

Weld County, Colorado
Section 07-T07N-R64W
Pickaroon 7-14-02L
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	5293.95	29.39	148.36	5281.22	-62.80	38.69	10.00	-33.25	Begin 29.39° tangent
4	6647.78	29.39	148.36	6460.76	-628.53	387.25	0.00	-332.76	Begin 10°/100' build/turn
5	7700.05	90.00	270.71	7114.00	-932.50	-169.42	10.00	247.60	Begin 90.00° lateral
6	17142.13	90.00	270.71	7114.00	-814.92	-9610.77	0.00	9645.25	PBHL/TD 17142.13 MD/7114.00 TVD

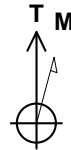
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Pickaroon 7-14-02L BHL 470 FSL 470 FWL	7114.00	-814.92	-9610.77	14738799.38	1746340.72	40.58171470	-104.61851219
Pickaroon 7-14-02L LP 470 FSL 470 FEL	7114.00	-932.50	-169.42	14738726.41	1755782.50	40.58139703	-104.58450946

Azimuth Corrections:

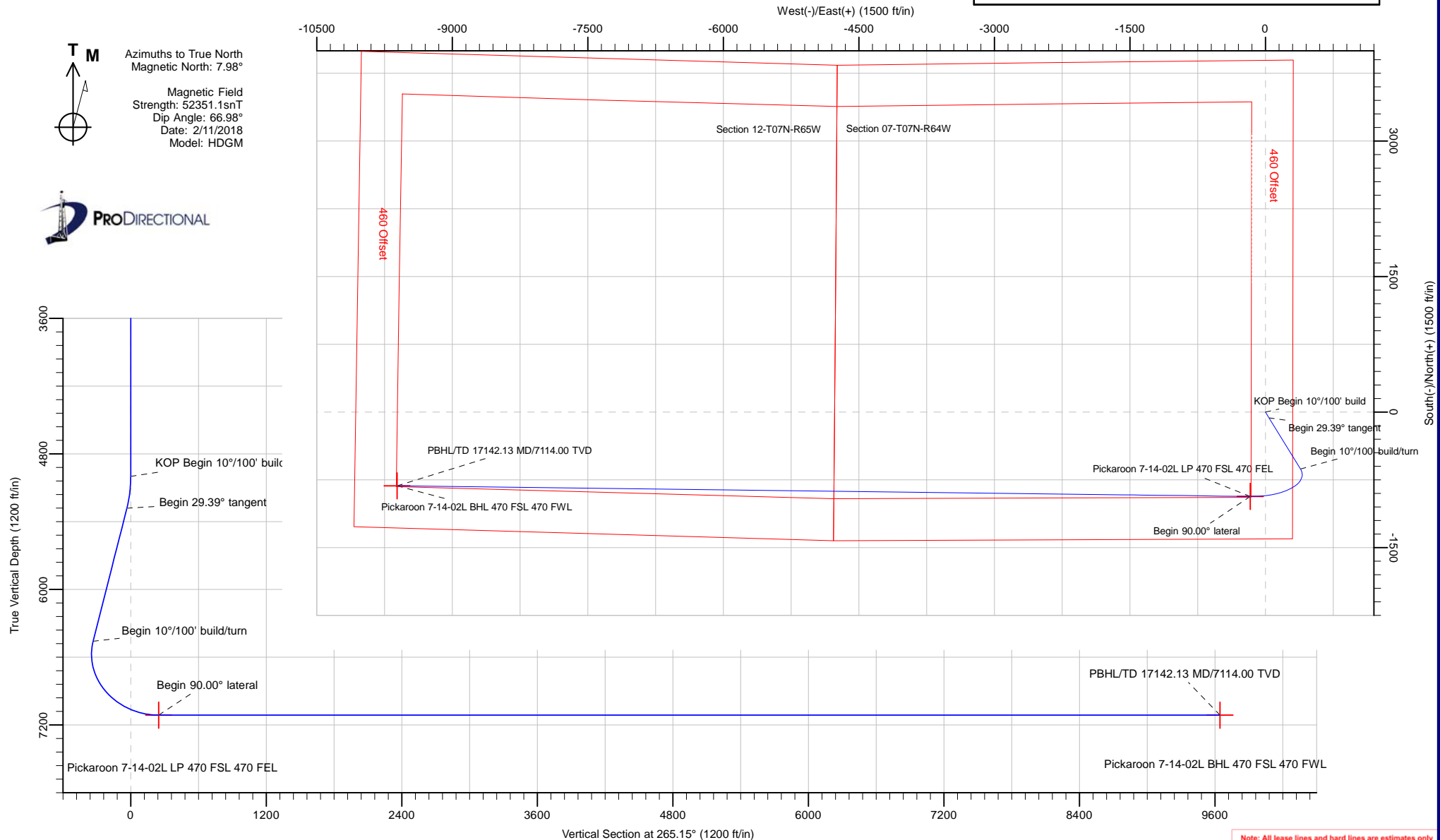
To convert a Magnetic Direction to a True Direction, Add 7.98° East

Pickaroon 7-14-02L			
Surf loc: 1402 FSL 302 FEL Section 07-T07N-R64W			
NAD83 Colorado - HARN			
Universal Transverse Mercator (US Survey Feet)			
Zone 13N (108 W to 102 W)			
RKB=4986+24 @ 5010.00ft			
Northing	Easting	Latitude	Longitude
14739659.70	1755947.51	40.58395756	-104.58389932



Azimuths to True North
Magnetic North: 7.98°

Magnetic Field
Strength: 52351.1snT
Dip Angle: 66.98°
Date: 2/11/2018
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 Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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 07-T07N-R64W			
Site Position:		Northing:	14,740,905.93 usft	Latitude:	40.58737934
From:	Map	Easting:	1,755,960.51 usft	Longitude:	-104.58383128
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well	Pickaroon 7-14-02L, Surf loc: 1402 FSL 302 FEL Section 07-T07N-R64W					
Well Position	+N/-S	-1,246.16 ft	Northing:	14,739,659.70 usft	Latitude:	40.58395756
	+E/-W	-18.89 ft	Easting:	1,755,947.51 usft	Longitude:	-104.58389931
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,986.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/11/2018	7.98	66.98	52,351.10000000

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	265.15

Plan Survey Tool Program	Date	2/11/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,142.13	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	
5,293.95	29.39	148.36	5,281.22	-62.80	38.69	10.00	10.00	0.00	148.36	
6,647.78	29.39	148.36	6,460.76	-628.53	387.25	0.00	0.00	0.00	0.00	
7,700.05	90.00	270.71	7,114.00	-932.50	-169.42	10.00	5.76	11.63	118.89	Pickaroon 7-14-02L L
17,142.13	90.00	270.71	7,114.00	-814.92	-9,610.77	0.00	0.00	0.00	0.00	Pickaroon 7-14-02L B

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	148.36	5,099.49	-7.41	4.57	-3.92	10.00	10.00	0.00
5,200.00	20.00	148.36	5,195.96	-29.42	18.13	-15.57	10.00	10.00	0.00

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Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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)
5,293.95	29.39	148.36	5,281.22	-62.80	38.69	-33.25	10.00	10.00	0.00
Begin 29.39° tangent									
5,300.00	29.39	148.36	5,286.49	-65.33	40.25	-34.59	0.00	0.00	0.00
5,400.00	29.39	148.36	5,373.62	-107.12	66.00	-56.71	0.00	0.00	0.00
5,500.00	29.39	148.36	5,460.75	-148.90	91.74	-78.83	0.00	0.00	0.00
5,600.00	29.39	148.36	5,547.87	-190.69	117.49	-100.96	0.00	0.00	0.00
5,700.00	29.39	148.36	5,635.00	-232.48	143.24	-123.08	0.00	0.00	0.00
5,800.00	29.39	148.36	5,722.12	-274.27	168.98	-145.21	0.00	0.00	0.00
5,900.00	29.39	148.36	5,809.25	-316.05	194.73	-167.33	0.00	0.00	0.00
6,000.00	29.39	148.36	5,896.38	-357.84	220.47	-189.45	0.00	0.00	0.00
6,100.00	29.39	148.36	5,983.50	-399.63	246.22	-211.58	0.00	0.00	0.00
6,200.00	29.39	148.36	6,070.63	-441.42	271.97	-233.70	0.00	0.00	0.00
6,300.00	29.39	148.36	6,157.76	-483.20	297.71	-255.82	0.00	0.00	0.00
6,400.00	29.39	148.36	6,244.88	-524.99	323.46	-277.95	0.00	0.00	0.00
6,500.00	29.39	148.36	6,332.01	-566.78	349.21	-300.07	0.00	0.00	0.00
6,600.00	29.39	148.36	6,419.13	-608.57	374.95	-322.19	0.00	0.00	0.00
6,647.78	29.39	148.36	6,460.76	-628.53	387.25	-332.76	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,700.00	27.22	158.39	6,506.76	-650.56	398.38	-341.99	10.00	-4.16	19.21
6,800.00	25.45	180.70	6,596.60	-693.42	406.56	-346.52	10.00	-1.77	22.31
6,900.00	27.22	203.01	6,686.44	-736.07	397.33	-333.72	10.00	1.77	22.31
7,000.00	31.95	220.97	6,773.55	-777.20	370.98	-303.99	10.00	4.73	17.96
7,100.00	38.55	234.05	6,855.28	-815.57	328.30	-258.22	10.00	6.61	13.08
7,200.00	46.23	243.59	6,929.16	-850.01	270.59	-197.80	10.00	7.68	9.54
7,300.00	54.52	250.88	6,992.93	-879.48	199.60	-124.58	10.00	8.29	7.29
7,400.00	63.16	256.78	7,044.67	-903.08	117.49	-40.77	10.00	8.64	5.90
7,500.00	72.01	261.82	7,082.78	-920.09	26.76	51.07	10.00	8.85	5.04
7,600.00	80.97	266.38	7,106.13	-930.00	-69.84	148.16	10.00	8.97	4.56
7,700.00	90.00	270.71	7,114.00	-932.50	-169.37	247.55	10.00	9.02	4.33
7,700.05	90.00	270.71	7,114.00	-932.50	-169.42	247.60	10.00	9.03	4.30
Begin 90.00° lateral									
7,800.00	90.00	270.71	7,114.00	-931.26	-269.36	347.08	0.00	0.00	0.00
7,900.00	90.00	270.71	7,114.00	-930.01	-369.35	446.61	0.00	0.00	0.00
8,000.00	90.00	270.71	7,114.00	-928.77	-469.35	546.14	0.00	0.00	0.00
8,100.00	90.00	270.71	7,114.00	-927.52	-569.34	645.67	0.00	0.00	0.00
8,200.00	90.00	270.71	7,114.00	-926.28	-669.33	745.20	0.00	0.00	0.00
8,300.00	90.00	270.71	7,114.00	-925.03	-769.32	844.73	0.00	0.00	0.00
8,400.00	90.00	270.71	7,114.00	-923.79	-869.32	944.26	0.00	0.00	0.00
8,500.00	90.00	270.71	7,114.00	-922.54	-969.31	1,043.79	0.00	0.00	0.00
8,600.00	90.00	270.71	7,114.00	-921.29	-1,069.30	1,143.32	0.00	0.00	0.00
8,700.00	90.00	270.71	7,114.00	-920.05	-1,169.29	1,242.85	0.00	0.00	0.00
8,800.00	90.00	270.71	7,114.00	-918.80	-1,269.28	1,342.38	0.00	0.00	0.00
8,900.00	90.00	270.71	7,114.00	-917.56	-1,369.28	1,441.90	0.00	0.00	0.00
9,000.00	90.00	270.71	7,114.00	-916.31	-1,469.27	1,541.43	0.00	0.00	0.00
9,100.00	90.00	270.71	7,114.00	-915.07	-1,569.26	1,640.96	0.00	0.00	0.00
9,200.00	90.00	270.71	7,114.00	-913.82	-1,669.25	1,740.49	0.00	0.00	0.00
9,300.00	90.00	270.71	7,114.00	-912.58	-1,769.25	1,840.02	0.00	0.00	0.00
9,400.00	90.00	270.71	7,114.00	-911.33	-1,869.24	1,939.55	0.00	0.00	0.00
9,500.00	90.00	270.71	7,114.00	-910.09	-1,969.23	2,039.08	0.00	0.00	0.00
9,600.00	90.00	270.71	7,114.00	-908.84	-2,069.22	2,138.61	0.00	0.00	0.00
9,700.00	90.00	270.71	7,114.00	-907.60	-2,169.21	2,238.14	0.00	0.00	0.00
9,800.00	90.00	270.71	7,114.00	-906.35	-2,269.21	2,337.67	0.00	0.00	0.00
9,900.00	90.00	270.71	7,114.00	-905.11	-2,369.20	2,437.20	0.00	0.00	0.00

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Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	90.00	270.71	7,114.00	-903.86	-2,469.19	2,536.73	0.00	0.00	0.00
10,100.00	90.00	270.71	7,114.00	-902.62	-2,569.18	2,636.26	0.00	0.00	0.00
10,200.00	90.00	270.71	7,114.00	-901.37	-2,669.18	2,735.79	0.00	0.00	0.00
10,300.00	90.00	270.71	7,114.00	-900.12	-2,769.17	2,835.32	0.00	0.00	0.00
10,400.00	90.00	270.71	7,114.00	-898.88	-2,869.16	2,934.85	0.00	0.00	0.00
10,500.00	90.00	270.71	7,114.00	-897.63	-2,969.15	3,034.38	0.00	0.00	0.00
10,600.00	90.00	270.71	7,114.00	-896.39	-3,069.15	3,133.91	0.00	0.00	0.00
10,700.00	90.00	270.71	7,114.00	-895.14	-3,169.14	3,233.44	0.00	0.00	0.00
10,800.00	90.00	270.71	7,114.00	-893.90	-3,269.13	3,332.97	0.00	0.00	0.00
10,900.00	90.00	270.71	7,114.00	-892.65	-3,369.12	3,432.49	0.00	0.00	0.00
11,000.00	90.00	270.71	7,114.00	-891.41	-3,469.11	3,532.02	0.00	0.00	0.00
11,100.00	90.00	270.71	7,114.00	-890.16	-3,569.11	3,631.55	0.00	0.00	0.00
11,200.00	90.00	270.71	7,114.00	-888.92	-3,669.10	3,731.08	0.00	0.00	0.00
11,300.00	90.00	270.71	7,114.00	-887.67	-3,769.09	3,830.61	0.00	0.00	0.00
11,400.00	90.00	270.71	7,114.00	-886.43	-3,869.08	3,930.14	0.00	0.00	0.00
11,500.00	90.00	270.71	7,114.00	-885.18	-3,969.08	4,029.67	0.00	0.00	0.00
11,600.00	90.00	270.71	7,114.00	-883.94	-4,069.07	4,129.20	0.00	0.00	0.00
11,700.00	90.00	270.71	7,114.00	-882.69	-4,169.06	4,228.73	0.00	0.00	0.00
11,800.00	90.00	270.71	7,114.00	-881.45	-4,269.05	4,328.26	0.00	0.00	0.00
11,900.00	90.00	270.71	7,114.00	-880.20	-4,369.04	4,427.79	0.00	0.00	0.00
12,000.00	90.00	270.71	7,114.00	-878.96	-4,469.04	4,527.32	0.00	0.00	0.00
12,100.00	90.00	270.71	7,114.00	-877.71	-4,569.03	4,626.85	0.00	0.00	0.00
12,200.00	90.00	270.71	7,114.00	-876.46	-4,669.02	4,726.38	0.00	0.00	0.00
12,300.00	90.00	270.71	7,114.00	-875.22	-4,769.01	4,825.91	0.00	0.00	0.00
12,400.00	90.00	270.71	7,114.00	-873.97	-4,869.01	4,925.44	0.00	0.00	0.00
12,500.00	90.00	270.71	7,114.00	-872.73	-4,969.00	5,024.97	0.00	0.00	0.00
12,600.00	90.00	270.71	7,114.00	-871.48	-5,068.99	5,124.50	0.00	0.00	0.00
12,700.00	90.00	270.71	7,114.00	-870.24	-5,168.98	5,224.03	0.00	0.00	0.00
12,800.00	90.00	270.71	7,114.00	-868.99	-5,268.97	5,323.56	0.00	0.00	0.00
12,900.00	90.00	270.71	7,114.00	-867.75	-5,368.97	5,423.08	0.00	0.00	0.00
13,000.00	90.00	270.71	7,114.00	-866.50	-5,468.96	5,522.61	0.00	0.00	0.00
13,100.00	90.00	270.71	7,114.00	-865.26	-5,568.95	5,622.14	0.00	0.00	0.00
13,200.00	90.00	270.71	7,114.00	-864.01	-5,668.94	5,721.67	0.00	0.00	0.00
13,300.00	90.00	270.71	7,114.00	-862.77	-5,768.94	5,821.20	0.00	0.00	0.00
13,400.00	90.00	270.71	7,114.00	-861.52	-5,868.93	5,920.73	0.00	0.00	0.00
13,500.00	90.00	270.71	7,114.00	-860.28	-5,968.92	6,020.26	0.00	0.00	0.00
13,600.00	90.00	270.71	7,114.00	-859.03	-6,068.91	6,119.79	0.00	0.00	0.00
13,700.00	90.00	270.71	7,114.00	-857.79	-6,168.90	6,219.32	0.00	0.00	0.00
13,800.00	90.00	270.71	7,114.00	-856.54	-6,268.90	6,318.85	0.00	0.00	0.00
13,900.00	90.00	270.71	7,114.00	-855.29	-6,368.89	6,418.38	0.00	0.00	0.00
14,000.00	90.00	270.71	7,114.00	-854.05	-6,468.88	6,517.91	0.00	0.00	0.00
14,100.00	90.00	270.71	7,114.00	-852.80	-6,568.87	6,617.44	0.00	0.00	0.00
14,200.00	90.00	270.71	7,114.00	-851.56	-6,668.87	6,716.97	0.00	0.00	0.00
14,300.00	90.00	270.71	7,114.00	-850.31	-6,768.86	6,816.50	0.00	0.00	0.00
14,400.00	90.00	270.71	7,114.00	-849.07	-6,868.85	6,916.03	0.00	0.00	0.00
14,500.00	90.00	270.71	7,114.00	-847.82	-6,968.84	7,015.56	0.00	0.00	0.00
14,600.00	90.00	270.71	7,114.00	-846.58	-7,068.84	7,115.09	0.00	0.00	0.00
14,700.00	90.00	270.71	7,114.00	-845.33	-7,168.83	7,214.62	0.00	0.00	0.00
14,800.00	90.00	270.71	7,114.00	-844.09	-7,268.82	7,314.15	0.00	0.00	0.00
14,900.00	90.00	270.71	7,114.00	-842.84	-7,368.81	7,413.67	0.00	0.00	0.00
15,000.00	90.00	270.71	7,114.00	-841.60	-7,468.80	7,513.20	0.00	0.00	0.00
15,100.00	90.00	270.71	7,114.00	-840.35	-7,568.80	7,612.73	0.00	0.00	0.00
15,200.00	90.00	270.71	7,114.00	-839.11	-7,668.79	7,712.26	0.00	0.00	0.00
15,300.00	90.00	270.71	7,114.00	-837.86	-7,768.78	7,811.79	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	90.00	270.71	7,114.00	-836.62	-7,868.77	7,911.32	0.00	0.00	0.00	
15,500.00	90.00	270.71	7,114.00	-835.37	-7,968.77	8,010.85	0.00	0.00	0.00	
15,600.00	90.00	270.71	7,114.00	-834.12	-8,068.76	8,110.38	0.00	0.00	0.00	
15,700.00	90.00	270.71	7,114.00	-832.88	-8,168.75	8,209.91	0.00	0.00	0.00	
15,800.00	90.00	270.71	7,114.00	-831.63	-8,268.74	8,309.44	0.00	0.00	0.00	
15,900.00	90.00	270.71	7,114.00	-830.39	-8,368.73	8,408.97	0.00	0.00	0.00	
16,000.00	90.00	270.71	7,114.00	-829.14	-8,468.73	8,508.50	0.00	0.00	0.00	
16,100.00	90.00	270.71	7,114.00	-827.90	-8,568.72	8,608.03	0.00	0.00	0.00	
16,200.00	90.00	270.71	7,114.00	-826.65	-8,668.71	8,707.56	0.00	0.00	0.00	
16,300.00	90.00	270.71	7,114.00	-825.41	-8,768.70	8,807.09	0.00	0.00	0.00	
16,400.00	90.00	270.71	7,114.00	-824.16	-8,868.70	8,906.62	0.00	0.00	0.00	
16,500.00	90.00	270.71	7,114.00	-822.92	-8,968.69	9,006.15	0.00	0.00	0.00	
16,600.00	90.00	270.71	7,114.00	-821.67	-9,068.68	9,105.68	0.00	0.00	0.00	
16,700.00	90.00	270.71	7,114.00	-820.43	-9,168.67	9,205.21	0.00	0.00	0.00	
16,800.00	90.00	270.71	7,114.00	-819.18	-9,268.66	9,304.74	0.00	0.00	0.00	
16,900.00	90.00	270.71	7,114.00	-817.94	-9,368.66	9,404.26	0.00	0.00	0.00	
17,000.00	90.00	270.71	7,114.00	-816.69	-9,468.65	9,503.79	0.00	0.00	0.00	
17,100.00	90.00	270.71	7,114.00	-815.45	-9,568.64	9,603.32	0.00	0.00	0.00	
17,142.13	90.00	270.71	7,114.00	-814.92	-9,610.77	9,645.25	0.00	0.00	0.00	
PBHL/TD 17142.13 MD/7114.00 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										
Pickaroon 7-14-02L LP 4	0.00	0.00	7,114.00	-932.50	-169.42	14,738,726.41	1,755,782.50	40.58139703	-104.58450946	
- plan hits target center										
- Point										
Pickaroon 7-14-02L BHL	0.00	0.00	7,114.00	-814.92	-9,610.77	14,738,799.38	1,746,340.72	40.58171469	-104.61851218	
- 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	
5,293.95	5,281.22	-62.80	38.69	Begin 29.39° tangent	
6,647.78	6,460.76	-628.53	387.25	Begin 10°/100' build/turn	
7,700.05	7,114.00	-932.50	-169.42	Begin 90.00° lateral	
17,142.13	7,114.00	-814.92	-9,610.77	PBHL/TD 17142.13 MD/7114.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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 07-T07N-R64W			
Site Position:		Northing:	14,740,905.93 usft	Latitude:	40.58737934
From:	Map	Easting:	1,755,960.51 usft	Longitude:	-104.58383128
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.27 °

Well	Pickaroon 7-14-02L, Surf loc: 1402 FSL 302 FEL Section 07-T07N-R64W					
Well Position	+N/-S	0.00 ft	Northing:	14,739,659.70 usft	Latitude:	40.58395756
	+E/-W	0.00 ft	Easting:	1,755,947.51 usft	Longitude:	-104.58389931
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,986.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/11/2018	7.98	66.98	52,351.10000000

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	265.15

Plan Survey Tool Program	Date	2/11/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,142.13 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	
5,293.95	29.39	148.36	5,281.22	-62.80	38.69	10.00	10.00	0.00	148.36	
6,647.78	29.39	148.36	6,460.76	-628.53	387.25	0.00	0.00	0.00	0.00	
7,700.05	90.00	270.71	7,114.00	-932.50	-169.42	10.00	5.76	11.63	118.89	Pickaroon 7-14-02L L
17,142.13	90.00	270.71	7,114.00	-814.92	-9,610.77	0.00	0.00	0.00	0.00	Pickaroon 7-14-02L B

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
100.00	0.00	0.00	100.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
200.00	0.00	0.00	200.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
300.00	0.00	0.00	300.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
400.00	0.00	0.00	400.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
500.00	0.00	0.00	500.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
600.00	0.00	0.00	600.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
700.00	0.00	0.00	700.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
800.00	0.00	0.00	800.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
900.00	0.00	0.00	900.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,100.00	0.00	0.00	1,100.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,200.00	0.00	0.00	1,200.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,300.00	0.00	0.00	1,300.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,400.00	0.00	0.00	1,400.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,500.00	0.00	0.00	1,500.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,600.00	0.00	0.00	1,600.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,700.00	0.00	0.00	1,700.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,800.00	0.00	0.00	1,800.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
1,900.00	0.00	0.00	1,900.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,000.00	0.00	0.00	2,000.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,100.00	0.00	0.00	2,100.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,200.00	0.00	0.00	2,200.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,300.00	0.00	0.00	2,300.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,400.00	0.00	0.00	2,400.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,500.00	0.00	0.00	2,500.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,600.00	0.00	0.00	2,600.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,700.00	0.00	0.00	2,700.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,800.00	0.00	0.00	2,800.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
2,900.00	0.00	0.00	2,900.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,000.00	0.00	0.00	3,000.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,100.00	0.00	0.00	3,100.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,200.00	0.00	0.00	3,200.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,300.00	0.00	0.00	3,300.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,400.00	0.00	0.00	3,400.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,500.00	0.00	0.00	3,500.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,600.00	0.00	0.00	3,600.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,700.00	0.00	0.00	3,700.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,800.00	0.00	0.00	3,800.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
3,900.00	0.00	0.00	3,900.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,000.00	0.00	0.00	4,000.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,100.00	0.00	0.00	4,100.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,200.00	0.00	0.00	4,200.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,300.00	0.00	0.00	4,300.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,400.00	0.00	0.00	4,400.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,500.00	0.00	0.00	4,500.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,600.00	0.00	0.00	4,600.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,700.00	0.00	0.00	4,700.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,800.00	0.00	0.00	4,800.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
4,900.00	0.00	0.00	4,900.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
5,000.00	0.00	0.00	5,000.00	0.00	0.00	14,739,659.70	1,755,947.51	40.58395756	-104.58389931
KOP Begin 10°/100' build									
5,100.00	10.00	148.36	5,099.49	-7.41	4.57	14,739,652.31	1,755,952.11	40.58393721	-104.58388287
5,200.00	20.00	148.36	5,195.96	-29.42	18.13	14,739,630.37	1,755,965.77	40.58387678	-104.58383403

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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
5,293.95	29.39	148.36	5,281.22	-62.80	38.69	14,739,597.08	1,755,986.50	40.58378512	-104.58375996
Begin 29.39° tangent									
5,300.00	29.39	148.36	5,286.49	-65.33	40.25	14,739,594.56	1,755,988.07	40.58377817	-104.58375434
5,400.00	29.39	148.36	5,373.62	-107.12	66.00	14,739,552.90	1,756,014.01	40.58366343	-104.58366162
5,500.00	29.39	148.36	5,460.75	-148.90	91.74	14,739,511.23	1,756,039.96	40.58354869	-104.58356889
5,600.00	29.39	148.36	5,547.87	-190.69	117.49	14,739,469.57	1,756,065.90	40.58343394	-104.58347616
5,700.00	29.39	148.36	5,635.00	-232.48	143.24	14,739,427.90	1,756,091.84	40.58331920	-104.58338344
5,800.00	29.39	148.36	5,722.12	-274.27	168.98	14,739,386.23	1,756,117.78	40.58320446	-104.58329071
5,900.00	29.39	148.36	5,809.25	-316.05	194.73	14,739,344.57	1,756,143.73	40.58308971	-104.58319799
6,000.00	29.39	148.36	5,896.38	-357.84	220.47	14,739,302.90	1,756,169.67	40.58297497	-104.58310526
6,100.00	29.39	148.36	5,983.50	-399.63	246.22	14,739,261.24	1,756,195.61	40.58286023	-104.58301254
6,200.00	29.39	148.36	6,070.63	-441.42	271.97	14,739,219.57	1,756,221.56	40.58274548	-104.58291982
6,300.00	29.39	148.36	6,157.76	-483.20	297.71	14,739,177.91	1,756,247.50	40.58263074	-104.58282709
6,400.00	29.39	148.36	6,244.88	-524.99	323.46	14,739,136.24	1,756,273.44	40.58251600	-104.58273437
6,500.00	29.39	148.36	6,332.01	-566.78	349.21	14,739,094.58	1,756,299.39	40.58240125	-104.58264165
6,600.00	29.39	148.36	6,419.13	-608.57	374.95	14,739,052.91	1,756,325.33	40.58228651	-104.58254892
6,647.78	29.39	148.36	6,460.76	-628.53	387.25	14,739,033.01	1,756,337.73	40.58223169	-104.58250462
Begin 10°/100' build/turn									
6,700.00	27.22	158.39	6,506.76	-650.56	398.38	14,739,011.03	1,756,348.96	40.58217119	-104.58246454
6,800.00	25.45	180.70	6,596.60	-693.42	406.56	14,738,968.21	1,756,357.34	40.58205350	-104.58243509
6,900.00	27.22	203.01	6,686.44	-736.07	397.33	14,738,925.52	1,756,348.32	40.58193641	-104.58246832
7,000.00	31.95	220.97	6,773.55	-777.20	370.98	14,738,884.27	1,756,322.15	40.58182347	-104.58256324
7,100.00	38.55	234.05	6,855.28	-815.57	328.30	14,738,845.69	1,756,279.65	40.58171812	-104.58271696
7,200.00	46.23	243.59	6,929.16	-850.01	270.59	14,738,810.98	1,756,222.11	40.58162354	-104.58292481
7,300.00	54.52	250.88	6,992.93	-879.48	199.60	14,738,781.18	1,756,151.26	40.58154263	-104.58318047
7,400.00	63.16	256.78	7,044.67	-903.08	117.49	14,738,757.19	1,756,069.27	40.58147783	-104.58347617
7,500.00	72.01	261.82	7,082.78	-920.09	26.76	14,738,739.75	1,755,978.62	40.58143112	-104.58380293
7,600.00	80.97	266.38	7,106.13	-930.00	-69.84	14,738,729.38	1,755,882.07	40.58140391	-104.58415083
7,700.00	90.00	270.71	7,114.00	-932.50	-169.37	14,738,726.41	1,755,782.55	40.58139703	-104.58450929
7,700.05	90.00	270.71	7,114.00	-932.50	-169.42	14,738,726.41	1,755,782.50	40.58139703	-104.58450946
Begin 90.00° lateral									
7,800.00	90.00	270.71	7,114.00	-931.26	-269.36	14,738,727.18	1,755,682.55	40.58140045	-104.58486940
7,900.00	90.00	270.71	7,114.00	-930.01	-369.35	14,738,727.95	1,755,582.55	40.58140386	-104.58522952
8,000.00	90.00	270.71	7,114.00	-928.77	-469.35	14,738,728.73	1,755,482.56	40.58140728	-104.58558964
8,100.00	90.00	270.71	7,114.00	-927.52	-569.34	14,738,729.50	1,755,382.56	40.58141069	-104.58594975
8,200.00	90.00	270.71	7,114.00	-926.28	-669.33	14,738,730.27	1,755,282.56	40.58141410	-104.58630987
8,300.00	90.00	270.71	7,114.00	-925.03	-769.32	14,738,731.05	1,755,182.57	40.58141751	-104.58666999
8,400.00	90.00	270.71	7,114.00	-923.79	-869.32	14,738,731.82	1,755,082.57	40.58142092	-104.58703011
8,500.00	90.00	270.71	7,114.00	-922.54	-969.31	14,738,732.59	1,754,982.57	40.58142433	-104.58739022
8,600.00	90.00	270.71	7,114.00	-921.29	-1,069.30	14,738,733.36	1,754,882.58	40.58142774	-104.58775034
8,700.00	90.00	270.71	7,114.00	-920.05	-1,169.29	14,738,734.14	1,754,782.58	40.58143115	-104.58811046
8,800.00	90.00	270.71	7,114.00	-918.80	-1,269.28	14,738,734.91	1,754,682.58	40.58143455	-104.58847057
8,900.00	90.00	270.71	7,114.00	-917.56	-1,369.28	14,738,735.68	1,754,582.59	40.58143796	-104.58883069
9,000.00	90.00	270.71	7,114.00	-916.31	-1,469.27	14,738,736.46	1,754,482.59	40.58144136	-104.58919081
9,100.00	90.00	270.71	7,114.00	-915.07	-1,569.26	14,738,737.23	1,754,382.59	40.58144476	-104.58955093
9,200.00	90.00	270.71	7,114.00	-913.82	-1,669.25	14,738,738.00	1,754,282.60	40.58144816	-104.58991104
9,300.00	90.00	270.71	7,114.00	-912.58	-1,769.25	14,738,738.77	1,754,182.60	40.58145156	-104.59027116
9,400.00	90.00	270.71	7,114.00	-911.33	-1,869.24	14,738,739.55	1,754,082.60	40.58145496	-104.59063128
9,500.00	90.00	270.71	7,114.00	-910.09	-1,969.23	14,738,740.32	1,753,982.60	40.58145836	-104.59099140
9,600.00	90.00	270.71	7,114.00	-908.84	-2,069.22	14,738,741.09	1,753,882.61	40.58146176	-104.59135151
9,700.00	90.00	270.71	7,114.00	-907.60	-2,169.21	14,738,741.87	1,753,782.61	40.58146515	-104.59171163
9,800.00	90.00	270.71	7,114.00	-906.35	-2,269.21	14,738,742.64	1,753,682.61	40.58146855	-104.59207175
9,900.00	90.00	270.71	7,114.00	-905.11	-2,369.20	14,738,743.41	1,753,582.62	40.58147194	-104.59243187
10,000.00	90.00	270.71	7,114.00	-903.86	-2,469.19	14,738,744.18	1,753,482.62	40.58147533	-104.59279199

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	90.00	270.71	7,114.00	-902.62	-2,569.18	14,738,744.96	1,753,382.62	40.58147872	-104.59315210	
10,200.00	90.00	270.71	7,114.00	-901.37	-2,669.18	14,738,745.73	1,753,282.63	40.58148211	-104.59351222	
10,300.00	90.00	270.71	7,114.00	-900.12	-2,769.17	14,738,746.50	1,753,182.63	40.58148550	-104.59387234	
10,400.00	90.00	270.71	7,114.00	-898.88	-2,869.16	14,738,747.28	1,753,082.63	40.58148889	-104.59423246	
10,500.00	90.00	270.71	7,114.00	-897.63	-2,969.15	14,738,748.05	1,752,982.64	40.58149227	-104.59459258	
10,600.00	90.00	270.71	7,114.00	-896.39	-3,069.15	14,738,748.82	1,752,882.64	40.58149566	-104.59495269	
10,700.00	90.00	270.71	7,114.00	-895.14	-3,169.14	14,738,749.59	1,752,782.64	40.58149904	-104.59531281	
10,800.00	90.00	270.71	7,114.00	-893.90	-3,269.13	14,738,750.37	1,752,682.65	40.58150243	-104.59567293	
10,900.00	90.00	270.71	7,114.00	-892.65	-3,369.12	14,738,751.14	1,752,582.65	40.58150581	-104.59603305	
11,000.00	90.00	270.71	7,114.00	-891.41	-3,469.11	14,738,751.91	1,752,482.65	40.58150919	-104.59639317	
11,100.00	90.00	270.71	7,114.00	-890.16	-3,569.11	14,738,752.68	1,752,382.66	40.58151257	-104.59675328	
11,200.00	90.00	270.71	7,114.00	-888.92	-3,669.10	14,738,753.46	1,752,282.66	40.58151595	-104.59711340	
11,300.00	90.00	270.71	7,114.00	-887.67	-3,769.09	14,738,754.23	1,752,182.66	40.58151933	-104.59747352	
11,400.00	90.00	270.71	7,114.00	-886.43	-3,869.08	14,738,755.00	1,752,082.67	40.58152270	-104.59783364	
11,500.00	90.00	270.71	7,114.00	-885.18	-3,969.08	14,738,755.78	1,751,982.67	40.58152608	-104.59819376	
11,600.00	90.00	270.71	7,114.00	-883.94	-4,069.07	14,738,756.55	1,751,882.67	40.58152945	-104.59855388	
11,700.00	90.00	270.71	7,114.00	-882.69	-4,169.06	14,738,757.32	1,751,782.67	40.58153282	-104.59891400	
11,800.00	90.00	270.71	7,114.00	-881.45	-4,269.05	14,738,758.09	1,751,682.68	40.58153620	-104.59927411	
11,900.00	90.00	270.71	7,114.00	-880.20	-4,369.04	14,738,758.87	1,751,582.68	40.58153957	-104.59963423	
12,000.00	90.00	270.71	7,114.00	-878.96	-4,469.04	14,738,759.64	1,751,482.68	40.58154294	-104.59999435	
12,100.00	90.00	270.71	7,114.00	-877.71	-4,569.03	14,738,760.41	1,751,382.69	40.58154630	-104.60035447	
12,200.00	90.00	270.71	7,114.00	-876.46	-4,669.02	14,738,761.19	1,751,282.69	40.58154967	-104.60071459	
12,300.00	90.00	270.71	7,114.00	-875.22	-4,769.01	14,738,761.96	1,751,182.69	40.58155304	-104.60107471	
12,400.00	90.00	270.71	7,114.00	-873.97	-4,869.01	14,738,762.73	1,751,082.70	40.58155640	-104.60143483	
12,500.00	90.00	270.71	7,114.00	-872.73	-4,969.00	14,738,763.50	1,750,982.70	40.58155977	-104.60179495	
12,600.00	90.00	270.71	7,114.00	-871.48	-5,068.99	14,738,764.28	1,750,882.70	40.58156313	-104.60215507	
12,700.00	90.00	270.71	7,114.00	-870.24	-5,168.98	14,738,765.05	1,750,782.71	40.58156649	-104.60251518	
12,800.00	90.00	270.71	7,114.00	-868.99	-5,268.97	14,738,765.82	1,750,682.71	40.58156985	-104.60287530	
12,900.00	90.00	270.71	7,114.00	-867.75	-5,368.97	14,738,766.60	1,750,582.71	40.58157321	-104.60323542	
13,000.00	90.00	270.71	7,114.00	-866.50	-5,468.96	14,738,767.37	1,750,482.72	40.58157657	-104.60359554	
13,100.00	90.00	270.71	7,114.00	-865.26	-5,568.95	14,738,768.14	1,750,382.72	40.58157993	-104.60395566	
13,200.00	90.00	270.71	7,114.00	-864.01	-5,668.94	14,738,768.91	1,750,282.72	40.58158328	-104.60431578	
13,300.00	90.00	270.71	7,114.00	-862.77	-5,768.94	14,738,769.69	1,750,182.73	40.58158664	-104.60467590	
13,400.00	90.00	270.71	7,114.00	-861.52	-5,868.93	14,738,770.46	1,750,082.73	40.58158999	-104.60503602	
13,500.00	90.00	270.71	7,114.00	-860.28	-5,968.92	14,738,771.23	1,749,982.73	40.58159335	-104.60539614	
13,600.00	90.00	270.71	7,114.00	-859.03	-6,068.91	14,738,772.01	1,749,882.74	40.58159670	-104.60575626	
13,700.00	90.00	270.71	7,114.00	-857.79	-6,168.90	14,738,772.78	1,749,782.74	40.58160005	-104.60611638	
13,800.00	90.00	270.71	7,114.00	-856.54	-6,268.90	14,738,773.55	1,749,682.74	40.58160340	-104.60647650	
13,900.00	90.00	270.71	7,114.00	-855.29	-6,368.89	14,738,774.32	1,749,582.74	40.58160675	-104.60683662	
14,000.00	90.00	270.71	7,114.00	-854.05	-6,468.88	14,738,775.10	1,749,482.75	40.58161009	-104.60719674	
14,100.00	90.00	270.71	7,114.00	-852.80	-6,568.87	14,738,775.87	1,749,382.75	40.58161344	-104.60755686	
14,200.00	90.00	270.71	7,114.00	-851.56	-6,668.87	14,738,776.64	1,749,282.75	40.58161678	-104.60791698	
14,300.00	90.00	270.71	7,114.00	-850.31	-6,768.86	14,738,777.41	1,749,182.76	40.58162013	-104.60827710	
14,400.00	90.00	270.71	7,114.00	-849.07	-6,868.85	14,738,778.19	1,749,082.76	40.58162347	-104.60863722	
14,500.00	90.00	270.71	7,114.00	-847.82	-6,968.84	14,738,778.96	1,748,982.76	40.58162681	-104.60899734	
14,600.00	90.00	270.71	7,114.00	-846.58	-7,068.84	14,738,779.73	1,748,882.77	40.58163015	-104.60935746	
14,700.00	90.00	270.71	7,114.00	-845.33	-7,168.83	14,738,780.51	1,748,782.77	40.58163349	-104.60971758	
14,800.00	90.00	270.71	7,114.00	-844.09	-7,268.82	14,738,781.28	1,748,682.77	40.58163683	-104.61007770	
14,900.00	90.00	270.71	7,114.00	-842.84	-7,368.81	14,738,782.05	1,748,582.78	40.58164017	-104.61043782	
15,000.00	90.00	270.71	7,114.00	-841.60	-7,468.80	14,738,782.82	1,748,482.78	40.58164350	-104.61079794	
15,100.00	90.00	270.71	7,114.00	-840.35	-7,568.80	14,738,783.60	1,748,382.78	40.58164684	-104.61115806	
15,200.00	90.00	270.71	7,114.00	-839.11	-7,668.79	14,738,784.37	1,748,282.79	40.58165017	-104.61151818	
15,300.00	90.00	270.71	7,114.00	-837.86	-7,768.78	14,738,785.14	1,748,182.79	40.58165350	-104.61187830	
15,400.00	90.00	270.71	7,114.00	-836.62	-7,868.77	14,738,785.92	1,748,082.79	40.58165684	-104.61223842	
15,500.00	90.00	270.71	7,114.00	-835.37	-7,968.77	14,738,786.69	1,747,982.80	40.58166017	-104.61259854	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Pickaroon 7-14-02L
Company:	Confluence Resources	TVD Reference:	RKB=4986+24 @ 5010.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=4986+24 @ 5010.00ft
Site:	Section 07-T07N-R64W	North Reference:	True
Well:	Pickaroon 7-14-02L	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	90.00	270.71	7,114.00	-834.12	-8,068.76	14,738,787.46	1,747,882.80	40.58166350	-104.61295866
15,700.00	90.00	270.71	7,114.00	-832.88	-8,168.75	14,738,788.23	1,747,782.80	40.58166682	-104.61331878
15,800.00	90.00	270.71	7,114.00	-831.63	-8,268.74	14,738,789.01	1,747,682.81	40.58167015	-104.61367890
15,900.00	90.00	270.71	7,114.00	-830.39	-8,368.73	14,738,789.78	1,747,582.81	40.58167348	-104.61403902
16,000.00	90.00	270.71	7,114.00	-829.14	-8,468.73	14,738,790.55	1,747,482.81	40.58167680	-104.61439914
16,100.00	90.00	270.71	7,114.00	-827.90	-8,568.72	14,738,791.33	1,747,382.81	40.58168013	-104.61475926
16,200.00	90.00	270.71	7,114.00	-826.65	-8,668.71	14,738,792.10	1,747,282.82	40.58168345	-104.61511938
16,300.00	90.00	270.71	7,114.00	-825.41	-8,768.70	14,738,792.87	1,747,182.82	40.58168677	-104.61547950
16,400.00	90.00	270.71	7,114.00	-824.16	-8,868.70	14,738,793.64	1,747,082.82	40.58169009	-104.61583962
16,500.00	90.00	270.71	7,114.00	-822.92	-8,968.69	14,738,794.42	1,746,982.83	40.58169341	-104.61619974
16,600.00	90.00	270.71	7,114.00	-821.67	-9,068.68	14,738,795.19	1,746,882.83	40.58169673	-104.61655986
16,700.00	90.00	270.71	7,114.00	-820.43	-9,168.67	14,738,795.96	1,746,782.83	40.58170004	-104.61691998
16,800.00	90.00	270.71	7,114.00	-819.18	-9,268.66	14,738,796.74	1,746,682.84	40.58170336	-104.61728011
16,900.00	90.00	270.71	7,114.00	-817.94	-9,368.66	14,738,797.51	1,746,582.84	40.58170667	-104.61764023
17,000.00	90.00	270.71	7,114.00	-816.69	-9,468.65	14,738,798.28	1,746,482.84	40.58170999	-104.61800035
17,100.00	90.00	270.71	7,114.00	-815.45	-9,568.64	14,738,799.05	1,746,382.85	40.58171330	-104.61836047
17,142.13	90.00	270.71	7,114.00	-814.92	-9,610.77	14,738,799.38	1,746,340.72	40.58171469	-104.61851218
PBHL/TD 17142.13 MD/7114.00 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									
Pickaroon 7-14-02L LP 4	0.00	0.00	7,114.00	-932.50	-169.42	14,738,726.41	1,755,782.50	40.58139703	-104.58450946
- plan hits target center									
- Point									
Pickaroon 7-14-02L BHL	0.00	0.00	7,114.00	-814.92	-9,610.77	14,738,799.38	1,746,340.72	40.58171469	-104.61851218
- plan hits target center									
- Point									

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
5,293.95	5,281.22	-62.80	38.69	Begin 29.39° tangent
6,647.78	6,460.76	-628.53	387.25	Begin 10°/100' build/turn
7,700.05	7,114.00	-932.50	-169.42	Begin 90.00° lateral
17,142.13	7,114.00	-814.92	-9,610.77	PBHL/TD 17142.13 MD/7114.00 TVD