



Weld County, Colorado
Section 10 & 15 T04N-R63W
70 Ranch 10-8-2L
plan1

Azimuth Corrections:

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

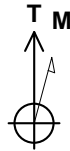
70 Ranch 10-8-2L			
Surf Loc: 69 FNL 1627 FWL Section 10-T04N-R63W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=4604+25 @ 4629.01ft			
Northing	Easting	Latitude	Longitude
14648776.49	1799809.75	40.33373000	-104.42805000

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	5459.66	45.97	282.89	5411.92	38.96	-170.30	10.00	-21.44	Begin 45.97° tangent section
4	6194.96	45.97	282.89	5923.01	156.85	-685.62	0.00	-86.30	Begin 10°/100' build/turn
5	7193.69	90.13	179.22	6395.00	-415.13	-1153.80	10.00	530.34	LP Begin 90.13° lateral section
6	16786.89	90.13	179.22	6373.00	-10007.42	-1023.23	0.00	10059.59	PBHL/TD 16786.89 MD/6373.00 TVD

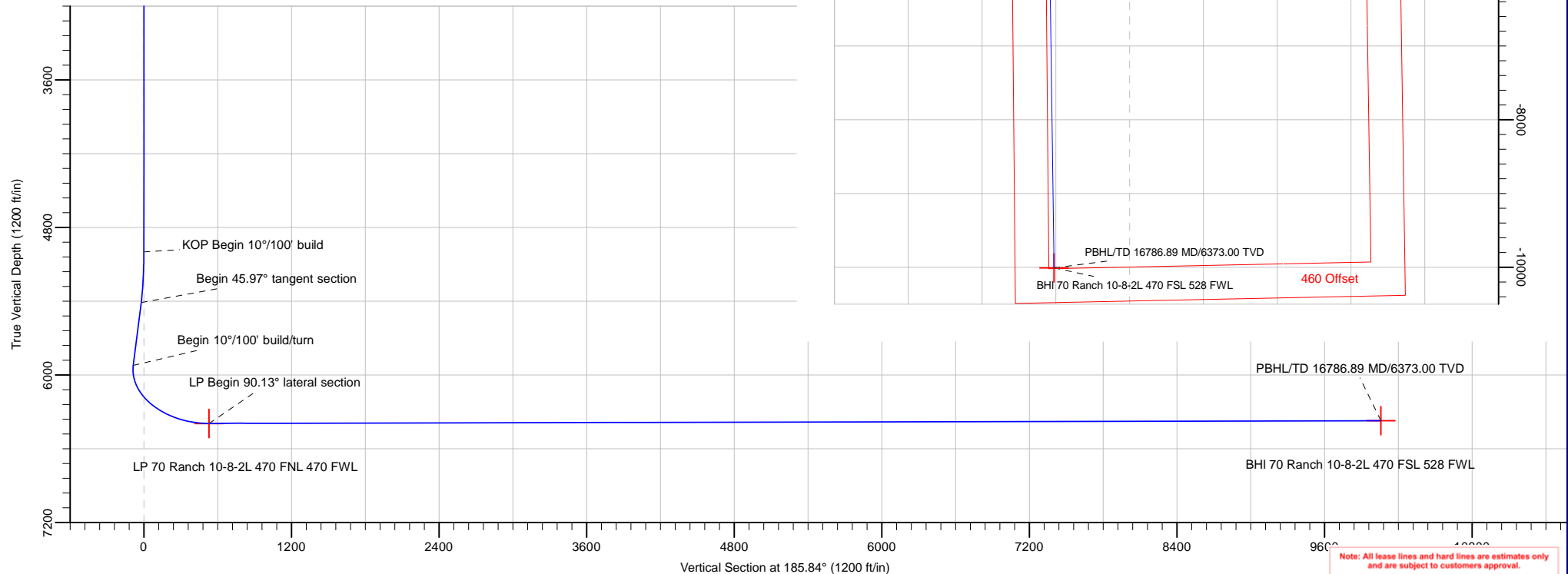
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHI 70 Ranch 10-8-2L 470 FSL 528 FWL	6373.00	-10007.42	-1023.23	14638762.69	1798851.20	40.30625000	-104.43172000
LP 70 Ranch 10-8-2L 470 FNL 470 FWL	6395.00	-415.13	-1153.80	14648353.92	1798658.65	40.33259000	-104.43219000



Azimuths to True North
Magnetic North: 8.17°

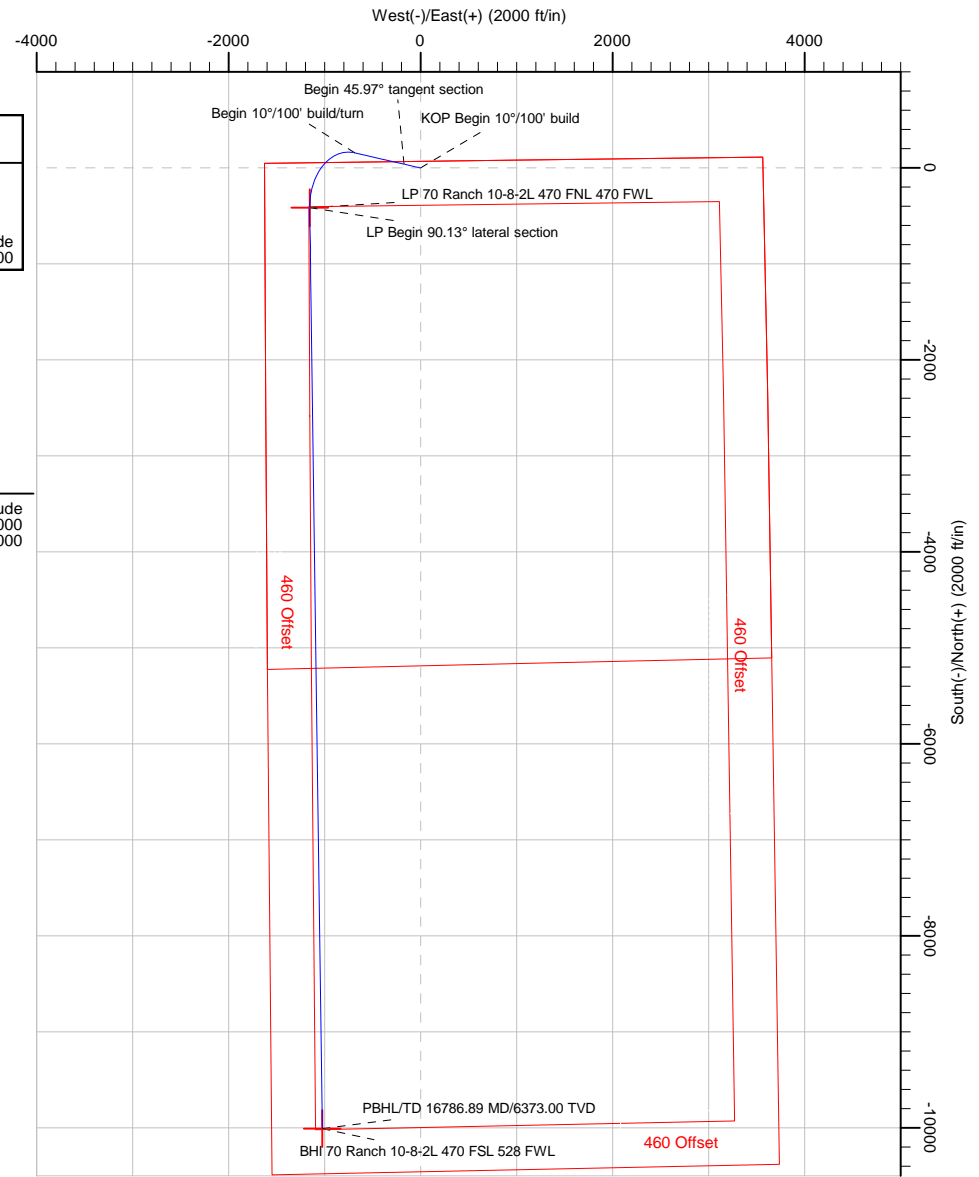
Magnetic Field
Strength: 52358.2snT
Dip Angle: 66.97°
Date: 5/7/2017
Model: HDGM



Date: 12:50, May 09 2017

Vertical Section at 185.84° (1200 ft/in)

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 10-8-2L
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 10-8-2L	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 10-8-2L, Surf Loc: 69 FNL 1627 FWL Section 10-T04N-R63W					
Well Position	+N/-S	91.05 ft	Northing:	14,648,776.49 usft	Latitude:	40.33373000
	+E/-W	-340.00 ft	Easting:	1,799,809.75 usft	Longitude:	-104.42805000
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	185.84

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,786.89	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	
5,459.66	45.97	282.89	5,411.92	38.96	-170.30	10.00	10.00	0.00	282.89	
6,194.96	45.97	282.89	5,923.01	156.85	-685.62	0.00	0.00	0.00	0.00	
7,193.69	90.13	179.22	6,395.00	-415.13	-1,153.80	10.00	4.42	-10.38	-99.50	LP 70 Ranch 10-8-2L
16,786.89	90.13	179.22	6,373.00	-10,007.42	-1,023.23	0.00	0.00	0.00	0.00	BHI 70 Ranch 10-8-2L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	282.89	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	282.89	5,099.50	1.94	-8.49	-1.07	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-2L	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	282.89	5,195.97	7.71	-33.69	-4.24	10.00	10.00	0.00
5,300.01	30.00	282.89	5,286.49	17.12	-74.83	-9.42	10.00	10.00	0.00
5,400.01	40.00	282.89	5,368.30	29.90	-130.68	-16.45	10.00	10.00	0.00
5,459.66	45.97	282.89	5,411.92	38.96	-170.30	-21.44	10.00	10.00	0.00
Begin 45.97° tangent section									
5,500.01	45.97	282.89	5,439.96	45.43	-198.58	-25.00	0.00	0.00	0.00
5,600.01	45.97	282.89	5,509.47	61.46	-268.66	-33.82	0.00	0.00	0.00
5,700.01	45.97	282.89	5,578.98	77.50	-338.75	-42.64	0.00	0.00	0.00
5,800.01	45.97	282.89	5,648.49	93.53	-408.83	-51.46	0.00	0.00	0.00
5,900.01	45.97	282.89	5,718.00	109.56	-478.91	-60.28	0.00	0.00	0.00
6,000.01	45.97	282.89	5,787.51	125.60	-548.99	-69.10	0.00	0.00	0.00
6,100.01	45.97	282.89	5,857.01	141.63	-619.08	-77.93	0.00	0.00	0.00
6,194.96	45.97	282.89	5,923.01	156.85	-685.62	-86.30	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,200.01	45.88	282.19	5,926.53	157.64	-689.16	-86.72	9.98	-1.60	-13.70
6,300.01	45.17	268.20	5,996.76	164.12	-759.87	-85.98	10.00	-0.72	-14.00
6,400.01	46.16	254.27	6,066.82	153.20	-830.20	-67.96	10.00	1.00	-13.93
6,500.01	48.77	241.15	6,134.58	125.21	-898.02	-33.22	10.00	2.61	-13.12
6,600.01	52.73	229.28	6,197.98	80.99	-961.28	17.21	10.00	3.96	-11.87
6,700.01	57.75	218.74	6,255.08	21.90	-1,018.03	81.77	10.00	5.02	-10.54
6,800.01	63.54	209.38	6,304.16	-50.28	-1,066.58	158.51	10.00	5.80	-9.36
6,900.01	69.89	200.96	6,343.73	-133.34	-1,105.42	245.09	10.00	6.35	-8.42
7,000.01	76.60	193.21	6,372.57	-224.78	-1,133.40	338.90	10.00	6.71	-7.75
7,100.01	83.54	185.89	6,389.83	-321.80	-1,149.65	437.07	10.00	6.94	-7.32
7,193.69	90.13	179.22	6,395.00	-415.13	-1,153.80	530.34	10.00	7.04	-7.12
LP Begin 90.13° lateral section									
7,200.01	90.13	179.22	6,394.99	-421.46	-1,153.72	536.62	0.00	0.00	0.00
7,300.01	90.13	179.22	6,394.76	-521.45	-1,152.35	635.96	0.00	0.00	0.00
7,400.01	90.13	179.22	6,394.53	-621.44	-1,150.99	735.29	0.00	0.00	0.00
7,500.02	90.13	179.22	6,394.30	-721.43	-1,149.63	834.62	0.00	0.00	0.00
7,600.02	90.13	179.22	6,394.07	-821.42	-1,148.27	933.96	0.00	0.00	0.00
7,700.02	90.13	179.22	6,393.84	-921.41	-1,146.91	1,033.29	0.00	0.00	0.00
7,800.02	90.13	179.22	6,393.61	-1,021.40	-1,145.55	1,132.62	0.00	0.00	0.00
7,900.02	90.13	179.22	6,393.38	-1,121.39	-1,144.19	1,231.96	0.00	0.00	0.00
8,000.02	90.13	179.22	6,393.15	-1,221.38	-1,142.83	1,331.29	0.00	0.00	0.00
8,100.02	90.13	179.22	6,392.92	-1,321.37	-1,141.47	1,430.63	0.00	0.00	0.00
8,200.02	90.13	179.22	6,392.69	-1,421.36	-1,140.11	1,529.96	0.00	0.00	0.00
8,300.02	90.13	179.22	6,392.46	-1,521.35	-1,138.74	1,629.29	0.00	0.00	0.00
8,400.02	90.13	179.22	6,392.23	-1,621.34	-1,137.38	1,728.63	0.00	0.00	0.00
8,500.02	90.13	179.22	6,392.00	-1,721.33	-1,136.02	1,827.96	0.00	0.00	0.00
8,600.02	90.13	179.22	6,391.78	-1,821.33	-1,134.66	1,927.29	0.00	0.00	0.00
8,700.02	90.13	179.22	6,391.55	-1,921.32	-1,133.30	2,026.63	0.00	0.00	0.00
8,800.02	90.13	179.22	6,391.32	-2,021.31	-1,131.94	2,125.96	0.00	0.00	0.00
8,900.02	90.13	179.22	6,391.09	-2,121.30	-1,130.58	2,225.29	0.00	0.00	0.00
9,000.02	90.13	179.22	6,390.86	-2,221.29	-1,129.22	2,324.63	0.00	0.00	0.00
9,100.02	90.13	179.22	6,390.63	-2,321.28	-1,127.86	2,423.96	0.00	0.00	0.00
9,200.02	90.13	179.22	6,390.40	-2,421.27	-1,126.50	2,523.30	0.00	0.00	0.00
9,300.02	90.13	179.22	6,390.17	-2,521.26	-1,125.13	2,622.63	0.00	0.00	0.00
9,400.02	90.13	179.22	6,389.94	-2,621.25	-1,123.77	2,721.96	0.00	0.00	0.00
9,500.02	90.13	179.22	6,389.71	-2,721.24	-1,122.41	2,821.30	0.00	0.00	0.00
9,600.02	90.13	179.22	6,389.48	-2,821.23	-1,121.05	2,920.63	0.00	0.00	0.00
9,700.02	90.13	179.22	6,389.25	-2,921.22	-1,119.69	3,019.96	0.00	0.00	0.00
9,800.02	90.13	179.22	6,389.02	-3,021.21	-1,118.33	3,119.30	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4604+25 @ 4629.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-8-2L	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	179.22	6,388.79	-3,121.20	-1,116.97	3,218.63	0.00	0.00	0.00	
10,000.02	90.13	179.22	6,388.56	-3,221.20	-1,115.61	3,317.96	0.00	0.00	0.00	
10,100.02	90.13	179.22	6,388.34	-3,321.19	-1,114.25	3,417.30	0.00	0.00	0.00	
10,200.02	90.13	179.22	6,388.11	-3,421.18	-1,112.88	3,516.63	0.00	0.00	0.00	
10,300.02	90.13	179.22	6,387.88	-3,521.17	-1,111.52	3,615.97	0.00	0.00	0.00	
10,400.02	90.13	179.22	6,387.65	-3,621.16	-1,110.16	3,715.30	0.00	0.00	0.00	
10,500.02	90.13	179.22	6,387.42	-3,721.15	-1,108.80	3,814.63	0.00	0.00	0.00	
10,600.02	90.13	179.22	6,387.19	-3,821.14	-1,107.44	3,913.97	0.00	0.00	0.00	
10,700.02	90.13	179.22	6,386.96	-3,921.13	-1,106.08	4,013.30	0.00	0.00	0.00	
10,800.02	90.13	179.22	6,386.73	-4,021.12	-1,104.72	4,112.63	0.00	0.00	0.00	
10,900.02	90.13	179.22	6,386.50	-4,121.11	-1,103.36	4,211.97	0.00	0.00	0.00	
11,000.02	90.13	179.22	6,386.27	-4,221.10	-1,102.00	4,311.30	0.00	0.00	0.00	
11,100.02	90.13	179.22	6,386.04	-4,321.09	-1,100.64	4,410.63	0.00	0.00	0.00	
11,200.02	90.13	179.22	6,385.81	-4,421.08	-1,099.27	4,509.97	0.00	0.00	0.00	
11,300.02	90.13	179.22	6,385.58	-4,521.07	-1,097.91	4,609.30	0.00	0.00	0.00	
11,400.02	90.13	179.22	6,385.35	-4,621.06	-1,096.55	4,708.64	0.00	0.00	0.00	
11,500.02	90.13	179.22	6,385.12	-4,721.06	-1,095.19	4,807.97	0.00	0.00	0.00	
11,600.02	90.13	179.22	6,384.90	-4,821.05	-1,093.83	4,907.30	0.00	0.00	0.00	
11,700.02	90.13	179.22	6,384.67	-4,921.04	-1,092.47	5,006.64	0.00	0.00	0.00	
11,800.02	90.13	179.22	6,384.44	-5,021.03	-1,091.11	5,105.97	0.00	0.00	0.00	
11,900.02	90.13	179.22	6,384.21	-5,121.02	-1,089.75	5,205.30	0.00	0.00	0.00	
12,000.02	90.13	179.22	6,383.98	-5,221.01	-1,088.39	5,304.64	0.00	0.00	0.00	
12,100.02	90.13	179.22	6,383.75	-5,321.00	-1,087.02	5,403.97	0.00	0.00	0.00	
12,200.02	90.13	179.22	6,383.52	-5,420.99	-1,085.66	5,503.30	0.00	0.00	0.00	
12,300.02	90.13	179.22	6,383.29	-5,520.98	-1,084.30	5,602.64	0.00	0.00	0.00	
12,400.03	90.13	179.22	6,383.06	-5,620.97	-1,082.94	5,701.97	0.00	0.00	0.00	
12,500.03	90.13	179.22	6,382.83	-5,720.96	-1,081.58	5,801.30	0.00	0.00	0.00	
12,600.03	90.13	179.22	6,382.60	-5,820.95	-1,080.22	5,900.64	0.00	0.00	0.00	
12,700.03	90.13	179.22	6,382.37	-5,920.94	-1,078.86	5,999.97	0.00	0.00	0.00	
12,800.03	90.13	179.22	6,382.14	-6,020.93	-1,077.50	6,099.31	0.00	0.00	0.00	
12,900.03	90.13	179.22	6,381.91	-6,120.92	-1,076.14	6,198.64	0.00	0.00	0.00	
13,000.03	90.13	179.22	6,381.68	-6,220.92	-1,074.78	6,297.97	0.00	0.00	0.00	
13,100.03	90.13	179.22	6,381.46	-6,320.91	-1,073.41	6,397.31	0.00	0.00	0.00	
13,200.03	90.13	179.22	6,381.23	-6,420.90	-1,072.05	6,496.64	0.00	0.00	0.00	
13,300.03	90.13	179.22	6,381.00	-6,520.89	-1,070.69	6,595.97	0.00	0.00	0.00	
13,400.03	90.13	179.22	6,380.77	-6,620.88	-1,069.33	6,695.31	0.00	0.00	0.00	
13,500.03	90.13	179.22	6,380.54	-6,720.87	-1,067.97	6,794.64	0.00	0.00	0.00	
13,600.03	90.13	179.22	6,380.31	-6,820.86	-1,066.61	6,893.97	0.00	0.00	0.00	
13,700.03	90.13	179.22	6,380.08	-6,920.85	-1,065.25	6,993.31	0.00	0.00	0.00	
13,800.03	90.13	179.22	6,379.85	-7,020.84	-1,063.89	7,092.64	0.00	0.00	0.00	
13,900.03	90.13	179.22	6,379.62	-7,120.83	-1,062.53	7,191.98	0.00	0.00	0.00	
14,000.03	90.13	179.22	6,379.39	-7,220.82	-1,061.16	7,291.31	0.00	0.00	0.00	
14,100.03	90.13	179.22	6,379.16	-7,320.81	-1,059.80	7,390.64	0.00	0.00	0.00	
14,200.03	90.13	179.22	6,378.93	-7,420.80	-1,058.44	7,489.98	0.00	0.00	0.00	
14,300.03	90.13	179.22	6,378.70	-7,520.79	-1,057.08	7,589.31	0.00	0.00	0.00	
14,400.03	90.13	179.22	6,378.47	-7,620.78	-1,055.72	7,688.64	0.00	0.00	0.00	
14,500.03	90.13	179.22	6,378.24	-7,720.78	-1,054.36	7,787.98	0.00	0.00	0.00	
14,600.03	90.13	179.22	6,378.02	-7,820.77	-1,053.00	7,887.31	0.00	0.00	0.00	
14,700.03	90.13	179.22	6,377.79	-7,920.76	-1,051.64	7,986.64	0.00	0.00	0.00	
14,800.03	90.13	179.22	6,377.56	-8,020.75	-1,050.28	8,085.98	0.00	0.00	0.00	
14,900.03	90.13	179.22	6,377.33	-8,120.74	-1,048.92	8,185.31	0.00	0.00	0.00	
15,000.03	90.13	179.22	6,377.10	-8,220.73	-1,047.55	8,284.65	0.00	0.00	0.00	
15,100.03	90.13	179.22	6,376.87	-8,320.72	-1,046.19	8,383.98	0.00	0.00	0.00	
15,200.03	90.13	179.22	6,376.64	-8,420.71	-1,044.83	8,483.31	0.00	0.00	0.00	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	179.22	6,376.41	-8,520.70	-1,043.47	8,582.65	0.00	0.00	0.00
15,400.03	90.13	179.22	6,376.18	-8,620.69	-1,042.11	8,681.98	0.00	0.00	0.00
15,500.03	90.13	179.22	6,375.95	-8,720.68	-1,040.75	8,781.31	0.00	0.00	0.00
15,600.03	90.13	179.22	6,375.72	-8,820.67	-1,039.39	8,880.65	0.00	0.00	0.00
15,700.03	90.13	179.22	6,375.49	-8,920.66	-1,038.03	8,979.98	0.00	0.00	0.00
15,800.03	90.13	179.22	6,375.26	-9,020.65	-1,036.67	9,079.31	0.00	0.00	0.00
15,900.03	90.13	179.22	6,375.03	-9,120.65	-1,035.30	9,178.65	0.00	0.00	0.00
16,000.03	90.13	179.22	6,374.80	-9,220.64	-1,033.94	9,277.98	0.00	0.00	0.00
16,100.03	90.13	179.22	6,374.58	-9,320.63	-1,032.58	9,377.32	0.00	0.00	0.00
16,200.03	90.13	179.22	6,374.35	-9,420.62	-1,031.22	9,476.65	0.00	0.00	0.00
16,300.03	90.13	179.22	6,374.12	-9,520.61	-1,029.86	9,575.98	0.00	0.00	0.00
16,400.03	90.13	179.22	6,373.89	-9,620.60	-1,028.50	9,675.32	0.00	0.00	0.00
16,500.03	90.13	179.22	6,373.66	-9,720.59	-1,027.14	9,774.65	0.00	0.00	0.00
16,600.03	90.13	179.22	6,373.43	-9,820.58	-1,025.78	9,873.98	0.00	0.00	0.00
16,700.03	90.13	179.22	6,373.20	-9,920.57	-1,024.42	9,973.32	0.00	0.00	0.00
16,786.89	90.13	179.22	6,373.00	-10,007.42	-1,023.23	10,059.59	0.00	0.00	0.00
PBHL/TD 16786.89 MD/6373.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHI 70 Ranch 10-8-2L 4 - hit/miss target - Shape - Point	0.00	0.00	6,373.00	-10,007.42	-1,023.23	14,638,762.69	1,798,851.20	40.30625000	-104.43172000
LP 70 Ranch 10-8-2L 47 - plan hits target center - Point	0.00	0.00	6,395.00	-415.13	-1,153.80	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
5,459.66	5,411.92	38.96	-170.30	Begin 45.97° tangent section
6,194.96	5,923.01	156.85	-685.62	Begin 10°/100' build/turn
7,193.69	6,395.00	-415.13	-1,153.80	LP Begin 90.13° lateral section
16,786.89	6,373.00	-10,007.42	-1,023.23	PBHL/TD 16786.89 MD/6373.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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 10-8-2L, Surf Loc: 69 FNL 1627 FWL Section 10-T04N-R63W					
Well Position	+N/-S	0.00 ft	Northing:	14,648,776.49 usft	Latitude:	40.33373000
	+E/-W	0.00 ft	Easting:	1,799,809.75 usft	Longitude:	-104.42805000
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	185.84

Plan Survey Tool Program	Date	5/9/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,786.89 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	
5,459.66	45.97	282.89	5,411.92	38.96	-170.30	10.00	10.00	0.00	282.89	
6,194.96	45.97	282.89	5,923.01	156.85	-685.62	0.00	0.00	0.00	0.00	
7,193.69	90.13	179.22	6,395.00	-415.13	-1,153.80	10.00	4.42	-10.38	-99.50	LP 70 Ranch 10-8-2L
16,786.89	90.13	179.22	6,373.00	-10,007.42	-1,023.23	0.00	0.00	0.00	0.00	BHI 70 Ranch 10-8-2L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
100.00	0.00	0.00	100.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
200.00	0.00	0.00	200.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
300.00	0.00	0.00	300.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
400.00	0.00	0.00	400.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
500.00	0.00	0.00	500.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
600.00	0.00	0.00	600.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
700.00	0.00	0.00	700.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
800.00	0.00	0.00	800.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
900.00	0.00	0.00	900.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
KOP Begin 10°/100' build									
5,000.01	0.00	282.89	5,000.01	0.00	0.00	14,648,776.49	1,799,809.75	40.33373000	-104.42805000
5,100.01	10.00	282.89	5,099.50	1.94	-8.49	14,648,778.38	1,799,801.25	40.33373533	-104.42808046

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	282.89	5,195.97	7.71	-33.69	14,648,783.98	1,799,776.01	40.33375116	-104.42817088
5,300.01	30.00	282.89	5,286.49	17.12	-74.83	14,648,793.13	1,799,734.80	40.33377701	-104.42831852
5,400.01	40.00	282.89	5,368.30	29.90	-130.68	14,648,805.54	1,799,678.88	40.33381209	-104.42851890
5,459.66	45.97	282.89	5,411.92	38.96	-170.30	14,648,814.35	1,799,639.19	40.33383698	-104.42866109
Begin 45.97° tangent section									
5,500.01	45.97	282.89	5,439.96	45.43	-198.58	14,648,820.64	1,799,610.87	40.33385474	-104.42876256
5,600.01	45.97	282.89	5,509.47	61.46	-268.66	14,648,836.22	1,799,540.69	40.33389877	-104.42901403
5,700.01	45.97	282.89	5,578.98	77.50	-338.75	14,648,851.80	1,799,470.51	40.33394279	-104.42926550
5,800.01	45.97	282.89	5,648.49	93.53	-408.83	14,648,867.38	1,799,400.32	40.33398682	-104.42951697
5,900.01	45.97	282.89	5,718.00	109.56	-478.91	14,648,882.96	1,799,330.14	40.33403084	-104.42976844
6,000.01	45.97	282.89	5,787.51	125.60	-548.99	14,648,898.54	1,799,259.95	40.33407486	-104.43001991
6,100.01	45.97	282.89	5,857.01	141.63	-619.08	14,648,914.12	1,799,189.77	40.33411888	-104.43027138
6,194.96	45.97	282.89	5,923.01	156.85	-685.62	14,648,928.91	1,799,123.13	40.33416068	-104.43051016
Begin 10°/100' build/turn									
6,200.01	45.88	282.19	5,926.53	157.64	-689.16	14,648,929.68	1,799,119.58	40.33416285	-104.43052286
6,300.01	45.17	268.20	5,996.76	164.12	-759.87	14,648,935.70	1,799,048.84	40.33418064	-104.43077657
6,400.01	46.16	254.27	6,066.82	153.20	-830.20	14,648,924.33	1,798,978.57	40.33415064	-104.43102894
6,500.01	48.77	241.15	6,134.58	125.21	-898.02	14,648,895.90	1,798,910.93	40.33407377	-104.43127231
6,600.01	52.73	229.28	6,197.98	80.99	-961.28	14,648,851.27	1,798,847.97	40.33395235	-104.43149926
6,700.01	57.75	218.74	6,255.08	21.90	-1,018.03	14,648,791.81	1,798,791.59	40.33379007	-104.43170292
6,800.01	63.54	209.38	6,304.16	-50.28	-1,066.58	14,648,719.32	1,798,743.52	40.33359187	-104.43187708
6,900.01	69.89	200.96	6,343.73	-133.34	-1,105.42	14,648,636.01	1,798,705.21	40.33336377	-104.43201647
7,000.01	76.60	193.21	6,372.57	-224.78	-1,133.40	14,648,544.40	1,798,677.82	40.33311270	-104.43211684
7,100.01	83.54	185.89	6,389.83	-321.80	-1,149.65	14,648,447.27	1,798,662.20	40.33284628	-104.43217514
7,193.69	90.13	179.22	6,395.00	-415.13	-1,153.80	14,648,353.92	1,798,658.65	40.33259000	-104.43219000
LP Begin 90.13° lateral section									
7,200.01	90.13	179.22	6,394.99	-421.46	-1,153.72	14,648,347.59	1,798,658.78	40.33257262	-104.43218969
7,300.01	90.13	179.22	6,394.76	-521.45	-1,152.35	14,648,247.61	1,798,660.79	40.33229805	-104.43218479
7,400.01	90.13	179.22	6,394.53	-621.44	-1,150.99	14,648,147.63	1,798,662.79	40.33202348	-104.43217989
7,500.02	90.13	179.22	6,394.30	-721.43	-1,149.63	14,648,047.65	1,798,664.80	40.33174891	-104.43217499
7,600.02	90.13	179.22	6,394.07	-821.42	-1,148.27	14,647,947.67	1,798,666.81	40.33147434	-104.43217009
7,700.02	90.13	179.22	6,393.84	-921.41	-1,146.91	14,647,847.69	1,798,668.81	40.33119978	-104.43216519
7,800.02	90.13	179.22	6,393.61	-1,021.40	-1,145.55	14,647,747.71	1,798,670.82	40.33092521	-104.43216029
7,900.02	90.13	179.22	6,393.38	-1,121.39	-1,144.19	14,647,647.73	1,798,672.83	40.33065064	-104.43215539
8,000.02	90.13	179.22	6,393.15	-1,221.38	-1,142.83	14,647,547.75	1,798,674.84	40.33037607	-104.43215049
8,100.02	90.13	179.22	6,392.92	-1,321.37	-1,141.47	14,647,447.77	1,798,676.84	40.33010150	-104.43214559
8,200.02	90.13	179.22	6,392.69	-1,421.36	-1,140.11	14,647,347.79	1,798,678.85	40.32982693	-104.43214069
8,300.02	90.13	179.22	6,392.46	-1,521.35	-1,138.74	14,647,247.82	1,798,680.86	40.32955236	-104.43213579
8,400.02	90.13	179.22	6,392.23	-1,621.34	-1,137.38	14,647,147.84	1,798,682.86	40.32927779	-104.43213089
8,500.02	90.13	179.22	6,392.00	-1,721.33	-1,136.02	14,647,047.86	1,798,684.87	40.32900322	-104.43212599
8,600.02	90.13	179.22	6,391.78	-1,821.33	-1,134.66	14,646,947.88	1,798,686.88	40.32872865	-104.43212109
8,700.02	90.13	179.22	6,391.55	-1,921.32	-1,133.30	14,646,847.90	1,798,688.89	40.32845408	-104.43211619
8,800.02	90.13	179.22	6,391.32	-2,021.31	-1,131.94	14,646,747.92	1,798,690.89	40.32817951	-104.43211129
8,900.02	90.13	179.22	6,391.09	-2,121.30	-1,130.58	14,646,647.94	1,798,692.90	40.32790494	-104.43210639
9,000.02	90.13	179.22	6,390.86	-2,221.29	-1,129.22	14,646,547.96	1,798,694.91	40.32763037	-104.43210149
9,100.02	90.13	179.22	6,390.63	-2,321.28	-1,127.86	14,646,447.98	1,798,696.91	40.32735580	-104.43209659
9,200.02	90.13	179.22	6,390.40	-2,421.27	-1,126.50	14,646,348.00	1,798,698.92	40.32708123	-104.43209169
9,300.02	90.13	179.22	6,390.17	-2,521.26	-1,125.13	14,646,248.02	1,798,700.93	40.32680666	-104.43208679
9,400.02	90.13	179.22	6,389.94	-2,621.25	-1,123.77	14,646,148.04	1,798,702.94	40.32653209	-104.43208189
9,500.02	90.13	179.22	6,389.71	-2,721.24	-1,122.41	14,646,048.06	1,798,704.94	40.32625752	-104.43207699
9,600.02	90.13	179.22	6,389.48	-2,821.23	-1,121.05	14,645,948.08	1,798,706.95	40.32598295	-104.43207209
9,700.02	90.13	179.22	6,389.25	-2,921.22	-1,119.69	14,645,848.10	1,798,708.96	40.32570838	-104.43206719
9,800.02	90.13	179.22	6,389.02	-3,021.21	-1,118.33	14,645,748.12	1,798,710.96	40.32543382	-104.43206229
9,900.02	90.13	179.22	6,388.79	-3,121.20	-1,116.97	14,645,648.14	1,798,712.97	40.32515925	-104.43205739

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	179.22	6,388.56	-3,221.20	-1,115.61	14,645,548.16	1,798,714.98	40.32488468	-104.43205249
10,100.02	90.13	179.22	6,388.34	-3,321.19	-1,114.25	14,645,448.18	1,798,716.99	40.32461011	-104.43204759
10,200.02	90.13	179.22	6,388.11	-3,421.18	-1,112.88	14,645,348.20	1,798,718.99	40.32433554	-104.43204269
10,300.02	90.13	179.22	6,387.88	-3,521.17	-1,111.52	14,645,248.22	1,798,721.00	40.32406097	-104.43203779
10,400.02	90.13	179.22	6,387.65	-3,621.16	-1,110.16	14,645,148.24	1,798,723.01	40.32378640	-104.43203289
10,500.02	90.13	179.22	6,387.42	-3,721.15	-1,108.80	14,645,048.26	1,798,725.01	40.32351183	-104.43202799
10,600.02	90.13	179.22	6,387.19	-3,821.14	-1,107.44	14,644,948.28	1,798,727.02	40.32323726	-104.43202309
10,700.02	90.13	179.22	6,386.96	-3,921.13	-1,106.08	14,644,848.30	1,798,729.03	40.32296269	-104.43201819
10,800.02	90.13	179.22	6,386.73	-4,021.12	-1,104.72	14,644,748.33	1,798,731.03	40.32268812	-104.43201329
10,900.02	90.13	179.22	6,386.50	-4,121.11	-1,103.36	14,644,648.35	1,798,733.04	40.32241355	-104.43200839
11,000.02	90.13	179.22	6,386.27	-4,221.10	-1,102.00	14,644,548.37	1,798,735.05	40.32213898	-104.43200349
11,100.02	90.13	179.22	6,386.04	-4,321.09	-1,100.64	14,644,448.39	1,798,737.06	40.32186441	-104.43199859
11,200.02	90.13	179.22	6,385.81	-4,421.08	-1,099.27	14,644,348.41	1,798,739.06	40.32158984	-104.43199369
11,300.02	90.13	179.22	6,385.58	-4,521.07	-1,097.91	14,644,248.43	1,798,741.07	40.32131527	-104.43198879
11,400.02	90.13	179.22	6,385.35	-4,621.06	-1,096.55	14,644,148.45	1,798,743.08	40.32104070	-104.43198389
11,500.02	90.13	179.22	6,385.12	-4,721.06	-1,095.19	14,644,048.47	1,798,745.08	40.32076613	-104.43197899
11,600.02	90.13	179.22	6,384.90	-4,821.05	-1,093.83	14,643,948.49	1,798,747.09	40.32049156	-104.43197409
11,700.02	90.13	179.22	6,384.67	-4,921.04	-1,092.47	14,643,848.51	1,798,749.10	40.32021699	-104.43196920
11,800.02	90.13	179.22	6,384.44	-5,021.03	-1,091.11	14,643,748.53	1,798,751.11	40.31994242	-104.43196430
11,900.02	90.13	179.22	6,384.21	-5,121.02	-1,089.75	14,643,648.55	1,798,753.11	40.31966785	-104.43195940
12,000.02	90.13	179.22	6,383.98	-5,221.01	-1,088.39	14,643,548.57	1,798,755.12	40.31939328	-104.43195450
12,100.02	90.13	179.22	6,383.75	-5,321.00	-1,087.02	14,643,448.59	1,798,757.13	40.31911871	-104.43194960
12,200.02	90.13	179.22	6,383.52	-5,420.99	-1,085.66	14,643,348.61	1,798,759.13	40.31884414	-104.43194470
12,300.02	90.13	179.22	6,383.29	-5,520.98	-1,084.30	14,643,248.63	1,798,761.14	40.31856957	-104.43193980
12,400.03	90.13	179.22	6,383.06	-5,620.97	-1,082.94	14,643,148.65	1,798,763.15	40.31829500	-104.43193490
12,500.03	90.13	179.22	6,382.83	-5,720.96	-1,081.58	14,643,048.67	1,798,765.16	40.31802043	-104.43193000
12,600.03	90.13	179.22	6,382.60	-5,820.95	-1,080.22	14,642,948.69	1,798,767.16	40.31774586	-104.43192510
12,700.03	90.13	179.22	6,382.37	-5,920.94	-1,078.86	14,642,848.71	1,798,769.17	40.31747129	-104.43192020
12,800.03	90.13	179.22	6,382.14	-6,020.93	-1,077.50	14,642,748.73	1,798,771.18	40.31719672	-104.43191530
12,900.03	90.13	179.22	6,381.91	-6,120.92	-1,076.14	14,642,648.75	1,798,773.18	40.31692215	-104.43191040
13,000.03	90.13	179.22	6,381.68	-6,220.92	-1,074.78	14,642,548.77	1,798,775.19	40.31664758	-104.43190551
13,100.03	90.13	179.22	6,381.46	-6,320.91	-1,073.41	14,642,448.79	1,798,777.20	40.31637301	-104.43190061
13,200.03	90.13	179.22	6,381.23	-6,420.90	-1,072.05	14,642,348.81	1,798,779.21	40.31609844	-104.43189571
13,300.03	90.13	179.22	6,381.00	-6,520.89	-1,070.69	14,642,248.84	1,798,781.21	40.31582387	-104.43189081
13,400.03	90.13	179.22	6,380.77	-6,620.88	-1,069.33	14,642,148.86	1,798,783.22	40.31554930	-104.43188591
13,500.03	90.13	179.22	6,380.54	-6,720.87	-1,067.97	14,642,048.88	1,798,785.23	40.31527473	-104.43188101
13,600.03	90.13	179.22	6,380.31	-6,820.86	-1,066.61	14,641,948.90	1,798,787.23	40.31500016	-104.43187611
13,700.03	90.13	179.22	6,380.08	-6,920.85	-1,065.25	14,641,848.92	1,798,789.24	40.31472559	-104.43187121
13,800.03	90.13	179.22	6,379.85	-7,020.84	-1,063.89	14,641,748.94	1,798,791.25	40.31445102	-104.43186631
13,900.03	90.13	179.22	6,379.62	-7,120.83	-1,062.53	14,641,648.96	1,798,793.26	40.31417645	-104.43186141
14,000.03	90.13	179.22	6,379.39	-7,220.82	-1,061.16	14,641,548.98	1,798,795.26	40.31390188	-104.43185652
14,100.03	90.13	179.22	6,379.16	-7,320.81	-1,059.80	14,641,449.00	1,798,797.27	40.31362731	-104.43185162
14,200.03	90.13	179.22	6,378.93	-7,420.80	-1,058.44	14,641,349.02	1,798,799.28	40.31335274	-104.43184672
14,300.03	90.13	179.22	6,378.70	-7,520.79	-1,057.08	14,641,249.04	1,798,801.28	40.31307817	-104.43184182
14,400.03	90.13	179.22	6,378.47	-7,620.78	-1,055.72	14,641,149.06	1,798,803.29	40.31280361	-104.43183692
14,500.03	90.13	179.22	6,378.24	-7,720.78	-1,054.36	14,641,049.08	1,798,805.30	40.31252904	-104.43183202
14,600.03	90.13	179.22	6,378.02	-7,820.77	-1,053.00	14,640,949.10	1,798,807.30	40.31225447	-104.43182712
14,700.03	90.13	179.22	6,377.79	-7,920.76	-1,051.64	14,640,849.12	1,798,809.31	40.31197990	-104.43182223
14,800.03	90.13	179.22	6,377.56	-8,020.75	-1,050.28	14,640,749.14	1,798,811.32	40.31170533	-104.43181733
14,900.03	90.13	179.22	6,377.33	-8,120.74	-1,048.92	14,640,649.16	1,798,813.33	40.31143076	-104.43181243
15,000.03	90.13	179.22	6,377.10	-8,220.73	-1,047.55	14,640,549.18	1,798,815.33	40.31115619	-104.43180753
15,100.03	90.13	179.22	6,376.87	-8,320.72	-1,046.19	14,640,449.20	1,798,817.34	40.31088162	-104.43180263
15,200.03	90.13	179.22	6,376.64	-8,420.71	-1,044.83	14,640,349.22	1,798,819.35	40.31060704	-104.43179773
15,300.03	90.13	179.22	6,376.41	-8,520.70	-1,043.47	14,640,249.24	1,798,821.35	40.31033247	-104.43179283
15,400.03	90.13	179.22	6,376.18	-8,620.69	-1,042.11	14,640,149.26	1,798,823.36	40.31005790	-104.43178794

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-8-2L
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 10-8-2L	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	179.22	6,375.95	-8,720.68	-1,040.75	14,640,049.28	1,798,825.37	40.30978333	-104.43178304
15,600.03	90.13	179.22	6,375.72	-8,820.67	-1,039.39	14,639,949.30	1,798,827.38	40.30950876	-104.43177814
15,700.03	90.13	179.22	6,375.49	-8,920.66	-1,038.03	14,639,849.33	1,798,829.38	40.30923419	-104.43177324
15,800.03	90.13	179.22	6,375.26	-9,020.65	-1,036.67	14,639,749.35	1,798,831.39	40.30895962	-104.43176834
15,900.03	90.13	179.22	6,375.03	-9,120.65	-1,035.30	14,639,649.37	1,798,833.40	40.30868505	-104.43176344
16,000.03	90.13	179.22	6,374.80	-9,220.64	-1,033.94	14,639,549.39	1,798,835.40	40.30841048	-104.43175855
16,100.03	90.13	179.22	6,374.58	-9,320.63	-1,032.58	14,639,449.41	1,798,837.41	40.30813591	-104.43175365
16,200.03	90.13	179.22	6,374.35	-9,420.62	-1,031.22	14,639,349.43	1,798,839.42	40.30786134	-104.43174875
16,300.03	90.13	179.22	6,374.12	-9,520.61	-1,029.86	14,639,249.45	1,798,841.43	40.30758677	-104.43174385
16,400.03	90.13	179.22	6,373.89	-9,620.60	-1,028.50	14,639,149.47	1,798,843.43	40.30731220	-104.43173895
16,500.03	90.13	179.22	6,373.66	-9,720.59	-1,027.14	14,639,049.49	1,798,845.44	40.30703763	-104.43173406
16,600.03	90.13	179.22	6,373.43	-9,820.58	-1,025.78	14,638,949.51	1,798,847.45	40.30676306	-104.43172916
16,700.03	90.13	179.22	6,373.20	-9,920.57	-1,024.42	14,638,849.53	1,798,849.45	40.30648849	-104.43172426
16,786.89	90.13	179.22	6,373.00	-10,007.42	-1,023.23	14,638,762.69	1,798,851.20	40.30625000	-104.43172000
PBHL/TD 16786.89 MD/6373.00 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									
BHI 70 Ranch 10-8-2L 4	0.00	0.00	6,373.00	-10,007.42	-1,023.23	14,638,762.69	1,798,851.20	40.30625000	-104.43172000
- plan hits target center									
- Point									
LP 70 Ranch 10-8-2L 47	0.00	0.00	6,395.00	-415.13	-1,153.80	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		Comment
		+N/-S (ft)	+E/-W (ft)	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build
5,459.66	5,411.92	38.96	-170.30	Begin 45.97° tangent section
6,194.96	5,923.01	156.85	-685.62	Begin 10°/100' build/turn
7,193.69	6,395.00	-415.13	-1,153.80	LP Begin 90.13° lateral section
16,786.89	6,373.00	-10,007.42	-1,023.23	PBHL/TD 16786.89 MD/6373.00 TVD