



Weld County, Colorado
Section 33-T01N-R65W
Buford 33-8-4L
plan1

Azimuth Corrections:

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

Buford 33-8-4L			
Surf Loc: 910 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+25 @ 5107.00ft			
Northing	Easting	Latitude	Longitude
14528001.68	1730922.10	40.00303212	-104.67681112

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	5376.25	37.63	142.52	5349.79	-94.57	72.51	10.00	-85.58	Begin 37.63° tangent
4	7124.62	37.63	142.52	6734.53	-941.60	721.98	0.00	-852.10	Begin 10°/100' build/turn
5	8314.93	90.02	359.92	7505.00	-439.84	1082.24	10.00	-312.15	LP Begin 90.02° lateral section
6	17970.91	90.02	359.92	7501.00	9216.13	1069.50	0.00	9277.98	PBHL/TD 17970.91 MD/7501.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL Buford 33-08-4L 470 FNL 1530 FWL	7501.00	9216.13	1069.50	14537221.61	1731958.17	40.02834097	-104.67299061
LP Buford 33-08-4L 470 FSL 1530 FWL	7505.00	-439.84	1082.24	14527565.77	1732005.93	40.00182419	-104.67294660

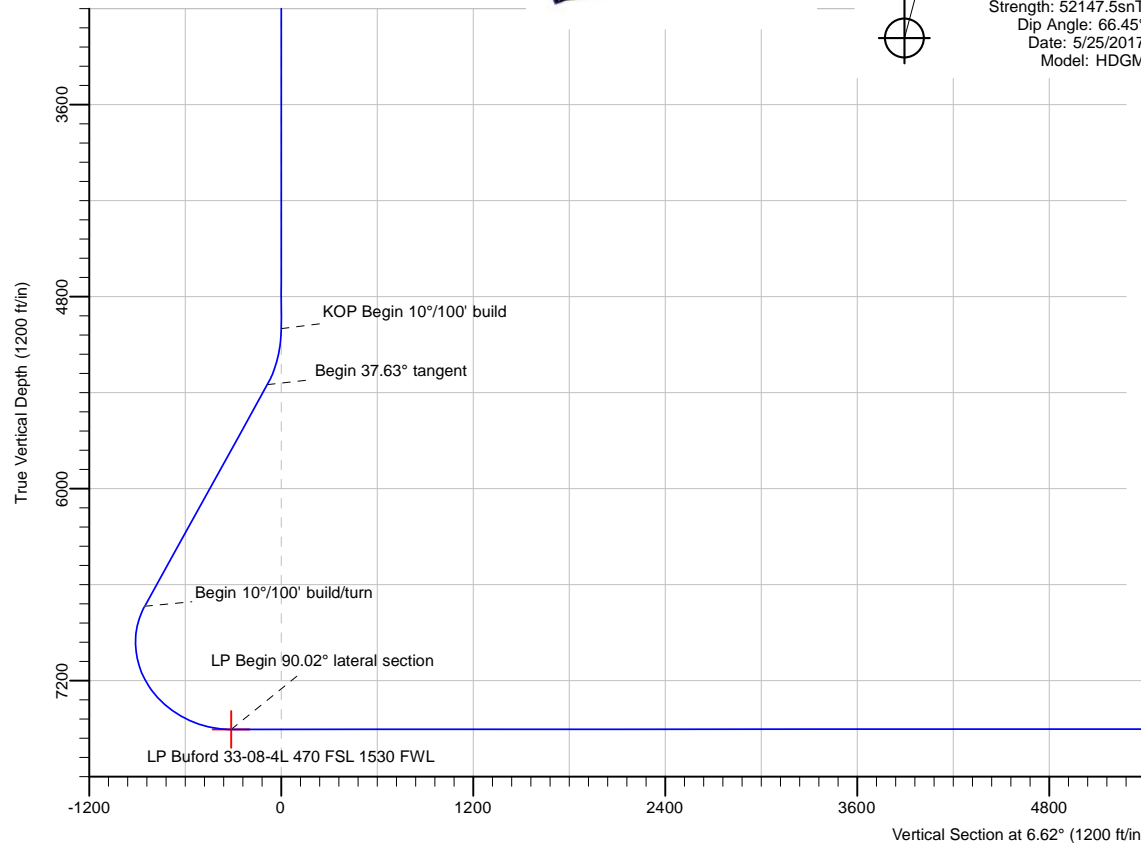


PRODIRECTIONAL

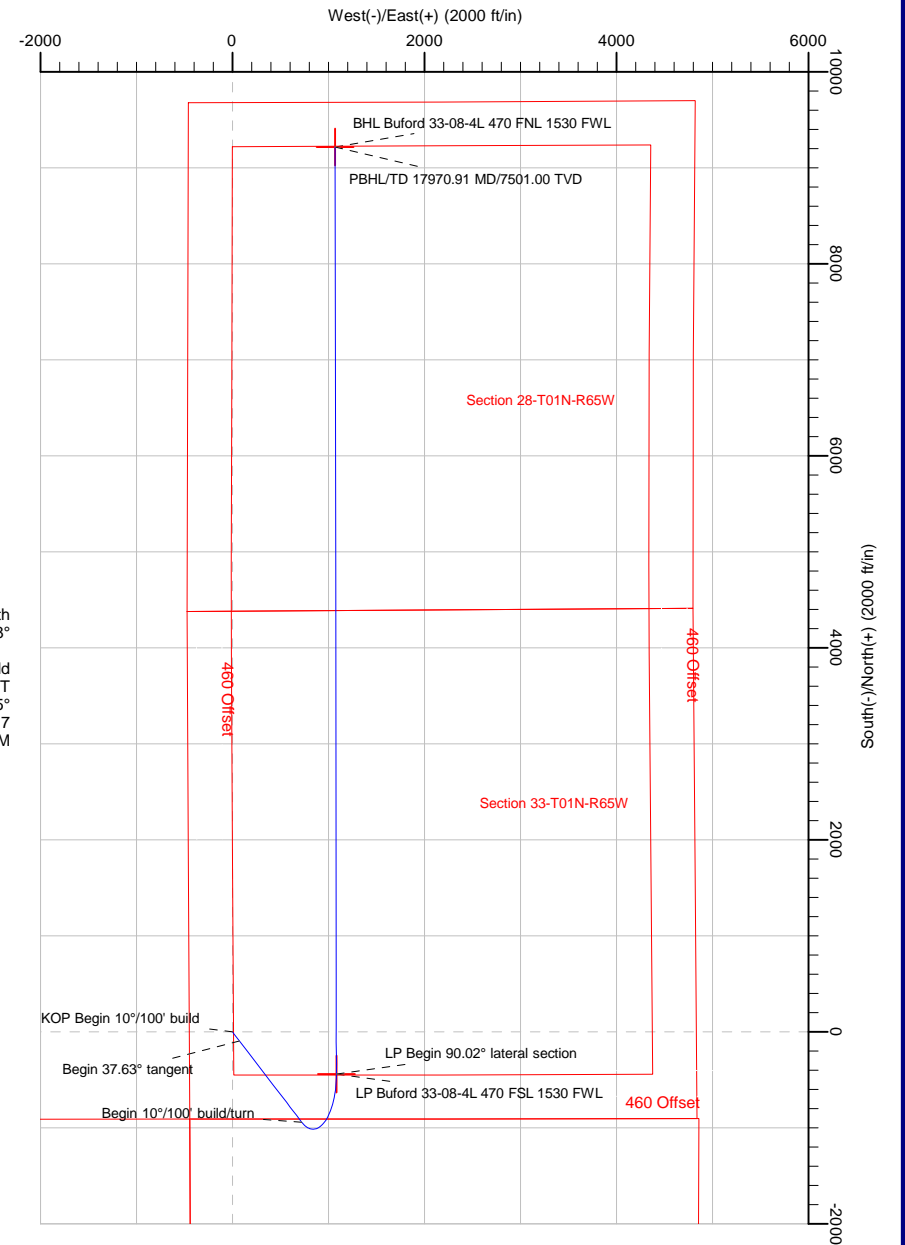


Azimuths to True North
Magnetic North: 8.28°

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



Date: 23:03, May 25 2017



PBHL/TD 17970.91 MD/7501.00 TVD

BHL Buford 33-08-4L 470 FNL 1530 FWL

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 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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 33-8-4L, Surf Loc: 910 FSL 450 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	250.02 ft	Northing:	14,528,001.68 usft	Latitude:	40.00303212
	+E/-W	148.74 ft	Easting:	1,730,922.10 usft	Longitude:	-104.67681111
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	6.62

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,970.91	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	
5,376.25	37.63	142.52	5,349.79	-94.57	72.51	10.00	10.00	0.00	142.52	
7,124.62	37.63	142.52	6,734.53	-941.60	721.98	0.00	0.00	0.00	0.00	
8,314.94	90.02	359.92	7,505.00	-439.84	1,082.24	10.00	4.40	-11.98	-136.00	LP Buford 33-08-4L 4'
17,970.91	90.02	359.92	7,501.00	9,216.13	1,069.50	0.00	0.00	0.00	0.00	BHL Buford 33-08-4L

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Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	142.52	5,099.49	-6.91	5.30	-6.25	10.00	10.00	0.00
5,200.00	20.00	142.52	5,195.96	-27.42	21.02	-24.81	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	142.52	5,286.48	-60.92	46.71	-55.13	10.00	10.00	0.00
5,376.25	37.63	142.52	5,349.79	-94.57	72.51	-85.58	10.00	10.00	0.00
Begin 37.63° tangent									
5,400.00	37.63	142.52	5,368.60	-106.07	81.33	-95.99	0.00	0.00	0.00
5,500.00	37.63	142.52	5,447.80	-154.52	118.48	-139.83	0.00	0.00	0.00
5,600.00	37.63	142.52	5,527.00	-202.96	155.62	-183.67	0.00	0.00	0.00
5,700.00	37.63	142.52	5,606.20	-251.41	192.77	-227.51	0.00	0.00	0.00
5,800.00	37.63	142.52	5,685.40	-299.86	229.92	-271.36	0.00	0.00	0.00
5,900.00	37.63	142.52	5,764.61	-348.31	267.06	-315.20	0.00	0.00	0.00
6,000.00	37.63	142.52	5,843.81	-396.75	304.21	-359.04	0.00	0.00	0.00
6,100.00	37.63	142.52	5,923.01	-445.20	341.36	-402.88	0.00	0.00	0.00
6,200.00	37.63	142.52	6,002.21	-493.65	378.51	-446.73	0.00	0.00	0.00
6,300.00	37.63	142.52	6,081.41	-542.10	415.65	-490.57	0.00	0.00	0.00
6,400.00	37.63	142.52	6,160.62	-590.54	452.80	-534.41	0.00	0.00	0.00
6,500.00	37.63	142.52	6,239.82	-638.99	489.95	-578.25	0.00	0.00	0.00
6,600.00	37.63	142.52	6,319.02	-687.44	527.09	-622.09	0.00	0.00	0.00
6,700.00	37.63	142.52	6,398.22	-735.88	564.24	-665.94	0.00	0.00	0.00
6,800.00	37.63	142.52	6,477.42	-784.33	601.39	-709.78	0.00	0.00	0.00
6,900.00	37.63	142.52	6,556.63	-832.78	638.54	-753.62	0.00	0.00	0.00
7,000.00	37.63	142.52	6,635.83	-881.23	675.68	-797.46	0.00	0.00	0.00
7,100.00	37.63	142.52	6,715.03	-929.67	712.83	-841.31	0.00	0.00	0.00
7,124.62	37.63	142.52	6,734.53	-941.60	721.98	-852.10	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,200.00	32.57	132.77	6,796.23	-973.68	750.91	-880.63	10.00	-6.71	-12.93
7,300.00	27.44	115.50	6,882.97	-1,001.95	791.56	-904.02	10.00	-5.13	-17.28
7,400.00	25.14	93.39	6,972.84	-1,013.15	833.66	-910.30	10.00	-2.30	-22.11
7,500.00	26.42	70.45	7,063.11	-1,006.95	875.93	-899.26	10.00	1.28	-22.94
7,600.00	30.84	51.61	7,151.05	-983.53	917.09	-871.26	10.00	4.42	-18.84
7,700.00	37.29	37.89	7,233.97	-943.61	955.88	-827.13	10.00	6.45	-13.72
7,800.00	44.89	27.97	7,309.36	-888.40	991.13	-768.23	10.00	7.61	-9.92
7,900.00	53.15	20.48	7,374.94	-819.58	1,021.76	-696.33	10.00	8.26	-7.49
8,000.00	61.79	14.49	7,428.69	-739.23	1,046.85	-613.63	10.00	8.64	-5.99
8,100.00	70.64	9.40	7,469.00	-649.80	1,065.62	-522.64	10.00	8.86	-5.08
8,200.00	79.63	4.85	7,494.64	-554.01	1,077.52	-426.11	10.00	8.98	-4.55
8,300.00	88.67	0.56	7,504.83	-454.77	1,082.18	-326.99	10.00	9.04	-4.29
8,314.94	90.02	359.92	7,505.00	-439.84	1,082.24	-312.15	10.00	9.06	-4.24
LP Begin 90.02° lateral section									
8,400.00	90.02	359.92	7,504.96	-354.77	1,082.13	-227.67	0.00	0.00	0.00
8,500.00	90.02	359.92	7,504.92	-254.77	1,082.00	-128.35	0.00	0.00	0.00
8,600.00	90.02	359.92	7,504.88	-154.77	1,081.87	-29.03	0.00	0.00	0.00
8,700.00	90.02	359.92	7,504.84	-54.77	1,081.74	70.29	0.00	0.00	0.00
8,800.00	90.02	359.92	7,504.80	45.23	1,081.60	169.60	0.00	0.00	0.00
8,900.00	90.02	359.92	7,504.76	145.23	1,081.47	268.92	0.00	0.00	0.00
9,000.00	90.02	359.92	7,504.72	245.23	1,081.34	368.24	0.00	0.00	0.00
9,100.00	90.02	359.92	7,504.67	345.23	1,081.21	467.56	0.00	0.00	0.00
9,200.00	90.02	359.92	7,504.63	445.23	1,081.08	566.88	0.00	0.00	0.00
9,300.00	90.02	359.92	7,504.59	545.23	1,080.94	666.19	0.00	0.00	0.00
9,400.00	90.02	359.92	7,504.55	645.23	1,080.81	765.51	0.00	0.00	0.00
9,500.00	90.02	359.92	7,504.51	745.23	1,080.68	864.83	0.00	0.00	0.00
9,600.00	90.02	359.92	7,504.47	845.23	1,080.55	964.15	0.00	0.00	0.00
9,700.00	90.02	359.92	7,504.43	945.23	1,080.42	1,063.47	0.00	0.00	0.00
9,800.00	90.02	359.92	7,504.38	1,045.23	1,080.28	1,162.79	0.00	0.00	0.00
9,900.00	90.02	359.92	7,504.34	1,145.23	1,080.15	1,262.10	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	90.02	359.92	7,504.30	1,245.23	1,080.02	1,361.42	0.00	0.00	0.00
10,100.00	90.02	359.92	7,504.26	1,345.23	1,079.89	1,460.74	0.00	0.00	0.00
10,200.00	90.02	359.92	7,504.22	1,445.23	1,079.76	1,560.06	0.00	0.00	0.00
10,300.00	90.02	359.92	7,504.18	1,545.23	1,079.62	1,659.38	0.00	0.00	0.00
10,400.00	90.02	359.92	7,504.14	1,645.22	1,079.49	1,758.69	0.00	0.00	0.00
10,500.00	90.02	359.92	7,504.10	1,745.22	1,079.36	1,858.01	0.00	0.00	0.00
10,600.00	90.02	359.92	7,504.05	1,845.22	1,079.23	1,957.33	0.00	0.00	0.00
10,700.00	90.02	359.92	7,504.01	1,945.22	1,079.10	2,056.65	0.00	0.00	0.00
10,800.00	90.02	359.92	7,503.97	2,045.22	1,078.96	2,155.97	0.00	0.00	0.00
10,900.00	90.02	359.92	7,503.93	2,145.22	1,078.83	2,255.28	0.00	0.00	0.00
11,000.00	90.02	359.92	7,503.89	2,245.22	1,078.70	2,354.60	0.00	0.00	0.00
11,100.00	90.02	359.92	7,503.85	2,345.22	1,078.57	2,453.92	0.00	0.00	0.00
11,200.00	90.02	359.92	7,503.81	2,445.22	1,078.44	2,553.24	0.00	0.00	0.00
11,300.00	90.02	359.92	7,503.76	2,545.22	1,078.30	2,652.56	0.00	0.00	0.00
11,400.00	90.02	359.92	7,503.72	2,645.22	1,078.17	2,751.87	0.00	0.00	0.00
11,500.00	90.02	359.92	7,503.68	2,745.22	1,078.04	2,851.19	0.00	0.00	0.00
11,600.00	90.02	359.92	7,503.64	2,845.22	1,077.91	2,950.51	0.00	0.00	0.00
11,700.00	90.02	359.92	7,503.60	2,945.22	1,077.78	3,049.83	0.00	0.00	0.00
11,800.00	90.02	359.92	7,503.56	3,045.22	1,077.64	3,149.15	0.00	0.00	0.00
11,900.00	90.02	359.92	7,503.52	3,145.22	1,077.51	3,248.46	0.00	0.00	0.00
12,000.00	90.02	359.92	7,503.47	3,245.22	1,077.38	3,347.78	0.00	0.00	0.00
12,100.00	90.02	359.92	7,503.43	3,345.22	1,077.25	3,447.10	0.00	0.00	0.00
12,200.00	90.02	359.92	7,503.39	3,445.22	1,077.12	3,546.42	0.00	0.00	0.00
12,300.00	90.02	359.92	7,503.35	3,545.22	1,076.98	3,645.74	0.00	0.00	0.00
12,400.00	90.02	359.92	7,503.31	3,645.22	1,076.85	3,745.06	0.00	0.00	0.00
12,500.00	90.02	359.92	7,503.27	3,745.22	1,076.72	3,844.37	0.00	0.00	0.00
12,600.00	90.02	359.92	7,503.23	3,845.22	1,076.59	3,943.69	0.00	0.00	0.00
12,700.00	90.02	359.92	7,503.18	3,945.22	1,076.46	4,043.01	0.00	0.00	0.00
12,800.00	90.02	359.92	7,503.14	4,045.22	1,076.32	4,142.33	0.00	0.00	0.00
12,900.00	90.02	359.92	7,503.10	4,145.22	1,076.19	4,241.65	0.00	0.00	0.00
13,000.00	90.02	359.92	7,503.06	4,245.22	1,076.06	4,340.96	0.00	0.00	0.00
13,100.00	90.02	359.92	7,503.02	4,345.22	1,075.93	4,440.28	0.00	0.00	0.00
13,200.00	90.02	359.92	7,502.98	4,445.22	1,075.80	4,539.60	0.00	0.00	0.00
13,300.00	90.02	359.92	7,502.94	4,545.22	1,075.66	4,638.92	0.00	0.00	0.00
13,400.00	90.02	359.92	7,502.89	4,645.22	1,075.53	4,738.24	0.00	0.00	0.00
13,500.00	90.02	359.92	7,502.85	4,745.22	1,075.40	4,837.55	0.00	0.00	0.00
13,600.00	90.02	359.92	7,502.81	4,845.22	1,075.27	4,936.87	0.00	0.00	0.00
13,700.00	90.02	359.92	7,502.77	4,945.22	1,075.14	5,036.19	0.00	0.00	0.00
13,800.00	90.02	359.92	7,502.73	5,045.22	1,075.00	5,135.51	0.00	0.00	0.00
13,900.00	90.02	359.92	7,502.69	5,145.22	1,074.87	5,234.83	0.00	0.00	0.00
14,000.00	90.02	359.92	7,502.65	5,245.22	1,074.74	5,334.14	0.00	0.00	0.00
14,100.00	90.02	359.92	7,502.60	5,345.22	1,074.61	5,433.46	0.00	0.00	0.00
14,200.00	90.02	359.92	7,502.56	5,445.22	1,074.48	5,532.78	0.00	0.00	0.00
14,300.00	90.02	359.92	7,502.52	5,545.22	1,074.34	5,632.10	0.00	0.00	0.00
14,400.00	90.02	359.92	7,502.48	5,645.22	1,074.21	5,731.42	0.00	0.00	0.00
14,500.00	90.02	359.92	7,502.44	5,745.22	1,074.08	5,830.74	0.00	0.00	0.00
14,600.00	90.02	359.92	7,502.40	5,845.22	1,073.95	5,930.05	0.00	0.00	0.00
14,700.00	90.02	359.92	7,502.36	5,945.22	1,073.82	6,029.37	0.00	0.00	0.00
14,800.00	90.02	359.92	7,502.31	6,045.22	1,073.68	6,128.69	0.00	0.00	0.00
14,900.00	90.02	359.92	7,502.27	6,145.22	1,073.55	6,228.01	0.00	0.00	0.00
15,000.00	90.02	359.92	7,502.23	6,245.22	1,073.42	6,327.33	0.00	0.00	0.00
15,100.00	90.02	359.92	7,502.19	6,345.22	1,073.29	6,426.64	0.00	0.00	0.00
15,200.00	90.02	359.92	7,502.15	6,445.22	1,073.16	6,525.96	0.00	0.00	0.00
15,300.00	90.02	359.92	7,502.11	6,545.22	1,073.02	6,625.28	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	90.02	359.92	7,502.07	6,645.22	1,072.89	6,724.60	0.00	0.00	0.00	
15,500.00	90.02	359.92	7,502.02	6,745.22	1,072.76	6,823.92	0.00	0.00	0.00	
15,600.00	90.02	359.92	7,501.98	6,845.22	1,072.63	6,923.23	0.00	0.00	0.00	
15,700.00	90.02	359.92	7,501.94	6,945.22	1,072.50	7,022.55	0.00	0.00	0.00	
15,800.00	90.02	359.92	7,501.90	7,045.22	1,072.36	7,121.87	0.00	0.00	0.00	
15,900.00	90.02	359.92	7,501.86	7,145.22	1,072.23	7,221.19	0.00	0.00	0.00	
16,000.00	90.02	359.92	7,501.82	7,245.22	1,072.10	7,320.51	0.00	0.00	0.00	
16,100.00	90.02	359.92	7,501.78	7,345.22	1,071.97	7,419.82	0.00	0.00	0.00	
16,200.00	90.02	359.92	7,501.73	7,445.22	1,071.84	7,519.14	0.00	0.00	0.00	
16,300.00	90.02	359.92	7,501.69	7,545.22	1,071.70	7,618.46	0.00	0.00	0.00	
16,400.00	90.02	359.92	7,501.65	7,645.22	1,071.57	7,717.78	0.00	0.00	0.00	
16,500.00	90.02	359.92	7,501.61	7,745.22	1,071.44	7,817.10	0.00	0.00	0.00	
16,600.00	90.02	359.92	7,501.57	7,845.22	1,071.31	7,916.41	0.00	0.00	0.00	
16,700.00	90.02	359.92	7,501.53	7,945.22	1,071.18	8,015.73	0.00	0.00	0.00	
16,800.00	90.02	359.92	7,501.49	8,045.22	1,071.04	8,115.05	0.00	0.00	0.00	
16,900.00	90.02	359.92	7,501.44	8,145.22	1,070.91	8,214.37	0.00	0.00	0.00	
17,000.00	90.02	359.92	7,501.40	8,245.22	1,070.78	8,313.69	0.00	0.00	0.00	
17,100.00	90.02	359.92	7,501.36	8,345.22	1,070.65	8,413.01	0.00	0.00	0.00	
17,200.00	90.02	359.92	7,501.32	8,445.22	1,070.52	8,512.32	0.00	0.00	0.00	
17,300.00	90.02	359.92	7,501.28	8,545.22	1,070.38	8,611.64	0.00	0.00	0.00	
17,400.00	90.02	359.92	7,501.24	8,645.22	1,070.25	8,710.96	0.00	0.00	0.00	
17,500.00	90.02	359.92	7,501.20	8,745.22	1,070.12	8,810.28	0.00	0.00	0.00	
17,600.00	90.02	359.92	7,501.15	8,845.22	1,069.99	8,909.60	0.00	0.00	0.00	
17,700.00	90.02	359.92	7,501.11	8,945.22	1,069.86	9,008.91	0.00	0.00	0.00	
17,800.00	90.02	359.92	7,501.07	9,045.22	1,069.72	9,108.23	0.00	0.00	0.00	
17,900.00	90.02	359.92	7,501.03	9,145.22	1,069.59	9,207.55	0.00	0.00	0.00	
17,970.91	90.02	359.92	7,501.00	9,216.13	1,069.50	9,277.98	0.00	0.00	0.00	
PBHL/TD 17970.91 MD/7501.00 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 33-08-4L 47 - hit/miss target - Shape - Point	0.00	0.00	7,501.00	9,216.13	1,069.50	14,537,221.61	1,731,958.17	40.02834098	-104.67299061	
LP Buford 33-08-4L 470 - plan hits target center - Point	0.00	0.00	7,505.00	-439.84	1,082.24	14,527,565.77	1,732,005.93	40.00182419	-104.67294660	

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	
5,376.25	5,349.79	-94.57	72.51	Begin 37.63° tangent	
7,124.62	6,734.53	-941.60	721.98	Begin 10°/100' build/turn	
8,314.94	7,505.00	-439.84	1,082.24	LP Begin 90.02° lateral section	
17,970.91	7,501.00	9,216.13	1,069.50	PBHL/TD 17970.91 MD/7501.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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 33-8-4L, Surf Loc: 910 FSL 450 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,528,001.68 usft	Latitude:	40.00303212
	+E/-W	0.00 ft	Easting:	1,730,922.10 usft	Longitude:	-104.67681111
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	6.62

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,970.91 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	
5,376.25	37.63	142.52	5,349.79	-94.57	72.51	10.00	10.00	0.00	142.52	
7,124.62	37.63	142.52	6,734.53	-941.60	721.98	0.00	0.00	0.00	0.00	
8,314.94	90.02	359.92	7,505.00	-439.84	1,082.24	10.00	4.40	-11.98	-136.00	LP Buford 33-08-4L 4'
17,970.91	90.02	359.92	7,501.00	9,216.13	1,069.50	0.00	0.00	0.00	0.00	BHL Buford 33-08-4L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
100.00	0.00	0.00	100.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
200.00	0.00	0.00	200.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
300.00	0.00	0.00	300.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
400.00	0.00	0.00	400.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
500.00	0.00	0.00	500.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
600.00	0.00	0.00	600.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
700.00	0.00	0.00	700.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
800.00	0.00	0.00	800.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
900.00	0.00	0.00	900.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,528,001.68	1,730,922.10	40.00303212	-104.67681111
KOP Begin 10°/100' build									
5,100.00	10.00	142.52	5,099.49	-6.91	5.30	14,527,994.80	1,730,927.42	40.00301315	-104.67679220
5,200.00	20.00	142.52	5,195.96	-27.42	21.02	14,527,974.34	1,730,943.22	40.00295682	-104.67673604

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	142.52	5,286.48	-60.92	46.71	14,527,940.94	1,730,969.03	40.00286484	-104.67664433
5,376.25	37.63	142.52	5,349.79	-94.57	72.51	14,527,907.38	1,730,994.95	40.00277243	-104.67655220
Begin 37.63° tangent									
5,400.00	37.63	142.52	5,368.60	-106.07	81.33	14,527,895.91	1,731,003.81	40.00274084	-104.67652070
5,500.00	37.63	142.52	5,447.80	-154.52	118.48	14,527,847.60	1,731,041.13	40.00260779	-104.67638805
5,600.00	37.63	142.52	5,527.00	-202.96	155.62	14,527,799.29	1,731,078.46	40.00247475	-104.67625540
5,700.00	37.63	142.52	5,606.20	-251.41	192.77	14,527,750.97	1,731,115.78	40.00234170	-104.67612276
5,800.00	37.63	142.52	5,685.40	-299.86	229.92	14,527,702.66	1,731,153.10	40.00220866	-104.67599011
5,900.00	37.63	142.52	5,764.61	-348.31	267.06	14,527,654.35	1,731,190.42	40.00207561	-104.67585747
6,000.00	37.63	142.52	5,843.81	-396.75	304.21	14,527,606.04	1,731,227.75	40.00194257	-104.67572482
6,100.00	37.63	142.52	5,923.01	-445.20	341.36	14,527,557.73	1,731,265.07	40.00180952	-104.67559218
6,200.00	37.63	142.52	6,002.21	-493.65	378.51	14,527,509.41	1,731,302.39	40.00167648	-104.67545953
6,300.00	37.63	142.52	6,081.41	-542.10	415.65	14,527,461.10	1,731,339.71	40.00154343	-104.67532689
6,400.00	37.63	142.52	6,160.62	-590.54	452.80	14,527,412.79	1,731,377.04	40.00141039	-104.67519425
6,500.00	37.63	142.52	6,239.82	-638.99	489.95	14,527,364.48	1,731,414.36	40.00127734	-104.67506161
6,600.00	37.63	142.52	6,319.02	-687.44	527.09	14,527,316.17	1,731,451.68	40.00114430	-104.67492897
6,700.00	37.63	142.52	6,398.22	-735.88	564.24	14,527,267.85	1,731,489.00	40.00101125	-104.67479632
6,800.00	37.63	142.52	6,477.42	-784.33	601.39	14,527,219.54	1,731,526.33	40.00087820	-104.67466368
6,900.00	37.63	142.52	6,556.63	-832.78	638.54	14,527,171.23	1,731,563.65	40.00074516	-104.67453104
7,000.00	37.63	142.52	6,635.83	-881.23	675.68	14,527,122.92	1,731,600.97	40.00061211	-104.67439840
7,100.00	37.63	142.52	6,715.03	-929.67	712.83	14,527,074.60	1,731,638.29	40.00047906	-104.67426577
7,124.62	37.63	142.52	6,734.53	-941.60	721.98	14,527,062.71	1,731,647.48	40.00044631	-104.67423311
Begin 10°/100' build/turn									
7,200.00	32.57	132.77	6,796.23	-973.68	750.91	14,527,030.73	1,731,676.53	40.00035820	-104.67412980
7,300.00	27.44	115.50	6,882.97	-1,001.95	791.56	14,527,002.62	1,731,717.29	40.00028058	-104.67398464
7,400.00	25.14	93.39	6,972.84	-1,013.15	833.66	14,526,991.57	1,731,759.43	40.00024981	-104.67383431
7,500.00	26.42	70.45	7,063.11	-1,006.95	875.93	14,526,997.92	1,731,801.68	40.00026684	-104.67368337
7,600.00	30.84	51.61	7,151.05	-983.53	917.09	14,527,021.49	1,731,842.75	40.00033114	-104.67353641
7,700.00	37.29	37.89	7,233.97	-943.61	955.88	14,527,061.55	1,731,881.39	40.00044076	-104.67339789
7,800.00	44.89	27.97	7,309.36	-888.40	991.13	14,527,116.89	1,731,916.44	40.00059238	-104.67327203
7,900.00	53.15	20.48	7,374.94	-819.58	1,021.76	14,527,185.82	1,731,946.82	40.00078138	-104.67316264
8,000.00	61.79	14.49	7,428.69	-739.23	1,046.85	14,527,266.26	1,731,971.62	40.00100202	-104.67307305
8,100.00	70.64	9.40	7,469.00	-649.80	1,065.62	14,527,355.75	1,731,990.07	40.00124759	-104.67300598
8,200.00	79.63	4.85	7,494.64	-554.01	1,077.52	14,527,451.58	1,732,001.62	40.00151065	-104.67296348
8,300.00	88.67	0.56	7,504.83	-454.77	1,082.18	14,527,550.84	1,732,005.92	40.00178318	-104.67294683
8,314.94	90.02	359.92	7,505.00	-439.84	1,082.24	14,527,565.77	1,732,005.93	40.00182419	-104.67294660
LP Begin 90.02° lateral section									
8,400.00	90.02	359.92	7,504.96	-354.77	1,082.13	14,527,650.84	1,732,005.51	40.00205780	-104.67294699
8,500.00	90.02	359.92	7,504.92	-254.77	1,082.00	14,527,750.84	1,732,005.01	40.00233241	-104.67294744
8,600.00	90.02	359.92	7,504.88	-154.77	1,081.87	14,527,850.84	1,732,004.52	40.00260703	-104.67294790
8,700.00	90.02	359.92	7,504.84	-54.77	1,081.74	14,527,950.83	1,732,004.02	40.00288164	-104.67294836
8,800.00	90.02	359.92	7,504.80	45.23	1,081.60	14,528,050.83	1,732,003.53	40.00315626	-104.67294881
8,900.00	90.02	359.92	7,504.76	145.23	1,081.47	14,528,150.83	1,732,003.03	40.00343087	-104.67294927
9,000.00	90.02	359.92	7,504.72	245.23	1,081.34	14,528,250.83	1,732,002.54	40.00370549	-104.67294972
9,100.00	90.02	359.92	7,504.67	345.23	1,081.21	14,528,350.83	1,732,002.05	40.00398011	-104.67295018
9,200.00	90.02	359.92	7,504.63	445.23	1,081.08	14,528,450.83	1,732,001.55	40.00425472	-104.67295064
9,300.00	90.02	359.92	7,504.59	545.23	1,080.94	14,528,550.83	1,732,001.06	40.00452934	-104.67295109
9,400.00	90.02	359.92	7,504.55	645.23	1,080.81	14,528,650.82	1,732,000.56	40.00480395	-104.67295155
9,500.00	90.02	359.92	7,504.51	745.23	1,080.68	14,528,750.82	1,732,000.07	40.00507857	-104.67295200
9,600.00	90.02	359.92	7,504.47	845.23	1,080.55	14,528,850.82	1,731,999.57	40.00535318	-104.67295246
9,700.00	90.02	359.92	7,504.43	945.23	1,080.42	14,528,950.82	1,731,999.08	40.00562780	-104.67295292
9,800.00	90.02	359.92	7,504.38	1,045.23	1,080.28	14,529,050.82	1,731,998.58	40.00590242	-104.67295337
9,900.00	90.02	359.92	7,504.34	1,145.23	1,080.15	14,529,150.82	1,731,998.09	40.00617703	-104.67295383
10,000.00	90.02	359.92	7,504.30	1,245.23	1,080.02	14,529,250.82	1,731,997.59	40.00645165	-104.67295428

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	90.02	359.92	7,504.26	1,345.23	1,079.89	14,529,350.81	1,731,997.10	40.00672626	-104.67295474
10,200.00	90.02	359.92	7,504.22	1,445.23	1,079.76	14,529,450.81	1,731,996.60	40.00700088	-104.67295519
10,300.00	90.02	359.92	7,504.18	1,545.23	1,079.62	14,529,550.81	1,731,996.11	40.00727549	-104.67295565
10,400.00	90.02	359.92	7,504.14	1,645.22	1,079.49	14,529,650.81	1,731,995.62	40.00755011	-104.67295611
10,500.00	90.02	359.92	7,504.10	1,745.22	1,079.36	14,529,750.81	1,731,995.12	40.00782472	-104.67295656
10,600.00	90.02	359.92	7,504.05	1,845.22	1,079.23	14,529,850.81	1,731,994.63	40.00809934	-104.67295702
10,700.00	90.02	359.92	7,504.01	1,945.22	1,079.10	14,529,950.81	1,731,994.13	40.00837396	-104.67295747
10,800.00	90.02	359.92	7,503.97	2,045.22	1,078.96	14,530,050.80	1,731,993.64	40.00864857	-104.67295793
10,900.00	90.02	359.92	7,503.93	2,145.22	1,078.83	14,530,150.80	1,731,993.14	40.00892319	-104.67295839
11,000.00	90.02	359.92	7,503.89	2,245.22	1,078.70	14,530,250.80	1,731,992.65	40.00919780	-104.67295884
11,100.00	90.02	359.92	7,503.85	2,345.22	1,078.57	14,530,350.80	1,731,992.15	40.00947242	-104.67295930
11,200.00	90.02	359.92	7,503.81	2,445.22	1,078.44	14,530,450.80	1,731,991.66	40.00974703	-104.67295975
11,300.00	90.02	359.92	7,503.76	2,545.22	1,078.30	14,530,550.80	1,731,991.16	40.01002165	-104.67296021
11,400.00	90.02	359.92	7,503.72	2,645.22	1,078.17	14,530,650.80	1,731,990.67	40.01029626	-104.67296067
11,500.00	90.02	359.92	7,503.68	2,745.22	1,078.04	14,530,750.79	1,731,990.17	40.01057088	-104.67296112
11,600.00	90.02	359.92	7,503.64	2,845.22	1,077.91	14,530,850.79	1,731,989.68	40.01084549	-104.67296158
11,700.00	90.02	359.92	7,503.60	2,945.22	1,077.78	14,530,950.79	1,731,989.19	40.01112011	-104.67296203
11,800.00	90.02	359.92	7,503.56	3,045.22	1,077.64	14,531,050.79	1,731,988.69	40.01139473	-104.67296249
11,900.00	90.02	359.92	7,503.52	3,145.22	1,077.51	14,531,150.79	1,731,988.20	40.01166934	-104.67296294
12,000.00	90.02	359.92	7,503.47	3,245.22	1,077.38	14,531,250.79	1,731,987.70	40.01194396	-104.67296340
12,100.00	90.02	359.92	7,503.43	3,345.22	1,077.25	14,531,350.79	1,731,987.21	40.01221857	-104.67296386
12,200.00	90.02	359.92	7,503.39	3,445.22	1,077.12	14,531,450.78	1,731,986.71	40.01249319	-104.67296431
12,300.00	90.02	359.92	7,503.35	3,545.22	1,076.98	14,531,550.78	1,731,986.22	40.01276780	-104.67296477
12,400.00	90.02	359.92	7,503.31	3,645.22	1,076.85	14,531,650.78	1,731,985.72	40.01304242	-104.67296522
12,500.00	90.02	359.92	7,503.27	3,745.22	1,076.72	14,531,750.78	1,731,985.23	40.01331703	-104.67296568
12,600.00	90.02	359.92	7,503.23	3,845.22	1,076.59	14,531,850.78	1,731,984.73	40.01359165	-104.67296614
12,700.00	90.02	359.92	7,503.18	3,945.22	1,076.46	14,531,950.78	1,731,984.24	40.01386626	-104.67296659
12,800.00	90.02	359.92	7,503.14	4,045.22	1,076.32	14,532,050.78	1,731,983.74	40.01414088	-104.67296705
12,900.00	90.02	359.92	7,503.10	4,145.22	1,076.19	14,532,150.77	1,731,983.25	40.01441549	-104.67296750
13,000.00	90.02	359.92	7,503.06	4,245.22	1,076.06	14,532,250.77	1,731,982.76	40.01469011	-104.67296796
13,100.00	90.02	359.92	7,503.02	4,345.22	1,075.93	14,532,350.77	1,731,982.26	40.01496472	-104.67296841
13,200.00	90.02	359.92	7,502.98	4,445.22	1,075.80	14,532,450.77	1,731,981.77	40.01523934	-104.67296887
13,300.00	90.02	359.92	7,502.94	4,545.22	1,075.66	14,532,550.77	1,731,981.27	40.01551395	-104.67296933
13,400.00	90.02	359.92	7,502.89	4,645.22	1,075.53	14,532,650.77	1,731,980.78	40.01578857	-104.67296978
13,500.00	90.02	359.92	7,502.85	4,745.22	1,075.40	14,532,750.77	1,731,980.28	40.01606318	-104.67297024
13,600.00	90.02	359.92	7,502.81	4,845.22	1,075.27	14,532,850.76	1,731,979.79	40.01633780	-104.67297069
13,700.00	90.02	359.92	7,502.77	4,945.22	1,075.14	14,532,950.76	1,731,979.29	40.01661241	-104.67297115
13,800.00	90.02	359.92	7,502.73	5,045.22	1,075.00	14,533,050.76	1,731,978.80	40.01688703	-104.67297160
13,900.00	90.02	359.92	7,502.69	5,145.22	1,074.87	14,533,150.76	1,731,978.30	40.01716165	-104.67297206
14,000.00	90.02	359.92	7,502.65	5,245.22	1,074.74	14,533,250.76	1,731,977.81	40.01743626	-104.67297252
14,100.00	90.02	359.92	7,502.60	5,345.22	1,074.61	14,533,350.76	1,731,977.31	40.01771088	-104.67297297
14,200.00	90.02	359.92	7,502.56	5,445.22	1,074.48	14,533,450.76	1,731,976.82	40.01798549	-104.67297343
14,300.00	90.02	359.92	7,502.52	5,545.22	1,074.34	14,533,550.75	1,731,976.33	40.01826011	-104.67297388
14,400.00	90.02	359.92	7,502.48	5,645.22	1,074.21	14,533,650.75	1,731,975.83	40.01853472	-104.67297434
14,500.00	90.02	359.92	7,502.44	5,745.22	1,074.08	14,533,750.75	1,731,975.34	40.01880934	-104.67297479
14,600.00	90.02	359.92	7,502.40	5,845.22	1,073.95	14,533,850.75	1,731,974.84	40.01908395	-104.67297525
14,700.00	90.02	359.92	7,502.36	5,945.22	1,073.82	14,533,950.75	1,731,974.35	40.01935857	-104.67297571
14,800.00	90.02	359.92	7,502.31	6,045.22	1,073.68	14,534,050.75	1,731,973.85	40.01963318	-104.67297616
14,900.00	90.02	359.92	7,502.27	6,145.22	1,073.55	14,534,150.75	1,731,973.36	40.01990780	-104.67297662
15,000.00	90.02	359.92	7,502.23	6,245.22	1,073.42	14,534,250.74	1,731,972.86	40.02018241	-104.67297707
15,100.00	90.02	359.92	7,502.19	6,345.22	1,073.29	14,534,350.74	1,731,972.37	40.02045703	-104.67297753
15,200.00	90.02	359.92	7,502.15	6,445.22	1,073.16	14,534,450.74	1,731,971.87	40.02073164	-104.67297798
15,300.00	90.02	359.92	7,502.11	6,545.22	1,073.02	14,534,550.74	1,731,971.38	40.02100626	-104.67297844
15,400.00	90.02	359.92	7,502.07	6,645.22	1,072.89	14,534,650.74	1,731,970.88	40.02128087	-104.67297890
15,500.00	90.02	359.92	7,502.02	6,745.22	1,072.76	14,534,750.74	1,731,970.39	40.02155549	-104.67297935

Database:	DB_Jul216dt_v14	Local Co-ordinate Reference:	Well Buford 33-8-4L
Company:	Confluence Resources	TVD Reference:	RKB=5081+25 @ 5107.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5081+25 @ 5107.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Buford 33-8-4L	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	90.02	359.92	7,501.98	6,845.22	1,072.63	14,534,850.74	1,731,969.90	40.02183010	-104.67297981
15,700.00	90.02	359.92	7,501.94	6,945.22	1,072.50	14,534,950.73	1,731,969.40	40.02210471	-104.67298026
15,800.00	90.02	359.92	7,501.90	7,045.22	1,072.36	14,535,050.73	1,731,968.91	40.02237933	-104.67298072
15,900.00	90.02	359.92	7,501.86	7,145.22	1,072.23	14,535,150.73	1,731,968.41	40.02265394	-104.67298117
16,000.00	90.02	359.92	7,501.82	7,245.22	1,072.10	14,535,250.73	1,731,967.92	40.02292856	-104.67298163
16,100.00	90.02	359.92	7,501.78	7,345.22	1,071.97	14,535,350.73	1,731,967.42	40.02320317	-104.67298209
16,200.00	90.02	359.92	7,501.73	7,445.22	1,071.84	14,535,450.73	1,731,966.93	40.02347779	-104.67298254
16,300.00	90.02	359.92	7,501.69	7,545.22	1,071.70	14,535,550.73	1,731,966.43	40.02375240	-104.67298300
16,400.00	90.02	359.92	7,501.65	7,645.22	1,071.57	14,535,650.72	1,731,965.94	40.02402702	-104.67298345
16,500.00	90.02	359.92	7,501.61	7,745.22	1,071.44	14,535,750.72	1,731,965.44	40.02430163	-104.67298391
16,600.00	90.02	359.92	7,501.57	7,845.22	1,071.31	14,535,850.72	1,731,964.95	40.02457625	-104.67298436
16,700.00	90.02	359.92	7,501.53	7,945.22	1,071.18	14,535,950.72	1,731,964.45	40.02485086	-104.67298482
16,800.00	90.02	359.92	7,501.49	8,045.22	1,071.04	14,536,050.72	1,731,963.96	40.02512548	-104.67298527
16,900.00	90.02	359.92	7,501.44	8,145.22	1,070.91	14,536,150.72	1,731,963.47	40.02540009	-104.67298573
17,000.00	90.02	359.92	7,501.40	8,245.22	1,070.78	14,536,250.72	1,731,962.97	40.02567471	-104.67298619
17,100.00	90.02	359.92	7,501.36	8,345.22	1,070.65	14,536,350.71	1,731,962.48	40.02594932	-104.67298664
17,200.00	90.02	359.92	7,501.32	8,445.22	1,070.52	14,536,450.71	1,731,961.98	40.02622394	-104.67298710
17,300.00	90.02	359.92	7,501.28	8,545.22	1,070.38	14,536,550.71	1,731,961.49	40.02649855	-104.67298755
17,400.00	90.02	359.92	7,501.24	8,645.22	1,070.25	14,536,650.71	1,731,960.99	40.02677317	-104.67298801
17,500.00	90.02	359.92	7,501.20	8,745.22	1,070.12	14,536,750.71	1,731,960.50	40.02704778	-104.67298846
17,600.00	90.02	359.92	7,501.15	8,845.22	1,069.99	14,536,850.71	1,731,960.00	40.02732239	-104.67298892
17,700.00	90.02	359.92	7,501.11	8,945.22	1,069.86	14,536,950.71	1,731,959.51	40.02759701	-104.67298938
17,800.00	90.02	359.92	7,501.07	9,045.22	1,069.72	14,537,050.70	1,731,959.01	40.02787162	-104.67298983
17,900.00	90.02	359.92	7,501.03	9,145.22	1,069.59	14,537,150.70	1,731,958.52	40.02814624	-104.67299029
17,970.91	90.02	359.92	7,501.00	9,216.13	1,069.50	14,537,221.61	1,731,958.17	40.02834098	-104.67299061
PBHL/TD 17970.91 MD/7501.00 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 33-08-4L 47 - plan hits target center - Point	0.00	0.00	7,501.00	9,216.13	1,069.50	14,537,221.61	1,731,958.17	40.02834098	-104.67299061
LP Buford 33-08-4L 470 - plan hits target center - Point	0.00	0.00	7,505.00	-439.84	1,082.24	14,527,565.77	1,732,005.93	40.00182419	-104.67294660

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	
5,376.25	5,349.79	-94.57	72.51	Begin 37.63° tangent	
7,124.62	6,734.53	-941.60	721.98	Begin 10°/100' build/turn	
8,314.94	7,505.00	-439.84	1,082.24	LP Begin 90.02° lateral section	
17,970.91	7,501.00	9,216.13	1,069.50	PBHL/TD 17970.91 MD/7501.00 TVD	