



Weld County, Colorado
Section 34-T01N-R65W
Buford 33-05-3L
plan1

Azimuth Corrections:

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

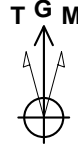
Buford 33-05-3L Surf loc: 770 FSL 769 FWL Section 34-T01N-R65W			
NAD83 Colorado - HARN Universal Transverse Mercator (US Survey Feet) Zone 13N (108 W to 102 W) RKB=5136+25 @ 5161.00ft			
Northing	Easting	Latitude	Longitude
14527892.80	1736525.30	40.00267560	-104.65680429

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	5593.06	59.31	252.25	5492.69	-85.51	-267.13	10.00	9.91	Begin 59.28° tangent section
4	8602.29	59.31	252.25	7028.77	-874.43	-2731.59	0.00	101.32	Begin 10°/100' build/turn
5	9653.29	89.97	359.90	7411.00	-322.50	-3345.49	10.00	828.40	
6	19326.79	89.97	359.90	7416.01	9350.98	-3362.00	0.00	9937.00	

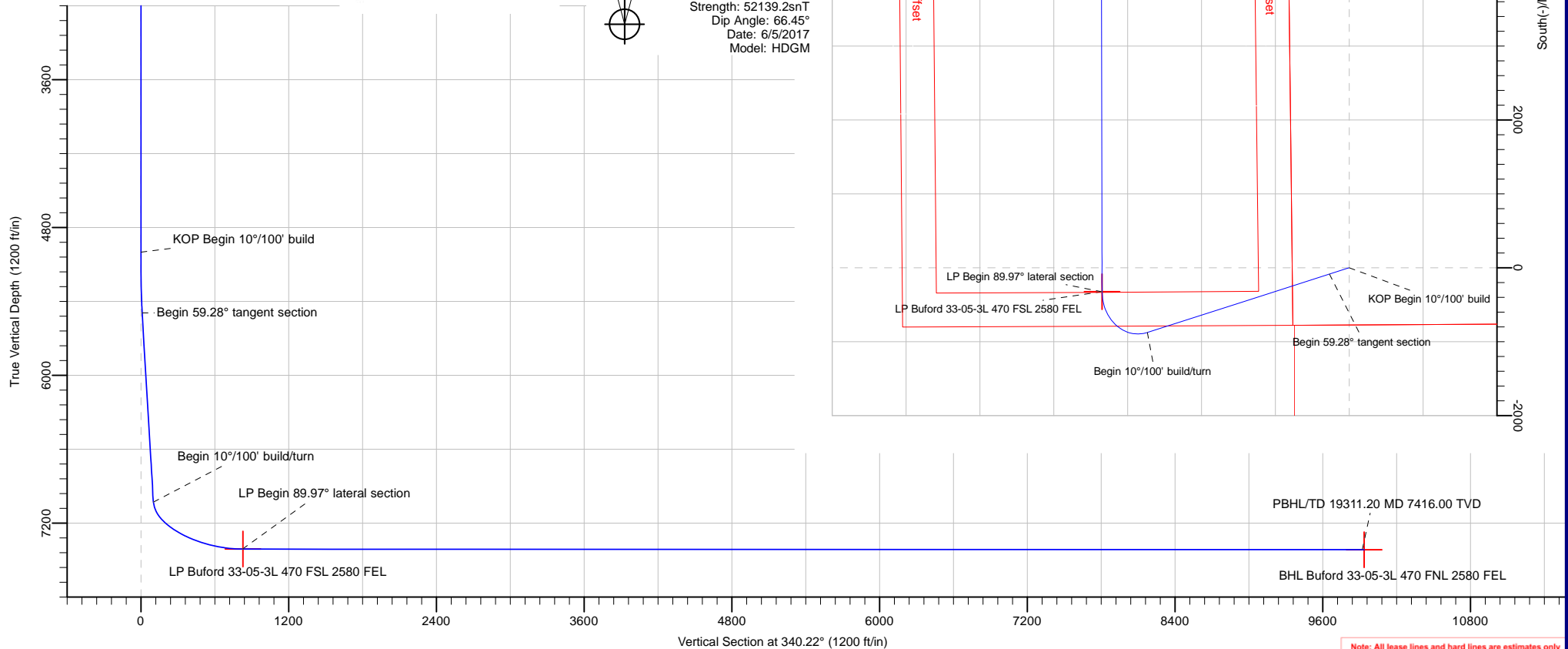
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP Buford 33-05-3L 470 FSL 2580 FEL	7411.00	-322.50	-3345.49	14527570.30	1733179.82	40.00182473	-104.66875480
BHL Buford 33-05-3L 470 FNL 2580 FEL	7416.00	9337.62	-3399.18	14537230.40	1733126.13	40.02835326	-104.66881831



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

Magnetic Field
Strength: 52139.2snT
Dip Angle: 66.45°
Date: 6/5/2017
Model: HDGM



Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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 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 33-05-3L, Surf loc: 770 FSL 769 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,892.80 usft	Latitude:	40.00267560
	+E/-W	0.00 ft	Easting:	1,736,525.30 usft	Longitude:	-104.65680429
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,136.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/5/2017	8.28	66.45	52,139.20000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	340.22

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,311.20	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	
5,593.06	59.31	252.25	5,492.69	-85.51	-267.13	10.00	10.00	0.00	252.25	
8,602.29	59.31	252.25	7,028.77	-874.43	-2,731.59	0.00	0.00	0.00	0.00	
9,653.29	89.97	359.90	7,411.00	-322.50	-3,345.49	10.00	2.92	10.24	99.25	LP Buford 33-05-3L 4'
19,326.79	89.97	359.90	7,416.01	9,350.98	-3,362.00	0.00	0.00	0.00	0.00	BHL Buford 33-05-3L

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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	252.25	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	252.25	5,099.50	-2.65	-8.29	0.31	10.00	10.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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)
5,200.01	20.00	252.25	5,195.97	-10.54	-32.91	1.22	10.00	10.00	0.00
5,300.01	30.00	252.25	5,286.49	-23.40	-73.11	2.71	10.00	10.00	0.00
5,400.01	40.00	252.25	5,368.30	-40.87	-127.67	4.74	10.00	10.00	0.00
5,500.01	50.00	252.25	5,438.92	-62.40	-194.93	7.23	10.00	10.00	0.00
5,592.77	59.28	252.25	5,492.54	-85.44	-266.90	9.90	10.00	10.00	0.00
Begin 59.28° tangent section									
5,593.06	59.31	252.25	5,492.69	-85.51	-267.13	9.91	10.00	10.00	0.00
5,600.01	59.31	252.25	5,496.24	-87.34	-272.83	10.12	0.00	0.00	0.00
5,700.01	59.31	252.25	5,547.28	-113.55	-354.73	13.16	0.00	0.00	0.00
5,800.01	59.31	252.25	5,598.33	-139.77	-436.62	16.20	0.00	0.00	0.00
5,900.01	59.31	252.25	5,649.38	-165.99	-518.52	19.23	0.00	0.00	0.00
6,000.01	59.31	252.25	5,700.42	-192.20	-600.42	22.27	0.00	0.00	0.00
6,100.01	59.31	252.25	5,751.47	-218.42	-682.31	25.31	0.00	0.00	0.00
6,200.01	59.31	252.25	5,802.51	-244.64	-764.21	28.35	0.00	0.00	0.00
6,300.01	59.31	252.25	5,853.56	-270.85	-846.11	31.38	0.00	0.00	0.00
6,400.01	59.31	252.25	5,904.60	-297.07	-928.00	34.42	0.00	0.00	0.00
6,500.01	59.31	252.25	5,955.65	-323.29	-1,009.90	37.46	0.00	0.00	0.00
6,600.01	59.31	252.25	6,006.70	-349.50	-1,091.80	40.50	0.00	0.00	0.00
6,700.01	59.31	252.25	6,057.74	-375.72	-1,173.69	43.53	0.00	0.00	0.00
6,800.01	59.31	252.25	6,108.79	-401.94	-1,255.59	46.57	0.00	0.00	0.00
6,900.01	59.31	252.25	6,159.83	-428.15	-1,337.49	49.61	0.00	0.00	0.00
7,000.01	59.31	252.25	6,210.88	-454.37	-1,419.38	52.65	0.00	0.00	0.00
7,100.01	59.31	252.25	6,261.92	-480.59	-1,501.28	55.69	0.00	0.00	0.00
7,200.01	59.31	252.25	6,312.97	-506.80	-1,583.18	58.72	0.00	0.00	0.00
7,300.01	59.31	252.25	6,364.02	-533.02	-1,665.07	61.76	0.00	0.00	0.00
7,400.01	59.31	252.25	6,415.06	-559.24	-1,746.97	64.80	0.00	0.00	0.00
7,500.02	59.31	252.25	6,466.11	-585.45	-1,828.87	67.84	0.00	0.00	0.00
7,600.02	59.31	252.25	6,517.15	-611.67	-1,910.76	70.87	0.00	0.00	0.00
7,700.02	59.31	252.25	6,568.20	-637.89	-1,992.66	73.91	0.00	0.00	0.00
7,800.02	59.31	252.25	6,619.24	-664.10	-2,074.56	76.95	0.00	0.00	0.00
7,900.02	59.31	252.25	6,670.29	-690.32	-2,156.45	79.99	0.00	0.00	0.00
8,000.02	59.31	252.25	6,721.34	-716.54	-2,238.35	83.02	0.00	0.00	0.00
8,100.02	59.31	252.25	6,772.38	-742.75	-2,320.25	86.06	0.00	0.00	0.00
8,200.02	59.31	252.25	6,823.43	-768.97	-2,402.14	89.10	0.00	0.00	0.00
8,300.02	59.31	252.25	6,874.47	-795.19	-2,484.04	92.14	0.00	0.00	0.00
8,400.02	59.31	252.25	6,925.52	-821.40	-2,565.94	95.18	0.00	0.00	0.00
8,500.02	59.31	252.25	6,976.56	-847.62	-2,647.83	98.21	0.00	0.00	0.00
8,600.02	59.31	252.25	7,027.61	-873.84	-2,729.73	101.25	0.00	0.00	0.00
8,602.12	59.31	252.25	7,028.68	-874.39	-2,731.45	101.31	0.00	0.00	0.00
Begin 10°/100' build/turn									
8,602.29	59.31	252.25	7,028.77	-874.43	-2,731.59	101.32	0.00	0.00	0.00
8,700.02	58.23	263.61	7,079.56	-891.90	-2,813.09	112.45	10.00	-1.10	11.63
8,800.02	58.19	275.38	7,132.38	-892.65	-2,897.85	140.43	10.00	-0.04	11.77
8,900.02	59.22	287.03	7,184.46	-876.03	-2,981.44	184.34	10.00	1.03	11.65
9,000.02	61.26	298.31	7,234.21	-842.57	-3,061.31	242.85	10.00	2.04	11.28
9,100.02	64.20	309.07	7,280.13	-793.28	-3,135.04	314.19	10.00	2.94	10.76
9,200.02	67.89	319.25	7,320.81	-729.65	-3,200.40	396.17	10.00	3.69	10.18
9,300.02	72.17	328.87	7,355.03	-653.63	-3,255.38	486.32	10.00	4.28	9.62
9,400.02	76.90	338.01	7,381.75	-567.51	-3,298.33	581.89	10.00	4.73	9.15
9,500.02	81.93	346.80	7,400.14	-473.91	-3,327.93	679.98	10.00	5.04	8.79
9,600.02	87.16	355.38	7,409.66	-375.69	-3,343.30	777.61	10.00	5.22	8.57
9,650.93	89.85	359.70	7,411.00	-324.86	-3,345.48	826.18	10.00	5.28	8.50
LP Begin 89.97° lateral section									

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Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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)
9,653.29	89.97	359.90	7,411.00	-322.50	-3,345.49	828.40	10.00	5.29	8.49
9,700.02	89.97	359.90	7,411.02	-275.77	-3,345.57	872.40	0.00	0.00	0.00
9,800.02	89.97	359.90	7,411.08	-175.77	-3,345.74	966.57	0.00	0.00	0.00
9,900.02	89.97	359.90	7,411.13	-75.77	-3,345.91	1,060.73	0.00	0.00	0.00
10,000.02	89.97	359.90	7,411.18	24.23	-3,346.08	1,154.89	0.00	0.00	0.00
10,100.02	89.97	359.90	7,411.23	124.23	-3,346.25	1,249.05	0.00	0.00	0.00
10,200.02	89.97	359.90	7,411.28	224.23	-3,346.42	1,343.21	0.00	0.00	0.00
10,300.02	89.97	359.90	7,411.33	324.23	-3,346.59	1,437.37	0.00	0.00	0.00
10,400.02	89.97	359.90	7,411.39	424.23	-3,346.76	1,531.53	0.00	0.00	0.00
10,500.02	89.97	359.90	7,411.44	524.23	-3,346.93	1,625.69	0.00	0.00	0.00
10,600.02	89.97	359.90	7,411.49	624.23	-3,347.10	1,719.85	0.00	0.00	0.00
10,700.02	89.97	359.90	7,411.54	724.23	-3,347.27	1,814.01	0.00	0.00	0.00
10,800.02	89.97	359.90	7,411.59	824.23	-3,347.44	1,908.17	0.00	0.00	0.00
10,900.02	89.97	359.90	7,411.65	924.23	-3,347.62	2,002.33	0.00	0.00	0.00
11,000.02	89.97	359.90	7,411.70	1,024.23	-3,347.79	2,096.49	0.00	0.00	0.00
11,100.02	89.97	359.90	7,411.75	1,124.23	-3,347.96	2,190.65	0.00	0.00	0.00
11,200.02	89.97	359.90	7,411.80	1,224.23	-3,348.13	2,284.81	0.00	0.00	0.00
11,300.02	89.97	359.90	7,411.85	1,324.23	-3,348.30	2,378.97	0.00	0.00	0.00
11,400.02	89.97	359.90	7,411.90	1,424.23	-3,348.47	2,473.13	0.00	0.00	0.00
11,500.02	89.97	359.90	7,411.96	1,524.23	-3,348.64	2,567.29	0.00	0.00	0.00
11,600.02	89.97	359.90	7,412.01	1,624.23	-3,348.81	2,661.45	0.00	0.00	0.00
11,700.02	89.97	359.90	7,412.06	1,724.23	-3,348.98	2,755.61	0.00	0.00	0.00
11,800.02	89.97	359.90	7,412.11	1,824.23	-3,349.15	2,849.77	0.00	0.00	0.00
11,900.02	89.97	359.90	7,412.16	1,924.23	-3,349.32	2,943.94	0.00	0.00	0.00
12,000.02	89.97	359.90	7,412.21	2,024.23	-3,349.49	3,038.10	0.00	0.00	0.00
12,100.02	89.97	359.90	7,412.27	2,124.23	-3,349.66	3,132.26	0.00	0.00	0.00
12,200.02	89.97	359.90	7,412.32	2,224.23	-3,349.83	3,226.42	0.00	0.00	0.00
12,300.02	89.97	359.90	7,412.37	2,324.23	-3,350.01	3,320.58	0.00	0.00	0.00
12,400.03	89.97	359.90	7,412.42	2,424.23	-3,350.18	3,414.74	0.00	0.00	0.00
12,500.03	89.97	359.90	7,412.47	2,524.23	-3,350.35	3,508.90	0.00	0.00	0.00
12,600.03	89.97	359.90	7,412.53	2,624.23	-3,350.52	3,603.06	0.00	0.00	0.00
12,700.03	89.97	359.90	7,412.58	2,724.23	-3,350.69	3,697.22	0.00	0.00	0.00
12,800.03	89.97	359.90	7,412.63	2,824.23	-3,350.86	3,791.38	0.00	0.00	0.00
12,900.03	89.97	359.90	7,412.68	2,924.23	-3,351.03	3,885.54	0.00	0.00	0.00
13,000.03	89.97	359.90	7,412.73	3,024.23	-3,351.20	3,979.70	0.00	0.00	0.00
13,100.03	89.97	359.90	7,412.78	3,124.23	-3,351.37	4,073.86	0.00	0.00	0.00
13,200.03	89.97	359.90	7,412.84	3,224.23	-3,351.54	4,168.02	0.00	0.00	0.00
13,300.03	89.97	359.90	7,412.89	3,324.23	-3,351.71	4,262.18	0.00	0.00	0.00
13,400.03	89.97	359.90	7,412.94	3,424.23	-3,351.88	4,356.34	0.00	0.00	0.00
13,500.03	89.97	359.90	7,412.99	3,524.23	-3,352.05	4,450.50	0.00	0.00	0.00
13,600.03	89.97	359.90	7,413.04	3,624.23	-3,352.22	4,544.66	0.00	0.00	0.00
13,700.03	89.97	359.90	7,413.09	3,724.23	-3,352.40	4,638.82	0.00	0.00	0.00
13,800.03	89.97	359.90	7,413.15	3,824.23	-3,352.57	4,732.98	0.00	0.00	0.00
13,900.03	89.97	359.90	7,413.20	3,924.23	-3,352.74	4,827.15	0.00	0.00	0.00
14,000.03	89.97	359.90	7,413.25	4,024.23	-3,352.91	4,921.31	0.00	0.00	0.00
14,100.03	89.97	359.90	7,413.30	4,124.23	-3,353.08	5,015.47	0.00	0.00	0.00
14,200.03	89.97	359.90	7,413.35	4,224.23	-3,353.25	5,109.63	0.00	0.00	0.00
14,300.03	89.97	359.90	7,413.41	4,324.23	-3,353.42	5,203.79	0.00	0.00	0.00
14,400.03	89.97	359.90	7,413.46	4,424.23	-3,353.59	5,297.95	0.00	0.00	0.00
14,500.03	89.97	359.90	7,413.51	4,524.23	-3,353.76	5,392.11	0.00	0.00	0.00
14,600.03	89.97	359.90	7,413.56	4,624.23	-3,353.93	5,486.27	0.00	0.00	0.00
14,700.03	89.97	359.90	7,413.61	4,724.23	-3,354.10	5,580.43	0.00	0.00	0.00
14,800.03	89.97	359.90	7,413.66	4,824.23	-3,354.27	5,674.59	0.00	0.00	0.00
14,900.03	89.97	359.90	7,413.72	4,924.23	-3,354.44	5,768.75	0.00	0.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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)
15,000.03	89.97	359.90	7,413.77	5,024.23	-3,354.61	5,862.91	0.00	0.00	0.00
15,100.03	89.97	359.90	7,413.82	5,124.23	-3,354.79	5,957.07	0.00	0.00	0.00
15,200.03	89.97	359.90	7,413.87	5,224.23	-3,354.96	6,051.23	0.00	0.00	0.00
15,300.03	89.97	359.90	7,413.92	5,324.23	-3,355.13	6,145.39	0.00	0.00	0.00
15,400.03	89.97	359.90	7,413.97	5,424.23	-3,355.30	6,239.55	0.00	0.00	0.00
15,500.03	89.97	359.90	7,414.03	5,524.23	-3,355.47	6,333.71	0.00	0.00	0.00
15,600.03	89.97	359.90	7,414.08	5,624.23	-3,355.64	6,427.87	0.00	0.00	0.00
15,700.03	89.97	359.90	7,414.13	5,724.23	-3,355.81	6,522.03	0.00	0.00	0.00
15,800.03	89.97	359.90	7,414.18	5,824.23	-3,355.98	6,616.19	0.00	0.00	0.00
15,900.03	89.97	359.90	7,414.23	5,924.23	-3,356.15	6,710.36	0.00	0.00	0.00
16,000.03	89.97	359.90	7,414.29	6,024.23	-3,356.32	6,804.52	0.00	0.00	0.00
16,100.03	89.97	359.90	7,414.34	6,124.23	-3,356.49	6,898.68	0.00	0.00	0.00
16,200.03	89.97	359.90	7,414.39	6,224.23	-3,356.66	6,992.84	0.00	0.00	0.00
16,300.03	89.97	359.90	7,414.44	6,324.23	-3,356.83	7,087.00	0.00	0.00	0.00
16,400.03	89.97	359.90	7,414.49	6,424.23	-3,357.00	7,181.16	0.00	0.00	0.00
16,500.03	89.97	359.90	7,414.54	6,524.23	-3,357.18	7,275.32	0.00	0.00	0.00
16,600.03	89.97	359.90	7,414.60	6,624.23	-3,357.35	7,369.48	0.00	0.00	0.00
16,700.03	89.97	359.90	7,414.65	6,724.23	-3,357.52	7,463.64	0.00	0.00	0.00
16,800.03	89.97	359.90	7,414.70	6,824.23	-3,357.69	7,557.80	0.00	0.00	0.00
16,900.03	89.97	359.90	7,414.75	6,924.23	-3,357.86	7,651.96	0.00	0.00	0.00
17,000.03	89.97	359.90	7,414.80	7,024.23	-3,358.03	7,746.12	0.00	0.00	0.00
17,100.03	89.97	359.90	7,414.85	7,124.23	-3,358.20	7,840.28	0.00	0.00	0.00
17,200.03	89.97	359.90	7,414.91	7,224.23	-3,358.37	7,934.44	0.00	0.00	0.00
17,300.03	89.97	359.90	7,414.96	7,324.23	-3,358.54	8,028.60	0.00	0.00	0.00
17,400.04	89.97	359.90	7,415.01	7,424.23	-3,358.71	8,122.76	0.00	0.00	0.00
17,500.04	89.97	359.90	7,415.06	7,524.23	-3,358.88	8,216.92	0.00	0.00	0.00
17,600.04	89.97	359.90	7,415.11	7,624.23	-3,359.05	8,311.08	0.00	0.00	0.00
17,700.04	89.97	359.90	7,415.17	7,724.23	-3,359.22	8,405.24	0.00	0.00	0.00
17,800.04	89.97	359.90	7,415.22	7,824.23	-3,359.39	8,499.40	0.00	0.00	0.00
17,900.04	89.97	359.90	7,415.27	7,924.23	-3,359.57	8,593.57	0.00	0.00	0.00
18,000.04	89.97	359.90	7,415.32	8,024.23	-3,359.74	8,687.73	0.00	0.00	0.00
18,100.04	89.97	359.90	7,415.37	8,124.23	-3,359.91	8,781.89	0.00	0.00	0.00
18,200.04	89.97	359.90	7,415.42	8,224.23	-3,360.08	8,876.05	0.00	0.00	0.00
18,300.04	89.97	359.90	7,415.48	8,324.23	-3,360.25	8,970.21	0.00	0.00	0.00
18,400.04	89.97	359.90	7,415.53	8,424.23	-3,360.42	9,064.37	0.00	0.00	0.00
18,500.04	89.97	359.90	7,415.58	8,524.23	-3,360.59	9,158.53	0.00	0.00	0.00
18,600.04	89.97	359.90	7,415.63	8,624.23	-3,360.76	9,252.69	0.00	0.00	0.00
18,700.04	89.97	359.90	7,415.68	8,724.23	-3,360.93	9,346.85	0.00	0.00	0.00
18,800.04	89.97	359.90	7,415.73	8,824.23	-3,361.10	9,441.01	0.00	0.00	0.00
18,900.04	89.97	359.90	7,415.79	8,924.23	-3,361.27	9,535.17	0.00	0.00	0.00
19,000.04	89.97	359.90	7,415.84	9,024.23	-3,361.44	9,629.33	0.00	0.00	0.00
19,100.04	89.97	359.90	7,415.89	9,124.23	-3,361.61	9,723.49	0.00	0.00	0.00
19,200.04	89.97	359.90	7,415.94	9,224.23	-3,361.78	9,817.65	0.00	0.00	0.00
19,300.04	89.97	359.90	7,415.99	9,324.23	-3,361.96	9,911.81	0.00	0.00	0.00
19,311.20	89.97	359.90	7,416.00	9,335.40	-3,361.97	9,922.32	0.00	0.00	0.00
PBHL/TD 19311.20 MD 7416.00 TVD									
19,326.79	89.97	359.90	7,416.01	9,350.98	-3,362.00	9,937.00	0.00	0.00	0.00

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
LP Buford 33-05-3L 470	0.00	359.79	7,411.00	-322.50	-3,345.49	14,527,570.30	1,733,179.82	40.00182473	-104.66875480
- plan hits target center									
- Point									
BHL Buford 33-05-3L 47	0.00	359.79	7,416.00	9,337.62	-3,399.18	14,537,230.40	1,733,126.13	40.02835327	-104.66881831
- plan misses target center by 37.27ft at 19311.20ft MD (7416.00 TVD, 9335.40 N, -3361.97 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build
5,592.77	5,492.54	-85.44	-266.90	Begin 59.28° tangent section
8,602.12	7,028.68	-874.39	-2,731.45	Begin 10°/100' build/turn
9,650.93	7,411.00	-324.86	-3,345.48	LP Begin 89.97° lateral section
19,311.20	7,416.00	9,335.40	-3,361.97	PBHL/TD 19311.20 MD 7416.00 TVD

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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 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 33-05-3L, Surf loc: 770 FSL 769 FWL Section 34-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,892.80 usft	Latitude:	40.00267560
	+E/-W	0.00 ft	Easting:	1,736,525.30 usft	Longitude:	-104.65680429
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,136.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/5/2017	8.28	66.45	52,139.20000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	340.22

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,311.20 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	
5,593.06	59.31	252.25	5,492.69	-85.51	-267.13	10.00	10.00	0.00	252.25	
8,602.29	59.31	252.25	7,028.77	-874.43	-2,731.59	0.00	0.00	0.00	0.00	
9,653.29	89.97	359.90	7,411.00	-322.50	-3,345.49	10.00	2.92	10.24	99.25	LP Buford 33-05-3L 4'
19,326.79	89.97	359.90	7,416.01	9,350.98	-3,362.00	0.00	0.00	0.00	0.00	BHL Buford 33-05-3L



Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
100.00	0.00	0.00	100.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
200.00	0.00	0.00	200.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
300.00	0.00	0.00	300.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
400.00	0.00	0.00	400.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
500.00	0.00	0.00	500.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
600.00	0.00	0.00	600.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
700.00	0.00	0.00	700.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
800.00	0.00	0.00	800.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
900.00	0.00	0.00	900.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
KOP Begin 10°/100' build									
5,000.01	0.00	252.25	5,000.01	0.00	0.00	14,527,892.80	1,736,525.30	40.00267560	-104.65680429
5,100.01	10.00	252.25	5,099.50	-2.65	-8.29	14,527,890.15	1,736,517.01	40.00266840	-104.65683393

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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
5,200.01	20.00	252.25	5,195.97	-10.54	-32.91	14,527,882.27	1,736,492.39	40.00264702	-104.65692195
5,300.01	30.00	252.25	5,286.49	-23.40	-73.11	14,527,869.40	1,736,452.19	40.00261210	-104.65706568
5,400.01	40.00	252.25	5,368.30	-40.87	-127.67	14,527,851.93	1,736,397.63	40.00256472	-104.65726074
5,500.01	50.00	252.25	5,438.92	-62.40	-194.93	14,527,830.40	1,736,330.37	40.00250630	-104.65750121
5,592.77	59.28	252.25	5,492.54	-85.44	-266.90	14,527,807.36	1,736,258.40	40.00244379	-104.65775853
Begin 59.28° tangent section									
5,593.06	59.31	252.25	5,492.69	-85.51	-267.13	14,527,807.29	1,736,258.17	40.00244359	-104.65775935
5,600.01	59.31	252.25	5,496.24	-87.34	-272.83	14,527,805.47	1,736,252.47	40.00243864	-104.65777971
5,700.01	59.31	252.25	5,547.28	-113.55	-354.73	14,527,779.25	1,736,170.57	40.00236751	-104.65807251
5,800.01	59.31	252.25	5,598.33	-139.77	-436.62	14,527,753.03	1,736,088.68	40.00229638	-104.65836531
5,900.01	59.31	252.25	5,649.38	-165.99	-518.52	14,527,726.82	1,736,006.78	40.00222525	-104.65865811
6,000.01	59.31	252.25	5,700.42	-192.20	-600.42	14,527,700.60	1,735,924.88	40.00215411	-104.65895090
6,100.01	59.31	252.25	5,751.47	-218.42	-682.31	14,527,674.38	1,735,842.99	40.00208298	-104.65924370
6,200.01	59.31	252.25	5,802.51	-244.64	-764.21	14,527,648.17	1,735,761.09	40.00201184	-104.65953650
6,300.01	59.31	252.25	5,853.56	-270.85	-846.11	14,527,621.95	1,735,679.19	40.00194071	-104.65982929
6,400.01	59.31	252.25	5,904.60	-297.07	-928.00	14,527,595.74	1,735,597.30	40.00186957	-104.66012209
6,500.01	59.31	252.25	5,955.65	-323.29	-1,009.90	14,527,569.52	1,735,515.40	40.00179843	-104.66041488
6,600.01	59.31	252.25	6,006.70	-349.50	-1,091.80	14,527,543.30	1,735,433.51	40.00172730	-104.66070767
6,700.01	59.31	252.25	6,057.74	-375.72	-1,173.69	14,527,517.09	1,735,351.61	40.00165616	-104.66100047
6,800.01	59.31	252.25	6,108.79	-401.94	-1,255.59	14,527,490.87	1,735,269.71	40.00158502	-104.66129326
6,900.01	59.31	252.25	6,159.83	-428.15	-1,337.49	14,527,464.65	1,735,187.82	40.00151388	-104.66158605
7,000.01	59.31	252.25	6,210.88	-454.37	-1,419.38	14,527,438.44	1,735,105.92	40.00144274	-104.66187884
7,100.01	59.31	252.25	6,261.92	-480.59	-1,501.28	14,527,412.22	1,735,024.02	40.00137159	-104.66217163
7,200.01	59.31	252.25	6,312.97	-506.80	-1,583.18	14,527,386.00	1,734,942.13	40.00130045	-104.66246442
7,300.01	59.31	252.25	6,364.02	-533.02	-1,665.07	14,527,359.79	1,734,860.23	40.00122931	-104.66275721
7,400.01	59.31	252.25	6,415.06	-559.24	-1,746.97	14,527,333.57	1,734,778.33	40.00115816	-104.66305000
7,500.02	59.31	252.25	6,466.11	-585.45	-1,828.87	14,527,307.35	1,734,696.44	40.00108702	-104.66334278
7,600.02	59.31	252.25	6,517.15	-611.67	-1,910.76	14,527,281.14	1,734,614.54	40.00101587	-104.66363557
7,700.02	59.31	252.25	6,568.20	-637.89	-1,992.66	14,527,254.92	1,734,532.64	40.00094473	-104.66392836
7,800.02	59.31	252.25	6,619.24	-664.10	-2,074.56	14,527,228.70	1,734,450.75	40.00087358	-104.66422114
7,900.02	59.31	252.25	6,670.29	-690.32	-2,156.45	14,527,202.49	1,734,368.85	40.00080243	-104.66451393
8,000.02	59.31	252.25	6,721.34	-716.54	-2,238.35	14,527,176.27	1,734,286.95	40.00073129	-104.66480671
8,100.02	59.31	252.25	6,772.38	-742.75	-2,320.25	14,527,150.05	1,734,205.06	40.00066014	-104.66509950
8,200.02	59.31	252.25	6,823.43	-768.97	-2,402.14	14,527,123.84	1,734,123.16	40.00058899	-104.66539228
8,300.02	59.31	252.25	6,874.47	-795.19	-2,484.04	14,527,097.62	1,734,041.27	40.00051784	-104.66568506
8,400.02	59.31	252.25	6,925.52	-821.40	-2,565.94	14,527,071.40	1,733,959.37	40.00044669	-104.66597785
8,500.02	59.31	252.25	6,976.56	-847.62	-2,647.83	14,527,045.19	1,733,877.47	40.00037553	-104.66627063
8,600.02	59.31	252.25	7,027.61	-873.84	-2,729.73	14,527,018.97	1,733,795.58	40.00030438	-104.66656341
8,602.12	59.31	252.25	7,028.68	-874.39	-2,731.45	14,527,018.42	1,733,793.85	40.00030288	-104.66656956
Begin 10°/100' build/turn									
8,602.29	59.31	252.25	7,028.77	-874.43	-2,731.59	14,527,018.38	1,733,793.72	40.00030276	-104.66657006
8,700.02	58.23	263.61	7,079.56	-891.90	-2,813.09	14,527,000.90	1,733,712.21	40.00025562	-104.66686131
8,800.02	58.19	275.38	7,132.38	-892.65	-2,897.85	14,527,000.16	1,733,627.45	40.00025445	-104.66716398
8,900.02	59.22	287.03	7,184.46	-876.03	-2,981.44	14,527,016.77	1,733,543.87	40.00030092	-104.66746223
9,000.02	61.26	298.31	7,234.21	-842.57	-3,061.31	14,527,050.23	1,733,463.99	40.00039363	-104.66774699
9,100.02	64.20	309.07	7,280.13	-793.28	-3,135.04	14,527,099.52	1,733,390.26	40.00052975	-104.66800961
9,200.02	67.89	319.25	7,320.81	-729.65	-3,200.40	14,527,163.15	1,733,324.91	40.00070514	-104.66824212
9,300.02	72.17	328.87	7,355.03	-653.63	-3,255.38	14,527,239.18	1,733,269.92	40.00091449	-104.66843745
9,400.02	76.90	338.01	7,381.75	-567.51	-3,298.33	14,527,325.30	1,733,226.98	40.00115143	-104.66858966
9,500.02	81.93	346.80	7,400.14	-473.91	-3,327.93	14,527,418.89	1,733,197.37	40.00140875	-104.66869413
9,600.02	87.16	355.38	7,409.66	-375.69	-3,343.30	14,527,517.12	1,733,182.01	40.00167865	-104.66874768
9,650.93	89.85	359.70	7,411.00	-324.86	-3,345.48	14,527,567.95	1,733,179.83	40.00181826	-104.66875480
LP Begin 89.97° lateral section									
9,653.29	89.97	359.90	7,411.00	-322.50	-3,345.49	14,527,570.30	1,733,179.82	40.00182473	-104.66875480



Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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
9,700.02	89.97	359.90	7,411.02	-275.77	-3,345.57	14,527,617.04	1,733,179.74	40.00195306	-104.66875446
9,800.02	89.97	359.90	7,411.08	-175.77	-3,345.74	14,527,717.04	1,733,179.57	40.00222768	-104.66875374
9,900.02	89.97	359.90	7,411.13	-75.77	-3,345.91	14,527,817.04	1,733,179.40	40.00250229	-104.66875303
10,000.02	89.97	359.90	7,411.18	24.23	-3,346.08	14,527,917.04	1,733,179.23	40.00277691	-104.66875231
10,100.02	89.97	359.90	7,411.23	124.23	-3,346.25	14,528,017.04	1,733,179.06	40.00305152	-104.66875159
10,200.02	89.97	359.90	7,411.28	224.23	-3,346.42	14,528,117.04	1,733,178.89	40.00332614	-104.66875087
10,300.02	89.97	359.90	7,411.33	324.23	-3,346.59	14,528,217.04	1,733,178.71	40.00360076	-104.66875016
10,400.02	89.97	359.90	7,411.39	424.23	-3,346.76	14,528,317.03	1,733,178.54	40.00387537	-104.66874944
10,500.02	89.97	359.90	7,411.44	524.23	-3,346.93	14,528,417.03	1,733,178.37	40.00414999	-104.66874872
10,600.02	89.97	359.90	7,411.49	624.23	-3,347.10	14,528,517.03	1,733,178.20	40.00442460	-104.66874800
10,700.02	89.97	359.90	7,411.54	724.23	-3,347.27	14,528,617.03	1,733,178.03	40.00469922	-104.66874729
10,800.02	89.97	359.90	7,411.59	824.23	-3,347.44	14,528,717.03	1,733,177.86	40.00497383	-104.66874657
10,900.02	89.97	359.90	7,411.65	924.23	-3,347.62	14,528,817.03	1,733,177.69	40.00524845	-104.66874585
11,000.02	89.97	359.90	7,411.70	1,024.23	-3,347.79	14,528,917.03	1,733,177.52	40.00552307	-104.66874513
11,100.02	89.97	359.90	7,411.75	1,124.23	-3,347.96	14,529,017.03	1,733,177.35	40.00579768	-104.66874442
11,200.02	89.97	359.90	7,411.80	1,224.23	-3,348.13	14,529,117.03	1,733,177.18	40.00607230	-104.66874370
11,300.02	89.97	359.90	7,411.85	1,324.23	-3,348.30	14,529,217.03	1,733,177.01	40.00634691	-104.66874298
11,400.02	89.97	359.90	7,411.90	1,424.23	-3,348.47	14,529,317.03	1,733,176.84	40.00662153	-104.66874226
11,500.02	89.97	359.90	7,411.96	1,524.23	-3,348.64	14,529,417.03	1,733,176.67	40.00689615	-104.66874155
11,600.02	89.97	359.90	7,412.01	1,624.23	-3,348.81	14,529,517.03	1,733,176.50	40.00717076	-104.66874083
11,700.02	89.97	359.90	7,412.06	1,724.23	-3,348.98	14,529,617.03	1,733,176.32	40.00744538	-104.66874011
11,800.02	89.97	359.90	7,412.11	1,824.23	-3,349.15	14,529,717.03	1,733,176.15	40.00771999	-104.66873939
11,900.02	89.97	359.90	7,412.16	1,924.23	-3,349.32	14,529,817.03	1,733,175.98	40.00799461	-104.66873867
12,000.02	89.97	359.90	7,412.21	2,024.23	-3,349.49	14,529,917.03	1,733,175.81	40.00826922	-104.66873796
12,100.02	89.97	359.90	7,412.27	2,124.23	-3,349.66	14,530,017.03	1,733,175.64	40.00854384	-104.66873724
12,200.02	89.97	359.90	7,412.32	2,224.23	-3,349.83	14,530,117.03	1,733,175.47	40.00881846	-104.66873652
12,300.02	89.97	359.90	7,412.37	2,324.23	-3,350.01	14,530,217.03	1,733,175.30	40.00909307	-104.66873580
12,400.03	89.97	359.90	7,412.42	2,424.23	-3,350.18	14,530,317.03	1,733,175.13	40.00936769	-104.66873509
12,500.03	89.97	359.90	7,412.47	2,524.23	-3,350.35	14,530,417.03	1,733,174.96	40.00964230	-104.66873437
12,600.03	89.97	359.90	7,412.53	2,624.23	-3,350.52	14,530,517.03	1,733,174.79	40.00991692	-104.66873365
12,700.03	89.97	359.90	7,412.58	2,724.23	-3,350.69	14,530,617.03	1,733,174.62	40.01019153	-104.66873293
12,800.03	89.97	359.90	7,412.63	2,824.23	-3,350.86	14,530,717.03	1,733,174.45	40.01046615	-104.66873221
12,900.03	89.97	359.90	7,412.68	2,924.23	-3,351.03	14,530,817.03	1,733,174.28	40.01074076	-104.66873150
13,000.03	89.97	359.90	7,412.73	3,024.23	-3,351.20	14,530,917.03	1,733,174.11	40.01101538	-104.66873078
13,100.03	89.97	359.90	7,412.78	3,124.23	-3,351.37	14,531,017.03	1,733,173.93	40.01129000	-104.66873006
13,200.03	89.97	359.90	7,412.84	3,224.23	-3,351.54	14,531,117.03	1,733,173.76	40.01156461	-104.66872934
13,300.03	89.97	359.90	7,412.89	3,324.23	-3,351.71	14,531,217.03	1,733,173.59	40.01183923	-104.66872862
13,400.03	89.97	359.90	7,412.94	3,424.23	-3,351.88	14,531,317.03	1,733,173.42	40.01211384	-104.66872791
13,500.03	89.97	359.90	7,412.99	3,524.23	-3,352.05	14,531,417.03	1,733,173.25	40.01238846	-104.66872719
13,600.03	89.97	359.90	7,413.04	3,624.23	-3,352.22	14,531,517.03	1,733,173.08	40.01266307	-104.66872647
13,700.03	89.97	359.90	7,413.09	3,724.23	-3,352.40	14,531,617.03	1,733,172.91	40.01293769	-104.66872575
13,800.03	89.97	359.90	7,413.15	3,824.23	-3,352.57	14,531,717.03	1,733,172.74	40.01321230	-104.66872504
13,900.03	89.97	359.90	7,413.20	3,924.23	-3,352.74	14,531,817.03	1,733,172.57	40.01348692	-104.66872432
14,000.03	89.97	359.90	7,413.25	4,024.23	-3,352.91	14,531,917.03	1,733,172.40	40.01376153	-104.66872360
14,100.03	89.97	359.90	7,413.30	4,124.23	-3,353.08	14,532,017.03	1,733,172.23	40.01403615	-104.66872288
14,200.03	89.97	359.90	7,413.35	4,224.23	-3,353.25	14,532,117.03	1,733,172.06	40.01431077	-104.66872216
14,300.03	89.97	359.90	7,413.41	4,324.23	-3,353.42	14,532,217.03	1,733,171.89	40.01458538	-104.66872144
14,400.03	89.97	359.90	7,413.46	4,424.23	-3,353.59	14,532,317.03	1,733,171.72	40.01486000	-104.66872073
14,500.03	89.97	359.90	7,413.51	4,524.23	-3,353.76	14,532,417.03	1,733,171.54	40.01513461	-104.66872001
14,600.03	89.97	359.90	7,413.56	4,624.23	-3,353.93	14,532,517.03	1,733,171.37	40.01540923	-104.66871929
14,700.03	89.97	359.90	7,413.61	4,724.23	-3,354.10	14,532,617.03	1,733,171.20	40.01568384	-104.66871857
14,800.03	89.97	359.90	7,413.66	4,824.23	-3,354.27	14,532,717.03	1,733,171.03	40.01595846	-104.66871785
14,900.03	89.97	359.90	7,413.72	4,924.23	-3,354.44	14,532,817.03	1,733,170.86	40.01623307	-104.66871714
15,000.03	89.97	359.90	7,413.77	5,024.23	-3,354.61	14,532,917.03	1,733,170.69	40.01650769	-104.66871642
15,100.03	89.97	359.90	7,413.82	5,124.23	-3,354.79	14,533,017.03	1,733,170.52	40.01678230	-104.66871570

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	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
15,200.03	89.97	359.90	7,413.87	5,224.23	-3,354.96	14,533,117.03	1,733,170.35	40.01705692	-104.66871498
15,300.03	89.97	359.90	7,413.92	5,324.23	-3,355.13	14,533,217.03	1,733,170.18	40.01733153	-104.66871426
15,400.03	89.97	359.90	7,413.97	5,424.23	-3,355.30	14,533,317.03	1,733,170.01	40.01760615	-104.66871355
15,500.03	89.97	359.90	7,414.03	5,524.23	-3,355.47	14,533,417.03	1,733,169.84	40.01788076	-104.66871283
15,600.03	89.97	359.90	7,414.08	5,624.23	-3,355.64	14,533,517.03	1,733,169.67	40.01815538	-104.66871211
15,700.03	89.97	359.90	7,414.13	5,724.23	-3,355.81	14,533,617.03	1,733,169.50	40.01842999	-104.66871139
15,800.03	89.97	359.90	7,414.18	5,824.23	-3,355.98	14,533,717.03	1,733,169.33	40.01870461	-104.66871067
15,900.03	89.97	359.90	7,414.23	5,924.23	-3,356.15	14,533,817.03	1,733,169.15	40.01897922	-104.66870995
16,000.03	89.97	359.90	7,414.29	6,024.23	-3,356.32	14,533,917.03	1,733,168.98	40.01925384	-104.66870924
16,100.03	89.97	359.90	7,414.34	6,124.23	-3,356.49	14,534,017.03	1,733,168.81	40.01952845	-104.66870852
16,200.03	89.97	359.90	7,414.39	6,224.23	-3,356.66	14,534,117.03	1,733,168.64	40.01980307	-104.66870780
16,300.03	89.97	359.90	7,414.44	6,324.23	-3,356.83	14,534,217.03	1,733,168.47	40.02007768	-104.66870708
16,400.03	89.97	359.90	7,414.49	6,424.23	-3,357.00	14,534,317.03	1,733,168.30	40.02035230	-104.66870636
16,500.03	89.97	359.90	7,414.54	6,524.23	-3,357.18	14,534,417.03	1,733,168.13	40.02062692	-104.66870564
16,600.03	89.97	359.90	7,414.60	6,624.23	-3,357.35	14,534,517.03	1,733,167.96	40.02090153	-104.66870493
16,700.03	89.97	359.90	7,414.65	6,724.23	-3,357.52	14,534,617.03	1,733,167.79	40.02117615	-104.66870421
16,800.03	89.97	359.90	7,414.70	6,824.23	-3,357.69	14,534,717.02	1,733,167.62	40.02145076	-104.66870349
16,900.03	89.97	359.90	7,414.75	6,924.23	-3,357.86	14,534,817.02	1,733,167.45	40.02172538	-104.66870277
17,000.03	89.97	359.90	7,414.80	7,024.23	-3,358.03	14,534,917.02	1,733,167.28	40.02199999	-104.66870205
17,100.03	89.97	359.90	7,414.85	7,124.23	-3,358.20	14,535,017.02	1,733,167.11	40.02227461	-104.66870133
17,200.03	89.97	359.90	7,414.91	7,224.23	-3,358.37	14,535,117.02	1,733,166.94	40.02254922	-104.66870062
17,300.03	89.97	359.90	7,414.96	7,324.23	-3,358.54	14,535,217.02	1,733,166.76	40.02282384	-104.66869990
17,400.04	89.97	359.90	7,415.01	7,424.23	-3,358.71	14,535,317.02	1,733,166.59	40.02309845	-104.66869918
17,500.04	89.97	359.90	7,415.06	7,524.23	-3,358.88	14,535,417.02	1,733,166.42	40.02337307	-104.66869846
17,600.04	89.97	359.90	7,415.11	7,624.23	-3,359.05	14,535,517.02	1,733,166.25	40.02364768	-104.66869774
17,700.04	89.97	359.90	7,415.17	7,724.23	-3,359.22	14,535,617.02	1,733,166.08	40.02392229	-104.66869702
17,800.04	89.97	359.90	7,415.22	7,824.23	-3,359.39	14,535,717.02	1,733,165.91	40.02419691	-104.66869630
17,900.04	89.97	359.90	7,415.27	7,924.23	-3,359.57	14,535,817.02	1,733,165.74	40.02447152	-104.66869559
18,000.04	89.97	359.90	7,415.32	8,024.23	-3,359.74	14,535,917.02	1,733,165.57	40.02474614	-104.66869487
18,100.04	89.97	359.90	7,415.37	8,124.23	-3,359.91	14,536,017.02	1,733,165.40	40.02502075	-104.66869415
18,200.04	89.97	359.90	7,415.42	8,224.23	-3,360.08	14,536,117.02	1,733,165.23	40.02529537	-104.66869343
18,300.04	89.97	359.90	7,415.48	8,324.23	-3,360.25	14,536,217.02	1,733,165.06	40.02556998	-104.66869271
18,400.04	89.97	359.90	7,415.53	8,424.23	-3,360.42	14,536,317.02	1,733,164.89	40.02584460	-104.66869199
18,500.04	89.97	359.90	7,415.58	8,524.23	-3,360.59	14,536,417.02	1,733,164.72	40.02611921	-104.66869127
18,600.04	89.97	359.90	7,415.63	8,624.23	-3,360.76	14,536,517.02	1,733,164.55	40.02639383	-104.66869056
18,700.04	89.97	359.90	7,415.68	8,724.23	-3,360.93	14,536,617.02	1,733,164.37	40.02666844	-104.66868984
18,800.04	89.97	359.90	7,415.73	8,824.23	-3,361.10	14,536,717.02	1,733,164.20	40.02694306	-104.66868912
18,900.04	89.97	359.90	7,415.79	8,924.23	-3,361.27	14,536,817.02	1,733,164.03	40.02721767	-104.66868840
19,000.04	89.97	359.90	7,415.84	9,024.23	-3,361.44	14,536,917.02	1,733,163.86	40.02749229	-104.66868768
19,100.04	89.97	359.90	7,415.89	9,124.23	-3,361.61	14,537,017.02	1,733,163.69	40.02776690	-104.66868696
19,200.04	89.97	359.90	7,415.94	9,224.23	-3,361.78	14,537,117.02	1,733,163.52	40.02804152	-104.66868624
19,300.04	89.97	359.90	7,415.99	9,324.23	-3,361.96	14,537,217.02	1,733,163.35	40.02831613	-104.66868553
19,311.20	89.97	359.90	7,416.00	9,335.40	-3,361.97	14,537,228.18	1,733,163.33	40.02834678	-104.66868544
PBHL/TD 19311.20 MD 7416.00 TVD									
19,326.79	89.97	359.90	7,416.01	9,350.98	-3,362.00	14,537,243.77	1,733,163.30	40.02838959	-104.66868533

Database:	DB_Aug0116_LT_v14	Local Co-ordinate Reference:	Well Buford 33-05-3L
Company:	Confluence Resources	TVD Reference:	RKB=5136+25 @ 5161.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5136+25 @ 5161.00ft
Site:	Section 34-T01N-R65W	North Reference:	Grid
Well:	Buford 33-05-3L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
LP Buford 33-05-3L 470	0.00	359.79	7,411.00	-322.50	-3,345.49	14,527,570.30	1,733,179.82	40.00182473	-104.66875480
- plan hits target center									
- Point									
BHL Buford 33-05-3L 47	0.00	359.79	7,416.00	9,337.62	-3,399.18	14,537,230.40	1,733,126.13	40.02835327	-104.66881831
- plan misses target center by 37.27ft at 19311.20ft MD (7416.00 TVD, 9335.40 N, -3361.97 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build
5,592.77	5,492.54	-85.44	-266.90	Begin 59.28° tangent section
8,602.12	7,028.68	-874.39	-2,731.45	Begin 10°/100' build/turn
9,650.93	7,411.00	-324.86	-3,345.48	LP Begin 89.97° lateral section
19,311.20	7,416.00	9,335.40	-3,361.97	PBHL/TD 19311.20 MD 7416.00 TVD