



Weld County, Colorado
Section 33-T01N-R65W
Buford 33-10-4L
plan1

Azimuth Corrections:

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

Buford 33-10-4L			
Surf Loc: 935 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			
North	East	Lat	Long
14528026.11	1730771.89	40.00310070	-104.67734718

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	5332.53	33.25	173.11	5314.18	-93.14	11.25	10.00	-92.92	Begin 33.25° tangent section
4	6899.73	33.25	173.11	6624.75	-946.30	114.29	0.00	-944.03	Begin 10°/100' build/turn
5	8130.27	90.07	359.92	7507.00	-464.97	182.35	10.00	-461.53	LP Begin 90.07° lateral section
6	17782.24	90.07	359.92	7496.00	9186.98	169.55	0.00	9188.55	PBHL/TD 17782.24 MD/7496.00 TVD

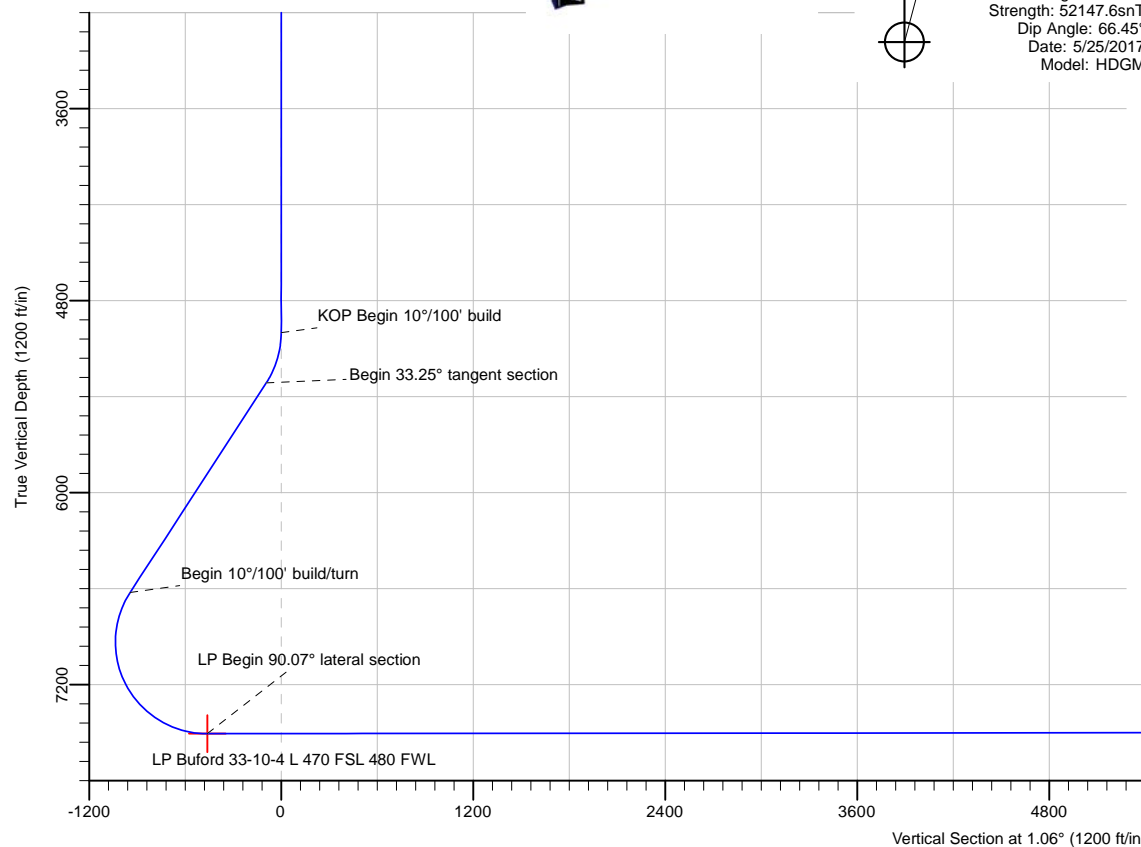
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East	Lat	Long
BHL Buford 33-10-4 L 470 FNL 480 FWL	7496.00	9186.98	169.55	14537213.63	1730908.18	40.02832958	-104.67674149
LP Buford 33-10-4 L 470 FSL 480 FWL	7507.00	-464.97	182.35	14527561.80	1730955.92	40.00182381	-104.67669605

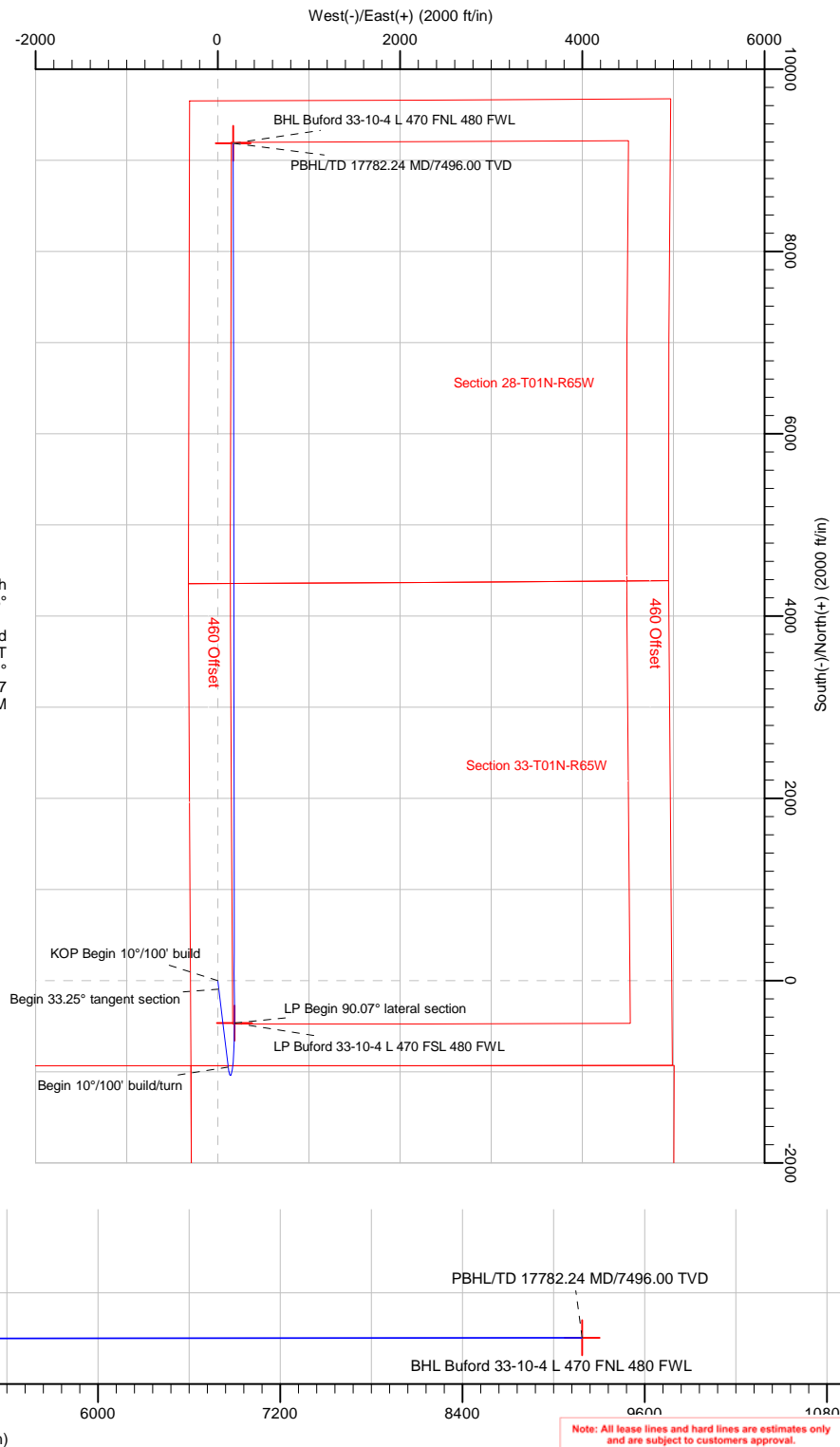


Azimuths to True North
Magnetic North: 8.28°

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



Date: 23:00, 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 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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

Site		Section 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 33-10-4L, Surf Loc: 935 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	275.00 ft	Northing:	14,528,026.11 usft	Latitude:	40.00310071
	+E/-W	-1.38 ft	Easting:	1,730,771.89 usft	Longitude:	-104.67734718
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	1.06

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,782.24	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	
5,332.53	33.25	173.11	5,314.18	-93.14	11.25	10.00	10.00	0.00	173.11	
6,899.73	33.25	173.11	6,624.75	-946.30	114.29	0.00	0.00	0.00	0.00	
8,130.27	90.07	359.92	7,507.00	-464.97	182.35	10.00	4.62	-14.07	-171.87	LP Buford 33-10-4 L 4
17,782.24	90.07	359.92	7,496.00	9,186.98	169.55	0.00	0.00	0.00	0.00	BHL Buford 33-10-4 L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	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	173.11	5,099.49	-8.64	1.04	-8.62	10.00	10.00	0.00
5,200.00	20.00	173.11	5,195.96	-34.30	4.14	-34.22	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	30.00	173.11	5,286.48	-76.21	9.20	-76.03	10.00	10.00	0.00
5,332.53	33.25	173.11	5,314.18	-93.14	11.25	-92.92	10.00	10.00	0.00
Begin 33.25° tangent section									
5,400.00	33.25	173.11	5,370.60	-129.87	15.69	-129.56	0.00	0.00	0.00
5,500.00	33.25	173.11	5,454.22	-184.31	22.26	-183.87	0.00	0.00	0.00
5,600.00	33.25	173.11	5,537.85	-238.75	28.83	-238.17	0.00	0.00	0.00
5,700.00	33.25	173.11	5,621.47	-293.19	35.41	-292.48	0.00	0.00	0.00
5,800.00	33.25	173.11	5,705.10	-347.62	41.98	-346.79	0.00	0.00	0.00
5,900.00	33.25	173.11	5,788.72	-402.06	48.56	-401.10	0.00	0.00	0.00
6,000.00	33.25	173.11	5,872.35	-456.50	55.13	-455.41	0.00	0.00	0.00
6,100.00	33.25	173.11	5,955.97	-510.94	61.71	-509.71	0.00	0.00	0.00
6,200.00	33.25	173.11	6,039.60	-565.38	68.28	-564.02	0.00	0.00	0.00
6,300.00	33.25	173.11	6,123.23	-619.82	74.86	-618.33	0.00	0.00	0.00
6,400.00	33.25	173.11	6,206.85	-674.25	81.43	-672.64	0.00	0.00	0.00
6,500.00	33.25	173.11	6,290.48	-728.69	88.01	-726.95	0.00	0.00	0.00
6,600.00	33.25	173.11	6,374.10	-783.13	94.58	-781.25	0.00	0.00	0.00
6,700.00	33.25	173.11	6,457.73	-837.57	101.16	-835.56	0.00	0.00	0.00
6,800.00	33.25	173.11	6,541.35	-892.01	107.73	-889.87	0.00	0.00	0.00
6,899.73	33.25	173.11	6,624.75	-946.30	114.29	-944.03	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,900.00	33.23	173.11	6,624.98	-946.45	114.31	-944.18	10.00	-9.90	-2.58
7,000.00	23.37	169.55	6,712.93	-993.27	121.21	-990.86	10.00	-9.86	-3.55
7,100.00	13.69	161.30	6,807.65	-1,024.06	128.62	-1,021.51	10.00	-9.67	-8.25
7,200.00	5.34	123.62	6,906.26	-1,037.88	136.31	-1,035.19	10.00	-8.35	-37.68
7,300.00	8.32	32.07	7,005.77	-1,034.32	144.05	-1,031.48	10.00	2.98	-91.55
7,400.00	17.59	14.14	7,103.15	-1,013.48	151.60	-1,010.51	10.00	9.27	-17.94
7,500.00	27.38	8.57	7,195.45	-975.99	158.74	-972.90	10.00	9.78	-5.56
7,600.00	37.27	5.80	7,279.85	-923.00	165.24	-919.80	10.00	9.89	-2.77
7,700.00	47.20	4.06	7,353.80	-856.12	170.91	-852.82	10.00	9.93	-1.74
7,800.00	57.15	2.81	7,415.05	-777.37	175.58	-774.00	10.00	9.95	-1.25
7,900.00	67.11	1.81	7,461.74	-689.15	179.10	-685.73	10.00	9.96	-1.00
8,000.00	77.08	0.95	7,492.45	-594.14	181.38	-590.69	10.00	9.97	-0.86
8,100.00	87.05	0.16	7,506.24	-495.23	182.33	-491.78	10.00	9.97	-0.79
8,130.27	90.07	359.92	7,507.00	-464.97	182.35	-461.53	10.00	9.97	-0.78
LP Begin 90.07° lateral section									
8,200.00	90.07	359.92	7,506.92	-395.24	182.26	-391.81	0.00	0.00	0.00
8,300.00	90.07	359.92	7,506.81	-295.24	182.12	-291.83	0.00	0.00	0.00
8,400.00	90.07	359.92	7,506.69	-195.24	181.99	-191.85	0.00	0.00	0.00
8,500.00	90.07	359.92	7,506.58	-95.24	181.86	-91.87	0.00	0.00	0.00
8,600.00	90.07	359.92	7,506.46	4.76	181.73	8.11	0.00	0.00	0.00
8,700.00	90.07	359.92	7,506.35	104.76	181.59	108.09	0.00	0.00	0.00
8,800.00	90.07	359.92	7,506.24	204.76	181.46	208.07	0.00	0.00	0.00
8,900.00	90.07	359.92	7,506.12	304.76	181.33	308.05	0.00	0.00	0.00
9,000.00	90.07	359.92	7,506.01	404.76	181.20	408.03	0.00	0.00	0.00
9,100.00	90.07	359.92	7,505.89	504.76	181.06	508.01	0.00	0.00	0.00
9,200.00	90.07	359.92	7,505.78	604.76	180.93	607.99	0.00	0.00	0.00
9,300.00	90.07	359.92	7,505.67	704.76	180.80	707.97	0.00	0.00	0.00
9,400.00	90.07	359.92	7,505.55	804.76	180.66	807.95	0.00	0.00	0.00
9,500.00	90.07	359.92	7,505.44	904.76	180.53	907.93	0.00	0.00	0.00
9,600.00	90.07	359.92	7,505.33	1,004.76	180.40	1,007.91	0.00	0.00	0.00
9,700.00	90.07	359.92	7,505.21	1,104.76	180.27	1,107.89	0.00	0.00	0.00
9,800.00	90.07	359.92	7,505.10	1,204.76	180.13	1,207.87	0.00	0.00	0.00
9,900.00	90.07	359.92	7,504.98	1,304.76	180.00	1,307.85	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5077+25 @ 5102.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,000.00	90.07	359.92	7,504.87	1,404.76	179.87	1,407.84	0.00	0.00	0.00
10,100.00	90.07	359.92	7,504.76	1,504.76	179.74	1,507.82	0.00	0.00	0.00
10,200.00	90.07	359.92	7,504.64	1,604.76	179.60	1,607.80	0.00	0.00	0.00
10,300.00	90.07	359.92	7,504.53	1,704.75	179.47	1,707.78	0.00	0.00	0.00
10,400.00	90.07	359.92	7,504.41	1,804.75	179.34	1,807.76	0.00	0.00	0.00
10,500.00	90.07	359.92	7,504.30	1,904.75	179.21	1,907.74	0.00	0.00	0.00
10,600.00	90.07	359.92	7,504.19	2,004.75	179.07	2,007.72	0.00	0.00	0.00
10,700.00	90.07	359.92	7,504.07	2,104.75	178.94	2,107.70	0.00	0.00	0.00
10,800.00	90.07	359.92	7,503.96	2,204.75	178.81	2,207.68	0.00	0.00	0.00
10,900.00	90.07	359.92	7,503.84	2,304.75	178.68	2,307.66	0.00	0.00	0.00
11,000.00	90.07	359.92	7,503.73	2,404.75	178.54	2,407.64	0.00	0.00	0.00
11,100.00	90.07	359.92	7,503.62	2,504.75	178.41	2,507.62	0.00	0.00	0.00
11,200.00	90.07	359.92	7,503.50	2,604.75	178.28	2,607.60	0.00	0.00	0.00
11,300.00	90.07	359.92	7,503.39	2,704.75	178.15	2,707.58	0.00	0.00	0.00
11,400.00	90.07	359.92	7,503.27	2,804.75	178.01	2,807.56	0.00	0.00	0.00
11,500.00	90.07	359.92	7,503.16	2,904.75	177.88	2,907.54	0.00	0.00	0.00
11,600.00	90.07	359.92	7,503.05	3,004.75	177.75	3,007.52	0.00	0.00	0.00
11,700.00	90.07	359.92	7,502.93	3,104.75	177.62	3,107.50	0.00	0.00	0.00
11,800.00	90.07	359.92	7,502.82	3,204.75	177.48	3,207.48	0.00	0.00	0.00
11,900.00	90.07	359.92	7,502.70	3,304.75	177.35	3,307.46	0.00	0.00	0.00
12,000.00	90.07	359.92	7,502.59	3,404.75	177.22	3,407.44	0.00	0.00	0.00
12,100.00	90.07	359.92	7,502.48	3,504.75	177.08	3,507.42	0.00	0.00	0.00
12,200.00	90.07	359.92	7,502.36	3,604.75	176.95	3,607.40	0.00	0.00	0.00
12,300.00	90.07	359.92	7,502.25	3,704.75	176.82	3,707.38	0.00	0.00	0.00
12,400.00	90.07	359.92	7,502.13	3,804.75	176.69	3,807.36	0.00	0.00	0.00
12,500.00	90.07	359.92	7,502.02	3,904.75	176.55	3,907.34	0.00	0.00	0.00
12,600.00	90.07	359.92	7,501.91	4,004.75	176.42	4,007.33	0.00	0.00	0.00
12,700.00	90.07	359.92	7,501.79	4,104.75	176.29	4,107.31	0.00	0.00	0.00
12,800.00	90.07	359.92	7,501.68	4,204.75	176.16	4,207.29	0.00	0.00	0.00
12,900.00	90.07	359.92	7,501.56	4,304.75	176.02	4,307.27	0.00	0.00	0.00
13,000.00	90.07	359.92	7,501.45	4,404.75	175.89	4,407.25	0.00	0.00	0.00
13,100.00	90.07	359.92	7,501.34	4,504.75	175.76	4,507.23	0.00	0.00	0.00
13,200.00	90.07	359.92	7,501.22	4,604.75	175.63	4,607.21	0.00	0.00	0.00
13,300.00	90.07	359.92	7,501.11	4,704.75	175.49	4,707.19	0.00	0.00	0.00
13,400.00	90.07	359.92	7,500.99	4,804.75	175.36	4,807.17	0.00	0.00	0.00
13,500.00	90.07	359.92	7,500.88	4,904.75	175.23	4,907.15	0.00	0.00	0.00
13,600.00	90.07	359.92	7,500.77	5,004.75	175.10	5,007.13	0.00	0.00	0.00
13,700.00	90.07	359.92	7,500.65	5,104.75	174.96	5,107.11	0.00	0.00	0.00
13,800.00	90.07	359.92	7,500.54	5,204.75	174.83	5,207.09	0.00	0.00	0.00
13,900.00	90.07	359.92	7,500.42	5,304.75	174.70	5,307.07	0.00	0.00	0.00
14,000.00	90.07	359.92	7,500.31	5,404.75	174.57	5,407.05	0.00	0.00	0.00
14,100.00	90.07	359.92	7,500.20	5,504.75	174.43	5,507.03	0.00	0.00	0.00
14,200.00	90.07	359.92	7,500.08	5,604.75	174.30	5,607.01	0.00	0.00	0.00
14,300.00	90.07	359.92	7,499.97	5,704.75	174.17	5,706.99	0.00	0.00	0.00
14,400.00	90.07	359.92	7,499.85	5,804.75	174.04	5,806.97	0.00	0.00	0.00
14,500.00	90.07	359.92	7,499.74	5,904.75	173.90	5,906.95	0.00	0.00	0.00
14,600.00	90.07	359.92	7,499.63	6,004.75	173.77	6,006.93	0.00	0.00	0.00
14,700.00	90.07	359.92	7,499.51	6,104.75	173.64	6,106.91	0.00	0.00	0.00
14,800.00	90.07	359.92	7,499.40	6,204.75	173.50	6,206.89	0.00	0.00	0.00
14,900.00	90.07	359.92	7,499.28	6,304.75	173.37	6,306.87	0.00	0.00	0.00
15,000.00	90.07	359.92	7,499.17	6,404.75	173.24	6,406.85	0.00	0.00	0.00
15,100.00	90.07	359.92	7,499.06	6,504.75	173.11	6,506.83	0.00	0.00	0.00
15,200.00	90.07	359.92	7,498.94	6,604.75	172.97	6,606.81	0.00	0.00	0.00
15,300.00	90.07	359.92	7,498.83	6,704.75	172.84	6,706.80	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,400.00	90.07	359.92	7,498.72	6,804.75	172.71	6,806.78	0.00	0.00	0.00
15,500.00	90.07	359.92	7,498.60	6,904.75	172.58	6,906.76	0.00	0.00	0.00
15,600.00	90.07	359.92	7,498.49	7,004.75	172.44	7,006.74	0.00	0.00	0.00
15,700.00	90.07	359.92	7,498.37	7,104.75	172.31	7,106.72	0.00	0.00	0.00
15,800.00	90.07	359.92	7,498.26	7,204.75	172.18	7,206.70	0.00	0.00	0.00
15,900.00	90.07	359.92	7,498.15	7,304.75	172.05	7,306.68	0.00	0.00	0.00
16,000.00	90.07	359.92	7,498.03	7,404.75	171.91	7,406.66	0.00	0.00	0.00
16,100.00	90.07	359.92	7,497.92	7,504.75	171.78	7,506.64	0.00	0.00	0.00
16,200.00	90.07	359.92	7,497.80	7,604.75	171.65	7,606.62	0.00	0.00	0.00
16,300.00	90.07	359.92	7,497.69	7,704.75	171.52	7,706.60	0.00	0.00	0.00
16,400.00	90.07	359.92	7,497.58	7,804.75	171.38	7,806.58	0.00	0.00	0.00
16,500.00	90.07	359.92	7,497.46	7,904.75	171.25	7,906.56	0.00	0.00	0.00
16,600.00	90.07	359.92	7,497.35	8,004.75	171.12	8,006.54	0.00	0.00	0.00
16,700.00	90.07	359.92	7,497.23	8,104.75	170.99	8,106.52	0.00	0.00	0.00
16,800.00	90.07	359.92	7,497.12	8,204.75	170.85	8,206.50	0.00	0.00	0.00
16,900.00	90.07	359.92	7,497.01	8,304.74	170.72	8,306.48	0.00	0.00	0.00
17,000.00	90.07	359.92	7,496.89	8,404.74	170.59	8,406.46	0.00	0.00	0.00
17,100.00	90.07	359.92	7,496.78	8,504.74	170.45	8,506.44	0.00	0.00	0.00
17,200.00	90.07	359.92	7,496.66	8,604.74	170.32	8,606.42	0.00	0.00	0.00
17,300.00	90.07	359.92	7,496.55	8,704.74	170.19	8,706.40	0.00	0.00	0.00
17,400.00	90.07	359.92	7,496.44	8,804.74	170.06	8,806.38	0.00	0.00	0.00
17,500.00	90.07	359.92	7,496.32	8,904.74	169.92	8,906.36	0.00	0.00	0.00
17,600.00	90.07	359.92	7,496.21	9,004.74	169.79	9,006.34	0.00	0.00	0.00
17,700.00	90.07	359.92	7,496.09	9,104.74	169.66	9,106.32	0.00	0.00	0.00
17,782.24	90.07	359.92	7,496.00	9,186.98	169.55	9,188.55	0.00	0.00	0.00
PBHL/TD 17782.24 MD/7496.00 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 33-10-4 L 47	0.00	0.00	7,496.00	9,186.98	169.55	14,537,213.63	1,730,908.18	40.02832959	-104.67674149
- plan hits target center									
- Point									
LP Buford 33-10-4 L 47C	0.00	0.00	7,507.00	-464.97	182.35	14,527,561.80	1,730,955.92	40.00182381	-104.67669605
- plan hits target center									
- Point									

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
5,332.53	5,314.18	-93.14	11.25	Begin 33.25° tangent section
6,899.73	6,624.75	-946.30	114.29	Begin 10°/100' build/turn
8,130.27	7,507.00	-464.97	182.35	LP Begin 90.07° lateral section
17,782.24	7,496.00	9,186.98	169.55	PBHL/TD 17782.24 MD/7496.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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

Site		Section 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 33-10-4L, Surf Loc: 935 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,528,026.11 usft	Latitude:	40.00310071
	+E/-W	0.00 ft	Easting:	1,730,771.89 usft	Longitude:	-104.67734718
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	1.06

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,782.24 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	
5,332.53	33.25	173.11	5,314.18	-93.14	11.25	10.00	10.00	0.00	173.11	
6,899.73	33.25	173.11	6,624.75	-946.30	114.29	0.00	0.00	0.00	0.00	
8,130.27	90.07	359.92	7,507.00	-464.97	182.35	10.00	4.62	-14.07	-171.87	LP Buford 33-10-4 L 4
17,782.24	90.07	359.92	7,496.00	9,186.98	169.55	0.00	0.00	0.00	0.00	BHL Buford 33-10-4 L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
100.00	0.00	0.00	100.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
200.00	0.00	0.00	200.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
300.00	0.00	0.00	300.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
400.00	0.00	0.00	400.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
500.00	0.00	0.00	500.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
600.00	0.00	0.00	600.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
700.00	0.00	0.00	700.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
800.00	0.00	0.00	800.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
900.00	0.00	0.00	900.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,528,026.11	1,730,771.89	40.00310071	-104.67734718
KOP Begin 10°/100' build									
5,100.00	10.00	173.11	5,099.49	-8.64	1.04	14,528,017.48	1,730,772.96	40.00307697	-104.67734345
5,200.00	20.00	173.11	5,195.96	-34.30	4.14	14,527,991.83	1,730,776.16	40.00300650	-104.67733239

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,300.00	30.00	173.11	5,286.48	-76.21	9.20	14,527,949.94	1,730,781.37	40.00289143	-104.67731431
5,332.53	33.25	173.11	5,314.18	-93.14	11.25	14,527,933.01	1,730,783.48	40.00284492	-104.67730701
Begin 33.25° tangent section									
5,400.00	33.25	173.11	5,370.60	-129.87	15.69	14,527,896.30	1,730,788.04	40.00274406	-104.67729117
5,500.00	33.25	173.11	5,454.22	-184.31	22.26	14,527,841.89	1,730,794.82	40.00259456	-104.67726769
5,600.00	33.25	173.11	5,537.85	-238.75	28.83	14,527,787.47	1,730,801.59	40.00244507	-104.67724422
5,700.00	33.25	173.11	5,621.47	-293.19	35.41	14,527,733.06	1,730,808.36	40.00229557	-104.67722074
5,800.00	33.25	173.11	5,705.10	-347.62	41.98	14,527,678.65	1,730,815.13	40.00214607	-104.67719726
5,900.00	33.25	173.11	5,788.72	-402.06	48.56	14,527,624.23	1,730,821.90	40.00199658	-104.67717378
6,000.00	33.25	173.11	5,872.35	-456.50	55.13	14,527,569.82	1,730,828.68	40.00184708	-104.67715031
6,100.00	33.25	173.11	5,955.97	-510.94	61.71	14,527,515.40	1,730,835.45	40.00169758	-104.67712683
6,200.00	33.25	173.11	6,039.60	-565.38	68.28	14,527,460.99	1,730,842.22	40.00154809	-104.67710335
6,300.00	33.25	173.11	6,123.23	-619.82	74.86	14,527,406.57	1,730,848.99	40.00139859	-104.67707987
6,400.00	33.25	173.11	6,206.85	-674.25	81.43	14,527,352.16	1,730,855.76	40.00124909	-104.67705640
6,500.00	33.25	173.11	6,290.48	-728.69	88.01	14,527,297.75	1,730,862.53	40.00109960	-104.67703292
6,600.00	33.25	173.11	6,374.10	-783.13	94.58	14,527,243.33	1,730,869.31	40.00095010	-104.67700944
6,700.00	33.25	173.11	6,457.73	-837.57	101.16	14,527,188.92	1,730,876.08	40.00080060	-104.67698597
6,800.00	33.25	173.11	6,541.35	-892.01	107.73	14,527,134.50	1,730,882.85	40.00065111	-104.67696249
6,899.73	33.25	173.11	6,624.75	-946.30	114.29	14,527,080.24	1,730,889.60	40.00050201	-104.67693908
Begin 10°/100' build/turn									
6,900.00	33.23	173.11	6,624.98	-946.45	114.31	14,527,080.09	1,730,889.62	40.00050161	-104.67693901
7,000.00	23.37	169.55	6,712.93	-993.27	121.21	14,527,033.30	1,730,896.69	40.00037303	-104.67691437
7,100.00	13.69	161.30	6,807.65	-1,024.06	128.62	14,527,002.53	1,730,904.21	40.00028848	-104.67688791
7,200.00	5.34	123.62	6,906.26	-1,037.88	136.31	14,526,988.74	1,730,911.95	40.00025052	-104.67686045
7,300.00	8.32	32.07	7,005.77	-1,034.32	144.05	14,526,992.33	1,730,919.68	40.00026030	-104.67683282
7,400.00	17.59	14.14	7,103.15	-1,013.48	151.60	14,527,013.20	1,730,927.16	40.00031753	-104.67680585
7,500.00	27.38	8.57	7,195.45	-975.99	158.74	14,527,050.71	1,730,934.16	40.00042047	-104.67678037
7,600.00	37.27	5.80	7,279.85	-923.00	165.24	14,527,103.72	1,730,940.47	40.00056599	-104.67675715
7,700.00	47.20	4.06	7,353.80	-856.12	170.91	14,527,170.62	1,730,945.90	40.00074967	-104.67673689
7,800.00	57.15	2.81	7,415.05	-777.37	175.58	14,527,249.39	1,730,950.28	40.00096593	-104.67672022
7,900.00	67.11	1.81	7,461.74	-689.15	179.10	14,527,337.62	1,730,953.49	40.00120819	-104.67670764
8,000.00	77.08	0.95	7,492.45	-594.14	181.38	14,527,432.64	1,730,955.41	40.00146910	-104.67669952
8,100.00	87.05	0.16	7,506.24	-495.23	182.33	14,527,531.55	1,730,956.01	40.00174073	-104.67669612
8,130.27	90.07	359.92	7,507.00	-464.97	182.35	14,527,561.80	1,730,955.92	40.00182381	-104.67669605
LP Begin 90.07° lateral section									
8,200.00	90.07	359.92	7,506.92	-395.24	182.26	14,527,631.54	1,730,955.57	40.00201531	-104.67669637
8,300.00	90.07	359.92	7,506.81	-295.24	182.12	14,527,731.53	1,730,955.08	40.00228992	-104.67669684
8,400.00	90.07	359.92	7,506.69	-195.24	181.99	14,527,831.53	1,730,954.58	40.00256454	-104.67669732
8,500.00	90.07	359.92	7,506.58	-95.24	181.86	14,527,931.53	1,730,954.09	40.00283915	-104.67669779
8,600.00	90.07	359.92	7,506.46	4.76	181.73	14,528,031.53	1,730,953.60	40.00311377	-104.67669826
8,700.00	90.07	359.92	7,506.35	104.76	181.59	14,528,131.53	1,730,953.10	40.00338838	-104.67669873
8,800.00	90.07	359.92	7,506.24	204.76	181.46	14,528,231.53	1,730,952.61	40.00366300	-104.67669920
8,900.00	90.07	359.92	7,506.12	304.76	181.33	14,528,331.53	1,730,952.11	40.00393762	-104.67669967
9,000.00	90.07	359.92	7,506.01	404.76	181.20	14,528,431.52	1,730,951.62	40.00421223	-104.67670014
9,100.00	90.07	359.92	7,505.89	504.76	181.06	14,528,531.52	1,730,951.12	40.00448685	-104.67670061
9,200.00	90.07	359.92	7,505.78	604.76	180.93	14,528,631.52	1,730,950.63	40.00476146	-104.67670108
9,300.00	90.07	359.92	7,505.67	704.76	180.80	14,528,731.52	1,730,950.13	40.00503608	-104.67670155
9,400.00	90.07	359.92	7,505.55	804.76	180.66	14,528,831.52	1,730,949.64	40.00531069	-104.67670202
9,500.00	90.07	359.92	7,505.44	904.76	180.53	14,528,931.52	1,730,949.14	40.00558531	-104.67670250
9,600.00	90.07	359.92	7,505.33	1,004.76	180.40	14,529,031.52	1,730,948.65	40.00585992	-104.67670297
9,700.00	90.07	359.92	7,505.21	1,104.76	180.27	14,529,131.51	1,730,948.15	40.00613454	-104.67670344
9,800.00	90.07	359.92	7,505.10	1,204.76	180.13	14,529,231.51	1,730,947.66	40.00640916	-104.67670391
9,900.00	90.07	359.92	7,504.98	1,304.76	180.00	14,529,331.51	1,730,947.17	40.00668377	-104.67670438
10,000.00	90.07	359.92	7,504.87	1,404.76	179.87	14,529,431.51	1,730,946.67	40.00695839	-104.67670485

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,100.00	90.07	359.92	7,504.76	1,504.76	179.74	14,529,531.51	1,730,946.18	40.00723300	-104.67670532
10,200.00	90.07	359.92	7,504.64	1,604.76	179.60	14,529,631.51	1,730,945.68	40.00750762	-104.67670579
10,300.00	90.07	359.92	7,504.53	1,704.75	179.47	14,529,731.50	1,730,945.19	40.00778223	-104.67670626
10,400.00	90.07	359.92	7,504.41	1,804.75	179.34	14,529,831.50	1,730,944.69	40.00805685	-104.67670673
10,500.00	90.07	359.92	7,504.30	1,904.75	179.21	14,529,931.50	1,730,944.20	40.00833146	-104.67670720
10,600.00	90.07	359.92	7,504.19	2,004.75	179.07	14,530,031.50	1,730,943.70	40.00860608	-104.67670768
10,700.00	90.07	359.92	7,504.07	2,104.75	178.94	14,530,131.50	1,730,943.21	40.00888069	-104.67670815
10,800.00	90.07	359.92	7,503.96	2,204.75	178.81	14,530,231.50	1,730,942.71	40.00915531	-104.67670862
10,900.00	90.07	359.92	7,503.84	2,304.75	178.68	14,530,331.50	1,730,942.22	40.00942993	-104.67670909
11,000.00	90.07	359.92	7,503.73	2,404.75	178.54	14,530,431.49	1,730,941.72	40.00970454	-104.67670956
11,100.00	90.07	359.92	7,503.62	2,504.75	178.41	14,530,531.49	1,730,941.23	40.00997916	-104.67671003
11,200.00	90.07	359.92	7,503.50	2,604.75	178.28	14,530,631.49	1,730,940.74	40.01025377	-104.67671050
11,300.00	90.07	359.92	7,503.39	2,704.75	178.15	14,530,731.49	1,730,940.24	40.01052839	-104.67671097
11,400.00	90.07	359.92	7,503.27	2,804.75	178.01	14,530,831.49	1,730,939.75	40.01080300	-104.67671144
11,500.00	90.07	359.92	7,503.16	2,904.75	177.88	14,530,931.49	1,730,939.25	40.01107762	-104.67671191
11,600.00	90.07	359.92	7,503.05	3,004.75	177.75	14,531,031.49	1,730,938.76	40.01135223	-104.67671238
11,700.00	90.07	359.92	7,502.93	3,104.75	177.62	14,531,131.48	1,730,938.26	40.01162685	-104.67671286
11,800.00	90.07	359.92	7,502.82	3,204.75	177.48	14,531,231.48	1,730,937.77	40.01190146	-104.67671333
11,900.00	90.07	359.92	7,502.70	3,304.75	177.35	14,531,331.48	1,730,937.27	40.01217608	-104.67671380
12,000.00	90.07	359.92	7,502.59	3,404.75	177.22	14,531,431.48	1,730,936.78	40.01245069	-104.67671427
12,100.00	90.07	359.92	7,502.48	3,504.75	177.08	14,531,531.48	1,730,936.28	40.01272531	-104.67671474
12,200.00	90.07	359.92	7,502.36	3,604.75	176.95	14,531,631.48	1,730,935.79	40.01299992	-104.67671521
12,300.00	90.07	359.92	7,502.25	3,704.75	176.82	14,531,731.48	1,730,935.29	40.01327454	-104.67671568
12,400.00	90.07	359.92	7,502.13	3,804.75	176.69	14,531,831.47	1,730,934.80	40.01354915	-104.67671615
12,500.00	90.07	359.92	7,502.02	3,904.75	176.55	14,531,931.47	1,730,934.31	40.01382377	-104.67671662
12,600.00	90.07	359.92	7,501.91	4,004.75	176.42	14,532,031.47	1,730,933.81	40.01409838	-104.67671709
12,700.00	90.07	359.92	7,501.79	4,104.75	176.29	14,532,131.47	1,730,933.32	40.01437300	-104.67671756
12,800.00	90.07	359.92	7,501.68	4,204.75	176.16	14,532,231.47	1,730,932.82	40.01464761	-104.67671803
12,900.00	90.07	359.92	7,501.56	4,304.75	176.02	14,532,331.47	1,730,932.33	40.01492223	-104.67671850
13,000.00	90.07	359.92	7,501.45	4,404.75	175.89	14,532,431.46	1,730,931.83	40.01519685	-104.67671898
13,100.00	90.07	359.92	7,501.34	4,504.75	175.76	14,532,531.46	1,730,931.34	40.01547146	-104.67671945
13,200.00	90.07	359.92	7,501.22	4,604.75	175.63	14,532,631.46	1,730,930.84	40.01574608	-104.67671992
13,300.00	90.07	359.92	7,501.11	4,704.75	175.49	14,532,731.46	1,730,930.35	40.01602069	-104.67672039
13,400.00	90.07	359.92	7,500.99	4,804.75	175.36	14,532,831.46	1,730,929.85	40.01629531	-104.67672086
13,500.00	90.07	359.92	7,500.88	4,904.75	175.23	14,532,931.46	1,730,929.36	40.01656992	-104.67672133
13,600.00	90.07	359.92	7,500.77	5,004.75	175.10	14,533,031.46	1,730,928.86	40.01684454	-104.67672180
13,700.00	90.07	359.92	7,500.65	5,104.75	174.96	14,533,131.45	1,730,928.37	40.01711915	-104.67672227
13,800.00	90.07	359.92	7,500.54	5,204.75	174.83	14,533,231.45	1,730,927.88	40.01739377	-104.67672274
13,900.00	90.07	359.92	7,500.42	5,304.75	174.70	14,533,331.45	1,730,927.38	40.01766838	-104.67672321
14,000.00	90.07	359.92	7,500.31	5,404.75	174.57	14,533,431.45	1,730,926.89	40.01794300	-104.67672368
14,100.00	90.07	359.92	7,500.20	5,504.75	174.43	14,533,531.45	1,730,926.39	40.01821761	-104.67672415
14,200.00	90.07	359.92	7,500.08	5,604.75	174.30	14,533,631.45	1,730,925.90	40.01849223	-104.67672463
14,300.00	90.07	359.92	7,499.97	5,704.75	174.17	14,533,731.45	1,730,925.40	40.01876684	-104.67672510
14,400.00	90.07	359.92	7,499.85	5,804.75	174.04	14,533,831.44	1,730,924.91	40.01904145	-104.67672557
14,500.00	90.07	359.92	7,499.74	5,904.75	173.90	14,533,931.44	1,730,924.41	40.01931607	-104.67672604
14,600.00	90.07	359.92	7,499.63	6,004.75	173.77	14,534,031.44	1,730,923.92	40.01959068	-104.67672651
14,700.00	90.07	359.92	7,499.51	6,104.75	173.64	14,534,131.44	1,730,923.42	40.01986530	-104.67672698
14,800.00	90.07	359.92	7,499.40	6,204.75	173.50	14,534,231.44	1,730,922.93	40.02013991	-104.67672745
14,900.00	90.07	359.92	7,499.28	6,304.75	173.37	14,534,331.44	1,730,922.43	40.02041453	-104.67672792
15,000.00	90.07	359.92	7,499.17	6,404.75	173.24	14,534,431.43	1,730,921.94	40.02068914	-104.67672839
15,100.00	90.07	359.92	7,499.06	6,504.75	173.11	14,534,531.43	1,730,921.45	40.02096376	-104.67672886
15,200.00	90.07	359.92	7,498.94	6,604.75	172.97	14,534,631.43	1,730,920.95	40.02123837	-104.67672933
15,300.00	90.07	359.92	7,498.83	6,704.75	172.84	14,534,731.43	1,730,920.46	40.02151299	-104.67672980
15,400.00	90.07	359.92	7,498.72	6,804.75	172.71	14,534,831.43	1,730,919.96	40.02178760	-104.67673027
15,500.00	90.07	359.92	7,498.60	6,904.75	172.58	14,534,931.43	1,730,919.47	40.02206222	-104.67673074

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-10-4L
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 33-10-4L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	90.07	359.92	7,498.49	7,004.75	172.44	14,535,031.43	1,730,918.97	40.02233683	-104.67673122
15,700.00	90.07	359.92	7,498.37	7,104.75	172.31	14,535,131.42	1,730,918.48	40.02261145	-104.67673169
15,800.00	90.07	359.92	7,498.26	7,204.75	172.18	14,535,231.42	1,730,917.98	40.02288606	-104.67673216
15,900.00	90.07	359.92	7,498.15	7,304.75	172.05	14,535,331.42	1,730,917.49	40.02316068	-104.67673263
16,000.00	90.07	359.92	7,498.03	7,404.75	171.91	14,535,431.42	1,730,916.99	40.02343529	-104.67673310
16,100.00	90.07	359.92	7,497.92	7,504.75	171.78	14,535,531.42	1,730,916.50	40.02370991	-104.67673357
16,200.00	90.07	359.92	7,497.80	7,604.75	171.65	14,535,631.42	1,730,916.00	40.02398452	-104.67673404
16,300.00	90.07	359.92	7,497.69	7,704.75	171.52	14,535,731.42	1,730,915.51	40.02425914	-104.67673451
16,400.00	90.07	359.92	7,497.58	7,804.75	171.38	14,535,831.41	1,730,915.02	40.02453375	-104.67673498
16,500.00	90.07	359.92	7,497.46	7,904.75	171.25	14,535,931.41	1,730,914.52	40.02480836	-104.67673545
16,600.00	90.07	359.92	7,497.35	8,004.75	171.12	14,536,031.41	1,730,914.03	40.02508298	-104.67673592
16,700.00	90.07	359.92	7,497.23	8,104.75	170.99	14,536,131.41	1,730,913.53	40.02535759	-104.67673639
16,800.00	90.07	359.92	7,497.12	8,204.75	170.85	14,536,231.41	1,730,913.04	40.02563221	-104.67673686
16,900.00	90.07	359.92	7,497.01	8,304.74	170.72	14,536,331.41	1,730,912.54	40.02590682	-104.67673733
17,000.00	90.07	359.92	7,496.89	8,404.74	170.59	14,536,431.41	1,730,912.05	40.02618144	-104.67673780
17,100.00	90.07	359.92	7,496.78	8,504.74	170.45	14,536,531.40	1,730,911.55	40.02645605	-104.67673828
17,200.00	90.07	359.92	7,496.66	8,604.74	170.32	14,536,631.40	1,730,911.06	40.02673067	-104.67673875
17,300.00	90.07	359.92	7,496.55	8,704.74	170.19	14,536,731.40	1,730,910.56	40.02700528	-104.67673922
17,400.00	90.07	359.92	7,496.44	8,804.74	170.06	14,536,831.40	1,730,910.07	40.02727990	-104.67673969
17,500.00	90.07	359.92	7,496.32	8,904.74	169.92	14,536,931.40	1,730,909.57	40.02755451	-104.67674016
17,600.00	90.07	359.92	7,496.21	9,004.74	169.79	14,537,031.40	1,730,909.08	40.02782913	-104.67674063
17,700.00	90.07	359.92	7,496.09	9,104.74	169.66	14,537,131.39	1,730,908.59	40.02810374	-104.67674110
17,782.24	90.07	359.92	7,496.00	9,186.98	169.55	14,537,213.63	1,730,908.18	40.02832959	-104.67674149
PBHL/TD 17782.24 MD/7496.00 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 33-10-4 L 47	0.00	0.00	7,496.00	9,186.98	169.55	14,537,213.63	1,730,908.18	40.02832959	-104.67674149
- plan hits target center									
- Point									
LP Buford 33-10-4 L 47C	0.00	0.00	7,507.00	-464.97	182.35	14,527,561.80	1,730,955.92	40.00182381	-104.67669605
- plan hits target center									
- Point									

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
5,332.53	5,314.18	-93.14	11.25	Begin 33.25° tangent section
6,899.73	6,624.75	-946.30	114.29	Begin 10°/100' build/turn
8,130.27	7,507.00	-464.97	182.35	LP Begin 90.07° lateral section
17,782.24	7,496.00	9,186.98	169.55	PBHL/TD 17782.24 MD/7496.00 TVD