



Weld County, Colorado
Section 33-T01N-R65W
Buford 33-09-1L
plan1

Azimuth Corrections:

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

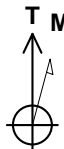
Buford 33-09-1L			
Surf Loc: 960 FSL 300 FWL Sect 33-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5077+25 @ 5102.00ft			
Northing	Easting	Latitude	Longitude
14528052.06	1730771.04	40.00317197	-104.67734988

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec	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	5437.21	43.72	170.09	5396.00	-156.50	27.33	10.00	-155.52	Begin 43.72° tangent
4	6543.29	43.72	170.09	6195.38	-909.57	158.86	0.00	-903.88	Begin 10°/100' build/turn
5	7871.40	89.89	359.92	7146.00	-490.91	313.11	10.00	-480.39	LP Begin 89.89° lateral section
6	17523.88	89.89	359.92	7165.00	9161.55	300.31	0.00	9166.47	PBHL/TD 17523.88 MD/7165.00 TVD

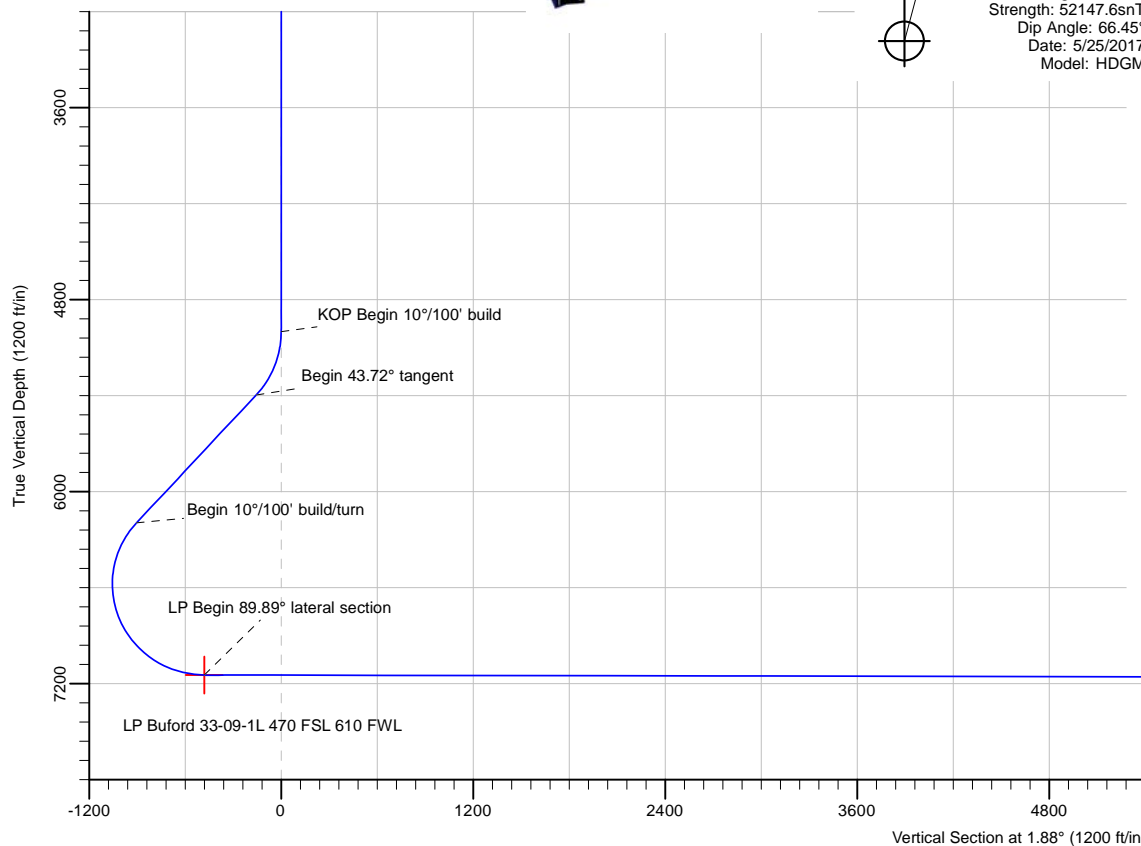
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP Buford 33-09-1L 470 FSL 610 FWL	7146.00	-490.91	313.11	14527562.29	1731085.92	40.00182386	-104.67623184
BHL Buford 33-09-1L 470 FSL 610 FWL	7165.00	9161.55	300.31	14537214.62	1731038.18	40.02833101	-104.67627709

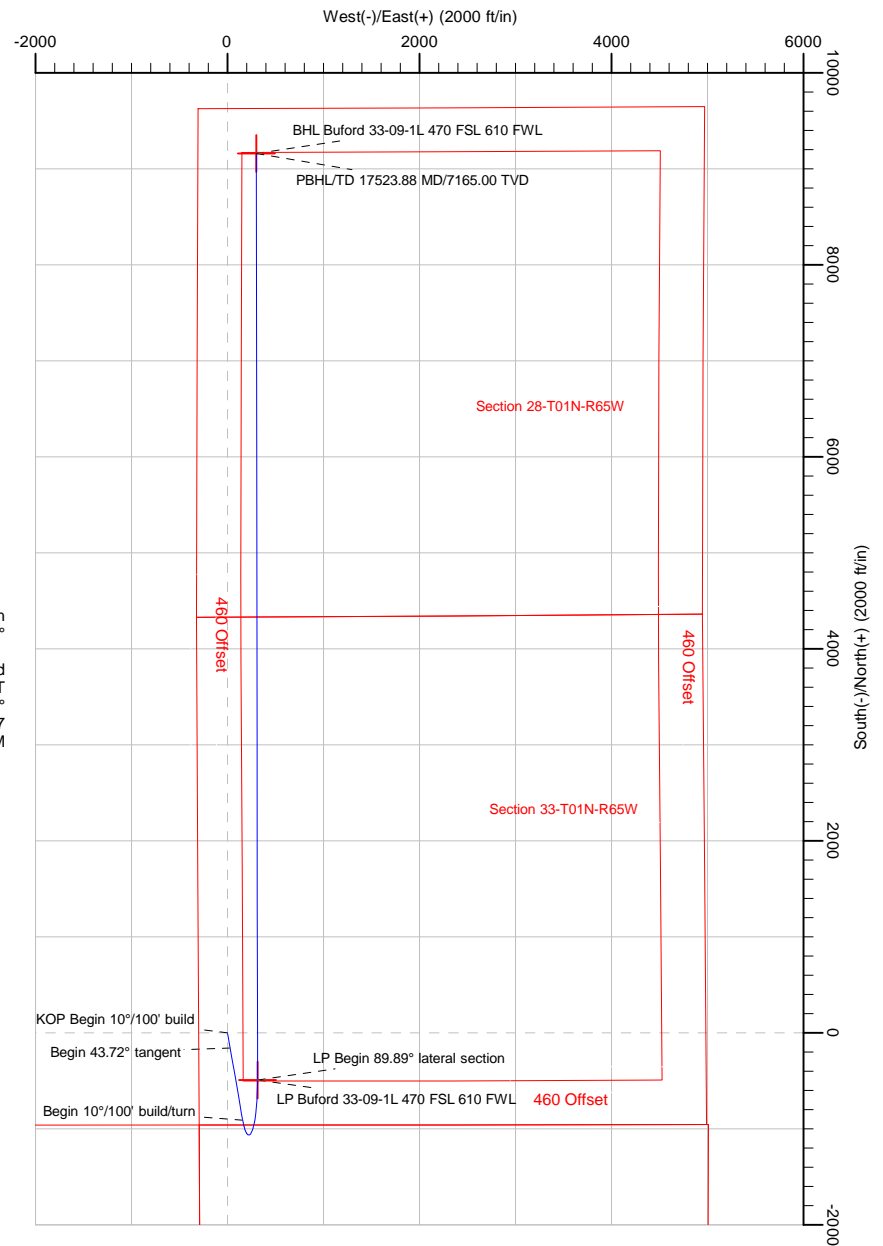


Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52147.6snT
Dip Angle: 66.45°
Date: 5/25/2017
Model: HDGM



Date: 21:51, May 25 2017



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

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Project	Weld County, Colorado		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Section 33-T01N-R65W			
Site Position:		Northing:	14,527,751.12 usft	Latitude:	40.00234552
From:	Map	Easting:	1,730,774.27 usft	Longitude:	-104.67734224
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	Buford 33-09-1L, Surf Loc: 960 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	300.95 ft	Northing:	14,528,052.06 usft	Latitude:	40.00317198
	+E/-W	-2.14 ft	Easting:	1,730,771.04 usft	Longitude:	-104.67734988
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,077.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/25/2017	8.28	66.45	52,147.60000000

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	1.88

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,523.88	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	
5,437.21	43.72	170.09	5,396.00	-156.50	27.33	10.00	10.00	0.00	170.09	
6,543.29	43.72	170.09	6,195.38	-909.57	158.86	0.00	0.00	0.00	0.00	
7,871.40	89.89	359.92	7,146.00	-490.91	313.11	10.00	3.48	-12.81	-166.54	LP Buford 33-09-1L 4'
17,523.88	89.89	359.92	7,165.00	9,161.55	300.31	0.00	0.00	0.00	0.00	BHL Buford 33-09-1L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	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
KOP Begin 10°/100' build									
5,100.00	10.00	170.09	5,099.49	-8.57	1.50	-8.52	10.00	10.00	0.00
5,200.00	20.00	170.09	5,195.96	-34.04	5.94	-33.83	10.00	10.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	30.00	170.09	5,286.48	-75.62	13.21	-75.14	10.00	10.00	0.00
5,400.00	40.00	170.09	5,368.29	-132.05	23.06	-131.22	10.00	10.00	0.00
5,437.21	43.72	170.09	5,396.00	-156.50	27.33	-155.52	10.00	10.00	0.00
Begin 43.72° tangent									
5,500.00	43.72	170.09	5,441.38	-199.25	34.80	-198.01	0.00	0.00	0.00
5,600.00	43.72	170.09	5,513.65	-267.34	46.69	-265.66	0.00	0.00	0.00
5,700.00	43.72	170.09	5,585.92	-335.42	58.58	-333.32	0.00	0.00	0.00
5,800.00	43.72	170.09	5,658.19	-403.51	70.47	-400.98	0.00	0.00	0.00
5,900.00	43.72	170.09	5,730.46	-471.59	82.37	-468.64	0.00	0.00	0.00
6,000.00	43.72	170.09	5,802.74	-539.67	94.26	-536.30	0.00	0.00	0.00
6,100.00	43.72	170.09	5,875.01	-607.76	106.15	-603.95	0.00	0.00	0.00
6,200.00	43.72	170.09	5,947.28	-675.84	118.04	-671.61	0.00	0.00	0.00
6,300.00	43.72	170.09	6,019.55	-743.93	129.93	-739.27	0.00	0.00	0.00
6,400.00	43.72	170.09	6,091.82	-812.01	141.82	-806.93	0.00	0.00	0.00
6,500.00	43.72	170.09	6,164.09	-880.09	153.71	-874.58	0.00	0.00	0.00
6,543.29	43.72	170.09	6,195.38	-909.57	158.86	-903.88	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,600.00	38.22	167.96	6,238.18	-946.06	165.90	-940.12	10.00	-9.69	-3.76
6,700.00	28.67	162.56	6,321.55	-999.34	179.57	-992.92	10.00	-9.56	-5.40
6,800.00	19.51	152.52	6,412.78	-1,037.14	194.50	-1,030.21	10.00	-9.16	-10.04
6,900.00	11.74	128.26	6,509.10	-1,058.31	210.24	-1,050.85	10.00	-7.77	-24.27
7,000.00	9.65	73.30	6,607.60	-1,062.21	226.30	-1,054.22	10.00	-2.09	-54.96
7,100.00	15.71	35.32	6,705.27	-1,048.72	242.19	-1,040.22	10.00	6.06	-37.98
7,200.00	24.46	20.90	6,799.15	-1,018.25	257.44	-1,009.27	10.00	8.76	-14.43
7,300.00	33.89	13.95	6,886.39	-971.73	271.59	-962.32	10.00	9.42	-6.95
7,400.00	43.55	9.78	6,964.34	-910.58	284.19	-900.78	10.00	9.66	-4.17
7,500.00	53.31	6.88	7,030.62	-836.63	294.87	-826.52	10.00	9.76	-2.90
7,600.00	63.13	4.64	7,083.22	-752.16	303.30	-741.82	10.00	9.82	-2.24
7,700.00	72.98	2.77	7,120.55	-659.71	309.24	-649.23	10.00	9.85	-1.88
7,800.00	82.84	1.08	7,141.48	-562.11	312.49	-551.57	10.00	9.86	-1.69
7,871.40	89.89	359.92	7,146.00	-490.91	313.11	-480.39	10.00	9.87	-1.62
LP Begin 89.89° lateral section									
7,900.00	89.89	359.92	7,146.06	-462.30	313.07	-451.80	0.00	0.00	0.00
8,000.00	89.89	359.92	7,146.25	-362.30	312.94	-351.86	0.00	0.00	0.00
8,100.00	89.89	359.92	7,146.45	-262.30	312.80	-251.92	0.00	0.00	0.00
8,200.00	89.89	359.92	7,146.65	-162.30	312.67	-151.97	0.00	0.00	0.00
8,300.00	89.89	359.92	7,146.84	-62.30	312.54	-52.03	0.00	0.00	0.00
8,400.00	89.89	359.92	7,147.04	37.69	312.40	47.91	0.00	0.00	0.00
8,500.00	89.89	359.92	7,147.24	137.69	312.27	147.85	0.00	0.00	0.00
8,600.00	89.89	359.92	7,147.43	237.69	312.14	247.79	0.00	0.00	0.00
8,700.00	89.89	359.92	7,147.63	337.69	312.01	347.73	0.00	0.00	0.00
8,800.00	89.89	359.92	7,147.83	437.69	311.87	447.68	0.00	0.00	0.00
8,900.00	89.89	359.92	7,148.02	537.69	311.74	547.62	0.00	0.00	0.00
9,000.00	89.89	359.92	7,148.22	637.69	311.61	647.56	0.00	0.00	0.00
9,100.00	89.89	359.92	7,148.42	737.69	311.48	747.50	0.00	0.00	0.00
9,200.00	89.89	359.92	7,148.62	837.69	311.34	847.44	0.00	0.00	0.00
9,300.00	89.89	359.92	7,148.81	937.69	311.21	947.38	0.00	0.00	0.00
9,400.00	89.89	359.92	7,149.01	1,037.69	311.08	1,047.33	0.00	0.00	0.00
9,500.00	89.89	359.92	7,149.21	1,137.69	310.95	1,147.27	0.00	0.00	0.00
9,600.00	89.89	359.92	7,149.40	1,237.69	310.81	1,247.21	0.00	0.00	0.00
9,700.00	89.89	359.92	7,149.60	1,337.69	310.68	1,347.15	0.00	0.00	0.00
9,800.00	89.89	359.92	7,149.80	1,437.69	310.55	1,447.09	0.00	0.00	0.00
9,900.00	89.89	359.92	7,149.99	1,537.69	310.42	1,547.04	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,000.00	89.89	359.92	7,150.19	1,637.69	310.28	1,646.98	0.00	0.00	0.00
10,100.00	89.89	359.92	7,150.39	1,737.69	310.15	1,746.92	0.00	0.00	0.00
10,200.00	89.89	359.92	7,150.58	1,837.69	310.02	1,846.86	0.00	0.00	0.00
10,300.00	89.89	359.92	7,150.78	1,937.69	309.89	1,946.80	0.00	0.00	0.00
10,400.00	89.89	359.92	7,150.98	2,037.69	309.75	2,046.74	0.00	0.00	0.00
10,500.00	89.89	359.92	7,151.17	2,137.69	309.62	2,146.69	0.00	0.00	0.00
10,600.00	89.89	359.92	7,151.37	2,237.69	309.49	2,246.63	0.00	0.00	0.00
10,700.00	89.89	359.92	7,151.57	2,337.69	309.36	2,346.57	0.00	0.00	0.00
10,800.00	89.89	359.92	7,151.76	2,437.69	309.22	2,446.51	0.00	0.00	0.00
10,900.00	89.89	359.92	7,151.96	2,537.69	309.09	2,546.45	0.00	0.00	0.00
11,000.00	89.89	359.92	7,152.16	2,637.69	308.96	2,646.39	0.00	0.00	0.00
11,100.00	89.89	359.92	7,152.36	2,737.69	308.83	2,746.34	0.00	0.00	0.00
11,200.00	89.89	359.92	7,152.55	2,837.69	308.69	2,846.28	0.00	0.00	0.00
11,300.00	89.89	359.92	7,152.75	2,937.69	308.56	2,946.22	0.00	0.00	0.00
11,400.00	89.89	359.92	7,152.95	3,037.69	308.43	3,046.16	0.00	0.00	0.00
11,500.00	89.89	359.92	7,153.14	3,137.69	308.30	3,146.10	0.00	0.00	0.00
11,600.00	89.89	359.92	7,153.34	3,237.69	308.16	3,246.04	0.00	0.00	0.00
11,700.00	89.89	359.92	7,153.54	3,337.69	308.03	3,345.99	0.00	0.00	0.00
11,800.00	89.89	359.92	7,153.73	3,437.69	307.90	3,445.93	0.00	0.00	0.00
11,900.00	89.89	359.92	7,153.93	3,537.69	307.76	3,545.87	0.00	0.00	0.00
12,000.00	89.89	359.92	7,154.13	3,637.68	307.63	3,645.81	0.00	0.00	0.00
12,100.00	89.89	359.92	7,154.32	3,737.68	307.50	3,745.75	0.00	0.00	0.00
12,200.00	89.89	359.92	7,154.52	3,837.68	307.37	3,845.69	0.00	0.00	0.00
12,300.00	89.89	359.92	7,154.72	3,937.68	307.23	3,945.64	0.00	0.00	0.00
12,400.00	89.89	359.92	7,154.91	4,037.68	307.10	4,045.58	0.00	0.00	0.00
12,500.00	89.89	359.92	7,155.11	4,137.68	306.97	4,145.52	0.00	0.00	0.00
12,600.00	89.89	359.92	7,155.31	4,237.68	306.84	4,245.46	0.00	0.00	0.00
12,700.00	89.89	359.92	7,155.50	4,337.68	306.70	4,345.40	0.00	0.00	0.00
12,800.00	89.89	359.92	7,155.70	4,437.68	306.57	4,445.34	0.00	0.00	0.00
12,900.00	89.89	359.92	7,155.90	4,537.68	306.44	4,545.29	0.00	0.00	0.00
13,000.00	89.89	359.92	7,156.10	4,637.68	306.31	4,645.23	0.00	0.00	0.00
13,100.00	89.89	359.92	7,156.29	4,737.68	306.17	4,745.17	0.00	0.00	0.00
13,200.00	89.89	359.92	7,156.49	4,837.68	306.04	4,845.11	0.00	0.00	0.00
13,300.00	89.89	359.92	7,156.69	4,937.68	305.91	4,945.05	0.00	0.00	0.00
13,400.00	89.89	359.92	7,156.88	5,037.68	305.78	5,044.99	0.00	0.00	0.00
13,500.00	89.89	359.92	7,157.08	5,137.68	305.64	5,144.94	0.00	0.00	0.00
13,600.00	89.89	359.92	7,157.28	5,237.68	305.51	5,244.88	0.00	0.00	0.00
13,700.00	89.89	359.92	7,157.47	5,337.68	305.38	5,344.82	0.00	0.00	0.00
13,800.00	89.89	359.92	7,157.67	5,437.68	305.25	5,444.76	0.00	0.00	0.00
13,900.00	89.89	359.92	7,157.87	5,537.68	305.11	5,544.70	0.00	0.00	0.00
14,000.00	89.89	359.92	7,158.06	5,637.68	304.98	5,644.64	0.00	0.00	0.00
14,100.00	89.89	359.92	7,158.26	5,737.68	304.85	5,744.59	0.00	0.00	0.00
14,200.00	89.89	359.92	7,158.46	5,837.68	304.72	5,844.53	0.00	0.00	0.00
14,300.00	89.89	359.92	7,158.65	5,937.68	304.58	5,944.47	0.00	0.00	0.00
14,400.00	89.89	359.92	7,158.85	6,037.68	304.45	6,044.41	0.00	0.00	0.00
14,500.00	89.89	359.92	7,159.05	6,137.68	304.32	6,144.35	0.00	0.00	0.00
14,600.00	89.89	359.92	7,159.24	6,237.68	304.19	6,244.29	0.00	0.00	0.00
14,700.00	89.89	359.92	7,159.44	6,337.68	304.05	6,344.24	0.00	0.00	0.00
14,800.00	89.89	359.92	7,159.64	6,437.68	303.92	6,444.18	0.00	0.00	0.00
14,900.00	89.89	359.92	7,159.84	6,537.68	303.79	6,544.12	0.00	0.00	0.00
15,000.00	89.89	359.92	7,160.03	6,637.68	303.66	6,644.06	0.00	0.00	0.00
15,100.00	89.89	359.92	7,160.23	6,737.68	303.52	6,744.00	0.00	0.00	0.00
15,200.00	89.89	359.92	7,160.43	6,837.68	303.39	6,843.94	0.00	0.00	0.00
15,300.00	89.89	359.92	7,160.62	6,937.68	303.26	6,943.89	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
15,400.00	89.89	359.92	7,160.82	7,037.68	303.12	7,043.83	0.00	0.00	0.00	
15,500.00	89.89	359.92	7,161.02	7,137.68	302.99	7,143.77	0.00	0.00	0.00	
15,600.00	89.89	359.92	7,161.21	7,237.67	302.86	7,243.71	0.00	0.00	0.00	
15,700.00	89.89	359.92	7,161.41	7,337.67	302.73	7,343.65	0.00	0.00	0.00	
15,800.00	89.89	359.92	7,161.61	7,437.67	302.59	7,443.60	0.00	0.00	0.00	
15,900.00	89.89	359.92	7,161.80	7,537.67	302.46	7,543.54	0.00	0.00	0.00	
16,000.00	89.89	359.92	7,162.00	7,637.67	302.33	7,643.48	0.00	0.00	0.00	
16,100.00	89.89	359.92	7,162.20	7,737.67	302.20	7,743.42	0.00	0.00	0.00	
16,200.00	89.89	359.92	7,162.39	7,837.67	302.06	7,843.36	0.00	0.00	0.00	
16,300.00	89.89	359.92	7,162.59	7,937.67	301.93	7,943.30	0.00	0.00	0.00	
16,400.00	89.89	359.92	7,162.79	8,037.67	301.80	8,043.25	0.00	0.00	0.00	
16,500.00	89.89	359.92	7,162.98	8,137.67	301.67	8,143.19	0.00	0.00	0.00	
16,600.00	89.89	359.92	7,163.18	8,237.67	301.53	8,243.13	0.00	0.00	0.00	
16,700.00	89.89	359.92	7,163.38	8,337.67	301.40	8,343.07	0.00	0.00	0.00	
16,800.00	89.89	359.92	7,163.58	8,437.67	301.27	8,443.01	0.00	0.00	0.00	
16,900.00	89.89	359.92	7,163.77	8,537.67	301.14	8,542.95	0.00	0.00	0.00	
17,000.00	89.89	359.92	7,163.97	8,637.67	301.00	8,642.90	0.00	0.00	0.00	
17,100.00	89.89	359.92	7,164.17	8,737.67	300.87	8,742.84	0.00	0.00	0.00	
17,200.00	89.89	359.92	7,164.36	8,837.67	300.74	8,842.78	0.00	0.00	0.00	
17,300.00	89.89	359.92	7,164.56	8,937.67	300.61	8,942.72	0.00	0.00	0.00	
17,400.00	89.89	359.92	7,164.76	9,037.67	300.47	9,042.66	0.00	0.00	0.00	
17,500.00	89.89	359.92	7,164.95	9,137.67	300.34	9,142.60	0.00	0.00	0.00	
17,523.88	89.89	359.92	7,165.00	9,161.55	300.31	9,166.47	0.00	0.00	0.00	
PBHL/TD 17523.88 MD/7165.00 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 33-09-1L 470 - plan hits target center - Point	0.00	0.00	7,146.00	-490.91	313.11	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
BHL Buford 33-09-1L 47 - plan hits target center - Point	0.00	0.00	7,165.00	9,161.55	300.31	14,537,214.62	1,731,038.18	40.02833101	-104.67627709

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	
5,437.21	5,396.00	-156.50	27.33	Begin 43.72° tangent	
6,543.29	6,195.38	-909.57	158.86	Begin 10°/100' build/turn	
7,871.40	7,146.00	-490.91	313.11	LP Begin 89.89° lateral section	
17,523.88	7,165.00	9,161.55	300.31	PBHL/TD 17523.88 MD/7165.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Project	Weld County, Colorado		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		Section 33-T01N-R65W			
Site Position:		Northing:	14,527,751.12 usft	Latitude:	40.00234552
From:	Map	Easting:	1,730,774.27 usft	Longitude:	-104.67734224
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	Buford 33-09-1L, Surf Loc: 960 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,528,052.06 usft	Latitude:	40.00317198
	+E/-W	0.00 ft	Easting:	1,730,771.04 usft	Longitude:	-104.67734988
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,077.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/25/2017	8.28	66.45	52,147.60000000

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	1.88

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,523.88 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	
5,437.21	43.72	170.09	5,396.00	-156.50	27.33	10.00	10.00	0.00	170.09	
6,543.29	43.72	170.09	6,195.38	-909.57	158.86	0.00	0.00	0.00	0.00	
7,871.40	89.89	359.92	7,146.00	-490.91	313.11	10.00	3.48	-12.81	-166.54	LP Buford 33-09-1L 4'
17,523.88	89.89	359.92	7,165.00	9,161.55	300.31	0.00	0.00	0.00	0.00	BHL Buford 33-09-1L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
100.00	0.00	0.00	100.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
200.00	0.00	0.00	200.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
300.00	0.00	0.00	300.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
400.00	0.00	0.00	400.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
500.00	0.00	0.00	500.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
600.00	0.00	0.00	600.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
700.00	0.00	0.00	700.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
800.00	0.00	0.00	800.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
900.00	0.00	0.00	900.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,528,052.06	1,730,771.04	40.00317198	-104.67734988
KOP Begin 10°/100' build									
5,100.00	10.00	170.09	5,099.49	-8.57	1.50	14,528,043.50	1,730,772.57	40.00314843	-104.67734453
5,200.00	20.00	170.09	5,195.96	-34.04	5.94	14,528,018.05	1,730,777.11	40.00307850	-104.67732865

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,300.00	30.00	170.09	5,286.48	-75.62	13.21	14,527,976.50	1,730,784.52	40.00296432	-104.67730272
5,400.00	40.00	170.09	5,368.29	-132.05	23.06	14,527,920.10	1,730,794.58	40.00280935	-104.67726753
5,437.21	43.72	170.09	5,396.00	-156.50	27.33	14,527,895.66	1,730,798.94	40.00274219	-104.67725227
Begin 43.72° tangent									
5,500.00	43.72	170.09	5,441.38	-199.25	34.80	14,527,852.94	1,730,806.56	40.00262479	-104.67722561
5,600.00	43.72	170.09	5,513.65	-267.34	46.69	14,527,784.90	1,730,818.70	40.00243782	-104.67718315
5,700.00	43.72	170.09	5,585.92	-335.42	58.58	14,527,716.86	1,730,830.84	40.00225085	-104.67714069
5,800.00	43.72	170.09	5,658.19	-403.51	70.47	14,527,648.82	1,730,842.97	40.00206388	-104.67709823
5,900.00	43.72	170.09	5,730.46	-471.59	82.37	14,527,580.78	1,730,855.11	40.00187692	-104.67705577
6,000.00	43.72	170.09	5,802.74	-539.67	94.26	14,527,512.74	1,730,867.25	40.00168995	-104.67701331
6,100.00	43.72	170.09	5,875.01	-607.76	106.15	14,527,444.70	1,730,879.39	40.00150298	-104.67697085
6,200.00	43.72	170.09	5,947.28	-675.84	118.04	14,527,376.66	1,730,891.52	40.00131601	-104.67692839
6,300.00	43.72	170.09	6,019.55	-743.93	129.93	14,527,308.62	1,730,903.66	40.00112904	-104.67688593
6,400.00	43.72	170.09	6,091.82	-812.01	141.82	14,527,240.58	1,730,915.80	40.00094207	-104.67684347
6,500.00	43.72	170.09	6,164.09	-880.09	153.71	14,527,172.54	1,730,927.94	40.00075510	-104.67680101
6,543.29	43.72	170.09	6,195.38	-909.57	158.86	14,527,143.08	1,730,933.19	40.00067415	-104.67678263
Begin 10°/100' build/turn									
6,600.00	38.22	167.96	6,238.18	-946.06	165.90	14,527,106.61	1,730,940.36	40.00057394	-104.67675750
6,700.00	28.67	162.56	6,321.55	-999.34	179.57	14,527,053.39	1,730,954.23	40.00042763	-104.67670868
6,800.00	19.51	152.52	6,412.78	-1,037.14	194.50	14,527,015.64	1,730,969.29	40.00032383	-104.67665536
6,900.00	11.74	128.26	6,509.10	-1,058.31	210.24	14,526,994.53	1,730,985.10	40.00026569	-104.67659918
7,000.00	9.65	73.30	6,607.60	-1,062.21	226.30	14,526,990.68	1,731,001.18	40.00025498	-104.67654183
7,100.00	15.71	35.32	6,705.27	-1,048.72	242.19	14,527,004.23	1,731,017.03	40.00029202	-104.67648507
7,200.00	24.46	20.90	6,799.15	-1,018.25	257.44	14,527,034.75	1,731,032.17	40.00037568	-104.67643061
7,300.00	33.89	13.95	6,886.39	-971.73	271.59	14,527,081.32	1,731,046.14	40.00050343	-104.67638011
7,400.00	43.55	9.78	6,964.34	-910.58	284.19	14,527,142.53	1,731,058.52	40.00067139	-104.67633511
7,500.00	53.31	6.88	7,030.62	-836.63	294.87	14,527,216.51	1,731,068.93	40.00087444	-104.67629696
7,600.00	63.13	4.64	7,083.22	-752.16	303.30	14,527,301.01	1,731,077.06	40.00110642	-104.67626684
7,700.00	72.98	2.77	7,120.55	-659.71	309.24	14,527,393.48	1,731,082.66	40.00136029	-104.67624566
7,800.00	82.84	1.08	7,141.48	-562.11	312.49	14,527,491.09	1,731,085.56	40.00162832	-104.67623405
7,871.40	89.89	359.92	7,146.00	-490.91	313.11	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
LP Begin 89.89° lateral section									
7,900.00	89.89	359.92	7,146.06	-462.30	313.07	14,527,590.90	1,731,085.78	40.00190241	-104.67623197
8,000.00	89.89	359.92	7,146.25	-362.30	312.94	14,527,690.90	1,731,085.28	40.00217703	-104.67623244
8,100.00	89.89	359.92	7,146.45	-262.30	312.80	14,527,790.90	1,731,084.79	40.00245164	-104.67623290
8,200.00	89.89	359.92	7,146.65	-162.30	312.67	14,527,890.89	1,731,084.29	40.00272626	-104.67623337
8,300.00	89.89	359.92	7,146.84	-62.30	312.54	14,527,990.89	1,731,083.80	40.00300087	-104.67623384
8,400.00	89.89	359.92	7,147.04	37.69	312.40	14,528,090.89	1,731,083.30	40.00327549	-104.67623431
8,500.00	89.89	359.92	7,147.24	137.69	312.27	14,528,190.89	1,731,082.81	40.00355010	-104.67623478
8,600.00	89.89	359.92	7,147.43	237.69	312.14	14,528,290.89	1,731,082.32	40.00382472	-104.67623525
8,700.00	89.89	359.92	7,147.63	337.69	312.01	14,528,390.89	1,731,081.82	40.00409933	-104.67623572
8,800.00	89.89	359.92	7,147.83	437.69	311.87	14,528,490.88	1,731,081.33	40.00437395	-104.67623619
8,900.00	89.89	359.92	7,148.02	537.69	311.74	14,528,590.88	1,731,080.83	40.00464856	-104.67623666
9,000.00	89.89	359.92	7,148.22	637.69	311.61	14,528,690.88	1,731,080.34	40.00492318	-104.67623713
9,100.00	89.89	359.92	7,148.42	737.69	311.48	14,528,790.88	1,731,079.84	40.00519779	-104.67623759
9,200.00	89.89	359.92	7,148.62	837.69	311.34	14,528,890.88	1,731,079.35	40.00547241	-104.67623806
9,300.00	89.89	359.92	7,148.81	937.69	311.21	14,528,990.88	1,731,078.85	40.00574702	-104.67623853
9,400.00	89.89	359.92	7,149.01	1,037.69	311.08	14,529,090.87	1,731,078.36	40.00602164	-104.67623900
9,500.00	89.89	359.92	7,149.21	1,137.69	310.95	14,529,190.87	1,731,077.86	40.00629626	-104.67623947
9,600.00	89.89	359.92	7,149.40	1,237.69	310.81	14,529,290.87	1,731,077.37	40.00657087	-104.67623994
9,700.00	89.89	359.92	7,149.60	1,337.69	310.68	14,529,390.87	1,731,076.87	40.00684549	-104.67624041
9,800.00	89.89	359.92	7,149.80	1,437.69	310.55	14,529,490.87	1,731,076.38	40.00712010	-104.67624088
9,900.00	89.89	359.92	7,149.99	1,537.69	310.42	14,529,590.87	1,731,075.89	40.00739472	-104.67624135
10,000.00	89.89	359.92	7,150.19	1,637.69	310.28	14,529,690.86	1,731,075.39	40.00766933	-104.67624182

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.00	89.89	359.92	7,150.39	1,737.69	310.15	14,529,790.86	1,731,074.90	40.00794395	-104.67624228
10,200.00	89.89	359.92	7,150.58	1,837.69	310.02	14,529,890.86	1,731,074.40	40.00821856	-104.67624275
10,300.00	89.89	359.92	7,150.78	1,937.69	309.89	14,529,990.86	1,731,073.91	40.00849318	-104.67624322
10,400.00	89.89	359.92	7,150.98	2,037.69	309.75	14,530,090.86	1,731,073.41	40.00876779	-104.67624369
10,500.00	89.89	359.92	7,151.17	2,137.69	309.62	14,530,190.86	1,731,072.92	40.00904241	-104.67624416
10,600.00	89.89	359.92	7,151.37	2,237.69	309.49	14,530,290.85	1,731,072.42	40.00931702	-104.67624463
10,700.00	89.89	359.92	7,151.57	2,337.69	309.36	14,530,390.85	1,731,071.93	40.00959164	-104.67624510
10,800.00	89.89	359.92	7,151.76	2,437.69	309.22	14,530,490.85	1,731,071.43	40.00986625	-104.67624557
10,900.00	89.89	359.92	7,151.96	2,537.69	309.09	14,530,590.85	1,731,070.94	40.01014087	-104.67624604
11,000.00	89.89	359.92	7,152.16	2,637.69	308.96	14,530,690.85	1,731,070.45	40.01041548	-104.67624650
11,100.00	89.89	359.92	7,152.36	2,737.69	308.83	14,530,790.85	1,731,069.95	40.01069010	-104.67624697
11,200.00	89.89	359.92	7,152.55	2,837.69	308.69	14,530,890.85	1,731,069.46	40.01096471	-104.67624744
11,300.00	89.89	359.92	7,152.75	2,937.69	308.56	14,530,990.84	1,731,068.96	40.01123933	-104.67624791
11,400.00	89.89	359.92	7,152.95	3,037.69	308.43	14,531,090.84	1,731,068.47	40.01151394	-104.67624838
11,500.00	89.89	359.92	7,153.14	3,137.69	308.30	14,531,190.84	1,731,067.97	40.01178856	-104.67624885
11,600.00	89.89	359.92	7,153.34	3,237.69	308.16	14,531,290.84	1,731,067.48	40.01206317	-104.67624932
11,700.00	89.89	359.92	7,153.54	3,337.69	308.03	14,531,390.84	1,731,066.98	40.01233779	-104.67624979
11,800.00	89.89	359.92	7,153.73	3,437.69	307.90	14,531,490.84	1,731,066.49	40.01261240	-104.67625026
11,900.00	89.89	359.92	7,153.93	3,537.69	307.76	14,531,590.83	1,731,065.99	40.01288702	-104.67625072
12,000.00	89.89	359.92	7,154.13	3,637.68	307.63	14,531,690.83	1,731,065.50	40.01316163	-104.67625119
12,100.00	89.89	359.92	7,154.32	3,737.68	307.50	14,531,790.83	1,731,065.00	40.01343624	-104.67625166
12,200.00	89.89	359.92	7,154.52	3,837.68	307.37	14,531,890.83	1,731,064.51	40.01371086	-104.67625213
12,300.00	89.89	359.92	7,154.72	3,937.68	307.23	14,531,990.83	1,731,064.02	40.01398547	-104.67625260
12,400.00	89.89	359.92	7,154.91	4,037.68	307.10	14,532,090.83	1,731,063.52	40.01426009	-104.67625307
12,500.00	89.89	359.92	7,155.11	4,137.68	306.97	14,532,190.82	1,731,063.03	40.01453470	-104.67625354
12,600.00	89.89	359.92	7,155.31	4,237.68	306.84	14,532,290.82	1,731,062.53	40.01480932	-104.67625401
12,700.00	89.89	359.92	7,155.50	4,337.68	306.70	14,532,390.82	1,731,062.04	40.01508393	-104.67625448
12,800.00	89.89	359.92	7,155.70	4,437.68	306.57	14,532,490.82	1,731,061.54	40.01535855	-104.67625494
12,900.00	89.89	359.92	7,155.90	4,537.68	306.44	14,532,590.82	1,731,061.05	40.01563316	-104.67625541
13,000.00	89.89	359.92	7,156.10	4,637.68	306.31	14,532,690.82	1,731,060.55	40.01590778	-104.67625588
13,100.00	89.89	359.92	7,156.29	4,737.68	306.17	14,532,790.81	1,731,060.06	40.01618239	-104.67625635
13,200.00	89.89	359.92	7,156.49	4,837.68	306.04	14,532,890.81	1,731,059.56	40.01645701	-104.67625682
13,300.00	89.89	359.92	7,156.69	4,937.68	305.91	14,532,990.81	1,731,059.07	40.01673162	-104.67625729
13,400.00	89.89	359.92	7,156.88	5,037.68	305.78	14,533,090.81	1,731,058.57	40.01700624	-104.67625776
13,500.00	89.89	359.92	7,157.08	5,137.68	305.64	14,533,190.81	1,731,058.08	40.01728085	-104.67625823
13,600.00	89.89	359.92	7,157.28	5,237.68	305.51	14,533,290.81	1,731,057.59	40.01755547	-104.67625869
13,700.00	89.89	359.92	7,157.47	5,337.68	305.38	14,533,390.80	1,731,057.09	40.01783008	-104.67625916
13,800.00	89.89	359.92	7,157.67	5,437.68	305.25	14,533,490.80	1,731,056.60	40.01810469	-104.67625963
13,900.00	89.89	359.92	7,157.87	5,537.68	305.11	14,533,590.80	1,731,056.10	40.01837931	-104.67626010
14,000.00	89.89	359.92	7,158.06	5,637.68	304.98	14,533,690.80	1,731,055.61	40.01865392	-104.67626057
14,100.00	89.89	359.92	7,158.26	5,737.68	304.85	14,533,790.80	1,731,055.11	40.01892854	-104.67626104
14,200.00	89.89	359.92	7,158.46	5,837.68	304.72	14,533,890.80	1,731,054.62	40.01920315	-104.67626151
14,300.00	89.89	359.92	7,158.65	5,937.68	304.58	14,533,990.80	1,731,054.12	40.01947777	-104.67626198
14,400.00	89.89	359.92	7,158.85	6,037.68	304.45	14,534,090.79	1,731,053.63	40.01975238	-104.67626245
14,500.00	89.89	359.92	7,159.05	6,137.68	304.32	14,534,190.79	1,731,053.13	40.02002700	-104.67626291
14,600.00	89.89	359.92	7,159.24	6,237.68	304.19	14,534,290.79	1,731,052.64	40.02030161	-104.67626338
14,700.00	89.89	359.92	7,159.44	6,337.68	304.05	14,534,390.79	1,731,052.15	40.02057623	-104.67626385
14,800.00	89.89	359.92	7,159.64	6,437.68	303.92	14,534,490.79	1,731,051.65	40.02085084	-104.67626432
14,900.00	89.89	359.92	7,159.84	6,537.68	303.79	14,534,590.79	1,731,051.16	40.02112545	-104.67626479
15,000.00	89.89	359.92	7,160.03	6,637.68	303.66	14,534,690.78	1,731,050.66	40.02140007	-104.67626526
15,100.00	89.89	359.92	7,160.23	6,737.68	303.52	14,534,790.78	1,731,050.17	40.02167468	-104.67626573
15,200.00	89.89	359.92	7,160.43	6,837.68	303.39	14,534,890.78	1,731,049.67	40.02194930	-104.67626620
15,300.00	89.89	359.92	7,160.62	6,937.68	303.26	14,534,990.78	1,731,049.18	40.02222391	-104.67626666
15,400.00	89.89	359.92	7,160.82	7,037.68	303.12	14,535,090.78	1,731,048.68	40.02249853	-104.67626713
15,500.00	89.89	359.92	7,161.02	7,137.68	302.99	14,535,190.78	1,731,048.19	40.02277314	-104.67626760

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-09-1L
Company:	Confluence Resources	TVD Reference:	RKB=5077+25 @ 5102.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-09-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	89.89	359.92	7,161.21	7,237.67	302.86	14,535,290.77	1,731,047.69	40.02304775	-104.67626807
15,700.00	89.89	359.92	7,161.41	7,337.67	302.73	14,535,390.77	1,731,047.20	40.02332237	-104.67626854
15,800.00	89.89	359.92	7,161.61	7,437.67	302.59	14,535,490.77	1,731,046.70	40.02359698	-104.67626901
15,900.00	89.89	359.92	7,161.80	7,537.67	302.46	14,535,590.77	1,731,046.21	40.02387160	-104.67626948
16,000.00	89.89	359.92	7,162.00	7,637.67	302.33	14,535,690.77	1,731,045.72	40.02414621	-104.67626995
16,100.00	89.89	359.92	7,162.20	7,737.67	302.20	14,535,790.77	1,731,045.22	40.02442083	-104.67627041
16,200.00	89.89	359.92	7,162.39	7,837.67	302.06	14,535,890.76	1,731,044.73	40.02469544	-104.67627088
16,300.00	89.89	359.92	7,162.59	7,937.67	301.93	14,535,990.76	1,731,044.23	40.02497006	-104.67627135
16,400.00	89.89	359.92	7,162.79	8,037.67	301.80	14,536,090.76	1,731,043.74	40.02524467	-104.67627182
16,500.00	89.89	359.92	7,162.98	8,137.67	301.67	14,536,190.76	1,731,043.24	40.02551928	-104.67627229
16,600.00	89.89	359.92	7,163.18	8,237.67	301.53	14,536,290.76	1,731,042.75	40.02579390	-104.67627276
16,700.00	89.89	359.92	7,163.38	8,337.67	301.40	14,536,390.76	1,731,042.25	40.02606851	-104.67627323
16,800.00	89.89	359.92	7,163.58	8,437.67	301.27	14,536,490.75	1,731,041.76	40.02634313	-104.67627369
16,900.00	89.89	359.92	7,163.77	8,537.67	301.14	14,536,590.75	1,731,041.26	40.02661774	-104.67627416
17,000.00	89.89	359.92	7,163.97	8,637.67	301.00	14,536,690.75	1,731,040.77	40.02689235	-104.67627463
17,100.00	89.89	359.92	7,164.17	8,737.67	300.87	14,536,790.75	1,731,040.28	40.02716697	-104.67627510
17,200.00	89.89	359.92	7,164.36	8,837.67	300.74	14,536,890.75	1,731,039.78	40.02744158	-104.67627557
17,300.00	89.89	359.92	7,164.56	8,937.67	300.61	14,536,990.75	1,731,039.29	40.02771620	-104.67627604
17,400.00	89.89	359.92	7,164.76	9,037.67	300.47	14,537,090.75	1,731,038.79	40.02799081	-104.67627651
17,500.00	89.89	359.92	7,164.95	9,137.67	300.34	14,537,190.74	1,731,038.30	40.02826543	-104.67627698
17,523.88	89.89	359.92	7,165.00	9,161.55	300.31	14,537,214.62	1,731,038.18	40.02833101	-104.67627709
PBHL/TD 17523.88 MD/7165.00 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 33-09-1L 470 - plan hits target center - Point	0.00	0.00	7,146.00	-490.91	313.11	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
BHL Buford 33-09-1L 47 - plan hits target center - Point	0.00	0.00	7,165.00	9,161.55	300.31	14,537,214.62	1,731,038.18	40.02833101	-104.67627709

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	
5,437.21	5,396.00	-156.50	27.33	Begin 43.72° tangent	
6,543.29	6,195.38	-909.57	158.86	Begin 10°/100' build/turn	
7,871.40	7,146.00	-490.91	313.11	LP Begin 89.89° lateral section	
17,523.88	7,165.00	9,161.55	300.31	PBHL/TD 17523.88 MD/7165.00 TVD	