



Weld County, Colorado
Section 33-T01N-R65W
Buford 33-9-3L
plan1

Azimuth Corrections:

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

Buford 33-9-3L			
Surf Loc: 985 FSL 300 FWL Sect 33-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5077+25 @ 5102.00ft			
Northing	Easting	Latitude	Longitude
14528076.11	1730771.45	40.00323801	-104.67734811

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	5384.92	38.49	169.41	5356.61	-122.38	22.87	10.00	-121.57	Begin 38.49° tangent
4	6766.47	38.49	169.41	6437.95	-967.63	180.83	0.00	-961.18	Begin 10°/100' build/turn
5	8043.14	89.93	359.92	7352.00	-514.96	312.61	10.00	-504.43	Begin 89.93° lateral section
6	17695.61	89.93	359.92	7363.00	9137.50	299.81	0.00	9142.42	PBHL/TD 17695.61 MD/7363.00 TVD

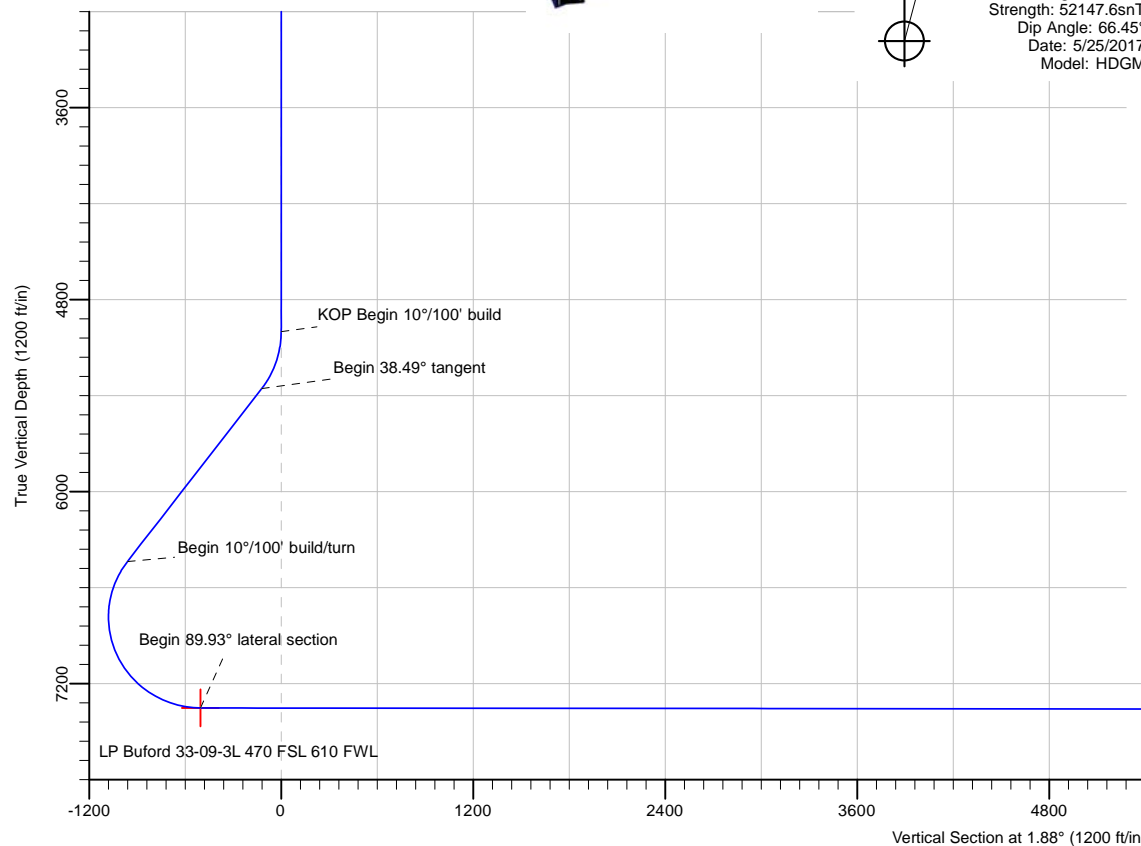
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP Buford 33-09-3L 470 FSL 610 FWL	7352.00	-514.96	312.61	14527562.29	1731085.92	40.00182386	-104.67623184
BHL Buford 33-09-3L 470 FSL 610 FWL	7363.00	9137.50	299.81	14537214.62	1731038.18	40.02833101	-104.67627709

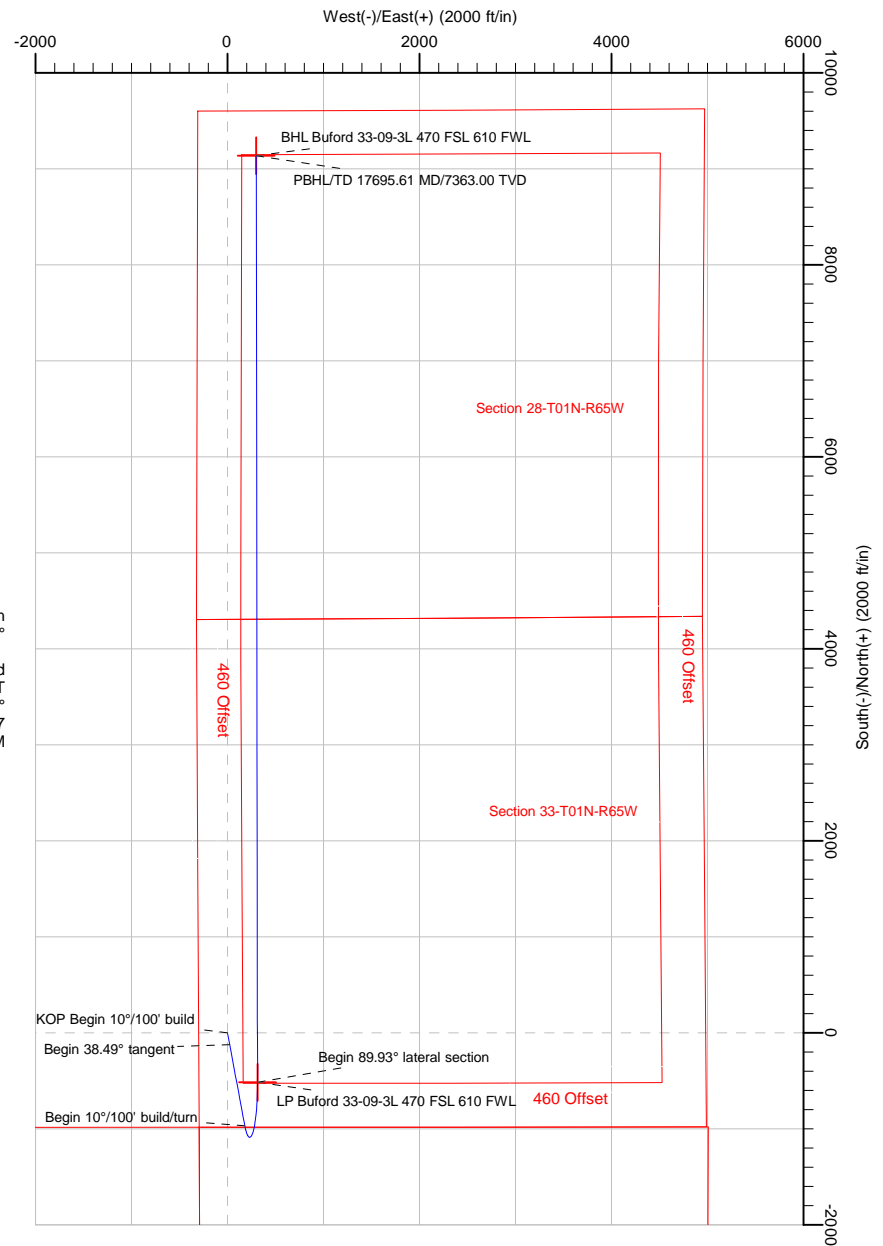


Azimuths to True North
Magnetic North: 8.28°

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



Date: 21:59, May 25 2017



KOP Begin 10°/100' build
Begin 38.49° tangent
Begin 89.93° lateral section
LP Buford 33-09-3L 470 FSL 610 FWL
Begin 10°/100' build/turn

PBHL/TD 17695.61 MD/7363.00 TVD

BHL Buford 33-09-3L 470 FSL 610 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 33-9-3L
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 33-9-3L	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 33-9-3L, Surf Loc: 985 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	325.00 ft	Northing:	14,528,076.11 usft	Latitude:	40.00323802
	+E/-W	-1.64 ft	Easting:	1,730,771.45 usft	Longitude:	-104.67734811
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,077.00 ft

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

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	1.88

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,695.61	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	
5,384.92	38.49	169.41	5,356.61	-122.38	22.87	10.00	10.00	0.00	169.41	
6,766.47	38.49	169.41	6,437.95	-967.63	180.83	0.00	0.00	0.00	0.00	
8,043.14	89.93	359.92	7,352.00	-514.96	312.61	10.00	4.03	-13.28	-166.68	LP Buford 33-09-3L 4'
17,695.61	89.93	359.92	7,363.00	9,137.50	299.81	0.00	0.00	0.00	0.00	BHL Buford 33-09-3L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	169.41	5,099.49	-8.56	1.60	-8.50	10.00	10.00	0.00
5,200.00	20.00	169.41	5,195.96	-33.97	6.35	-33.74	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 33-9-3L	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	169.41	5,286.48	-75.46	14.10	-74.95	10.00	10.00	0.00
5,384.92	38.49	169.41	5,356.61	-122.38	22.87	-121.57	10.00	10.00	0.00
Begin 38.49° tangent									
5,400.00	38.49	169.41	5,368.42	-131.61	24.60	-130.74	0.00	0.00	0.00
5,500.00	38.49	169.41	5,446.69	-192.79	36.03	-191.51	0.00	0.00	0.00
5,600.00	38.49	169.41	5,524.96	-253.98	47.46	-252.28	0.00	0.00	0.00
5,700.00	38.49	169.41	5,603.23	-315.16	58.90	-313.06	0.00	0.00	0.00
5,800.00	38.49	169.41	5,681.50	-376.34	70.33	-373.83	0.00	0.00	0.00
5,900.00	38.49	169.41	5,759.77	-437.52	81.76	-434.60	0.00	0.00	0.00
6,000.00	38.49	169.41	5,838.04	-498.70	93.20	-495.37	0.00	0.00	0.00
6,100.00	38.49	169.41	5,916.31	-559.88	104.63	-556.15	0.00	0.00	0.00
6,200.00	38.49	169.41	5,994.58	-621.06	116.06	-616.92	0.00	0.00	0.00
6,300.00	38.49	169.41	6,072.85	-682.24	127.50	-677.69	0.00	0.00	0.00
6,400.00	38.49	169.41	6,151.12	-743.42	138.93	-738.47	0.00	0.00	0.00
6,500.00	38.49	169.41	6,229.39	-804.60	150.36	-799.24	0.00	0.00	0.00
6,600.00	38.49	169.41	6,307.66	-865.78	161.80	-860.01	0.00	0.00	0.00
6,700.00	38.49	169.41	6,385.93	-926.96	173.23	-920.78	0.00	0.00	0.00
6,766.47	38.49	169.41	6,437.95	-967.63	180.83	-961.18	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,800.00	35.24	168.08	6,464.77	-987.36	184.74	-980.77	10.00	-9.71	-3.99
6,900.00	25.66	162.35	6,550.90	-1,036.34	197.30	-1,029.31	10.00	-9.58	-5.72
7,000.00	16.53	150.69	6,644.14	-1,069.46	210.86	-1,061.97	10.00	-9.12	-11.66
7,100.00	9.33	118.02	6,741.66	-1,085.71	225.02	-1,077.75	10.00	-7.20	-32.67
7,200.00	9.97	55.46	6,840.50	-1,084.61	239.34	-1,076.18	10.00	0.64	-62.56
7,300.00	17.61	27.07	6,937.65	-1,066.18	253.39	-1,057.30	10.00	7.65	-28.39
7,400.00	26.83	16.56	7,030.15	-1,030.99	266.74	-1,021.69	10.00	9.21	-10.51
7,500.00	36.44	11.23	7,115.21	-980.10	278.99	-970.43	10.00	9.61	-5.33
7,600.00	46.20	7.90	7,190.24	-915.06	289.76	-905.07	10.00	9.76	-3.33
7,700.00	56.02	5.52	7,252.95	-837.85	298.74	-827.61	10.00	9.83	-2.38
7,800.00	65.89	3.63	7,301.44	-750.81	305.63	-740.39	10.00	9.86	-1.89
7,900.00	75.77	2.02	7,334.24	-656.59	310.25	-646.07	10.00	9.88	-1.61
8,000.00	85.67	0.54	7,350.34	-558.05	312.43	-547.51	10.00	9.89	-1.48
8,043.14	89.93	359.92	7,352.00	-514.96	312.61	-504.43	10.00	9.90	-1.44
Begin 89.93° lateral section									
8,100.00	89.93	359.92	7,352.06	-458.09	312.53	-447.60	0.00	0.00	0.00
8,200.00	89.93	359.92	7,352.18	-358.09	312.40	-347.66	0.00	0.00	0.00
8,300.00	89.93	359.92	7,352.29	-258.09	312.27	-247.72	0.00	0.00	0.00
8,400.00	89.93	359.92	7,352.41	-158.09	312.14	-147.77	0.00	0.00	0.00
8,500.00	89.93	359.92	7,352.52	-58.09	312.00	-47.83	0.00	0.00	0.00
8,600.00	89.93	359.92	7,352.63	41.91	311.87	52.11	0.00	0.00	0.00
8,700.00	89.93	359.92	7,352.75	141.91	311.74	152.05	0.00	0.00	0.00
8,800.00	89.93	359.92	7,352.86	241.90	311.61	251.99	0.00	0.00	0.00
8,900.00	89.93	359.92	7,352.98	341.90	311.47	351.94	0.00	0.00	0.00
9,000.00	89.93	359.92	7,353.09	441.90	311.34	451.88	0.00	0.00	0.00
9,100.00	89.93	359.92	7,353.20	541.90	311.21	551.82	0.00	0.00	0.00
9,200.00	89.93	359.92	7,353.32	641.90	311.07	651.76	0.00	0.00	0.00
9,300.00	89.93	359.92	7,353.43	741.90	310.94	751.70	0.00	0.00	0.00
9,400.00	89.93	359.92	7,353.55	841.90	310.81	851.64	0.00	0.00	0.00
9,500.00	89.93	359.92	7,353.66	941.90	310.68	951.59	0.00	0.00	0.00
9,600.00	89.93	359.92	7,353.77	1,041.90	310.54	1,051.53	0.00	0.00	0.00
9,700.00	89.93	359.92	7,353.89	1,141.90	310.41	1,151.47	0.00	0.00	0.00
9,800.00	89.93	359.92	7,354.00	1,241.90	310.28	1,251.41	0.00	0.00	0.00
9,900.00	89.93	359.92	7,354.12	1,341.90	310.15	1,351.35	0.00	0.00	0.00

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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 33-9-3L	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	89.93	359.92	7,354.23	1,441.90	310.01	1,451.29	0.00	0.00	0.00
10,100.00	89.93	359.92	7,354.34	1,541.90	309.88	1,551.24	0.00	0.00	0.00
10,200.00	89.93	359.92	7,354.46	1,641.90	309.75	1,651.18	0.00	0.00	0.00
10,300.00	89.93	359.92	7,354.57	1,741.90	309.62	1,751.12	0.00	0.00	0.00
10,400.00	89.93	359.92	7,354.69	1,841.90	309.48	1,851.06	0.00	0.00	0.00
10,500.00	89.93	359.92	7,354.80	1,941.90	309.35	1,951.00	0.00	0.00	0.00
10,600.00	89.93	359.92	7,354.91	2,041.90	309.22	2,050.94	0.00	0.00	0.00
10,700.00	89.93	359.92	7,355.03	2,141.90	309.09	2,150.89	0.00	0.00	0.00
10,800.00	89.93	359.92	7,355.14	2,241.90	308.95	2,250.83	0.00	0.00	0.00
10,900.00	89.93	359.92	7,355.26	2,341.90	308.82	2,350.77	0.00	0.00	0.00
11,000.00	89.93	359.92	7,355.37	2,441.90	308.69	2,450.71	0.00	0.00	0.00
11,100.00	89.93	359.92	7,355.48	2,541.90	308.56	2,550.65	0.00	0.00	0.00
11,200.00	89.93	359.92	7,355.60	2,641.90	308.42	2,650.59	0.00	0.00	0.00
11,300.00	89.93	359.92	7,355.71	2,741.90	308.29	2,750.54	0.00	0.00	0.00
11,400.00	89.93	359.92	7,355.83	2,841.90	308.16	2,850.48	0.00	0.00	0.00
11,500.00	89.93	359.92	7,355.94	2,941.90	308.03	2,950.42	0.00	0.00	0.00
11,600.00	89.93	359.92	7,356.05	3,041.90	307.89	3,050.36	0.00	0.00	0.00
11,700.00	89.93	359.92	7,356.17	3,141.90	307.76	3,150.30	0.00	0.00	0.00
11,800.00	89.93	359.92	7,356.28	3,241.90	307.63	3,250.24	0.00	0.00	0.00
11,900.00	89.93	359.92	7,356.40	3,341.90	307.50	3,350.19	0.00	0.00	0.00
12,000.00	89.93	359.92	7,356.51	3,441.90	307.36	3,450.13	0.00	0.00	0.00
12,100.00	89.93	359.92	7,356.62	3,541.90	307.23	3,550.07	0.00	0.00	0.00
12,200.00	89.93	359.92	7,356.74	3,641.90	307.10	3,650.01	0.00	0.00	0.00
12,300.00	89.93	359.92	7,356.85	3,741.90	306.97	3,749.95	0.00	0.00	0.00
12,400.00	89.93	359.92	7,356.97	3,841.90	306.83	3,849.90	0.00	0.00	0.00
12,500.00	89.93	359.92	7,357.08	3,941.90	306.70	3,949.84	0.00	0.00	0.00
12,600.00	89.93	359.92	7,357.19	4,041.90	306.57	4,049.78	0.00	0.00	0.00
12,700.00	89.93	359.92	7,357.31	4,141.90	306.43	4,149.72	0.00	0.00	0.00
12,800.00	89.93	359.92	7,357.42	4,241.90	306.30	4,249.66	0.00	0.00	0.00
12,900.00	89.93	359.92	7,357.54	4,341.90	306.17	4,349.60	0.00	0.00	0.00
13,000.00	89.93	359.92	7,357.65	4,441.90	306.04	4,449.55	0.00	0.00	0.00
13,100.00	89.93	359.92	7,357.76	4,541.90	305.90	4,549.49	0.00	0.00	0.00
13,200.00	89.93	359.92	7,357.88	4,641.90	305.77	4,649.43	0.00	0.00	0.00
13,300.00	89.93	359.92	7,357.99	4,741.90	305.64	4,749.37	0.00	0.00	0.00
13,400.00	89.93	359.92	7,358.10	4,841.90	305.51	4,849.31	0.00	0.00	0.00
13,500.00	89.93	359.92	7,358.22	4,941.90	305.37	4,949.25	0.00	0.00	0.00
13,600.00	89.93	359.92	7,358.33	5,041.90	305.24	5,049.20	0.00	0.00	0.00
13,700.00	89.93	359.92	7,358.45	5,141.90	305.11	5,149.14	0.00	0.00	0.00
13,800.00	89.93	359.92	7,358.56	5,241.90	304.98	5,249.08	0.00	0.00	0.00
13,900.00	89.93	359.92	7,358.67	5,341.90	304.84	5,349.02	0.00	0.00	0.00
14,000.00	89.93	359.92	7,358.79	5,441.90	304.71	5,448.96	0.00	0.00	0.00
14,100.00	89.93	359.92	7,358.90	5,541.90	304.58	5,548.90	0.00	0.00	0.00
14,200.00	89.93	359.92	7,359.02	5,641.90	304.45	5,648.85	0.00	0.00	0.00
14,300.00	89.93	359.92	7,359.13	5,741.90	304.31	5,748.79	0.00	0.00	0.00
14,400.00	89.93	359.92	7,359.24	5,841.90	304.18	5,848.73	0.00	0.00	0.00
14,500.00	89.93	359.92	7,359.36	5,941.90	304.05	5,948.67	0.00	0.00	0.00
14,600.00	89.93	359.92	7,359.47	6,041.90	303.92	6,048.61	0.00	0.00	0.00
14,700.00	89.93	359.92	7,359.59	6,141.90	303.78	6,148.55	0.00	0.00	0.00
14,800.00	89.93	359.92	7,359.70	6,241.90	303.65	6,248.50	0.00	0.00	0.00
14,900.00	89.93	359.92	7,359.81	6,341.90	303.52	6,348.44	0.00	0.00	0.00
15,000.00	89.93	359.92	7,359.93	6,441.90	303.39	6,448.38	0.00	0.00	0.00
15,100.00	89.93	359.92	7,360.04	6,541.90	303.25	6,548.32	0.00	0.00	0.00
15,200.00	89.93	359.92	7,360.16	6,641.90	303.12	6,648.26	0.00	0.00	0.00
15,300.00	89.93	359.92	7,360.27	6,741.90	302.99	6,748.21	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	89.93	359.92	7,360.38	6,841.89	302.86	6,848.15	0.00	0.00	0.00
15,500.00	89.93	359.92	7,360.50	6,941.89	302.72	6,948.09	0.00	0.00	0.00
15,600.00	89.93	359.92	7,360.61	7,041.89	302.59	7,048.03	0.00	0.00	0.00
15,700.00	89.93	359.92	7,360.73	7,141.89	302.46	7,147.97	0.00	0.00	0.00
15,800.00	89.93	359.92	7,360.84	7,241.89	302.33	7,247.91	0.00	0.00	0.00
15,900.00	89.93	359.92	7,360.95	7,341.89	302.19	7,347.86	0.00	0.00	0.00
16,000.00	89.93	359.92	7,361.07	7,441.89	302.06	7,447.80	0.00	0.00	0.00
16,100.00	89.93	359.92	7,361.18	7,541.89	301.93	7,547.74	0.00	0.00	0.00
16,200.00	89.93	359.92	7,361.30	7,641.89	301.80	7,647.68	0.00	0.00	0.00
16,300.00	89.93	359.92	7,361.41	7,741.89	301.66	7,747.62	0.00	0.00	0.00
16,400.00	89.93	359.92	7,361.52	7,841.89	301.53	7,847.56	0.00	0.00	0.00
16,500.00	89.93	359.92	7,361.64	7,941.89	301.40	7,947.51	0.00	0.00	0.00
16,600.00	89.93	359.92	7,361.75	8,041.89	301.26	8,047.45	0.00	0.00	0.00
16,700.00	89.93	359.92	7,361.87	8,141.89	301.13	8,147.39	0.00	0.00	0.00
16,800.00	89.93	359.92	7,361.98	8,241.89	301.00	8,247.33	0.00	0.00	0.00
16,900.00	89.93	359.92	7,362.09	8,341.89	300.87	8,347.27	0.00	0.00	0.00
17,000.00	89.93	359.92	7,362.21	8,441.89	300.73	8,447.21	0.00	0.00	0.00
17,100.00	89.93	359.92	7,362.32	8,541.89	300.60	8,547.16	0.00	0.00	0.00
17,200.00	89.93	359.92	7,362.44	8,641.89	300.47	8,647.10	0.00	0.00	0.00
17,300.00	89.93	359.92	7,362.55	8,741.89	300.34	8,747.04	0.00	0.00	0.00
17,400.00	89.93	359.92	7,362.66	8,841.89	300.20	8,846.98	0.00	0.00	0.00
17,500.00	89.93	359.92	7,362.78	8,941.89	300.07	8,946.92	0.00	0.00	0.00
17,600.00	89.93	359.92	7,362.89	9,041.89	299.94	9,046.86	0.00	0.00	0.00
17,695.61	89.93	359.92	7,363.00	9,137.50	299.81	9,142.42	0.00	0.00	0.00
PBHL/TD 17695.61 MD/7363.00 TVD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP Buford 33-09-3L 470 - plan hits target center - Point	0.00	0.00	7,352.00	-514.96	312.61	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
BHL Buford 33-09-3L 47 - plan hits target center - Point	0.00	0.00	7,363.00	9,137.50	299.81	14,537,214.62	1,731,038.18	40.02833101	-104.67627709

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
5,384.92	5,356.61	-122.38	22.87	Begin 38.49° tangent
6,766.47	6,437.95	-967.63	180.83	Begin 10°/100' build/turn
8,043.14	7,352.00	-514.96	312.61	Begin 89.93° lateral section
17,695.61	7,363.00	9,137.50	299.81	PBHL/TD 17695.61 MD/7363.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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 33-9-3L, Surf Loc: 985 FSL 300 FWL Sect 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,528,076.11 usft	Latitude:	40.00323802
	+E/-W	0.00 ft	Easting:	1,730,771.45 usft	Longitude:	-104.67734811
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,077.00 ft

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

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	1.88

Plan Survey Tool Program	Date	5/25/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,695.61 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	
5,384.92	38.49	169.41	5,356.61	-122.38	22.87	10.00	10.00	0.00	169.41	
6,766.47	38.49	169.41	6,437.95	-967.63	180.83	0.00	0.00	0.00	0.00	
8,043.14	89.93	359.92	7,352.00	-514.96	312.61	10.00	4.03	-13.28	-166.68	LP Buford 33-09-3L 4'
17,695.61	89.93	359.92	7,363.00	9,137.50	299.81	0.00	0.00	0.00	0.00	BHL Buford 33-09-3L

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
100.00	0.00	0.00	100.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
200.00	0.00	0.00	200.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
300.00	0.00	0.00	300.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
400.00	0.00	0.00	400.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
500.00	0.00	0.00	500.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
600.00	0.00	0.00	600.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
700.00	0.00	0.00	700.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
800.00	0.00	0.00	800.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
900.00	0.00	0.00	900.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,528,076.11	1,730,771.45	40.00323802	-104.67734811
KOP Begin 10°/100' build									
5,100.00	10.00	169.41	5,099.49	-8.56	1.60	14,528,067.56	1,730,773.08	40.00321452	-104.67734240
5,200.00	20.00	169.41	5,195.96	-33.97	6.35	14,528,042.17	1,730,777.92	40.00314474	-104.67732544

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	169.41	5,286.48	-75.46	14.10	14,528,000.71	1,730,785.82	40.00303080	-104.67729775
5,384.92	38.49	169.41	5,356.61	-122.38	22.87	14,527,953.81	1,730,794.76	40.00290193	-104.67726644
Begin 38.49° tangent									
5,400.00	38.49	169.41	5,368.42	-131.61	24.60	14,527,944.59	1,730,796.52	40.00287658	-104.67726028
5,500.00	38.49	169.41	5,446.69	-192.79	36.03	14,527,883.45	1,730,808.18	40.00270857	-104.67721945
5,600.00	38.49	169.41	5,524.96	-253.98	47.46	14,527,822.31	1,730,819.83	40.00254056	-104.67717862
5,700.00	38.49	169.41	5,603.23	-315.16	58.90	14,527,761.17	1,730,831.48	40.00237255	-104.67713780
5,800.00	38.49	169.41	5,681.50	-376.34	70.33	14,527,700.04	1,730,843.14	40.00220454	-104.67709697
5,900.00	38.49	169.41	5,759.77	-437.52	81.76	14,527,638.90	1,730,854.79	40.00203652	-104.67705614
6,000.00	38.49	169.41	5,838.04	-498.70	93.20	14,527,577.76	1,730,866.45	40.00186851	-104.67701532
6,100.00	38.49	169.41	5,916.31	-559.88	104.63	14,527,516.62	1,730,878.10	40.00170050	-104.67697449
6,200.00	38.49	169.41	5,994.58	-621.06	116.06	14,527,455.48	1,730,889.76	40.00153249	-104.67693367
6,300.00	38.49	169.41	6,072.85	-682.24	127.50	14,527,394.34	1,730,901.41	40.00136447	-104.67689284
6,400.00	38.49	169.41	6,151.12	-743.42	138.93	14,527,333.20	1,730,913.07	40.00119646	-104.67685202
6,500.00	38.49	169.41	6,229.39	-804.60	150.36	14,527,272.06	1,730,924.72	40.00102845	-104.67681119
6,600.00	38.49	169.41	6,307.66	-865.78	161.80	14,527,210.92	1,730,936.38	40.00086044	-104.67677037
6,700.00	38.49	169.41	6,385.93	-926.96	173.23	14,527,149.79	1,730,948.03	40.00069242	-104.67672954
6,766.47	38.49	169.41	6,437.95	-967.63	180.83	14,527,109.15	1,730,955.78	40.00058074	-104.67670241
Begin 10°/100' build/turn									
6,800.00	35.24	168.08	6,464.77	-987.36	184.74	14,527,089.43	1,730,959.77	40.00052657	-104.67668842
6,900.00	25.66	162.35	6,550.90	-1,036.34	197.30	14,527,040.50	1,730,972.50	40.00039207	-104.67664360
7,000.00	16.53	150.69	6,644.14	-1,069.46	210.86	14,527,007.43	1,730,986.18	40.00030112	-104.67659518
7,100.00	9.33	118.02	6,741.66	-1,085.71	225.02	14,526,991.23	1,731,000.39	40.00025647	-104.67654463
7,200.00	9.97	55.46	6,840.50	-1,084.61	239.34	14,526,992.38	1,731,014.71	40.00025950	-104.67649350
7,300.00	17.61	27.07	6,937.65	-1,066.18	253.39	14,527,010.86	1,731,028.69	40.00031011	-104.67644332
7,400.00	26.83	16.56	7,030.15	-1,030.99	266.74	14,527,046.10	1,731,041.92	40.00040675	-104.67639564
7,500.00	36.44	11.23	7,115.21	-980.10	278.99	14,527,097.03	1,731,053.98	40.00054650	-104.67635190
7,600.00	46.20	7.90	7,190.24	-915.06	289.76	14,527,162.11	1,731,064.52	40.00072510	-104.67631342
7,700.00	56.02	5.52	7,252.95	-837.85	298.74	14,527,239.35	1,731,073.22	40.00093713	-104.67628138
7,800.00	65.89	3.63	7,301.44	-750.81	305.63	14,527,326.41	1,731,079.80	40.00117616	-104.67625675
7,900.00	75.77	2.02	7,334.24	-656.59	310.25	14,527,420.65	1,731,084.07	40.00143490	-104.67624028
8,000.00	85.67	0.54	7,350.34	-558.05	312.43	14,527,519.20	1,731,085.90	40.00170551	-104.67623246
8,043.14	89.93	359.92	7,352.00	-514.96	312.61	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
Begin 89.93° lateral section									
8,100.00	89.93	359.92	7,352.06	-458.09	312.53	14,527,619.16	1,731,085.64	40.00198001	-104.67623210
8,200.00	89.93	359.92	7,352.18	-358.09	312.40	14,527,719.15	1,731,085.14	40.00225463	-104.67623257
8,300.00	89.93	359.92	7,352.29	-258.09	312.27	14,527,819.15	1,731,084.65	40.00252924	-104.67623304
8,400.00	89.93	359.92	7,352.41	-158.09	312.14	14,527,919.15	1,731,084.15	40.00280386	-104.67623351
8,500.00	89.93	359.92	7,352.52	-58.09	312.00	14,528,019.15	1,731,083.66	40.00307848	-104.67623398
8,600.00	89.93	359.92	7,352.63	41.91	311.87	14,528,119.15	1,731,083.16	40.00335309	-104.67623444
8,700.00	89.93	359.92	7,352.75	141.91	311.74	14,528,219.15	1,731,082.67	40.00362771	-104.67623491
8,800.00	89.93	359.92	7,352.86	241.90	311.61	14,528,319.15	1,731,082.18	40.00390232	-104.67623538
8,900.00	89.93	359.92	7,352.98	341.90	311.47	14,528,419.14	1,731,081.68	40.00417694	-104.67623585
9,000.00	89.93	359.92	7,353.09	441.90	311.34	14,528,519.14	1,731,081.19	40.00445155	-104.67623632
9,100.00	89.93	359.92	7,353.20	541.90	311.21	14,528,619.14	1,731,080.69	40.00472617	-104.67623679
9,200.00	89.93	359.92	7,353.32	641.90	311.07	14,528,719.14	1,731,080.20	40.00500078	-104.67623726
9,300.00	89.93	359.92	7,353.43	741.90	310.94	14,528,819.14	1,731,079.70	40.00527540	-104.67623773
9,400.00	89.93	359.92	7,353.55	841.90	310.81	14,528,919.14	1,731,079.21	40.00555002	-104.67623820
9,500.00	89.93	359.92	7,353.66	941.90	310.68	14,529,019.14	1,731,078.71	40.00582463	-104.67623867
9,600.00	89.93	359.92	7,353.77	1,041.90	310.54	14,529,119.13	1,731,078.22	40.00609925	-104.67623913
9,700.00	89.93	359.92	7,353.89	1,141.90	310.41	14,529,219.13	1,731,077.72	40.00637386	-104.67623960
9,800.00	89.93	359.92	7,354.00	1,241.90	310.28	14,529,319.13	1,731,077.23	40.00664848	-104.67624007
9,900.00	89.93	359.92	7,354.12	1,341.90	310.15	14,529,419.13	1,731,076.73	40.00692309	-104.67624054
10,000.00	89.93	359.92	7,354.23	1,441.90	310.01	14,529,519.13	1,731,076.24	40.00719771	-104.67624101

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	89.93	359.92	7,354.34	1,541.90	309.88	14,529,619.13	1,731,075.75	40.00747232	-104.67624148
10,200.00	89.93	359.92	7,354.46	1,641.90	309.75	14,529,719.12	1,731,075.25	40.00774694	-104.67624195
10,300.00	89.93	359.92	7,354.57	1,741.90	309.62	14,529,819.12	1,731,074.76	40.00802155	-104.67624242
10,400.00	89.93	359.92	7,354.69	1,841.90	309.48	14,529,919.12	1,731,074.26	40.00829617	-104.67624289
10,500.00	89.93	359.92	7,354.80	1,941.90	309.35	14,530,019.12	1,731,073.77	40.00857079	-104.67624335
10,600.00	89.93	359.92	7,354.91	2,041.90	309.22	14,530,119.12	1,731,073.27	40.00884540	-104.67624382
10,700.00	89.93	359.92	7,355.03	2,141.90	309.09	14,530,219.12	1,731,072.78	40.00912002	-104.67624429
10,800.00	89.93	359.92	7,355.14	2,241.90	308.95	14,530,319.12	1,731,072.28	40.00939463	-104.67624476
10,900.00	89.93	359.92	7,355.26	2,341.90	308.82	14,530,419.11	1,731,071.79	40.00966925	-104.67624523
11,000.00	89.93	359.92	7,355.37	2,441.90	308.69	14,530,519.11	1,731,071.29	40.00994386	-104.67624570
11,100.00	89.93	359.92	7,355.48	2,541.90	308.56	14,530,619.11	1,731,070.80	40.01021848	-104.67624617
11,200.00	89.93	359.92	7,355.60	2,641.90	308.42	14,530,719.11	1,731,070.31	40.01049309	-104.67624664
11,300.00	89.93	359.92	7,355.71	2,741.90	308.29	14,530,819.11	1,731,069.81	40.01076771	-104.67624711
11,400.00	89.93	359.92	7,355.83	2,841.90	308.16	14,530,919.11	1,731,069.32	40.01104232	-104.67624757
11,500.00	89.93	359.92	7,355.94	2,941.90	308.03	14,531,019.11	1,731,068.82	40.01131694	-104.67624804
11,600.00	89.93	359.92	7,356.05	3,041.90	307.89	14,531,119.10	1,731,068.33	40.01159155	-104.67624851
11,700.00	89.93	359.92	7,356.17	3,141.90	307.76	14,531,219.10	1,731,067.83	40.01186617	-104.67624898
11,800.00	89.93	359.92	7,356.28	3,241.90	307.63	14,531,319.10	1,731,067.34	40.01214078	-104.67624945
11,900.00	89.93	359.92	7,356.40	3,341.90	307.50	14,531,419.10	1,731,066.84	40.01241540	-104.67624992
12,000.00	89.93	359.92	7,356.51	3,441.90	307.36	14,531,519.10	1,731,066.35	40.01269001	-104.67625039
12,100.00	89.93	359.92	7,356.62	3,541.90	307.23	14,531,619.10	1,731,065.85	40.01296463	-104.67625086
12,200.00	89.93	359.92	7,356.74	3,641.90	307.10	14,531,719.10	1,731,065.36	40.01323925	-104.67625133
12,300.00	89.93	359.92	7,356.85	3,741.90	306.97	14,531,819.09	1,731,064.86	40.01351386	-104.67625179
12,400.00	89.93	359.92	7,356.97	3,841.90	306.83	14,531,919.09	1,731,064.37	40.01378848	-104.67625226
12,500.00	89.93	359.92	7,357.08	3,941.90	306.70	14,532,019.09	1,731,063.88	40.01406309	-104.67625273
12,600.00	89.93	359.92	7,357.19	4,041.90	306.57	14,532,119.09	1,731,063.38	40.01433771	-104.67625320
12,700.00	89.93	359.92	7,357.31	4,141.90	306.43	14,532,219.09	1,731,062.89	40.01461232	-104.67625367
12,800.00	89.93	359.92	7,357.42	4,241.90	306.30	14,532,319.09	1,731,062.39	40.01488694	-104.67625414
12,900.00	89.93	359.92	7,357.54	4,341.90	306.17	14,532,419.08	1,731,061.90	40.01516155	-104.67625461
13,000.00	89.93	359.92	7,357.65	4,441.90	306.04	14,532,519.08	1,731,061.40	40.01543617	-104.67625508
13,100.00	89.93	359.92	7,357.76	4,541.90	305.90	14,532,619.08	1,731,060.91	40.01571078	-104.67625555
13,200.00	89.93	359.92	7,357.88	4,641.90	305.77	14,532,719.08	1,731,060.41	40.01598540	-104.67625601
13,300.00	89.93	359.92	7,357.99	4,741.90	305.64	14,532,819.08	1,731,059.92	40.01626001	-104.67625648
13,400.00	89.93	359.92	7,358.10	4,841.90	305.51	14,532,919.08	1,731,059.42	40.01653463	-104.67625695
13,500.00	89.93	359.92	7,358.22	4,941.90	305.37	14,533,019.08	1,731,058.93	40.01680924	-104.67625742
13,600.00	89.93	359.92	7,358.33	5,041.90	305.24	14,533,119.07	1,731,058.44	40.01708386	-104.67625789
13,700.00	89.93	359.92	7,358.45	5,141.90	305.11	14,533,219.07	1,731,057.94	40.01735847	-104.67625836
13,800.00	89.93	359.92	7,358.56	5,241.90	304.98	14,533,319.07	1,731,057.45	40.01763309	-104.67625883
13,900.00	89.93	359.92	7,358.67	5,341.90	304.84	14,533,419.07	1,731,056.95	40.01790770	-104.67625930
14,000.00	89.93	359.92	7,358.79	5,441.90	304.71	14,533,519.07	1,731,056.46	40.01818232	-104.67625976
14,100.00	89.93	359.92	7,358.90	5,541.90	304.58	14,533,619.07	1,731,055.96	40.01845693	-104.67626023
14,200.00	89.93	359.92	7,359.02	5,641.90	304.45	14,533,719.07	1,731,055.47	40.01873155	-104.67626070
14,300.00	89.93	359.92	7,359.13	5,741.90	304.31	14,533,819.06	1,731,054.97	40.01900616	-104.67626117
14,400.00	89.93	359.92	7,359.24	5,841.90	304.18	14,533,919.06	1,731,054.48	40.01928078	-104.67626164
14,500.00	89.93	359.92	7,359.36	5,941.90	304.05	14,534,019.06	1,731,053.98	40.01955539	-104.67626211
14,600.00	89.93	359.92	7,359.47	6,041.90	303.92	14,534,119.06	1,731,053.49	40.01983001	-104.67626258
14,700.00	89.93	359.92	7,359.59	6,141.90	303.78	14,534,219.06	1,731,052.99	40.02010462	-104.67626305
14,800.00	89.93	359.92	7,359.70	6,241.90	303.65	14,534,319.06	1,731,052.50	40.02037924	-104.67626352
14,900.00	89.93	359.92	7,359.81	6,341.90	303.52	14,534,419.05	1,731,052.01	40.02065385	-104.67626398
15,000.00	89.93	359.92	7,359.93	6,441.90	303.39	14,534,519.05	1,731,051.51	40.02092846	-104.67626445
15,100.00	89.93	359.92	7,360.04	6,541.90	303.25	14,534,619.05	1,731,051.02	40.02120308	-104.67626492
15,200.00	89.93	359.92	7,360.16	6,641.90	303.12	14,534,719.05	1,731,050.52	40.02147769	-104.67626539
15,300.00	89.93	359.92	7,360.27	6,741.90	302.99	14,534,819.05	1,731,050.03	40.02175231	-104.67626586
15,400.00	89.93	359.92	7,360.38	6,841.89	302.86	14,534,919.05	1,731,049.53	40.02202692	-104.67626633
15,500.00	89.93	359.92	7,360.50	6,941.89	302.72	14,535,019.05	1,731,049.04	40.02230154	-104.67626680

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Buford 33-9-3L
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 33-9-3L	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	89.93	359.92	7,360.61	7,041.89	302.59	14,535,119.04	1,731,048.54	40.02257615	-104.67626727
15,700.00	89.93	359.92	7,360.73	7,141.89	302.46	14,535,219.04	1,731,048.05	40.02285077	-104.67626773
15,800.00	89.93	359.92	7,360.84	7,241.89	302.33	14,535,319.04	1,731,047.55	40.02312538	-104.67626820
15,900.00	89.93	359.92	7,360.95	7,341.89	302.19	14,535,419.04	1,731,047.06	40.02340000	-104.67626867
16,000.00	89.93	359.92	7,361.07	7,441.89	302.06	14,535,519.04	1,731,046.56	40.02367461	-104.67626914
16,100.00	89.93	359.92	7,361.18	7,541.89	301.93	14,535,619.04	1,731,046.07	40.02394923	-104.67626961
16,200.00	89.93	359.92	7,361.30	7,641.89	301.80	14,535,719.04	1,731,045.58	40.02422384	-104.67627008
16,300.00	89.93	359.92	7,361.41	7,741.89	301.66	14,535,819.03	1,731,045.08	40.02449846	-104.67627055
16,400.00	89.93	359.92	7,361.52	7,841.89	301.53	14,535,919.03	1,731,044.59	40.02477307	-104.67627102
16,500.00	89.93	359.92	7,361.64	7,941.89	301.40	14,536,019.03	1,731,044.09	40.02504769	-104.67627148
16,600.00	89.93	359.92	7,361.75	8,041.89	301.26	14,536,119.03	1,731,043.60	40.02532230	-104.67627195
16,700.00	89.93	359.92	7,361.87	8,141.89	301.13	14,536,219.03	1,731,043.10	40.02559691	-104.67627242
16,800.00	89.93	359.92	7,361.98	8,241.89	301.00	14,536,319.03	1,731,042.61	40.02587153	-104.67627289
16,900.00	89.93	359.92	7,362.09	8,341.89	300.87	14,536,419.03	1,731,042.11	40.02614614	-104.67627336
17,000.00	89.93	359.92	7,362.21	8,441.89	300.73	14,536,519.02	1,731,041.62	40.02642076	-104.67627383
17,100.00	89.93	359.92	7,362.32	8,541.89	300.60	14,536,619.02	1,731,041.12	40.02669537	-104.67627430
17,200.00	89.93	359.92	7,362.44	8,641.89	300.47	14,536,719.02	1,731,040.63	40.02696999	-104.67627476
17,300.00	89.93	359.92	7,362.55	8,741.89	300.34	14,536,819.02	1,731,040.14	40.02724460	-104.67627523
17,400.00	89.93	359.92	7,362.66	8,841.89	300.20	14,536,919.02	1,731,039.64	40.02751922	-104.67627570
17,500.00	89.93	359.92	7,362.78	8,941.89	300.07	14,537,019.02	1,731,039.15	40.02779383	-104.67627617
17,600.00	89.93	359.92	7,362.89	9,041.89	299.94	14,537,119.01	1,731,038.65	40.02806845	-104.67627664
17,695.61	89.93	359.92	7,363.00	9,137.50	299.81	14,537,214.62	1,731,038.18	40.02833101	-104.67627709
PBHL/TD 17695.61 MD/7363.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP Buford 33-09-3L 470 - hit/miss target - Shape - Point	0.00	0.00	7,352.00	-514.96	312.61	14,527,562.29	1,731,085.92	40.00182386	-104.67623183
BHL Buford 33-09-3L 47 - plan hits target center - Point	0.00	0.00	7,363.00	9,137.50	299.81	14,537,214.62	1,731,038.18	40.02833101	-104.67627709

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build	
5,384.92	5,356.61	-122.38	22.87	Begin 38.49° tangent	
6,766.47	6,437.95	-967.63	180.83	Begin 10°/100' build/turn	
8,043.14	7,352.00	-514.96	312.61	Begin 89.93° lateral section	
17,695.61	7,363.00	9,137.50	299.81	PBHL/TD 17695.61 MD/7363.00 TVD	