

Weld County, Colorado
Section 34-T01N-R65W
Buford 33-01-1L
plan1

Azimuth Corrections:

To convert a Magnetic Direction to a True Direction, Add 8.28° East

Buford 33-01-1L			
Surf loc: 770 FSL 994 FWL Section 34-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5135+25 @ 5160.00ft			
Northing	Easting	Latitude	Longitude
14527893.70	1736750.30	40.00267569	-104.65600084

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	5448.87	44.89	229.82	5404.34	-107.77	-127.60	10.00	-85.84	Begin 44.89° tangent section
4	6994.19	44.89	229.82	6499.21	-811.44	-960.75	0.00	-646.35	Begin 10°/100' build/turn
5	8159.02	89.75	359.33	7159.00	-307.40	-1470.61	10.00	-66.87	LP Begin 89.75° lateral section
6	12997.61	89.75	359.33	7180.04	4530.81	-1527.27	0.00	4717.47	Begin 2°/100' turn
7	13033.17	89.75	0.04	7180.19	4566.37	-1527.47	2.00	4752.60	Begin 89.75° lateral section
8	17819.46	89.75	0.04	7201.00	9352.62	-1524.10	0.00	9475.99	PBHL/TD 17819.46 MD 7201.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP Buford 33-01-1L 470 FSL 480 FEL	7159.00	-307.40	-1470.61	14527893.70	1736750.30	40.00184699	-104.66125634
TP Buford 33-01-1L 480 FEL	7180.04	4530.81	-1527.27	14532424.50	1735223.03	40.01513396	-104.66139302
BHL Buford 33-01-1L 470 FNL 480 FEL	7201.00	9352.62	-1524.10	14537246.30	1735226.20	40.02837524	-104.66131624

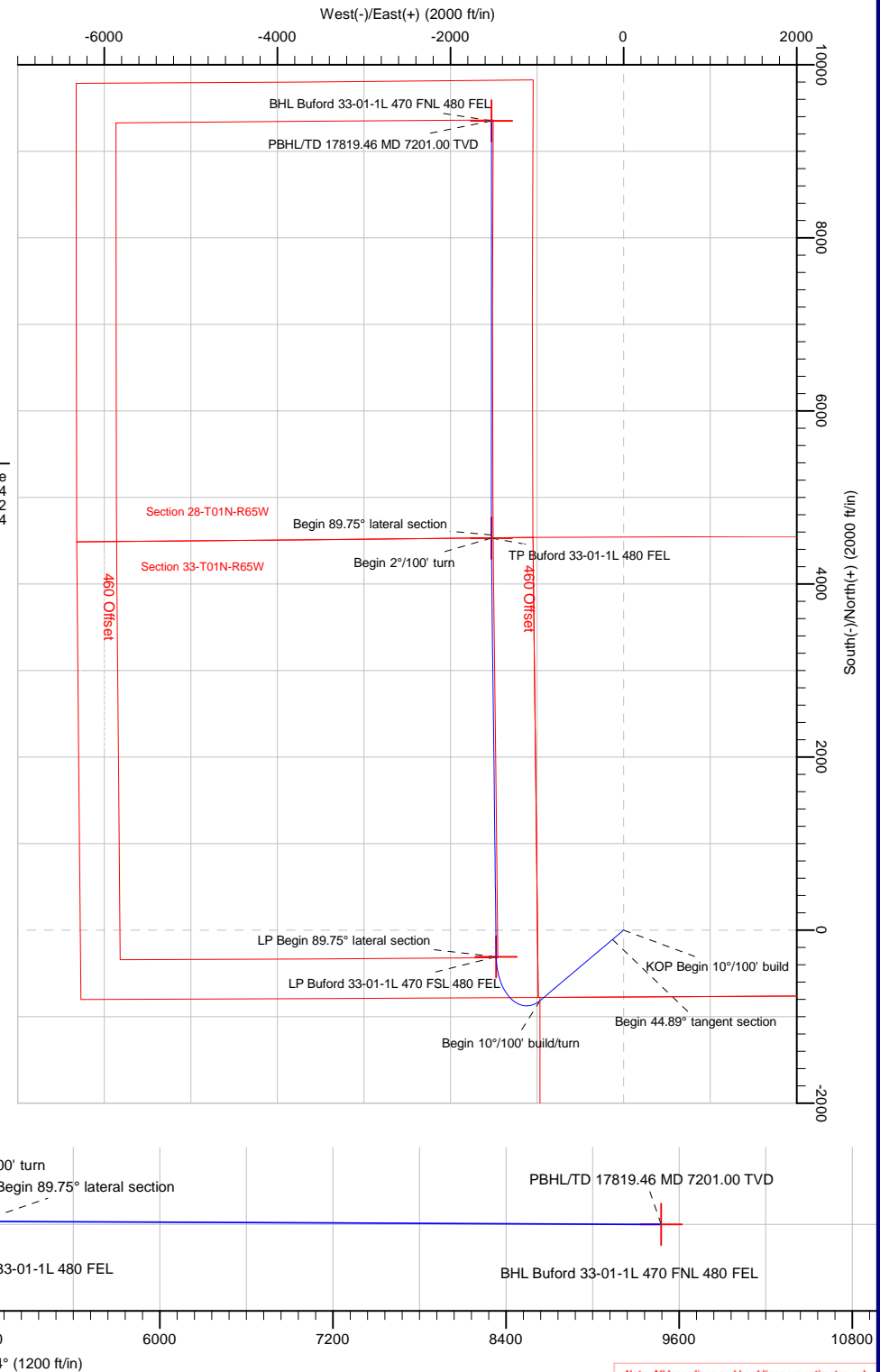
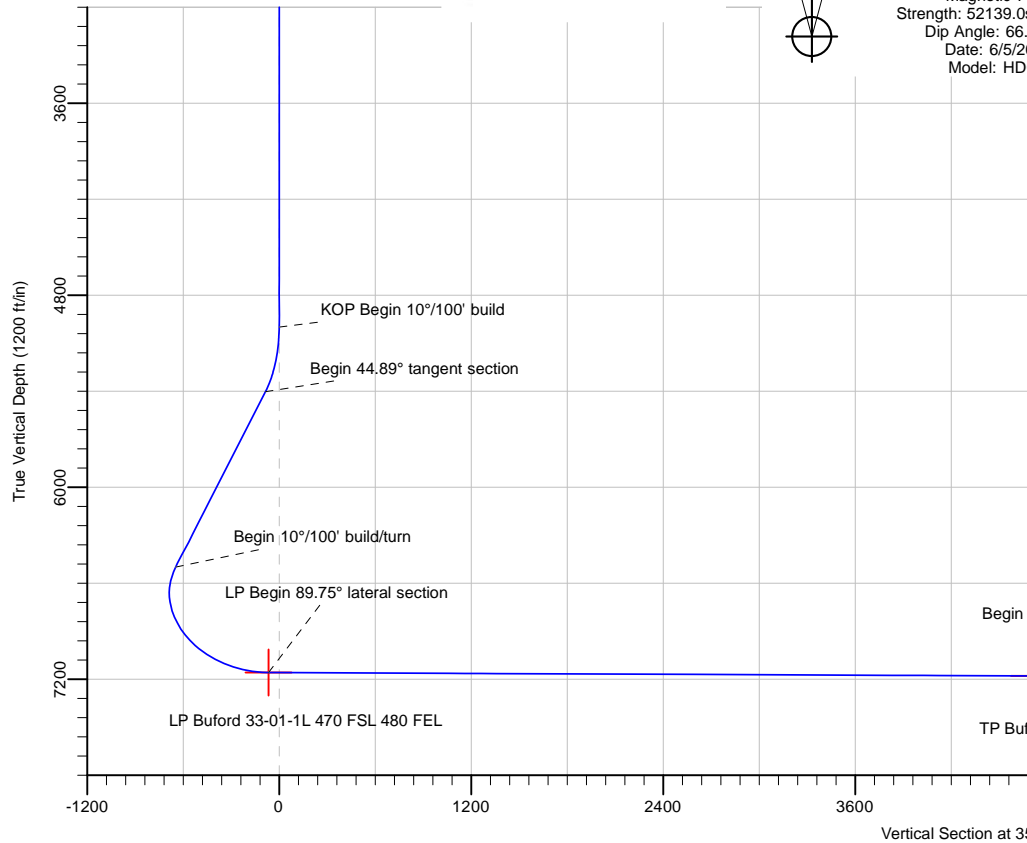


PRODIRECTIONAL



Azimuths to Grid North
True North: -0.22°
Magnetic North: 8.06°

Magnetic Field
Strength: 52139.0snT
Dip Angle: 66.45°
Date: 6/5/2017
Model: HDGM



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 Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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 34-T01N-R65W			
Site Position:		Northing:	14,527,892.80 usft	Latitude:	40.00267560
From:	Map	Easting:	1,736,525.30 usft	Longitude:	-104.65680429
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.22 °

Well	Buford 33-01-1L, Surf loc: 770 FSL 994 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.90 ft	Northing:	14,527,893.70 usft	Latitude:	40.00267569
	+E/-W	225.00 ft	Easting:	1,736,750.30 usft	Longitude:	-104.65600083
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,135.00 ft

Wellbore	Original hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/5/2017	8.28	66.45	52,139.00000000

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	350.74

Plan Survey Tool Program	Date	6/5/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,819.46	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	
5,448.87	44.89	229.82	5,404.34	-107.77	-127.60	10.00	10.00	0.00	229.82	
6,994.19	44.89	229.82	6,499.21	-811.44	-960.75	0.00	0.00	0.00	0.00	
8,159.02	89.75	359.33	7,159.00	-307.40	-1,470.61	10.00	3.85	11.12	120.47	LP Buford 33-01-1L 4'
12,997.61	89.75	359.33	7,180.04	4,530.81	-1,527.27	0.00	0.00	0.00	0.00	TP Buford 33-01-1L 4'
13,033.17	89.75	0.04	7,180.19	4,566.37	-1,527.47	2.00	0.00	2.00	89.99	
17,819.46	89.75	0.04	7,201.00	9,352.62	-1,524.10	0.00	0.00	0.00	0.00	BHL Buford 33-01-1L

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Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	229.82	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	229.82	5,099.50	-5.62	-6.65	-4.47	10.00	10.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	229.82	5,195.97	-22.30	-26.40	-17.76	10.00	10.00	0.00
5,300.01	30.00	229.82	5,286.49	-49.53	-58.65	-39.46	10.00	10.00	0.00
5,400.01	40.00	229.82	5,368.30	-86.50	-102.41	-68.90	10.00	10.00	0.00
5,448.87	44.89	229.82	5,404.34	-107.77	-127.60	-85.84	10.00	10.00	0.00
Begin 44.89° tangent section									
5,500.01	44.89	229.82	5,440.58	-131.05	-155.17	-104.39	0.00	0.00	0.00
5,600.01	44.89	229.82	5,511.43	-176.59	-209.08	-140.66	0.00	0.00	0.00
5,700.01	44.89	229.82	5,582.28	-222.13	-263.00	-176.93	0.00	0.00	0.00
5,800.01	44.89	229.82	5,653.13	-267.66	-316.91	-213.20	0.00	0.00	0.00
5,900.01	44.89	229.82	5,723.98	-313.20	-370.83	-249.48	0.00	0.00	0.00
6,000.01	44.89	229.82	5,794.83	-358.73	-424.74	-285.75	0.00	0.00	0.00
6,100.01	44.89	229.82	5,865.68	-404.27	-478.66	-322.02	0.00	0.00	0.00
6,200.01	44.89	229.82	5,936.53	-449.80	-532.57	-358.29	0.00	0.00	0.00
6,300.01	44.89	229.82	6,007.38	-495.34	-586.49	-394.56	0.00	0.00	0.00
6,400.01	44.89	229.82	6,078.23	-540.87	-640.40	-430.83	0.00	0.00	0.00
6,500.01	44.89	229.82	6,149.08	-586.41	-694.32	-467.10	0.00	0.00	0.00
6,600.01	44.89	229.82	6,219.93	-631.95	-748.23	-503.37	0.00	0.00	0.00
6,700.01	44.89	229.82	6,290.78	-677.48	-802.15	-539.64	0.00	0.00	0.00
6,800.01	44.89	229.82	6,361.63	-723.02	-856.06	-575.92	0.00	0.00	0.00
6,900.01	44.89	229.82	6,432.48	-768.55	-909.98	-612.19	0.00	0.00	0.00
6,994.19	44.89	229.82	6,499.21	-811.44	-960.75	-646.35	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,000.01	44.59	230.53	6,503.34	-814.06	-963.90	-648.43	9.98	-5.02	12.25
7,100.01	40.35	243.97	6,577.24	-850.67	-1,020.23	-675.51	10.00	-4.25	13.44
7,200.01	37.90	259.37	6,655.00	-870.60	-1,079.65	-685.61	10.00	-2.44	15.40
7,300.01	37.63	275.73	6,734.25	-873.22	-1,140.37	-678.44	10.00	-0.27	16.36
7,400.01	39.57	291.49	6,812.60	-858.47	-1,200.53	-654.20	10.00	1.94	15.76
7,500.02	43.42	305.45	6,887.65	-826.79	-1,258.31	-613.64	10.00	3.85	13.96
7,600.02	48.72	317.24	6,957.13	-779.15	-1,311.95	-557.99	10.00	5.30	11.80
7,700.02	55.04	327.12	7,018.92	-716.99	-1,359.83	-488.94	10.00	6.31	9.87
7,800.02	62.03	335.51	7,071.15	-642.19	-1,400.48	-408.58	10.00	7.00	8.39
7,900.02	69.47	342.85	7,112.23	-557.05	-1,432.68	-319.36	10.00	7.44	7.34
8,000.02	77.19	349.49	7,140.92	-464.13	-1,455.44	-223.99	10.00	7.72	6.64
8,100.02	85.07	355.73	7,156.33	-366.26	-1,468.08	-125.37	10.00	7.88	6.24
8,159.02	89.75	359.33	7,159.00	-307.40	-1,470.61	-66.87	10.00	7.93	6.10
LP Begin 89.75° lateral section									
8,200.02	89.75	359.33	7,159.18	-266.41	-1,471.09	-26.33	0.00	0.00	0.00
8,300.02	89.75	359.33	7,159.61	-166.42	-1,472.26	72.55	0.00	0.00	0.00
8,400.02	89.75	359.33	7,160.05	-66.42	-1,473.44	171.43	0.00	0.00	0.00
8,500.02	89.75	359.33	7,160.48	33.57	-1,474.61	270.31	0.00	0.00	0.00
8,600.02	89.75	359.33	7,160.92	133.56	-1,475.78	369.18	0.00	0.00	0.00
8,700.02	89.75	359.33	7,161.35	233.55	-1,476.95	468.06	0.00	0.00	0.00
8,800.02	89.75	359.33	7,161.79	333.55	-1,478.12	566.94	0.00	0.00	0.00
8,900.02	89.75	359.33	7,162.22	433.54	-1,479.29	665.82	0.00	0.00	0.00
9,000.02	89.75	359.33	7,162.66	533.53	-1,480.46	764.70	0.00	0.00	0.00
9,100.02	89.75	359.33	7,163.09	633.52	-1,481.63	863.58	0.00	0.00	0.00
9,200.02	89.75	359.33	7,163.53	733.52	-1,482.80	962.46	0.00	0.00	0.00
9,300.02	89.75	359.33	7,163.96	833.51	-1,483.97	1,061.34	0.00	0.00	0.00
9,400.02	89.75	359.33	7,164.40	933.50	-1,485.15	1,160.22	0.00	0.00	0.00
9,500.02	89.75	359.33	7,164.83	1,033.49	-1,486.32	1,259.10	0.00	0.00	0.00
9,600.02	89.75	359.33	7,165.27	1,133.49	-1,487.49	1,357.97	0.00	0.00	0.00
9,700.02	89.75	359.33	7,165.70	1,233.48	-1,488.66	1,456.85	0.00	0.00	0.00
9,800.02	89.75	359.33	7,166.14	1,333.47	-1,489.83	1,555.73	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	89.75	359.33	7,166.57	1,433.46	-1,491.00	1,654.61	0.00	0.00	0.00
10,000.02	89.75	359.33	7,167.01	1,533.46	-1,492.17	1,753.49	0.00	0.00	0.00
10,100.02	89.75	359.33	7,167.44	1,633.45	-1,493.34	1,852.37	0.00	0.00	0.00
10,200.02	89.75	359.33	7,167.88	1,733.44	-1,494.51	1,951.25	0.00	0.00	0.00
10,300.02	89.75	359.33	7,168.31	1,833.43	-1,495.68	2,050.13	0.00	0.00	0.00
10,400.02	89.75	359.33	7,168.74	1,933.43	-1,496.86	2,149.01	0.00	0.00	0.00
10,500.02	89.75	359.33	7,169.18	2,033.42	-1,498.03	2,247.88	0.00	0.00	0.00
10,600.02	89.75	359.33	7,169.61	2,133.41	-1,499.20	2,346.76	0.00	0.00	0.00
10,700.02	89.75	359.33	7,170.05	2,233.40	-1,500.37	2,445.64	0.00	0.00	0.00
10,800.02	89.75	359.33	7,170.48	2,333.39	-1,501.54	2,544.52	0.00	0.00	0.00
10,900.02	89.75	359.33	7,170.92	2,433.39	-1,502.71	2,643.40	0.00	0.00	0.00
11,000.02	89.75	359.33	7,171.35	2,533.38	-1,503.88	2,742.28	0.00	0.00	0.00
11,100.02	89.75	359.33	7,171.79	2,633.37	-1,505.05	2,841.16	0.00	0.00	0.00
11,200.02	89.75	359.33	7,172.22	2,733.36	-1,506.22	2,940.04	0.00	0.00	0.00
11,300.02	89.75	359.33	7,172.66	2,833.36	-1,507.39	3,038.92	0.00	0.00	0.00
11,400.02	89.75	359.33	7,173.09	2,933.35	-1,508.57	3,137.79	0.00	0.00	0.00
11,500.02	89.75	359.33	7,173.53	3,033.34	-1,509.74	3,236.67	0.00	0.00	0.00
11,600.02	89.75	359.33	7,173.96	3,133.33	-1,510.91	3,335.55	0.00	0.00	0.00
11,700.02	89.75	359.33	7,174.40	3,233.33	-1,512.08	3,434.43	0.00	0.00	0.00
11,800.02	89.75	359.33	7,174.83	3,333.32	-1,513.25	3,533.31	0.00	0.00	0.00
11,900.02	89.75	359.33	7,175.27	3,433.31	-1,514.42	3,632.19	0.00	0.00	0.00
12,000.02	89.75	359.33	7,175.70	3,533.30	-1,515.59	3,731.07	0.00	0.00	0.00
12,100.02	89.75	359.33	7,176.14	3,633.30	-1,516.76	3,829.95	0.00	0.00	0.00
12,200.02	89.75	359.33	7,176.57	3,733.29	-1,517.93	3,928.83	0.00	0.00	0.00
12,300.02	89.75	359.33	7,177.01	3,833.28	-1,519.10	4,027.70	0.00	0.00	0.00
12,400.03	89.75	359.33	7,177.44	3,933.27	-1,520.28	4,126.58	0.00	0.00	0.00
12,500.03	89.75	359.33	7,177.88	4,033.27	-1,521.45	4,225.46	0.00	0.00	0.00
12,600.03	89.75	359.33	7,178.31	4,133.26	-1,522.62	4,324.34	0.00	0.00	0.00
12,700.03	89.75	359.33	7,178.75	4,233.25	-1,523.79	4,423.22	0.00	0.00	0.00
12,800.03	89.75	359.33	7,179.18	4,333.24	-1,524.96	4,522.10	0.00	0.00	0.00
12,900.03	89.75	359.33	7,179.62	4,433.24	-1,526.13	4,620.98	0.00	0.00	0.00
12,997.61	89.75	359.33	7,180.04	4,533.81	-1,527.27	4,717.47	0.00	0.00	0.00
Begin 2°/100' turn									
13,000.03	89.75	359.38	7,180.05	4,533.23	-1,527.30	4,719.86	1.98	0.00	1.98
13,033.17	89.75	0.04	7,180.19	4,566.37	-1,527.47	4,752.60	2.00	0.00	2.00
Begin 89.75° lateral section									
13,100.03	89.75	0.04	7,180.49	4,633.23	-1,527.42	4,818.57	0.00	0.00	0.00
13,200.03	89.75	0.04	7,180.92	4,733.23	-1,527.35	4,917.26	0.00	0.00	0.00
13,300.03	89.75	0.04	7,181.35	4,833.22	-1,527.28	5,015.95	0.00	0.00	0.00
13,400.03	89.75	0.04	7,181.79	4,933.22	-1,527.21	5,114.63	0.00	0.00	0.00
13,500.03	89.75	0.04	7,182.22	5,033.22	-1,527.14	5,213.32	0.00	0.00	0.00
13,600.03	89.75	0.04	7,182.66	5,133.22	-1,527.07	5,312.00	0.00	0.00	0.00
13,700.03	89.75	0.04	7,183.09	5,233.22	-1,527.00	5,410.69	0.00	0.00	0.00
13,800.03	89.75	0.04	7,183.53	5,333.22	-1,526.93	5,509.38	0.00	0.00	0.00
13,900.03	89.75	0.04	7,183.96	5,433.22	-1,526.86	5,608.06	0.00	0.00	0.00
14,000.03	89.75	0.04	7,184.40	5,533.22	-1,526.79	5,706.75	0.00	0.00	0.00
14,100.03	89.75	0.04	7,184.83	5,633.22	-1,526.72	5,805.43	0.00	0.00	0.00
14,200.03	89.75	0.04	7,185.27	5,733.22	-1,526.65	5,904.12	0.00	0.00	0.00
14,300.03	89.75	0.04	7,185.70	5,833.22	-1,526.58	6,002.81	0.00	0.00	0.00
14,400.03	89.75	0.04	7,186.14	5,933.22	-1,526.51	6,101.49	0.00	0.00	0.00
14,500.03	89.75	0.04	7,186.57	6,033.22	-1,526.44	6,200.18	0.00	0.00	0.00
14,600.03	89.75	0.04	7,187.01	6,133.21	-1,526.37	6,298.86	0.00	0.00	0.00
14,700.03	89.75	0.04	7,187.44	6,233.21	-1,526.30	6,397.55	0.00	0.00	0.00
14,800.03	89.75	0.04	7,187.88	6,333.21	-1,526.23	6,496.24	0.00	0.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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)
14,900.03	89.75	0.04	7,188.31	6,433.21	-1,526.16	6,594.92	0.00	0.00	0.00
15,000.03	89.75	0.04	7,188.74	6,533.21	-1,526.09	6,693.61	0.00	0.00	0.00
15,100.03	89.75	0.04	7,189.18	6,633.21	-1,526.02	6,792.29	0.00	0.00	0.00
15,200.03	89.75	0.04	7,189.61	6,733.21	-1,525.95	6,890.98	0.00	0.00	0.00
15,300.03	89.75	0.04	7,190.05	6,833.21	-1,525.87	6,989.67	0.00	0.00	0.00
15,400.03	89.75	0.04	7,190.48	6,933.21	-1,525.80	7,088.35	0.00	0.00	0.00
15,500.03	89.75	0.04	7,190.92	7,033.21	-1,525.73	7,187.04	0.00	0.00	0.00
15,600.03	89.75	0.04	7,191.35	7,133.21	-1,525.66	7,285.72	0.00	0.00	0.00
15,700.03	89.75	0.04	7,191.79	7,233.21	-1,525.59	7,384.41	0.00	0.00	0.00
15,800.03	89.75	0.04	7,192.22	7,333.21	-1,525.52	7,483.10	0.00	0.00	0.00
15,900.03	89.75	0.04	7,192.66	7,433.20	-1,525.45	7,581.78	0.00	0.00	0.00
16,000.03	89.75	0.04	7,193.09	7,533.20	-1,525.38	7,680.47	0.00	0.00	0.00
16,100.03	89.75	0.04	7,193.53	7,633.20	-1,525.31	7,779.15	0.00	0.00	0.00
16,200.03	89.75	0.04	7,193.96	7,733.20	-1,525.24	7,877.84	0.00	0.00	0.00
16,300.03	89.75	0.04	7,194.40	7,833.20	-1,525.17	7,976.53	0.00	0.00	0.00
16,400.03	89.75	0.04	7,194.83	7,933.20	-1,525.10	8,075.21	0.00	0.00	0.00
16,500.03	89.75	0.04	7,195.26	8,033.20	-1,525.03	8,173.90	0.00	0.00	0.00
16,600.03	89.75	0.04	7,195.70	8,133.20	-1,524.96	8,272.58	0.00	0.00	0.00
16,700.03	89.75	0.04	7,196.13	8,233.20	-1,524.89	8,371.27	0.00	0.00	0.00
16,800.03	89.75	0.04	7,196.57	8,333.20	-1,524.82	8,469.96	0.00	0.00	0.00
16,900.03	89.75	0.04	7,197.00	8,433.20	-1,524.75	8,568.64	0.00	0.00	0.00
17,000.03	89.75	0.04	7,197.44	8,533.20	-1,524.68	8,667.33	0.00	0.00	0.00
17,100.03	89.75	0.04	7,197.87	8,633.20	-1,524.61	8,766.01	0.00	0.00	0.00
17,200.03	89.75	0.04	7,198.31	8,733.19	-1,524.54	8,864.70	0.00	0.00	0.00
17,300.03	89.75	0.04	7,198.74	8,833.19	-1,524.47	8,963.39	0.00	0.00	0.00
17,400.04	89.75	0.04	7,199.18	8,933.19	-1,524.40	9,062.07	0.00	0.00	0.00
17,500.04	89.75	0.04	7,199.61	9,033.19	-1,524.33	9,160.76	0.00	0.00	0.00
17,600.04	89.75	0.04	7,200.05	9,133.19	-1,524.26	9,259.44	0.00	0.00	0.00
17,700.04	89.75	0.04	7,200.48	9,233.19	-1,524.19	9,358.13	0.00	0.00	0.00
17,800.04	89.75	0.04	7,200.92	9,333.19	-1,524.12	9,456.82	0.00	0.00	0.00
17,819.46	89.75	0.04	7,201.00	9,352.62	-1,524.10	9,475.99	0.00	0.00	0.00
PBHL/TD 17819.46 MD 7201.00 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
LP Buford 33-01-1L 470 - plan hits target center - Point	0.00	0.00	7,159.00	-307.40	-1,470.61	14,527,586.30	1,735,279.69	40.00184699	-104.66125634
TP Buford 33-01-1L 480 - plan hits target center - Point	0.00	0.01	7,180.04	4,530.81	-1,527.27	14,532,424.50	1,735,223.03	40.01513397	-104.66139302
BHL Buford 33-01-1L 47 - plan hits target center - Point	0.00	0.00	7,201.00	9,352.62	-1,524.10	14,537,246.30	1,735,226.20	40.02837525	-104.66131623

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original hole		
Design:	plan1		

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	
5,448.87	5,404.34	-107.77	-127.60	Begin 44.89° tangent section	
6,994.19	6,499.21	-811.44	-960.75	Begin 10°/100' build/turn	
8,159.02	7,159.00	-307.40	-1,470.61	LP Begin 89.75° lateral section	
12,997.61	7,180.04	4,530.81	-1,527.27	Begin 2°/100' turn	
13,033.17	7,180.19	4,566.37	-1,527.47	Begin 89.75° lateral section	
17,819.46	7,201.00	9,352.62	-1,524.10	PBHL/TD 17819.46 MD 7201.00 TVD	

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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 34-T01N-R65W			
Site Position:		Northing:	14,527,892.80 usft	Latitude:	40.00267560
From:	Map	Easting:	1,736,525.30 usft	Longitude:	-104.65680429
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.22

Well	Buford 33-01-1L, Surf loc: 770 FSL 994 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,893.70 usft	Latitude:	40.00267569
	+E/-W	0.00 ft	Easting:	1,736,750.30 usft	Longitude:	-104.65600083
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,135.00 ft

Wellbore	Original hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/5/2017	8.28	66.45	52,139.00000000

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	350.74

Plan Survey Tool Program	Date	6/5/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,819.46 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	
5,448.87	44.89	229.82	5,404.34	-107.77	-127.60	10.00	10.00	0.00	229.82	
6,994.19	44.89	229.82	6,499.21	-811.44	-960.75	0.00	0.00	0.00	0.00	
8,159.02	89.75	359.33	7,159.00	-307.40	-1,470.61	10.00	3.85	11.12	120.47	LP Buford 33-01-1L 4'
12,997.61	89.75	359.33	7,180.04	4,530.81	-1,527.27	0.00	0.00	0.00	0.00	TP Buford 33-01-1L 4'
13,033.17	89.75	0.04	7,180.19	4,566.37	-1,527.47	2.00	0.00	2.00	89.99	
17,819.46	89.75	0.04	7,201.00	9,352.62	-1,524.10	0.00	0.00	0.00	0.00	BHL Buford 33-01-1L

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
100.00	0.00	0.00	100.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
200.00	0.00	0.00	200.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
300.00	0.00	0.00	300.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
400.00	0.00	0.00	400.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
500.00	0.00	0.00	500.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
600.00	0.00	0.00	600.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
700.00	0.00	0.00	700.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
800.00	0.00	0.00	800.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
900.00	0.00	0.00	900.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
KOP Begin 10°/100' build									
5,000.01	0.00	229.82	5,000.01	0.00	0.00	14,527,893.70	1,736,750.30	40.00267569	-104.65600083
5,100.01	10.00	229.82	5,099.50	-5.62	-6.65	14,527,888.09	1,736,743.65	40.00266033	-104.65602466

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	229.82	5,195.97	-22.30	-26.40	14,527,871.41	1,736,723.90	40.00261474	-104.65609541
5,300.01	30.00	229.82	5,286.49	-49.53	-58.65	14,527,844.17	1,736,691.65	40.00254029	-104.65621094
5,400.01	40.00	229.82	5,368.30	-86.50	-102.41	14,527,807.21	1,736,647.89	40.00243924	-104.65636773
5,448.87	44.89	229.82	5,404.34	-107.77	-127.60	14,527,785.94	1,736,622.70	40.00238110	-104.65645794
Begin 44.89° tangent section									
5,500.01	44.89	229.82	5,440.58	-131.05	-155.17	14,527,762.65	1,736,595.13	40.00231744	-104.65655672
5,600.01	44.89	229.82	5,511.43	-176.59	-209.08	14,527,717.12	1,736,541.21	40.00219296	-104.65674987
5,700.01	44.89	229.82	5,582.28	-222.13	-263.00	14,527,671.58	1,736,487.30	40.00206849	-104.65694301
5,800.01	44.89	229.82	5,653.13	-267.66	-316.91	14,527,626.04	1,736,433.39	40.00194401	-104.65713616
5,900.01	44.89	229.82	5,723.98	-313.20	-370.83	14,527,580.51	1,736,379.47	40.00181953	-104.65732930
6,000.01	44.89	229.82	5,794.83	-358.73	-424.74	14,527,534.97	1,736,325.56	40.00169506	-104.65752245
6,100.01	44.89	229.82	5,865.68	-404.27	-478.66	14,527,489.44	1,736,271.64	40.00157058	-104.65771559
6,200.01	44.89	229.82	5,936.53	-449.80	-532.57	14,527,443.90	1,736,217.73	40.00144610	-104.65790873
6,300.01	44.89	229.82	6,007.38	-495.34	-586.49	14,527,398.37	1,736,163.81	40.00132162	-104.65810188
6,400.01	44.89	229.82	6,078.23	-540.87	-640.40	14,527,352.83	1,736,109.90	40.00119714	-104.65829502
6,500.01	44.89	229.82	6,149.08	-586.41	-694.32	14,527,307.30	1,736,055.98	40.00107266	-104.65848816
6,600.01	44.89	229.82	6,219.93	-631.95	-748.23	14,527,261.76	1,736,002.07	40.00094818	-104.65868130
6,700.01	44.89	229.82	6,290.78	-677.48	-802.15	14,527,216.23	1,735,948.15	40.00082370	-104.65887444
6,800.01	44.89	229.82	6,361.63	-723.02	-856.06	14,527,170.69	1,735,894.24	40.00069922	-104.65906757
6,900.01	44.89	229.82	6,432.48	-768.55	-909.98	14,527,125.15	1,735,840.32	40.00057474	-104.65926071
6,994.19	44.89	229.82	6,499.21	-811.44	-960.75	14,527,082.27	1,735,789.55	40.00045750	-104.65944261
Begin 10°/100' build/turn									
7,000.01	44.59	230.53	6,503.34	-814.06	-963.90	14,527,079.64	1,735,786.40	40.00045033	-104.65945388
7,100.01	40.35	243.97	6,577.24	-850.67	-1,020.23	14,527,043.03	1,735,730.07	40.00035038	-104.65965551
7,200.01	37.90	259.37	6,655.00	-870.60	-1,079.65	14,527,023.11	1,735,670.65	40.00029629	-104.65986797
7,300.01	37.63	275.73	6,734.25	-873.22	-1,140.37	14,527,020.48	1,735,609.93	40.00028972	-104.66008480
7,400.01	39.57	291.49	6,812.60	-858.47	-1,200.53	14,527,035.23	1,735,549.77	40.00033085	-104.66029942
7,500.02	43.42	305.45	6,887.65	-826.79	-1,258.31	14,527,066.91	1,735,491.99	40.00041845	-104.66050531
7,600.02	48.72	317.24	6,957.13	-779.15	-1,311.95	14,527,114.56	1,735,438.35	40.00054985	-104.66069621
7,700.02	55.04	327.12	7,018.92	-716.99	-1,359.83	14,527,176.72	1,735,390.47	40.00072106	-104.66086632
7,800.02	62.03	335.51	7,071.15	-642.19	-1,400.48	14,527,251.51	1,735,349.82	40.00092687	-104.66101047
7,900.02	69.47	342.85	7,112.23	-557.05	-1,432.68	14,527,336.66	1,735,317.62	40.00116104	-104.66112428
8,000.02	77.19	349.49	7,140.92	-464.13	-1,455.44	14,527,429.58	1,735,294.86	40.00141644	-104.66120429
8,100.02	85.07	355.73	7,156.33	-366.26	-1,468.08	14,527,527.44	1,735,282.22	40.00168532	-104.66124808
8,159.02	89.75	359.33	7,159.00	-307.40	-1,470.61	14,527,586.30	1,735,279.69	40.00184699	-104.66125634
LP Begin 89.75° lateral section									
8,200.02	89.75	359.33	7,159.18	-266.41	-1,471.09	14,527,627.30	1,735,279.21	40.00195957	-104.66125750
8,300.02	89.75	359.33	7,159.61	-166.42	-1,472.26	14,527,727.29	1,735,278.04	40.00223418	-104.66126032
8,400.02	89.75	359.33	7,160.05	-66.42	-1,473.44	14,527,827.28	1,735,276.87	40.00250878	-104.66126315
8,500.02	89.75	359.33	7,160.48	33.57	-1,474.61	14,527,927.27	1,735,275.70	40.00278339	-104.66126597
8,600.02	89.75	359.33	7,160.92	133.56	-1,475.78	14,528,027.27	1,735,274.52	40.00305799	-104.66126879
8,700.02	89.75	359.33	7,161.35	233.55	-1,476.95	14,528,127.26	1,735,273.35	40.00332600	-104.66127162
8,800.02	89.75	359.33	7,161.79	333.55	-1,478.12	14,528,227.25	1,735,272.18	40.00360720	-104.66127444
8,900.02	89.75	359.33	7,162.22	433.54	-1,479.29	14,528,327.24	1,735,271.01	40.00388181	-104.66127727
9,000.02	89.75	359.33	7,162.66	533.53	-1,480.46	14,528,427.24	1,735,269.84	40.00415641	-104.66128009
9,100.02	89.75	359.33	7,163.09	633.52	-1,481.63	14,528,527.23	1,735,268.67	40.00443102	-104.66128292
9,200.02	89.75	359.33	7,163.53	733.52	-1,482.80	14,528,627.22	1,735,267.50	40.00470562	-104.66128574
9,300.02	89.75	359.33	7,163.96	833.51	-1,483.97	14,528,727.21	1,735,266.33	40.00498023	-104.66128857
9,400.02	89.75	359.33	7,164.40	933.50	-1,485.15	14,528,827.20	1,735,265.16	40.00525483	-104.66129139
9,500.02	89.75	359.33	7,164.83	1,033.49	-1,486.32	14,528,927.20	1,735,263.99	40.00552944	-104.66129422
9,600.02	89.75	359.33	7,165.27	1,133.49	-1,487.49	14,529,027.19	1,735,262.81	40.00580404	-104.66129704
9,700.02	89.75	359.33	7,165.70	1,233.48	-1,488.66	14,529,127.18	1,735,261.64	40.00607865	-104.66129987
9,800.02	89.75	359.33	7,166.14	1,333.47	-1,489.83	14,529,227.17	1,735,260.47	40.00635325	-104.66130269
9,900.02	89.75	359.33	7,166.57	1,433.46	-1,491.00	14,529,327.17	1,735,259.30	40.00662786	-104.66130551

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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	89.75	359.33	7,167.01	1,533.46	-1,492.17	14,529,427.16	1,735,258.13	40.00690246	-104.66130834
10,100.02	89.75	359.33	7,167.44	1,633.45	-1,493.34	14,529,527.15	1,735,256.96	40.00717707	-104.66131116
10,200.02	89.75	359.33	7,167.88	1,733.44	-1,494.51	14,529,627.14	1,735,255.79	40.00745167	-104.66131399
10,300.02	89.75	359.33	7,168.31	1,833.43	-1,495.68	14,529,727.13	1,735,254.62	40.00772628	-104.66131681
10,400.02	89.75	359.33	7,168.74	1,933.43	-1,496.86	14,529,827.13	1,735,253.45	40.00800088	-104.66131964
10,500.02	89.75	359.33	7,169.18	2,033.42	-1,498.03	14,529,927.12	1,735,252.28	40.00827549	-104.66132246
10,600.02	89.75	359.33	7,169.61	2,133.41	-1,499.20	14,530,027.11	1,735,251.10	40.00855009	-104.66132529
10,700.02	89.75	359.33	7,170.05	2,233.40	-1,500.37	14,530,127.10	1,735,249.93	40.00882470	-104.66132811
10,800.02	89.75	359.33	7,170.48	2,333.39	-1,501.54	14,530,227.10	1,735,248.76	40.00909930	-104.66133094
10,900.02	89.75	359.33	7,170.92	2,433.39	-1,502.71	14,530,327.09	1,735,247.59	40.00937391	-104.66133376
11,000.02	89.75	359.33	7,171.35	2,533.38	-1,503.88	14,530,427.08	1,735,246.42	40.00964851	-104.66133659
11,100.02	89.75	359.33	7,171.79	2,633.37	-1,505.05	14,530,527.07	1,735,245.25	40.00992312	-104.66133941
11,200.02	89.75	359.33	7,172.22	2,733.36	-1,506.22	14,530,627.06	1,735,244.08	40.01019772	-104.66134224
11,300.02	89.75	359.33	7,172.66	2,833.36	-1,507.39	14,530,727.06	1,735,242.91	40.01047233	-104.66134506
11,400.02	89.75	359.33	7,173.09	2,933.35	-1,508.57	14,530,827.05	1,735,241.74	40.01074693	-104.66134789
11,500.02	89.75	359.33	7,173.53	3,033.34	-1,509.74	14,530,927.04	1,735,240.57	40.01102154	-104.66135071
11,600.02	89.75	359.33	7,173.96	3,133.33	-1,510.91	14,531,027.03	1,735,239.39	40.01129614	-104.66135354
11,700.02	89.75	359.33	7,174.40	3,233.33	-1,512.08	14,531,127.02	1,735,238.22	40.01157075	-104.66135636
11,800.02	89.75	359.33	7,174.83	3,333.32	-1,513.25	14,531,227.02	1,735,237.05	40.01184535	-104.66135919
11,900.02	89.75	359.33	7,175.27	3,433.31	-1,514.42	14,531,327.01	1,735,235.88	40.01211996	-104.66136201
12,000.02	89.75	359.33	7,175.70	3,533.30	-1,515.59	14,531,427.00	1,735,234.71	40.01239456	-104.66136484
12,100.02	89.75	359.33	7,176.14	3,633.30	-1,516.76	14,531,526.99	1,735,233.54	40.01266917	-104.66136766
12,200.02	89.75	359.33	7,176.57	3,733.29	-1,517.93	14,531,626.99	1,735,232.37	40.01294377	-104.66137049
12,300.02	89.75	359.33	7,177.01	3,833.28	-1,519.10	14,531,726.98	1,735,231.20	40.01321838	-104.66137331
12,400.03	89.75	359.33	7,177.44	3,933.27	-1,520.28	14,531,826.97	1,735,230.03	40.01349298	-104.66137614
12,500.03	89.75	359.33	7,177.88	4,033.27	-1,521.45	14,531,926.96	1,735,228.86	40.01376758	-104.66137896
12,600.03	89.75	359.33	7,178.31	4,133.26	-1,522.62	14,532,026.95	1,735,227.68	40.01404219	-104.66138179
12,700.03	89.75	359.33	7,178.75	4,233.25	-1,523.79	14,532,126.95	1,735,226.51	40.01431679	-104.66138461
12,800.03	89.75	359.33	7,179.18	4,333.24	-1,524.96	14,532,226.94	1,735,225.34	40.01459140	-104.66138744
12,900.03	89.75	359.33	7,179.62	4,433.24	-1,526.13	14,532,326.93	1,735,224.17	40.01486600	-104.66139026
12,997.61	89.75	359.33	7,180.04	4,530.81	-1,527.27	14,532,424.50	1,735,223.03	40.01513397	-104.66139302
Begin 2°/100' turn									
13,000.03	89.75	359.38	7,180.05	4,533.23	-1,527.30	14,532,426.92	1,735,223.00	40.01514061	-104.66139308
13,033.17	89.75	0.04	7,180.19	4,566.37	-1,527.47	14,532,460.07	1,735,222.83	40.01523162	-104.66139324
Begin 89.75° lateral section									
13,100.03	89.75	0.04	7,180.49	4,633.23	-1,527.42	14,532,526.92	1,735,222.88	40.01541522	-104.66139216
13,200.03	89.75	0.04	7,180.92	4,733.23	-1,527.35	14,532,626.92	1,735,222.95	40.01568983	-104.66139055
13,300.03	89.75	0.04	7,181.35	4,833.22	-1,527.28	14,532,726.92	1,735,223.02	40.01596444	-104.66138894
13,400.03	89.75	0.04	7,181.79	4,933.22	-1,527.21	14,532,826.92	1,735,223.09	40.01623905	-104.66138734
13,500.03	89.75	0.04	7,182.22	5,033.22	-1,527.14	14,532,926.92	1,735,223.16	40.01651366	-104.66138573
13,600.03	89.75	0.04	7,182.66	5,133.22	-1,527.07	14,533,026.92	1,735,223.23	40.01678827	-104.66138412
13,700.03	89.75	0.04	7,183.09	5,233.22	-1,527.00	14,533,126.92	1,735,223.30	40.01706288	-104.66138251
13,800.03	89.75	0.04	7,183.53	5,333.22	-1,526.93	14,533,226.92	1,735,223.37	40.01733749	-104.66138090
13,900.03	89.75	0.04	7,183.96	5,433.22	-1,526.86	14,533,326.91	1,735,223.44	40.01761210	-104.66137929
14,000.03	89.75	0.04	7,184.40	5,533.22	-1,526.79	14,533,426.91	1,735,223.51	40.01788671	-104.66137769
14,100.03	89.75	0.04	7,184.83	5,633.22	-1,526.72	14,533,526.91	1,735,223.58	40.01816132	-104.66137608
14,200.03	89.75	0.04	7,185.27	5,733.22	-1,526.65	14,533,626.91	1,735,223.65	40.01843593	-104.66137447
14,300.03	89.75	0.04	7,185.70	5,833.22	-1,526.58	14,533,726.91	1,735,223.72	40.01871054	-104.66137286
14,400.03	89.75	0.04	7,186.14	5,933.22	-1,526.51	14,533,826.91	1,735,223.79	40.01898515	-104.66137125
14,500.03	89.75	0.04	7,186.57	6,033.22	-1,526.44	14,533,926.91	1,735,223.86	40.01925976	-104.66136964
14,600.03	89.75	0.04	7,187.01	6,133.21	-1,526.37	14,534,026.91	1,735,223.93	40.01953437	-104.66136803
14,700.03	89.75	0.04	7,187.44	6,233.21	-1,526.30	14,534,126.91	1,735,224.01	40.01980898	-104.66136643
14,800.03	89.75	0.04	7,187.88	6,333.21	-1,526.23	14,534,226.91	1,735,224.08	40.02008359	-104.66136482
14,900.03	89.75	0.04	7,188.31	6,433.21	-1,526.16	14,534,326.90	1,735,224.15	40.02035820	-104.66136321

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	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
15,000.03	89.75	0.04	7,188.74	6,533.21	-1,526.09	14,534,426.90	1,735,224.22	40.02063281	-104.66136160
15,100.03	89.75	0.04	7,189.18	6,633.21	-1,526.02	14,534,526.90	1,735,224.29	40.02090742	-104.66135999
15,200.03	89.75	0.04	7,189.61	6,733.21	-1,525.95	14,534,626.90	1,735,224.36	40.02118203	-104.66135838
15,300.03	89.75	0.04	7,190.05	6,833.21	-1,525.87	14,534,726.90	1,735,224.43	40.02145664	-104.66135677
15,400.03	89.75	0.04	7,190.48	6,933.21	-1,525.80	14,534,826.90	1,735,224.50	40.02173125	-104.66135516
15,500.03	89.75	0.04	7,190.92	7,033.21	-1,525.73	14,534,926.90	1,735,224.57	40.02200586	-104.66135356
15,600.03	89.75	0.04	7,191.35	7,133.21	-1,525.66	14,535,026.90	1,735,224.64	40.02228047	-104.66135195
15,700.03	89.75	0.04	7,191.79	7,233.21	-1,525.59	14,535,126.90	1,735,224.71	40.02255508	-104.66135034
15,800.03	89.75	0.04	7,192.22	7,333.21	-1,525.52	14,535,226.90	1,735,224.78	40.02282969	-104.66134873
15,900.03	89.75	0.04	7,192.66	7,433.20	-1,525.45	14,535,326.89	1,735,224.85	40.02310430	-104.66134712
16,000.03	89.75	0.04	7,193.09	7,533.20	-1,525.38	14,535,426.89	1,735,224.92	40.02337891	-104.66134551
16,100.03	89.75	0.04	7,193.53	7,633.20	-1,525.31	14,535,526.89	1,735,224.99	40.02365353	-104.66134390
16,200.03	89.75	0.04	7,193.96	7,733.20	-1,525.24	14,535,626.89	1,735,225.06	40.02392814	-104.66134229
16,300.03	89.75	0.04	7,194.40	7,833.20	-1,525.17	14,535,726.89	1,735,225.13	40.02420275	-104.66134068
16,400.03	89.75	0.04	7,194.83	7,933.20	-1,525.10	14,535,826.89	1,735,225.20	40.02447736	-104.66133908
16,500.03	89.75	0.04	7,195.26	8,033.20	-1,525.03	14,535,926.89	1,735,225.27	40.02475196	-104.66133747
16,600.03	89.75	0.04	7,195.70	8,133.20	-1,524.96	14,536,026.89	1,735,225.34	40.02502657	-104.66133586
16,700.03	89.75	0.04	7,196.13	8,233.20	-1,524.89	14,536,126.89	1,735,225.41	40.02530118	-104.66133425
16,800.03	89.75	0.04	7,196.57	8,333.20	-1,524.82	14,536,226.89	1,735,225.48	40.02557579	-104.66133264
16,900.03	89.75	0.04	7,197.00	8,433.20	-1,524.75	14,536,326.89	1,735,225.55	40.02585040	-104.66133103
17,000.03	89.75	0.04	7,197.44	8,533.20	-1,524.68	14,536,426.88	1,735,225.62	40.02612501	-104.66132942
17,100.03	89.75	0.04	7,197.87	8,633.20	-1,524.61	14,536,526.88	1,735,225.69	40.02639962	-104.66132781
17,200.03	89.75	0.04	7,198.31	8,733.19	-1,524.54	14,536,626.88	1,735,225.76	40.02667423	-104.66132620
17,300.03	89.75	0.04	7,198.74	8,833.19	-1,524.47	14,536,726.88	1,735,225.83	40.02694884	-104.66132459
17,400.04	89.75	0.04	7,199.18	8,933.19	-1,524.40	14,536,826.88	1,735,225.90	40.02722345	-104.66132298
17,500.04	89.75	0.04	7,199.61	9,033.19	-1,524.33	14,536,926.88	1,735,225.97	40.02749806	-104.66132137
17,600.04	89.75	0.04	7,200.05	9,133.19	-1,524.26	14,537,026.88	1,735,226.04	40.02777267	-104.66131977
17,700.04	89.75	0.04	7,200.48	9,233.19	-1,524.19	14,537,126.88	1,735,226.11	40.02804728	-104.66131816
17,800.04	89.75	0.04	7,200.92	9,333.19	-1,524.12	14,537,226.88	1,735,226.19	40.02832189	-104.66131655
17,819.46	89.75	0.04	7,201.00	9,352.62	-1,524.10	14,537,246.30	1,735,226.20	40.02837525	-104.66131623
PBHL/TD 17819.46 MD 7201.00 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									
LP Buford 33-01-1L 470	0.00	0.00	7,159.00	-307.40	-1,470.61	14,527,586.30	1,735,279.69	40.00184699	-104.66125634
- plan hits target center									
- Point									
TP Buford 33-01-1L 480	0.00	0.01	7,180.04	4,530.81	-1,527.27	14,532,424.50	1,735,223.03	40.01513397	-104.66139302
- plan hits target center									
- Point									
BHL Buford 33-01-1L 47	0.00	0.00	7,201.00	9,352.62	-1,524.10	14,537,246.30	1,735,226.20	40.02837525	-104.66131623
- plan hits target center									
- Point									

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-01-1L
Company:	Confluence Resources	TVD Reference:	RKB=5135+25 @ 5160.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5135+25 @ 5160.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-01-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original hole		
Design:	plan1		

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
5,448.87	5,404.34	-107.77	-127.60	Begin 44.89° tangent section
6,994.19	6,499.21	-811.44	-960.75	Begin 10°/100' build/turn
8,159.02	7,159.00	-307.40	-1,470.61	LP Begin 89.75° lateral section
12,997.61	7,180.04	4,530.81	-1,527.27	Begin 2°/100' turn
13,033.17	7,180.19	4,566.37	-1,527.47	Begin 89.75° lateral section
17,819.46	7,201.00	9,352.62	-1,524.10	PBHL/TD 17819.46 MD 7201.00 TVD