



Weld County, Colorado
Section 34-T01N-R65W
Buford 33-02-4L
plan1

Azimuth Corrections:

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

Buford 33-02-4L Surf loc: 770 FSL 919 FWL Section 34-T01N-R65W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=51317+25 @ 5162.00ft			
Northing	Easting	Latitude	Longitude
14527893.40	1736675.30	40.00267566	-104.65626865

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	5395.66	39.57	232.48	5364.96	-79.94	-104.12	10.00	-61.49	Begin 39.57° tangent section
4	7340.20	39.57	232.48	6863.98	-834.25	-1086.55	0.00	-641.69	Begin 10°/100' build/turn
5	8466.50	89.98	359.68	7527.00	-308.10	-1525.61	10.00	-49.79	LP Begin 89.98° lateral section
6	18126.67	89.98	359.68	7531.00	9351.92	-1579.10	0.00	9484.30	PBHL/TD 18126.67 MD 7531.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP Buford 33-02-4L 470 FSL 610 FEL	7527.00	-308.10	-1525.61	14527585.30	1735149.69	40.00184560	-104.66172056
BHL Buford 33-02-4L 470 FNL 610 FEL	7531.00	9351.92	-1579.10	14537245.30	1735096.20	40.02837385	-104.66178064

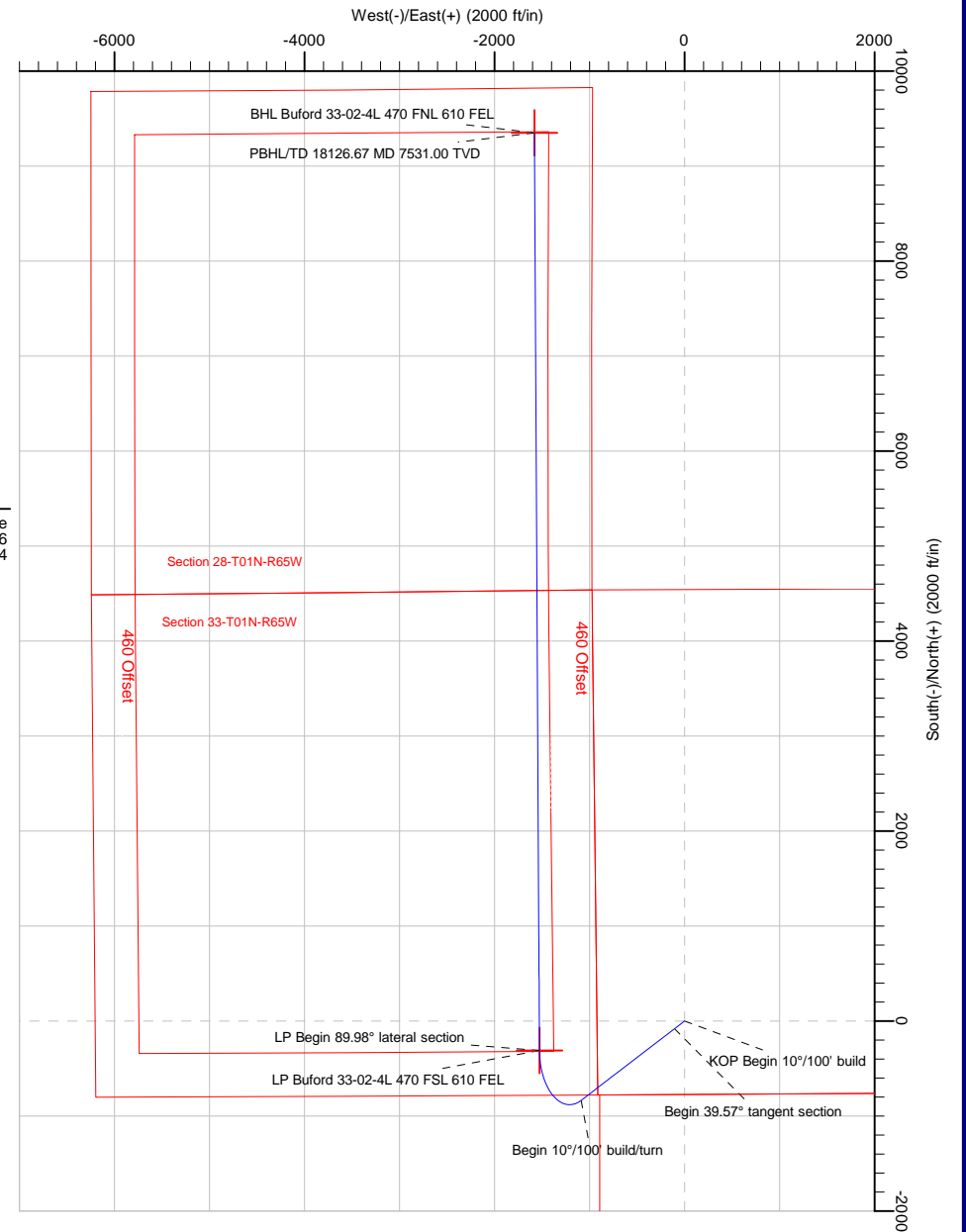
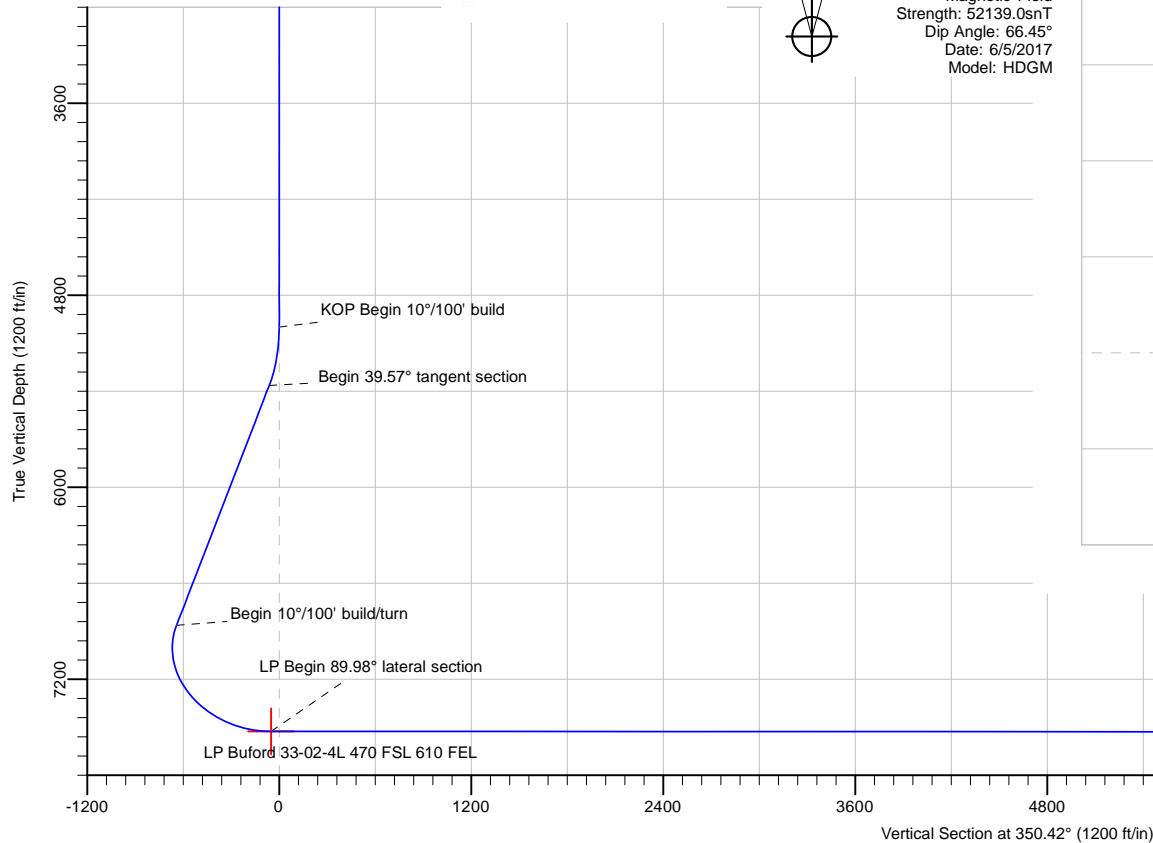


PRODIRECTIONAL



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



PBHL/TD 18126.67 MD 7531.00 TVD

BHL Buford 33-02-4L 470 FNL 610 FEL

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 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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 33-02-4L, Surf loc: 770 FSL 919 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.60 ft	Northing:	14,527,893.40 usft	Latitude:	40.00267566
	+E/-W	150.00 ft	Easting:	1,736,675.30 usft	Longitude:	-104.65626865
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,137.00 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	350.42

Plan Survey Tool Program	Date	6/5/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,126.67	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	
5,395.66	39.57	232.48	5,364.96	-79.94	-104.12	10.00	10.00	0.00	232.48	
7,340.20	39.57	232.48	6,863.98	-834.25	-1,086.55	0.00	0.00	0.00	0.00	
8,466.50	89.98	359.68	7,527.00	-308.10	-1,525.61	10.00	4.48	11.29	120.35	LP Buford 33-02-4L 4'
18,126.67	89.98	359.68	7,531.00	9,351.92	-1,579.10	0.00	0.00	0.00	0.00	BHL Buford 33-02-4L

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
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Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	232.48	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	232.48	5,099.50	-5.30	-6.91	-4.08	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	232.48	5,195.97	-21.05	-27.41	-16.19	10.00	10.00	0.00
5,300.01	30.00	232.48	5,286.49	-46.75	-60.89	-35.96	10.00	10.00	0.00
5,395.66	39.57	232.48	5,364.96	-79.94	-104.12	-61.49	10.00	10.00	0.00
Begin 39.57° tangent section									
5,400.01	39.57	232.48	5,368.31	-81.63	-106.32	-62.79	0.00	0.00	0.00
5,500.01	39.57	232.48	5,445.40	-120.42	-156.84	-92.63	0.00	0.00	0.00
5,600.01	39.57	232.48	5,522.49	-159.21	-207.36	-122.46	0.00	0.00	0.00
5,700.01	39.57	232.48	5,599.58	-198.00	-257.89	-152.30	0.00	0.00	0.00
5,800.01	39.57	232.48	5,676.67	-236.79	-308.41	-182.14	0.00	0.00	0.00
5,900.01	39.57	232.48	5,753.75	-275.58	-358.93	-211.98	0.00	0.00	0.00
6,000.01	39.57	232.48	5,830.84	-314.38	-409.46	-241.81	0.00	0.00	0.00
6,100.01	39.57	232.48	5,907.93	-353.17	-459.98	-271.65	0.00	0.00	0.00
6,200.01	39.57	232.48	5,985.02	-391.96	-510.50	-301.49	0.00	0.00	0.00
6,300.01	39.57	232.48	6,062.11	-430.75	-561.02	-331.33	0.00	0.00	0.00
6,400.01	39.57	232.48	6,139.20	-469.54	-611.55	-361.17	0.00	0.00	0.00
6,500.01	39.57	232.48	6,216.29	-508.33	-662.07	-391.00	0.00	0.00	0.00
6,600.01	39.57	232.48	6,293.38	-547.12	-712.59	-420.84	0.00	0.00	0.00
6,700.01	39.57	232.48	6,370.47	-585.91	-763.12	-450.68	0.00	0.00	0.00
6,800.01	39.57	232.48	6,447.56	-624.70	-813.64	-480.52	0.00	0.00	0.00
6,900.01	39.57	232.48	6,524.65	-663.49	-864.16	-510.35	0.00	0.00	0.00
7,000.01	39.57	232.48	6,601.74	-702.29	-914.68	-540.19	0.00	0.00	0.00
7,100.01	39.57	232.48	6,678.82	-741.08	-965.21	-570.03	0.00	0.00	0.00
7,200.01	39.57	232.48	6,755.91	-779.87	-1,015.73	-599.87	0.00	0.00	0.00
7,300.01	39.57	232.48	6,833.00	-818.66	-1,066.25	-629.70	0.00	0.00	0.00
7,340.20	39.57	232.48	6,863.98	-834.25	-1,086.55	-641.69	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,400.01	36.85	241.11	6,911.01	-854.53	-1,117.40	-656.56	10.00	-4.54	14.41
7,500.02	33.93	257.67	6,992.72	-875.03	-1,171.05	-667.84	10.00	-2.92	16.57
7,600.02	33.49	275.72	7,076.11	-878.24	-1,225.91	-661.87	10.00	-0.44	18.05
7,700.02	35.62	293.00	7,158.66	-864.07	-1,280.31	-638.84	10.00	2.13	17.28
7,800.02	39.90	307.80	7,237.87	-832.95	-1,332.59	-599.45	10.00	4.28	14.80
7,900.02	45.73	319.80	7,311.31	-785.82	-1,381.17	-544.89	10.00	5.83	11.99
8,000.02	52.57	329.46	7,376.76	-724.12	-1,424.56	-476.82	10.00	6.84	9.66
8,100.02	60.07	337.43	7,432.24	-649.71	-1,461.46	-397.32	10.00	7.49	7.97
8,200.02	67.97	344.26	7,476.05	-564.87	-1,490.73	-308.79	10.00	7.90	6.82
8,300.02	76.13	350.35	7,506.87	-472.17	-1,511.50	-213.92	10.00	8.16	6.09
8,400.02	84.42	356.02	7,523.75	-374.42	-1,523.13	-115.60	10.00	8.30	5.67
8,466.50	89.98	359.68	7,527.00	-308.10	-1,525.61	-49.79	10.00	8.35	5.52
LP Begin 89.98° lateral section									
8,500.02	89.98	359.68	7,527.01	-274.59	-1,525.80	-16.71	0.00	0.00	0.00
8,600.02	89.98	359.68	7,527.06	-174.59	-1,526.35	81.98	0.00	0.00	0.00
8,700.02	89.98	359.68	7,527.10	-74.59	-1,526.91	180.68	0.00	0.00	0.00
8,800.02	89.98	359.68	7,527.14	25.41	-1,527.46	279.37	0.00	0.00	0.00
8,900.02	89.98	359.68	7,527.18	125.41	-1,528.01	378.07	0.00	0.00	0.00
9,000.02	89.98	359.68	7,527.22	225.41	-1,528.57	476.76	0.00	0.00	0.00
9,100.02	89.98	359.68	7,527.26	325.40	-1,529.12	575.46	0.00	0.00	0.00
9,200.02	89.98	359.68	7,527.30	425.40	-1,529.67	674.15	0.00	0.00	0.00
9,300.02	89.98	359.68	7,527.35	525.40	-1,530.23	772.85	0.00	0.00	0.00
9,400.02	89.98	359.68	7,527.39	625.40	-1,530.78	871.54	0.00	0.00	0.00
9,500.02	89.98	359.68	7,527.43	725.40	-1,531.34	970.24	0.00	0.00	0.00
9,600.02	89.98	359.68	7,527.47	825.40	-1,531.89	1,068.93	0.00	0.00	0.00
9,700.02	89.98	359.68	7,527.51	925.40	-1,532.44	1,167.63	0.00	0.00	0.00
9,800.02	89.98	359.68	7,527.55	1,025.40	-1,533.00	1,266.32	0.00	0.00	0.00

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Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	89.98	359.68	7,527.59	1,125.39	-1,533.55	1,365.02	0.00	0.00	0.00
10,000.02	89.98	359.68	7,527.64	1,225.39	-1,534.10	1,463.71	0.00	0.00	0.00
10,100.02	89.98	359.68	7,527.68	1,325.39	-1,534.66	1,562.41	0.00	0.00	0.00
10,200.02	89.98	359.68	7,527.72	1,425.39	-1,535.21	1,661.10	0.00	0.00	0.00
10,300.02	89.98	359.68	7,527.76	1,525.39	-1,535.77	1,759.80	0.00	0.00	0.00
10,400.02	89.98	359.68	7,527.80	1,625.39	-1,536.32	1,858.49	0.00	0.00	0.00
10,500.02	89.98	359.68	7,527.84	1,725.39	-1,536.87	1,957.19	0.00	0.00	0.00
10,600.02	89.98	359.68	7,527.88	1,825.38	-1,537.43	2,055.88	0.00	0.00	0.00
10,700.02	89.98	359.68	7,527.93	1,925.38	-1,537.98	2,154.58	0.00	0.00	0.00
10,800.02	89.98	359.68	7,527.97	2,025.38	-1,538.53	2,253.27	0.00	0.00	0.00
10,900.02	89.98	359.68	7,528.01	2,125.38	-1,539.09	2,351.97	0.00	0.00	0.00
11,000.02	89.98	359.68	7,528.05	2,225.38	-1,539.64	2,450.66	0.00	0.00	0.00
11,100.02	89.98	359.68	7,528.09	2,325.38	-1,540.20	2,549.36	0.00	0.00	0.00
11,200.02	89.98	359.68	7,528.13	2,425.38	-1,540.75	2,648.05	0.00	0.00	0.00
11,300.02	89.98	359.68	7,528.17	2,525.38	-1,541.30	2,746.75	0.00	0.00	0.00
11,400.02	89.98	359.68	7,528.21	2,625.37	-1,541.86	2,845.44	0.00	0.00	0.00
11,500.02	89.98	359.68	7,528.26	2,725.37	-1,542.41	2,944.14	0.00	0.00	0.00
11,600.02	89.98	359.68	7,528.30	2,825.37	-1,542.96	3,042.83	0.00	0.00	0.00
11,700.02	89.98	359.68	7,528.34	2,925.37	-1,543.52	3,141.53	0.00	0.00	0.00
11,800.02	89.98	359.68	7,528.38	3,025.37	-1,544.07	3,240.22	0.00	0.00	0.00
11,900.02	89.98	359.68	7,528.42	3,125.37	-1,544.63	3,338.92	0.00	0.00	0.00
12,000.02	89.98	359.68	7,528.46	3,225.37	-1,545.18	3,437.61	0.00	0.00	0.00
12,100.02	89.98	359.68	7,528.50	3,325.36	-1,545.73	3,536.31	0.00	0.00	0.00
12,200.02	89.98	359.68	7,528.55	3,425.36	-1,546.29	3,635.00	0.00	0.00	0.00
12,300.02	89.98	359.68	7,528.59	3,525.36	-1,546.84	3,733.70	0.00	0.00	0.00
12,400.03	89.98	359.68	7,528.63	3,625.36	-1,547.39	3,832.39	0.00	0.00	0.00
12,500.03	89.98	359.68	7,528.67	3,725.36	-1,547.95	3,931.09	0.00	0.00	0.00
12,600.03	89.98	359.68	7,528.71	3,825.36	-1,548.50	4,029.78	0.00	0.00	0.00
12,700.03	89.98	359.68	7,528.75	3,925.36	-1,549.05	4,128.48	0.00	0.00	0.00
12,800.03	89.98	359.68	7,528.79	4,025.36	-1,549.61	4,227.17	0.00	0.00	0.00
12,900.03	89.98	359.68	7,528.84	4,125.35	-1,550.16	4,325.87	0.00	0.00	0.00
13,000.03	89.98	359.68	7,528.88	4,225.35	-1,550.72	4,424.56	0.00	0.00	0.00
13,100.03	89.98	359.68	7,528.92	4,325.35	-1,551.27	4,523.26	0.00	0.00	0.00
13,200.03	89.98	359.68	7,528.96	4,425.35	-1,551.82	4,621.95	0.00	0.00	0.00
13,300.03	89.98	359.68	7,529.00	4,525.35	-1,552.38	4,720.65	0.00	0.00	0.00
13,400.03	89.98	359.68	7,529.04	4,625.35	-1,552.93	4,819.34	0.00	0.00	0.00
13,500.03	89.98	359.68	7,529.08	4,725.35	-1,553.48	4,918.04	0.00	0.00	0.00
13,600.03	89.98	359.68	7,529.13	4,825.34	-1,554.04	5,016.73	0.00	0.00	0.00
13,700.03	89.98	359.68	7,529.17	4,925.34	-1,554.59	5,115.43	0.00	0.00	0.00
13,800.03	89.98	359.68	7,529.21	5,025.34	-1,555.15	5,214.12	0.00	0.00	0.00
13,900.03	89.98	359.68	7,529.25	5,125.34	-1,555.70	5,312.82	0.00	0.00	0.00
14,000.03	89.98	359.68	7,529.29	5,225.34	-1,556.25	5,411.51	0.00	0.00	0.00
14,100.03	89.98	359.68	7,529.33	5,325.34	-1,556.81	5,510.21	0.00	0.00	0.00
14,200.03	89.98	359.68	7,529.37	5,425.34	-1,557.36	5,608.91	0.00	0.00	0.00
14,300.03	89.98	359.68	7,529.42	5,525.34	-1,557.91	5,707.60	0.00	0.00	0.00
14,400.03	89.98	359.68	7,529.46	5,625.33	-1,558.47	5,806.30	0.00	0.00	0.00
14,500.03	89.98	359.68	7,529.50	5,725.33	-1,559.02	5,904.99	0.00	0.00	0.00
14,600.03	89.98	359.68	7,529.54	5,825.33	-1,559.58	6,003.69	0.00	0.00	0.00
14,700.03	89.98	359.68	7,529.58	5,925.33	-1,560.13	6,102.38	0.00	0.00	0.00
14,800.03	89.98	359.68	7,529.62	6,025.33	-1,560.68	6,201.08	0.00	0.00	0.00
14,900.03	89.98	359.68	7,529.66	6,125.33	-1,561.24	6,299.77	0.00	0.00	0.00
15,000.03	89.98	359.68	7,529.71	6,225.33	-1,561.79	6,398.47	0.00	0.00	0.00
15,100.03	89.98	359.68	7,529.75	6,325.32	-1,562.34	6,497.16	0.00	0.00	0.00
15,200.03	89.98	359.68	7,529.79	6,425.32	-1,562.90	6,595.86	0.00	0.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	89.98	359.68	7,529.83	6,525.32	-1,563.45	6,694.55	0.00	0.00	0.00
15,400.03	89.98	359.68	7,529.87	6,625.32	-1,564.01	6,793.25	0.00	0.00	0.00
15,500.03	89.98	359.68	7,529.91	6,725.32	-1,564.56	6,891.94	0.00	0.00	0.00
15,600.03	89.98	359.68	7,529.95	6,825.32	-1,565.11	6,990.64	0.00	0.00	0.00
15,700.03	89.98	359.68	7,530.00	6,925.32	-1,565.67	7,089.33	0.00	0.00	0.00
15,800.03	89.98	359.68	7,530.04	7,025.32	-1,566.22	7,188.03	0.00	0.00	0.00
15,900.03	89.98	359.68	7,530.08	7,125.31	-1,566.77	7,286.72	0.00	0.00	0.00
16,000.03	89.98	359.68	7,530.12	7,225.31	-1,567.33	7,385.42	0.00	0.00	0.00
16,100.03	89.98	359.68	7,530.16	7,325.31	-1,567.88	7,484.11	0.00	0.00	0.00
16,200.03	89.98	359.68	7,530.20	7,425.31	-1,568.44	7,582.81	0.00	0.00	0.00
16,300.03	89.98	359.68	7,530.24	7,525.31	-1,568.99	7,681.50	0.00	0.00	0.00
16,400.03	89.98	359.68	7,530.29	7,625.31	-1,569.54	7,780.20	0.00	0.00	0.00
16,500.03	89.98	359.68	7,530.33	7,725.31	-1,570.10	7,878.89	0.00	0.00	0.00
16,600.03	89.98	359.68	7,530.37	7,825.30	-1,570.65	7,977.59	0.00	0.00	0.00
16,700.03	89.98	359.68	7,530.41	7,925.30	-1,571.20	8,076.28	0.00	0.00	0.00
16,800.03	89.98	359.68	7,530.45	8,025.30	-1,571.76	8,174.98	0.00	0.00	0.00
16,900.03	89.98	359.68	7,530.49	8,125.30	-1,572.31	8,273.67	0.00	0.00	0.00
17,000.03	89.98	359.68	7,530.53	8,225.30	-1,572.86	8,372.37	0.00	0.00	0.00
17,100.03	89.98	359.68	7,530.58	8,325.30	-1,573.42	8,471.06	0.00	0.00	0.00
17,200.03	89.98	359.68	7,530.62	8,425.30	-1,573.97	8,569.76	0.00	0.00	0.00
17,300.03	89.98	359.68	7,530.66	8,525.30	-1,574.53	8,668.45	0.00	0.00	0.00
17,400.04	89.98	359.68	7,530.70	8,625.29	-1,575.08	8,767.15	0.00	0.00	0.00
17,500.04	89.98	359.68	7,530.74	8,725.29	-1,575.63	8,865.84	0.00	0.00	0.00
17,600.04	89.98	359.68	7,530.78	8,825.29	-1,576.19	8,964.54	0.00	0.00	0.00
17,700.04	89.98	359.68	7,530.82	8,925.29	-1,576.74	9,063.23	0.00	0.00	0.00
17,800.04	89.98	359.68	7,530.86	9,025.29	-1,577.29	9,161.93	0.00	0.00	0.00
17,900.04	89.98	359.68	7,530.91	9,125.29	-1,577.85	9,260.62	0.00	0.00	0.00
18,000.04	89.98	359.68	7,530.95	9,225.29	-1,578.40	9,359.32	0.00	0.00	0.00
18,100.04	89.98	359.68	7,530.99	9,325.28	-1,578.96	9,458.01	0.00	0.00	0.00
18,126.67	89.98	359.68	7,531.00	9,351.92	-1,579.10	9,484.30	0.00	0.00	0.00
PBHL/TD 18126.67 MD 7531.00 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 33-02-4L 470 - plan hits target center - Point	0.00	0.00	7,527.00	-308.10	-1,525.61	14,527,585.30	1,735,149.69	40.00184560	-104.66172056
BHL Buford 33-02-4L 47 - plan hits target center - Point	0.00	0.00	7,531.00	9,351.92	-1,579.10	14,537,245.30	1,735,096.20	40.02837386	-104.66178063

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	
5,395.66	5,364.96	-79.94	-104.12	Begin 39.57° tangent section	
7,340.20	6,863.98	-834.25	-1,086.55	Begin 10°/100' build/turn	
8,466.50	7,527.00	-308.10	-1,525.61	LP Begin 89.98° lateral section	
18,126.67	7,531.00	9,351.92	-1,579.10	PBHL/TD 18126.67 MD 7531.00 TVD	

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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 33-02-4L, Surf loc: 770 FSL 919 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,893.40 usft	Latitude:	40.00267566
	+E/-W	0.00 ft	Easting:	1,736,675.30 usft	Longitude:	-104.65626865
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,137.00 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	350.42

Plan Survey Tool Program	Date	6/5/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,126.67 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	
5,395.66	39.57	232.48	5,364.96	-79.94	-104.12	10.00	10.00	0.00	232.48	
7,340.20	39.57	232.48	6,863.98	-834.25	-1,086.55	0.00	0.00	0.00	0.00	
8,466.50	89.98	359.68	7,527.00	-308.10	-1,525.61	10.00	4.48	11.29	120.35	LP Buford 33-02-4L 4'
18,126.67	89.98	359.68	7,531.00	9,351.92	-1,579.10	0.00	0.00	0.00	0.00	BHL Buford 33-02-4L

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
100.00	0.00	0.00	100.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
200.00	0.00	0.00	200.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
300.00	0.00	0.00	300.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
400.00	0.00	0.00	400.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
500.00	0.00	0.00	500.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
600.00	0.00	0.00	600.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
700.00	0.00	0.00	700.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
800.00	0.00	0.00	800.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
900.00	0.00	0.00	900.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
KOP Begin 10°/100' build									
5,000.01	0.00	232.48	5,000.01	0.00	0.00	14,527,893.40	1,736,675.30	40.00267566	-104.65626865
5,100.01	10.00	232.48	5,099.50	-5.30	-6.91	14,527,888.10	1,736,668.39	40.00266117	-104.65629338

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	232.48	5,195.97	-21.05	-27.41	14,527,872.36	1,736,647.89	40.00261816	-104.65636682
5,300.01	30.00	232.48	5,286.49	-46.75	-60.89	14,527,846.65	1,736,614.41	40.00254792	-104.65648672
5,395.66	39.57	232.48	5,364.96	-79.94	-104.12	14,527,813.46	1,736,571.18	40.00245723	-104.65664155
Begin 39.57° tangent section									
5,400.01	39.57	232.48	5,368.31	-81.63	-106.32	14,527,811.77	1,736,568.98	40.00245262	-104.65664942
5,500.01	39.57	232.48	5,445.40	-120.42	-156.84	14,527,772.98	1,736,518.46	40.00234663	-104.65683036
5,600.01	39.57	232.48	5,522.49	-159.21	-207.36	14,527,734.19	1,736,467.94	40.00224064	-104.65701130
5,700.01	39.57	232.48	5,599.58	-198.00	-257.89	14,527,695.40	1,736,417.41	40.00213465	-104.65719224
5,800.01	39.57	232.48	5,676.67	-236.79	-308.41	14,527,656.61	1,736,366.89	40.00202865	-104.65737318
5,900.01	39.57	232.48	5,753.75	-275.58	-358.93	14,527,617.82	1,736,316.37	40.00192266	-104.65755412
6,000.01	39.57	232.48	5,830.84	-314.38	-409.46	14,527,579.03	1,736,265.84	40.00181667	-104.65773506
6,100.01	39.57	232.48	5,907.93	-353.17	-459.98	14,527,540.24	1,736,215.32	40.00171068	-104.65791600
6,200.01	39.57	232.48	5,985.02	-391.96	-510.50	14,527,501.45	1,736,164.80	40.00160468	-104.65809694
6,300.01	39.57	232.48	6,062.11	-430.75	-561.02	14,527,462.66	1,736,114.28	40.00149869	-104.65827788
6,400.01	39.57	232.48	6,139.20	-469.54	-611.55	14,527,423.87	1,736,063.75	40.00139270	-104.65845881
6,500.01	39.57	232.48	6,216.29	-508.33	-662.07	14,527,385.07	1,736,013.23	40.00128670	-104.65863975
6,600.01	39.57	232.48	6,293.38	-547.12	-712.59	14,527,346.28	1,735,962.71	40.00118071	-104.65882069
6,700.01	39.57	232.48	6,370.47	-585.91	-763.12	14,527,307.49	1,735,912.18	40.00107471	-104.65900162
6,800.01	39.57	232.48	6,447.56	-624.70	-813.64	14,527,268.70	1,735,861.66	40.00096872	-104.65918256
6,900.01	39.57	232.48	6,524.65	-663.49	-864.16	14,527,229.91	1,735,811.14	40.00086272	-104.65936349
7,000.01	39.57	232.48	6,601.74	-702.29	-914.68	14,527,191.12	1,735,760.62	40.00075673	-104.65954443
7,100.01	39.57	232.48	6,678.82	-741.08	-965.21	14,527,152.33	1,735,710.09	40.00065073	-104.65972536
7,200.01	39.57	232.48	6,755.91	-779.87	-1,015.73	14,527,113.54	1,735,659.57	40.00054474	-104.65990629
7,300.01	39.57	232.48	6,833.00	-818.66	-1,066.25	14,527,074.75	1,735,609.05	40.00043874	-104.66008722
7,340.20	39.57	232.48	6,863.98	-834.25	-1,086.55	14,527,059.16	1,735,588.75	40.00039615	-104.66015993
Begin 10°/100' build/turn									
7,400.01	36.85	241.11	6,911.01	-854.53	-1,117.40	14,527,038.87	1,735,557.90	40.00034076	-104.66027033
7,500.02	33.93	257.67	6,992.72	-875.03	-1,171.05	14,527,018.38	1,735,504.25	40.00028504	-104.66046220
7,600.02	33.49	275.72	7,076.11	-878.24	-1,225.91	14,527,015.17	1,735,449.39	40.00027679	-104.66065814
7,700.02	35.62	293.00	7,158.66	-864.07	-1,280.31	14,527,029.34	1,735,394.99	40.00031627	-104.66085218
7,800.02	39.90	307.80	7,237.87	-832.95	-1,332.59	14,527,060.46	1,735,342.71	40.00040228	-104.66103844
7,900.02	45.73	319.80	7,311.31	-785.82	-1,381.17	14,527,107.59	1,735,294.14	40.00053221	-104.66121125
8,000.02	52.57	329.46	7,376.76	-724.12	-1,424.56	14,527,169.29	1,735,250.74	40.00070211	-104.66136537
8,100.02	60.07	337.43	7,432.24	-649.71	-1,461.46	14,527,243.69	1,735,213.84	40.00090682	-104.66149611
8,200.02	67.97	344.26	7,476.05	-564.87	-1,490.73	14,527,328.53	1,735,184.57	40.00114011	-104.66159950
8,300.02	76.13	350.35	7,506.87	-472.17	-1,511.50	14,527,421.24	1,735,163.80	40.00139490	-104.66167239
8,400.02	84.42	356.02	7,523.75	-374.42	-1,523.13	14,527,518.98	1,735,152.17	40.00166345	-104.66171258
8,466.50	89.98	359.68	7,527.00	-308.10	-1,525.61	14,527,585.30	1,735,149.69	40.00184560	-104.66172056
LP Begin 89.98° lateral section									
8,500.02	89.98	359.68	7,527.01	-274.59	-1,525.80	14,527,618.82	1,735,149.50	40.00193764	-104.66172077
8,600.02	89.98	359.68	7,527.06	-174.59	-1,526.35	14,527,718.82	1,735,148.95	40.00221225	-104.66172139
8,700.02	89.98	359.68	7,527.10	-74.59	-1,526.91	14,527,818.82	1,735,148.40	40.00248687	-104.66172201
8,800.02	89.98	359.68	7,527.14	25.41	-1,527.46	14,527,918.81	1,735,147.84	40.00276149	-104.66172263
8,900.02	89.98	359.68	7,527.18	125.41	-1,528.01	14,528,018.81	1,735,147.29	40.00303610	-104.66172325
9,000.02	89.98	359.68	7,527.22	225.41	-1,528.57	14,528,118.81	1,735,146.73	40.00331072	-104.66172388
9,100.02	89.98	359.68	7,527.26	325.40	-1,529.12	14,528,218.81	1,735,146.18	40.00358533	-104.66172450
9,200.02	89.98	359.68	7,527.30	425.40	-1,529.67	14,528,318.81	1,735,145.63	40.00385995	-104.66172512
9,300.02	89.98	359.68	7,527.35	525.40	-1,530.23	14,528,418.81	1,735,145.07	40.00413457	-104.66172574
9,400.02	89.98	359.68	7,527.39	625.40	-1,530.78	14,528,518.80	1,735,144.52	40.00440918	-104.66172636
9,500.02	89.98	359.68	7,527.43	725.40	-1,531.34	14,528,618.80	1,735,143.97	40.00468380	-104.66172699
9,600.02	89.98	359.68	7,527.47	825.40	-1,531.89	14,528,718.80	1,735,143.41	40.00495841	-104.66172761
9,700.02	89.98	359.68	7,527.51	925.40	-1,532.44	14,528,818.80	1,735,142.86	40.00523303	-104.66172823
9,800.02	89.98	359.68	7,527.55	1,025.40	-1,533.00	14,528,918.80	1,735,142.30	40.00550764	-104.66172885
9,900.02	89.98	359.68	7,527.59	1,125.39	-1,533.55	14,529,018.80	1,735,141.75	40.00578226	-104.66172947

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	89.98	359.68	7,527.64	1,225.39	-1,534.10	14,529,118.80	1,735,141.20	40.00605688	-104.66173010
10,100.02	89.98	359.68	7,527.68	1,325.39	-1,534.66	14,529,218.79	1,735,140.64	40.00633149	-104.66173072
10,200.02	89.98	359.68	7,527.72	1,425.39	-1,535.21	14,529,318.79	1,735,140.09	40.00660611	-104.66173134
10,300.02	89.98	359.68	7,527.76	1,525.39	-1,535.77	14,529,418.79	1,735,139.54	40.00688072	-104.66173196
10,400.02	89.98	359.68	7,527.80	1,625.39	-1,536.32	14,529,518.79	1,735,138.98	40.00715534	-104.66173258
10,500.02	89.98	359.68	7,527.84	1,725.39	-1,536.87	14,529,618.79	1,735,138.43	40.00742996	-104.66173321
10,600.02	89.98	359.68	7,527.88	1,825.38	-1,537.43	14,529,718.79	1,735,137.88	40.00770457	-104.66173383
10,700.02	89.98	359.68	7,527.93	1,925.38	-1,537.98	14,529,818.78	1,735,137.32	40.00797919	-104.66173445
10,800.02	89.98	359.68	7,527.97	2,025.38	-1,538.53	14,529,918.78	1,735,136.77	40.00825380	-104.66173507
10,900.02	89.98	359.68	7,528.01	2,125.38	-1,539.09	14,530,018.78	1,735,136.21	40.00852842	-104.66173569
11,000.02	89.98	359.68	7,528.05	2,225.38	-1,539.64	14,530,118.78	1,735,135.66	40.00880303	-104.66173632
11,100.02	89.98	359.68	7,528.09	2,325.38	-1,540.20	14,530,218.78	1,735,135.11	40.00907765	-104.66173694
11,200.02	89.98	359.68	7,528.13	2,425.38	-1,540.75	14,530,318.78	1,735,134.55	40.00935227	-104.66173756
11,300.02	89.98	359.68	7,528.17	2,525.38	-1,541.30	14,530,418.78	1,735,134.00	40.00962688	-104.66173818
11,400.02	89.98	359.68	7,528.21	2,625.37	-1,541.86	14,530,518.77	1,735,133.45	40.00990150	-104.66173880
11,500.02	89.98	359.68	7,528.26	2,725.37	-1,542.41	14,530,618.77	1,735,132.89	40.01017611	-104.66173943
11,600.02	89.98	359.68	7,528.30	2,825.37	-1,542.96	14,530,718.77	1,735,132.34	40.01045073	-104.66174005
11,700.02	89.98	359.68	7,528.34	2,925.37	-1,543.52	14,530,818.77	1,735,131.78	40.01072534	-104.66174067
11,800.02	89.98	359.68	7,528.38	3,025.37	-1,544.07	14,530,918.77	1,735,131.23	40.01099996	-104.66174129
11,900.02	89.98	359.68	7,528.42	3,125.37	-1,544.63	14,531,018.77	1,735,130.68	40.01127457	-104.66174191
12,000.02	89.98	359.68	7,528.46	3,225.37	-1,545.18	14,531,118.76	1,735,130.12	40.01154919	-104.66174254
12,100.02	89.98	359.68	7,528.50	3,325.36	-1,545.73	14,531,218.76	1,735,129.57	40.01182381	-104.66174316
12,200.02	89.98	359.68	7,528.55	3,425.36	-1,546.29	14,531,318.76	1,735,129.02	40.01209842	-104.66174378
12,300.02	89.98	359.68	7,528.59	3,525.36	-1,546.84	14,531,418.76	1,735,128.46	40.01237304	-104.66174440
12,400.03	89.98	359.68	7,528.63	3,625.36	-1,547.39	14,531,518.76	1,735,127.91	40.01264765	-104.66174502
12,500.03	89.98	359.68	7,528.67	3,725.36	-1,547.95	14,531,618.76	1,735,127.35	40.01292227	-104.66174564
12,600.03	89.98	359.68	7,528.71	3,825.36	-1,548.50	14,531,718.76	1,735,126.80	40.01319688	-104.66174627
12,700.03	89.98	359.68	7,528.75	3,925.36	-1,549.05	14,531,818.75	1,735,126.25	40.01347150	-104.66174689
12,800.03	89.98	359.68	7,528.79	4,025.36	-1,549.61	14,531,918.75	1,735,125.69	40.01374611	-104.66174751
12,900.03	89.98	359.68	7,528.84	4,125.35	-1,550.16	14,532,018.75	1,735,125.14	40.01402073	-104.66174813
13,000.03	89.98	359.68	7,528.88	4,225.35	-1,550.72	14,532,118.75	1,735,124.59	40.01429534	-104.66174875
13,100.03	89.98	359.68	7,528.92	4,325.35	-1,551.27	14,532,218.75	1,735,124.03	40.01456996	-104.66174938
13,200.03	89.98	359.68	7,528.96	4,425.35	-1,551.82	14,532,318.75	1,735,123.48	40.01484458	-104.66175000
13,300.03	89.98	359.68	7,529.00	4,525.35	-1,552.38	14,532,418.74	1,735,122.92	40.01511919	-104.66175062
13,400.03	89.98	359.68	7,529.04	4,625.35	-1,552.93	14,532,518.74	1,735,122.37	40.01539381	-104.66175124
13,500.03	89.98	359.68	7,529.08	4,725.35	-1,553.48	14,532,618.74	1,735,121.82	40.01566842	-104.66175186
13,600.03	89.98	359.68	7,529.13	4,825.34	-1,554.04	14,532,718.74	1,735,121.26	40.01594304	-104.66175249
13,700.03	89.98	359.68	7,529.17	4,925.34	-1,554.59	14,532,818.74	1,735,120.71	40.01621765	-104.66175311
13,800.03	89.98	359.68	7,529.21	5,025.34	-1,555.15	14,532,918.74	1,735,120.16	40.01649227	-104.66175373
13,900.03	89.98	359.68	7,529.25	5,125.34	-1,555.70	14,533,018.74	1,735,119.60	40.01676688	-104.66175435
14,000.03	89.98	359.68	7,529.29	5,225.34	-1,556.25	14,533,118.73	1,735,119.05	40.01704150	-104.66175497
14,100.03	89.98	359.68	7,529.33	5,325.34	-1,556.81	14,533,218.73	1,735,118.49	40.01731611	-104.66175560
14,200.03	89.98	359.68	7,529.37	5,425.34	-1,557.36	14,533,318.73	1,735,117.94	40.01759073	-104.66175622
14,300.03	89.98	359.68	7,529.42	5,525.34	-1,557.91	14,533,418.73	1,735,117.39	40.01786534	-104.66175684
14,400.03	89.98	359.68	7,529.46	5,625.33	-1,558.47	14,533,518.73	1,735,116.83	40.01813996	-104.66175746
14,500.03	89.98	359.68	7,529.50	5,725.33	-1,559.02	14,533,618.73	1,735,116.28	40.01841457	-104.66175808
14,600.03	89.98	359.68	7,529.54	5,825.33	-1,559.58	14,533,718.72	1,735,115.73	40.01868919	-104.66175870
14,700.03	89.98	359.68	7,529.58	5,925.33	-1,560.13	14,533,818.72	1,735,115.17	40.01896380	-104.66175933
14,800.03	89.98	359.68	7,529.62	6,025.33	-1,560.68	14,533,918.72	1,735,114.62	40.01923842	-104.66175995
14,900.03	89.98	359.68	7,529.66	6,125.33	-1,561.24	14,534,018.72	1,735,114.07	40.01951303	-104.66176057
15,000.03	89.98	359.68	7,529.71	6,225.33	-1,561.79	14,534,118.72	1,735,113.51	40.01978765	-104.66176119
15,100.03	89.98	359.68	7,529.75	6,325.32	-1,562.34	14,534,218.72	1,735,112.96	40.02006227	-104.66176181
15,200.03	89.98	359.68	7,529.79	6,425.32	-1,562.90	14,534,318.72	1,735,112.40	40.02033688	-104.66176244
15,300.03	89.98	359.68	7,529.83	6,525.32	-1,563.45	14,534,418.71	1,735,111.85	40.02061150	-104.66176306
15,400.03	89.98	359.68	7,529.87	6,625.32	-1,564.01	14,534,518.71	1,735,111.30	40.02088611	-104.66176368

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-02-4L
Company:	Confluence Resources	TVD Reference:	RKB=51317+25 @ 5162.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=51317+25 @ 5162.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-02-4L	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	89.98	359.68	7,529.91	6,725.32	-1,564.56	14,534,618.71	1,735,110.74	40.02116073	-104.66176430
15,600.03	89.98	359.68	7,529.95	6,825.32	-1,565.11	14,534,718.71	1,735,110.19	40.02143534	-104.66176492
15,700.03	89.98	359.68	7,530.00	6,925.32	-1,565.67	14,534,818.71	1,735,109.64	40.02170996	-104.66176554
15,800.03	89.98	359.68	7,530.04	7,025.32	-1,566.22	14,534,918.71	1,735,109.08	40.02198457	-104.66176617
15,900.03	89.98	359.68	7,530.08	7,125.31	-1,566.77	14,535,018.70	1,735,108.53	40.02225919	-104.66176679
16,000.03	89.98	359.68	7,530.12	7,225.31	-1,567.33	14,535,118.70	1,735,107.97	40.02253380	-104.66176741
16,100.03	89.98	359.68	7,530.16	7,325.31	-1,567.88	14,535,218.70	1,735,107.42	40.02280842	-104.66176803
16,200.03	89.98	359.68	7,530.20	7,425.31	-1,568.44	14,535,318.70	1,735,106.87	40.02308303	-104.66176865
16,300.03	89.98	359.68	7,530.24	7,525.31	-1,568.99	14,535,418.70	1,735,106.31	40.02335765	-104.66176928
16,400.03	89.98	359.68	7,530.29	7,625.31	-1,569.54	14,535,518.70	1,735,105.76	40.02363226	-104.66176990
16,500.03	89.98	359.68	7,530.33	7,725.31	-1,570.10	14,535,618.70	1,735,105.21	40.02390688	-104.66177052
16,600.03	89.98	359.68	7,530.37	7,825.30	-1,570.65	14,535,718.69	1,735,104.65	40.02418149	-104.66177114
16,700.03	89.98	359.68	7,530.41	7,925.30	-1,571.20	14,535,818.69	1,735,104.10	40.02445611	-104.66177176
16,800.03	89.98	359.68	7,530.45	8,025.30	-1,571.76	14,535,918.69	1,735,103.54	40.02473072	-104.66177238
16,900.03	89.98	359.68	7,530.49	8,125.30	-1,572.31	14,536,018.69	1,735,102.99	40.02500534	-104.66177301
17,000.03	89.98	359.68	7,530.53	8,225.30	-1,572.86	14,536,118.69	1,735,102.44	40.02527995	-104.66177363
17,100.03	89.98	359.68	7,530.58	8,325.30	-1,573.42	14,536,218.69	1,735,101.88	40.02555457	-104.66177425
17,200.03	89.98	359.68	7,530.62	8,425.30	-1,573.97	14,536,318.68	1,735,101.33	40.02582918	-104.66177487
17,300.03	89.98	359.68	7,530.66	8,525.30	-1,574.53	14,536,418.68	1,735,100.78	40.02610380	-104.66177549
17,400.04	89.98	359.68	7,530.70	8,625.29	-1,575.08	14,536,518.68	1,735,100.22	40.02637841	-104.66177612
17,500.04	89.98	359.68	7,530.74	8,725.29	-1,575.63	14,536,618.68	1,735,099.67	40.02665302	-104.66177674
17,600.04	89.98	359.68	7,530.78	8,825.29	-1,576.19	14,536,718.68	1,735,099.11	40.02692764	-104.66177736
17,700.04	89.98	359.68	7,530.82	8,925.29	-1,576.74	14,536,818.68	1,735,098.56	40.02720225	-104.66177798
17,800.04	89.98	359.68	7,530.86	9,025.29	-1,577.29	14,536,918.68	1,735,098.01	40.02747687	-104.66177860
17,900.04	89.98	359.68	7,530.91	9,125.29	-1,577.85	14,537,018.67	1,735,097.45	40.02775148	-104.66177922
18,000.04	89.98	359.68	7,530.95	9,225.29	-1,578.40	14,537,118.67	1,735,096.90	40.02802610	-104.66177985
18,100.04	89.98	359.68	7,530.99	9,325.28	-1,578.96	14,537,218.67	1,735,096.35	40.02830071	-104.66178047
18,126.67	89.98	359.68	7,531.00	9,351.92	-1,579.10	14,537,245.30	1,735,096.20	40.02837386	-104.66178063
PBHL/TD 18126.67 MD 7531.00 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 33-02-4L 470	0.00	0.00	7,527.00	-308.10	-1,525.61	14,527,585.30	1,735,149.69	40.00184560	-104.66172056
- plan hits target center									
- Point									
BHL Buford 33-02-4L 47	0.00	0.00	7,531.00	9,351.92	-1,579.10	14,537,245.30	1,735,096.20	40.02837386	-104.66178063
- 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	
5,395.66	5,364.96	-79.94	-104.12	Begin 39.57° tangent section	
7,340.20	6,863.98	-834.25	-1,086.55	Begin 10°/100' build/turn	
8,466.50	7,527.00	-308.10	-1,525.61	LP Begin 89.98° lateral section	
18,126.67	7,531.00	9,351.92	-1,579.10	PBHL/TD 18126.67 MD 7531.00 TVD	