



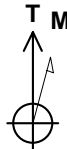
Well: 70 Ranch 10-15-3L
Site: Section 03-T04N-R63W
Project: Weld County, Colorado
Wellbore: Original Hole
Design: plan1

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
70 Ranch 10-15-3L SL 260 FSL 1236 FWL	24.00	-29.27	-3.7914649117.69	1799427.43	40.33467367	-104.42941390	
70 Ranch 10-15-3L BHL 470 FSL 1772 FWL	6466.00	-10383.43	592.7014638767.61	1800090.65	40.30624159	-104.42727437	
70 Ranch 10-15-3L LP 470 FNL 1772 FWL	6466.00	-731.53	521.1914648418.83	1799956.92	40.33274529	-104.42753022	

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	KOP Begin 10°/100' build
3	2070.53	7.05	109.39	2070.35	-1.44	4.09	10.00	1.67	Begin 7.05° tangent
4	5950.10	7.05	109.39	5920.57	-159.56	453.46	0.00	185.14	Begin 10°/100' build/turn
5	6826.25	90.00	179.58	6466.00	-731.53	521.19	10.00	760.05	LP Begin 90° lateral
6	16478.42	90.00	179.58	6466.00	-10383.43	592.70	0.00	10400.34	PBHL/TD 16478.42 MD/6466.00 TVD



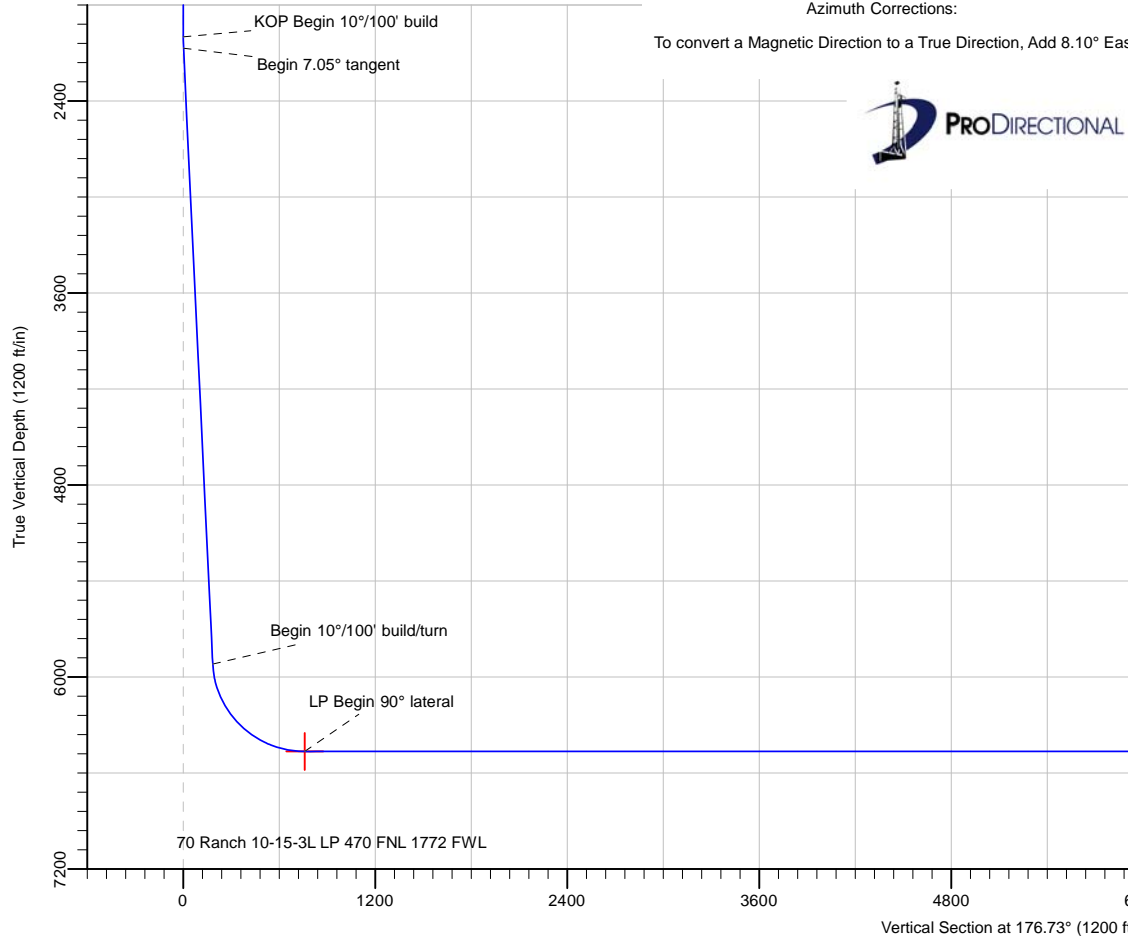
Azimuths to True North
Magnetic North: 8.10°

Magnetic Field
Strength: 52228.3snT
Dip Angle: 66.90°
Date: 5/21/2018
Model: HDGM

70 Ranch 10-15-3L Surf loc: 260 FSL 1236 FWL Section 03-T04N-R63W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=4597+24 @ 4621.00ft			
Northing	Easting	Latitude	Longitude
14649146.99	1799431.03	40.33475405	-104.42940031

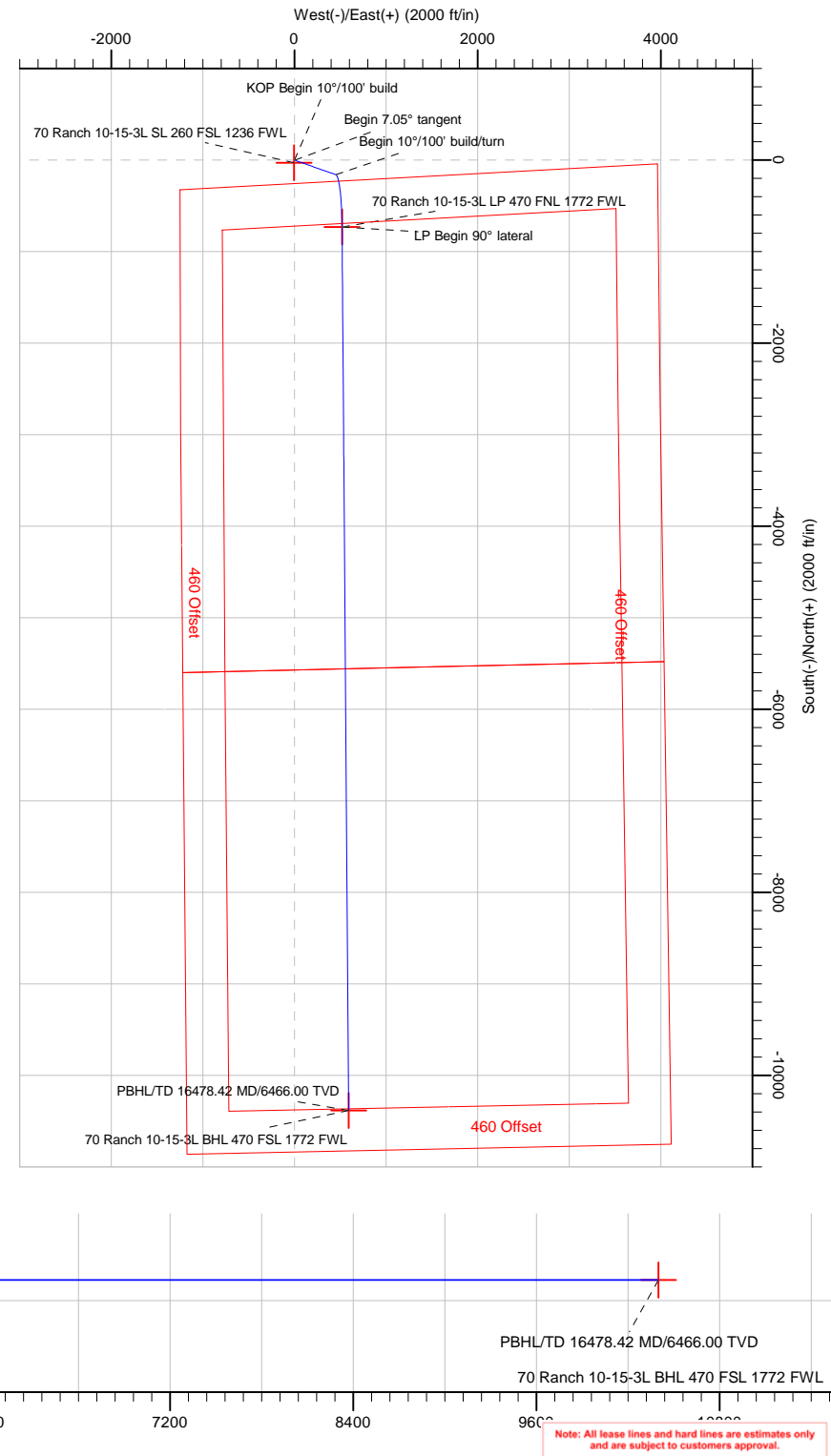
Azimuth Corrections:

To convert a Magnetic Direction to a True Direction, Add 8.10° East



Date: 2:52, May 21 2018

Vertical Section at 176.73° (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 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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 03-T04N-R63W			
Site Position:		Northing:	14,650,244.32 usft	Latitude:	40.33774036
From:	Map	Easting:	1,800,940.24 usft	Longitude:	-104.42395937
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 °

Well	70 Ranch 10-15-3L, Surf loc: 260 FSL 1236 FWL Section 03-T04N-R63W					
Well Position	+N/-S	-1,087.49 ft	Northing:	14,649,146.99 usft	Latitude:	40.33475405
	+E/-W	-1,516.32 ft	Easting:	1,799,431.03 usft	Longitude:	-104.42940032
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,597.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/21/2018	8.10	66.90	52,228.30000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	176.73

Plan Survey Tool Program	Date	5/21/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,478.42	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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,070.53	7.05	109.39	2,070.35	-1.44	4.09	10.00	10.00	0.00	109.39	
5,950.10	7.05	109.39	5,920.57	-159.56	453.46	0.00	0.00	0.00	0.00	
6,826.25	90.00	179.58	6,466.00	-731.53	521.19	10.00	9.47	8.01	70.33	70 Ranch 10-15-3L LI
16,478.42	90.00	179.58	6,466.00	-10,383.44	592.70	0.00	0.00	0.00	0.00	70 Ranch 10-15-3L BI

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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
KOP Begin 10°/100' build									
2,070.53	7.05	109.39	2,070.35	-1.44	4.09	1.67	10.00	10.00	0.00
Begin 7.05° tangent									
2,100.00	7.05	109.39	2,099.60	-2.64	7.50	3.06	0.00	0.00	0.00
2,200.00	7.05	109.39	2,198.84	-6.72	19.09	7.79	0.00	0.00	0.00
2,300.00	7.05	109.39	2,298.09	-10.79	30.67	12.52	0.00	0.00	0.00
2,400.00	7.05	109.39	2,397.33	-14.87	42.25	17.25	0.00	0.00	0.00
2,500.00	7.05	109.39	2,496.57	-18.94	53.83	21.98	0.00	0.00	0.00
2,600.00	7.05	109.39	2,595.82	-23.02	65.42	26.71	0.00	0.00	0.00
2,700.00	7.05	109.39	2,695.06	-27.09	77.00	31.44	0.00	0.00	0.00
2,800.00	7.05	109.39	2,794.30	-31.17	88.58	36.17	0.00	0.00	0.00
2,900.00	7.05	109.39	2,893.55	-35.25	100.17	40.90	0.00	0.00	0.00
3,000.00	7.05	109.39	2,992.79	-39.32	111.75	45.63	0.00	0.00	0.00
3,100.00	7.05	109.39	3,092.03	-43.40	123.33	50.35	0.00	0.00	0.00
3,200.00	7.05	109.39	3,191.28	-47.47	134.91	55.08	0.00	0.00	0.00
3,300.00	7.05	109.39	3,290.52	-51.55	146.50	59.81	0.00	0.00	0.00
3,400.00	7.05	109.39	3,389.76	-55.62	158.08	64.54	0.00	0.00	0.00
3,500.00	7.05	109.39	3,489.00	-59.70	169.66	69.27	0.00	0.00	0.00
3,600.00	7.05	109.39	3,588.25	-63.78	181.25	74.00	0.00	0.00	0.00
3,700.00	7.05	109.39	3,687.49	-67.85	192.83	78.73	0.00	0.00	0.00
3,800.00	7.05	109.39	3,786.73	-71.93	204.41	83.46	0.00	0.00	0.00
3,900.00	7.05	109.39	3,885.98	-76.00	215.99	88.19	0.00	0.00	0.00
4,000.00	7.05	109.39	3,985.22	-80.08	227.58	92.92	0.00	0.00	0.00
4,100.00	7.05	109.39	4,084.46	-84.15	239.16	97.65	0.00	0.00	0.00
4,200.00	7.05	109.39	4,183.71	-88.23	250.74	102.38	0.00	0.00	0.00
4,300.00	7.05	109.39	4,282.95	-92.31	262.33	107.10	0.00	0.00	0.00
4,400.00	7.05	109.39	4,382.19	-96.38	273.91	111.83	0.00	0.00	0.00
4,500.00	7.05	109.39	4,481.44	-100.46	285.49	116.56	0.00	0.00	0.00
4,600.00	7.05	109.39	4,580.68	-104.53	297.08	121.29	0.00	0.00	0.00
4,700.00	7.05	109.39	4,679.92	-108.61	308.66	126.02	0.00	0.00	0.00
4,800.00	7.05	109.39	4,779.17	-112.68	320.24	130.75	0.00	0.00	0.00
4,900.00	7.05	109.39	4,878.41	-116.76	331.82	135.48	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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)
5,000.00	7.05	109.39	4,977.65	-120.83	343.41	140.21	0.00	0.00	0.00
5,100.00	7.05	109.39	5,076.90	-124.91	354.99	144.94	0.00	0.00	0.00
5,200.00	7.05	109.39	5,176.14	-128.99	366.57	149.67	0.00	0.00	0.00
5,300.00	7.05	109.39	5,275.38	-133.06	378.16	154.40	0.00	0.00	0.00
5,400.00	7.05	109.39	5,374.63	-137.14	389.74	159.13	0.00	0.00	0.00
5,500.00	7.05	109.39	5,473.87	-141.21	401.32	163.85	0.00	0.00	0.00
5,600.00	7.05	109.39	5,573.11	-145.29	412.90	168.58	0.00	0.00	0.00
5,700.00	7.05	109.39	5,672.36	-149.36	424.49	173.31	0.00	0.00	0.00
5,800.00	7.05	109.39	5,771.60	-153.44	436.07	178.04	0.00	0.00	0.00
5,900.00	7.05	109.39	5,870.84	-157.52	447.65	182.77	0.00	0.00	0.00
5,950.10	7.05	109.39	5,920.57	-159.56	453.46	185.14	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,000.00	9.91	137.80	5,969.93	-163.76	459.23	189.66	10.00	5.73	56.95
6,100.00	18.56	159.29	6,066.83	-185.08	470.67	211.60	10.00	8.65	21.50
6,200.00	28.11	166.99	6,158.57	-223.01	481.63	250.10	10.00	9.54	7.69
6,300.00	37.87	170.97	6,242.35	-276.42	491.78	303.99	10.00	9.77	3.98
6,400.00	47.73	173.50	6,315.64	-343.67	500.81	371.65	10.00	9.85	2.53
6,500.00	57.62	175.34	6,376.20	-422.71	508.44	451.00	10.00	9.89	1.84
6,600.00	67.53	176.82	6,422.20	-511.16	514.45	539.64	10.00	9.91	1.47
6,700.00	77.46	178.09	6,452.24	-606.31	518.66	634.89	10.00	9.93	1.28
6,800.00	87.39	179.27	6,465.40	-705.29	520.92	733.83	10.00	9.93	1.18
6,826.25	90.00	179.58	6,466.00	-731.53	521.19	760.05	10.00	9.93	1.16
LP Begin 90° lateral									
6,900.00	90.00	179.58	6,466.00	-805.28	521.73	833.70	0.00	0.00	0.00
7,000.00	90.00	179.58	6,466.00	-905.27	522.47	933.58	0.00	0.00	0.00
7,100.00	90.00	179.58	6,466.00	-1,005.27	523.21	1,033.45	0.00	0.00	0.00
7,200.00	90.00	179.58	6,466.00	-1,105.27	523.96	1,133.33	0.00	0.00	0.00
7,300.00	90.00	179.58	6,466.00	-1,205.27	524.70	1,233.21	0.00	0.00	0.00
7,400.00	90.00	179.58	6,466.00	-1,305.26	525.44	1,333.09	0.00	0.00	0.00
7,500.00	90.00	179.58	6,466.00	-1,405.26	526.18	1,432.96	0.00	0.00	0.00
7,600.00	90.00	179.58	6,466.00	-1,505.26	526.92	1,532.84	0.00	0.00	0.00
7,700.00	90.00	179.58	6,466.00	-1,605.26	527.66	1,632.72	0.00	0.00	0.00
7,800.00	90.00	179.58	6,466.00	-1,705.25	528.40	1,732.59	0.00	0.00	0.00
7,900.00	90.00	179.58	6,466.00	-1,805.25	529.14	1,832.47	0.00	0.00	0.00
8,000.00	90.00	179.58	6,466.00	-1,905.25	529.88	1,932.35	0.00	0.00	0.00
8,100.00	90.00	179.58	6,466.00	-2,005.24	530.62	2,032.22	0.00	0.00	0.00
8,200.00	90.00	179.58	6,466.00	-2,105.24	531.36	2,132.10	0.00	0.00	0.00
8,300.00	90.00	179.58	6,466.00	-2,205.24	532.11	2,231.98	0.00	0.00	0.00
8,400.00	90.00	179.58	6,466.00	-2,305.24	532.85	2,331.86	0.00	0.00	0.00
8,500.00	90.00	179.58	6,466.00	-2,405.23	533.59	2,431.73	0.00	0.00	0.00
8,600.00	90.00	179.58	6,466.00	-2,505.23	534.33	2,531.61	0.00	0.00	0.00
8,700.00	90.00	179.58	6,466.00	-2,605.23	535.07	2,631.49	0.00	0.00	0.00
8,800.00	90.00	179.58	6,466.00	-2,705.22	535.81	2,731.36	0.00	0.00	0.00
8,900.00	90.00	179.58	6,466.00	-2,805.22	536.55	2,831.24	0.00	0.00	0.00
9,000.00	90.00	179.58	6,466.00	-2,905.22	537.29	2,931.12	0.00	0.00	0.00
9,100.00	90.00	179.58	6,466.00	-3,005.22	538.03	3,030.99	0.00	0.00	0.00
9,200.00	90.00	179.58	6,466.00	-3,105.21	538.77	3,130.87	0.00	0.00	0.00
9,300.00	90.00	179.58	6,466.00	-3,205.21	539.51	3,230.75	0.00	0.00	0.00
9,400.00	90.00	179.58	6,466.00	-3,305.21	540.25	3,330.63	0.00	0.00	0.00
9,500.00	90.00	179.58	6,466.00	-3,405.21	541.00	3,430.50	0.00	0.00	0.00
9,600.00	90.00	179.58	6,466.00	-3,505.20	541.74	3,530.38	0.00	0.00	0.00
9,700.00	90.00	179.58	6,466.00	-3,605.20	542.48	3,630.26	0.00	0.00	0.00
9,800.00	90.00	179.58	6,466.00	-3,705.20	543.22	3,730.13	0.00	0.00	0.00
9,900.00	90.00	179.58	6,466.00	-3,805.19	543.96	3,830.01	0.00	0.00	0.00

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Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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)
10,000.00	90.00	179.58	6,466.00	-3,905.19	544.70	3,929.89	0.00	0.00	0.00
10,100.00	90.00	179.58	6,466.00	-4,005.19	545.44	4,029.76	0.00	0.00	0.00
10,200.00	90.00	179.58	6,466.00	-4,105.19	546.18	4,129.64	0.00	0.00	0.00
10,300.00	90.00	179.58	6,466.00	-4,205.18	546.92	4,229.52	0.00	0.00	0.00
10,400.00	90.00	179.58	6,466.00	-4,305.18	547.66	4,329.39	0.00	0.00	0.00
10,500.00	90.00	179.58	6,466.00	-4,405.18	548.40	4,429.27	0.00	0.00	0.00
10,600.00	90.00	179.58	6,466.00	-4,505.18	549.15	4,529.15	0.00	0.00	0.00
10,700.00	90.00	179.58	6,466.00	-4,605.17	549.89	4,629.03	0.00	0.00	0.00
10,800.00	90.00	179.58	6,466.00	-4,705.17	550.63	4,728.90	0.00	0.00	0.00
10,900.00	90.00	179.58	6,466.00	-4,805.17	551.37	4,828.78	0.00	0.00	0.00
11,000.00	90.00	179.58	6,466.00	-4,905.16	552.11	4,928.66	0.00	0.00	0.00
11,100.00	90.00	179.58	6,466.00	-5,005.16	552.85	5,028.53	0.00	0.00	0.00
11,200.00	90.00	179.58	6,466.00	-5,105.16	553.59	5,128.41	0.00	0.00	0.00
11,300.00	90.00	179.58	6,466.00	-5,205.16	554.33	5,228.29	0.00	0.00	0.00
11,400.00	90.00	179.58	6,466.00	-5,305.15	555.07	5,328.16	0.00	0.00	0.00
11,500.00	90.00	179.58	6,466.00	-5,405.15	555.81	5,428.04	0.00	0.00	0.00
11,600.00	90.00	179.58	6,466.00	-5,505.15	556.55	5,527.92	0.00	0.00	0.00
11,700.00	90.00	179.58	6,466.00	-5,605.15	557.30	5,627.80	0.00	0.00	0.00
11,800.00	90.00	179.58	6,466.00	-5,705.14	558.04	5,727.67	0.00	0.00	0.00
11,900.00	90.00	179.58	6,466.00	-5,805.14	558.78	5,827.55	0.00	0.00	0.00
12,000.00	90.00	179.58	6,466.00	-5,905.14	559.52	5,927.43	0.00	0.00	0.00
12,100.00	90.00	179.58	6,466.00	-6,005.13	560.26	6,027.30	0.00	0.00	0.00
12,200.00	90.00	179.58	6,466.00	-6,105.13	561.00	6,127.18	0.00	0.00	0.00
12,300.00	90.00	179.58	6,466.00	-6,205.13	561.74	6,227.06	0.00	0.00	0.00
12,400.00	90.00	179.58	6,466.00	-6,305.13	562.48	6,326.93	0.00	0.00	0.00
12,500.00	90.00	179.58	6,466.00	-6,405.12	563.22	6,426.81	0.00	0.00	0.00
12,600.00	90.00	179.58	6,466.00	-6,505.12	563.96	6,526.69	0.00	0.00	0.00
12,700.00	90.00	179.58	6,466.00	-6,605.12	564.70	6,626.57	0.00	0.00	0.00
12,800.00	90.00	179.58	6,466.00	-6,705.12	565.45	6,726.44	0.00	0.00	0.00
12,900.00	90.00	179.58	6,466.00	-6,805.11	566.19	6,826.32	0.00	0.00	0.00
13,000.00	90.00	179.58	6,466.00	-6,905.11	566.93	6,926.20	0.00	0.00	0.00
13,100.00	90.00	179.58	6,466.00	-7,005.11	567.67	7,026.07	0.00	0.00	0.00
13,200.00	90.00	179.58	6,466.00	-7,105.10	568.41	7,125.95	0.00	0.00	0.00
13,300.00	90.00	179.58	6,466.00	-7,205.10	569.15	7,225.83	0.00	0.00	0.00
13,400.00	90.00	179.58	6,466.00	-7,305.10	569.89	7,325.70	0.00	0.00	0.00
13,500.00	90.00	179.58	6,466.00	-7,405.10	570.63	7,425.58	0.00	0.00	0.00
13,600.00	90.00	179.58	6,466.00	-7,505.09	571.37	7,525.46	0.00	0.00	0.00
13,700.00	90.00	179.58	6,466.00	-7,605.09	572.11	7,625.33	0.00	0.00	0.00
13,800.00	90.00	179.58	6,466.00	-7,705.09	572.85	7,725.21	0.00	0.00	0.00
13,900.00	90.00	179.58	6,466.00	-7,805.09	573.59	7,825.09	0.00	0.00	0.00
14,000.00	90.00	179.58	6,466.00	-7,905.08	574.34	7,924.97	0.00	0.00	0.00
14,100.00	90.00	179.58	6,466.00	-8,005.08	575.08	8,024.84	0.00	0.00	0.00
14,200.00	90.00	179.58	6,466.00	-8,105.08	575.82	8,124.72	0.00	0.00	0.00
14,300.00	90.00	179.58	6,466.00	-8,205.07	576.56	8,224.60	0.00	0.00	0.00
14,400.00	90.00	179.58	6,466.00	-8,305.07	577.30	8,324.47	0.00	0.00	0.00
14,500.00	90.00	179.58	6,466.00	-8,405.07	578.04	8,424.35	0.00	0.00	0.00
14,600.00	90.00	179.58	6,466.00	-8,505.07	578.78	8,524.23	0.00	0.00	0.00
14,700.00	90.00	179.58	6,466.00	-8,605.06	579.52	8,624.10	0.00	0.00	0.00
14,800.00	90.00	179.58	6,466.00	-8,705.06	580.26	8,723.98	0.00	0.00	0.00
14,900.00	90.00	179.58	6,466.00	-8,805.06	581.00	8,823.86	0.00	0.00	0.00
15,000.00	90.00	179.58	6,466.00	-8,905.05	581.74	8,923.74	0.00	0.00	0.00
15,100.00	90.00	179.58	6,466.00	-9,005.05	582.49	9,023.61	0.00	0.00	0.00
15,200.00	90.00	179.58	6,466.00	-9,105.05	583.23	9,123.49	0.00	0.00	0.00
15,300.00	90.00	179.58	6,466.00	-9,205.05	583.97	9,223.37	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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)
15,400.00	90.00	179.58	6,466.00	-9,305.04	584.71	9,323.24	0.00	0.00	0.00
15,500.00	90.00	179.58	6,466.00	-9,405.04	585.45	9,423.12	0.00	0.00	0.00
15,600.00	90.00	179.58	6,466.00	-9,505.04	586.19	9,523.00	0.00	0.00	0.00
15,700.00	90.00	179.58	6,466.00	-9,605.04	586.93	9,622.87	0.00	0.00	0.00
15,800.00	90.00	179.58	6,466.00	-9,705.03	587.67	9,722.75	0.00	0.00	0.00
15,900.00	90.00	179.58	6,466.00	-9,805.03	588.41	9,822.63	0.00	0.00	0.00
16,000.00	90.00	179.58	6,466.00	-9,905.03	589.15	9,922.51	0.00	0.00	0.00
16,100.00	90.00	179.58	6,466.00	-10,005.02	589.89	10,022.38	0.00	0.00	0.00
16,200.00	90.00	179.58	6,466.00	-10,105.02	590.64	10,122.26	0.00	0.00	0.00
16,300.00	90.00	179.58	6,466.00	-10,205.02	591.38	10,222.14	0.00	0.00	0.00
16,400.00	90.00	179.58	6,466.00	-10,305.02	592.12	10,322.01	0.00	0.00	0.00
16,478.42	90.00	179.58	6,466.00	-10,383.44	592.70	10,400.34	0.00	0.00	0.00
PBHL/TD 16478.42 MD/6466.00 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
70 Ranch 10-15-3L SL 2 - plan misses target center by 29.52ft at 24.00ft MD (24.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.37	24.00	-29.27	-3.79	14,649,117.69	1,799,427.43	40.33467366	-104.42941391
70 Ranch 10-15-3L LP 4 - plan hits target center - Point	0.00	0.37	6,466.00	-731.53	521.19	14,648,418.83	1,799,956.92	40.33274528	-104.42753022
70 Ranch 10-15-3L BHL - plan hits target center - Point	0.00	0.37	6,466.00	-10,383.44	592.70	14,638,767.61	1,800,090.65	40.30624159	-104.42727438

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,000.00	2,000.00	0.00	0.00	KOP Begin 10°/100' build
2,070.53	2,070.35	-1.44	4.09	Begin 7.05° tangent
5,950.10	5,920.57	-159.56	453.46	Begin 10°/100' build/turn
6,826.25	6,466.00	-731.53	521.19	LP Begin 90° lateral
16,478.42	6,466.00	-10,383.44	592.70	PBHL/TD 16478.42 MD/6466.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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 03-T04N-R63W		
Site Position:		Northing:	14,650,244.32 usft
From:	Map	Easting:	1,800,940.24 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	40.33774036
		Longitude:	-104.42395937
		Grid Convergence:	0.37 °

Well	70 Ranch 10-15-3L, Surf loc: 260 FSL 1236 FWL Section 03-T04N-R63W		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	40.33475405
		Longitude:	-104.42940032
		Ground Level:	4,597.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/21/2018	8.10	66.90	52,228.30000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	176.73

Plan Survey Tool Program	Date	5/21/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,478.42 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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,070.53	7.05	109.39	2,070.35	-1.44	4.09	10.00	10.00	0.00	109.39	
5,950.10	7.05	109.39	5,920.57	-159.56	453.46	0.00	0.00	0.00	0.00	
6,826.25	90.00	179.58	6,466.00	-731.53	521.19	10.00	9.47	8.01	70.33	70 Ranch 10-15-3L LI
16,478.42	90.00	179.58	6,466.00	-10,383.44	592.70	0.00	0.00	0.00	0.00	70 Ranch 10-15-3L BI

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
100.00	0.00	0.00	100.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
200.00	0.00	0.00	200.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
300.00	0.00	0.00	300.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
400.00	0.00	0.00	400.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
500.00	0.00	0.00	500.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
600.00	0.00	0.00	600.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
700.00	0.00	0.00	700.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
800.00	0.00	0.00	800.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
900.00	0.00	0.00	900.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,649,146.99	1,799,431.03	40.33475405	-104.42940032
KOP Begin 10°/100' build									
2,070.53	7.05	109.39	2,070.35	-1.44	4.09	14,649,145.57	1,799,435.13	40.33475010	-104.42938564
Begin 7.05° tangent									
2,100.00	7.05	109.39	2,099.60	-2.64	7.50	14,649,144.40	1,799,438.55	40.33474680	-104.42937339
2,200.00	7.05	109.39	2,198.84	-6.72	19.09	14,649,140.39	1,799,450.16	40.33473561	-104.42933183
2,300.00	7.05	109.39	2,298.09	-10.79	30.67	14,649,136.39	1,799,461.77	40.33472442	-104.42929027
2,400.00	7.05	109.39	2,397.33	-14.87	42.25	14,649,132.39	1,799,473.38	40.33471322	-104.42924871
2,500.00	7.05	109.39	2,496.57	-18.94	53.83	14,649,128.39	1,799,484.99	40.33470203	-104.42920714
2,600.00	7.05	109.39	2,595.82	-23.02	65.42	14,649,124.39	1,799,496.59	40.33469084	-104.42916558
2,700.00	7.05	109.39	2,695.06	-27.09	77.00	14,649,120.39	1,799,508.20	40.33467965	-104.42912402
2,800.00	7.05	109.39	2,794.30	-31.17	88.58	14,649,116.39	1,799,519.81	40.33466846	-104.42908246
2,900.00	7.05	109.39	2,893.55	-35.25	100.17	14,649,112.39	1,799,531.42	40.33465727	-104.42904089
3,000.00	7.05	109.39	2,992.79	-39.32	111.75	14,649,108.39	1,799,543.03	40.33464607	-104.42899933
3,100.00	7.05	109.39	3,092.03	-43.40	123.33	14,649,104.39	1,799,554.64	40.33463488	-104.42895777
3,200.00	7.05	109.39	3,191.28	-47.47	134.91	14,649,100.39	1,799,566.25	40.33462369	-104.42891621
3,300.00	7.05	109.39	3,290.52	-51.55	146.50	14,649,096.38	1,799,577.86	40.33461250	-104.42887465
3,400.00	7.05	109.39	3,389.76	-55.62	158.08	14,649,092.38	1,799,589.47	40.33460131	-104.42883308
3,500.00	7.05	109.39	3,489.00	-59.70	169.66	14,649,088.38	1,799,601.07	40.33459012	-104.42879152
3,600.00	7.05	109.39	3,588.25	-63.78	181.25	14,649,084.38	1,799,612.68	40.33457892	-104.42874996
3,700.00	7.05	109.39	3,687.49	-67.85	192.83	14,649,080.38	1,799,624.29	40.33456773	-104.42870840
3,800.00	7.05	109.39	3,786.73	-71.93	204.41	14,649,076.38	1,799,635.90	40.33455654	-104.42866684
3,900.00	7.05	109.39	3,885.98	-76.00	215.99	14,649,072.38	1,799,647.51	40.33454535	-104.42862527
4,000.00	7.05	109.39	3,985.22	-80.08	227.58	14,649,068.38	1,799,659.12	40.33453416	-104.42858371
4,100.00	7.05	109.39	4,084.46	-84.15	239.16	14,649,064.38	1,799,670.73	40.33452296	-104.42854215
4,200.00	7.05	109.39	4,183.71	-88.23	250.74	14,649,060.38	1,799,682.34	40.33451177	-104.42850059
4,300.00	7.05	109.39	4,282.95	-92.31	262.33	14,649,056.38	1,799,693.95	40.33450058	-104.42845903
4,400.00	7.05	109.39	4,382.19	-96.38	273.91	14,649,052.37	1,799,705.55	40.33448939	-104.42841746
4,500.00	7.05	109.39	4,481.44	-100.46	285.49	14,649,048.37	1,799,717.16	40.33447820	-104.42837590
4,600.00	7.05	109.39	4,580.68	-104.53	297.08	14,649,044.37	1,799,728.77	40.33446700	-104.42833434
4,700.00	7.05	109.39	4,679.92	-108.61	308.66	14,649,040.37	1,799,740.38	40.33445581	-104.42829278
4,800.00	7.05	109.39	4,779.17	-112.68	320.24	14,649,036.37	1,799,751.99	40.33444462	-104.42825122
4,900.00	7.05	109.39	4,878.41	-116.76	331.82	14,649,032.37	1,799,763.60	40.33443343	-104.42820965
5,000.00	7.05	109.39	4,977.65	-120.83	343.41	14,649,028.37	1,799,775.21	40.33442224	-104.42816809

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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
5,100.00	7.05	109.39	5,076.90	-124.91	354.99	14,649,024.37	1,799,786.82	40.33441104	-104.42812653
5,200.00	7.05	109.39	5,176.14	-128.99	366.57	14,649,020.37	1,799,798.43	40.33439985	-104.42808497
5,300.00	7.05	109.39	5,275.38	-133.06	378.16	14,649,016.37	1,799,810.03	40.33438866	-104.42804341
5,400.00	7.05	109.39	5,374.63	-137.14	389.74	14,649,012.37	1,799,821.64	40.33437747	-104.42800185
5,500.00	7.05	109.39	5,473.87	-141.21	401.32	14,649,008.36	1,799,833.25	40.33436628	-104.42796028
5,600.00	7.05	109.39	5,573.11	-145.29	412.90	14,649,004.36	1,799,844.86	40.33435508	-104.42791872
5,700.00	7.05	109.39	5,672.36	-149.36	424.49	14,649,000.36	1,799,856.47	40.33434389	-104.42787716
5,800.00	7.05	109.39	5,771.60	-153.44	436.07	14,648,996.36	1,799,868.08	40.33433270	-104.42783560
5,900.00	7.05	109.39	5,870.84	-157.52	447.65	14,648,992.36	1,799,879.69	40.33432151	-104.42779404
5,950.10	7.05	109.39	5,920.57	-159.56	453.46	14,648,990.36	1,799,885.50	40.33431590	-104.42777321
Begin 10°/100' build/turn									
6,000.00	9.91	137.80	5,969.93	-163.76	459.23	14,648,986.19	1,799,891.31	40.33430437	-104.42775248
6,100.00	18.56	159.29	6,066.83	-185.08	470.67	14,648,964.95	1,799,902.88	40.33424582	-104.42771144
6,200.00	28.11	166.99	6,158.57	-223.01	481.63	14,648,927.08	1,799,914.09	40.33414165	-104.42767212
6,300.00	37.87	170.97	6,242.35	-276.42	491.78	14,648,873.75	1,799,924.58	40.33399501	-104.42763571
6,400.00	47.73	173.50	6,315.64	-343.67	500.81	14,648,806.56	1,799,934.04	40.33381035	-104.42760331
6,500.00	57.62	175.34	6,376.20	-422.71	508.44	14,648,727.56	1,799,942.19	40.33359329	-104.42757592
6,600.00	67.53	176.82	6,422.20	-511.16	514.45	14,648,639.16	1,799,948.77	40.33335042	-104.42755436
6,700.00	77.46	178.09	6,452.24	-606.31	518.66	14,648,544.03	1,799,953.58	40.33308913	-104.42753929
6,800.00	87.39	179.27	6,465.40	-705.29	520.92	14,648,445.07	1,799,956.49	40.33281735	-104.42753117
6,826.25	90.00	179.58	6,466.00	-731.53	521.19	14,648,418.83	1,799,956.92	40.33274528	-104.42753022
LP Begin 90° lateral									
6,900.00	90.00	179.58	6,466.00	-805.28	521.73	14,648,345.09	1,799,957.94	40.33254278	-104.42752827
7,000.00	90.00	179.58	6,466.00	-905.27	522.47	14,648,245.10	1,799,959.33	40.33226820	-104.42752562
7,100.00	90.00	179.58	6,466.00	-1,005.27	523.21	14,648,145.11	1,799,960.71	40.33199361	-104.42752297
7,200.00	90.00	179.58	6,466.00	-1,105.27	523.96	14,648,045.12	1,799,962.10	40.33171902	-104.42752031
7,300.00	90.00	179.58	6,466.00	-1,205.27	524.70	14,647,945.13	1,799,963.48	40.33144443	-104.42751766
7,400.00	90.00	179.58	6,466.00	-1,305.26	525.44	14,647,845.14	1,799,964.87	40.33116985	-104.42751501
7,500.00	90.00	179.58	6,466.00	-1,405.26	526.18	14,647,745.15	1,799,966.25	40.33089526	-104.42751236
7,600.00	90.00	179.58	6,466.00	-1,505.26	526.92	14,647,645.16	1,799,967.64	40.33062067	-104.42750971
7,700.00	90.00	179.58	6,466.00	-1,605.26	527.66	14,647,545.17	1,799,969.03	40.33034608	-104.42750706
7,800.00	90.00	179.58	6,466.00	-1,705.25	528.40	14,647,445.18	1,799,970.41	40.33007150	-104.42750441
7,900.00	90.00	179.58	6,466.00	-1,805.25	529.14	14,647,345.19	1,799,971.80	40.32979691	-104.42750176
8,000.00	90.00	179.58	6,466.00	-1,905.25	529.88	14,647,245.20	1,799,973.18	40.32952232	-104.42749911
8,100.00	90.00	179.58	6,466.00	-2,005.24	530.62	14,647,145.21	1,799,974.57	40.32924773	-104.42749646
8,200.00	90.00	179.58	6,466.00	-2,105.24	531.36	14,647,045.22	1,799,975.95	40.32897315	-104.42749380
8,300.00	90.00	179.58	6,466.00	-2,205.24	532.11	14,646,945.23	1,799,977.34	40.32869856	-104.42749115
8,400.00	90.00	179.58	6,466.00	-2,305.24	532.85	14,646,845.24	1,799,978.72	40.32842397	-104.42748850
8,500.00	90.00	179.58	6,466.00	-2,405.23	533.59	14,646,745.25	1,799,980.11	40.32814938	-104.42748585
8,600.00	90.00	179.58	6,466.00	-2,505.23	534.33	14,646,645.26	1,799,981.50	40.32787480	-104.42748320
8,700.00	90.00	179.58	6,466.00	-2,605.23	535.07	14,646,545.27	1,799,982.88	40.32760021	-104.42748055
8,800.00	90.00	179.58	6,466.00	-2,705.22	535.81	14,646,445.28	1,799,984.27	40.32732562	-104.42747790
8,900.00	90.00	179.58	6,466.00	-2,805.22	536.55	14,646,345.29	1,799,985.65	40.32705103	-104.42747525
9,000.00	90.00	179.58	6,466.00	-2,905.22	537.29	14,646,245.30	1,799,987.04	40.32677644	-104.42747260
9,100.00	90.00	179.58	6,466.00	-3,005.22	538.03	14,646,145.31	1,799,988.42	40.32650186	-104.42746995
9,200.00	90.00	179.58	6,466.00	-3,105.21	538.77	14,646,045.32	1,799,989.81	40.32622727	-104.42746730
9,300.00	90.00	179.58	6,466.00	-3,205.21	539.51	14,645,945.33	1,799,991.19	40.32595268	-104.42746464
9,400.00	90.00	179.58	6,466.00	-3,305.21	540.25	14,645,845.34	1,799,992.58	40.32567809	-104.42746199
9,500.00	90.00	179.58	6,466.00	-3,405.21	541.00	14,645,745.35	1,799,993.96	40.32540351	-104.42745934
9,600.00	90.00	179.58	6,466.00	-3,505.20	541.74	14,645,645.36	1,799,995.35	40.32512892	-104.42745669
9,700.00	90.00	179.58	6,466.00	-3,605.20	542.48	14,645,545.37	1,799,996.74	40.32485433	-104.42745404
9,800.00	90.00	179.58	6,466.00	-3,705.20	543.22	14,645,445.38	1,799,998.12	40.32457974	-104.42745139
9,900.00	90.00	179.58	6,466.00	-3,805.19	543.96	14,645,345.39	1,799,999.51	40.32430515	-104.42744874
10,000.00	90.00	179.58	6,466.00	-3,905.19	544.70	14,645,245.40	1,800,000.89	40.32403057	-104.42744609

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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
10,100.00	90.00	179.58	6,466.00	-4,005.19	545.44	14,645,145.41	1,800,002.28	40.32375598	-104.42744344
10,200.00	90.00	179.58	6,466.00	-4,105.19	546.18	14,645,045.42	1,800,003.66	40.32348139	-104.42744079
10,300.00	90.00	179.58	6,466.00	-4,205.18	546.92	14,644,945.43	1,800,005.05	40.32320680	-104.42743814
10,400.00	90.00	179.58	6,466.00	-4,305.18	547.66	14,644,845.43	1,800,006.43	40.32293221	-104.42743549
10,500.00	90.00	179.58	6,466.00	-4,405.18	548.40	14,644,745.44	1,800,007.82	40.32265763	-104.42743283
10,600.00	90.00	179.58	6,466.00	-4,505.18	549.15	14,644,645.45	1,800,009.21	40.32238304	-104.42743018
10,700.00	90.00	179.58	6,466.00	-4,605.17	549.89	14,644,545.46	1,800,010.59	40.32210845	-104.42742753
10,800.00	90.00	179.58	6,466.00	-4,705.17	550.63	14,644,445.47	1,800,011.98	40.32183386	-104.42742488
10,900.00	90.00	179.58	6,466.00	-4,805.17	551.37	14,644,345.48	1,800,013.36	40.32155928	-104.42742223
11,000.00	90.00	179.58	6,466.00	-4,905.16	552.11	14,644,245.49	1,800,014.75	40.32128469	-104.42741958
11,100.00	90.00	179.58	6,466.00	-5,005.16	552.85	14,644,145.50	1,800,016.13	40.32101010	-104.42741693
11,200.00	90.00	179.58	6,466.00	-5,105.16	553.59	14,644,045.51	1,800,017.52	40.32073551	-104.42741428
11,300.00	90.00	179.58	6,466.00	-5,205.16	554.33	14,643,945.52	1,800,018.90	40.32046092	-104.42741163
11,400.00	90.00	179.58	6,466.00	-5,305.15	555.07	14,643,845.53	1,800,020.29	40.32018633	-104.42740898
11,500.00	90.00	179.58	6,466.00	-5,405.15	555.81	14,643,745.54	1,800,021.67	40.31991175	-104.42740633
11,600.00	90.00	179.58	6,466.00	-5,505.15	556.55	14,643,645.55	1,800,023.06	40.31963716	-104.42740368
11,700.00	90.00	179.58	6,466.00	-5,605.15	557.30	14,643,545.56	1,800,024.45	40.31936257	-104.42740103
11,800.00	90.00	179.58	6,466.00	-5,705.14	558.04	14,643,445.57	1,800,025.83	40.31908798	-104.42739838
11,900.00	90.00	179.58	6,466.00	-5,805.14	558.78	14,643,345.58	1,800,027.22	40.31881339	-104.42739572
12,000.00	90.00	179.58	6,466.00	-5,905.14	559.52	14,643,245.59	1,800,028.60	40.31853881	-104.42739307
12,100.00	90.00	179.58	6,466.00	-6,005.13	560.26	14,643,145.60	1,800,029.99	40.31826422	-104.42739042
12,200.00	90.00	179.58	6,466.00	-6,105.13	561.00	14,643,045.61	1,800,031.37	40.31798963	-104.42738777
12,300.00	90.00	179.58	6,466.00	-6,205.13	561.74	14,642,945.62	1,800,032.76	40.31771504	-104.42738512
12,400.00	90.00	179.58	6,466.00	-6,305.13	562.48	14,642,845.63	1,800,034.14	40.31744045	-104.42738247
12,500.00	90.00	179.58	6,466.00	-6,405.12	563.22	14,642,745.64	1,800,035.53	40.31716587	-104.42737982
12,600.00	90.00	179.58	6,466.00	-6,505.12	563.96	14,642,645.65	1,800,036.91	40.31689128	-104.42737717
12,700.00	90.00	179.58	6,466.00	-6,605.12	564.70	14,642,545.66	1,800,038.30	40.31661669	-104.42737452
12,800.00	90.00	179.58	6,466.00	-6,705.12	565.45	14,642,445.67	1,800,039.69	40.31634210	-104.42737187
12,900.00	90.00	179.58	6,466.00	-6,805.11	566.19	14,642,345.68	1,800,041.07	40.31606751	-104.42736922
13,000.00	90.00	179.58	6,466.00	-6,905.11	566.93	14,642,245.69	1,800,042.46	40.31579292	-104.42736657
13,100.00	90.00	179.58	6,466.00	-7,005.11	567.67	14,642,145.70	1,800,043.84	40.31551834	-104.42736392
13,200.00	90.00	179.58	6,466.00	-7,105.10	568.41	14,642,045.71	1,800,045.23	40.31524375	-104.42736127
13,300.00	90.00	179.58	6,466.00	-7,205.10	569.15	14,641,945.72	1,800,046.61	40.31496916	-104.42735862
13,400.00	90.00	179.58	6,466.00	-7,305.10	569.89	14,641,845.73	1,800,048.00	40.31469457	-104.42735597
13,500.00	90.00	179.58	6,466.00	-7,405.10	570.63	14,641,745.74	1,800,049.38	40.31441998	-104.42735332
13,600.00	90.00	179.58	6,466.00	-7,505.09	571.37	14,641,645.75	1,800,050.77	40.31414539	-104.42735066
13,700.00	90.00	179.58	6,466.00	-7,605.09	572.11	14,641,545.76	1,800,052.16	40.31387081	-104.42734801
13,800.00	90.00	179.58	6,466.00	-7,705.09	572.85	14,641,445.77	1,800,053.54	40.31359622	-104.42734536
13,900.00	90.00	179.58	6,466.00	-7,805.09	573.59	14,641,345.78	1,800,054.93	40.31332163	-104.42734271
14,000.00	90.00	179.58	6,466.00	-7,905.08	574.34	14,641,245.79	1,800,056.31	40.31304704	-104.42734006
14,100.00	90.00	179.58	6,466.00	-8,005.08	575.08	14,641,145.80	1,800,057.70	40.31277246	-104.42733741
14,200.00	90.00	179.58	6,466.00	-8,105.08	575.82	14,641,045.81	1,800,059.08	40.31249787	-104.42733476
14,300.00	90.00	179.58	6,466.00	-8,205.07	576.56	14,640,945.82	1,800,060.47	40.31222329	-104.42733211
14,400.00	90.00	179.58	6,466.00	-8,305.07	577.30	14,640,845.83	1,800,061.85	40.31194870	-104.42732946
14,500.00	90.00	179.58	6,466.00	-8,405.07	578.04	14,640,745.84	1,800,063.24	40.31167411	-104.42732681
14,600.00	90.00	179.58	6,466.00	-8,505.07	578.78	14,640,645.85	1,800,064.62	40.31139952	-104.42732416
14,700.00	90.00	179.58	6,466.00	-8,605.06	579.52	14,640,545.86	1,800,066.01	40.31112493	-104.42732151
14,800.00	90.00	179.58	6,466.00	-8,705.06	580.26	14,640,445.87	1,800,067.40	40.31085034	-104.42731886
14,900.00	90.00	179.58	6,466.00	-8,805.06	581.00	14,640,345.88	1,800,068.78	40.31057575	-104.42731621
15,000.00	90.00	179.58	6,466.00	-8,905.05	581.74	14,640,245.89	1,800,070.17	40.31030117	-104.42731356
15,100.00	90.00	179.58	6,466.00	-9,005.05	582.49	14,640,145.90	1,800,071.55	40.31002658	-104.42731091
15,200.00	90.00	179.58	6,466.00	-9,105.05	583.23	14,640,045.91	1,800,072.94	40.30975199	-104.42730826
15,300.00	90.00	179.58	6,466.00	-9,205.05	583.97	14,639,945.91	1,800,074.32	40.30947740	-104.42730561
15,400.00	90.00	179.58	6,466.00	-9,305.04	584.71	14,639,845.92	1,800,075.71	40.30920281	-104.42730296
15,500.00	90.00	179.58	6,466.00	-9,405.04	585.45	14,639,745.93	1,800,077.09	40.30892822	-104.42730031

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-15-3L
Company:	Confluence Resources	TVD Reference:	RKB=4597+24 @ 4621.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4597+24 @ 4621.00ft
Site:	Section 03-T04N-R63W	North Reference:	True
Well:	70 Ranch 10-15-3L	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
15,600.00	90.00	179.58	6,466.00	-9,505.04	586.19	14,639,645.94	1,800,078.48	40.30865363	-104.42729766
15,700.00	90.00	179.58	6,466.00	-9,605.04	586.93	14,639,545.95	1,800,079.87	40.30837905	-104.42729501
15,800.00	90.00	179.58	6,466.00	-9,705.03	587.67	14,639,445.96	1,800,081.25	40.30810446	-104.42729236
15,900.00	90.00	179.58	6,466.00	-9,805.03	588.41	14,639,345.97	1,800,082.64	40.30782987	-104.42728971
16,000.00	90.00	179.58	6,466.00	-9,905.03	589.15	14,639,245.98	1,800,084.02	40.30755528	-104.42728706
16,100.00	90.00	179.58	6,466.00	-10,005.02	589.89	14,639,145.99	1,800,085.41	40.30728069	-104.42728440
16,200.00	90.00	179.58	6,466.00	-10,105.02	590.64	14,639,046.00	1,800,086.79	40.30700610	-104.42728175
16,300.00	90.00	179.58	6,466.00	-10,205.02	591.38	14,638,946.01	1,800,088.18	40.30673151	-104.42727910
16,400.00	90.00	179.58	6,466.00	-10,305.02	592.12	14,638,846.02	1,800,089.56	40.30645693	-104.42727645
16,478.42	90.00	179.58	6,466.00	-10,383.44	592.70	14,638,767.61	1,800,090.65	40.30624159	-104.42727438
PBHL/TD 16478.42 MD/6466.00 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
70 Ranch 10-15-3L SL 2 - plan misses target center by 29.52ft at 24.00ft MD (24.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.37	24.00	-29.27	-3.79	14,649,117.69	1,799,427.43	40.33467366	-104.42941391
70 Ranch 10-15-3L LP 4 - plan hits target center - Point	0.00	0.37	6,466.00	-731.53	521.19	14,648,418.83	1,799,956.92	40.33274528	-104.42753022
70 Ranch 10-15-3L BHL - plan hits target center - Point	0.00	0.37	6,466.00	-10,383.44	592.70	14,638,767.61	1,800,090.65	40.30624159	-104.42727438

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	KOP Begin 10°/100' build	
2,070.53	2,070.35	-1.44	4.09	Begin 7.05° tangent	
5,950.10	5,920.57	-159.56	453.46	Begin 10°/100' build/turn	
6,826.25	6,466.00	-731.53	521.19	LP Begin 90° lateral	
16,478.42	6,466.00	-10,383.44	592.70	PBHL/TD 16478.42 MD/6466.00 TVD	