



Weld County, Colorado
Section 31-T01N-R65W
Walla 5-9-1L
plan1

Azimuth Corrections:

To convert a Magnetic Direction to a True Direction, Add 8.27° East

Walla 5-9-1L			
Surf Loc: 861 FSL 630 FWL Sec31-T01N-R65W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=5039+25 @ 5064.00ft			
Northing	Easting	Latitude	Longitude
14527928.57	1724555.97	40.00289251	-104.69954472

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	KOP Begin 10°/100' build
3	5403.12	40.31	125.99	5370.68	-79.95	110.09	10.00	92.34	Begin 40.31° tangent section
4	7283.40	40.31	125.99	6804.45	-794.79	1094.34	0.00	917.87	Begin 10°/100' build/turn
5	7961.49	90.01	180.25	7098.00	-1326.26	1294.21	10.00	1469.14	LP Begin 90.01° lateral section
6	17228.49	90.01	180.25	7096.00	-10593.17	1253.33	0.00	10667.06	PBHL/TD 17228.49 MD/7096.00 TVD

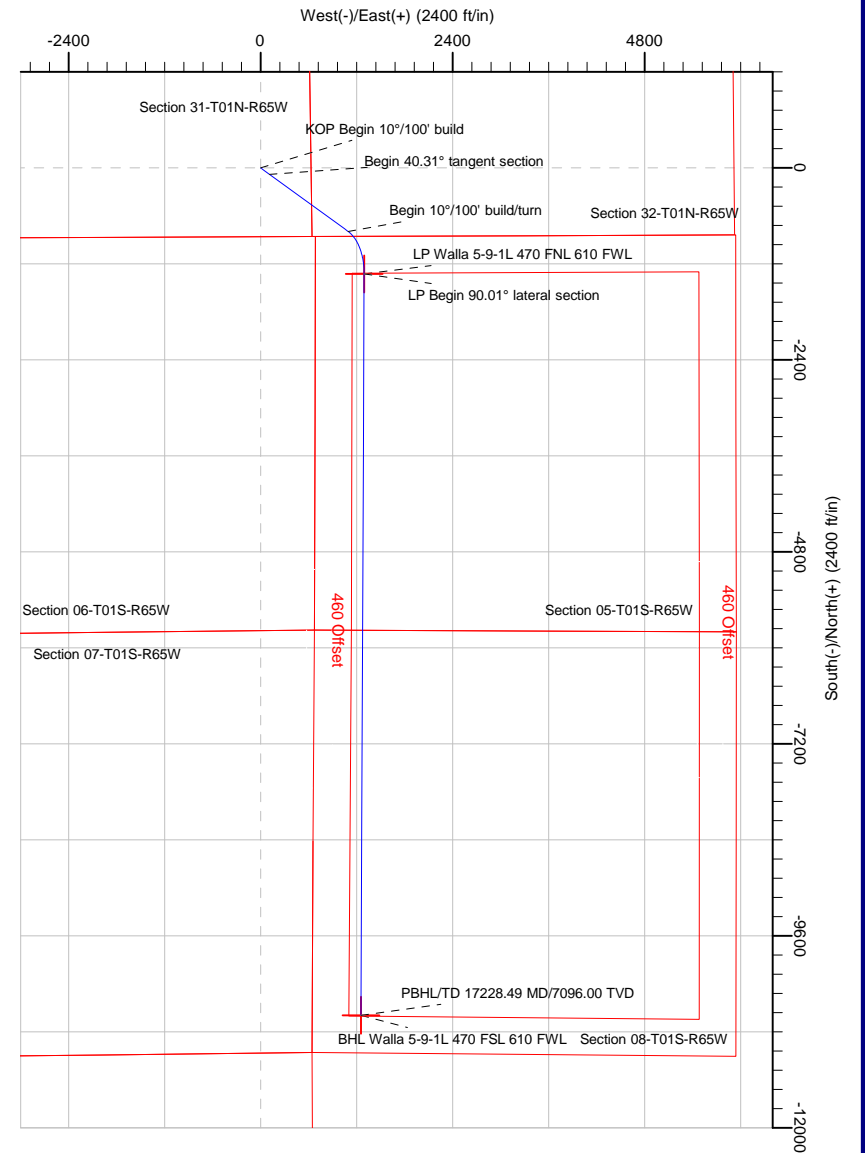
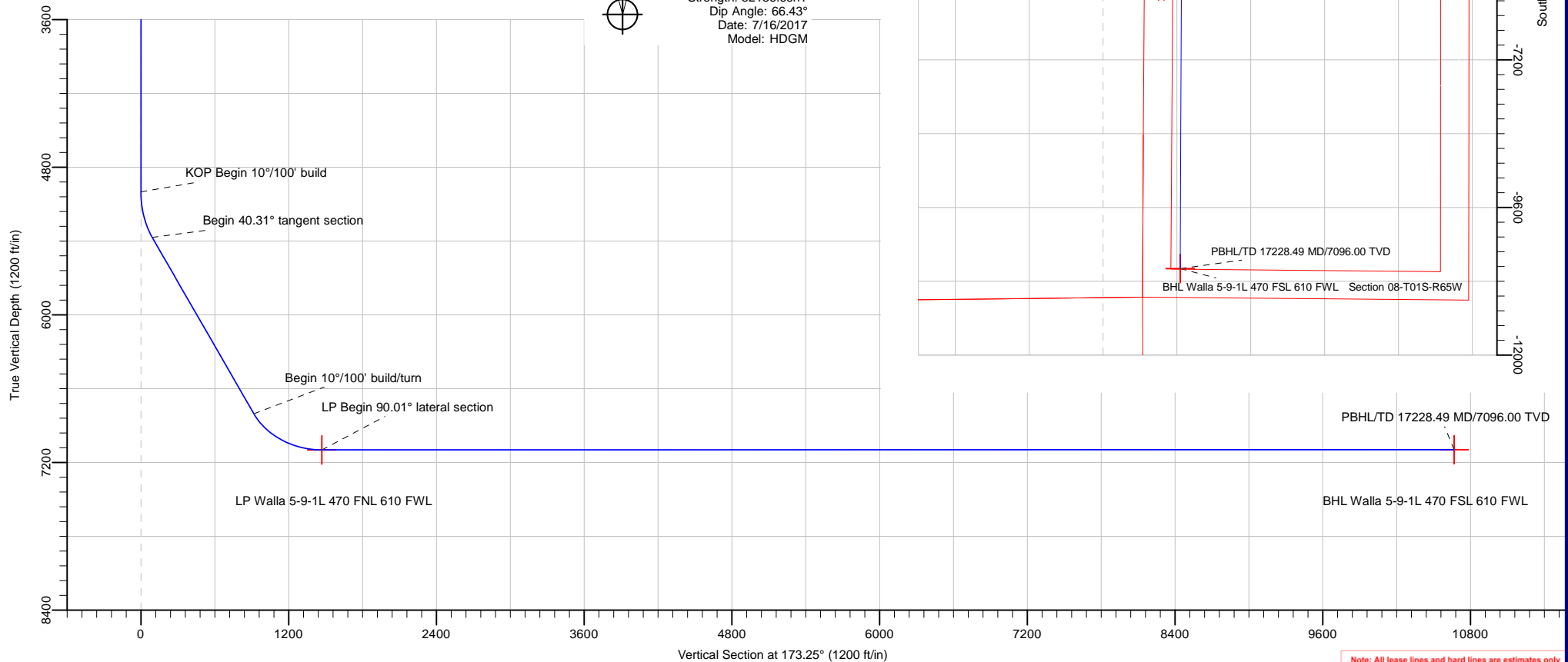
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL Walla 5-9-1L 470 FSL 610 FWL	7096.00	-10593.17	1253.3314517335.42	1725809.30	39.97379034	-104.69519855	
LP Walla 5-9-1L 470 FNL 610 FWL	7098.00	-1326.26	1294.2114526602.31	1725850.18	39.99923832	-104.69493946	



Azimuths to Grid North
True North: -0.19°
Magnetic North: 8.07°

Magnetic Field
Strength: 52136.6snT
Dip Angle: 66.43°
Date: 7/16/2017
Model: HDGM



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 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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 31-T01N-R65W			
Site Position:		Northing:	14,527,926.57 usft	Latitude:	40.00289000
From:	Lat/Long	Easting:	1,724,232.45 usft	Longitude:	-104.70070000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.19 °

Well	Walla 5-9-1L, Surf Loc: 861 FSL 630 FWL Sec31-T01N-R65W					
Well Position	+N/-S	2.00 ft	Northing:	14,527,928.57 usft	Latitude:	40.00289251
	+E/-W	323.52 ft	Easting:	1,724,555.97 usft	Longitude:	-104.69954472
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,039.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/16/2017	8.27	66.43	52,136.60000000

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	173.25

Plan Survey Tool Program	Date	7/16/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,228.49	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	
5,403.12	40.31	125.99	5,370.68	-79.95	110.09	10.00	10.00	0.00	125.99	
7,283.40	40.31	125.99	6,804.45	-794.79	1,094.34	0.00	0.00	0.00	0.00	
7,961.49	90.01	180.25	7,098.00	-1,326.26	1,294.21	10.00	7.33	8.00	61.24	LP Walla 5-9-1L 470 F
17,228.49	90.01	180.25	7,096.00	-10,593.17	1,253.33	0.00	0.00	0.00	0.00	BHL Walla 5-9-1L 470

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Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	125.99	5,000.01	0.00	0.00	0.00	0.00	0.00	0.00
5,100.01	10.00	125.99	5,099.50	-5.12	7.04	5.91	10.00	10.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	125.99	5,195.97	-20.31	27.96	23.45	10.00	10.00	0.00
5,300.01	30.00	125.99	5,286.49	-45.11	62.11	52.10	10.00	10.00	0.00
5,400.01	40.00	125.99	5,368.30	-78.78	108.47	90.97	10.00	10.00	0.00
5,403.12	40.31	125.99	5,370.68	-79.95	110.09	92.34	10.00	10.00	0.00
Begin 40.31° tangent section									
5,500.01	40.31	125.99	5,444.56	-116.79	160.81	134.87	0.00	0.00	0.00
5,600.01	40.31	125.99	5,520.81	-154.81	213.15	178.78	0.00	0.00	0.00
5,700.01	40.31	125.99	5,597.06	-192.83	265.50	222.68	0.00	0.00	0.00
5,800.01	40.31	125.99	5,673.32	-230.84	317.84	266.59	0.00	0.00	0.00
5,900.01	40.31	125.99	5,749.57	-268.86	370.19	310.49	0.00	0.00	0.00
6,000.01	40.31	125.99	5,825.82	-306.88	422.54	354.40	0.00	0.00	0.00
6,100.01	40.31	125.99	5,902.08	-344.90	474.88	398.30	0.00	0.00	0.00
6,200.01	40.31	125.99	5,978.33	-382.91	527.23	442.21	0.00	0.00	0.00
6,300.01	40.31	125.99	6,054.58	-420.93	579.57	486.11	0.00	0.00	0.00
6,400.01	40.31	125.99	6,130.84	-458.95	631.92	530.02	0.00	0.00	0.00
6,500.01	40.31	125.99	6,207.09	-496.97	684.27	573.92	0.00	0.00	0.00
6,600.01	40.31	125.99	6,283.34	-534.99	736.61	617.83	0.00	0.00	0.00
6,700.01	40.31	125.99	6,359.60	-573.00	788.96	661.73	0.00	0.00	0.00
6,800.01	40.31	125.99	6,435.85	-611.02	841.31	705.64	0.00	0.00	0.00
6,900.01	40.31	125.99	6,512.10	-649.04	893.65	749.54	0.00	0.00	0.00
7,000.01	40.31	125.99	6,588.36	-687.06	946.00	793.45	0.00	0.00	0.00
7,100.01	40.31	125.99	6,664.61	-725.07	998.34	837.35	0.00	0.00	0.00
7,200.01	40.31	125.99	6,740.86	-763.09	1,050.69	881.26	0.00	0.00	0.00
7,283.40	40.31	125.99	6,804.45	-794.79	1,094.34	917.87	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,300.01	41.13	128.20	6,817.04	-801.33	1,102.98	925.38	9.99	4.94	13.32
7,400.01	46.85	140.04	6,889.08	-849.76	1,152.38	979.27	10.00	5.72	11.84
7,500.02	53.57	149.70	6,953.12	-912.62	1,196.21	1,046.85	10.00	6.72	9.66
7,600.02	60.94	157.75	7,007.23	-988.00	1,233.15	1,126.05	10.00	7.37	8.05
7,700.02	68.73	164.69	7,049.76	-1,073.62	1,262.07	1,214.47	10.00	7.79	6.94
7,800.02	76.77	170.93	7,079.42	-1,166.86	1,282.10	1,309.42	10.00	8.04	6.23
7,900.02	84.95	176.76	7,095.30	-1,264.90	1,292.61	1,408.01	10.00	8.18	5.83
7,961.49	90.01	180.25	7,098.00	-1,326.26	1,294.21	1,469.14	10.00	8.23	5.69
LP Begin 90.01° lateral section									
8,000.02	90.01	180.25	7,097.99	-1,364.79	1,294.04	1,507.38	0.00	0.00	0.00
8,100.02	90.01	180.25	7,097.97	-1,464.79	1,293.60	1,606.63	0.00	0.00	0.00
8,200.02	90.01	180.25	7,097.95	-1,564.79	1,293.16	1,705.89	0.00	0.00	0.00
8,300.02	90.01	180.25	7,097.93	-1,664.79	1,292.72	1,805.14	0.00	0.00	0.00
8,400.02	90.01	180.25	7,097.91	-1,764.79	1,292.28	1,904.40	0.00	0.00	0.00
8,500.02	90.01	180.25	7,097.88	-1,864.78	1,291.84	2,003.65	0.00	0.00	0.00
8,600.02	90.01	180.25	7,097.86	-1,964.78	1,291.40	2,102.91	0.00	0.00	0.00
8,700.02	90.01	180.25	7,097.84	-2,064.78	1,290.95	2,202.16	0.00	0.00	0.00
8,800.02	90.01	180.25	7,097.82	-2,164.78	1,290.51	2,301.42	0.00	0.00	0.00
8,900.02	90.01	180.25	7,097.80	-2,264.78	1,290.07	2,400.67	0.00	0.00	0.00
9,000.02	90.01	180.25	7,097.78	-2,364.78	1,289.63	2,499.93	0.00	0.00	0.00
9,100.02	90.01	180.25	7,097.75	-2,464.78	1,289.19	2,599.18	0.00	0.00	0.00
9,200.02	90.01	180.25	7,097.73	-2,564.78	1,288.75	2,698.44	0.00	0.00	0.00
9,300.02	90.01	180.25	7,097.71	-2,664.78	1,288.31	2,797.69	0.00	0.00	0.00
9,400.02	90.01	180.25	7,097.69	-2,764.78	1,287.87	2,896.95	0.00	0.00	0.00
9,500.02	90.01	180.25	7,097.67	-2,864.78	1,287.43	2,996.20	0.00	0.00	0.00
9,600.02	90.01	180.25	7,097.65	-2,964.78	1,286.98	3,095.45	0.00	0.00	0.00
9,700.02	90.01	180.25	7,097.62	-3,064.77	1,286.54	3,194.71	0.00	0.00	0.00
9,800.02	90.01	180.25	7,097.60	-3,164.77	1,286.10	3,293.96	0.00	0.00	0.00

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Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	90.01	180.25	7,097.58	-3,264.77	1,285.66	3,393.22	0.00	0.00	0.00	
10,000.02	90.01	180.25	7,097.56	-3,364.77	1,285.22	3,492.47	0.00	0.00	0.00	
10,100.02	90.01	180.25	7,097.54	-3,464.77	1,284.78	3,591.73	0.00	0.00	0.00	
10,200.02	90.01	180.25	7,097.52	-3,564.77	1,284.34	3,690.98	0.00	0.00	0.00	
10,300.02	90.01	180.25	7,097.50	-3,664.77	1,283.90	3,790.24	0.00	0.00	0.00	
10,400.02	90.01	180.25	7,097.47	-3,764.77	1,283.46	3,889.49	0.00	0.00	0.00	
10,500.02	90.01	180.25	7,097.45	-3,864.77	1,283.01	3,988.75	0.00	0.00	0.00	
10,600.02	90.01	180.25	7,097.43	-3,964.77	1,282.57	4,088.00	0.00	0.00	0.00	
10,700.02	90.01	180.25	7,097.41	-4,064.77	1,282.13	4,187.26	0.00	0.00	0.00	
10,800.02	90.01	180.25	7,097.39	-4,164.77	1,281.69	4,286.51	0.00	0.00	0.00	
10,900.02	90.01	180.25	7,097.37	-4,264.77	1,281.25	4,385.77	0.00	0.00	0.00	
11,000.02	90.01	180.25	7,097.34	-4,364.76	1,280.81	4,485.02	0.00	0.00	0.00	
11,100.02	90.01	180.25	7,097.32	-4,464.76	1,280.37	4,584.28	0.00	0.00	0.00	
11,200.02	90.01	180.25	7,097.30	-4,564.76	1,279.93	4,683.53	0.00	0.00	0.00	
11,300.02	90.01	180.25	7,097.28	-4,664.76	1,279.49	4,782.79	0.00	0.00	0.00	
11,400.02	90.01	180.25	7,097.26	-4,764.76	1,279.04	4,882.04	0.00	0.00	0.00	
11,500.02	90.01	180.25	7,097.24	-4,864.76	1,278.60	4,981.30	0.00	0.00	0.00	
11,600.02	90.01	180.25	7,097.21	-4,964.76	1,278.16	5,080.55	0.00	0.00	0.00	
11,700.02	90.01	180.25	7,097.19	-5,064.76	1,277.72	5,179.80	0.00	0.00	0.00	
11,800.02	90.01	180.25	7,097.17	-5,164.76	1,277.28	5,279.06	0.00	0.00	0.00	
11,900.02	90.01	180.25	7,097.15	-5,264.76	1,276.84	5,378.31	0.00	0.00	0.00	
12,000.02	90.01	180.25	7,097.13	-5,364.76	1,276.40	5,477.57	0.00	0.00	0.00	
12,100.02	90.01	180.25	7,097.11	-5,464.76	1,275.96	5,576.82	0.00	0.00	0.00	
12,200.02	90.01	180.25	7,097.09	-5,564.76	1,275.51	5,676.08	0.00	0.00	0.00	
12,300.02	90.01	180.25	7,097.06	-5,664.75	1,275.07	5,775.33	0.00	0.00	0.00	
12,400.03	90.01	180.25	7,097.04	-5,764.75	1,274.63	5,874.59	0.00	0.00	0.00	
12,500.03	90.01	180.25	7,097.02	-5,864.75	1,274.19	5,973.84	0.00	0.00	0.00	
12,600.03	90.01	180.25	7,097.00	-5,964.75	1,273.75	6,073.10	0.00	0.00	0.00	
12,700.03	90.01	180.25	7,096.98	-6,064.75	1,273.31	6,172.35	0.00	0.00	0.00	
12,800.03	90.01	180.25	7,096.96	-6,164.75	1,272.87	6,271.61	0.00	0.00	0.00	
12,900.03	90.01	180.25	7,096.93	-6,264.75	1,272.43	6,370.86	0.00	0.00	0.00	
13,000.03	90.01	180.25	7,096.91	-6,364.75	1,271.99	6,470.12	0.00	0.00	0.00	
13,100.03	90.01	180.25	7,096.89	-6,464.75	1,271.54	6,569.37	0.00	0.00	0.00	
13,200.03	90.01	180.25	7,096.87	-6,564.75	1,271.10	6,668.63	0.00	0.00	0.00	
13,300.03	90.01	180.25	7,096.85	-6,664.75	1,270.66	6,767.88	0.00	0.00	0.00	
13,400.03	90.01	180.25	7,096.83	-6,764.75	1,270.22	6,867.14	0.00	0.00	0.00	
13,500.03	90.01	180.25	7,096.80	-6,864.75	1,269.78	6,966.39	0.00	0.00	0.00	
13,600.03	90.01	180.25	7,096.78	-6,964.74	1,269.34	7,065.64	0.00	0.00	0.00	
13,700.03	90.01	180.25	7,096.76	-7,064.74	1,268.90	7,164.90	0.00	0.00	0.00	
13,800.03	90.01	180.25	7,096.74	-7,164.74	1,268.46	7,264.15	0.00	0.00	0.00	
13,900.03	90.01	180.25	7,096.72	-7,264.74	1,268.02	7,363.41	0.00	0.00	0.00	
14,000.03	90.01	180.25	7,096.70	-7,364.74	1,267.57	7,462.66	0.00	0.00	0.00	
14,100.03	90.01	180.25	7,096.68	-7,464.74	1,267.13	7,561.92	0.00	0.00	0.00	
14,200.03	90.01	180.25	7,096.65	-7,564.74	1,266.69	7,661.17	0.00	0.00	0.00	
14,300.03	90.01	180.25	7,096.63	-7,664.74	1,266.25	7,760.43	0.00	0.00	0.00	
14,400.03	90.01	180.25	7,096.61	-7,764.74	1,265.81	7,859.68	0.00	0.00	0.00	
14,500.03	90.01	180.25	7,096.59	-7,864.74	1,265.37	7,958.94	0.00	0.00	0.00	
14,600.03	90.01	180.25	7,096.57	-7,964.74	1,264.93	8,058.19	0.00	0.00	0.00	
14,700.03	90.01	180.25	7,096.55	-8,064.74	1,264.49	8,157.45	0.00	0.00	0.00	
14,800.03	90.01	180.25	7,096.52	-8,164.74	1,264.05	8,256.70	0.00	0.00	0.00	
14,900.03	90.01	180.25	7,096.50	-8,264.73	1,263.60	8,355.96	0.00	0.00	0.00	
15,000.03	90.01	180.25	7,096.48	-8,364.73	1,263.16	8,455.21	0.00	0.00	0.00	
15,100.03	90.01	180.25	7,096.46	-8,464.73	1,262.72	8,554.47	0.00	0.00	0.00	
15,200.03	90.01	180.25	7,096.44	-8,564.73	1,262.28	8,653.72	0.00	0.00	0.00	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	90.01	180.25	7,096.42	-8,664.73	1,261.84	8,752.98	0.00	0.00	0.00	
15,400.03	90.01	180.25	7,096.39	-8,764.73	1,261.40	8,852.23	0.00	0.00	0.00	
15,500.03	90.01	180.25	7,096.37	-8,864.73	1,260.96	8,951.48	0.00	0.00	0.00	
15,600.03	90.01	180.25	7,096.35	-8,964.73	1,260.52	9,050.74	0.00	0.00	0.00	
15,700.03	90.01	180.25	7,096.33	-9,064.73	1,260.08	9,149.99	0.00	0.00	0.00	
15,800.03	90.01	180.25	7,096.31	-9,164.73	1,259.63	9,249.25	0.00	0.00	0.00	
15,900.03	90.01	180.25	7,096.29	-9,264.73	1,259.19	9,348.50	0.00	0.00	0.00	
16,000.03	90.01	180.25	7,096.27	-9,364.73	1,258.75	9,447.76	0.00	0.00	0.00	
16,100.03	90.01	180.25	7,096.24	-9,464.73	1,258.31	9,547.01	0.00	0.00	0.00	
16,200.03	90.01	180.25	7,096.22	-9,564.72	1,257.87	9,646.27	0.00	0.00	0.00	
16,300.03	90.01	180.25	7,096.20	-9,664.72	1,257.43	9,745.52	0.00	0.00	0.00	
16,400.03	90.01	180.25	7,096.18	-9,764.72	1,256.99	9,844.78	0.00	0.00	0.00	
16,500.03	90.01	180.25	7,096.16	-9,864.72	1,256.55	9,944.03	0.00	0.00	0.00	
16,600.03	90.01	180.25	7,096.14	-9,964.72	1,256.10	10,043.29	0.00	0.00	0.00	
16,700.03	90.01	180.25	7,096.11	-10,064.72	1,255.66	10,142.54	0.00	0.00	0.00	
16,800.03	90.01	180.25	7,096.09	-10,164.72	1,255.22	10,241.80	0.00	0.00	0.00	
16,900.03	90.01	180.25	7,096.07	-10,264.72	1,254.78	10,341.05	0.00	0.00	0.00	
17,000.03	90.01	180.25	7,096.05	-10,364.72	1,254.34	10,440.31	0.00	0.00	0.00	
17,100.03	90.01	180.25	7,096.03	-10,464.72	1,253.90	10,539.56	0.00	0.00	0.00	
17,200.03	90.01	180.25	7,096.01	-10,564.72	1,253.46	10,638.82	0.00	0.00	0.00	
17,228.49	90.01	180.25	7,096.00	-10,593.17	1,253.33	10,667.06	0.00	0.00	0.00	
PBHL/TD 17228.49 MD/7096.00 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude		
- hit/miss target										
- Shape										
BHL Walla 5-9-1L 470 F'	0.00	0.00	7,096.00	-10,593.17	1,253.33	14,517,335.42	1,725,809.30	39.97379034		
- plan hits target center										
- Point										
LP Walla 5-9-1L 470 FNI	0.00	0.00	7,098.00	-1,326.26	1,294.21	14,526,602.31	1,725,850.18	39.99923833		
- 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	
5,403.12	5,370.68	-79.95	110.09	Begin 40.31° tangent section	
7,283.40	6,804.45	-794.79	1,094.34	Begin 10°/100' build/turn	
7,961.49	7,098.00	-1,326.26	1,294.21	LP Begin 90.01° lateral section	
17,228.49	7,096.00	-10,593.17	1,253.33	PBHL/TD 17228.49 MD/7096.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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 31-T01N-R65W			
Site Position:		Northing:	14,527,926.57 usft	Latitude:	40.00289000
From:	Lat/Long	Easting:	1,724,232.45 usft	Longitude:	-104.70070000
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.19

Well	Walla 5-9-1L, Surf Loc: 861 FSL 630 FWL Sec31-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,928.57 usft	Latitude:	40.00289251
	+E/-W	0.00 ft	Easting:	1,724,555.97 usft	Longitude:	-104.69954472
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,039.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/16/2017	8.27	66.43	52,136.60000000

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	173.25

Plan Survey Tool Program	Date	7/16/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,228.49 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	
5,403.12	40.31	125.99	5,370.68	-79.95	110.09	10.00	10.00	0.00	125.99	
7,283.40	40.31	125.99	6,804.45	-794.79	1,094.34	0.00	0.00	0.00	0.00	
7,961.49	90.01	180.25	7,098.00	-1,326.26	1,294.21	10.00	7.33	8.00	61.24	LP Walla 5-9-1L 470 F
17,228.49	90.01	180.25	7,096.00	-10,593.17	1,253.33	0.00	0.00	0.00	0.00	BHL Walla 5-9-1L 470

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
100.00	0.00	0.00	100.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
200.00	0.00	0.00	200.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
300.00	0.00	0.00	300.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
400.00	0.00	0.00	400.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
500.00	0.00	0.00	500.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
600.00	0.00	0.00	600.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
700.00	0.00	0.00	700.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
800.00	0.00	0.00	800.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
900.00	0.00	0.00	900.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,500.01	0.00	0.00	2,500.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,600.01	0.00	0.00	2,600.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,700.01	0.00	0.00	2,700.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,800.01	0.00	0.00	2,800.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
2,900.01	0.00	0.00	2,900.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,000.01	0.00	0.00	3,000.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,100.01	0.00	0.00	3,100.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,200.01	0.00	0.00	3,200.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,300.01	0.00	0.00	3,300.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,400.01	0.00	0.00	3,400.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,500.01	0.00	0.00	3,500.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,600.01	0.00	0.00	3,600.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,700.01	0.00	0.00	3,700.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,800.01	0.00	0.00	3,800.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
3,900.01	0.00	0.00	3,900.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,000.01	0.00	0.00	4,000.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,100.01	0.00	0.00	4,100.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,200.01	0.00	0.00	4,200.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,300.01	0.00	0.00	4,300.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,400.01	0.00	0.00	4,400.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,500.01	0.00	0.00	4,500.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,600.01	0.00	0.00	4,600.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,700.01	0.00	0.00	4,700.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,800.01	0.00	0.00	4,800.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
4,900.01	0.00	0.00	4,900.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
KOP Begin 10°/100' build									
5,000.01	0.00	125.99	5,000.01	0.00	0.00	14,527,928.57	1,724,555.97	40.00289251	-104.69954472
5,100.01	10.00	125.99	5,099.50	-5.12	7.04	14,527,923.46	1,724,563.01	40.00287840	-104.69951962

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	125.99	5,195.97	-20.31	27.96	14,527,908.27	1,724,583.93	40.00283649	-104.69944512
5,300.01	30.00	125.99	5,286.49	-45.11	62.11	14,527,883.46	1,724,618.08	40.00276805	-104.69932346
5,400.01	40.00	125.99	5,368.30	-78.78	108.47	14,527,849.80	1,724,664.43	40.00267518	-104.69915835
5,403.12	40.31	125.99	5,370.68	-79.95	110.09	14,527,848.62	1,724,666.06	40.00267193	-104.69915257
Begin 40.31° tangent section									
5,500.01	40.31	125.99	5,444.56	-116.79	160.81	14,527,811.79	1,724,716.77	40.00257030	-104.69897191
5,600.01	40.31	125.99	5,520.81	-154.81	213.15	14,527,773.77	1,724,769.12	40.00246541	-104.69878544
5,700.01	40.31	125.99	5,597.06	-192.83	265.50	14,527,735.75	1,724,821.47	40.00236052	-104.69859898
5,800.01	40.31	125.99	5,673.32	-230.84	317.84	14,527,697.73	1,724,873.81	40.00225564	-104.69841252
5,900.01	40.31	125.99	5,749.57	-268.86	370.19	14,527,659.71	1,724,926.16	40.00215075	-104.69822606
6,000.01	40.31	125.99	5,825.82	-306.88	422.54	14,527,621.70	1,724,978.50	40.00204586	-104.69803960
6,100.01	40.31	125.99	5,902.08	-344.90	474.88	14,527,583.68	1,725,030.85	40.00194097	-104.69785315
6,200.01	40.31	125.99	5,978.33	-382.91	527.23	14,527,545.66	1,725,083.20	40.00183608	-104.69766669
6,300.01	40.31	125.99	6,054.58	-420.93	579.57	14,527,507.64	1,725,135.54	40.00173119	-104.69748023
6,400.01	40.31	125.99	6,130.84	-458.95	631.92	14,527,469.63	1,725,187.89	40.00162630	-104.69729377
6,500.01	40.31	125.99	6,207.09	-496.97	684.27	14,527,431.61	1,725,240.23	40.00152141	-104.69710732
6,600.01	40.31	125.99	6,283.34	-534.99	736.61	14,527,393.59	1,725,292.58	40.00141652	-104.69692086
6,700.01	40.31	125.99	6,359.60	-573.00	788.96	14,527,355.57	1,725,344.93	40.00131162	-104.69673440
6,800.01	40.31	125.99	6,435.85	-611.02	841.31	14,527,317.55	1,725,397.27	40.00120673	-104.69654795
6,900.01	40.31	125.99	6,512.10	-649.04	893.65	14,527,279.54	1,725,449.62	40.00110184	-104.69636150
7,000.01	40.31	125.99	6,588.36	-687.06	946.00	14,527,241.52	1,725,501.96	40.00099695	-104.69617504
7,100.01	40.31	125.99	6,664.61	-725.07	998.34	14,527,203.50	1,725,554.31	40.00089205	-104.69598859
7,200.01	40.31	125.99	6,740.86	-763.09	1,050.69	14,527,165.48	1,725,606.66	40.00078716	-104.69580214
7,283.40	40.31	125.99	6,804.45	-794.79	1,094.34	14,527,133.78	1,725,650.31	40.00069969	-104.69564666
Begin 10°/100' build/turn									
7,300.01	41.13	128.20	6,817.04	-801.33	1,102.98	14,527,127.24	1,725,658.95	40.00068166	-104.69561588
7,400.01	46.85	140.04	6,889.08	-849.76	1,152.38	14,527,078.82	1,725,708.35	40.00054821	-104.69544008
7,500.02	53.57	149.70	6,953.12	-912.62	1,196.21	14,527,015.96	1,725,752.18	40.00037517	-104.69528433
7,600.02	60.94	157.75	7,007.23	-988.00	1,233.15	14,526,940.57	1,725,789.12	40.00016781	-104.69515335
7,700.02	68.73	164.69	7,049.76	-1,073.62	1,262.07	14,526,854.96	1,725,818.04	39.99993244	-104.69505113
7,800.02	76.77	170.93	7,079.42	-1,166.86	1,282.10	14,526,761.72	1,725,838.06	39.99967619	-104.69498077
7,900.02	84.95	176.76	7,095.30	-1,264.90	1,292.61	14,526,663.68	1,725,848.58	39.99940686	-104.69494441
7,961.49	90.01	180.25	7,098.00	-1,326.26	1,294.21	14,526,602.31	1,725,850.18	39.99923833	-104.69493946
LP Begin 90.01° lateral section									
8,000.02	90.01	180.25	7,097.99	-1,364.79	1,294.04	14,526,563.79	1,725,850.01	39.99913253	-104.69494053
8,100.02	90.01	180.25	7,097.97	-1,464.79	1,293.60	14,526,463.79	1,725,849.57	39.99885792	-104.69494333
8,200.02	90.01	180.25	7,097.95	-1,564.79	1,293.16	14,526,363.79	1,725,849.13	39.99858331	-104.69494613
8,300.02	90.01	180.25	7,097.93	-1,664.79	1,292.72	14,526,263.79	1,725,848.69	39.99830871	-104.69494893
8,400.02	90.01	180.25	7,097.91	-1,764.79	1,292.28	14,526,163.79	1,725,848.24	39.99803410	-104.69495172
8,500.02	90.01	180.25	7,097.88	-1,864.78	1,291.84	14,526,063.79	1,725,847.80	39.99775949	-104.69495452
8,600.02	90.01	180.25	7,097.86	-1,964.78	1,291.40	14,525,963.80	1,725,847.36	39.99748488	-104.69495732
8,700.02	90.01	180.25	7,097.84	-2,064.78	1,290.95	14,525,863.80	1,725,846.92	39.99721027	-104.69496011
8,800.02	90.01	180.25	7,097.82	-2,164.78	1,290.51	14,525,763.80	1,725,846.48	39.99693566	-104.69496291
8,900.02	90.01	180.25	7,097.80	-2,264.78	1,290.07	14,525,663.80	1,725,846.04	39.99666105	-104.69496571
9,000.02	90.01	180.25	7,097.78	-2,364.78	1,289.63	14,525,563.80	1,725,845.60	39.99638644	-104.69496850
9,100.02	90.01	180.25	7,097.75	-2,464.78	1,289.19	14,525,463.80	1,725,845.16	39.99611184	-104.69497130
9,200.02	90.01	180.25	7,097.73	-2,564.78	1,288.75	14,525,363.80	1,725,844.71	39.99583723	-104.69497410
9,300.02	90.01	180.25	7,097.71	-2,664.78	1,288.31	14,525,263.80	1,725,844.27	39.99556262	-104.69497689
9,400.02	90.01	180.25	7,097.69	-2,764.78	1,287.87	14,525,163.80	1,725,843.83	39.99528801	-104.69497969
9,500.02	90.01	180.25	7,097.67	-2,864.78	1,287.43	14,525,063.80	1,725,843.39	39.99501340	-104.69498249
9,600.02	90.01	180.25	7,097.65	-2,964.78	1,286.98	14,524,963.80	1,725,842.95	39.99473879	-104.69498528
9,700.02	90.01	180.25	7,097.62	-3,064.77	1,286.54	14,524,863.81	1,725,842.51	39.99446418	-104.69498808
9,800.02	90.01	180.25	7,097.60	-3,164.77	1,286.10	14,524,763.81	1,725,842.07	39.99418957	-104.69499088
9,900.02	90.01	180.25	7,097.58	-3,264.77	1,285.66	14,524,663.81	1,725,841.63	39.99391496	-104.69499367

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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	90.01	180.25	7,097.56	-3,364.77	1,285.22	14,524,563.81	1,725,841.19	39.99364036	-104.69499647
10,100.02	90.01	180.25	7,097.54	-3,464.77	1,284.78	14,524,463.81	1,725,840.74	39.99336575	-104.69499927
10,200.02	90.01	180.25	7,097.52	-3,564.77	1,284.34	14,524,363.81	1,725,840.30	39.99309114	-104.69500206
10,300.02	90.01	180.25	7,097.50	-3,664.77	1,283.90	14,524,263.81	1,725,839.86	39.99281653	-104.69500486
10,400.02	90.01	180.25	7,097.47	-3,764.77	1,283.46	14,524,163.81	1,725,839.42	39.99254192	-104.69500766
10,500.02	90.01	180.25	7,097.45	-3,864.77	1,283.01	14,524,063.81	1,725,838.98	39.99226731	-104.69501045
10,600.02	90.01	180.25	7,097.43	-3,964.77	1,282.57	14,523,963.81	1,725,838.54	39.99199270	-104.69501325
10,700.02	90.01	180.25	7,097.41	-4,064.77	1,282.13	14,523,863.82	1,725,838.10	39.99171809	-104.69501605
10,800.02	90.01	180.25	7,097.39	-4,164.77	1,281.69	14,523,763.82	1,725,837.66	39.99144348	-104.69501884
10,900.02	90.01	180.25	7,097.37	-4,264.77	1,281.25	14,523,663.82	1,725,837.22	39.99116888	-104.69502164
11,000.02	90.01	180.25	7,097.34	-4,364.76	1,280.81	14,523,563.82	1,725,836.77	39.99089427	-104.69502444
11,100.02	90.01	180.25	7,097.32	-4,464.76	1,280.37	14,523,463.82	1,725,836.33	39.99061966	-104.69502723
11,200.02	90.01	180.25	7,097.30	-4,564.76	1,279.93	14,523,363.82	1,725,835.89	39.99034505	-104.69503003
11,300.02	90.01	180.25	7,097.28	-4,664.76	1,279.49	14,523,263.82	1,725,835.45	39.99007044	-104.69503282
11,400.02	90.01	180.25	7,097.26	-4,764.76	1,279.04	14,523,163.82	1,725,835.01	39.98979583	-104.69503562
11,500.02	90.01	180.25	7,097.24	-4,864.76	1,278.60	14,523,063.82	1,725,834.57	39.98952122	-104.69503842
11,600.02	90.01	180.25	7,097.21	-4,964.76	1,278.16	14,522,963.82	1,725,834.13	39.98924661	-104.69504121
11,700.02	90.01	180.25	7,097.19	-5,064.76	1,277.72	14,522,863.83	1,725,833.69	39.98897200	-104.69504401
11,800.02	90.01	180.25	7,097.17	-5,164.76	1,277.28	14,522,763.83	1,725,833.25	39.98869739	-104.69504680
11,900.02	90.01	180.25	7,097.15	-5,264.76	1,276.84	14,522,663.83	1,725,832.80	39.98842278	-104.69504960
12,000.02	90.01	180.25	7,097.13	-5,364.76	1,276.40	14,522,563.83	1,725,832.36	39.98814817	-104.69505240
12,100.02	90.01	180.25	7,097.11	-5,464.76	1,275.96	14,522,463.83	1,725,831.92	39.98787357	-104.69505519
12,200.02	90.01	180.25	7,097.09	-5,564.76	1,275.51	14,522,363.83	1,725,831.48	39.98759896	-104.69505799
12,300.02	90.01	180.25	7,097.06	-5,664.75	1,275.07	14,522,263.83	1,725,831.04	39.98732435	-104.69506078
12,400.03	90.01	180.25	7,097.04	-5,764.75	1,274.63	14,522,163.83	1,725,830.60	39.98704974	-104.69506358
12,500.03	90.01	180.25	7,097.02	-5,864.75	1,274.19	14,522,063.83	1,725,830.16	39.98677513	-104.69506638
12,600.03	90.01	180.25	7,097.00	-5,964.75	1,273.75	14,521,963.83	1,725,829.72	39.98650052	-104.69506917
12,700.03	90.01	180.25	7,096.98	-6,064.75	1,273.31	14,521,863.84	1,725,829.28	39.98622591	-104.69507197
12,800.03	90.01	180.25	7,096.96	-6,164.75	1,272.87	14,521,763.84	1,725,828.83	39.98595130	-104.69507476
12,900.03	90.01	180.25	7,096.93	-6,264.75	1,272.43	14,521,663.84	1,725,828.39	39.98567669	-104.69507756
13,000.03	90.01	180.25	7,096.91	-6,364.75	1,271.99	14,521,563.84	1,725,827.95	39.98540208	-104.69508036
13,100.03	90.01	180.25	7,096.89	-6,464.75	1,271.54	14,521,463.84	1,725,827.51	39.98512747	-104.69508315
13,200.03	90.01	180.25	7,096.87	-6,564.75	1,271.10	14,521,363.84	1,725,827.07	39.98485286	-104.69508595
13,300.03	90.01	180.25	7,096.85	-6,664.75	1,270.66	14,521,263.84	1,725,826.63	39.98457825	-104.69508874
13,400.03	90.01	180.25	7,096.83	-6,764.75	1,270.22	14,521,163.84	1,725,826.19	39.98430365	-104.69509154
13,500.03	90.01	180.25	7,096.80	-6,864.75	1,269.78	14,521,063.84	1,725,825.75	39.98402904	-104.69509433
13,600.03	90.01	180.25	7,096.78	-6,964.74	1,269.34	14,520,963.84	1,725,825.31	39.98375443	-104.69509713
13,700.03	90.01	180.25	7,096.76	-7,064.74	1,268.90	14,520,863.84	1,725,824.86	39.98347982	-104.69509992
13,800.03	90.01	180.25	7,096.74	-7,164.74	1,268.46	14,520,763.85	1,725,824.42	39.98320521	-104.69510272
13,900.03	90.01	180.25	7,096.72	-7,264.74	1,268.02	14,520,663.85	1,725,823.98	39.98293060	-104.69510552
14,000.03	90.01	180.25	7,096.70	-7,364.74	1,267.57	14,520,563.85	1,725,823.54	39.98265599	-104.69510831
14,100.03	90.01	180.25	7,096.68	-7,464.74	1,267.13	14,520,463.85	1,725,823.10	39.98238138	-104.69511111
14,200.03	90.01	180.25	7,096.65	-7,564.74	1,266.69	14,520,363.85	1,725,822.66	39.98210677	-104.69511390
14,300.03	90.01	180.25	7,096.63	-7,664.74	1,266.25	14,520,263.85	1,725,822.22	39.98183216	-104.69511670
14,400.03	90.01	180.25	7,096.61	-7,764.74	1,265.81	14,520,163.85	1,725,821.78	39.98155755	-104.69511949
14,500.03	90.01	180.25	7,096.59	-7,864.74	1,265.37	14,520,063.85	1,725,821.33	39.98128294	-104.69512229
14,600.03	90.01	180.25	7,096.57	-7,964.74	1,264.93	14,519,963.85	1,725,820.89	39.98100833	-104.69512508
14,700.03	90.01	180.25	7,096.55	-8,064.74	1,264.49	14,519,863.85	1,725,820.45	39.98073372	-104.69512788
14,800.03	90.01	180.25	7,096.52	-8,164.74	1,264.05	14,519,763.86	1,725,820.01	39.98045911	-104.69513067
14,900.03	90.01	180.25	7,096.50	-8,264.73	1,263.60	14,519,663.86	1,725,819.57	39.98018450	-104.69513347
15,000.03	90.01	180.25	7,096.48	-8,364.73	1,263.16	14,519,563.86	1,725,819.13	39.97990989	-104.69513626
15,100.03	90.01	180.25	7,096.46	-8,464.73	1,262.72	14,519,463.86	1,725,818.69	39.97963528	-104.69513906
15,200.03	90.01	180.25	7,096.44	-8,564.73	1,262.28	14,519,363.86	1,725,818.25	39.97936067	-104.69514185
15,300.03	90.01	180.25	7,096.42	-8,664.73	1,261.84	14,519,263.86	1,725,817.81	39.97908606	-104.69514465
15,400.03	90.01	180.25	7,096.39	-8,764.73	1,261.40	14,519,163.86	1,725,817.36	39.97881145	-104.69514744

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Walla 5-9-1L
Company:	Confluence Resources	TVD Reference:	RKB=5039+25 @ 5064.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5039+25 @ 5064.00ft
Site:	Section 31-T01N-R65W	North Reference:	Grid
Well:	Walla 5-9-1L	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
15,500.03	90.01	180.25	7,096.37	-8,864.73	1,260.96	14,519,063.86	1,725,816.92	39.97853685	-104.69515024
15,600.03	90.01	180.25	7,096.35	-8,964.73	1,260.52	14,518,963.86	1,725,816.48	39.97826224	-104.69515303
15,700.03	90.01	180.25	7,096.33	-9,064.73	1,260.08	14,518,863.86	1,725,816.04	39.97798763	-104.69515583
15,800.03	90.01	180.25	7,096.31	-9,164.73	1,259.63	14,518,763.87	1,725,815.60	39.97771302	-104.69515862
15,900.03	90.01	180.25	7,096.29	-9,264.73	1,259.19	14,518,663.87	1,725,815.16	39.97743841	-104.69516142
16,000.03	90.01	180.25	7,096.27	-9,364.73	1,258.75	14,518,563.87	1,725,814.72	39.97716380	-104.69516421
16,100.03	90.01	180.25	7,096.24	-9,464.73	1,258.31	14,518,463.87	1,725,814.28	39.97688919	-104.69516701
16,200.03	90.01	180.25	7,096.22	-9,564.72	1,257.87	14,518,363.87	1,725,813.84	39.97661458	-104.69516980
16,300.03	90.01	180.25	7,096.20	-9,664.72	1,257.43	14,518,263.87	1,725,813.39	39.97633997	-104.69517260
16,400.03	90.01	180.25	7,096.18	-9,764.72	1,256.99	14,518,163.87	1,725,812.95	39.97606536	-104.69517539
16,500.03	90.01	180.25	7,096.16	-9,864.72	1,256.55	14,518,063.87	1,725,812.51	39.97579075	-104.69517819
16,600.03	90.01	180.25	7,096.14	-9,964.72	1,256.10	14,517,963.87	1,725,812.07	39.97551614	-104.69518098
16,700.03	90.01	180.25	7,096.11	-10,064.72	1,255.66	14,517,863.87	1,725,811.63	39.97524153	-104.69518378
16,800.03	90.01	180.25	7,096.09	-10,164.72	1,255.22	14,517,763.87	1,725,811.19	39.97496692	-104.69518657
16,900.03	90.01	180.25	7,096.07	-10,264.72	1,254.78	14,517,663.88	1,725,810.75	39.97469231	-104.69518937
17,000.03	90.01	180.25	7,096.05	-10,364.72	1,254.34	14,517,563.88	1,725,810.31	39.97441770	-104.69519216
17,100.03	90.01	180.25	7,096.03	-10,464.72	1,253.90	14,517,463.88	1,725,809.87	39.97414309	-104.69519495
17,200.03	90.01	180.25	7,096.01	-10,564.72	1,253.46	14,517,363.88	1,725,809.42	39.97386848	-104.69519775
17,228.49	90.01	180.25	7,096.00	-10,593.17	1,253.33	14,517,335.42	1,725,809.30	39.97379034	-104.69519854
PBHL/TD 17228.49 MD/7096.00 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 Walla 5-9-1L 470 F: - plan hits target center - Point	0.00	0.00	7,096.00	-10,593.17	1,253.33	14,517,335.42	1,725,809.30	39.97379034	-104.69519854
LP Walla 5-9-1L 470 FNI - plan hits target center - Point	0.00	0.00	7,098.00	-1,326.26	1,294.21	14,526,602.31	1,725,850.18	39.99923833	-104.69493946

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
5,403.12	5,370.68	-79.95	110.09	Begin 40.31° tangent section
7,283.40	6,804.45	-794.79	1,094.34	Begin 10°/100' build/turn
7,961.49	7,098.00	-1,326.26	1,294.21	LP Begin 90.01° lateral section
17,228.49	7,096.00	-10,593.17	1,253.33	PBHL/TD 17228.49 MD/7096.00 TVD