



Weld County, Colorado
Section 33-T01N-R65W
Desha 4-07-3L
plan1

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	5350.07	35.01	126.58	5328.69	-61.78	83.24	10.00	70.69	Begin 35.01° tangent
4	7408.89	35.01	126.58	7015.04	-765.65	1031.68	0.00	876.18	Begin 10°/100' build/turn
5	8109.76	90.02	180.12	7344.00	-1304.87	1215.98	10.00	1432.62	LP Begin 90.02° lateral section
6	17446.02	90.02	180.12	7340.00	-10641.11	1197.01	0.00	10708.23	PBHL/TD 17446.02 MD/7340.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL Desha 4-07-3L 470 FSL 1660 FWL	7340.00	-10641.11	1197.0114517290.00	1732158.35	39.97360380	-104.67253711	
LP Desha 4-07-3L 470 FNL 1660 FWL	7344.00	-1304.87	1215.9814526626.23	1732143.46	39.99924269	-104.67246784	

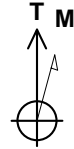
Desha 4-07-3L
Surf loc: 835 FSL 450 FWL Section 33-T01N-R65W

NAD83 Colorado - HARN
Universal Transverse Mercator (US Survey Feet)
Zone 13N (108 W to 102 W)
RKB=5079+25 @ 5104.00ft

Northing	Easting	Latitude	Longitude
14527926.68	1730922.76	40.00282615	-104.67680973

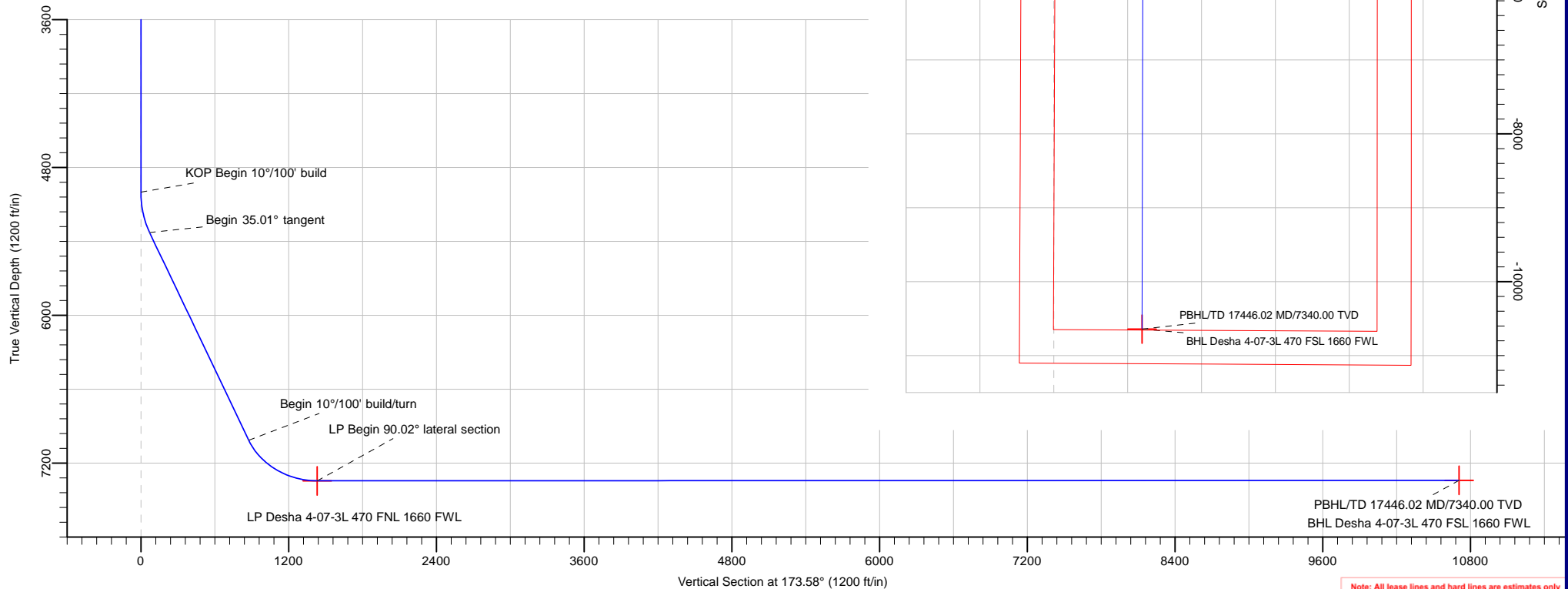
Azimuth Corrections:

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



Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52146.2snT
Dip Angle: 66.45°
Date: 5/29/2017
Model: HDGM



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	Desha 4-07-3L, Surf loc: 835 FSL 450 FWL Section 33-T01N-R65W					
Well Position	+N/-S	175.02 ft	Northing:	14,527,926.68 usft	Latitude:	40.00282616
	+E/-W	149.12 ft	Easting:	1,730,922.76 usft	Longitude:	-104.67680973
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,079.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/29/2017	8.28	66.45	52,146.20000000

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	173.58

Plan Survey Tool Program	Date	8/29/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,446.02	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	
5,350.07	35.01	126.58	5,328.69	-61.78	83.24	10.00	10.00	0.00	126.58	
7,408.89	35.01	126.58	7,015.04	-765.65	1,031.68	0.00	0.00	0.00	0.00	
8,109.76	90.02	180.12	7,344.00	-1,304.87	1,215.98	10.00	7.85	7.64	58.80	LP Desha 4-07-3L 471
17,446.02	90.02	180.12	7,340.00	-10,641.11	1,197.01	0.00	0.00	0.00	0.00	BHL Desha 4-07-3L 4

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	126.58	5,099.49	-5.19	6.99	5.94	10.00	10.00	0.00
5,200.00	20.00	126.58	5,195.96	-20.59	27.75	23.56	10.00	10.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	126.58	5,286.48	-45.75	61.64	52.35	10.00	10.00	0.00
5,350.07	35.01	126.58	5,328.69	-61.78	83.24	70.69	10.00	10.00	0.00
Begin 35.01° tangent									
5,400.00	35.01	126.58	5,369.59	-78.85	106.24	90.23	0.00	0.00	0.00
5,500.00	35.01	126.58	5,451.50	-113.03	152.31	129.35	0.00	0.00	0.00
5,600.00	35.01	126.58	5,533.41	-147.22	198.38	168.48	0.00	0.00	0.00
5,700.00	35.01	126.58	5,615.31	-181.41	244.44	207.60	0.00	0.00	0.00
5,800.00	35.01	126.58	5,697.22	-215.60	290.51	246.72	0.00	0.00	0.00
5,900.00	35.01	126.58	5,779.13	-249.79	336.58	285.85	0.00	0.00	0.00
6,000.00	35.01	126.58	5,861.04	-283.98	382.64	324.97	0.00	0.00	0.00
6,100.00	35.01	126.58	5,942.95	-318.17	428.71	364.09	0.00	0.00	0.00
6,200.00	35.01	126.58	6,024.86	-352.35	474.78	403.22	0.00	0.00	0.00
6,300.00	35.01	126.58	6,106.76	-386.54	520.85	442.34	0.00	0.00	0.00
6,400.00	35.01	126.58	6,188.67	-420.73	566.91	481.47	0.00	0.00	0.00
6,500.00	35.01	126.58	6,270.58	-454.92	612.98	520.59	0.00	0.00	0.00
6,600.00	35.01	126.58	6,352.49	-489.11	659.05	559.71	0.00	0.00	0.00
6,700.00	35.01	126.58	6,434.40	-523.30	705.11	598.84	0.00	0.00	0.00
6,800.00	35.01	126.58	6,516.30	-557.48	751.18	637.96	0.00	0.00	0.00
6,900.00	35.01	126.58	6,598.21	-591.67	797.25	677.08	0.00	0.00	0.00
7,000.00	35.01	126.58	6,680.12	-625.86	843.32	716.21	0.00	0.00	0.00
7,100.00	35.01	126.58	6,762.03	-660.05	889.38	755.33	0.00	0.00	0.00
7,200.00	35.01	126.58	6,843.94	-694.24	935.45	794.46	0.00	0.00	0.00
7,300.00	35.01	126.58	6,925.85	-728.43	981.52	833.58	0.00	0.00	0.00
7,400.00	35.01	126.58	7,007.75	-762.61	1,027.59	872.70	0.00	0.00	0.00
7,408.89	35.01	126.58	7,015.04	-765.65	1,031.68	876.18	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,500.00	40.39	138.65	7,087.20	-803.47	1,072.25	918.29	10.00	5.90	13.24
7,600.00	47.42	148.94	7,159.30	-859.46	1,112.76	978.46	10.00	7.03	10.29
7,700.00	55.18	157.04	7,221.84	-928.97	1,147.86	1,051.46	10.00	7.76	8.10
7,800.00	63.38	163.71	7,272.93	-1,009.87	1,176.48	1,135.06	10.00	8.20	6.67
7,900.00	71.85	169.46	7,311.01	-1,099.72	1,197.76	1,226.72	10.00	8.47	5.76
8,000.00	80.48	174.68	7,334.92	-1,195.77	1,211.06	1,323.65	10.00	8.63	5.22
8,100.00	89.17	179.64	7,343.93	-1,295.11	1,215.96	1,422.92	10.00	8.70	4.96
8,109.76	90.02	180.12	7,344.00	-1,304.87	1,215.98	1,432.62	10.00	8.71	4.91
LP Begin 90.02° lateral section									
8,200.00	90.02	180.12	7,343.96	-1,395.11	1,215.80	1,522.28	0.00	0.00	0.00
8,300.00	90.02	180.12	7,343.92	-1,495.11	1,215.59	1,621.63	0.00	0.00	0.00
8,400.00	90.02	180.12	7,343.88	-1,595.11	1,215.39	1,720.98	0.00	0.00	0.00
8,500.00	90.02	180.12	7,343.83	-1,695.11	1,215.19	1,820.33	0.00	0.00	0.00
8,600.00	90.02	180.12	7,343.79	-1,795.11	1,214.98	1,919.68	0.00	0.00	0.00
8,700.00	90.02	180.12	7,343.75	-1,895.11	1,214.78	2,019.03	0.00	0.00	0.00
8,800.00	90.02	180.12	7,343.70	-1,995.11	1,214.58	2,118.38	0.00	0.00	0.00
8,900.00	90.02	180.12	7,343.66	-2,095.11	1,214.37	2,217.73	0.00	0.00	0.00
9,000.00	90.02	180.12	7,343.62	-2,195.11	1,214.17	2,317.08	0.00	0.00	0.00
9,100.00	90.02	180.12	7,343.58	-2,295.11	1,213.97	2,416.43	0.00	0.00	0.00
9,200.00	90.02	180.12	7,343.53	-2,395.11	1,213.76	2,515.78	0.00	0.00	0.00
9,300.00	90.02	180.12	7,343.49	-2,495.11	1,213.56	2,615.13	0.00	0.00	0.00
9,400.00	90.02	180.12	7,343.45	-2,595.11	1,213.36	2,714.48	0.00	0.00	0.00
9,500.00	90.02	180.12	7,343.40	-2,695.11	1,213.15	2,813.83	0.00	0.00	0.00
9,600.00	90.02	180.12	7,343.36	-2,795.11	1,212.95	2,913.18	0.00	0.00	0.00
9,700.00	90.02	180.12	7,343.32	-2,895.11	1,212.75	3,012.53	0.00	0.00	0.00
9,800.00	90.02	180.12	7,343.28	-2,995.11	1,212.55	3,111.88	0.00	0.00	0.00
9,900.00	90.02	180.12	7,343.23	-3,095.11	1,212.34	3,211.23	0.00	0.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	90.02	180.12	7,343.19	-3,195.11	1,212.14	3,310.58	0.00	0.00	0.00
10,100.00	90.02	180.12	7,343.15	-3,295.11	1,211.94	3,409.93	0.00	0.00	0.00
10,200.00	90.02	180.12	7,343.10	-3,395.11	1,211.73	3,509.28	0.00	0.00	0.00
10,300.00	90.02	180.12	7,343.06	-3,495.11	1,211.53	3,608.63	0.00	0.00	0.00
10,400.00	90.02	180.12	7,343.02	-3,595.11	1,211.33	3,707.98	0.00	0.00	0.00
10,500.00	90.02	180.12	7,342.98	-3,695.11	1,211.12	3,807.33	0.00	0.00	0.00
10,600.00	90.02	180.12	7,342.93	-3,795.11	1,210.92	3,906.68	0.00	0.00	0.00
10,700.00	90.02	180.12	7,342.89	-3,895.11	1,210.72	4,006.04	0.00	0.00	0.00
10,800.00	90.02	180.12	7,342.85	-3,995.11	1,210.51	4,105.39	0.00	0.00	0.00
10,900.00	90.02	180.12	7,342.80	-4,095.11	1,210.31	4,204.74	0.00	0.00	0.00
11,000.00	90.02	180.12	7,342.76	-4,195.11	1,210.11	4,304.09	0.00	0.00	0.00
11,100.00	90.02	180.12	7,342.72	-4,295.11	1,209.90	4,403.44	0.00	0.00	0.00
11,200.00	90.02	180.12	7,342.68	-4,395.11	1,209.70	4,502.79	0.00	0.00	0.00
11,300.00	90.02	180.12	7,342.63	-4,495.11	1,209.50	4,602.14	0.00	0.00	0.00
11,400.00	90.02	180.12	7,342.59	-4,595.11	1,209.29	4,701.49	0.00	0.00	0.00
11,500.00	90.02	180.12	7,342.55	-4,695.11	1,209.09	4,800.84	0.00	0.00	0.00
11,600.00	90.02	180.12	7,342.50	-4,795.11	1,208.89	4,900.19	0.00	0.00	0.00
11,700.00	90.02	180.12	7,342.46	-4,895.11	1,208.69	4,999.54	0.00	0.00	0.00
11,800.00	90.02	180.12	7,342.42	-4,995.11	1,208.48	5,098.89	0.00	0.00	0.00
11,900.00	90.02	180.12	7,342.38	-5,095.11	1,208.28	5,198.24	0.00	0.00	0.00
12,000.00	90.02	180.12	7,342.33	-5,195.11	1,208.08	5,297.59	0.00	0.00	0.00
12,100.00	90.02	180.12	7,342.29	-5,295.11	1,207.87	5,396.94	0.00	0.00	0.00
12,200.00	90.02	180.12	7,342.25	-5,395.11	1,207.67	5,496.29	0.00	0.00	0.00
12,300.00	90.02	180.12	7,342.20	-5,495.11	1,207.47	5,595.64	0.00	0.00	0.00
12,400.00	90.02	180.12	7,342.16	-5,595.10	1,207.26	5,694.99	0.00	0.00	0.00
12,500.00	90.02	180.12	7,342.12	-5,695.10	1,207.06	5,794.34	0.00	0.00	0.00
12,600.00	90.02	180.12	7,342.08	-5,795.10	1,206.86	5,893.69	0.00	0.00	0.00
12,700.00	90.02	180.12	7,342.03	-5,895.10	1,206.65	5,993.04	0.00	0.00	0.00
12,800.00	90.02	180.12	7,341.99	-5,995.10	1,206.45	6,092.39	0.00	0.00	0.00
12,900.00	90.02	180.12	7,341.95	-6,095.10	1,206.25	6,191.74	0.00	0.00	0.00
13,000.00	90.02	180.12	7,341.91	-6,195.10	1,206.04	6,291.09	0.00	0.00	0.00
13,100.00	90.02	180.12	7,341.86	-6,295.10	1,205.84	6,390.44	0.00	0.00	0.00
13,200.00	90.02	180.12	7,341.82	-6,395.10	1,205.64	6,489.79	0.00	0.00	0.00
13,300.00	90.02	180.12	7,341.78	-6,495.10	1,205.44	6,589.14	0.00	0.00	0.00
13,400.00	90.02	180.12	7,341.73	-6,595.10	1,205.23	6,688.49	0.00	0.00	0.00
13,500.00	90.02	180.12	7,341.69	-6,695.10	1,205.03	6,787.84	0.00	0.00	0.00
13,600.00	90.02	180.12	7,341.65	-6,795.10	1,204.83	6,887.19	0.00	0.00	0.00
13,700.00	90.02	180.12	7,341.61	-6,895.10	1,204.62	6,986.55	0.00	0.00	0.00
13,800.00	90.02	180.12	7,341.56	-6,995.10	1,204.42	7,085.90	0.00	0.00	0.00
13,900.00	90.02	180.12	7,341.52	-7,095.10	1,204.22	7,185.25	0.00	0.00	0.00
14,000.00	90.02	180.12	7,341.48	-7,195.10	1,204.01	7,284.60	0.00	0.00	0.00
14,100.00	90.02	180.12	7,341.43	-7,295.10	1,203.81	7,383.95	0.00	0.00	0.00
14,200.00	90.02	180.12	7,341.39	-7,395.10	1,203.61	7,483.30	0.00	0.00	0.00
14,300.00	90.02	180.12	7,341.35	-7,495.10	1,203.40	7,582.65	0.00	0.00	0.00
14,400.00	90.02	180.12	7,341.31	-7,595.10	1,203.20	7,682.00	0.00	0.00	0.00
14,500.00	90.02	180.12	7,341.26	-7,695.10	1,203.00	7,781.35	0.00	0.00	0.00
14,600.00	90.02	180.12	7,341.22	-7,795.10	1,202.79	7,880.70	0.00	0.00	0.00
14,700.00	90.02	180.12	7,341.18	-7,895.10	1,202.59	7,980.05	0.00	0.00	0.00
14,800.00	90.02	180.12	7,341.13	-7,995.10	1,202.39	8,079.40	0.00	0.00	0.00
14,900.00	90.02	180.12	7,341.09	-8,095.10	1,202.19	8,178.75	0.00	0.00	0.00
15,000.00	90.02	180.12	7,341.05	-8,195.10	1,201.98	8,278.10	0.00	0.00	0.00
15,100.00	90.02	180.12	7,341.01	-8,295.10	1,201.78	8,377.45	0.00	0.00	0.00
15,200.00	90.02	180.12	7,340.96	-8,395.10	1,201.58	8,476.80	0.00	0.00	0.00
15,300.00	90.02	180.12	7,340.92	-8,495.10	1,201.37	8,576.15	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	90.02	180.12	7,340.88	-8,595.10	1,201.17	8,675.50	0.00	0.00	0.00	
15,500.00	90.02	180.12	7,340.83	-8,695.10	1,200.97	8,774.85	0.00	0.00	0.00	
15,600.00	90.02	180.12	7,340.79	-8,795.10	1,200.76	8,874.20	0.00	0.00	0.00	
15,700.00	90.02	180.12	7,340.75	-8,895.10	1,200.56	8,973.55	0.00	0.00	0.00	
15,800.00	90.02	180.12	7,340.71	-8,995.10	1,200.36	9,072.90	0.00	0.00	0.00	
15,900.00	90.02	180.12	7,340.66	-9,095.10	1,200.15	9,172.25	0.00	0.00	0.00	
16,000.00	90.02	180.12	7,340.62	-9,195.10	1,199.95	9,271.60	0.00	0.00	0.00	
16,100.00	90.02	180.12	7,340.58	-9,295.10	1,199.75	9,370.95	0.00	0.00	0.00	
16,200.00	90.02	180.12	7,340.53	-9,395.10	1,199.54	9,470.30	0.00	0.00	0.00	
16,300.00	90.02	180.12	7,340.49	-9,495.10	1,199.34	9,569.65	0.00	0.00	0.00	
16,400.00	90.02	180.12	7,340.45	-9,595.10	1,199.14	9,669.00	0.00	0.00	0.00	
16,500.00	90.02	180.12	7,340.41	-9,695.10	1,198.93	9,768.35	0.00	0.00	0.00	
16,600.00	90.02	180.12	7,340.36	-9,795.10	1,198.73	9,867.70	0.00	0.00	0.00	
16,700.00	90.02	180.12	7,340.32	-9,895.10	1,198.53	9,967.05	0.00	0.00	0.00	
16,800.00	90.02	180.12	7,340.28	-9,995.10	1,198.33	10,066.41	0.00	0.00	0.00	
16,900.00	90.02	180.12	7,340.23	-10,095.10	1,198.12	10,165.76	0.00	0.00	0.00	
17,000.00	90.02	180.12	7,340.19	-10,195.10	1,197.92	10,265.11	0.00	0.00	0.00	
17,100.00	90.02	180.12	7,340.15	-10,295.09	1,197.72	10,364.46	0.00	0.00	0.00	
17,200.00	90.02	180.12	7,340.11	-10,395.09	1,197.51	10,463.81	0.00	0.00	0.00	
17,300.00	90.02	180.12	7,340.06	-10,495.09	1,197.31	10,563.16	0.00	0.00	0.00	
17,400.00	90.02	180.12	7,340.02	-10,595.09	1,197.11	10,662.51	0.00	0.00	0.00	
17,446.02	90.02	180.12	7,340.00	-10,641.11	1,197.01	10,708.23	0.00	0.00	0.00	
PBHL/TD 17446.02 MD/7340.00 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 Desha 4-07-3L 470	0.00	0.00	7,340.00	-10,641.11	1,197.01	14,517,290.00	1,732,158.35	39.97360381		-104.67253710
- plan hits target center										
- Point										
LP Desha 4-07-3L 470 F	0.00	0.00	7,344.00	-1,304.87	1,215.98	14,526,626.23	1,732,143.46	39.99924269		-104.67246783
- 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	
5,350.07	5,328.69	-61.78	83.24	Begin 35.01° tangent	
7,408.89	7,015.04	-765.65	1,031.68	Begin 10°/100' build/turn	
8,109.76	7,344.00	-1,304.87	1,215.98	LP Begin 90.02° lateral section	
17,446.02	7,340.00	-10,641.11	1,197.01	PBHL/TD 17446.02 MD/7340.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	Desha 4-07-3L, Surf loc: 835 FSL 450 FWL Section 33-T01N-R65W					
Well Position	+N/-S	0.00 ft	Northing:	14,527,926.68 usft	Latitude:	40.00282616
	+E/-W	0.00 ft	Easting:	1,730,922.76 usft	Longitude:	-104.67680973
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,079.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/29/2017	8.28	66.45	52,146.20000000

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	173.58

Plan Survey Tool Program	Date	8/29/2017		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,446.02 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	
5,350.07	35.01	126.58	5,328.69	-61.78	83.24	10.00	10.00	0.00	126.58	
7,408.89	35.01	126.58	7,015.04	-765.65	1,031.68	0.00	0.00	0.00	0.00	
8,109.76	90.02	180.12	7,344.00	-1,304.87	1,215.98	10.00	7.85	7.64	58.80	LP Desha 4-07-3L 471
17,446.02	90.02	180.12	7,340.00	-10,641.11	1,197.01	0.00	0.00	0.00	0.00	BHL Desha 4-07-3L 4

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
100.00	0.00	0.00	100.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
200.00	0.00	0.00	200.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
300.00	0.00	0.00	300.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
400.00	0.00	0.00	400.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
500.00	0.00	0.00	500.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
600.00	0.00	0.00	600.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
700.00	0.00	0.00	700.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
800.00	0.00	0.00	800.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
900.00	0.00	0.00	900.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,527,926.68	1,730,922.76	40.00282616	-104.67680973
KOP Begin 10°/100' build									
5,100.00	10.00	126.58	5,099.49	-5.19	6.99	14,527,921.52	1,730,929.77	40.00281191	-104.67678477
5,200.00	20.00	126.58	5,195.96	-20.59	27.75	14,527,906.19	1,730,950.58	40.00276961	-104.67671065

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	126.58	5,286.48	-45.75	61.64	14,527,881.16	1,730,984.57	40.00270053	-104.67658962
5,350.07	35.01	126.58	5,328.69	-61.78	83.24	14,527,865.21	1,731,006.22	40.00265651	-104.67651249
Begin 35.01° tangent									
5,400.00	35.01	126.58	5,369.59	-78.85	106.24	14,527,848.22	1,731,029.28	40.00260963	-104.67643036
5,500.00	35.01	126.58	5,451.50	-113.03	152.31	14,527,814.20	1,731,075.48	40.00251574	-104.67626586
5,600.00	35.01	126.58	5,533.41	-147.22	198.38	14,527,780.18	1,731,121.67	40.00242186	-104.67610136
5,700.00	35.01	126.58	5,615.31	-181.41	244.44	14,527,746.16	1,731,167.86	40.00232797	-104.67593686
5,800.00	35.01	126.58	5,697.22	-215.60	290.51	14,527,712.14	1,731,214.05	40.00223408	-104.67577236
5,900.00	35.01	126.58	5,779.13	-249.79	336.58	14,527,678.12	1,731,260.24	40.00214019	-104.67560786
6,000.00	35.01	126.58	5,861.04	-283.98	382.64	14,527,644.10	1,731,306.43	40.00204630	-104.67544337
6,100.00	35.01	126.58	5,942.95	-318.17	428.71	14,527,610.08	1,731,352.62	40.00195241	-104.67527887
6,200.00	35.01	126.58	6,024.86	-352.35	474.78	14,527,576.06	1,731,398.81	40.00185852	-104.67511437
6,300.00	35.01	126.58	6,106.76	-386.54	520.85	14,527,542.03	1,731,445.00	40.00176463	-104.67494988
6,400.00	35.01	126.58	6,188.67	-420.73	566.91	14,527,508.01	1,731,491.19	40.00167074	-104.67478538
6,500.00	35.01	126.58	6,270.58	-454.92	612.98	14,527,473.99	1,731,537.38	40.00157685	-104.67462089
6,600.00	35.01	126.58	6,352.49	-489.11	659.05	14,527,439.97	1,731,583.57	40.00148296	-104.67445639
6,700.00	35.01	126.58	6,434.40	-523.30	705.11	14,527,405.95	1,731,629.77	40.00138907	-104.67429190
6,800.00	35.01	126.58	6,516.30	-557.48	751.18	14,527,371.93	1,731,675.96	40.00129518	-104.67412740
6,900.00	35.01	126.58	6,598.21	-591.67	797.25	14,527,337.91	1,731,722.15	40.00120129	-104.67396291
7,000.00	35.01	126.58	6,680.12	-625.86	843.32	14,527,303.89	1,731,768.34	40.00110740	-104.67379842
7,100.00	35.01	126.58	6,762.03	-660.05	889.38	14,527,269.87	1,731,814.53	40.00101351	-104.67363393
7,200.00	35.01	126.58	6,843.94	-694.24	935.45	14,527,235.84	1,731,860.72	40.00091962	-104.67346943
7,300.00	35.01	126.58	6,925.85	-728.43	981.52	14,527,201.82	1,731,906.91	40.00082573	-104.67330494
7,400.00	35.01	126.58	7,007.75	-762.61	1,027.59	14,527,167.80	1,731,953.10	40.00073183	-104.67314045
7,408.89	35.01	126.58	7,015.04	-765.65	1,031.68	14,527,164.78	1,731,957.21	40.00072349	-104.67312583
Begin 10°/100' build/turn									
7,500.00	40.39	138.65	7,087.20	-803.47	1,072.25	14,527,127.11	1,731,997.92	40.00061965	-104.67298096
7,600.00	47.42	148.94	7,159.30	-859.46	1,112.76	14,527,071.26	1,732,038.62	40.00046587	-104.67283633
7,700.00	55.18	157.04	7,221.84	-928.97	1,147.86	14,527,001.89	1,732,073.97	40.00027499	-104.67271102
7,800.00	63.38	163.71	7,272.93	-1,009.87	1,176.48	14,526,921.09	1,732,102.89	40.00005281	-104.67260882
7,900.00	71.85	169.46	7,311.01	-1,099.72	1,197.76	14,526,831.32	1,732,124.50	39.99980608	-104.67253284
8,000.00	80.48	174.68	7,334.92	-1,195.77	1,211.06	14,526,735.32	1,732,138.14	39.99954230	-104.67248539
8,100.00	89.17	179.64	7,343.93	-1,295.11	1,215.96	14,526,635.99	1,732,143.40	39.99926948	-104.67246791
8,109.76	90.02	180.12	7,344.00	-1,304.87	1,215.98	14,526,626.23	1,732,143.46	39.99924269	-104.67246783
LP Begin 90.02° lateral section									
8,200.00	90.02	180.12	7,343.96	-1,395.11	1,215.80	14,526,535.99	1,732,143.60	39.99899487	-104.67246850
8,300.00	90.02	180.12	7,343.92	-1,495.11	1,215.59	14,526,435.99	1,732,143.76	39.99872025	-104.67246925
8,400.00	90.02	180.12	7,343.88	-1,595.11	1,215.39	14,526,335.99	1,732,143.92	39.99844564	-104.67246999
8,500.00	90.02	180.12	7,343.83	-1,695.11	1,215.19	14,526,235.99	1,732,144.08	39.99817102	-104.67247073
8,600.00	90.02	180.12	7,343.79	-1,795.11	1,214.98	14,526,135.99	1,732,144.24	39.99789640	-104.67247147
8,700.00	90.02	180.12	7,343.75	-1,895.11	1,214.78	14,526,035.99	1,732,144.40	39.99762179	-104.67247222
8,800.00	90.02	180.12	7,343.70	-1,995.11	1,214.58	14,525,935.99	1,732,144.56	39.99734717	-104.67247296
8,900.00	90.02	180.12	7,343.66	-2,095.11	1,214.37	14,525,835.99	1,732,144.72	39.99707256	-104.67247370
9,000.00	90.02	180.12	7,343.62	-2,195.11	1,214.17	14,525,735.99	1,732,144.88	39.99679794	-104.67247444
9,100.00	90.02	180.12	7,343.58	-2,295.11	1,213.97	14,525,635.99	1,732,145.04	39.99652333	-104.67247519
9,200.00	90.02	180.12	7,343.53	-2,395.11	1,213.76	14,525,535.99	1,732,145.20	39.99624871	-104.67247593
9,300.00	90.02	180.12	7,343.49	-2,495.11	1,213.56	14,525,436.00	1,732,145.36	39.99597410	-104.67247667
9,400.00	90.02	180.12	7,343.45	-2,595.11	1,213.36	14,525,336.00	1,732,145.52	39.99569948	-104.67247741
9,500.00	90.02	180.12	7,343.40	-2,695.11	1,213.15	14,525,236.00	1,732,145.68	39.99542486	-104.67247816
9,600.00	90.02	180.12	7,343.36	-2,795.11	1,212.95	14,525,136.00	1,732,145.84	39.99515025	-104.67247890
9,700.00	90.02	180.12	7,343.32	-2,895.11	1,212.75	14,525,036.00	1,732,145.99	39.99487563	-104.67247964
9,800.00	90.02	180.12	7,343.28	-2,995.11	1,212.55	14,524,936.00	1,732,146.15	39.99460102	-104.67248038
9,900.00	90.02	180.12	7,343.23	-3,095.11	1,212.34	14,524,836.00	1,732,146.31	39.99432640	-104.67248113
10,000.00	90.02	180.12	7,343.19	-3,195.11	1,212.14	14,524,736.00	1,732,146.47	39.99405178	-104.67248187

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	90.02	180.12	7,343.15	-3,295.11	1,211.94	14,524,636.00	1,732,146.63	39.99377717	-104.67248261
10,200.00	90.02	180.12	7,343.10	-3,395.11	1,211.73	14,524,536.00	1,732,146.79	39.99350255	-104.67248335
10,300.00	90.02	180.12	7,343.06	-3,495.11	1,211.53	14,524,436.00	1,732,146.95	39.99322794	-104.67248409
10,400.00	90.02	180.12	7,343.02	-3,595.11	1,211.33	14,524,336.00	1,732,147.11	39.99295332	-104.67248484
10,500.00	90.02	180.12	7,342.98	-3,695.11	1,211.12	14,524,236.00	1,732,147.27	39.99267871	-104.67248558
10,600.00	90.02	180.12	7,342.93	-3,795.11	1,210.92	14,524,136.00	1,732,147.43	39.99240409	-104.67248632
10,700.00	90.02	180.12	7,342.89	-3,895.11	1,210.72	14,524,036.00	1,732,147.59	39.99212947	-104.67248706
10,800.00	90.02	180.12	7,342.85	-3,995.11	1,210.51	14,523,936.00	1,732,147.75	39.99185486	-104.67248781
10,900.00	90.02	180.12	7,342.80	-4,095.11	1,210.31	14,523,836.00	1,732,147.91	39.99158024	-104.67248855
11,000.00	90.02	180.12	7,342.76	-4,195.11	1,210.11	14,523,736.00	1,732,148.07	39.99130563	-104.67248929
11,100.00	90.02	180.12	7,342.72	-4,295.11	1,209.90	14,523,636.00	1,732,148.23	39.99103101	-104.67249003
11,200.00	90.02	180.12	7,342.68	-4,395.11	1,209.70	14,523,536.00	1,732,148.39	39.99075639	-104.67249077
11,300.00	90.02	180.12	7,342.63	-4,495.11	1,209.50	14,523,436.00	1,732,148.55	39.99048178	-104.67249152
11,400.00	90.02	180.12	7,342.59	-4,595.11	1,209.29	14,523,336.00	1,732,148.71	39.99020716	-104.67249226
11,500.00	90.02	180.12	7,342.55	-4,695.11	1,209.09	14,523,236.00	1,732,148.87	39.98993255	-104.67249300
11,600.00	90.02	180.12	7,342.50	-4,795.11	1,208.89	14,523,136.00	1,732,149.03	39.98965793	-104.67249374
11,700.00	90.02	180.12	7,342.46	-4,895.11	1,208.69	14,523,036.00	1,732,149.18	39.98938331	-104.67249449
11,800.00	90.02	180.12	7,342.42	-4,995.11	1,208.48	14,522,936.00	1,732,149.34	39.98910870	-104.67249523
11,900.00	90.02	180.12	7,342.38	-5,095.11	1,208.28	14,522,836.00	1,732,149.50	39.98883408	-104.67249597
12,000.00	90.02	180.12	7,342.33	-5,195.11	1,208.08	14,522,736.00	1,732,149.66	39.98855947	-104.67249671
12,100.00	90.02	180.12	7,342.29	-5,295.11	1,207.87	14,522,636.00	1,732,149.82	39.98828485	-104.67249745
12,200.00	90.02	180.12	7,342.25	-5,395.11	1,207.67	14,522,536.00	1,732,149.98	39.98801023	-104.67249820
12,300.00	90.02	180.12	7,342.20	-5,495.11	1,207.47	14,522,436.01	1,732,150.14	39.98773562	-104.67249894
12,400.00	90.02	180.12	7,342.16	-5,595.10	1,207.26	14,522,336.01	1,732,150.30	39.98746100	-104.67249968
12,500.00	90.02	180.12	7,342.12	-5,695.10	1,207.06	14,522,236.01	1,732,150.46	39.98718639	-104.67250042
12,600.00	90.02	180.12	7,342.08	-5,795.10	1,206.86	14,522,136.01	1,732,150.62	39.98691177	-104.67250116
12,700.00	90.02	180.12	7,342.03	-5,895.10	1,206.65	14,522,036.01	1,732,150.78	39.98663715	-104.67250191
12,800.00	90.02	180.12	7,341.99	-5,995.10	1,206.45	14,521,936.01	1,732,150.94	39.98636254	-104.67250265
12,900.00	90.02	180.12	7,341.95	-6,095.10	1,206.25	14,521,836.01	1,732,151.10	39.98608792	-104.67250339
13,000.00	90.02	180.12	7,341.91	-6,195.10	1,206.04	14,521,736.01	1,732,151.26	39.98581330	-104.67250413
13,100.00	90.02	180.12	7,341.86	-6,295.10	1,205.84	14,521,636.01	1,732,151.42	39.98553869	-104.67250487
13,200.00	90.02	180.12	7,341.82	-6,395.10	1,205.64	14,521,536.01	1,732,151.58	39.98526407	-104.67250562
13,300.00	90.02	180.12	7,341.78	-6,495.10	1,205.44	14,521,436.01	1,732,151.74	39.98498946	-104.67250636
13,400.00	90.02	180.12	7,341.73	-6,595.10	1,205.23	14,521,336.01	1,732,151.90	39.98471484	-104.67250710
13,500.00	90.02	180.12	7,341.69	-6,695.10	1,205.03	14,521,236.01	1,732,152.06	39.98444022	-104.67250784
13,600.00	90.02	180.12	7,341.65	-6,795.10	1,204.83	14,521,136.01	1,732,152.21	39.98416561	-104.67250858
13,700.00	90.02	180.12	7,341.61	-6,895.10	1,204.62	14,521,036.01	1,732,152.37	39.98389099	-104.67250932
13,800.00	90.02	180.12	7,341.56	-6,995.10	1,204.42	14,520,936.01	1,732,152.53	39.98361637	-104.67251007
13,900.00	90.02	180.12	7,341.52	-7,095.10	1,204.22	14,520,836.01	1,732,152.69	39.98334176	-104.67251081
14,000.00	90.02	180.12	7,341.48	-7,195.10	1,204.01	14,520,736.01	1,732,152.85	39.98306714	-104.67251155
14,100.00	90.02	180.12	7,341.43	-7,295.10	1,203.81	14,520,636.01	1,732,153.01	39.98279253	-104.67251229
14,200.00	90.02	180.12	7,341.39	-7,395.10	1,203.61	14,520,536.01	1,732,153.17	39.98251791	-104.67251303
14,300.00	90.02	180.12	7,341.35	-7,495.10	1,203.40	14,520,436.01	1,732,153.33	39.98224329	-104.67251378
14,400.00	90.02	180.12	7,341.31	-7,595.10	1,203.20	14,520,336.01	1,732,153.49	39.98196868	-104.67251452
14,500.00	90.02	180.12	7,341.26	-7,695.10	1,203.00	14,520,236.01	1,732,153.65	39.98169406	-104.67251526
14,600.00	90.02	180.12	7,341.22	-7,795.10	1,202.79	14,520,136.01	1,732,153.81	39.98141944	-104.67251600
14,700.00	90.02	180.12	7,341.18	-7,895.10	1,202.59	14,520,036.01	1,732,153.97	39.98114483	-104.67251674
14,800.00	90.02	180.12	7,341.13	-7,995.10	1,202.39	14,519,936.01	1,732,154.13	39.98087021	-104.67251748
14,900.00	90.02	180.12	7,341.09	-8,095.10	1,202.19	14,519,836.01	1,732,154.29	39.98059559	-104.67251823
15,000.00	90.02	180.12	7,341.05	-8,195.10	1,201.98	14,519,736.01	1,732,154.45	39.98032098	-104.67251897
15,100.00	90.02	180.12	7,341.01	-8,295.10	1,201.78	14,519,636.01	1,732,154.61	39.98004636	-104.67251971
15,200.00	90.02	180.12	7,340.96	-8,395.10	1,201.58	14,519,536.01	1,732,154.77	39.97977174	-104.67252045
15,300.00	90.02	180.12	7,340.92	-8,495.10	1,201.37	14,519,436.02	1,732,154.93	39.97949713	-104.67252119
15,400.00	90.02	180.12	7,340.88	-8,595.10	1,201.17	14,519,336.02	1,732,155.09	39.97922251	-104.67252193
15,500.00	90.02	180.12	7,340.83	-8,695.10	1,200.97	14,519,236.02	1,732,155.25	39.97894790	-104.67252267

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Desha 4-07-3L
Company:	Confluence Resources	TVD Reference:	RKB=5079+25 @ 5104.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5079+25 @ 5104.00ft
Site:	Section 33-T01N-R65W	North Reference:	True
Well:	Desha 4-07-3L	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	90.02	180.12	7,340.79	-8,795.10	1,200.76	14,519,136.02	1,732,155.40	39.97867328	-104.67252342
15,700.00	90.02	180.12	7,340.75	-8,895.10	1,200.56	14,519,036.02	1,732,155.56	39.97839866	-104.67252416
15,800.00	90.02	180.12	7,340.71	-8,995.10	1,200.36	14,518,936.02	1,732,155.72	39.97812405	-104.67252490
15,900.00	90.02	180.12	7,340.66	-9,095.10	1,200.15	14,518,836.02	1,732,155.88	39.97784943	-104.67252564
16,000.00	90.02	180.12	7,340.62	-9,195.10	1,199.95	14,518,736.02	1,732,156.04	39.97757481	-104.67252638
16,100.00	90.02	180.12	7,340.58	-9,295.10	1,199.75	14,518,636.02	1,732,156.20	39.97730020	-104.67252712
16,200.00	90.02	180.12	7,340.53	-9,395.10	1,199.54	14,518,536.02	1,732,156.36	39.97702558	-104.67252787
16,300.00	90.02	180.12	7,340.49	-9,495.10	1,199.34	14,518,436.02	1,732,156.52	39.97675096	-104.67252861
16,400.00	90.02	180.12	7,340.45	-9,595.10	1,199.14	14,518,336.02	1,732,156.68	39.97647635	-104.67252935
16,500.00	90.02	180.12	7,340.41	-9,695.10	1,198.93	14,518,236.02	1,732,156.84	39.97620173	-104.67253009
16,600.00	90.02	180.12	7,340.36	-9,795.10	1,198.73	14,518,136.02	1,732,157.00	39.97592711	-104.67253083
16,700.00	90.02	180.12	7,340.32	-9,895.10	1,198.53	14,518,036.02	1,732,157.16	39.97565250	-104.67253157
16,800.00	90.02	180.12	7,340.28	-9,995.10	1,198.33	14,517,936.02	1,732,157.32	39.97537788	-104.67253231
16,900.00	90.02	180.12	7,340.23	-10,095.10	1,198.12	14,517,836.02	1,732,157.48	39.97510326	-104.67253306
17,000.00	90.02	180.12	7,340.19	-10,195.10	1,197.92	14,517,736.02	1,732,157.64	39.97482865	-104.67253380
17,100.00	90.02	180.12	7,340.15	-10,295.09	1,197.72	14,517,636.02	1,732,157.80	39.97455403	-104.67253454
17,200.00	90.02	180.12	7,340.11	-10,395.09	1,197.51	14,517,536.02	1,732,157.96	39.97427941	-104.67253528
17,300.00	90.02	180.12	7,340.06	-10,495.09	1,197.31	14,517,436.02	1,732,158.12	39.97400480	-104.67253602
17,400.00	90.02	180.12	7,340.02	-10,595.09	1,197.11	14,517,336.02	1,732,158.28	39.97373018	-104.67253676
17,446.02	90.02	180.12	7,340.00	-10,641.11	1,197.01	14,517,290.00	1,732,158.35	39.97360381	-104.67253710
PBHL/TD 17446.02 MD/7340.00 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 Desha 4-07-3L 470	0.00	0.00	7,340.00	-10,641.11	1,197.01	14,517,290.00	1,732,158.35	39.97360381	-104.67253710
- plan hits target center									
- Point									
LP Desha 4-07-3L 470 F	0.00	0.00	7,344.00	-1,304.87	1,215.98	14,526,626.23	1,732,143.46	39.99924269	-104.67246783
- 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	
5,350.07	5,328.69	-61.78	83.24	Begin 35.01° tangent	
7,408.89	7,015.04	-765.65	1,031.68	Begin 10°/100' build/turn	
8,109.76	7,344.00	-1,304.87	1,215.98	LP Begin 90.02° lateral section	
17,446.02	7,340.00	-10,641.11	1,197.01	PBHL/TD 17446.02 MD/7340.00 TVD	