



Weld County, Colorado
Section 33-T01N-R65W
Walla 5-1-1L
plan1

Azimuth Corrections:

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

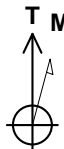
Walla 5-1-1L			
Surf loc: 660 FSL 300 FWL Sec33-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5072+25 @ 5097.00ft			
Northing	Easting	Latitude	Longitude
14527751.12	1730774.27	40.00234552	-104.67734224

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	5286.90	28.69	226.95	5275.06	-48.02	-51.40	10.00	51.77	Begin 28.69° tangent
4	6940.38	28.69	226.95	6725.54	-589.92	-631.42	0.00	635.96	Begin 10°/100' build/turn
5	7647.98	89.93	180.11	7083.00	-1130.15	-774.91	10.00	1185.49	LP Begin 89.93° lateral section
6	16970.72	89.93	180.11	7095.00	-10452.87	-792.26	0.00	10482.85	PBHL/TD 16970.72 MD/7095.00 TVD

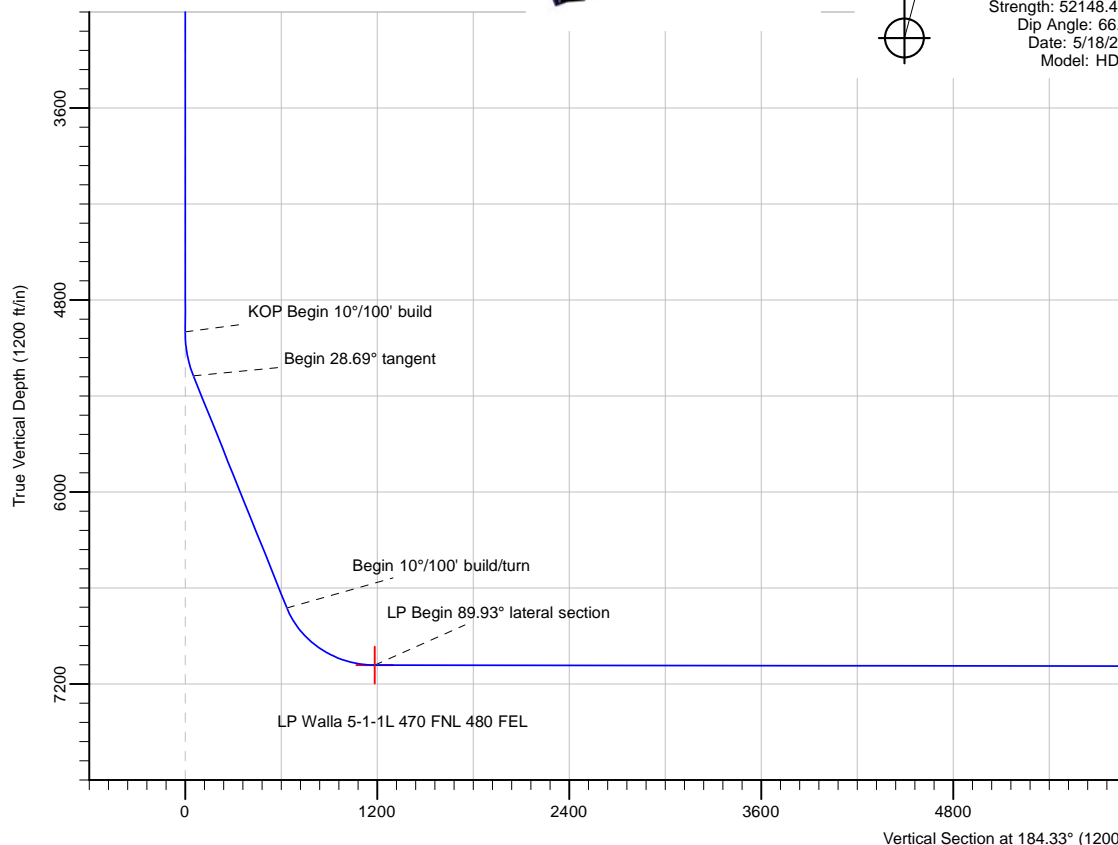
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	Easting	Latitude	Longitude
LP Walla 5-1-1L 470 FNL 480 FEL	7083.00	-1130.15	-774.91	14526618.17	1730003.46	39.99924189	-104.68010920
BHL Walla 5-1-1L 470 FSL 480 FEL	7095.00	-10452.87	-792.26	14517295.47	1730019.86	39.97364014	-104.68017005

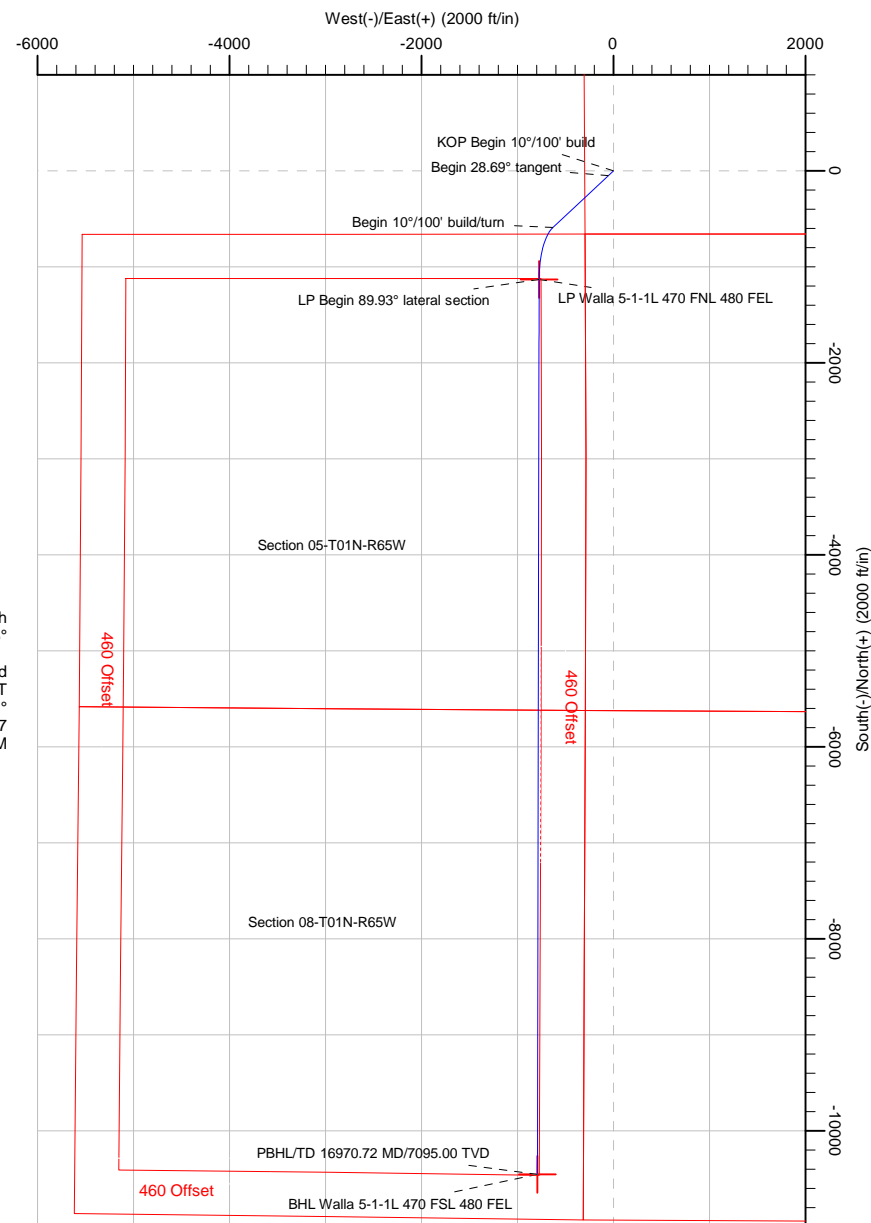


Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52148.4snT
Dip Angle: 66.45°
Date: 5/18/2017
Model: HDGM



Date: 13:49, May 18 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 Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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

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

Well	Walla 5-1-1L, Surf loc: 660 FSL 300 FWL Sec33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,751.12 usft	Latitude:	40.00234552
	+E/-W	0.00 ft	Easting:	1,730,774.27 usft	Longitude:	-104.67734224
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,072.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/18/2017	8.28	66.45	52,148.40000000

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	184.33

Plan Survey Tool Program	Date	5/18/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,970.72	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	
5,286.90	28.69	226.95	5,275.06	-48.02	-51.40	10.00	10.00	0.00	226.95	
6,940.38	28.69	226.95	6,725.54	-589.92	-631.42	0.00	0.00	0.00	0.00	
7,647.98	89.93	180.11	7,083.00	-1,130.15	-774.91	10.00	8.65	-6.62	-50.59	LP Walla 5-1-1L 470 F
16,970.72	89.93	180.11	7,095.00	-10,452.87	-792.26	0.00	0.00	0.00	0.00	BHL Walla 5-1-1L 470

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.01	0.00	0.00	2,500.01	0.00	0.00	0.00	0.00	0.00	0.00
2,600.01	0.00	0.00	2,600.01	0.00	0.00	0.00	0.00	0.00	0.00
2,700.01	0.00	0.00	2,700.01	0.00	0.00	0.00	0.00	0.00	0.00
2,800.01	0.00	0.00	2,800.01	0.00	0.00	0.00	0.00	0.00	0.00
2,900.01	0.00	0.00	2,900.01	0.00	0.00	0.00	0.00	0.00	0.00
3,000.01	0.00	0.00	3,000.01	0.00	0.00	0.00	0.00	0.00	0.00
3,100.01	0.00	0.00	3,100.01	0.00	0.00	0.00	0.00	0.00	0.00
3,200.01	0.00	0.00	3,200.01	0.00	0.00	0.00	0.00	0.00	0.00
3,300.01	0.00	0.00	3,300.01	0.00	0.00	0.00	0.00	0.00	0.00
3,400.01	0.00	0.00	3,400.01	0.00	0.00	0.00	0.00	0.00	0.00
3,500.01	0.00	0.00	3,500.01	0.00	0.00	0.00	0.00	0.00	0.00
3,600.01	0.00	0.00	3,600.01	0.00	0.00	0.00	0.00	0.00	0.00
3,700.01	0.00	0.00	3,700.01	0.00	0.00	0.00	0.00	0.00	0.00
3,800.01	0.00	0.00	3,800.01	0.00	0.00	0.00	0.00	0.00	0.00
3,900.01	0.00	0.00	3,900.01	0.00	0.00	0.00	0.00	0.00	0.00
4,000.01	0.00	0.00	4,000.01	0.00	0.00	0.00	0.00	0.00	0.00
4,100.01	0.00	0.00	4,100.01	0.00	0.00	0.00	0.00	0.00	0.00
4,200.01	0.00	0.00	4,200.01	0.00	0.00	0.00	0.00	0.00	0.00
4,300.01	0.00	0.00	4,300.01	0.00	0.00	0.00	0.00	0.00	0.00
4,400.01	0.00	0.00	4,400.01	0.00	0.00	0.00	0.00	0.00	0.00
4,500.01	0.00	0.00	4,500.01	0.00	0.00	0.00	0.00	0.00	0.00
4,600.01	0.00	0.00	4,600.01	0.00	0.00	0.00	0.00	0.00	0.00
4,700.01	0.00	0.00	4,700.01	0.00	0.00	0.00	0.00	0.00	0.00
4,800.01	0.00	0.00	4,800.01	0.00	0.00	0.00	0.00	0.00	0.00
4,900.01	0.00	0.00	4,900.01	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									
5,000.01	0.00	226.95	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	226.95	5,099.50	-5.94	-6.36	6.41	10.00	10.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.01	20.00	226.95	5,195.97	-23.59	-25.25	25.43	10.00	10.00	0.00
5,286.90	28.69	226.95	5,275.06	-48.02	-51.40	51.77	10.00	10.00	0.00
Begin 28.69° tangent									
5,300.01	28.69	226.95	5,286.56	-52.32	-56.00	56.40	0.00	0.00	0.00
5,400.01	28.69	226.95	5,374.28	-85.09	-91.08	91.73	0.00	0.00	0.00
5,500.01	28.69	226.95	5,462.01	-117.87	-126.16	127.06	0.00	0.00	0.00
5,600.01	28.69	226.95	5,549.73	-150.64	-161.24	162.39	0.00	0.00	0.00
5,700.01	28.69	226.95	5,637.46	-183.41	-196.31	197.72	0.00	0.00	0.00
5,800.01	28.69	226.95	5,725.18	-216.19	-231.39	233.06	0.00	0.00	0.00
5,900.01	28.69	226.95	5,812.90	-248.96	-266.47	268.39	0.00	0.00	0.00
6,000.01	28.69	226.95	5,900.63	-281.73	-301.55	303.72	0.00	0.00	0.00
6,100.01	28.69	226.95	5,988.35	-314.51	-336.63	339.05	0.00	0.00	0.00
6,200.01	28.69	226.95	6,076.07	-347.28	-371.71	374.38	0.00	0.00	0.00
6,300.01	28.69	226.95	6,163.80	-380.05	-406.79	409.71	0.00	0.00	0.00
6,400.01	28.69	226.95	6,251.52	-412.83	-441.87	445.04	0.00	0.00	0.00
6,500.01	28.69	226.95	6,339.24	-445.60	-476.95	480.37	0.00	0.00	0.00
6,600.01	28.69	226.95	6,426.97	-478.37	-512.02	515.70	0.00	0.00	0.00
6,700.01	28.69	226.95	6,514.69	-511.15	-547.10	551.03	0.00	0.00	0.00
6,800.01	28.69	226.95	6,602.41	-543.92	-582.18	586.36	0.00	0.00	0.00
6,900.01	28.69	226.95	6,690.14	-576.69	-617.26	621.69	0.00	0.00	0.00
6,940.38	28.69	226.95	6,725.54	-589.92	-631.42	635.96	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,000.01	32.77	218.42	6,776.82	-612.36	-651.93	659.88	10.00	6.85	-14.30
7,100.01	40.57	207.88	6,857.04	-662.44	-684.04	712.24	10.00	7.80	-10.54
7,200.01	49.06	200.35	6,927.97	-726.77	-712.45	778.53	10.00	8.49	-7.53
7,300.01	57.92	194.57	6,987.43	-803.38	-736.30	856.73	10.00	8.86	-5.77
7,400.01	67.00	189.84	7,033.63	-889.96	-754.87	944.46	10.00	9.08	-4.74
7,500.02	76.21	185.70	7,065.17	-983.86	-767.59	1,039.06	10.00	9.20	-4.13
7,600.02	85.47	181.89	7,081.07	-1,082.25	-774.07	1,137.65	10.00	9.27	-3.81
7,647.98	89.93	180.11	7,083.00	-1,130.15	-774.91	1,185.49	10.00	9.29	-3.72
LP Begin 89.93° lateral section									
7,700.02	89.93	180.11	7,083.07	-1,182.19	-775.00	1,237.38	0.00	0.00	0.00
7,800.02	89.93	180.11	7,083.20	-1,282.19	-775.19	1,337.11	0.00	0.00	0.00
7,900.02	89.93	180.11	7,083.32	-1,382.19	-775.38	1,436.83	0.00	0.00	0.00
8,000.02	89.93	180.11	7,083.45	-1,482.19	-775.56	1,536.56	0.00	0.00	0.00
8,100.02	89.93	180.11	7,083.58	-1,582.19	-775.75	1,636.29	0.00	0.00	0.00
8,200.02	89.93	180.11	7,083.71	-1,682.19	-775.94	1,736.02	0.00	0.00	0.00
8,300.02	89.93	180.11	7,083.84	-1,782.19	-776.12	1,835.75	0.00	0.00	0.00
8,400.02	89.93	180.11	7,083.97	-1,882.19	-776.31	1,935.47	0.00	0.00	0.00
8,500.02	89.93	180.11	7,084.10	-1,982.19	-776.49	2,035.20	0.00	0.00	0.00
8,600.02	89.93	180.11	7,084.23	-2,082.19	-776.68	2,134.93	0.00	0.00	0.00
8,700.02	89.93	180.11	7,084.35	-2,182.19	-776.87	2,234.66	0.00	0.00	0.00
8,800.02	89.93	180.11	7,084.48	-2,282.19	-777.05	2,334.39	0.00	0.00	0.00
8,900.02	89.93	180.11	7,084.61	-2,382.19	-777.24	2,434.11	0.00	0.00	0.00
9,000.02	89.93	180.11	7,084.74	-2,482.19	-777.42	2,533.84	0.00	0.00	0.00
9,100.02	89.93	180.11	7,084.87	-2,582.19	-777.61	2,633.57	0.00	0.00	0.00
9,200.02	89.93	180.11	7,085.00	-2,682.19	-777.80	2,733.30	0.00	0.00	0.00
9,300.02	89.93	180.11	7,085.13	-2,782.19	-777.98	2,833.03	0.00	0.00	0.00
9,400.02	89.93	180.11	7,085.26	-2,882.19	-778.17	2,932.75	0.00	0.00	0.00
9,500.02	89.93	180.11	7,085.38	-2,982.19	-778.35	3,032.48	0.00	0.00	0.00
9,600.02	89.93	180.11	7,085.51	-3,082.19	-778.54	3,132.21	0.00	0.00	0.00
9,700.02	89.93	180.11	7,085.64	-3,182.19	-778.73	3,231.94	0.00	0.00	0.00
9,800.02	89.93	180.11	7,085.77	-3,282.19	-778.91	3,331.67	0.00	0.00	0.00

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Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,900.02	89.93	180.11	7,085.90	-3,382.19	-779.10	3,431.39	0.00	0.00	0.00	
10,000.02	89.93	180.11	7,086.03	-3,482.19	-779.29	3,531.12	0.00	0.00	0.00	
10,100.02	89.93	180.11	7,086.16	-3,582.19	-779.47	3,630.85	0.00	0.00	0.00	
10,200.02	89.93	180.11	7,086.29	-3,682.19	-779.66	3,730.58	0.00	0.00	0.00	
10,300.02	89.93	180.11	7,086.41	-3,782.19	-779.84	3,830.31	0.00	0.00	0.00	
10,400.02	89.93	180.11	7,086.54	-3,882.19	-780.03	3,930.03	0.00	0.00	0.00	
10,500.02	89.93	180.11	7,086.67	-3,982.19	-780.22	4,029.76	0.00	0.00	0.00	
10,600.02	89.93	180.11	7,086.80	-4,082.19	-780.40	4,129.49	0.00	0.00	0.00	
10,700.02	89.93	180.11	7,086.93	-4,182.19	-780.59	4,229.22	0.00	0.00	0.00	
10,800.02	89.93	180.11	7,087.06	-4,282.18	-780.77	4,328.95	0.00	0.00	0.00	
10,900.02	89.93	180.11	7,087.19	-4,382.18	-780.96	4,428.67	0.00	0.00	0.00	
11,000.02	89.93	180.11	7,087.31	-4,482.18	-781.15	4,528.40	0.00	0.00	0.00	
11,100.02	89.93	180.11	7,087.44	-4,582.18	-781.33	4,628.13	0.00	0.00	0.00	
11,200.02	89.93	180.11	7,087.57	-4,682.18	-781.52	4,727.86	0.00	0.00	0.00	
11,300.02	89.93	180.11	7,087.70	-4,782.18	-781.70	4,827.59	0.00	0.00	0.00	
11,400.02	89.93	180.11	7,087.83	-4,882.18	-781.89	4,927.31	0.00	0.00	0.00	
11,500.02	89.93	180.11	7,087.96	-4,982.18	-782.08	5,027.04	0.00	0.00	0.00	
11,600.02	89.93	180.11	7,088.09	-5,082.18	-782.26	5,126.77	0.00	0.00	0.00	
11,700.02	89.93	180.11	7,088.22	-5,182.18	-782.45	5,226.50	0.00	0.00	0.00	
11,800.02	89.93	180.11	7,088.34	-5,282.18	-782.64	5,326.23	0.00	0.00	0.00	
11,900.02	89.93	180.11	7,088.47	-5,382.18	-782.82	5,425.95	0.00	0.00	0.00	
12,000.02	89.93	180.11	7,088.60	-5,482.18	-783.01	5,525.68	0.00	0.00	0.00	
12,100.02	89.93	180.11	7,088.73	-5,582.18	-783.19	5,625.41	0.00	0.00	0.00	
12,200.02	89.93	180.11	7,088.86	-5,682.18	-783.38	5,725.14	0.00	0.00	0.00	
12,300.02	89.93	180.11	7,088.99	-5,782.18	-783.57	5,824.87	0.00	0.00	0.00	
12,400.03	89.93	180.11	7,089.12	-5,882.18	-783.75	5,924.59	0.00	0.00	0.00	
12,500.03	89.93	180.11	7,089.25	-5,982.18	-783.94	6,024.32	0.00	0.00	0.00	
12,600.03	89.93	180.11	7,089.37	-6,082.18	-784.12	6,124.05	0.00	0.00	0.00	
12,700.03	89.93	180.11	7,089.50	-6,182.18	-784.31	6,223.78	0.00	0.00	0.00	
12,800.03	89.93	180.11	7,089.63	-6,282.18	-784.50	6,323.51	0.00	0.00	0.00	
12,900.03	89.93	180.11	7,089.76	-6,382.18	-784.68	6,423.23	0.00	0.00	0.00	
13,000.03	89.93	180.11	7,089.89	-6,482.18	-784.87	6,522.96	0.00	0.00	0.00	
13,100.03	89.93	180.11	7,090.02	-6,582.18	-785.05	6,622.69	0.00	0.00	0.00	
13,200.03	89.93	180.11	7,090.15	-6,682.18	-785.24	6,722.42	0.00	0.00	0.00	
13,300.03	89.93	180.11	7,090.28	-6,782.18	-785.43	6,822.15	0.00	0.00	0.00	
13,400.03	89.93	180.11	7,090.40	-6,882.18	-785.61	6,921.87	0.00	0.00	0.00	
13,500.03	89.93	180.11	7,090.53	-6,982.18	-785.80	7,021.60	0.00	0.00	0.00	
13,600.03	89.93	180.11	7,090.66	-7,082.18	-785.99	7,121.33	0.00	0.00	0.00	
13,700.03	89.93	180.11	7,090.79	-7,182.18	-786.17	7,221.06	0.00	0.00	0.00	
13,800.03	89.93	180.11	7,090.92	-7,282.18	-786.36	7,320.79	0.00	0.00	0.00	
13,900.03	89.93	180.11	7,091.05	-7,382.18	-786.54	7,420.51	0.00	0.00	0.00	
14,000.03	89.93	180.11	7,091.18	-7,482.18	-786.73	7,520.24	0.00	0.00	0.00	
14,100.03	89.93	180.11	7,091.31	-7,582.18	-786.92	7,619.97	0.00	0.00	0.00	
14,200.03	89.93	180.11	7,091.43	-7,682.18	-787.10	7,719.70	0.00	0.00	0.00	
14,300.03	89.93	180.11	7,091.56	-7,782.18	-787.29	7,819.43	0.00	0.00	0.00	
14,400.03	89.93	180.11	7,091.69	-7,882.18	-787.47	7,919.15	0.00	0.00	0.00	
14,500.03	89.93	180.11	7,091.82	-7,982.18	-787.66	8,018.88	0.00	0.00	0.00	
14,600.03	89.93	180.11	7,091.95	-8,082.18	-787.85	8,118.61	0.00	0.00	0.00	
14,700.03	89.93	180.11	7,092.08	-8,182.18	-788.03	8,218.34	0.00	0.00	0.00	
14,800.03	89.93	180.11	7,092.21	-8,282.18	-788.22	8,318.07	0.00	0.00	0.00	
14,900.03	89.93	180.11	7,092.33	-8,382.18	-788.40	8,417.79	0.00	0.00	0.00	
15,000.03	89.93	180.11	7,092.46	-8,482.18	-788.59	8,517.52	0.00	0.00	0.00	
15,100.03	89.93	180.11	7,092.59	-8,582.18	-788.78	8,617.25	0.00	0.00	0.00	
15,200.03	89.93	180.11	7,092.72	-8,682.18	-788.96	8,716.98	0.00	0.00	0.00	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,300.03	89.93	180.11	7,092.85	-8,782.18	-789.15	8,816.71	0.00	0.00	0.00
15,400.03	89.93	180.11	7,092.98	-8,882.18	-789.34	8,916.43	0.00	0.00	0.00
15,500.03	89.93	180.11	7,093.11	-8,982.18	-789.52	9,016.16	0.00	0.00	0.00
15,600.03	89.93	180.11	7,093.24	-9,082.18	-789.71	9,115.89	0.00	0.00	0.00
15,700.03	89.93	180.11	7,093.36	-9,182.18	-789.89	9,215.62	0.00	0.00	0.00
15,800.03	89.93	180.11	7,093.49	-9,282.18	-790.08	9,315.35	0.00	0.00	0.00
15,900.03	89.93	180.11	7,093.62	-9,382.18	-790.27	9,415.07	0.00	0.00	0.00
16,000.03	89.93	180.11	7,093.75	-9,482.18	-790.45	9,514.80	0.00	0.00	0.00
16,100.03	89.93	180.11	7,093.88	-9,582.18	-790.64	9,614.53	0.00	0.00	0.00
16,200.03	89.93	180.11	7,094.01	-9,682.18	-790.82	9,714.26	0.00	0.00	0.00
16,300.03	89.93	180.11	7,094.14	-9,782.18	-791.01	9,813.99	0.00	0.00	0.00
16,400.03	89.93	180.11	7,094.27	-9,882.18	-791.20	9,913.71	0.00	0.00	0.00
16,500.03	89.93	180.11	7,094.39	-9,982.18	-791.38	10,013.44	0.00	0.00	0.00
16,600.03	89.93	180.11	7,094.52	-10,082.18	-791.57	10,113.17	0.00	0.00	0.00
16,700.03	89.93	180.11	7,094.65	-10,182.18	-791.75	10,212.90	0.00	0.00	0.00
16,800.03	89.93	180.11	7,094.78	-10,282.18	-791.94	10,312.63	0.00	0.00	0.00
16,900.03	89.93	180.11	7,094.91	-10,382.18	-792.13	10,412.35	0.00	0.00	0.00
16,970.72	89.93	180.11	7,095.00	-10,452.87	-792.26	10,482.85	0.00	0.00	0.00
PBHL/TD 16970.72 MD/7095.00 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 Walla 5-1-1L 470 FNI - plan hits target center - Point	0.00	0.00	7,083.00	-1,130.15	-774.91	14,526,618.17	1,730,003.46	39.99924190	-104.68010920
BHL Walla 5-1-1L 470 F: - plan hits target center - Point	0.00	0.00	7,095.00	-10,452.87	-792.26	14,517,295.47	1,730,019.86	39.97364014	-104.68017005

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
5,286.90	5,275.06	-48.02	-51.40	Begin 28.69° tangent
6,940.38	6,725.54	-589.92	-631.42	Begin 10°/100' build/turn
7,647.98	7,083.00	-1,130.15	-774.91	LP Begin 89.93° lateral section
16,970.72	7,095.00	-10,452.87	-792.26	PBHL/TD 16970.72 MD/7095.00 TVD

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

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

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

Well	Walla 5-1-1L, Surf loc: 660 FSL 300 FWL Sec33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,751.12 usft	Latitude:	40.00234552
	+E/-W	0.00 ft	Easting:	1,730,774.27 usft	Longitude:	-104.67734224
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,072.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/18/2017	8.28	66.45	52,148.40000000

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	184.33

Plan Survey Tool Program	Date	5/18/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,970.72 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	
5,286.90	28.69	226.95	5,275.06	-48.02	-51.40	10.00	10.00	0.00	226.95	
6,940.38	28.69	226.95	6,725.54	-589.92	-631.42	0.00	0.00	0.00	0.00	
7,647.98	89.93	180.11	7,083.00	-1,130.15	-774.91	10.00	8.65	-6.62	-50.59	LP Walla 5-1-1L 470 F
16,970.72	89.93	180.11	7,095.00	-10,452.87	-792.26	0.00	0.00	0.00	0.00	BHL Walla 5-1-1L 470

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
100.00	0.00	0.00	100.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
200.00	0.00	0.00	200.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
300.00	0.00	0.00	300.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
400.00	0.00	0.00	400.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
500.00	0.00	0.00	500.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
600.00	0.00	0.00	600.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
700.00	0.00	0.00	700.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
800.00	0.00	0.00	800.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
900.00	0.00	0.00	900.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
KOP Begin 10°/100' build									
5,000.01	0.00	226.95	5,000.01	0.00	0.00	14,527,751.12	1,730,774.27	40.00234552	-104.67734224
5,100.01	10.00	226.95	5,099.50	-5.94	-6.36	14,527,745.16	1,730,767.93	40.00232920	-104.67736495

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,200.01	20.00	226.95	5,195.97	-23.59	-25.25	14,527,727.44	1,730,749.10	40.00228073	-104.67743241
5,286.90	28.69	226.95	5,275.06	-48.02	-51.40	14,527,702.92	1,730,723.04	40.00221365	-104.67752577
Begin 28.69° tangent									
5,300.01	28.69	226.95	5,286.56	-52.32	-56.00	14,527,698.60	1,730,718.46	40.00220184	-104.67754220
5,400.01	28.69	226.95	5,374.28	-85.09	-91.08	14,527,665.70	1,730,683.50	40.00211184	-104.67766746
5,500.01	28.69	226.95	5,462.01	-117.87	-126.16	14,527,632.80	1,730,648.54	40.00202184	-104.67779272
5,600.01	28.69	226.95	5,549.73	-150.64	-161.24	14,527,599.90	1,730,613.58	40.00193184	-104.67791798
5,700.01	28.69	226.95	5,637.46	-183.41	-196.31	14,527,567.00	1,730,578.62	40.00184184	-104.67804324
5,800.01	28.69	226.95	5,725.18	-216.19	-231.39	14,527,534.10	1,730,543.66	40.00175183	-104.67816850
5,900.01	28.69	226.95	5,812.90	-248.96	-266.47	14,527,501.20	1,730,508.70	40.00166183	-104.67829376
6,000.01	28.69	226.95	5,900.63	-281.73	-301.55	14,527,468.30	1,730,473.74	40.00157183	-104.67841902
6,100.01	28.69	226.95	5,988.35	-314.51	-336.63	14,527,435.40	1,730,438.78	40.00148183	-104.67854428
6,200.01	28.69	226.95	6,076.07	-347.28	-371.71	14,527,402.50	1,730,403.82	40.00139183	-104.67866954
6,300.01	28.69	226.95	6,163.80	-380.05	-406.79	14,527,369.60	1,730,368.86	40.00130182	-104.67879480
6,400.01	28.69	226.95	6,251.52	-412.83	-441.87	14,527,336.70	1,730,333.90	40.00121182	-104.67892006
6,500.01	28.69	226.95	6,339.24	-445.60	-476.95	14,527,303.80	1,730,298.94	40.00112182	-104.67904531
6,600.01	28.69	226.95	6,426.97	-478.37	-512.02	14,527,270.90	1,730,263.98	40.00103181	-104.67917057
6,700.01	28.69	226.95	6,514.69	-511.15	-547.10	14,527,238.00	1,730,229.02	40.00094181	-104.67929583
6,800.01	28.69	226.95	6,602.41	-543.92	-582.18	14,527,205.10	1,730,194.06	40.00085181	-104.67942108
6,900.01	28.69	226.95	6,690.14	-576.69	-617.26	14,527,172.20	1,730,159.10	40.00076180	-104.67954634
6,940.38	28.69	226.95	6,725.54	-589.92	-631.42	14,527,158.92	1,730,144.99	40.00072548	-104.67959690
Begin 10°/100' build/turn									
7,000.01	32.77	218.42	6,776.82	-612.36	-651.93	14,527,136.41	1,730,124.56	40.00066385	-104.67967013
7,100.01	40.57	207.88	6,857.04	-662.44	-684.04	14,527,086.21	1,730,092.64	40.00052632	-104.67978477
7,200.01	49.06	200.35	6,927.97	-726.77	-712.45	14,527,021.79	1,730,064.46	40.00034967	-104.67988621
7,300.01	57.92	194.57	6,987.43	-803.38	-736.30	14,526,945.09	1,730,040.88	40.00013928	-104.67997137
7,400.01	67.00	189.84	7,033.63	-889.96	-754.87	14,526,858.44	1,730,022.63	39.99990153	-104.68003767
7,500.02	76.21	185.70	7,065.17	-983.86	-767.59	14,526,764.49	1,730,010.25	39.99964364	-104.68008308
7,600.02	85.47	181.89	7,081.07	-1,082.25	-774.07	14,526,666.09	1,730,004.12	39.99937346	-104.68010623
7,647.98	89.93	180.11	7,083.00	-1,130.15	-774.91	14,526,618.17	1,730,003.46	39.99924190	-104.68010920
LP Begin 89.93° lateral section									
7,700.02	89.93	180.11	7,083.07	-1,182.19	-775.00	14,526,566.14	1,730,003.55	39.99909901	-104.68010954
7,800.02	89.93	180.11	7,083.20	-1,282.19	-775.19	14,526,466.14	1,730,003.73	39.99882439	-104.68011019
7,900.02	89.93	180.11	7,083.32	-1,382.19	-775.38	14,526,366.14	1,730,003.90	39.99854978	-104.68011085
8,000.02	89.93	180.11	7,083.45	-1,482.19	-775.56	14,526,266.14	1,730,004.08	39.99827516	-104.68011150
8,100.02	89.93	180.11	7,083.58	-1,582.19	-775.75	14,526,166.14	1,730,004.25	39.99800054	-104.68011215
8,200.02	89.93	180.11	7,083.71	-1,682.19	-775.94	14,526,066.14	1,730,004.43	39.99772593	-104.68011281
8,300.02	89.93	180.11	7,083.84	-1,782.19	-776.12	14,525,966.14	1,730,004.61	39.99745131	-104.68011346
8,400.02	89.93	180.11	7,083.97	-1,882.19	-776.31	14,525,866.14	1,730,004.78	39.99717670	-104.68011411
8,500.02	89.93	180.11	7,084.10	-1,982.19	-776.49	14,525,766.14	1,730,004.96	39.99690208	-104.68011476
8,600.02	89.93	180.11	7,084.23	-2,082.19	-776.68	14,525,666.14	1,730,005.13	39.99662746	-104.68011542
8,700.02	89.93	180.11	7,084.35	-2,182.19	-776.87	14,525,566.14	1,730,005.31	39.99635285	-104.68011607
8,800.02	89.93	180.11	7,084.48	-2,282.19	-777.05	14,525,466.15	1,730,005.49	39.99607823	-104.68011672
8,900.02	89.93	180.11	7,084.61	-2,382.19	-777.24	14,525,366.15	1,730,005.66	39.99580361	-104.68011738
9,000.02	89.93	180.11	7,084.74	-2,482.19	-777.42	14,525,266.15	1,730,005.84	39.99552900	-104.68011803
9,100.02	89.93	180.11	7,084.87	-2,582.19	-777.61	14,525,166.15	1,730,006.01	39.99525438	-104.68011868
9,200.02	89.93	180.11	7,085.00	-2,682.19	-777.80	14,525,066.15	1,730,006.19	39.99497976	-104.68011934
9,300.02	89.93	180.11	7,085.13	-2,782.19	-777.98	14,524,966.15	1,730,006.36	39.99470515	-104.68011999
9,400.02	89.93	180.11	7,085.26	-2,882.19	-778.17	14,524,866.15	1,730,006.54	39.99443053	-104.68012064
9,500.02	89.93	180.11	7,085.38	-2,982.19	-778.35	14,524,766.15	1,730,006.72	39.99415592	-104.68012130
9,600.02	89.93	180.11	7,085.51	-3,082.19	-778.54	14,524,666.15	1,730,006.89	39.99388130	-104.68012195
9,700.02	89.93	180.11	7,085.64	-3,182.19	-778.73	14,524,566.15	1,730,007.07	39.99360668	-104.68012260
9,800.02	89.93	180.11	7,085.77	-3,282.19	-778.91	14,524,466.15	1,730,007.24	39.99333207	-104.68012326
9,900.02	89.93	180.11	7,085.90	-3,382.19	-779.10	14,524,366.15	1,730,007.42	39.99305745	-104.68012391

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,000.02	89.93	180.11	7,086.03	-3,482.19	-779.29	14,524,266.15	1,730,007.60	39.99278283	-104.68012456
10,100.02	89.93	180.11	7,086.16	-3,582.19	-779.47	14,524,166.15	1,730,007.77	39.99250822	-104.68012521
10,200.02	89.93	180.11	7,086.29	-3,682.19	-779.66	14,524,066.15	1,730,007.95	39.99223360	-104.68012587
10,300.02	89.93	180.11	7,086.41	-3,782.19	-779.84	14,523,966.15	1,730,008.12	39.99195898	-104.68012652
10,400.02	89.93	180.11	7,086.54	-3,882.19	-780.03	14,523,866.15	1,730,008.30	39.99168437	-104.68012717
10,500.02	89.93	180.11	7,086.67	-3,982.19	-780.22	14,523,766.15	1,730,008.48	39.99140975	-104.68012783
10,600.02	89.93	180.11	7,086.80	-4,082.19	-780.40	14,523,666.15	1,730,008.65	39.99113513	-104.68012848
10,700.02	89.93	180.11	7,086.93	-4,182.19	-780.59	14,523,566.15	1,730,008.83	39.99086052	-104.68012913
10,800.02	89.93	180.11	7,087.06	-4,282.18	-780.77	14,523,466.15	1,730,009.00	39.99058590	-104.68012978
10,900.02	89.93	180.11	7,087.19	-4,382.18	-780.96	14,523,366.15	1,730,009.18	39.99031128	-104.68013044
11,000.02	89.93	180.11	7,087.31	-4,482.18	-781.15	14,523,266.15	1,730,009.36	39.99003667	-104.68013109
11,100.02	89.93	180.11	7,087.44	-4,582.18	-781.33	14,523,166.15	1,730,009.53	39.98976205	-104.68013174
11,200.02	89.93	180.11	7,087.57	-4,682.18	-781.52	14,523,066.15	1,730,009.71	39.98948743	-104.68013240
11,300.02	89.93	180.11	7,087.70	-4,782.18	-781.70	14,522,966.15	1,730,009.88	39.98921282	-104.68013305
11,400.02	89.93	180.11	7,087.83	-4,882.18	-781.89	14,522,866.15	1,730,010.06	39.98893820	-104.68013370
11,500.02	89.93	180.11	7,087.96	-4,982.18	-782.08	14,522,766.15	1,730,010.23	39.98866358	-104.68013435
11,600.02	89.93	180.11	7,088.09	-5,082.18	-782.26	14,522,666.15	1,730,010.41	39.98838897	-104.68013501
11,700.02	89.93	180.11	7,088.22	-5,182.18	-782.45	14,522,566.15	1,730,010.59	39.98811435	-104.68013566
11,800.02	89.93	180.11	7,088.34	-5,282.18	-782.64	14,522,466.15	1,730,010.76	39.98783973	-104.68013631
11,900.02	89.93	180.11	7,088.47	-5,382.18	-782.82	14,522,366.15	1,730,010.94	39.98756512	-104.68013697
12,000.02	89.93	180.11	7,088.60	-5,482.18	-783.01	14,522,266.15	1,730,011.11	39.98729050	-104.68013762
12,100.02	89.93	180.11	7,088.73	-5,582.18	-783.19	14,522,166.15	1,730,011.29	39.98701588	-104.68013827
12,200.02	89.93	180.11	7,088.86	-5,682.18	-783.38	14,522,066.15	1,730,011.47	39.98674127	-104.68013892
12,300.02	89.93	180.11	7,088.99	-5,782.18	-783.57	14,521,966.15	1,730,011.64	39.98646665	-104.68013958
12,400.03	89.93	180.11	7,089.12	-5,882.18	-783.75	14,521,866.15	1,730,011.82	39.98619203	-104.68014023
12,500.03	89.93	180.11	7,089.25	-5,982.18	-783.94	14,521,766.15	1,730,011.99	39.98591742	-104.68014088
12,600.03	89.93	180.11	7,089.37	-6,082.18	-784.12	14,521,666.15	1,730,012.17	39.98564280	-104.68014153
12,700.03	89.93	180.11	7,089.50	-6,182.18	-784.31	14,521,566.15	1,730,012.35	39.98536818	-104.68014219
12,800.03	89.93	180.11	7,089.63	-6,282.18	-784.50	14,521,466.15	1,730,012.52	39.98509357	-104.68014284
12,900.03	89.93	180.11	7,089.76	-6,382.18	-784.68	14,521,366.15	1,730,012.70	39.98481895	-104.68014349
13,000.03	89.93	180.11	7,089.89	-6,482.18	-784.87	14,521,266.15	1,730,012.87	39.98454433	-104.68014415
13,100.03	89.93	180.11	7,090.02	-6,582.18	-785.05	14,521,166.15	1,730,013.05	39.98426972	-104.68014480
13,200.03	89.93	180.11	7,090.15	-6,682.18	-785.24	14,521,066.15	1,730,013.23	39.98399510	-104.68014545
13,300.03	89.93	180.11	7,090.28	-6,782.18	-785.43	14,520,966.15	1,730,013.40	39.98372048	-104.68014610
13,400.03	89.93	180.11	7,090.40	-6,882.18	-785.61	14,520,866.15	1,730,013.58	39.98344587	-104.68014676
13,500.03	89.93	180.11	7,090.53	-6,982.18	-785.80	14,520,766.15	1,730,013.75	39.98317125	-104.68014741
13,600.03	89.93	180.11	7,090.66	-7,082.18	-785.99	14,520,666.15	1,730,013.93	39.98289663	-104.68014806
13,700.03	89.93	180.11	7,090.79	-7,182.18	-786.17	14,520,566.15	1,730,014.11	39.98262201	-104.68014871
13,800.03	89.93	180.11	7,090.92	-7,282.18	-786.36	14,520,466.15	1,730,014.28	39.98234740	-104.68014937
13,900.03	89.93	180.11	7,091.05	-7,382.18	-786.54	14,520,366.15	1,730,014.46	39.98207278	-104.68015002
14,000.03	89.93	180.11	7,091.18	-7,482.18	-786.73	14,520,266.15	1,730,014.63	39.98179816	-104.68015067
14,100.03	89.93	180.11	7,091.31	-7,582.18	-786.92	14,520,166.15	1,730,014.81	39.98152355	-104.68015132
14,200.03	89.93	180.11	7,091.43	-7,682.18	-787.10	14,520,066.15	1,730,014.98	39.98124893	-104.68015198
14,300.03	89.93	180.11	7,091.56	-7,782.18	-787.29	14,519,966.15	1,730,015.16	39.98097431	-104.68015263
14,400.03	89.93	180.11	7,091.69	-7,882.18	-787.47	14,519,866.15	1,730,015.34	39.98069970	-104.68015328
14,500.03	89.93	180.11	7,091.82	-7,982.18	-787.66	14,519,766.15	1,730,015.51	39.98042508	-104.68015393
14,600.03	89.93	180.11	7,091.95	-8,082.18	-787.85	14,519,666.15	1,730,015.69	39.98015046	-104.68015459
14,700.03	89.93	180.11	7,092.08	-8,182.18	-788.03	14,519,566.15	1,730,015.86	39.97987584	-104.68015524
14,800.03	89.93	180.11	7,092.21	-8,282.18	-788.22	14,519,466.15	1,730,016.04	39.97960123	-104.68015589
14,900.03	89.93	180.11	7,092.33	-8,382.18	-788.40	14,519,366.15	1,730,016.22	39.97932661	-104.68015654
15,000.03	89.93	180.11	7,092.46	-8,482.18	-788.59	14,519,266.15	1,730,016.39	39.97905199	-104.68015720
15,100.03	89.93	180.11	7,092.59	-8,582.18	-788.78	14,519,166.15	1,730,016.57	39.97877738	-104.68015785
15,200.03	89.93	180.11	7,092.72	-8,682.18	-788.96	14,519,066.15	1,730,016.74	39.97850276	-104.68015850
15,300.03	89.93	180.11	7,092.85	-8,782.18	-789.15	14,518,966.15	1,730,016.92	39.97822814	-104.68015915
15,400.03	89.93	180.11	7,092.98	-8,882.18	-789.34	14,518,866.15	1,730,017.10	39.97795352	-104.68015980

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-1-1L
Company:	Confluence Resources	TVD Reference:	RKB=5072+25 @ 5097.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5072+25 @ 5097.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Walla 5-1-1L	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Planned Survey										
Measured			Vertical			Map	Map			
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)			
15,500.03	89.93	180.11	7,093.11	-8,982.18	-789.52	14,518,766.16	1,730,017.27	39.97767891	-104.68016046	
15,600.03	89.93	180.11	7,093.24	-9,082.18	-789.71	14,518,666.16	1,730,017.45	39.97740429	-104.68016111	
15,700.03	89.93	180.11	7,093.36	-9,182.18	-789.89	14,518,566.16	1,730,017.62	39.97712967	-104.68016176	
15,800.03	89.93	180.11	7,093.49	-9,282.18	-790.08	14,518,466.16	1,730,017.80	39.97685506	-104.68016241	
15,900.03	89.93	180.11	7,093.62	-9,382.18	-790.27	14,518,366.16	1,730,017.98	39.97658044	-104.68016307	
16,000.03	89.93	180.11	7,093.75	-9,482.18	-790.45	14,518,266.16	1,730,018.15	39.97630582	-104.68016372	
16,100.03	89.93	180.11	7,093.88	-9,582.18	-790.64	14,518,166.16	1,730,018.33	39.97603120	-104.68016437	
16,200.03	89.93	180.11	7,094.01	-9,682.18	-790.82	14,518,066.16	1,730,018.50	39.97575659	-104.68016502	
16,300.03	89.93	180.11	7,094.14	-9,782.18	-791.01	14,517,966.16	1,730,018.68	39.97548197	-104.68016568	
16,400.03	89.93	180.11	7,094.27	-9,882.18	-791.20	14,517,866.16	1,730,018.85	39.97520735	-104.68016633	
16,500.03	89.93	180.11	7,094.39	-9,982.18	-791.38	14,517,766.16	1,730,019.03	39.97493273	-104.68016698	
16,600.03	89.93	180.11	7,094.52	-10,082.18	-791.57	14,517,666.16	1,730,019.21	39.97465812	-104.68016763	
16,700.03	89.93	180.11	7,094.65	-10,182.18	-791.75	14,517,566.16	1,730,019.38	39.97438350	-104.68016828	
16,800.03	89.93	180.11	7,094.78	-10,282.18	-791.94	14,517,466.16	1,730,019.56	39.97410888	-104.68016894	
16,900.03	89.93	180.11	7,094.91	-10,382.18	-792.13	14,517,366.16	1,730,019.73	39.97383427	-104.68016959	
16,970.72	89.93	180.11	7,095.00	-10,452.87	-792.26	14,517,295.47	1,730,019.86	39.97364014	-104.68017005	
PBHL/TD 16970.72 MD/7095.00 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										
LP Walla 5-1-1L 470 FNI	0.00	0.00	7,083.00	-1,130.15	-774.91	14,526,618.17	1,730,003.46	39.99924190	-104.68010920	
- plan hits target center										
- Point										
BHL Walla 5-1-1L 470 F:	0.00	0.00	7,095.00	-10,452.87	-792.26	14,517,295.47	1,730,019.86	39.97364014	-104.68017005	
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,000.00	5,000.00	0.00	0.00	KOP Begin 10°/100' build	
5,286.90	5,275.06	-48.02	-51.40	Begin 28.69° tangent	
6,940.38	6,725.54	-589.92	-631.42	Begin 10°/100' build/turn	
7,647.98	7,083.00	-1,130.15	-774.91	LP Begin 89.93° lateral section	
16,970.72	7,095.00	-10,452.87	-792.26	PBHL/TD 16970.72 MD/7095.00 TVD	