



Weld County, Colorado
Section 33-T01N-R65W
Buford 33-7-3L
plan1

Azimuth Corrections:

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

Buford 33-7-3L			
Surf loc: 960 FSL 450 FWL Sect 33-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5081+26 @ 5107.00ft			
Northing	Easting	Latitude	Longitude
14528051.68	1730921.67	40.00316943	-104.67681201

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	5422.61	42.26	141.36	5385.32	-116.32	92.99	10.00	-103.27	Begin 42.26° tangent section
4	7063.20	42.26	141.36	6599.51	-978.10	781.92	0.00	-868.35	Begin 10°/100' build/turn
5	8280.81	90.04	359.92	7360.00	-489.82	1212.49	10.00	-328.33	LP Begin 90.04° lateral section
6	17937.28	90.04	359.92	7353.00	9166.64	1199.75	0.00	9244.82	PBHL/TD 17937.28 MD/7353.00 TVD

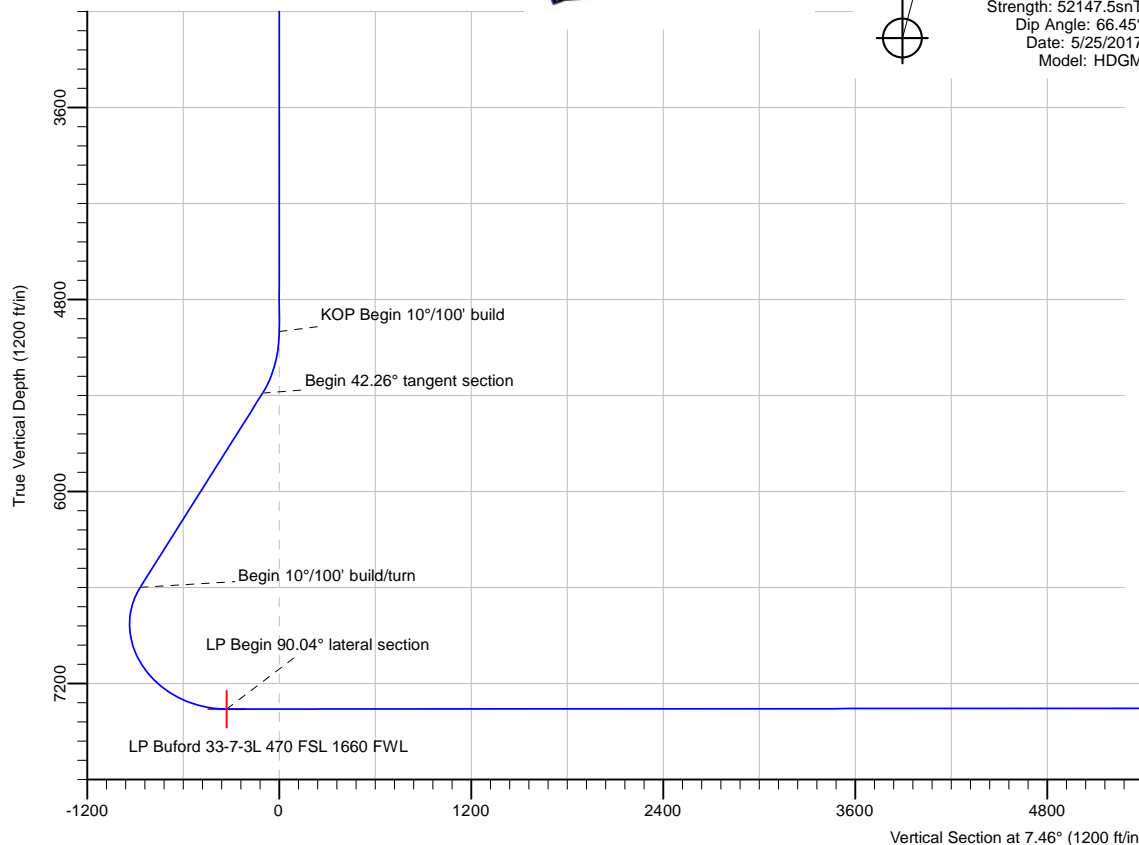
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL Buford 33-07-3L 470 FNL 1660 FWL	7353.00	9166.64	1199.75	14537222.59	1732088.17	40.02834235	-104.67252622
LP Buford 33-7-3L 470 FSL 1660 FWL	7360.00	-489.82	1212.49	14527566.26	1732135.93	40.00182422	-104.67248239

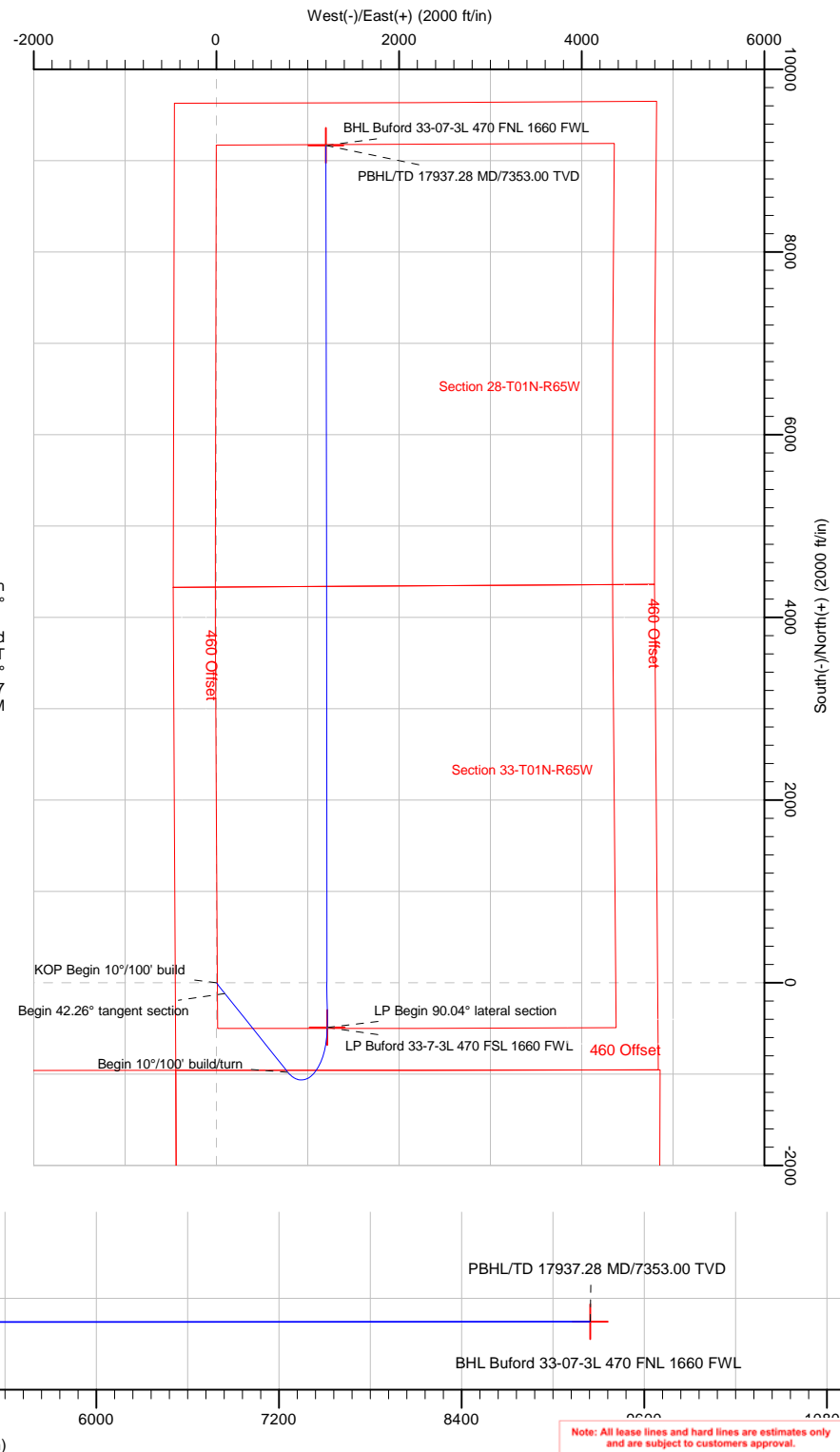


Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52147.5nT
Dip Angle: 66.45°
Date: 5/25/2017
Model: HDGM



Date: 23:16, May 25 2017



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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 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 33-7-3L, Surf loc: 960 FSL 450 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	300.03 ft	Northing:	14,528,051.68 usft	Latitude:	40.00316943
	+E/-W	148.49 ft	Easting:	1,730,921.67 usft	Longitude:	-104.67681200
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,081.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/25/2017	8.28	66.45	52,147.50000000

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	7.46

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,937.28	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	
5,422.61	42.26	141.36	5,385.32	-116.32	92.99	10.00	10.00	0.00	141.36	
7,063.20	42.26	141.36	6,599.51	-978.10	781.92	0.00	0.00	0.00	0.00	
8,280.81	90.04	359.92	7,360.00	-489.82	1,212.49	10.00	3.92	-11.62	-132.85	LP Buford 33-7-3L 47'
17,937.28	90.04	359.92	7,353.00	9,166.64	1,199.75	0.00	0.00	0.00	0.00	BHL Buford 33-07-3L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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
2,500.00	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	141.36	5,099.49	-6.80	5.44	-6.04	10.00	10.00	0.00
5,200.00	20.00	141.36	5,195.96	-26.99	21.58	-23.96	10.00	10.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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)
5,300.00	30.00	141.36	5,286.48	-59.96	47.93	-53.23	10.00	10.00	0.00
5,400.00	40.00	141.36	5,368.29	-104.70	83.70	-92.95	10.00	10.00	0.00
5,422.61	42.26	141.36	5,385.32	-116.32	92.99	-103.27	10.00	10.00	0.00
Begin 42.26° tangent section									
5,500.00	42.26	141.36	5,442.59	-156.97	125.49	-139.36	0.00	0.00	0.00
5,600.00	42.26	141.36	5,516.60	-209.50	167.48	-185.99	0.00	0.00	0.00
5,700.00	42.26	141.36	5,590.61	-262.03	209.47	-232.63	0.00	0.00	0.00
5,800.00	42.26	141.36	5,664.62	-314.56	251.47	-279.26	0.00	0.00	0.00
5,900.00	42.26	141.36	5,738.63	-367.08	293.46	-325.90	0.00	0.00	0.00
6,000.00	42.26	141.36	5,812.64	-419.61	335.45	-372.53	0.00	0.00	0.00
6,100.00	42.26	141.36	5,886.65	-472.14	377.44	-419.17	0.00	0.00	0.00
6,200.00	42.26	141.36	5,960.66	-524.67	419.44	-465.80	0.00	0.00	0.00
6,300.00	42.26	141.36	6,034.67	-577.20	461.43	-512.44	0.00	0.00	0.00
6,400.00	42.26	141.36	6,108.68	-629.73	503.42	-559.07	0.00	0.00	0.00
6,500.00	42.26	141.36	6,182.68	-682.26	545.42	-605.71	0.00	0.00	0.00
6,600.00	42.26	141.36	6,256.69	-734.78	587.41	-652.34	0.00	0.00	0.00
6,700.00	42.26	141.36	6,330.70	-787.31	629.40	-698.97	0.00	0.00	0.00
6,800.00	42.26	141.36	6,404.71	-839.84	671.39	-745.61	0.00	0.00	0.00
6,900.00	42.26	141.36	6,478.72	-892.37	713.39	-792.24	0.00	0.00	0.00
7,000.00	42.26	141.36	6,552.73	-944.90	755.38	-838.88	0.00	0.00	0.00
7,063.20	42.26	141.36	6,599.51	-978.10	781.92	-868.35	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,100.00	39.83	137.15	6,627.26	-996.41	797.67	-884.47	10.00	-6.60	-11.45
7,200.00	34.18	123.38	6,707.22	-1,035.45	843.02	-917.29	10.00	-5.65	-13.76
7,300.00	30.52	105.92	6,791.87	-1,057.93	891.02	-933.35	10.00	-3.66	-17.46
7,400.00	29.60	85.96	6,878.64	-1,063.17	940.20	-932.16	10.00	-0.92	-19.96
7,500.00	31.67	66.69	6,964.89	-1,051.01	989.07	-913.76	10.00	2.07	-19.28
7,600.00	36.21	50.66	7,047.99	-1,021.82	1,036.14	-878.71	10.00	4.54	-16.02
7,700.00	42.43	38.26	7,125.43	-976.49	1,079.99	-828.08	10.00	6.22	-12.40
7,800.00	49.69	28.68	7,194.86	-916.40	1,119.29	-763.39	10.00	7.26	-9.58
7,900.00	57.59	21.04	7,254.15	-843.37	1,152.82	-686.62	10.00	7.89	-7.64
8,000.00	65.87	14.66	7,301.52	-759.61	1,179.59	-600.11	10.00	8.28	-6.38
8,100.00	74.38	9.07	7,335.51	-667.68	1,198.78	-506.47	10.00	8.51	-5.59
8,200.00	83.02	3.93	7,355.11	-570.37	1,209.80	-408.55	10.00	8.64	-5.14
8,280.81	90.04	359.92	7,360.00	-489.82	1,212.49	-328.33	10.00	8.69	-4.96
LP Begin 90.04° lateral section									
8,300.00	90.04	359.92	7,359.99	-470.63	1,212.47	-309.31	0.00	0.00	0.00
8,400.00	90.04	359.92	7,359.91	-370.63	1,212.34	-210.17	0.00	0.00	0.00
8,500.00	90.04	359.92	7,359.84	-270.63	1,212.20	-111.03	0.00	0.00	0.00
8,600.00	90.04	359.92	7,359.77	-170.63	1,212.07	-11.89	0.00	0.00	0.00
8,700.00	90.04	359.92	7,359.70	-70.63	1,211.94	87.24	0.00	0.00	0.00
8,800.00	90.04	359.92	7,359.62	29.37	1,211.81	186.38	0.00	0.00	0.00
8,900.00	90.04	359.92	7,359.55	129.37	1,211.68	285.52	0.00	0.00	0.00
9,000.00	90.04	359.92	7,359.48	229.37	1,211.55	384.65	0.00	0.00	0.00
9,100.00	90.04	359.92	7,359.41	329.37	1,211.41	483.79	0.00	0.00	0.00
9,200.00	90.04	359.92	7,359.33	429.37	1,211.28	582.93	0.00	0.00	0.00
9,300.00	90.04	359.92	7,359.26	529.37	1,211.15	682.07	0.00	0.00	0.00
9,400.00	90.04	359.92	7,359.19	629.36	1,211.02	781.20	0.00	0.00	0.00
9,500.00	90.04	359.92	7,359.12	729.36	1,210.89	880.34	0.00	0.00	0.00
9,600.00	90.04	359.92	7,359.04	829.36	1,210.75	979.48	0.00	0.00	0.00
9,700.00	90.04	359.92	7,358.97	929.36	1,210.62	1,078.61	0.00	0.00	0.00
9,800.00	90.04	359.92	7,358.90	1,029.36	1,210.49	1,177.75	0.00	0.00	0.00
9,900.00	90.04	359.92	7,358.83	1,129.36	1,210.36	1,276.89	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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)
10,000.00	90.04	359.92	7,358.75	1,229.36	1,210.23	1,376.03	0.00	0.00	0.00
10,100.00	90.04	359.92	7,358.68	1,329.36	1,210.09	1,475.16	0.00	0.00	0.00
10,200.00	90.04	359.92	7,358.61	1,429.36	1,209.96	1,574.30	0.00	0.00	0.00
10,300.00	90.04	359.92	7,358.54	1,529.36	1,209.83	1,673.44	0.00	0.00	0.00
10,400.00	90.04	359.92	7,358.46	1,629.36	1,209.70	1,772.57	0.00	0.00	0.00
10,500.00	90.04	359.92	7,358.39	1,729.36	1,209.57	1,871.71	0.00	0.00	0.00
10,600.00	90.04	359.92	7,358.32	1,829.36	1,209.43	1,970.85	0.00	0.00	0.00
10,700.00	90.04	359.92	7,358.25	1,929.36	1,209.30	2,069.99	0.00	0.00	0.00
10,800.00	90.04	359.92	7,358.17	2,029.36	1,209.17	2,169.12	0.00	0.00	0.00
10,900.00	90.04	359.92	7,358.10	2,129.36	1,209.04	2,268.26	0.00	0.00	0.00
11,000.00	90.04	359.92	7,358.03	2,229.36	1,208.91	2,367.40	0.00	0.00	0.00
11,100.00	90.04	359.92	7,357.96	2,329.36	1,208.77	2,466.53	0.00	0.00	0.00
11,200.00	90.04	359.92	7,357.88	2,429.36	1,208.64	2,565.67	0.00	0.00	0.00
11,300.00	90.04	359.92	7,357.81	2,529.36	1,208.51	2,664.81	0.00	0.00	0.00
11,400.00	90.04	359.92	7,357.74	2,629.36	1,208.38	2,763.95	0.00	0.00	0.00
11,500.00	90.04	359.92	7,357.67	2,729.36	1,208.25	2,863.08	0.00	0.00	0.00
11,600.00	90.04	359.92	7,357.59	2,829.36	1,208.11	2,962.22	0.00	0.00	0.00
11,700.00	90.04	359.92	7,357.52	2,929.36	1,207.98	3,061.36	0.00	0.00	0.00
11,800.00	90.04	359.92	7,357.45	3,029.36	1,207.85	3,160.49	0.00	0.00	0.00
11,900.00	90.04	359.92	7,357.38	3,129.36	1,207.72	3,259.63	0.00	0.00	0.00
12,000.00	90.04	359.92	7,357.30	3,229.36	1,207.59	3,358.77	0.00	0.00	0.00
12,100.00	90.04	359.92	7,357.23	3,329.36	1,207.45	3,457.90	0.00	0.00	0.00
12,200.00	90.04	359.92	7,357.16	3,429.36	1,207.32	3,557.04	0.00	0.00	0.00
12,300.00	90.04	359.92	7,357.09	3,529.36	1,207.19	3,656.18	0.00	0.00	0.00
12,400.00	90.04	359.92	7,357.01	3,629.36	1,207.06	3,755.32	0.00	0.00	0.00
12,500.00	90.04	359.92	7,356.94	3,729.36	1,206.93	3,854.45	0.00	0.00	0.00
12,600.00	90.04	359.92	7,356.87	3,829.36	1,206.79	3,953.59	0.00	0.00	0.00
12,700.00	90.04	359.92	7,356.80	3,929.36	1,206.66	4,052.73	0.00	0.00	0.00
12,800.00	90.04	359.92	7,356.72	4,029.36	1,206.53	4,151.86	0.00	0.00	0.00
12,900.00	90.04	359.92	7,356.65	4,129.36	1,206.40	4,251.00	0.00	0.00	0.00
13,000.00	90.04	359.92	7,356.58	4,229.36	1,206.27	4,350.14	0.00	0.00	0.00
13,100.00	90.04	359.92	7,356.51	4,329.36	1,206.13	4,449.28	0.00	0.00	0.00
13,200.00	90.04	359.92	7,356.43	4,429.36	1,206.00	4,548.41	0.00	0.00	0.00
13,300.00	90.04	359.92	7,356.36	4,529.36	1,205.87	4,647.55	0.00	0.00	0.00
13,400.00	90.04	359.92	7,356.29	4,629.36	1,205.74	4,746.69	0.00	0.00	0.00
13,500.00	90.04	359.92	7,356.22	4,729.36	1,205.61	4,845.82	0.00	0.00	0.00
13,600.00	90.04	359.92	7,356.14	4,829.36	1,205.47	4,944.96	0.00	0.00	0.00
13,700.00	90.04	359.92	7,356.07	4,929.36	1,205.34	5,044.10	0.00	0.00	0.00
13,800.00	90.04	359.92	7,356.00	5,029.36	1,205.21	5,143.24	0.00	0.00	0.00
13,900.00	90.04	359.92	7,355.93	5,129.36	1,205.08	5,242.37	0.00	0.00	0.00
14,000.00	90.04	359.92	7,355.85	5,229.36	1,204.95	5,341.51	0.00	0.00	0.00
14,100.00	90.04	359.92	7,355.78	5,329.36	1,204.81	5,440.65	0.00	0.00	0.00
14,200.00	90.04	359.92	7,355.71	5,429.36	1,204.68	5,539.78	0.00	0.00	0.00
14,300.00	90.04	359.92	7,355.64	5,529.36	1,204.55	5,638.92	0.00	0.00	0.00
14,400.00	90.04	359.92	7,355.56	5,629.36	1,204.42	5,738.06	0.00	0.00	0.00
14,500.00	90.04	359.92	7,355.49	5,729.36	1,204.29	5,837.20	0.00	0.00	0.00
14,600.00	90.04	359.92	7,355.42	5,829.36	1,204.15	5,936.33	0.00	0.00	0.00
14,700.00	90.04	359.92	7,355.35	5,929.36	1,204.02	6,035.47	0.00	0.00	0.00
14,800.00	90.04	359.92	7,355.27	6,029.36	1,203.89	6,134.61	0.00	0.00	0.00
14,900.00	90.04	359.92	7,355.20	6,129.36	1,203.76	6,233.74	0.00	0.00	0.00
15,000.00	90.04	359.92	7,355.13	6,229.36	1,203.63	6,332.88	0.00	0.00	0.00
15,100.00	90.04	359.92	7,355.06	6,329.36	1,203.50	6,432.02	0.00	0.00	0.00
15,200.00	90.04	359.92	7,354.98	6,429.36	1,203.36	6,531.16	0.00	0.00	0.00
15,300.00	90.04	359.92	7,354.91	6,529.36	1,203.23	6,630.29	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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)
15,400.00	90.04	359.92	7,354.84	6,629.36	1,203.10	6,729.43	0.00	0.00	0.00
15,500.00	90.04	359.92	7,354.77	6,729.36	1,202.97	6,828.57	0.00	0.00	0.00
15,600.00	90.04	359.92	7,354.69	6,829.36	1,202.84	6,927.70	0.00	0.00	0.00
15,700.00	90.04	359.92	7,354.62	6,929.36	1,202.70	7,026.84	0.00	0.00	0.00
15,800.00	90.04	359.92	7,354.55	7,029.36	1,202.57	7,125.98	0.00	0.00	0.00
15,900.00	90.04	359.92	7,354.48	7,129.36	1,202.44	7,225.11	0.00	0.00	0.00
16,000.00	90.04	359.92	7,354.40	7,229.36	1,202.31	7,324.25	0.00	0.00	0.00
16,100.00	90.04	359.92	7,354.33	7,329.36	1,202.18	7,423.39	0.00	0.00	0.00
16,200.00	90.04	359.92	7,354.26	7,429.36	1,202.04	7,522.53	0.00	0.00	0.00
16,300.00	90.04	359.92	7,354.19	7,529.36	1,201.91	7,621.66	0.00	0.00	0.00
16,400.00	90.04	359.92	7,354.11	7,629.36	1,201.78	7,720.80	0.00	0.00	0.00
16,500.00	90.04	359.92	7,354.04	7,729.36	1,201.65	7,819.94	0.00	0.00	0.00
16,600.00	90.04	359.92	7,353.97	7,829.36	1,201.52	7,919.07	0.00	0.00	0.00
16,700.00	90.04	359.92	7,353.90	7,929.36	1,201.38	8,018.21	0.00	0.00	0.00
16,800.00	90.04	359.92	7,353.82	8,029.36	1,201.25	8,117.35	0.00	0.00	0.00
16,900.00	90.04	359.92	7,353.75	8,129.36	1,201.12	8,216.49	0.00	0.00	0.00
17,000.00	90.04	359.92	7,353.68	8,229.36	1,200.99	8,315.62	0.00	0.00	0.00
17,100.00	90.04	359.92	7,353.61	8,329.36	1,200.86	8,414.76	0.00	0.00	0.00
17,200.00	90.04	359.92	7,353.53	8,429.36	1,200.72	8,513.90	0.00	0.00	0.00
17,300.00	90.04	359.92	7,353.46	8,529.36	1,200.59	8,613.03	0.00	0.00	0.00
17,400.00	90.04	359.92	7,353.39	8,629.36	1,200.46	8,712.17	0.00	0.00	0.00
17,500.00	90.04	359.92	7,353.32	8,729.36	1,200.33	8,811.31	0.00	0.00	0.00
17,600.00	90.04	359.92	7,353.24	8,829.36	1,200.20	8,910.45	0.00	0.00	0.00
17,700.00	90.04	359.92	7,353.17	8,929.36	1,200.06	9,009.58	0.00	0.00	0.00
17,800.00	90.04	359.92	7,353.10	9,029.36	1,199.93	9,108.72	0.00	0.00	0.00
17,900.00	90.04	359.92	7,353.03	9,129.36	1,199.80	9,207.86	0.00	0.00	0.00
17,937.28	90.04	359.92	7,353.00	9,166.64	1,199.75	9,244.82	0.00	0.00	0.00
PBHL/TD 17937.28 MD/7353.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL Buford 33-07-3L 47 - hit/miss target - Shape - Point	0.00	0.00	7,353.00	9,166.64	1,199.75	14,537,222.59	1,732,088.17	40.02834236	-104.67252621
LP Buford 33-7-3L 470 F - plan hits target center - Point	0.00	0.00	7,360.00	-489.82	1,212.49	14,527,566.26	1,732,135.93	40.00182423	-104.67248239

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
5,422.61	5,385.32	-116.32	92.99	Begin 42.26° tangent section
7,063.20	6,599.51	-978.10	781.92	Begin 10°/100' build/turn
8,280.81	7,360.00	-489.82	1,212.49	LP Begin 90.04° lateral section
17,937.28	7,353.00	9,166.64	1,199.75	PBHL/TD 17937.28 MD/7353.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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 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 33-7-3L, Surf loc: 960 FSL 450 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,528,051.68 usft	Latitude:	40.00316943
	+E/-W	0.00 ft	Easting:	1,730,921.67 usft	Longitude:	-104.67681200
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,081.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/25/2017	8.28	66.45	52,147.50000000

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	7.46

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,937.28 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	
5,422.61	42.26	141.36	5,385.32	-116.32	92.99	10.00	10.00	0.00	141.36	
7,063.20	42.26	141.36	6,599.51	-978.10	781.92	0.00	0.00	0.00	0.00	
8,280.81	90.04	359.92	7,360.00	-489.82	1,212.49	10.00	3.92	-11.62	-132.85	LP Buford 33-7-3L 47'
17,937.28	90.04	359.92	7,353.00	9,166.64	1,199.75	0.00	0.00	0.00	0.00	BHL Buford 33-07-3L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
100.00	0.00	0.00	100.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
200.00	0.00	0.00	200.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
300.00	0.00	0.00	300.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
400.00	0.00	0.00	400.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
500.00	0.00	0.00	500.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
600.00	0.00	0.00	600.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
700.00	0.00	0.00	700.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
800.00	0.00	0.00	800.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
900.00	0.00	0.00	900.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,528,051.68	1,730,921.67	40.00316943	-104.67681200
KOP Begin 10°/100' build									
5,100.00	10.00	141.36	5,099.49	-6.80	5.44	14,528,044.91	1,730,927.13	40.00315076	-104.67679259
5,200.00	20.00	141.36	5,195.96	-26.99	21.58	14,528,024.77	1,730,943.34	40.00309532	-104.67673496

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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
5,300.00	30.00	141.36	5,286.48	-59.96	47.93	14,527,991.90	1,730,969.82	40.00300478	-104.67664084
5,400.00	40.00	141.36	5,368.29	-104.70	83.70	14,527,947.29	1,731,005.75	40.00288191	-104.67651311
5,422.61	42.26	141.36	5,385.32	-116.32	92.99	14,527,935.71	1,731,015.08	40.00285001	-104.67647995
Begin 42.26° tangent section									
5,500.00	42.26	141.36	5,442.59	-156.97	125.49	14,527,895.17	1,731,047.72	40.00273837	-104.67636391
5,600.00	42.26	141.36	5,516.60	-209.50	167.48	14,527,842.80	1,731,089.91	40.00259412	-104.67621396
5,700.00	42.26	141.36	5,590.61	-262.03	209.47	14,527,790.42	1,731,132.09	40.00244986	-104.67606401
5,800.00	42.26	141.36	5,664.62	-314.56	251.47	14,527,738.04	1,731,174.27	40.00230561	-104.67591406
5,900.00	42.26	141.36	5,738.63	-367.08	293.46	14,527,685.67	1,731,216.46	40.00216136	-104.67576411
6,000.00	42.26	141.36	5,812.64	-419.61	335.45	14,527,633.29	1,731,258.64	40.00201710	-104.67561416
6,100.00	42.26	141.36	5,886.65	-472.14	377.44	14,527,580.92	1,731,300.82	40.00187285	-104.67546421
6,200.00	42.26	141.36	5,960.66	-524.67	419.44	14,527,528.54	1,731,343.00	40.00172860	-104.67531426
6,300.00	42.26	141.36	6,034.67	-577.20	461.43	14,527,476.16	1,731,385.19	40.00158434	-104.67516432
6,400.00	42.26	141.36	6,108.68	-629.73	503.42	14,527,423.79	1,731,427.37	40.00144009	-104.67501437
6,500.00	42.26	141.36	6,182.68	-682.26	545.42	14,527,371.41	1,731,469.55	40.00129583	-104.67486443
6,600.00	42.26	141.36	6,256.69	-734.78	587.41	14,527,319.04	1,731,511.74	40.00115158	-104.67471448
6,700.00	42.26	141.36	6,330.70	-787.31	629.40	14,527,266.66	1,731,553.92	40.00100732	-104.67456454
6,800.00	42.26	141.36	6,404.71	-839.84	671.39	14,527,214.28	1,731,596.10	40.00086307	-104.67441460
6,900.00	42.26	141.36	6,478.72	-892.37	713.39	14,527,161.91	1,731,638.29	40.00071881	-104.67426465
7,000.00	42.26	141.36	6,552.73	-944.90	755.38	14,527,109.53	1,731,680.47	40.00057456	-104.67411471
7,063.20	42.26	141.36	6,599.51	-978.10	781.92	14,527,076.43	1,731,707.13	40.00048338	-104.67401994
Begin 10°/100' build/turn									
7,100.00	39.83	137.15	6,627.26	-996.41	797.67	14,527,058.18	1,731,722.94	40.00043310	-104.67396372
7,200.00	34.18	123.38	6,707.22	-1,035.45	843.02	14,527,019.30	1,731,768.44	40.00032589	-104.67380177
7,300.00	30.52	105.92	6,791.87	-1,057.93	891.02	14,526,997.00	1,731,816.52	40.00026416	-104.67363039
7,400.00	29.60	85.96	6,878.64	-1,063.17	940.20	14,526,991.94	1,731,865.72	40.00024976	-104.67345478
7,500.00	31.67	66.69	6,964.89	-1,051.01	989.07	14,527,004.27	1,731,914.54	40.00028314	-104.67328028
7,600.00	36.21	50.66	7,047.99	-1,021.82	1,036.14	14,527,033.63	1,731,961.51	40.00036329	-104.67311218
7,700.00	42.43	38.26	7,125.43	-976.49	1,079.99	14,527,079.12	1,732,005.19	40.00048777	-104.67295560
7,800.00	49.69	28.68	7,194.86	-916.40	1,119.29	14,527,139.35	1,732,044.27	40.00065279	-104.67281529
7,900.00	57.59	21.04	7,254.15	-843.37	1,152.82	14,527,212.51	1,732,077.54	40.00085335	-104.67269552
8,000.00	65.87	14.66	7,301.52	-759.61	1,179.59	14,527,296.36	1,732,104.01	40.00108334	-104.67259992
8,100.00	74.38	9.07	7,335.51	-667.68	1,198.78	14,527,388.35	1,732,122.86	40.00133579	-104.67253140
8,200.00	83.02	3.93	7,355.11	-570.37	1,209.80	14,527,485.70	1,732,133.52	40.00160302	-104.67249204
8,280.81	90.04	359.92	7,360.00	-489.82	1,212.49	14,527,566.26	1,732,135.93	40.00182423	-104.67248239
LP Begin 90.04° lateral section									
8,300.00	90.04	359.92	7,359.99	-470.63	1,212.47	14,527,585.45	1,732,135.83	40.00187692	-104.67248248
8,400.00	90.04	359.92	7,359.91	-370.63	1,212.34	14,527,685.45	1,732,135.34	40.00215153	-104.67248293
8,500.00	90.04	359.92	7,359.84	-270.63	1,212.20	14,527,785.45	1,732,134.84	40.00242615	-104.67248338
8,600.00	90.04	359.92	7,359.77	-170.63	1,212.07	14,527,885.45	1,732,134.35	40.00270077	-104.67248384
8,700.00	90.04	359.92	7,359.70	-70.63	1,211.94	14,527,985.45	1,732,133.86	40.00297538	-104.67248429
8,800.00	90.04	359.92	7,359.62	29.37	1,211.81	14,528,085.44	1,732,133.36	40.00325000	-104.67248475
8,900.00	90.04	359.92	7,359.55	129.37	1,211.68	14,528,185.44	1,732,132.87	40.00352461	-104.67248520
9,000.00	90.04	359.92	7,359.48	229.37	1,211.55	14,528,285.44	1,732,132.37	40.00379923	-104.67248565
9,100.00	90.04	359.92	7,359.41	329.37	1,211.41	14,528,385.44	1,732,131.88	40.00407384	-104.67248611
9,200.00	90.04	359.92	7,359.33	429.37	1,211.28	14,528,485.44	1,732,131.38	40.00434846	-104.67248656
9,300.00	90.04	359.92	7,359.26	529.37	1,211.15	14,528,585.44	1,732,130.89	40.00462308	-104.67248702
9,400.00	90.04	359.92	7,359.19	629.36	1,211.02	14,528,685.44	1,732,130.39	40.00489769	-104.67248747
9,500.00	90.04	359.92	7,359.12	729.36	1,210.89	14,528,785.43	1,732,129.90	40.00517231	-104.67248792
9,600.00	90.04	359.92	7,359.04	829.36	1,210.75	14,528,885.43	1,732,129.40	40.00544692	-104.67248838
9,700.00	90.04	359.92	7,358.97	929.36	1,210.62	14,528,985.43	1,732,128.91	40.00572154	-104.67248883
9,800.00	90.04	359.92	7,358.90	1,029.36	1,210.49	14,529,085.43	1,732,128.41	40.00599615	-104.67248928
9,900.00	90.04	359.92	7,358.83	1,129.36	1,210.36	14,529,185.43	1,732,127.92	40.00627077	-104.67248974
10,000.00	90.04	359.92	7,358.75	1,229.36	1,210.23	14,529,285.43	1,732,127.43	40.00654538	-104.67249019

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.00	90.04	359.92	7,358.68	1,329.36	1,210.09	14,529,385.43	1,732,126.93	40.00682000	-104.67249065
10,200.00	90.04	359.92	7,358.61	1,429.36	1,209.96	14,529,485.42	1,732,126.44	40.00709462	-104.67249110
10,300.00	90.04	359.92	7,358.54	1,529.36	1,209.83	14,529,585.42	1,732,125.94	40.00736923	-104.67249155
10,400.00	90.04	359.92	7,358.46	1,629.36	1,209.70	14,529,685.42	1,732,125.45	40.00764385	-104.67249201
10,500.00	90.04	359.92	7,358.39	1,729.36	1,209.57	14,529,785.42	1,732,124.95	40.00791846	-104.67249246
10,600.00	90.04	359.92	7,358.32	1,829.36	1,209.43	14,529,885.42	1,732,124.46	40.00819308	-104.67249292
10,700.00	90.04	359.92	7,358.25	1,929.36	1,209.30	14,529,985.42	1,732,123.96	40.00846769	-104.67249337
10,800.00	90.04	359.92	7,358.17	2,029.36	1,209.17	14,530,085.42	1,732,123.47	40.00874231	-104.67249382
10,900.00	90.04	359.92	7,358.10	2,129.36	1,209.04	14,530,185.41	1,732,122.97	40.00901692	-104.67249428
11,000.00	90.04	359.92	7,358.03	2,229.36	1,208.91	14,530,285.41	1,732,122.48	40.00929154	-104.67249473
11,100.00	90.04	359.92	7,357.96	2,329.36	1,208.77	14,530,385.41	1,732,121.99	40.00956615	-104.67249519
11,200.00	90.04	359.92	7,357.88	2,429.36	1,208.64	14,530,485.41	1,732,121.49	40.00984077	-104.67249564
11,300.00	90.04	359.92	7,357.81	2,529.36	1,208.51	14,530,585.41	1,732,121.00	40.01011539	-104.67249609
11,400.00	90.04	359.92	7,357.74	2,629.36	1,208.38	14,530,685.41	1,732,120.50	40.01039000	-104.67249655
11,500.00	90.04	359.92	7,357.67	2,729.36	1,208.25	14,530,785.41	1,732,120.01	40.01066462	-104.67249700
11,600.00	90.04	359.92	7,357.59	2,829.36	1,208.11	14,530,885.40	1,732,119.51	40.01093923	-104.67249746
11,700.00	90.04	359.92	7,357.52	2,929.36	1,207.98	14,530,985.40	1,732,119.02	40.01121385	-104.67249791
11,800.00	90.04	359.92	7,357.45	3,029.36	1,207.85	14,531,085.40	1,732,118.52	40.01148846	-104.67249836
11,900.00	90.04	359.92	7,357.38	3,129.36	1,207.72	14,531,185.40	1,732,118.03	40.01176308	-104.67249882
12,000.00	90.04	359.92	7,357.30	3,229.36	1,207.59	14,531,285.40	1,732,117.53	40.01203769	-104.67249927
12,100.00	90.04	359.92	7,357.23	3,329.36	1,207.45	14,531,385.40	1,732,117.04	40.01231231	-104.67249972
12,200.00	90.04	359.92	7,357.16	3,429.36	1,207.32	14,531,485.40	1,732,116.54	40.01258692	-104.67250018
12,300.00	90.04	359.92	7,357.09	3,529.36	1,207.19	14,531,585.39	1,732,116.05	40.01286154	-104.67250063
12,400.00	90.04	359.92	7,357.01	3,629.36	1,207.06	14,531,685.39	1,732,115.56	40.01313615	-104.67250109
12,500.00	90.04	359.92	7,356.94	3,729.36	1,206.93	14,531,785.39	1,732,115.06	40.01341077	-104.67250154
12,600.00	90.04	359.92	7,356.87	3,829.36	1,206.79	14,531,885.39	1,732,114.57	40.01368538	-104.67250199
12,700.00	90.04	359.92	7,356.80	3,929.36	1,206.66	14,531,985.39	1,732,114.07	40.01396000	-104.67250245
12,800.00	90.04	359.92	7,356.72	4,029.36	1,206.53	14,532,085.39	1,732,113.58	40.01423461	-104.67250290
12,900.00	90.04	359.92	7,356.65	4,129.36	1,206.40	14,532,185.39	1,732,113.08	40.01450923	-104.67250336
13,000.00	90.04	359.92	7,356.58	4,229.36	1,206.27	14,532,285.38	1,732,112.59	40.01478385	-104.67250381
13,100.00	90.04	359.92	7,356.51	4,329.36	1,206.13	14,532,385.38	1,732,112.09	40.01505846	-104.67250426
13,200.00	90.04	359.92	7,356.43	4,429.36	1,206.00	14,532,485.38	1,732,111.60	40.01533308	-104.67250472
13,300.00	90.04	359.92	7,356.36	4,529.36	1,205.87	14,532,585.38	1,732,111.10	40.01560769	-104.67250517
13,400.00	90.04	359.92	7,356.29	4,629.36	1,205.74	14,532,685.38	1,732,110.61	40.01588231	-104.67250562
13,500.00	90.04	359.92	7,356.22	4,729.36	1,205.61	14,532,785.38	1,732,110.12	40.01615692	-104.67250608
13,600.00	90.04	359.92	7,356.14	4,829.36	1,205.47	14,532,885.37	1,732,109.62	40.01643154	-104.67250653
13,700.00	90.04	359.92	7,356.07	4,929.36	1,205.34	14,532,985.37	1,732,109.13	40.01670615	-104.67250699
13,800.00	90.04	359.92	7,356.00	5,029.36	1,205.21	14,533,085.37	1,732,108.63	40.01698077	-104.67250744
13,900.00	90.04	359.92	7,355.93	5,129.36	1,205.08	14,533,185.37	1,732,108.14	40.01725538	-104.67250789
14,000.00	90.04	359.92	7,355.85	5,229.36	1,204.95	14,533,285.37	1,732,107.64	40.01753000	-104.67250835
14,100.00	90.04	359.92	7,355.78	5,329.36	1,204.81	14,533,385.37	1,732,107.15	40.01780461	-104.67250880
14,200.00	90.04	359.92	7,355.71	5,429.36	1,204.68	14,533,485.37	1,732,106.65	40.01807923	-104.67250925
14,300.00	90.04	359.92	7,355.64	5,529.36	1,204.55	14,533,585.36	1,732,106.16	40.01835384	-104.67250971
14,400.00	90.04	359.92	7,355.56	5,629.36	1,204.42	14,533,685.36	1,732,105.66	40.01862846	-104.67251016
14,500.00	90.04	359.92	7,355.49	5,729.36	1,204.29	14,533,785.36	1,732,105.17	40.01890307	-104.67251062
14,600.00	90.04	359.92	7,355.42	5,829.36	1,204.15	14,533,885.36	1,732,104.67	40.01917769	-104.67251107
14,700.00	90.04	359.92	7,355.35	5,929.36	1,204.02	14,533,985.36	1,732,104.18	40.01945230	-104.67251152
14,800.00	90.04	359.92	7,355.27	6,029.36	1,203.89	14,534,085.36	1,732,103.69	40.01972692	-104.67251198
14,900.00	90.04	359.92	7,355.20	6,129.36	1,203.76	14,534,185.36	1,732,103.19	40.02000153	-104.67251243
15,000.00	90.04	359.92	7,355.13	6,229.36	1,203.63	14,534,285.35	1,732,102.70	40.02027615	-104.67251288
15,100.00	90.04	359.92	7,355.06	6,329.36	1,203.50	14,534,385.35	1,732,102.20	40.02055076	-104.67251334
15,200.00	90.04	359.92	7,354.98	6,429.36	1,203.36	14,534,485.35	1,732,101.71	40.02082538	-104.67251379
15,300.00	90.04	359.92	7,354.91	6,529.36	1,203.23	14,534,585.35	1,732,101.21	40.02109999	-104.67251425
15,400.00	90.04	359.92	7,354.84	6,629.36	1,203.10	14,534,685.35	1,732,100.72	40.02137461	-104.67251470
15,500.00	90.04	359.92	7,354.77	6,729.36	1,202.97	14,534,785.35	1,732,100.22	40.02164922	-104.67251515

Database:	DB_Jul216dt_v14	Local Co-ordinate Reference:	Well Buford 33-7-3L
Company:	Confluence Resources	TVD Reference:	RKB=5081+26 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+26 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-7-3L	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
15,600.00	90.04	359.92	7,354.69	6,829.36	1,202.84	14,534,885.35	1,732,099.73	40.02192383	-104.67251561
15,700.00	90.04	359.92	7,354.62	6,929.36	1,202.70	14,534,985.34	1,732,099.23	40.02219845	-104.67251606
15,800.00	90.04	359.92	7,354.55	7,029.36	1,202.57	14,535,085.34	1,732,098.74	40.02247306	-104.67251651
15,900.00	90.04	359.92	7,354.48	7,129.36	1,202.44	14,535,185.34	1,732,098.24	40.02274768	-104.67251697
16,000.00	90.04	359.92	7,354.40	7,229.36	1,202.31	14,535,285.34	1,732,097.75	40.02302229	-104.67251742
16,100.00	90.04	359.92	7,354.33	7,329.36	1,202.18	14,535,385.34	1,732,097.26	40.02329691	-104.67251788
16,200.00	90.04	359.92	7,354.26	7,429.36	1,202.04	14,535,485.34	1,732,096.76	40.02357152	-104.67251833
16,300.00	90.04	359.92	7,354.19	7,529.36	1,201.91	14,535,585.34	1,732,096.27	40.02384614	-104.67251878
16,400.00	90.04	359.92	7,354.11	7,629.36	1,201.78	14,535,685.33	1,732,095.77	40.02412075	-104.67251924
16,500.00	90.04	359.92	7,354.04	7,729.36	1,201.65	14,535,785.33	1,732,095.28	40.02439537	-104.67251969
16,600.00	90.04	359.92	7,353.97	7,829.36	1,201.52	14,535,885.33	1,732,094.78	40.02466998	-104.67252014
16,700.00	90.04	359.92	7,353.90	7,929.36	1,201.38	14,535,985.33	1,732,094.29	40.02494460	-104.67252060
16,800.00	90.04	359.92	7,353.82	8,029.36	1,201.25	14,536,085.33	1,732,093.79	40.02521921	-104.67252105
16,900.00	90.04	359.92	7,353.75	8,129.36	1,201.12	14,536,185.33	1,732,093.30	40.02549383	-104.67252151
17,000.00	90.04	359.92	7,353.68	8,229.36	1,200.99	14,536,285.33	1,732,092.80	40.02576844	-104.67252196
17,100.00	90.04	359.92	7,353.61	8,329.36	1,200.86	14,536,385.32	1,732,092.31	40.02604306	-104.67252241
17,200.00	90.04	359.92	7,353.53	8,429.36	1,200.72	14,536,485.32	1,732,091.82	40.02631767	-104.67252287
17,300.00	90.04	359.92	7,353.46	8,529.36	1,200.59	14,536,585.32	1,732,091.32	40.02659228	-104.67252332
17,400.00	90.04	359.92	7,353.39	8,629.36	1,200.46	14,536,685.32	1,732,090.83	40.02686690	-104.67252377
17,500.00	90.04	359.92	7,353.32	8,729.36	1,200.33	14,536,785.32	1,732,090.33	40.02714151	-104.67252423
17,600.00	90.04	359.92	7,353.24	8,829.36	1,200.20	14,536,885.32	1,732,089.84	40.02741613	-104.67252468
17,700.00	90.04	359.92	7,353.17	8,929.36	1,200.06	14,536,985.32	1,732,089.34	40.02769074	-104.67252513
17,800.00	90.04	359.92	7,353.10	9,029.36	1,199.93	14,537,085.31	1,732,088.85	40.02796536	-104.67252559
17,900.00	90.04	359.92	7,353.03	9,129.36	1,199.80	14,537,185.31	1,732,088.35	40.02823997	-104.67252604
17,937.28	90.04	359.92	7,353.00	9,166.64	1,199.75	14,537,222.59	1,732,088.17	40.02834236	-104.67252621
PBHL/TD 17937.28 MD/7353.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL Buford 33-07-3L 47	0.00	0.00	7,353.00	9,166.64	1,199.75	14,537,222.59	1,732,088.17	40.02834236	-104.67252621
- plan hits target center									
- Point									
LP Buford 33-7-3L 470 F	0.00	0.00	7,360.00	-489.82	1,212.49	14,527,566.26	1,732,135.93	40.00182423	-104.67248239
- 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	
5,422.61	5,385.32	-116.32	92.99	Begin 42.26° tangent section	
7,063.20	6,599.51	-978.10	781.92	Begin 10°/100' build/turn	
8,280.81	7,360.00	-489.82	1,212.49	LP Begin 90.04° lateral section	
17,937.28	7,353.00	9,166.64	1,199.75	PBHL/TD 17937.28 MD/7353.00 TVD	