	0.00	0.00	0.00	
10,100.02	90.13	179.05	6,436.18	-3,379.69	-948.61	3,447.20	0.00	0.00	0.00	
10,200.02	90.13	179.05	6,435.95	-3,479.68	-946.95	3,546.70	0.00	0.00	0.00	
10,300.02	90.13	179.05	6,435.72	-3,579.67	-945.30	3,646.20	0.00	0.00	0.00	
10,400.02	90.13	179.05	6,435.49	-3,679.65	-943.65	3,745.70	0.00	0.00	0.00	
10,500.02	90.13	179.05	6,435.26	-3,779.64	-941.99	3,845.19	0.00	0.00	0.00	
10,600.02	90.13	179.05	6,435.03	-3,879.62	-940.34	3,944.69	0.00	0.00	0.00	
10,700.02	90.13	179.05	6,434.81	-3,979.61	-938.69	4,044.19	0.00	0.00	0.00	
10,800.02	90.13	179.05	6,434.58	-4,079.60	-937.04	4,143.69	0.00	0.00	0.00	
10,900.02	90.13	179.05	6,434.35	-4,179.58	-935.38	4,243.18	0.00	0.00	0.00	
11,000.02	90.13	179.05	6,434.12	-4,279.57	-933.73	4,342.68	0.00	0.00	0.00	
11,100.02	90.13	179.05	6,433.89	-4,379.56	-932.08	4,442.18	0.00	0.00	0.00	
11,200.02	90.13	179.05	6,433.66	-4,479.54	-930.42	4,541.68	0.00	0.00	0.00	
11,300.02	90.13	179.05	6,433.43	-4,579.53	-928.77	4,641.17	0.00	0.00	0.00	
11,400.02	90.13	179.05	6,433.20	-4,679.51	-927.12	4,740.67	0.00	0.00	0.00	
11,500.02	90.13	179.05	6,432.97	-4,779.50	-925.47	4,840.17	0.00	0.00	0.00	
11,600.02	90.13	179.05	6,432.74	-4,879.49	-923.81	4,939.67	0.00	0.00	0.00	
11,700.02	90.13	179.05	6,432.51	-4,979.47	-922.16	5,039.16	0.00	0.00	0.00	
11,800.02	90.13	179.05	6,432.28	-5,079.46	-920.51	5,138.66	0.00	0.00	0.00	
11,900.02	90.13	179.05	6,432.05	-5,179.45	-918.85	5,238.16	0.00	0.00	0.00	
12,000.02	90.13	179.05	6,431.82	-5,279.43	-917.20	5,337.66	0.00	0.00	0.00	
12,100.02	90.13	179.05	6,431.59	-5,379.42	-915.55	5,437.15	0.00	0.00	0.00	
12,200.02	90.13	179.05	6,431.36	-5,479.40	-913.90	5,536.65	0.00	0.00	0.00	
12,300.02	90.13	179.05	6,431.13	-5,579.39	-912.24	5,636.15	0.00	0.00	0.00	
12,400.03	90.13	179.05	6,430.91	-5,679.38	-910.59	5,735.65	0.00	0.00	0.00	
12,500.03	90.13	179.05	6,430.68	-5,779.36	-908.94	5,835.14	0.00	0.00	0.00	
12,600.03	90.13	179.05	6,430.45	-5,879.35	-907.28	5,934.64	0.00	0.00	0.00	
12,700.03	90.13	179.05	6,430.22	-5,979.34	-905.63	6,034.14	0.00	0.00	0.00	
12,800.03	90.13	179.05	6,429.99	-6,079.32	-903.98	6,133.64	0.00	0.00	0.00	
12,900.03	90.13	179.05	6,429.76	-6,179.31	-902.33	6,233.13	0.00	0.00	0.00	
13,000.03	90.13	179.05	6,429.53	-6,279.29	-900.67	6,332.63	0.00	0.00	0.00	
13,100.03	90.13	179.05	6,429.30	-6,379.28	-899.02	6,432.13	0.00	0.00	0.00	
13,200.03	90.13	179.05	6,429.07	-6,479.27	-897.37	6,531.63	0.00	0.00	0.00	
13,300.03	90.13	179.05	6,428.84	-6,579.25	-895.71	6,631.12	0.00	0.00	0.00	
13,400.03	90.13	179.05	6,428.61	-6,679.24	-894.06	6,730.62	0.00	0.00	0.00	
13,500.03	90.13	179.05	6,428.38	-6,779.23	-892.41	6,830.12	0.00	0.00	0.00	
13,600.03	90.13	179.05	6,428.15	-6,879.21	-890.75	6,929.62	0.00	0.00	0.00	
13,700.03	90.13	179.05	6,427.92	-6,979.20	-889.10	7,029.11	0.00	0.00	0.00	
13,800.03	90.13	179.05	6,427.69	-7,079.18	-887.45	7,128.61	0.00	0.00	0.00	
13,900.03	90.13	179.05	6,427.46	-7,179.17	-885.80	7,228.11	0.00	0.00	0.00	
14,000.03	90.13	179.05	6,427.23	-7,279.16	-884.14	7,327.61	0.00	0.00	0.00	
14,100.03	90.13	179.05	6,427.01	-7,379.14	-882.49	7,427.10	0.00	0.00	0.00	
14,200.03	90.13	179.05	6,426.78	-7,479.13	-880.84	7,526.60	0.00	0.00	0.00	
14,300.03	90.13	179.05	6,426.55	-7,579.12	-879.18	7,626.10	0.00	0.00	0.00	
14,400.03	90.13	179.05	6,426.32	-7,679.10	-877.53	7,725.60	0.00	0.00	0.00	
14,500.03	90.13	179.05	6,426.09	-7,779.09	-875.88	7,825.09	0.00	0.00	0.00	
14,600.03	90.13	179.05	6,425.86	-7,879.08	-874.23	7,924.59	0.00	0.00	0.00	
14,700.03	90.13	179.05	6,425.63	-7,979.06	-872.57	8,024.09	0.00	0.00	0.00	
14,800.03	90.13	179.05	6,425.40	-8,079.05	-870.92	8,123.59	0.00	0.00	0.00	
14,900.03	90.13	179.05	6,425.17	-8,179.03	-869.27	8,223.08	0.00	0.00	0.00	
15,000.03	90.13	179.05	6,424.94	-8,279.02	-867.61	8,322.58	0.00	0.00	0.00	
15,100.03	90.13	179.05	6,424.71	-8,379.01	-865.96	8,422.08	0.00	0.00	0.00	
15,200.03	90.13	179.05	6,424.48	-8,478.99	-864.31	8,521.58	0.00	0.00	0.00	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	90.13	179.05	6,424.25	-8,578.98	-862.66	8,621.07	0.00	0.00	0.00	
15,400.03	90.13	179.05	6,424.02	-8,678.97	-861.00	8,720.57	0.00	0.00	0.00	
15,500.03	90.13	179.05	6,423.79	-8,778.95	-859.35	8,820.07	0.00	0.00	0.00	
15,600.03	90.13	179.05	6,423.56	-8,878.94	-857.70	8,919.57	0.00	0.00	0.00	
15,700.03	90.13	179.05	6,423.33	-8,978.92	-856.04	9,019.06	0.00	0.00	0.00	
15,800.03	90.13	179.05	6,423.11	-9,078.91	-854.39	9,118.56	0.00	0.00	0.00	
15,900.03	90.13	179.05	6,422.88	-9,178.90	-852.74	9,218.06	0.00	0.00	0.00	
16,000.03	90.13	179.05	6,422.65	-9,278.88	-851.09	9,317.56	0.00	0.00	0.00	
16,100.03	90.13	179.05	6,422.42	-9,378.87	-849.43	9,417.05	0.00	0.00	0.00	
16,200.03	90.13	179.05	6,422.19	-9,478.86	-847.78	9,516.55	0.00	0.00	0.00	
16,300.03	90.13	179.05	6,421.96	-9,578.84	-846.13	9,616.05	0.00	0.00	0.00	
16,400.03	90.13	179.05	6,421.73	-9,678.83	-844.47	9,715.55	0.00	0.00	0.00	
16,500.03	90.13	179.05	6,421.50	-9,778.81	-842.82	9,815.04	0.00	0.00	0.00	
16,600.03	90.13	179.05	6,421.27	-9,878.80	-841.17	9,914.54	0.00	0.00	0.00	
16,700.03	90.13	179.05	6,421.04	-9,978.79	-839.52	10,014.04	0.00	0.00	0.00	
16,717.75	90.13	179.05	6,421.00	-9,996.50	-839.22	10,031.67	0.00	0.00	0.00	
PBHL/TD 16717.75 MD 6421.00 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 10-7-3L 4	0.00	0.00	6,421.00	-9,996.50	-839.22	14,638,767.67	1,799,060.27	40.30626000	-104.43097000	
- plan hits target center										
- Point										
LP 70 Ranch 10-7-3L 47	0.00	0.00	6,443.00	-407.85	-997.73	14,648,355.08	1,798,839.80	40.33259000	-104.43154000	
- 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	
5,403.59	5,371.03	37.08	-131.22	Begin 40.36° tangent section	
6,119.34	5,916.44	163.11	-577.26	Begin 10°/100' build/turn	
7,127.77	6,443.00	-407.85	-997.73	LP Begin 90.13° lateral section	
16,717.75	6,421.00	-9,996.50	-839.22	PBHL/TD 16717.75 MD 6421.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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 10-7-3L, Surf Loc: 75 FNL 1651 FWL Section 10-T04N-R63W					
Well Position	+N/-S	0.00 ft	Northing:	14,648,769.37 usft	Latitude:	40.33371000
	+E/-W	0.00 ft	Easting:	1,799,834.87 usft	Longitude:	-104.42796000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,604.01 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	184.80

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,717.75 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	
5,403.59	40.36	285.78	5,371.03	37.08	-131.22	10.00	10.00	0.00	285.78	
6,119.34	40.36	285.78	5,916.44	163.11	-577.26	0.00	0.00	0.00	0.00	
7,127.77	90.13	179.05	6,443.00	-407.85	-997.73	10.00	4.94	-10.58	-102.81	LP 70 Ranch 10-7-3L
16,717.75	90.13	179.05	6,421.00	-9,996.50	-839.22	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-7-3

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
100.00	0.00	0.00	100.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
200.00	0.00	0.00	200.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
300.00	0.00	0.00	300.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
400.00	0.00	0.00	400.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
500.00	0.00	0.00	500.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
600.00	0.00	0.00	600.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
700.00	0.00	0.00	700.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
800.00	0.00	0.00	800.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
900.00	0.00	0.00	900.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
KOP Begin 10°/100' build									
5,000.01	0.00	285.78	5,000.01	0.00	0.00	14,648,769.37	1,799,834.87	40.33371000	-104.42796000
5,100.01	10.00	285.78	5,099.50	2.37	-8.38	14,648,771.68	1,799,826.48	40.33371650	-104.42799007

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	285.78	5,195.97	9.40	-33.25	14,648,778.55	1,799,801.56	40.33373580	-104.42807933
5,300.01	30.00	285.78	5,286.49	20.87	-73.87	14,648,789.77	1,799,760.87	40.33376731	-104.42822508
5,400.01	40.00	285.78	5,368.30	36.45	-129.00	14,648,804.99	1,799,705.64	40.33381009	-104.42842289
5,403.59	40.36	285.78	5,371.03	37.08	-131.22	14,648,805.60	1,799,703.41	40.33381181	-104.42843086
Begin 40.36° tangent section									
5,500.01	40.36	285.78	5,444.51	54.06	-191.31	14,648,822.19	1,799,643.22	40.33385843	-104.42864647
5,600.01	40.36	285.78	5,520.71	71.67	-253.63	14,648,839.40	1,799,580.79	40.33390679	-104.42887008
5,700.01	40.36	285.78	5,596.91	89.28	-315.95	14,648,856.60	1,799,518.36	40.33395514	-104.42909369
5,800.01	40.36	285.78	5,673.11	106.88	-378.26	14,648,873.81	1,799,455.93	40.33400349	-104.42931729
5,900.01	40.36	285.78	5,749.31	124.49	-440.58	14,648,891.01	1,799,393.50	40.33405184	-104.42954090
6,000.01	40.36	285.78	5,825.51	142.10	-502.90	14,648,908.22	1,799,331.07	40.33410019	-104.42976451
6,100.01	40.36	285.78	5,901.71	159.71	-565.22	14,648,925.43	1,799,268.64	40.33414854	-104.42998812
6,119.34	40.36	285.78	5,916.44	163.11	-577.26	14,648,928.75	1,799,256.57	40.33415788	-104.43003134
Begin 10°/100' build/turn									
6,200.01	39.23	273.28	5,978.52	171.69	-627.95	14,648,937.00	1,799,205.83	40.33418143	-104.43021322
6,300.01	39.74	257.55	6,055.90	166.60	-690.89	14,648,931.50	1,799,142.92	40.33416743	-104.43043907
6,400.01	42.27	242.78	6,131.54	144.26	-752.16	14,648,908.77	1,799,081.79	40.33410609	-104.43065894
6,500.01	46.49	229.79	6,203.14	105.36	-809.91	14,648,869.49	1,799,024.30	40.33399927	-104.43086613
6,600.01	51.97	218.72	6,268.53	51.08	-862.37	14,648,814.87	1,798,972.19	40.33385021	-104.43105436
6,700.01	58.34	209.31	6,325.72	-16.94	-907.95	14,648,746.57	1,798,927.05	40.33366345	-104.43121791
6,800.01	65.30	201.16	6,372.98	-96.61	-945.27	14,648,666.65	1,798,890.25	40.33344465	-104.43135181
6,900.01	72.66	193.89	6,408.87	-185.54	-973.19	14,648,577.55	1,798,862.90	40.33320047	-104.43145199
7,000.01	80.26	187.20	6,432.29	-281.00	-990.87	14,648,481.97	1,798,845.84	40.33293833	-104.43151541
7,100.01	87.98	180.81	6,442.54	-380.11	-997.77	14,648,382.82	1,798,839.59	40.33266618	-104.43154013
7,127.77	90.13	179.05	6,443.00	-407.85	-997.73	14,648,355.08	1,798,839.80	40.33259000	-104.43154000
LP Begin 90.13° lateral section									
7,200.01	90.13	179.05	6,442.83	-480.09	-996.54	14,648,282.85	1,798,841.46	40.33239163	-104.43153571
7,300.01	90.13	179.05	6,442.60	-580.08	-994.89	14,648,182.88	1,798,843.76	40.33211708	-104.43152976
7,400.01	90.13	179.05	6,442.38	-680.06	-993.23	14,648,082.90	1,798,846.06	40.33184252	-104.43152382
7,500.02	90.13	179.05	6,442.15	-780.05	-991.58	14,647,982.93	1,798,848.36	40.33156796	-104.43151787
7,600.02	90.13	179.05	6,441.92	-880.04	-989.93	14,647,882.96	1,798,850.66	40.33129341	-104.43151193
7,700.02	90.13	179.05	6,441.69	-980.02	-988.27	14,647,782.98	1,798,852.96	40.33101885	-104.43150598
7,800.02	90.13	179.05	6,441.46	-1,080.01	-986.62	14,647,683.01	1,798,855.26	40.33074429	-104.43150004
7,900.02	90.13	179.05	6,441.23	-1,179.99	-984.97	14,647,583.04	1,798,857.55	40.33046973	-104.43149409
8,000.02	90.13	179.05	6,441.00	-1,279.98	-983.32	14,647,483.06	1,798,859.85	40.33019518	-104.43148815
8,100.02	90.13	179.05	6,440.77	-1,379.97	-981.66	14,647,383.09	1,798,862.15	40.32992062	-104.43148220
8,200.02	90.13	179.05	6,440.54	-1,479.95	-980.01	14,647,283.12	1,798,864.45	40.32964606	-104.43147626
8,300.02	90.13	179.05	6,440.31	-1,579.94	-978.36	14,647,183.14	1,798,866.75	40.32937150	-104.43147031
8,400.02	90.13	179.05	6,440.08	-1,679.93	-976.70	14,647,083.17	1,798,869.05	40.32909695	-104.43146437
8,500.02	90.13	179.05	6,439.85	-1,779.91	-975.05	14,646,983.20	1,798,871.35	40.32882239	-104.43145842
8,600.02	90.13	179.05	6,439.62	-1,879.90	-973.40	14,646,883.22	1,798,873.65	40.32854783	-104.43145248
8,700.02	90.13	179.05	6,439.39	-1,979.88	-971.75	14,646,783.25	1,798,875.95	40.32827327	-104.43144653
8,800.02	90.13	179.05	6,439.16	-2,079.87	-970.09	14,646,683.28	1,798,878.25	40.32799872	-104.43144059
8,900.02	90.13	179.05	6,438.93	-2,179.86	-968.44	14,646,583.30	1,798,880.54	40.32772416	-104.43143464
9,000.02	90.13	179.05	6,438.71	-2,279.84	-966.79	14,646,483.33	1,798,882.84	40.32744960	-104.43142870
9,100.02	90.13	179.05	6,438.48	-2,379.83	-965.13	14,646,383.36	1,798,885.14	40.32717504	-104.43142275
9,200.02	90.13	179.05	6,438.25	-2,479.82	-963.48	14,646,283.38	1,798,887.44	40.32690049	-104.43141681
9,300.02	90.13	179.05	6,438.02	-2,579.80	-961.83	14,646,183.41	1,798,889.74	40.32662593	-104.43141086
9,400.02	90.13	179.05	6,437.79	-2,679.79	-960.18	14,646,083.44	1,798,892.04	40.32635137	-104.43140492
9,500.02	90.13	179.05	6,437.56	-2,779.77	-958.52	14,645,983.46	1,798,894.34	40.32607681	-104.43139897
9,600.02	90.13	179.05	6,437.33	-2,879.76	-956.87	14,645,883.49	1,798,896.64	40.32580226	-104.43139303
9,700.02	90.13	179.05	6,437.10	-2,979.75	-955.22	14,645,783.52	1,798,898.94	40.32552770	-104.43138709
9,800.02	90.13	179.05	6,436.87	-3,079.73	-953.56	14,645,683.55	1,798,901.24	40.32525314	-104.43138114
9,900.02	90.13	179.05	6,436.64	-3,179.72	-951.91	14,645,583.57	1,798,903.53	40.32497858	-104.43137520

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	90.13	179.05	6,436.41	-3,279.71	-950.26	14,645,483.60	1,798,905.83	40.32470403	-104.43136925	
10,100.02	90.13	179.05	6,436.18	-3,379.69	-948.61	14,645,383.63	1,798,908.13	40.32442947	-104.43136331	
10,200.02	90.13	179.05	6,435.95	-3,479.68	-946.95	14,645,283.65	1,798,910.43	40.32415491	-104.43135736	
10,300.02	90.13	179.05	6,435.72	-3,579.67	-945.30	14,645,183.68	1,798,912.73	40.32388035	-104.43135142	
10,400.02	90.13	179.05	6,435.49	-3,679.65	-943.65	14,645,083.71	1,798,915.03	40.32360580	-104.43134548	
10,500.02	90.13	179.05	6,435.26	-3,779.64	-941.99	14,644,983.73	1,798,917.33	40.32333124	-104.43133953	
10,600.02	90.13	179.05	6,435.03	-3,879.62	-940.34	14,644,883.76	1,798,919.63	40.32305668	-104.43133359	
10,700.02	90.13	179.05	6,434.81	-3,979.61	-938.69	14,644,783.79	1,798,921.93	40.32278212	-104.43132764	
10,800.02	90.13	179.05	6,434.58	-4,079.60	-937.04	14,644,683.81	1,798,924.23	40.32250757	-104.43132170	
10,900.02	90.13	179.05	6,434.35	-4,179.58	-935.38	14,644,583.84	1,798,926.52	40.32223301	-104.43131575	
11,000.02	90.13	179.05	6,434.12	-4,279.57	-933.73	14,644,483.87	1,798,928.82	40.32195845	-104.43130981	
11,100.02	90.13	179.05	6,433.89	-4,379.56	-932.08	14,644,383.89	1,798,931.12	40.32168389	-104.43130387	
11,200.02	90.13	179.05	6,433.66	-4,479.54	-930.42	14,644,283.92	1,798,933.42	40.32140933	-104.43129792	
11,300.02	90.13	179.05	6,433.43	-4,579.53	-928.77	14,644,183.95	1,798,935.72	40.32113478	-104.43129198	
11,400.02	90.13	179.05	6,433.20	-4,679.51	-927.12	14,644,083.97	1,798,938.02	40.32086022	-104.43128603	
11,500.02	90.13	179.05	6,432.97	-4,779.50	-925.47	14,643,984.00	1,798,940.32	40.32058566	-104.43128009	
11,600.02	90.13	179.05	6,432.74	-4,879.49	-923.81	14,643,884.03	1,798,942.62	40.32031110	-104.43127415	
11,700.02	90.13	179.05	6,432.51	-4,979.47	-922.16	14,643,784.05	1,798,944.92	40.32003655	-104.43126820	
11,800.02	90.13	179.05	6,432.28	-5,079.46	-920.51	14,643,684.08	1,798,947.21	40.31976199	-104.43126226	
11,900.02	90.13	179.05	6,432.05	-5,179.45	-918.85	14,643,584.11	1,798,949.51	40.31948743	-104.43125632	
12,000.02	90.13	179.05	6,431.82	-5,279.43	-917.20	14,643,484.13	1,798,951.81	40.31921287	-104.43125037	
12,100.02	90.13	179.05	6,431.59	-5,379.42	-915.55	14,643,384.16	1,798,954.11	40.31893831	-104.43124443	
12,200.02	90.13	179.05	6,431.36	-5,479.40	-913.90	14,643,284.19	1,798,956.41	40.31866376	-104.43123848	
12,300.02	90.13	179.05	6,431.13	-5,579.39	-912.24	14,643,184.21	1,798,958.71	40.31838920	-104.43123254	
12,400.03	90.13	179.05	6,430.91	-5,679.38	-910.59	14,643,084.24	1,798,961.01	40.31811464	-104.43122660	
12,500.03	90.13	179.05	6,430.68	-5,779.36	-908.94	14,642,984.27	1,798,963.31	40.31784008	-104.43122065	
12,600.03	90.13	179.05	6,430.45	-5,879.35	-907.28	14,642,884.29	1,798,965.61	40.31756552	-104.43121471	
12,700.03	90.13	179.05	6,430.22	-5,979.34	-905.63	14,642,784.32	1,798,967.91	40.31729097	-104.43120877	
12,800.03	90.13	179.05	6,429.99	-6,079.32	-903.98	14,642,684.35	1,798,970.20	40.31701641	-104.43120282	
12,900.03	90.13	179.05	6,429.76	-6,179.31	-902.33	14,642,584.37	1,798,972.50	40.31674185	-104.43119688	
13,000.03	90.13	179.05	6,429.53	-6,279.29	-900.67	14,642,484.40	1,798,974.80	40.31646729	-104.43119094	
13,100.03	90.13	179.05	6,429.30	-6,379.28	-899.02	14,642,384.43	1,798,977.10	40.31619274	-104.43118499	
13,200.03	90.13	179.05	6,429.07	-6,479.27	-897.37	14,642,284.45	1,798,979.40	40.31591818	-104.43117905	
13,300.03	90.13	179.05	6,428.84	-6,579.25	-895.71	14,642,184.48	1,798,981.70	40.31564362	-104.43117311	
13,400.03	90.13	179.05	6,428.61	-6,679.24	-894.06	14,642,084.51	1,798,984.00	40.31536906	-104.43116716	
13,500.03	90.13	179.05	6,428.38	-6,779.23	-892.41	14,641,984.53	1,798,986.30	40.31509450	-104.43116122	
13,600.03	90.13	179.05	6,428.15	-6,879.21	-890.75	14,641,884.56	1,798,988.60	40.31481995	-104.43115528	
13,700.03	90.13	179.05	6,427.92	-6,979.20	-889.10	14,641,784.59	1,798,990.90	40.31454539	-104.43114933	
13,800.03	90.13	179.05	6,427.69	-7,079.18	-887.45	14,641,684.61	1,798,993.19	40.31427083	-104.43114339	
13,900.03	90.13	179.05	6,427.46	-7,179.17	-885.80	14,641,584.64	1,798,995.49	40.31399627	-104.43113745	
14,000.03	90.13	179.05	6,427.23	-7,279.16	-884.14	14,641,484.67	1,798,997.79	40.31372171	-104.43113151	
14,100.03	90.13	179.05	6,427.01	-7,379.14	-882.49	14,641,384.69	1,799,000.09	40.31344715	-104.43112556	
14,200.03	90.13	179.05	6,426.78	-7,479.13	-880.84	14,641,284.72	1,799,002.39	40.31317260	-104.43111962	
14,300.03	90.13	179.05	6,426.55	-7,579.12	-879.18	14,641,184.75	1,799,004.69	40.31289804	-104.43111368	
14,400.03	90.13	179.05	6,426.32	-7,679.10	-877.53	14,641,084.77	1,799,006.99	40.31262349	-104.43110773	
14,500.03	90.13	179.05	6,426.09	-7,779.09	-875.88	14,640,984.80	1,799,009.29	40.31234893	-104.43110179	
14,600.03	90.13	179.05	6,425.86	-7,879.08	-874.23	14,640,884.83	1,799,011.59	40.31207437	-104.43109585	
14,700.03	90.13	179.05	6,425.63	-7,979.06	-872.57	14,640,784.85	1,799,013.89	40.31179982	-104.43108991	
14,800.03	90.13	179.05	6,425.40	-8,079.05	-870.92	14,640,684.88	1,799,016.18	40.31152526	-104.43108396	
14,900.03	90.13	179.05	6,425.17	-8,179.03	-869.27	14,640,584.91	1,799,018.48	40.31125070	-104.43107802	
15,000.03	90.13	179.05	6,424.94	-8,279.02	-867.61	14,640,484.93	1,799,020.78	40.31097614	-104.43107208	
15,100.03	90.13	179.05	6,424.71	-8,379.01	-865.96	14,640,384.96	1,799,023.08	40.31070158	-104.43106613	
15,200.03	90.13	179.05	6,424.48	-8,478.99	-864.31	14,640,284.99	1,799,025.38	40.31042702	-104.43106019	
15,300.03	90.13	179.05	6,424.25	-8,578.98	-862.66	14,640,185.01	1,799,027.68	40.31015247	-104.43105425	
15,400.03	90.13	179.05	6,424.02	-8,678.97	-861.00	14,640,085.04	1,799,029.98	40.30987791	-104.43104831	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=4604+25 @ 4629.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-7-3L	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	90.13	179.05	6,423.79	-8,778.95	-859.35	14,639,985.07	1,799,032.28	40.30960335	-104.43104236
15,600.03	90.13	179.05	6,423.56	-8,878.94	-857.70	14,639,885.09	1,799,034.58	40.30932879	-104.43103642
15,700.03	90.13	179.05	6,423.33	-8,978.92	-856.04	14,639,785.12	1,799,036.88	40.30905423	-104.43103048
15,800.03	90.13	179.05	6,423.11	-9,078.91	-854.39	14,639,685.15	1,799,039.17	40.30877967	-104.43102454
15,900.03	90.13	179.05	6,422.88	-9,178.90	-852.74	14,639,585.17	1,799,041.47	40.30850512	-104.43101859
16,000.03	90.13	179.05	6,422.65	-9,278.88	-851.09	14,639,485.20	1,799,043.77	40.30823056	-104.43101265
16,100.03	90.13	179.05	6,422.42	-9,378.87	-849.43	14,639,385.23	1,799,046.07	40.30795600	-104.43100671
16,200.03	90.13	179.05	6,422.19	-9,478.86	-847.78	14,639,285.25	1,799,048.37	40.30768144	-104.43100077
16,300.03	90.13	179.05	6,421.96	-9,578.84	-846.13	14,639,185.28	1,799,050.67	40.30740688	-104.43099483
16,400.03	90.13	179.05	6,421.73	-9,678.83	-844.47	14,639,085.31	1,799,052.97	40.30713232	-104.43098888
16,500.03	90.13	179.05	6,421.50	-9,778.81	-842.82	14,638,985.33	1,799,055.27	40.30685777	-104.43098294
16,600.03	90.13	179.05	6,421.27	-9,878.80	-841.17	14,638,885.36	1,799,057.57	40.30658321	-104.43097700
16,700.03	90.13	179.05	6,421.04	-9,978.79	-839.52	14,638,785.39	1,799,059.87	40.30630865	-104.43097106
16,717.75	90.13	179.05	6,421.00	-9,996.50	-839.22	14,638,767.67	1,799,060.27	40.30626000	-104.43097000
PBHL/TD 16717.75 MD 6421.00 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 10-7-3L 4	0.00	0.00	6,421.00	-9,996.50	-839.22	14,638,767.67	1,799,060.27	40.30626000	-104.43097000
- plan hits target center									
- Point									
LP 70 Ranch 10-7-3L 47	0.00	0.00	6,443.00	-407.85	-997.73	14,648,355.08	1,798,839.80	40.33259000	-104.43154000
- plan hits target center									
- Point									

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
5,403.59	5,371.03	37.08	-131.22	Begin 40.36° tangent section
6,119.34	5,916.44	163.11	-577.26	Begin 10°/100' build/turn
7,127.77	6,443.00	-407.85	-997.73	LP Begin 90.13° lateral section
16,717.75	6,421.00	-9,996.50	-839.22	PBHL/TD 16717.75 MD 6421.00 TVD