



Well: Ries Fee 203-2821H
Site: Section 28-T12N-R64W
Project: Weld County, Colorado
Design: plan1

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Ries Fee 203-2821H PBHL 600 FNL 1960 FEL	7910.00	9925.66	99.05	1608558.71	3262270.76	40.99999105	-104.54988120
Ries Fee 203-2821H EP 600 FSL 1960 FEL	7915.00	279.92	76.94	1598913.31	3262351.97	40.97351822	-104.54996137

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	2681.87	3.64	167.10	2681.75	-5.63	1.29	2.00	167.10	-5.61	Begin 3.64° tangent
4	7316.15	3.64	167.10	7306.69	-292.22	66.91	0.00	0.00	-291.53	Begin 10°/100' build/turn
5	6251.88	90.03	0.13	7915.00	279.92	76.94	10.00	-166.95	280.68	Begin 90.03° lateral
6	17897.64	90.03	0.13	7910.00	9925.66	99.05	0.00	0.00	9926.15	PBHL/TD 17897.64 MD/7910.00 TVD

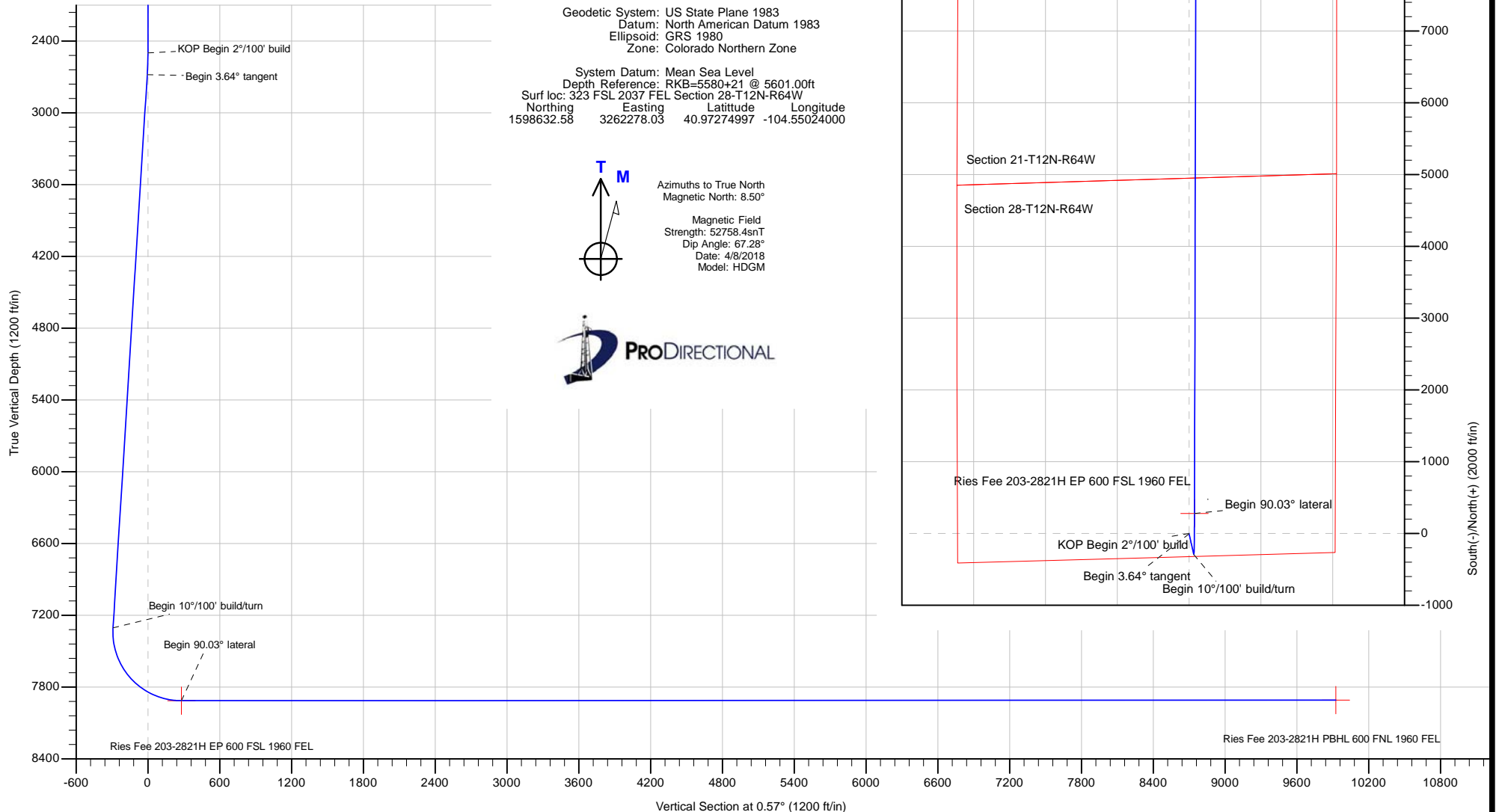
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level
Depth Reference: RKB=5580+21 @ 5601.00ft
Surf loc: 323 FSL 2037 FEL Section 28-T12N-R64W
Northing Easting Latitude Longitude
1598632.58 3262278.03 40.97274997 -104.55024000



Azimuths to True North
Magnetic North: 8.50°

Magnetic Field
Strength: 52758.4snT
Dip Angle: 67.28°
Date: 4/8/2018
Model: HDGM



Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Section 28-T12N-R64W			
Site Position:		Northing:	1,600,935.50 usft	Latitude:	40.97908764
From:	Map	Easting:	3,261,678.61 usft	Longitude:	-104.55232132
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.61 °

Well	Ries Fee 203-2821H, Surf loc: 323 FSL 2037 FEL Section 28-T12N-R64W					
Well Position	+N/-S	-2,309.20 ft	Northing:	1,598,632.58 usft	Latitude:	40.97274997
	+E/-W	574.77 ft	Easting:	3,262,278.03 usft	Longitude:	-104.55024000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,580.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/8/2018	8.50	67.28	52,758.40000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.57

Plan Survey Tool Program	Date	4/8/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,897.52 plan1 (Original Hole)	MWD	
			OWSG MWD - Standard	

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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,681.87	3.64	167.10	2,681.75	-5.63	1.29	2.00	2.00	0.00	167.10	
7,316.15	3.64	167.10	7,306.69	-292.22	66.91	0.00	0.00	0.00	0.00	
8,251.88	90.03	0.13	7,915.00	279.92	76.94	10.00	9.23	-17.84	-166.95	Ries Fee 203-2821H
17,897.65	90.03	0.13	7,910.00	9,925.66	99.05	0.00	0.00	0.00	0.00	Ries Fee 203-2821H

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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
KOP Begin 2°/100' build									
2,600.00	2.00	167.10	2,599.98	-1.70	0.39	-1.70	2.00	2.00	0.00
2,681.87	3.64	167.10	2,681.75	-5.63	1.29	-5.61	2.00	2.00	0.00
Begin 3.64° tangent									
2,700.00	3.64	167.10	2,699.84	-6.75	1.54	-6.73	0.00	0.00	0.00
2,800.00	3.64	167.10	2,799.64	-12.93	2.96	-12.90	0.00	0.00	0.00
2,900.00	3.64	167.10	2,899.44	-19.11	4.38	-19.07	0.00	0.00	0.00
3,000.00	3.64	167.10	2,999.24	-25.30	5.79	-25.24	0.00	0.00	0.00
3,100.00	3.64	167.10	3,099.04	-31.48	7.21	-31.41	0.00	0.00	0.00
3,200.00	3.64	167.10	3,198.83	-37.67	8.63	-37.58	0.00	0.00	0.00
3,300.00	3.64	167.10	3,298.63	-43.85	10.04	-43.75	0.00	0.00	0.00
3,400.00	3.64	167.10	3,398.43	-50.04	11.46	-49.92	0.00	0.00	0.00
3,500.00	3.64	167.10	3,498.23	-56.22	12.87	-56.09	0.00	0.00	0.00
3,600.00	3.64	167.10	3,598.03	-62.40	14.29	-62.26	0.00	0.00	0.00
3,700.00	3.64	167.10	3,697.83	-68.59	15.71	-68.43	0.00	0.00	0.00
3,800.00	3.64	167.10	3,797.63	-74.77	17.12	-74.60	0.00	0.00	0.00
3,900.00	3.64	167.10	3,897.42	-80.96	18.54	-80.77	0.00	0.00	0.00
4,000.00	3.64	167.10	3,997.22	-87.14	19.95	-86.94	0.00	0.00	0.00
4,100.00	3.64	167.10	4,097.02	-93.32	21.37	-93.11	0.00	0.00	0.00
4,200.00	3.64	167.10	4,196.82	-99.51	22.79	-99.28	0.00	0.00	0.00
4,300.00	3.64	167.10	4,296.62	-105.69	24.20	-105.45	0.00	0.00	0.00
4,400.00	3.64	167.10	4,396.42	-111.88	25.62	-111.62	0.00	0.00	0.00
4,500.00	3.64	167.10	4,496.22	-118.06	27.03	-117.79	0.00	0.00	0.00
4,600.00	3.64	167.10	4,596.01	-124.25	28.45	-123.96	0.00	0.00	0.00
4,700.00	3.64	167.10	4,695.81	-130.43	29.87	-130.12	0.00	0.00	0.00
4,800.00	3.64	167.10	4,795.61	-136.61	31.28	-136.29	0.00	0.00	0.00
4,900.00	3.64	167.10	4,895.41	-142.80	32.70	-142.46	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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)
5,000.00	3.64	167.10	4,995.21	-148.98	34.11	-148.63	0.00	0.00	0.00
5,100.00	3.64	167.10	5,095.01	-155.17	35.53	-154.80	0.00	0.00	0.00
5,200.00	3.64	167.10	5,194.81	-161.35	36.95	-160.97	0.00	0.00	0.00
5,300.00	3.64	167.10	5,294.60	-167.53	38.36	-167.14	0.00	0.00	0.00
5,400.00	3.64	167.10	5,394.40	-173.72	39.78	-173.31	0.00	0.00	0.00
5,500.00	3.64	167.10	5,494.20	-179.90	41.19	-179.48	0.00	0.00	0.00
5,600.00	3.64	167.10	5,594.00	-186.09	42.61	-185.65	0.00	0.00	0.00
5,700.00	3.64	167.10	5,693.80	-192.27	44.03	-191.82	0.00	0.00	0.00
5,800.00	3.64	167.10	5,793.60	-198.45	45.44	-197.99	0.00	0.00	0.00
5,900.00	3.64	167.10	5,893.40	-204.64	46.86	-204.16	0.00	0.00	0.00
6,000.00	3.64	167.10	5,993.19	-210.82	48.27	-210.33	0.00	0.00	0.00
6,100.00	3.64	167.10	6,092.99	-217.01	49.69	-216.50	0.00	0.00	0.00
6,200.00	3.64	167.10	6,192.79	-223.19	51.11	-222.67	0.00	0.00	0.00
6,300.00	3.64	167.10	6,292.59	-229.38	52.52	-228.84	0.00	0.00	0.00
6,400.00	3.64	167.10	6,392.39	-235.56	53.94	-235.01	0.00	0.00	0.00
6,500.00	3.64	167.10	6,492.19	-241.74	55.35	-241.18	0.00	0.00	0.00
6,600.00	3.64	167.10	6,591.99	-247.93	56.77	-247.35	0.00	0.00	0.00
6,700.00	3.64	167.10	6,691.78	-254.11	58.19	-253.52	0.00	0.00	0.00
6,800.00	3.64	167.10	6,791.58	-260.30	59.60	-259.69	0.00	0.00	0.00
6,900.00	3.64	167.10	6,891.38	-266.48	61.02	-265.86	0.00	0.00	0.00
7,000.00	3.64	167.10	6,991.18	-272.66	62.43	-272.03	0.00	0.00	0.00
7,100.00	3.64	167.10	7,090.98	-278.85	63.85	-278.20	0.00	0.00	0.00
7,200.00	3.64	167.10	7,190.78	-285.03	65.27	-284.37	0.00	0.00	0.00
7,300.00	3.64	167.10	7,290.57	-291.22	66.68	-290.54	0.00	0.00	0.00
7,316.15	3.64	167.10	7,306.69	-292.22	66.91	-291.53	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,400.00	4.91	9.73	7,390.45	-291.27	68.11	-290.58	10.00	1.52	-187.68
7,500.00	14.86	3.23	7,488.85	-274.20	69.56	-273.49	10.00	9.95	-6.51
7,600.00	24.85	1.90	7,582.78	-240.31	70.99	-239.59	10.00	9.99	-1.32
7,700.00	34.85	1.31	7,669.40	-190.61	72.34	-189.88	10.00	10.00	-0.59
7,800.00	44.85	0.96	7,746.08	-126.63	73.59	-125.89	10.00	10.00	-0.35
7,900.00	54.85	0.71	7,810.48	-50.30	74.69	-49.55	10.00	10.00	-0.25
8,000.00	64.84	0.52	7,860.65	36.05	75.61	36.80	10.00	10.00	-0.19
8,100.00	74.84	0.35	7,895.07	129.80	76.31	130.56	10.00	10.00	-0.16
8,200.00	84.84	0.21	7,912.68	228.11	76.79	228.86	10.00	10.00	-0.15
8,251.88	90.03	0.13	7,915.00	279.92	76.94	280.67	10.00	10.00	-0.14
Begin 90.03° lateral									
8,300.00	90.03	0.13	7,914.98	328.04	77.05	328.79	0.00	0.00	0.00
8,400.00	90.03	0.13	7,914.92	428.04	77.28	428.79	0.00	0.00	0.00
8,500.00	90.03	0.13	7,914.87	528.04	77.51	528.79	0.00	0.00	0.00
8,600.00	90.03	0.13	7,914.82	628.04	77.74	628.78	0.00	0.00	0.00
8,700.00	90.03	0.13	7,914.77	728.04	77.97	728.78	0.00	0.00	0.00
8,800.00	90.03	0.13	7,914.72	828.04	78.20	828.78	0.00	0.00	0.00
8,900.00	90.03	0.13	7,914.66	928.04	78.43	928.77	0.00	0.00	0.00
9,000.00	90.03	0.13	7,914.61	1,028.04	78.66	1,028.77	0.00	0.00	0.00
9,100.00	90.03	0.13	7,914.56	1,128.04	78.89	1,128.77	0.00	0.00	0.00
9,200.00	90.03	0.13	7,914.51	1,228.04	79.12	1,228.77	0.00	0.00	0.00
9,300.00	90.03	0.13	7,914.46	1,328.04	79.35	1,328.76	0.00	0.00	0.00
9,400.00	90.03	0.13	7,914.41	1,428.04	79.58	1,428.76	0.00	0.00	0.00
9,500.00	90.03	0.13	7,914.35	1,528.04	79.80	1,528.76	0.00	0.00	0.00
9,600.00	90.03	0.13	7,914.30	1,628.04	80.03	1,628.75	0.00	0.00	0.00
9,700.00	90.03	0.13	7,914.25	1,728.04	80.26	1,728.75	0.00	0.00	0.00
9,800.00	90.03	0.13	7,914.20	1,828.04	80.49	1,828.75	0.00	0.00	0.00
9,900.00	90.03	0.13	7,914.15	1,928.04	80.72	1,928.75	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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	90.03	0.13	7,914.09	2,028.04	80.95	2,028.74	0.00	0.00	0.00
10,100.00	90.03	0.13	7,914.04	2,128.04	81.18	2,128.74	0.00	0.00	0.00
10,200.00	90.03	0.13	7,913.99	2,228.03	81.41	2,228.74	0.00	0.00	0.00
10,300.00	90.03	0.13	7,913.94	2,328.03	81.64	2,328.73	0.00	0.00	0.00
10,400.00	90.03	0.13	7,913.89	2,428.03	81.87	2,428.73	0.00	0.00	0.00
10,500.00	90.03	0.13	7,913.83	2,528.03	82.10	2,528.73	0.00	0.00	0.00
10,600.00	90.03	0.13	7,913.78	2,628.03	82.32	2,628.72	0.00	0.00	0.00
10,700.00	90.03	0.13	7,913.73	2,728.03	82.55	2,728.72	0.00	0.00	0.00
10,800.00	90.03	0.13	7,913.68	2,828.03	82.78	2,828.72	0.00	0.00	0.00
10,900.00	90.03	0.13	7,913.63	2,928.03	83.01	2,928.72	0.00	0.00	0.00
11,000.00	90.03	0.13	7,913.58	3,028.03	83.24	3,028.71	0.00	0.00	0.00
11,100.00	90.03	0.13	7,913.52	3,128.03	83.47	3,128.71	0.00	0.00	0.00
11,200.00	90.03	0.13	7,913.47	3,228.03	83.70	3,228.71	0.00	0.00	0.00
11,300.00	90.03	0.13	7,913.42	3,328.03	83.93	3,328.70	0.00	0.00	0.00
11,400.00	90.03	0.13	7,913.37	3,428.03	84.16	3,428.70	0.00	0.00	0.00
11,500.00	90.03	0.13	7,913.32	3,528.03	84.39	3,528.70	0.00	0.00	0.00
11,600.00	90.03	0.13	7,913.26	3,628.03	84.62	3,628.69	0.00	0.00	0.00
11,700.00	90.03	0.13	7,913.21	3,728.03	84.85	3,728.69	0.00	0.00	0.00
11,800.00	90.03	0.13	7,913.16	3,828.03	85.07	3,828.69	0.00	0.00	0.00
11,900.00	90.03	0.13	7,913.11	3,928.03	85.30	3,928.69	0.00	0.00	0.00
12,000.00	90.03	0.13	7,913.06	4,028.03	85.53	4,028.68	0.00	0.00	0.00
12,100.00	90.03	0.13	7,913.01	4,128.03	85.76	4,128.68	0.00	0.00	0.00
12,200.00	90.03	0.13	7,912.95	4,228.03	85.99	4,228.68	0.00	0.00	0.00
12,300.00	90.03	0.13	7,912.90	4,328.03	86.22	4,328.67	0.00	0.00	0.00
12,400.00	90.03	0.13	7,912.85	4,428.03	86.45	4,428.67	0.00	0.00	0.00
12,500.00	90.03	0.13	7,912.80	4,528.03	86.68	4,528.67	0.00	0.00	0.00
12,600.00	90.03	0.13	7,912.75	4,628.03	86.91	4,628.66	0.00	0.00	0.00
12,700.00	90.03	0.13	7,912.69	4,728.03	87.14	4,728.66	0.00	0.00	0.00
12,800.00	90.03	0.13	7,912.64	4,828.03	87.37	4,828.66	0.00	0.00	0.00
12,900.00	90.03	0.13	7,912.59	4,928.03	87.59	4,928.66	0.00	0.00	0.00
13,000.00	90.03	0.13	7,912.54	5,028.03	87.82	5,028.65	0.00	0.00	0.00
13,100.00	90.03	0.13	7,912.49	5,128.03	88.05	5,128.65	0.00	0.00	0.00
13,200.00	90.03	0.13	7,912.44	5,228.03	88.28	5,228.65	0.00	0.00	0.00
13,300.00	90.03	0.13	7,912.38	5,328.03	88.51	5,328.64	0.00	0.00	0.00
13,400.00	90.03	0.13	7,912.33	5,428.03	88.74	5,428.64	0.00	0.00	0.00
13,500.00	90.03	0.13	7,912.28	5,528.03	88.97	5,528.64	0.00	0.00	0.00
13,600.00	90.03	0.13	7,912.23	5,628.03	89.20	5,628.64	0.00	0.00	0.00
13,700.00	90.03	0.13	7,912.18	5,728.03	89.43	5,728.63	0.00	0.00	0.00
13,800.00	90.03	0.13	7,912.12	5,828.02	89.66	5,828.63	0.00	0.00	0.00
13,900.00	90.03	0.13	7,912.07	5,928.02	89.89	5,928.63	0.00	0.00	0.00
14,000.00	90.03	0.13	7,912.02	6,028.02	90.11	6,028.62	0.00	0.00	0.00
14,100.00	90.03	0.13	7,911.97	6,128.02	90.34	6,128.62	0.00	0.00	0.00
14,200.00	90.03	0.13	7,911.92	6,228.02	90.57	6,228.62	0.00	0.00	0.00
14,300.00	90.03	0.13	7,911.87	6,328.02	90.80	6,328.61	0.00	0.00	0.00
14,400.00	90.03	0.13	7,911.81	6,428.02	91.03	6,428.61	0.00	0.00	0.00
14,500.00	90.03	0.13	7,911.76	6,528.02	91.26	6,528.61	0.00	0.00	0.00
14,600.00	90.03	0.13	7,911.71	6,628.02	91.49	6,628.61	0.00	0.00	0.00
14,700.00	90.03	0.13	7,911.66	6,728.02	91.72	6,728.60	0.00	0.00	0.00
14,800.00	90.03	0.13	7,911.61	6,828.02	91.95	6,828.60	0.00	0.00	0.00
14,900.00	90.03	0.13	7,911.55	6,928.02	92.18	6,928.60	0.00	0.00	0.00
15,000.00	90.03	0.13	7,911.50	7,028.02	92.41	7,028.59	0.00	0.00	0.00
15,100.00	90.03	0.13	7,911.45	7,128.02	92.64	7,128.59	0.00	0.00	0.00
15,200.00	90.03	0.13	7,911.40	7,228.02	92.86	7,228.59	0.00	0.00	0.00
15,300.00	90.03	0.13	7,911.35	7,328.02	93.09	7,328.58	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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	90.03	0.13	7,911.29	7,428.02	93.32	7,428.58	0.00	0.00	0.00	
15,500.00	90.03	0.13	7,911.24	7,528.02	93.55	7,528.58	0.00	0.00	0.00	
15,600.00	90.03	0.13	7,911.19	7,628.02	93.78	7,628.58	0.00	0.00	0.00	
15,700.00	90.03	0.13	7,911.14	7,728.02	94.01	7,728.57	0.00	0.00	0.00	
15,800.00	90.03	0.13	7,911.09	7,828.02	94.24	7,828.57	0.00	0.00	0.00	
15,900.00	90.03	0.13	7,911.04	7,928.02	94.47	7,928.57	0.00	0.00	0.00	
16,000.00	90.03	0.13	7,910.98	8,028.02	94.70	8,028.56	0.00	0.00	0.00	
16,100.00	90.03	0.13	7,910.93	8,128.02	94.93	8,128.56	0.00	0.00	0.00	
16,200.00	90.03	0.13	7,910.88	8,228.02	95.16	8,228.56	0.00	0.00	0.00	
16,300.00	90.03	0.13	7,910.83	8,328.02	95.38	8,328.56	0.00	0.00	0.00	
16,400.00	90.03	0.13	7,910.78	8,428.02	95.61	8,428.55	0.00	0.00	0.00	
16,500.00	90.03	0.13	7,910.72	8,528.02	95.84	8,528.55	0.00	0.00	0.00	
16,600.00	90.03	0.13	7,910.67	8,628.02	96.07	8,628.55	0.00	0.00	0.00	
16,700.00	90.03	0.13	7,910.62	8,728.02	96.30	8,728.54	0.00	0.00	0.00	
16,800.00	90.03	0.13	7,910.57	8,828.02	96.53	8,828.54	0.00	0.00	0.00	
16,900.00	90.03	0.13	7,910.52	8,928.02	96.76	8,928.54	0.00	0.00	0.00	
17,000.00	90.03	0.13	7,910.47	9,028.02	96.99	9,028.53	0.00	0.00	0.00	
17,100.00	90.03	0.13	7,910.41	9,128.02	97.22	9,128.53	0.00	0.00	0.00	
17,200.00	90.03	0.13	7,910.36	9,228.02	97.45	9,228.53	0.00	0.00	0.00	
17,300.00	90.03	0.13	7,910.31	9,328.02	97.68	9,328.53	0.00	0.00	0.00	
17,400.00	90.03	0.13	7,910.26	9,428.02	97.91	9,428.52	0.00	0.00	0.00	
17,500.00	90.03	0.13	7,910.21	9,528.01	98.13	9,528.52	0.00	0.00	0.00	
17,600.00	90.03	0.13	7,910.15	9,628.01	98.36	9,628.52	0.00	0.00	0.00	
17,700.00	90.03	0.13	7,910.10	9,728.01	98.59	9,728.51	0.00	0.00	0.00	
17,800.00	90.03	0.13	7,910.05	9,828.01	98.82	9,828.51	0.00	0.00	0.00	
17,897.64	90.03	0.13	7,910.00	9,925.65	99.05	9,926.15	0.00	0.00	0.00	
PBHL/TD 17897.64 MD/7910.00 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Ries Fee 203-2821H PB - hit/miss target - Shape - Point	0.00	0.00	7,910.00	9,925.66	99.05	1,608,558.71	3,262,270.76	40.99999105	-104.54988120	
Ries Fee 203-2821H EP - plan hits target center - Point	0.00	0.00	7,915.00	279.92	76.94	1,598,913.31	3,262,351.97	40.97351822	-104.54996137	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,500.00	2,500.00	0.00	0.00	KOP Begin 2°/100' build	
2,681.87	2,681.75	-5.63	1.29	Begin 3.64° tangent	
7,316.15	7,306.69	-292.22	66.91	Begin 10°/100' build/turn	
8,251.88	7,915.00	279.92	76.94	Begin 90.03° lateral	
17,897.64	7,910.00	9,925.65	99.05	PBHL/TD 17897.64 MD/7910.00 TVD	

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Section 28-T12N-R64W			
Site Position:		Northing:	1,600,935.50 usft	Latitude:	40.97908764
From:	Map	Easting:	3,261,678.61 usft	Longitude:	-104.55232132
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.61 °

Well	Ries Fee 203-2821H, Surf loc: 323 FSL 2037 FEL Section 28-T12N-R64W					
Well Position	+N/-S	0.00 ft	Northing:	1,598,632.58 usft	Latitude:	40.97274997
	+E/-W	0.00 ft	Easting:	3,262,278.03 usft	Longitude:	-104.55024000
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,580.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/8/2018	8.50	67.28	52,758.40000000

Design	plan1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.57

Plan Survey Tool Program	Date	4/8/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,897.52 plan1 (Original Hole)	MWD	
			OWSG MWD - Standard	

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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,681.87	3.64	167.10	2,681.75	-5.63	1.29	2.00	2.00	0.00	167.10	
7,316.15	3.64	167.10	7,306.69	-292.22	66.91	0.00	0.00	0.00	0.00	
8,251.88	90.03	0.13	7,915.00	279.92	76.94	10.00	9.23	-17.84	-166.95	Ries Fee 203-2821H
17,897.65	90.03	0.13	7,910.00	9,925.66	99.05	0.00	0.00	0.00	0.00	Ries Fee 203-2821H

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
100.00	0.00	0.00	100.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
200.00	0.00	0.00	200.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
300.00	0.00	0.00	300.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
400.00	0.00	0.00	400.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
500.00	0.00	0.00	500.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
600.00	0.00	0.00	600.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
700.00	0.00	0.00	700.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
800.00	0.00	0.00	800.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
900.00	0.00	0.00	900.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
2,500.00	0.00	0.00	2,500.00	0.00	0.00	1,598,632.58	3,262,278.03	40.97274997	-104.55024000
KOP Begin 2°/100' build									
2,600.00	2.00	167.10	2,599.98	-1.70	0.39	1,598,630.88	3,262,278.44	40.97274530	-104.55023858
2,681.87	3.64	167.10	2,681.75	-5.63	1.29	1,598,626.96	3,262,279.38	40.97273453	-104.55023533
Begin 3.64° tangent									
2,700.00	3.64	167.10	2,699.84	-6.75	1.54	1,598,625.85	3,262,279.65	40.97273145	-104.55023440
2,800.00	3.64	167.10	2,799.64	-12.93	2.96	1,598,619.68	3,262,281.13	40.97271448	-104.55022927
2,900.00	3.64	167.10	2,899.44	-19.11	4.38	1,598,613.51	3,262,282.61	40.97269751	-104.55022415
3,000.00	3.64	167.10	2,999.24	-25.30	5.79	1,598,607.34	3,262,284.09	40.97268053	-104.55021902
3,100.00	3.64	167.10	3,099.04	-31.48	7.21	1,598,601.17	3,262,285.58	40.97266356	-104.55021389
3,200.00	3.64	167.10	3,198.83	-37.67	8.63	1,598,595.00	3,262,287.06	40.97264659	-104.55020876
3,300.00	3.64	167.10	3,298.63	-43.85	10.04	1,598,588.83	3,262,288.54	40.97262962	-104.55020364
3,400.00	3.64	167.10	3,398.43	-50.04	11.46	1,598,582.67	3,262,290.02	40.97261264	-104.55019851
3,500.00	3.64	167.10	3,498.23	-56.22	12.87	1,598,576.50	3,262,291.51	40.97259567	-104.55019338
3,600.00	3.64	167.10	3,598.03	-62.40	14.29	1,598,570.33	3,262,292.99	40.97257870	-104.55018825
3,700.00	3.64	167.10	3,697.83	-68.59	15.71	1,598,564.16	3,262,294.47	40.97256173	-104.55018312
3,800.00	3.64	167.10	3,797.63	-74.77	17.12	1,598,557.99	3,262,295.95	40.97254475	-104.55017800
3,900.00	3.64	167.10	3,897.42	-80.96	18.54	1,598,551.82	3,262,297.43	40.97252778	-104.55017287
4,000.00	3.64	167.10	3,997.22	-87.14	19.95	1,598,545.65	3,262,298.92	40.97251081	-104.55016774
4,100.00	3.64	167.10	4,097.02	-93.32	21.37	1,598,539.49	3,262,300.40	40.97249384	-104.55016261
4,200.00	3.64	167.10	4,196.82	-99.51	22.79	1,598,533.32	3,262,301.88	40.97247686	-104.55015749
4,300.00	3.64	167.10	4,296.62	-105.69	24.20	1,598,527.15	3,262,303.36	40.97245989	-104.55015236
4,400.00	3.64	167.10	4,396.42	-111.88	25.62	1,598,520.98	3,262,304.85	40.97244292	-104.55014723
4,500.00	3.64	167.10	4,496.22	-118.06	27.03	1,598,514.81	3,262,306.33	40.97242595	-104.55014210
4,600.00	3.64	167.10	4,596.01	-124.25	28.45	1,598,508.64	3,262,307.81	40.97240897	-104.55013698
4,700.00	3.64	167.10	4,695.81	-130.43	29.87	1,598,502.47	3,262,309.29	40.97239200	-104.55013185
4,800.00	3.64	167.10	4,795.61	-136.61	31.28	1,598,496.31	3,262,310.77	40.97237503	-104.55012672
4,900.00	3.64	167.10	4,895.41	-142.80	32.70	1,598,490.14	3,262,312.26	40.97235806	-104.55012159
5,000.00	3.64	167.10	4,995.21	-148.98	34.11	1,598,483.97	3,262,313.74	40.97234108	-104.55011647

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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
5,100.00	3.64	167.10	5,095.01	-155.17	35.53	1,598,477.80	3,262,315.22	40.97232411	-104.55011134
5,200.00	3.64	167.10	5,194.81	-161.35	36.95	1,598,471.63	3,262,316.70	40.97230714	-104.55010621
5,300.00	3.64	167.10	5,294.60	-167.53	38.36	1,598,465.46	3,262,318.19	40.97229016	-104.55010108
5,400.00	3.64	167.10	5,394.40	-173.72	39.78	1,598,459.29	3,262,319.67	40.97227319	-104.55009596
5,500.00	3.64	167.10	5,494.20	-179.90	41.19	1,598,453.13	3,262,321.15	40.97225622	-104.55009083
5,600.00	3.64	167.10	5,594.00	-186.09	42.61	1,598,446.96	3,262,322.63	40.97223925	-104.55008570
5,700.00	3.64	167.10	5,693.80	-192.27	44.03	1,598,440.79	3,262,324.11	40.97222227	-104.55008057
5,800.00	3.64	167.10	5,793.60	-198.45	45.44	1,598,434.62	3,262,325.60	40.97220530	-104.55007545
5,900.00	3.64	167.10	5,893.40	-204.64	46.86	1,598,428.45	3,262,327.08	40.97218833	-104.55007032
6,000.00	3.64	167.10	5,993.19	-210.82	48.27	1,598,422.28	3,262,328.56	40.97217136	-104.55006519
6,100.00	3.64	167.10	6,092.99	-217.01	49.69	1,598,416.11	3,262,330.04	40.97215438	-104.55006006
6,200.00	3.64	167.10	6,192.79	-223.19	51.11	1,598,409.95	3,262,331.52	40.97213741	-104.55005493
6,300.00	3.64	167.10	6,292.59	-229.38	52.52	1,598,403.78	3,262,333.01	40.97212044	-104.55004981
6,400.00	3.64	167.10	6,392.39	-235.56	53.94	1,598,397.61	3,262,334.49	40.97210347	-104.55004468
6,500.00	3.64	167.10	6,492.19	-241.74	55.35	1,598,391.44	3,262,335.97	40.97208649	-104.55003955
6,600.00	3.64	167.10	6,591.99	-247.93	56.77	1,598,385.27	3,262,337.45	40.97206952	-104.55003442
6,700.00	3.64	167.10	6,691.78	-254.11	58.19	1,598,379.10	3,262,338.94	40.97205255	-104.55002930
6,800.00	3.64	167.10	6,791.58	-260.30	59.60	1,598,372.93	3,262,340.42	40.97203558	-104.55002417
6,900.00	3.64	167.10	6,891.38	-266.48	61.02	1,598,366.77	3,262,341.90	40.97201860	-104.55001904
7,000.00	3.64	167.10	6,991.18	-272.66	62.43	1,598,360.60	3,262,343.38	40.97200163	-104.55001391
7,100.00	3.64	167.10	7,090.98	-278.85	63.85	1,598,354.43	3,262,344.86	40.97198466	-104.55000879
7,200.00	3.64	167.10	7,190.78	-285.03	65.27	1,598,348.26	3,262,346.35	40.97196769	-104.55000366
7,300.00	3.64	167.10	7,290.57	-291.22	66.68	1,598,342.09	3,262,347.83	40.97195071	-104.54999853
7,316.15	3.64	167.10	7,306.69	-292.22	66.91	1,598,341.09	3,262,348.07	40.97194797	-104.54999770
Begin 10°/100' build/turn									
7,400.00	4.91	9.73	7,390.45	-291.27	68.11	1,598,342.05	3,262,349.26	40.97195057	-104.54999335
7,500.00	14.86	3.23	7,488.85	-274.20	69.56	1,598,359.14	3,262,350.53	40.97199741	-104.54998810
7,600.00	24.85	1.90	7,582.78	-240.31	70.99	1,598,393.04	3,262,351.59	40.97209044	-104.54998294
7,700.00	34.85	1.31	7,669.40	-190.61	72.34	1,598,442.75	3,262,352.41	40.97222683	-104.54997803
7,800.00	44.85	0.96	7,746.08	-126.63	73.59	1,598,506.74	3,262,352.97	40.97240243	-104.54997352
7,900.00	54.85	0.71	7,810.48	-50.30	74.69	1,598,583.08	3,262,353.25	40.97261191	-104.54996954
8,000.00	64.84	0.52	7,860.65	36.05	75.61	1,598,669.43	3,262,353.25	40.97284891	-104.54996622
8,100.00	74.84	0.35	7,895.07	129.80	76.31	1,598,763.19	3,262,352.95	40.97310622	-104.54996365
8,200.00	84.84	0.21	7,912.68	228.11	76.79	1,598,861.49	3,262,352.38	40.97337602	-104.54996192
8,251.88	90.03	0.13	7,915.00	279.92	76.94	1,598,913.30	3,262,351.97	40.97351821	-104.54996137
Begin 90.03° lateral									
8,300.00	90.03	0.13	7,914.98	328.04	77.05	1,598,961.42	3,262,351.57	40.97365028	-104.54996097
8,400.00	90.03	0.13	7,914.92	428.04	77.28	1,599,061.42	3,262,350.73	40.97392473	-104.54996014
8,500.00	90.03	0.13	7,914.87	528.04	77.51	1,599,161.41	3,262,349.88	40.97419918	-104.54995931
8,600.00	90.03	0.13	7,914.82	628.04	77.74	1,599,261.41	3,262,349.04	40.97447364	-104.54995847
8,700.00	90.03	0.13	7,914.77	728.04	77.97	1,599,361.41	3,262,348.20	40.97474809	-104.54995764
8,800.00	90.03	0.13	7,914.72	828.04	78.20	1,599,461.40	3,262,347.36	40.97502254	-104.54995681
8,900.00	90.03	0.13	7,914.66	928.04	78.43	1,599,561.40	3,262,346.52	40.97529699	-104.54995598
9,000.00	90.03	0.13	7,914.61	1,028.04	78.66	1,599,661.40	3,262,345.67	40.97557144	-104.54995515
9,100.00	90.03	0.13	7,914.56	1,128.04	78.89	1,599,761.39	3,262,344.83	40.97584589	-104.54995432
9,200.00	90.03	0.13	7,914.51	1,228.04	79.12	1,599,861.39	3,262,343.99	40.97612035	-104.54995349
9,300.00	90.03	0.13	7,914.46	1,328.04	79.35	1,599,961.38	3,262,343.15	40.97639480	-104.54995266
9,400.00	90.03	0.13	7,914.41	1,428.04	79.58	1,600,061.38	3,262,342.31	40.97666925	-104.54995183
9,500.00	90.03	0.13	7,914.35	1,528.04	79.80	1,600,161.38	3,262,341.46	40.97694370	-104.54995100
9,600.00	90.03	0.13	7,914.30	1,628.04	80.03	1,600,261.37	3,262,340.62	40.97721815	-104.54995017
9,700.00	90.03	0.13	7,914.25	1,728.04	80.26	1,600,361.37	3,262,339.78	40.97749260	-104.54994933
9,800.00	90.03	0.13	7,914.20	1,828.04	80.49	1,600,461.37	3,262,338.94	40.97776705	-104.54994850
9,900.00	90.03	0.13	7,914.15	1,928.04	80.72	1,600,561.36	3,262,338.10	40.97804151	-104.54994767
10,000.00	90.03	0.13	7,914.09	2,028.04	80.95	1,600,661.36	3,262,337.26	40.97831596	-104.54994684

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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	90.03	0.13	7,914.04	2,128.04	81.18	1,600,761.35	3,262,336.41	40.97859041	-104.54994601
10,200.00	90.03	0.13	7,913.99	2,228.03	81.41	1,600,861.35	3,262,335.57	40.97886486	-104.54994518
10,300.00	90.03	0.13	7,913.94	2,328.03	81.64	1,600,961.35	3,262,334.73	40.97913931	-104.54994435
10,400.00	90.03	0.13	7,913.89	2,428.03	81.87	1,601,061.34	3,262,333.89	40.97941376	-104.54994352
10,500.00	90.03	0.13	7,913.83	2,528.03	82.10	1,601,161.34	3,262,333.05	40.97968821	-104.54994269
10,600.00	90.03	0.13	7,913.78	2,628.03	82.32	1,601,261.34	3,262,332.20	40.97996266	-104.54994186
10,700.00	90.03	0.13	7,913.73	2,728.03	82.55	1,601,361.33	3,262,331.36	40.98023712	-104.54994103
10,800.00	90.03	0.13	7,913.68	2,828.03	82.78	1,601,461.33	3,262,330.52	40.98051157	-104.54994019
10,900.00	90.03	0.13	7,913.63	2,928.03	83.01	1,601,561.32	3,262,329.68	40.98078602	-104.54993936
11,000.00	90.03	0.13	7,913.58	3,028.03	83.24	1,601,661.32	3,262,328.84	40.98106047	-104.54993853
11,100.00	90.03	0.13	7,913.52	3,128.03	83.47	1,601,761.32	3,262,327.99	40.98133492	-104.54993770
11,200.00	90.03	0.13	7,913.47	3,228.03	83.70	1,601,861.31	3,262,327.15	40.98160937	-104.54993687
11,300.00	90.03	0.13	7,913.42	3,328.03	83.93	1,601,961.31	3,262,326.31	40.98188382	-104.54993604
11,400.00	90.03	0.13	7,913.37	3,428.03	84.16	1,602,061.31	3,262,325.47	40.98215827	-104.54993521
11,500.00	90.03	0.13	7,913.32	3,528.03	84.39	1,602,161.30	3,262,324.63	40.98243272	-104.54993438
11,600.00	90.03	0.13	7,913.26	3,628.03	84.62	1,602,261.30	3,262,323.78	40.98270717	-104.54993355
11,700.00	90.03	0.13	7,913.21	3,728.03	84.85	1,602,361.29	3,262,322.94	40.98298162	-104.54993271
11,800.00	90.03	0.13	7,913.16	3,828.03	85.07	1,602,461.29	3,262,322.10	40.98325608	-104.54993188
11,900.00	90.03	0.13	7,913.11	3,928.03	85.30	1,602,561.29	3,262,321.26	40.98353053	-104.54993105
12,000.00	90.03	0.13	7,913.06	4,028.03	85.53	1,602,661.28	3,262,320.42	40.98380498	-104.54993022
12,100.00	90.03	0.13	7,913.01	4,128.03	85.76	1,602,761.28	3,262,319.57	40.98407943	-104.54992939
12,200.00	90.03	0.13	7,912.95	4,228.03	85.99	1,602,861.28	3,262,318.73	40.98435388	-104.54992856
12,300.00	90.03	0.13	7,912.90	4,328.03	86.22	1,602,961.27	3,262,317.89	40.98462833	-104.54992773
12,400.00	90.03	0.13	7,912.85	4,428.03	86.45	1,603,061.27	3,262,317.05	40.98490278	-104.54992690
12,500.00	90.03	0.13	7,912.80	4,528.03	86.68	1,603,161.26	3,262,316.21	40.98517723	-104.54992607
12,600.00	90.03	0.13	7,912.75	4,628.03	86.91	1,603,261.26	3,262,315.37	40.98545168	-104.54992523
12,700.00	90.03	0.13	7,912.69	4,728.03	87.14	1,603,361.26	3,262,314.52	40.98572613	-104.54992440
12,800.00	90.03	0.13	7,912.64	4,828.03	87.37	1,603,461.25	3,262,313.68	40.98600058	-104.54992357
12,900.00	90.03	0.13	7,912.59	4,928.03	87.59	1,603,561.25	3,262,312.84	40.98627503	-104.54992274
13,000.00	90.03	0.13	7,912.54	5,028.03	87.82	1,603,661.25	3,262,312.00	40.98654948	-104.54992191
13,100.00	90.03	0.13	7,912.49	5,128.03	88.05	1,603,761.24	3,262,311.16	40.98682393	-104.54992108
13,200.00	90.03	0.13	7,912.44	5,228.03	88.28	1,603,861.24	3,262,310.31	40.98709838	-104.54992025
13,300.00	90.03	0.13	7,912.38	5,328.03	88.51	1,603,961.23	3,262,309.47	40.98737283	-104.54991942
13,400.00	90.03	0.13	7,912.33	5,428.03	88.74	1,604,061.23	3,262,308.63	40.98764728	-104.54991859
13,500.00	90.03	0.13	7,912.28	5,528.03	88.97	1,604,161.23	3,262,307.79	40.98792173	-104.54991775
13,600.00	90.03	0.13	7,912.23	5,628.03	89.20	1,604,261.22	3,262,306.95	40.98819618	-104.54991692
13,700.00	90.03	0.13	7,912.18	5,728.03	89.43	1,604,361.22	3,262,306.10	40.98847063	-104.54991609
13,800.00	90.03	0.13	7,912.12	5,828.02	89.66	1,604,461.22	3,262,305.26	40.98874508	-104.54991526
13,900.00	90.03	0.13	7,912.07	5,928.02	89.89	1,604,561.21	3,262,304.42	40.98901954	-104.54991443
14,000.00	90.03	0.13	7,912.02	6,028.02	90.11	1,604,661.21	3,262,303.58	40.98929399	-104.54991360
14,100.00	90.03	0.13	7,911.97	6,128.02	90.34	1,604,761.20	3,262,302.74	40.98956844	-104.54991277
14,200.00	90.03	0.13	7,911.92	6,228.02	90.57	1,604,861.20	3,262,301.89	40.98984289	-104.54991194
14,300.00	90.03	0.13	7,911.87	6,328.02	90.80	1,604,961.20	3,262,301.05	40.99011734	-104.54991110
14,400.00	90.03	0.13	7,911.81	6,428.02	91.03	1,605,061.19	3,262,300.21	40.99039179	-104.54991027
14,500.00	90.03	0.13	7,911.76	6,528.02	91.26	1,605,161.19	3,262,299.37	40.99066624	-104.54990944
14,600.00	90.03	0.13	7,911.71	6,628.02	91.49	1,605,261.19	3,262,298.53	40.99094069	-104.54990861
14,700.00	90.03	0.13	7,911.66	6,728.02	91.72	1,605,361.18	3,262,297.68	40.99121514	-104.54990778
14,800.00	90.03	0.13	7,911.61	6,828.02	91.95	1,605,461.18	3,262,296.84	40.99148959	-104.54990695
14,900.00	90.03	0.13	7,911.55	6,928.02	92.18	1,605,561.17	3,262,296.00	40.99176403	-104.54990612
15,000.00	90.03	0.13	7,911.50	7,028.02	92.41	1,605,661.17	3,262,295.16	40.99203848	-104.54990529
15,100.00	90.03	0.13	7,911.45	7,128.02	92.64	1,605,761.17	3,262,294.32	40.99231293	-104.54990445
15,200.00	90.03	0.13	7,911.40	7,228.02	92.86	1,605,861.16	3,262,293.48	40.99258738	-104.54990362
15,300.00	90.03	0.13	7,911.35	7,328.02	93.09	1,605,961.16	3,262,292.63	40.99286183	-104.54990279
15,400.00	90.03	0.13	7,911.29	7,428.02	93.32	1,606,061.16	3,262,291.79	40.99313628	-104.54990196
15,500.00	90.03	0.13	7,911.24	7,528.02	93.55	1,606,161.15	3,262,290.95	40.99341073	-104.54990113

Database:	DB_Jul2216dt_v14	Local Co-ordinate Reference:	Well Ries Fee 203-2821H
Company:	Clear Creek Resources Partners	TVD Reference:	RKB=5580+21 @ 5601.00ft
Project:	Weld County, Colorado	MD Reference:	RKB=5580+21 @ 5601.00ft
Site:	Section 28-T12N-R64W	North Reference:	True
Well:	Ries Fee 203-2821H	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	90.03	0.13	7,911.19	7,628.02	93.78	1,606,261.15	3,262,290.11	40.99368518	-104.54990030
15,700.00	90.03	0.13	7,911.14	7,728.02	94.01	1,606,361.14	3,262,289.27	40.99395963	-104.54989947
15,800.00	90.03	0.13	7,911.09	7,828.02	94.24	1,606,461.14	3,262,288.42	40.99423408	-104.54989864
15,900.00	90.03	0.13	7,911.04	7,928.02	94.47	1,606,561.14	3,262,287.58	40.99450853	-104.54989780
16,000.00	90.03	0.13	7,910.98	8,028.02	94.70	1,606,661.13	3,262,286.74	40.99478298	-104.54989697
16,100.00	90.03	0.13	7,910.93	8,128.02	94.93	1,606,761.13	3,262,285.90	40.99505743	-104.54989614
16,200.00	90.03	0.13	7,910.88	8,228.02	95.16	1,606,861.13	3,262,285.06	40.99533188	-104.54989531
16,300.00	90.03	0.13	7,910.83	8,328.02	95.38	1,606,961.12	3,262,284.21	40.99560633	-104.54989448
16,400.00	90.03	0.13	7,910.78	8,428.02	95.61	1,607,061.12	3,262,283.37	40.99588078	-104.54989365
16,500.00	90.03	0.13	7,910.72	8,528.02	95.84	1,607,161.11	3,262,282.53	40.99615523	-104.54989282
16,600.00	90.03	0.13	7,910.67	8,628.02	96.07	1,607,261.11	3,262,281.69	40.99642968	-104.54989198
16,700.00	90.03	0.13	7,910.62	8,728.02	96.30	1,607,361.11	3,262,280.85	40.99670413	-104.54989115
16,800.00	90.03	0.13	7,910.57	8,828.02	96.53	1,607,461.10	3,262,280.00	40.99697858	-104.54989032
16,900.00	90.03	0.13	7,910.52	8,928.02	96.76	1,607,561.10	3,262,279.16	40.99725303	-104.54988949
17,000.00	90.03	0.13	7,910.47	9,028.02	96.99	1,607,661.10	3,262,278.32	40.99752747	-104.54988866
17,100.00	90.03	0.13	7,910.41	9,128.02	97.22	1,607,761.09	3,262,277.48	40.99780192	-104.54988783
17,200.00	90.03	0.13	7,910.36	9,228.02	97.45	1,607,861.09	3,262,276.64	40.99807637	-104.54988700
17,300.00	90.03	0.13	7,910.31	9,328.02	97.68	1,607,961.08	3,262,275.79	40.99835082	-104.54988616
17,400.00	90.03	0.13	7,910.26	9,428.02	97.91	1,608,061.08	3,262,274.95	40.99862527	-104.54988533
17,500.00	90.03	0.13	7,910.21	9,528.01	98.13	1,608,161.08	3,262,274.11	40.99889972	-104.54988450
17,600.00	90.03	0.13	7,910.15	9,628.01	98.36	1,608,261.07	3,262,273.27	40.99917417	-104.54988367
17,700.00	90.03	0.13	7,910.10	9,728.01	98.59	1,608,361.07	3,262,272.43	40.99944862	-104.54988284
17,800.00	90.03	0.13	7,910.05	9,828.01	98.82	1,608,461.06	3,262,271.59	40.99972307	-104.54988201
17,897.64	90.03	0.13	7,910.00	9,925.65	99.05	1,608,558.70	3,262,270.76	40.99999104	-104.54988120
PBHL/TD 17897.64 MD/7910.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Ries Fee 203-2821H PB - hit/miss target - Shape - Point	0.00	0.00	7,910.00	9,925.66	99.05	1,608,558.71	3,262,270.76	40.99999105	-104.54988120
Ries Fee 203-2821H EP - plan hits target center - Point	0.00	0.00	7,915.00	279.92	76.94	1,598,913.31	3,262,351.97	40.97351822	-104.54996137

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,500.00	2,500.00	0.00	0.00	KOP Begin 2°/100' build
2,681.87	2,681.75	-5.63	1.29	Begin 3.64° tangent
7,316.15	7,306.69	-292.22	66.91	Begin 10°/100' build/turn
8,251.88	7,915.00	279.92	76.94	Begin 90.03° lateral
17,897.64	7,910.00	9,925.65	99.05	PBHL/TD 17897.64 MD/7910.00 TVD