



Weld County, Colorado
Section 10 & 15 T04N-R63W
70 Ranch 10-5-3L
plan1

Azimuth Corrections:

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

70 Ranch 10-5-3L			
Surf Loc: 102 FNL 1748 FWL Section 10-T04N-R63W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=4607+25 @ 4632.01ft			
Northing	Easting	Latitude	Longitude
14648744.51	1799932.58	40.33364000	-104.42761000

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	5184.25	18.42	27.69	5181.09	26.01	13.65	10.00	-25.46	Begin 18.42° tangent section
4	5757.92	18.42	27.69	5725.35	186.55	97.91	0.00	-182.65	Begin 10°/100' build/turn
5	6821.20	90.23	179.05	6448.00	-364.17	222.96	10.00	372.46	LP Begin 90.23° lateral section
6	16400.32	90.23	179.05	6410.00	-9941.89	381.94	0.00	9949.23	PBHL/TD 16400.32 MD 6410.00 TVD

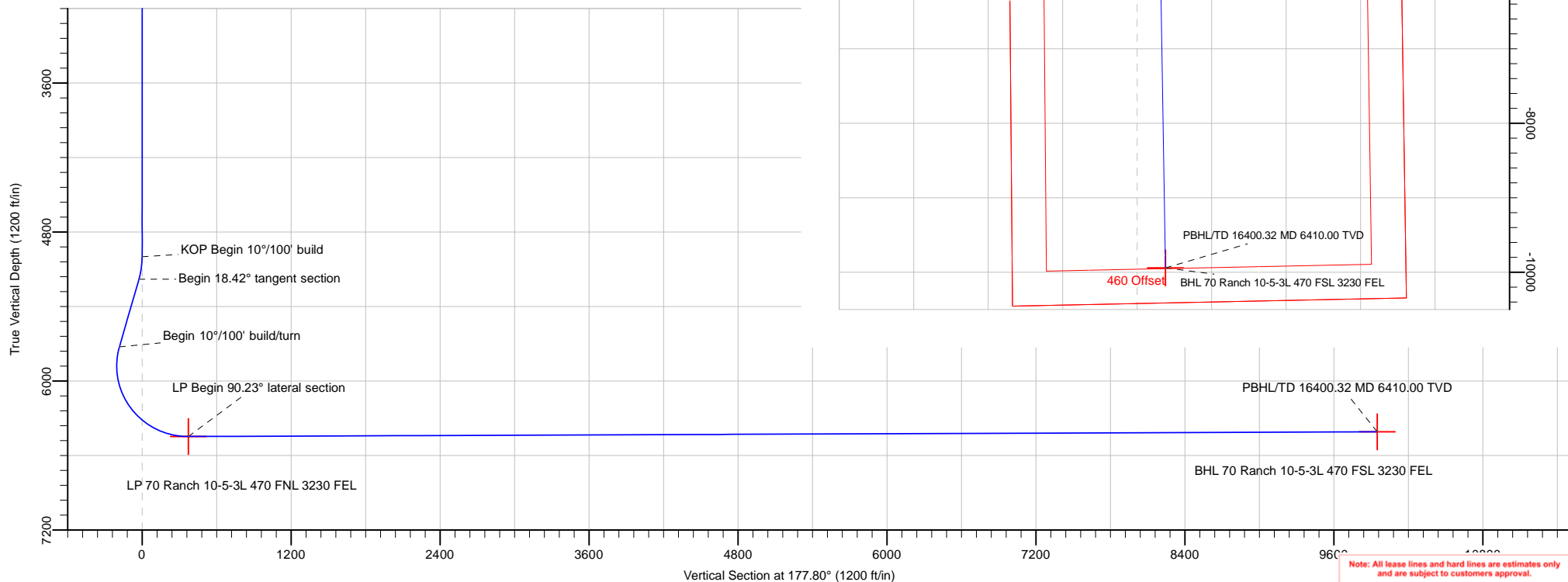
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL 70 Ranch 10-5-3L 470 FSL 3230 FEL	6410.00	-9941.89	381.94	14638805.32	1800378.80	40.30634000	-104.42624000
LP 70 Ranch 10-5-3L 470 FNL 3230 FEL	6448.00	-364.17	222.96	14648381.79	1800157.89	40.33264000	-104.42681000



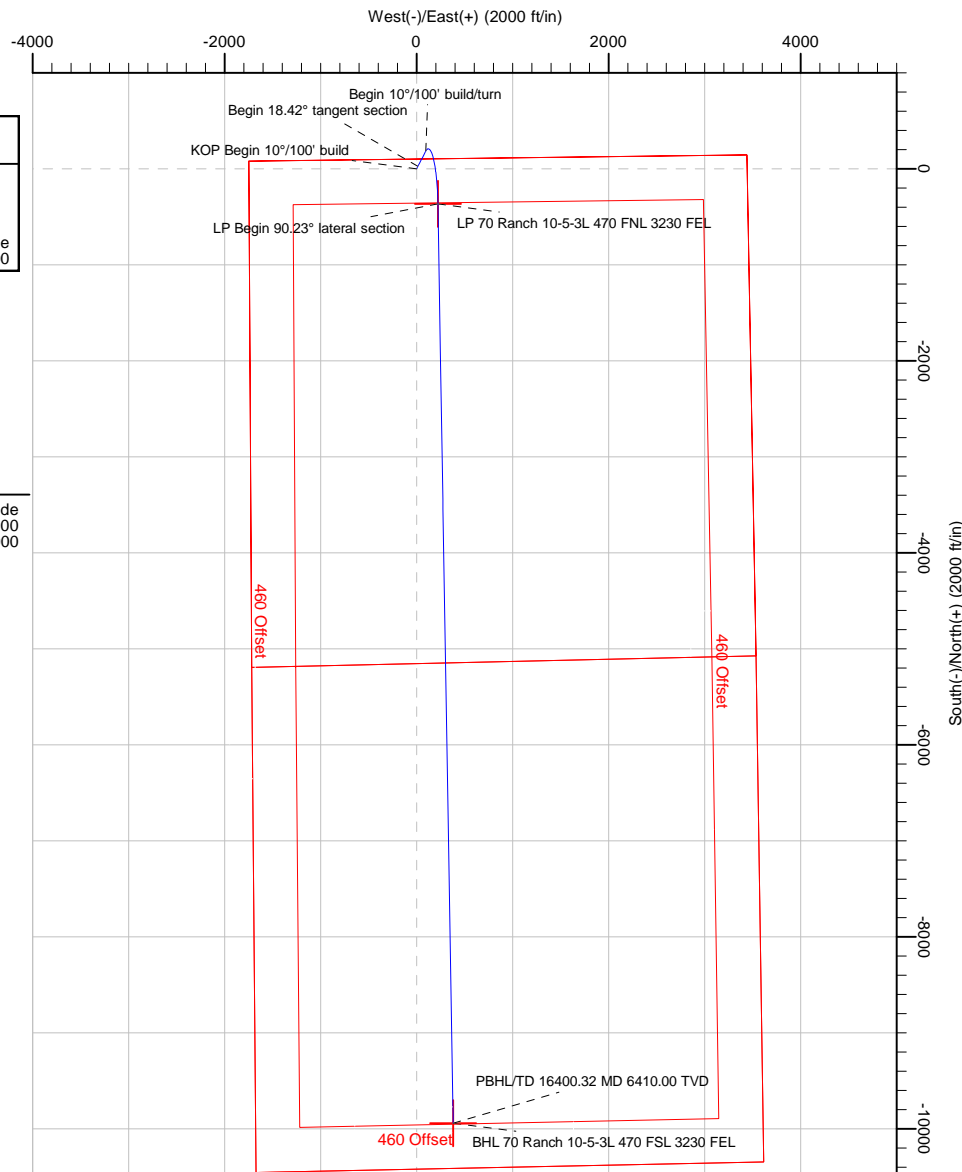
Azimuths to True North
Magnetic North: 8.17°

Magnetic Field
Strength: 52358.1snT
Dip Angle: 66.97°
Date: 5/7/2017
Model: HDGM



Date: 11:21, May 08 2017

Note: All lease lines and hard lines are estimates only and are subject to customers approval.



Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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 10-5-3L, Surf Loc: 102 FNL 1748 FWL Section 10-T04N-R63W			
Well Position	+N/-S	58.27 ft	Northing:	14,648,744.51 usft
	+E/-W	-217.38 ft	Easting:	1,799,932.58 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,607.01 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/7/2017	8.17	66.97	52,358.10000000

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	177.80

Plan Survey Tool Program	Date	5/8/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,400.32	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	
5,184.25	18.42	27.69	5,181.09	26.01	13.65	10.00	10.00	0.00	27.69	
5,757.92	18.42	27.69	5,725.35	186.55	97.91	0.00	0.00	0.00	0.00	
6,821.20	90.23	179.05	6,448.00	-364.17	222.96	10.00	6.75	14.23	150.03	LP 70 Ranch 10-5-3L
16,400.32	90.23	179.05	6,410.00	-9,941.89	381.94	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-5-3

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	27.69	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	27.69	5,099.50	7.71	4.05	-7.55	10.00	10.00	0.00

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Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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)
5,184.25	18.42	27.69	5,181.09	26.01	13.65	-25.46	10.00	10.00	0.00
Begin 18.42° tangent section									
5,200.01	18.42	27.69	5,196.04	30.42	15.96	-29.78	0.00	0.00	0.00
5,300.01	18.42	27.69	5,290.92	58.40	30.65	-57.18	0.00	0.00	0.00
5,400.01	18.42	27.69	5,385.79	86.39	45.34	-84.58	0.00	0.00	0.00
5,500.01	18.42	27.69	5,480.67	114.37	60.03	-111.98	0.00	0.00	0.00
5,600.01	18.42	27.69	5,575.54	142.36	74.72	-139.38	0.00	0.00	0.00
5,700.01	18.42	27.69	5,670.41	170.34	89.41	-166.79	0.00	0.00	0.00
5,757.92	18.42	27.69	5,725.35	186.55	97.91	-182.65	0.00	0.00	0.00
Begin 10°/100' build/turn									
5,800.01	14.92	35.88	5,765.68	196.83	104.18	-192.69	10.00	-8.32	19.44
5,900.01	9.28	77.21	5,863.58	209.08	119.63	-204.33	10.00	-5.65	41.33
6,000.01	12.15	131.08	5,962.06	203.93	135.46	-198.58	10.00	2.88	53.88
6,100.01	20.19	153.24	6,058.11	181.55	151.21	-175.61	10.00	8.04	22.16
6,200.01	29.43	162.55	6,148.82	142.60	166.38	-136.11	10.00	9.24	9.30
6,300.01	39.02	167.63	6,231.42	88.28	180.53	-81.28	10.00	9.59	5.08
6,400.01	48.75	170.95	6,303.42	20.23	193.21	-12.80	10.00	9.73	3.32
6,500.01	58.56	173.40	6,362.62	-59.47	204.05	67.26	10.00	9.80	2.45
6,600.01	68.40	175.38	6,407.22	-148.41	212.72	156.47	10.00	9.84	1.98
6,700.01	78.26	177.11	6,435.87	-243.89	218.94	252.11	10.00	9.86	1.73
6,800.01	88.13	178.71	6,447.70	-342.99	222.54	351.28	10.00	9.87	1.61
6,821.20	90.23	179.05	6,448.00	-364.17	222.96	372.46	10.01	9.88	1.58
LP Begin 90.23° lateral section									
6,900.01	90.23	179.05	6,447.69	-442.97	224.26	451.25	0.00	0.00	0.00
7,000.01	90.23	179.05	6,447.29	-542.96	225.92	551.23	0.00	0.00	0.00
7,100.01	90.23	179.05	6,446.89	-642.94	227.58	651.21	0.00	0.00	0.00
7,200.01	90.23	179.05	6,446.50	-742.93	229.24	751.18	0.00	0.00	0.00
7,300.01	90.23	179.05	6,446.10	-842.91	230.90	851.16	0.00	0.00	0.00
7,400.01	90.23	179.05	6,445.70	-942.90	232.56	951.13	0.00	0.00	0.00
7,500.02	90.23	179.05	6,445.31	-1,042.89	234.22	1,051.11	0.00	0.00	0.00
7,600.02	90.23	179.05	6,444.91	-1,142.87	235.88	1,151.08	0.00	0.00	0.00
7,700.02	90.23	179.05	6,444.51	-1,242.86	237.54	1,251.06	0.00	0.00	0.00
7,800.02	90.23	179.05	6,444.12	-1,342.84	239.20	1,351.04	0.00	0.00	0.00
7,900.02	90.23	179.05	6,443.72	-1,442.83	240.86	1,451.01	0.00	0.00	0.00
8,000.02	90.23	179.05	6,443.32	-1,542.81	242.52	1,550.99	0.00	0.00	0.00
8,100.02	90.23	179.05	6,442.93	-1,642.80	244.18	1,650.96	0.00	0.00	0.00
8,200.02	90.23	179.05	6,442.53	-1,742.79	245.84	1,750.94	0.00	0.00	0.00
8,300.02	90.23	179.05	6,442.13	-1,842.77	247.50	1,850.91	0.00	0.00	0.00
8,400.02	90.23	179.05	6,441.74	-1,942.76	249.16	1,950.89	0.00	0.00	0.00
8,500.02	90.23	179.05	6,441.34	-2,042.74	250.82	2,050.87	0.00	0.00	0.00
8,600.02	90.23	179.05	6,440.94	-2,142.73	252.48	2,150.84	0.00	0.00	0.00
8,700.02	90.23	179.05	6,440.55	-2,242.71	254.14	2,250.82	0.00	0.00	0.00
8,800.02	90.23	179.05	6,440.15	-2,342.70	255.80	2,350.79	0.00	0.00	0.00
8,900.02	90.23	179.05	6,439.75	-2,442.68	257.46	2,450.77	0.00	0.00	0.00
9,000.02	90.23	179.05	6,439.36	-2,542.67	259.12	2,550.74	0.00	0.00	0.00
9,100.02	90.23	179.05	6,438.96	-2,642.66	260.78	2,650.72	0.00	0.00	0.00
9,200.02	90.23	179.05	6,438.56	-2,742.64	262.44	2,750.69	0.00	0.00	0.00
9,300.02	90.23	179.05	6,438.17	-2,842.63	264.10	2,850.67	0.00	0.00	0.00
9,400.02	90.23	179.05	6,437.77	-2,942.61	265.76	2,950.65	0.00	0.00	0.00
9,500.02	90.23	179.05	6,437.37	-3,042.60	267.42	3,050.62	0.00	0.00	0.00
9,600.02	90.23	179.05	6,436.98	-3,142.58	269.08	3,150.60	0.00	0.00	0.00
9,700.02	90.23	179.05	6,436.58	-3,242.57	270.74	3,250.57	0.00	0.00	0.00
9,800.02	90.23	179.05	6,436.18	-3,342.56	272.40	3,350.55	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	90.23	179.05	6,435.79	-3,442.54	274.06	3,450.52	0.00	0.00	0.00
10,000.02	90.23	179.05	6,435.39	-3,542.53	275.72	3,550.50	0.00	0.00	0.00
10,100.02	90.23	179.05	6,434.99	-3,642.51	277.37	3,650.48	0.00	0.00	0.00
10,200.02	90.23	179.05	6,434.60	-3,742.50	279.03	3,750.45	0.00	0.00	0.00
10,300.02	90.23	179.05	6,434.20	-3,842.48	280.69	3,850.43	0.00	0.00	0.00
10,400.02	90.23	179.05	6,433.80	-3,942.47	282.35	3,950.40	0.00	0.00	0.00
10,500.02	90.23	179.05	6,433.41	-4,042.46	284.01	4,050.38	0.00	0.00	0.00
10,600.02	90.23	179.05	6,433.01	-4,142.44	285.67	4,150.35	0.00	0.00	0.00
10,700.02	90.23	179.05	6,432.61	-4,242.43	287.33	4,250.33	0.00	0.00	0.00
10,800.02	90.23	179.05	6,432.22	-4,342.41	288.99	4,350.31	0.00	0.00	0.00
10,900.02	90.23	179.05	6,431.82	-4,442.40	290.65	4,450.28	0.00	0.00	0.00
11,000.02	90.23	179.05	6,431.42	-4,542.38	292.31	4,550.26	0.00	0.00	0.00
11,100.02	90.23	179.05	6,431.03	-4,642.37	293.97	4,650.23	0.00	0.00	0.00
11,200.02	90.23	179.05	6,430.63	-4,742.35	295.63	4,750.21	0.00	0.00	0.00
11,300.02	90.23	179.05	6,430.23	-4,842.34	297.29	4,850.18	0.00	0.00	0.00
11,400.02	90.23	179.05	6,429.84	-4,942.33	298.95	4,950.16	0.00	0.00	0.00
11,500.02	90.23	179.05	6,429.44	-5,042.31	300.61	5,050.13	0.00	0.00	0.00
11,600.02	90.23	179.05	6,429.04	-5,142.30	302.27	5,150.11	0.00	0.00	0.00
11,700.02	90.23	179.05	6,428.65	-5,242.28	303.93	5,250.09	0.00	0.00	0.00
11,800.02	90.23	179.05	6,428.25	-5,342.27	305.59	5,350.06	0.00	0.00	0.00
11,900.02	90.23	179.05	6,427.85	-5,442.25	307.25	5,450.04	0.00	0.00	0.00
12,000.02	90.23	179.05	6,427.46	-5,542.24	308.91	5,550.01	0.00	0.00	0.00
12,100.02	90.23	179.05	6,427.06	-5,642.23	310.57	5,649.99	0.00	0.00	0.00
12,200.02	90.23	179.05	6,426.66	-5,742.21	312.23	5,749.96	0.00	0.00	0.00
12,300.02	90.23	179.05	6,426.27	-5,842.20	313.89	5,849.94	0.00	0.00	0.00
12,400.03	90.23	179.05	6,425.87	-5,942.18	315.55	5,949.92	0.00	0.00	0.00
12,500.03	90.23	179.05	6,425.47	-6,042.17	317.21	6,049.89	0.00	0.00	0.00
12,600.03	90.23	179.05	6,425.08	-6,142.15	318.87	6,149.87	0.00	0.00	0.00
12,700.03	90.23	179.05	6,424.68	-6,242.14	320.53	6,249.84	0.00	0.00	0.00
12,800.03	90.23	179.05	6,424.28	-6,342.12	322.19	6,349.82	0.00	0.00	0.00
12,900.03	90.23	179.05	6,423.89	-6,442.11	323.85	6,449.79	0.00	0.00	0.00
13,000.03	90.23	179.05	6,423.49	-6,542.10	325.51	6,549.77	0.00	0.00	0.00
13,100.03	90.23	179.05	6,423.09	-6,642.08	327.17	6,649.75	0.00	0.00	0.00
13,200.03	90.23	179.05	6,422.70	-6,742.07	328.83	6,749.72	0.00	0.00	0.00
13,300.03	90.23	179.05	6,422.30	-6,842.05	330.48	6,849.70	0.00	0.00	0.00
13,400.03	90.23	179.05	6,421.90	-6,942.04	332.14	6,949.67	0.00	0.00	0.00
13,500.03	90.23	179.05	6,421.51	-7,042.02	333.80	7,049.65	0.00	0.00	0.00
13,600.03	90.23	179.05	6,421.11	-7,142.01	335.46	7,149.62	0.00	0.00	0.00
13,700.03	90.23	179.05	6,420.71	-7,242.00	337.12	7,249.60	0.00	0.00	0.00
13,800.03	90.23	179.05	6,420.32	-7,341.98	338.78	7,349.57	0.00	0.00	0.00
13,900.03	90.23	179.05	6,419.92	-7,441.97	340.44	7,449.55	0.00	0.00	0.00
14,000.03	90.23	179.05	6,419.52	-7,541.95	342.10	7,549.53	0.00	0.00	0.00
14,100.03	90.23	179.05	6,419.13	-7,641.94	343.76	7,649.50	0.00	0.00	0.00
14,200.03	90.23	179.05	6,418.73	-7,741.92	345.42	7,749.48	0.00	0.00	0.00
14,300.03	90.23	179.05	6,418.33	-7,841.91	347.08	7,849.45	0.00	0.00	0.00
14,400.03	90.23	179.05	6,417.94	-7,941.90	348.74	7,949.43	0.00	0.00	0.00
14,500.03	90.23	179.05	6,417.54	-8,041.88	350.40	8,049.40	0.00	0.00	0.00
14,600.03	90.23	179.05	6,417.14	-8,141.87	352.06	8,149.38	0.00	0.00	0.00
14,700.03	90.23	179.05	6,416.75	-8,241.85	353.72	8,249.36	0.00	0.00	0.00
14,800.03	90.23	179.05	6,416.35	-8,341.84	355.38	8,349.33	0.00	0.00	0.00
14,900.03	90.23	179.05	6,415.95	-8,441.82	357.04	8,449.31	0.00	0.00	0.00
15,000.03	90.23	179.05	6,415.56	-8,541.81	358.70	8,549.28	0.00	0.00	0.00
15,100.03	90.23	179.05	6,415.16	-8,641.79	360.36	8,649.26	0.00	0.00	0.00
15,200.03	90.23	179.05	6,414.76	-8,741.78	362.02	8,749.23	0.00	0.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	90.23	179.05	6,414.36	-8,841.77	363.68	8,849.21	0.00	0.00	0.00	
15,400.03	90.23	179.05	6,413.97	-8,941.75	365.34	8,949.19	0.00	0.00	0.00	
15,500.03	90.23	179.05	6,413.57	-9,041.74	367.00	9,049.16	0.00	0.00	0.00	
15,600.03	90.23	179.05	6,413.17	-9,141.72	368.66	9,149.14	0.00	0.00	0.00	
15,700.03	90.23	179.05	6,412.78	-9,241.71	370.32	9,249.11	0.00	0.00	0.00	
15,800.03	90.23	179.05	6,412.38	-9,341.69	371.98	9,349.09	0.00	0.00	0.00	
15,900.03	90.23	179.05	6,411.98	-9,441.68	373.64	9,449.06	0.00	0.00	0.00	
16,000.03	90.23	179.05	6,411.59	-9,541.67	375.30	9,549.04	0.00	0.00	0.00	
16,100.03	90.23	179.05	6,411.19	-9,641.65	376.96	9,649.01	0.00	0.00	0.00	
16,200.03	90.23	179.05	6,410.79	-9,741.64	378.62	9,748.99	0.00	0.00	0.00	
16,300.03	90.23	179.05	6,410.40	-9,841.62	380.28	9,848.97	0.00	0.00	0.00	
16,400.03	90.23	179.05	6,410.00	-9,941.61	381.94	9,948.94	0.00	0.00	0.00	
16,400.32	90.23	179.05	6,410.00	-9,941.89	381.94	9,949.23	0.00	0.00	0.00	
PBHL/TD 16400.32 MD 6410.00 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 10-5-3L 4	0.00	0.00	6,410.00	-9,941.89	381.94	14,638,805.31	1,800,378.80	40.30634000	-104.42624000	
- plan hits target center										
- Point										
LP 70 Ranch 10-5-3L 47	0.00	0.00	6,448.00	-364.17	222.96	14,648,381.79	1,800,157.89	40.33264000	-104.42681000	
- 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	
5,184.25	5,181.09	26.01	13.65	Begin 18.42° tangent section	
5,757.92	5,725.35	186.55	97.91	Begin 10°/100' build/turn	
6,821.20	6,448.00	-364.17	222.96	LP Begin 90.23° lateral section	
16,400.32	6,410.00	-9,941.89	381.94	PBHL/TD 16400.32 MD 6410.00 TVD	

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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 10-5-3L, Surf Loc: 102 FNL 1748 FWL Section 10-T04N-R63W					
Well Position	+N/-S	0.00 ft	Northing:	14,648,744.51 usft	Latitude:	40.33364000
	+E/-W	0.00 ft	Easting:	1,799,932.58 usft	Longitude:	-104.42761000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,607.01 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/7/2017	8.17	66.97	52,358.10000000

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	177.80

Plan Survey Tool Program	Date	5/8/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,400.32 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	
5,184.25	18.42	27.69	5,181.09	26.01	13.65	10.00	10.00	0.00	27.69	
5,757.92	18.42	27.69	5,725.35	186.55	97.91	0.00	0.00	0.00	0.00	
6,821.20	90.23	179.05	6,448.00	-364.17	222.96	10.00	6.75	14.23	150.03	LP 70 Ranch 10-5-3L
16,400.32	90.23	179.05	6,410.00	-9,941.89	381.94	0.00	0.00	0.00	0.00	BHL 70 Ranch 10-5-3

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
100.00	0.00	0.00	100.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
200.00	0.00	0.00	200.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
300.00	0.00	0.00	300.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
400.00	0.00	0.00	400.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
500.00	0.00	0.00	500.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
600.00	0.00	0.00	600.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
700.00	0.00	0.00	700.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
800.00	0.00	0.00	800.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
900.00	0.00	0.00	900.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
KOP Begin 10°/100' build									
5,000.01	0.00	27.69	5,000.01	0.00	0.00	14,648,744.51	1,799,932.58	40.33364000	-104.42761000
5,100.01	10.00	27.69	5,099.50	7.71	4.05	14,648,752.24	1,799,936.58	40.33366116	-104.42759549

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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
5,184.25	18.42	27.69	5,181.09	26.01	13.65	14,648,770.60	1,799,946.06	40.33371140	-104.42756103
Begin 18.42° tangent section									
5,200.01	18.42	27.69	5,196.04	30.42	15.96	14,648,775.03	1,799,948.35	40.33372352	-104.42755272
5,300.01	18.42	27.69	5,290.92	58.40	30.65	14,648,803.11	1,799,962.85	40.33380036	-104.42750002
5,400.01	18.42	27.69	5,385.79	86.39	45.34	14,648,831.19	1,799,977.36	40.33387721	-104.42744731
5,500.01	18.42	27.69	5,480.67	114.37	60.03	14,648,859.27	1,799,991.87	40.33395406	-104.42739461
5,600.01	18.42	27.69	5,575.54	142.36	74.72	14,648,887.35	1,800,006.38	40.33403090	-104.42734190
5,700.01	18.42	27.69	5,670.41	170.34	89.41	14,648,915.43	1,800,020.88	40.33410775	-104.42728919
5,757.92	18.42	27.69	5,725.35	186.55	97.91	14,648,931.69	1,800,029.28	40.33415225	-104.42725867
Begin 10°/100' build/turn									
5,800.01	14.92	35.88	5,765.68	196.83	104.18	14,648,942.01	1,800,035.49	40.33418049	-104.42723617
5,900.01	9.28	77.21	5,863.58	209.08	119.63	14,648,954.36	1,800,050.85	40.33421412	-104.42718075
6,000.01	12.15	131.08	5,962.06	203.93	135.46	14,648,949.31	1,800,066.72	40.33419998	-104.42712393
6,100.01	20.19	153.24	6,058.11	181.55	151.21	14,648,927.03	1,800,082.61	40.33413851	-104.42706744
6,200.01	29.43	162.55	6,148.82	142.60	166.38	14,648,888.18	1,800,098.04	40.33403156	-104.42701299
6,300.01	39.02	167.63	6,231.42	88.28	180.53	14,648,833.95	1,800,112.53	40.33388240	-104.42696223
6,400.01	48.75	170.95	6,303.42	20.23	193.21	14,648,765.99	1,800,125.66	40.33369555	-104.42691672
6,500.01	58.56	173.40	6,362.62	-59.47	204.05	14,648,686.36	1,800,137.01	40.33347668	-104.42687783
6,600.01	68.40	175.38	6,407.22	-148.41	212.72	14,648,597.48	1,800,146.25	40.33323246	-104.42684674
6,700.01	78.26	177.11	6,435.87	-243.89	218.94	14,648,502.05	1,800,153.10	40.33297030	-104.42682440
6,800.01	88.13	178.71	6,447.70	-342.99	222.54	14,648,402.97	1,800,157.34	40.33269816	-104.42681149
6,821.20	90.23	179.05	6,448.00	-364.17	222.96	14,648,381.79	1,800,157.89	40.33264000	-104.42681000
LP Begin 90.23° lateral section									
6,900.01	90.23	179.05	6,447.69	-442.97	224.26	14,648,303.00	1,800,159.70	40.33242361	-104.42680531
7,000.01	90.23	179.05	6,447.29	-542.96	225.92	14,648,203.03	1,800,162.01	40.33214906	-104.42679936
7,100.01	90.23	179.05	6,446.89	-642.94	227.58	14,648,103.05	1,800,164.32	40.33187450	-104.42679341
7,200.01	90.23	179.05	6,446.50	-742.93	229.24	14,648,003.08	1,800,166.62	40.33159995	-104.42678746
7,300.01	90.23	179.05	6,446.10	-842.91	230.90	14,647,903.11	1,800,168.93	40.33132539	-104.42678151
7,400.01	90.23	179.05	6,445.70	-942.90	232.56	14,647,803.13	1,800,171.23	40.33105084	-104.42677555
7,500.02	90.23	179.05	6,445.31	-1,042.89	234.22	14,647,703.16	1,800,173.54	40.33077628	-104.42676960
7,600.02	90.23	179.05	6,444.91	-1,142.87	235.88	14,647,603.19	1,800,175.85	40.33050172	-104.42676365
7,700.02	90.23	179.05	6,444.51	-1,242.86	237.54	14,647,503.22	1,800,178.15	40.33022717	-104.42675770
7,800.02	90.23	179.05	6,444.12	-1,342.84	239.20	14,647,403.24	1,800,180.46	40.32995261	-104.42675175
7,900.02	90.23	179.05	6,443.72	-1,442.83	240.86	14,647,303.27	1,800,182.77	40.32967806	-104.42674579
8,000.02	90.23	179.05	6,443.32	-1,542.81	242.52	14,647,203.30	1,800,185.07	40.32940350	-104.42673984
8,100.02	90.23	179.05	6,442.93	-1,642.80	244.18	14,647,103.33	1,800,187.38	40.32912895	-104.42673389
8,200.02	90.23	179.05	6,442.53	-1,742.79	245.84	14,647,003.35	1,800,189.68	40.32885439	-104.42672794
8,300.02	90.23	179.05	6,442.13	-1,842.77	247.50	14,646,903.38	1,800,191.99	40.32857983	-104.42672199
8,400.02	90.23	179.05	6,441.74	-1,942.76	249.16	14,646,803.41	1,800,194.30	40.32830528	-104.42671604
8,500.02	90.23	179.05	6,441.34	-2,042.74	250.82	14,646,703.44	1,800,196.60	40.32803072	-104.42671008
8,600.02	90.23	179.05	6,440.94	-2,142.73	252.48	14,646,603.46	1,800,198.91	40.32775617	-104.42670413
8,700.02	90.23	179.05	6,440.55	-2,242.71	254.14	14,646,503.49	1,800,201.21	40.32748161	-104.42669818
8,800.02	90.23	179.05	6,440.15	-2,342.70	255.80	14,646,403.52	1,800,203.52	40.32720706	-104.42669223
8,900.02	90.23	179.05	6,439.75	-2,442.68	257.46	14,646,303.55	1,800,205.83	40.32693250	-104.42668628
9,000.02	90.23	179.05	6,439.36	-2,542.67	259.12	14,646,203.57	1,800,208.13	40.32665794	-104.42668033
9,100.02	90.23	179.05	6,438.96	-2,642.66	260.78	14,646,103.60	1,800,210.44	40.32638339	-104.42667438
9,200.02	90.23	179.05	6,438.56	-2,742.64	262.44	14,646,003.63	1,800,212.75	40.32610883	-104.42666842
9,300.02	90.23	179.05	6,438.17	-2,842.63	264.10	14,645,903.66	1,800,215.05	40.32583428	-104.42666247
9,400.02	90.23	179.05	6,437.77	-2,942.61	265.76	14,645,803.68	1,800,217.36	40.32555972	-104.42665652
9,500.02	90.23	179.05	6,437.37	-3,042.60	267.42	14,645,703.71	1,800,219.66	40.32528516	-104.42665057
9,600.02	90.23	179.05	6,436.98	-3,142.58	269.08	14,645,603.74	1,800,221.97	40.32501061	-104.42664462
9,700.02	90.23	179.05	6,436.58	-3,242.57	270.74	14,645,503.76	1,800,224.28	40.32473605	-104.42663867
9,800.02	90.23	179.05	6,436.18	-3,342.56	272.40	14,645,403.79	1,800,226.58	40.32446150	-104.42663272
9,900.02	90.23	179.05	6,435.79	-3,442.54	274.06	14,645,303.82	1,800,228.89	40.32418694	-104.42662677

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	90.23	179.05	6,435.39	-3,542.53	275.72	14,645,203.85	1,800,231.20	40.32391239	-104.42662082
10,100.02	90.23	179.05	6,434.99	-3,642.51	277.37	14,645,103.87	1,800,233.50	40.32363783	-104.42661486
10,200.02	90.23	179.05	6,434.60	-3,742.50	279.03	14,645,003.90	1,800,235.81	40.32336327	-104.42660891
10,300.02	90.23	179.05	6,434.20	-3,842.48	280.69	14,644,903.93	1,800,238.11	40.32308872	-104.42660296
10,400.02	90.23	179.05	6,433.80	-3,942.47	282.35	14,644,803.96	1,800,240.42	40.32281416	-104.42659701
10,500.02	90.23	179.05	6,433.41	-4,042.46	284.01	14,644,703.98	1,800,242.73	40.32253961	-104.42659106
10,600.02	90.23	179.05	6,433.01	-4,142.44	285.67	14,644,604.01	1,800,245.03	40.32226505	-104.42658511
10,700.02	90.23	179.05	6,432.61	-4,242.43	287.33	14,644,504.04	1,800,247.34	40.32199049	-104.42657916
10,800.02	90.23	179.05	6,432.22	-4,342.41	288.99	14,644,404.07	1,800,249.64	40.32171594	-104.42657321
10,900.02	90.23	179.05	6,431.82	-4,442.40	290.65	14,644,304.09	1,800,251.95	40.32144138	-104.42656726
11,000.02	90.23	179.05	6,431.42	-4,542.38	292.31	14,644,204.12	1,800,254.26	40.32116682	-104.42656131
11,100.02	90.23	179.05	6,431.03	-4,642.37	293.97	14,644,104.15	1,800,256.56	40.32089227	-104.42655536
11,200.02	90.23	179.05	6,430.63	-4,742.35	295.63	14,644,004.18	1,800,258.87	40.32061771	-104.42654941
11,300.02	90.23	179.05	6,430.23	-4,842.34	297.29	14,643,904.20	1,800,261.18	40.32034316	-104.42654345
11,400.02	90.23	179.05	6,429.84	-4,942.33	298.95	14,643,804.23	1,800,263.48	40.32006860	-104.42653750
11,500.02	90.23	179.05	6,429.44	-5,042.31	300.61	14,643,704.26	1,800,265.79	40.31979404	-104.42653155
11,600.02	90.23	179.05	6,429.04	-5,142.30	302.27	14,643,604.28	1,800,268.09	40.31951949	-104.42652560
11,700.02	90.23	179.05	6,428.65	-5,242.28	303.93	14,643,504.31	1,800,270.40	40.31924493	-104.42651965
11,800.02	90.23	179.05	6,428.25	-5,342.27	305.59	14,643,404.34	1,800,272.71	40.31897038	-104.42651370
11,900.02	90.23	179.05	6,427.85	-5,442.25	307.25	14,643,304.37	1,800,275.01	40.31869582	-104.42650775
12,000.02	90.23	179.05	6,427.46	-5,542.24	308.91	14,643,204.39	1,800,277.32	40.31842126	-104.42650180
12,100.02	90.23	179.05	6,427.06	-5,642.23	310.57	14,643,104.42	1,800,279.63	40.31814671	-104.42649585
12,200.02	90.23	179.05	6,426.66	-5,742.21	312.23	14,643,004.45	1,800,281.93	40.31787215	-104.42648990
12,300.02	90.23	179.05	6,426.27	-5,842.20	313.89	14,642,904.48	1,800,284.24	40.31759759	-104.42648395
12,400.03	90.23	179.05	6,425.87	-5,942.18	315.55	14,642,804.50	1,800,286.54	40.31732304	-104.42647800
12,500.03	90.23	179.05	6,425.47	-6,042.17	317.21	14,642,704.53	1,800,288.85	40.31704848	-104.42647205
12,600.03	90.23	179.05	6,425.08	-6,142.15	318.87	14,642,604.56	1,800,291.16	40.31677393	-104.42646610
12,700.03	90.23	179.05	6,424.68	-6,242.14	320.53	14,642,504.59	1,800,293.46	40.31649937	-104.42646015
12,800.03	90.23	179.05	6,424.28	-6,342.12	322.19	14,642,404.61	1,800,295.77	40.31622481	-104.42645420
12,900.03	90.23	179.05	6,423.89	-6,442.11	323.85	14,642,304.64	1,800,298.08	40.31595026	-104.42644825
13,000.03	90.23	179.05	6,423.49	-6,542.10	325.51	14,642,204.67	1,800,300.38	40.31567570	-104.42644230
13,100.03	90.23	179.05	6,423.09	-6,642.08	327.17	14,642,104.70	1,800,302.69	40.31540114	-104.42643635
13,200.03	90.23	179.05	6,422.70	-6,742.07	328.83	14,642,004.72	1,800,304.99	40.31512659	-104.42643040
13,300.03	90.23	179.05	6,422.30	-6,842.05	330.48	14,641,904.75	1,800,307.30	40.31485203	-104.42642445
13,400.03	90.23	179.05	6,421.90	-6,942.04	332.14	14,641,804.78	1,800,309.61	40.31457747	-104.42641850
13,500.03	90.23	179.05	6,421.51	-7,042.02	333.80	14,641,704.81	1,800,311.91	40.31430292	-104.42641255
13,600.03	90.23	179.05	6,421.11	-7,142.01	335.46	14,641,604.83	1,800,314.22	40.31402836	-104.42640660
13,700.03	90.23	179.05	6,420.71	-7,242.00	337.12	14,641,504.86	1,800,316.52	40.31375381	-104.42640065
13,800.03	90.23	179.05	6,420.32	-7,341.98	338.78	14,641,404.89	1,800,318.83	40.31347925	-104.42639470
13,900.03	90.23	179.05	6,419.92	-7,441.97	340.44	14,641,304.91	1,800,321.14	40.31320469	-104.42638875
14,000.03	90.23	179.05	6,419.52	-7,541.95	342.10	14,641,204.94	1,800,323.44	40.31293014	-104.42638280
14,100.03	90.23	179.05	6,419.13	-7,641.94	343.76	14,641,104.97	1,800,325.75	40.31265559	-104.42637685
14,200.03	90.23	179.05	6,418.73	-7,741.92	345.42	14,641,005.00	1,800,328.06	40.31238103	-104.42637090
14,300.03	90.23	179.05	6,418.33	-7,841.91	347.08	14,640,905.02	1,800,330.36	40.31210648	-104.42636495
14,400.03	90.23	179.05	6,417.94	-7,941.90	348.74	14,640,805.05	1,800,332.67	40.31183192	-104.42635900
14,500.03	90.23	179.05	6,417.54	-8,041.88	350.40	14,640,705.08	1,800,334.97	40.31155736	-104.42635305
14,600.03	90.23	179.05	6,417.14	-8,141.87	352.06	14,640,605.11	1,800,337.28	40.31128281	-104.42634711
14,700.03	90.23	179.05	6,416.75	-8,241.85	353.72	14,640,505.13	1,800,339.59	40.31100825	-104.42634116
14,800.03	90.23	179.05	6,416.35	-8,341.84	355.38	14,640,405.16	1,800,341.89	40.31073369	-104.42633521
14,900.03	90.23	179.05	6,415.95	-8,441.82	357.04	14,640,305.19	1,800,344.20	40.31045914	-104.42632926
15,000.03	90.23	179.05	6,415.56	-8,541.81	358.70	14,640,205.22	1,800,346.51	40.31018458	-104.42632331
15,100.03	90.23	179.05	6,415.16	-8,641.79	360.36	14,640,105.24	1,800,348.81	40.30991002	-104.42631736
15,200.03	90.23	179.05	6,414.76	-8,741.78	362.02	14,640,005.27	1,800,351.12	40.30963547	-104.42631141
15,300.03	90.23	179.05	6,414.36	-8,841.77	363.68	14,639,905.30	1,800,353.42	40.30936091	-104.42630546
15,400.03	90.23	179.05	6,413.97	-8,941.75	365.34	14,639,805.33	1,800,355.73	40.30908635	-104.42629951

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well 70 Ranch 10-5-3L
Company:	Confluence Resources	TVD Reference:	RKB=4607+25 @ 4632.01ft
Project:	Weld County, Colorado	MD Reference:	RKB=4607+25 @ 4632.01ft
Site:	Section 10 & 15 T04N-R63W	North Reference:	True
Well:	70 Ranch 10-5-3L	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	90.23	179.05	6,413.57	-9,041.74	367.00	14,639,705.35	1,800,358.04	40.30881180	-104.42629356
15,600.03	90.23	179.05	6,413.17	-9,141.72	368.66	14,639,605.38	1,800,360.34	40.30853724	-104.42628761
15,700.03	90.23	179.05	6,412.78	-9,241.71	370.32	14,639,505.41	1,800,362.65	40.30826268	-104.42628166
15,800.03	90.23	179.05	6,412.38	-9,341.69	371.98	14,639,405.43	1,800,364.95	40.30798813	-104.42627571
15,900.03	90.23	179.05	6,411.98	-9,441.68	373.64	14,639,305.46	1,800,367.26	40.30771357	-104.42626977
16,000.03	90.23	179.05	6,411.59	-9,541.67	375.30	14,639,205.49	1,800,369.57	40.30743901	-104.42626382
16,100.03	90.23	179.05	6,411.19	-9,641.65	376.96	14,639,105.52	1,800,371.87	40.30716446	-104.42625787
16,200.03	90.23	179.05	6,410.79	-9,741.64	378.62	14,639,005.54	1,800,374.18	40.30688990	-104.42625192
16,300.03	90.23	179.05	6,410.40	-9,841.62	380.28	14,638,905.57	1,800,376.49	40.30661534	-104.42624597
16,400.03	90.23	179.05	6,410.00	-9,941.61	381.94	14,638,805.60	1,800,378.79	40.30634079	-104.42624002
16,400.32	90.23	179.05	6,410.00	-9,941.89	381.94	14,638,805.31	1,800,378.80	40.30634000	-104.42624000
PBHL/TD 16400.32 MD 6410.00 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 10-5-3L 4	0.00	0.00	6,410.00	-9,941.89	381.94	14,638,805.31	1,800,378.80	40.30634000	-104.42624000
- plan hits target center									
- Point									
LP 70 Ranch 10-5-3L 47	0.00	0.00	6,448.00	-364.17	222.96	14,648,381.79	1,800,157.89	40.33264000	-104.42681000
- 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	
5,184.25	5,181.09	26.01	13.65	Begin 18.42° tangent section	
5,757.92	5,725.35	186.55	97.91	Begin 10°/100' build/turn	
6,821.20	6,448.00	-364.17	222.96	LP Begin 90.23° lateral section	
16,400.32	6,410.00	-9,941.89	381.94	PBHL/TD 16400.32 MD 6410.00 TVD	