CLEAR CREEK Resource Partners

Well: Ries Fee 503-2821H
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 503-2821H PBHL 600 FNL 2300 FEL	8115.00	9925.43	-210.59	1608554.84	3261930.78	40.99999042	-104.55111289
Ries Fee 503-2821H EP 600 FSL 2300 FEL	8120.00	270.38	-232.71	1598900.13	3262012.06	40.97349204	-104.55119268

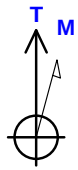
SECTION DETAILS

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	2713.78	4.28	214.61	2713.58	-6.56	-4.53	2.00	214.61	-6.46	Begin 4.28° tangent
4	7525.96	4.28	214.61	7512.37	-301.85	-208.29	0.00	0.00	-297.36	Begin 10°/100' build/turn
5	8461.50	90.03	0.13	8120.00	270.38	-232.71	10.00	145.45	275.26	Begin 90.03° lateral
6	18116.57	90.03	0.13	8115.00	9925.43	-210.59	0.00	0.00	9927.66	PBHL/TD 18116.57 MD/8115.00 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 2067 FEL Section 28-T12N-R64W

Northing	Easting	Latittude	Longitude
1598632.25	3262247.65	40.97274997	-104.55035000



Azimuths to True North
Magnetic North: 8.50°

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

PRODIRECTIONAL

22:35, April 08 2018

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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 503-2821H, Surf loc: 323 FSL 2067 FEL Section 28-T12N-R64W

Well Position	**+N/-S**	-2,309.20 ft	**Northing:**	1,598,632.25 usft	**Latitude:**	40.97274997
	+E/-W	544.40 ft	**Easting:**	3,262,247.66 usft	**Longitude:**	-104.55035000
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	358.78

Plan Survey Tool Program **Date** 4/8/2018

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,116.57	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	
2,713.78	4.28	214.61	2,713.58	-6.56	-4.53	2.00	2.00	0.00	214.61	
7,525.96	4.28	214.61	7,512.37	-301.85	-208.29	0.00	0.00	0.00	0.00	
8,461.50	90.03	0.13	8,120.00	270.38	-232.71	10.00	9.17	15.56	145.45	Ries Fee 503-2821H
18,116.57	90.03	0.13	8,115.00	9,925.43	-210.59	0.00	0.00	0.00	0.00	Ries Fee 503-2821H

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	214.61	2,599.98	-1.44	-0.99	-1.42	2.00	2.00	0.00
2,700.00	4.00	214.61	2,699.84	-5.74	-3.96	-5.66	2.00	2.00	0.00
2,713.78	4.28	214.61	2,713.58	-6.56	-4.53	-6.46	2.00	2.00	0.00
Begin 4.28° tangent									
2,800.00	4.28	214.61	2,799.56	-11.85	-8.18	-11.68	0.00	0.00	0.00
2,900.00	4.28	214.61	2,899.28	-17.99	-12.41	-17.72	0.00	0.00	0.00
3,000.00	4.28	214.61	2,999.01	-24.12	-16.65	-23.77	0.00	0.00	0.00
3,100.00	4.28	214.61	3,098.73	-30.26	-20.88	-29.81	0.00	0.00	0.00
3,200.00	4.28	214.61	3,198.45	-36.40	-25.12	-35.86	0.00	0.00	0.00
3,300.00	4.28	214.61	3,298.17	-42.53	-29.35	-41.90	0.00	0.00	0.00
3,400.00	4.28	214.61	3,397.89	-48.67	-33.59	-47.95	0.00	0.00	0.00
3,500.00	4.28	214.61	3,497.61	-54.81	-37.82	-53.99	0.00	0.00	0.00
3,600.00	4.28	214.61	3,597.34	-60.94	-42.05	-60.04	0.00	0.00	0.00
3,700.00	4.28	214.61	3,697.06	-67.08	-46.29	-66.08	0.00	0.00	0.00
3,800.00	4.28	214.61	3,796.78	-73.21	-50.52	-72.13	0.00	0.00	0.00
3,900.00	4.28	214.61	3,896.50	-79.35	-54.76	-78.17	0.00	0.00	0.00
4,000.00	4.28	214.61	3,996.22	-85.49	-58.99	-84.22	0.00	0.00	0.00
4,100.00	4.28	214.61	4,095.94	-91.62	-63.23	-90.26	0.00	0.00	0.00
4,200.00	4.28	214.61	4,195.67	-97.76	-67.46	-96.31	0.00	0.00	0.00
4,300.00	4.28	214.61	4,295.39	-103.90	-71.69	-102.35	0.00	0.00	0.00
4,400.00	4.28	214.61	4,395.11	-110.03	-75.93	-108.40	0.00	0.00	0.00
4,500.00	4.28	214.61	4,494.83	-116.17	-80.16	-114.44	0.00	0.00	0.00
4,600.00	4.28	214.61	4,594.55	-122.30	-84.40	-120.49	0.00	0.00	0.00
4,700.00	4.28	214.61	4,694.27	-128.44	-88.63	-126.53	0.00	0.00	0.00
4,800.00	4.28	214.61	4,794.00	-134.58	-92.87	-132.58	0.00	0.00	0.00
4,900.00	4.28	214.61	4,893.72	-140.71	-97.10	-138.62	0.00	0.00	0.00

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Site:	Section 28-T12N-R64W	**North Reference:**	True
Well:	Ries Fee 503-2821H	**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	4.28	214.61	4,993.44	-146.85	-101.33	-144.67	0.00	0.00	0.00
5,100.00	4.28	214.61	5,093.16	-152.98	-105.57	-150.71	0.00	0.00	0.00
5,200.00	4.28	214.61	5,192.88	-159.12	-109.80	-156.76	0.00	0.00	0.00
5,300.00	4.28	214.61	5,292.60	-165.26	-114.04	-162.80	0.00	0.00	0.00
5,400.00	4.28	214.61	5,392.33	-171.39	-118.27	-168.85	0.00	0.00	0.00
5,500.00	4.28	214.61	5,492.05	-177.53	-122.51	-174.89	0.00	0.00	0.00
5,600.00	4.28	214.61	5,591.77	-183.67	-126.74	-180.94	0.00	0.00	0.00
5,700.00	4.28	214.61	5,691.49	-189.80	-130.98	-186.98	0.00	0.00	0.00
5,800.00	4.28	214.61	5,791.21	-195.94	-135.21	-193.03	0.00	0.00	0.00
5,900.00	4.28	214.61	5,890.93	-202.07	-139.44	-199.07	0.00	0.00	0.00
6,000.00	4.28	214.61	5,990.66	-208.21	-143.68	-205.12	0.00	0.00	0.00
6,100.00	4.28	214.61	6,090.38	-214.35	-147.91	-211.16	0.00	0.00	0.00
6,200.00	4.28	214.61	6,190.10	-220.48	-152.15	-217.20	0.00	0.00	0.00
6,300.00	4.28	214.61	6,289.82	-226.62	-156.38	-223.25	0.00	0.00	0.00
6,400.00	4.28	214.61	6,389.54	-232.75	-160.62	-229.29	0.00	0.00	0.00
6,500.00	4.28	214.61	6,489.26	-238.89	-164.85	-235.34	0.00	0.00	0.00
6,600.00	4.28	214.61	6,588.99	-245.03	-169.08	-241.38	0.00	0.00	0.00
6,700.00	4.28	214.61	6,688.71	-251.16	-173.32	-247.43	0.00	0.00	0.00
6,800.00	4.28	214.61	6,788.43	-257.30	-177.55	-253.47	0.00	0.00	0.00
6,900.00	4.28	214.61	6,888.15	-263.44	-181.79	-259.52	0.00	0.00	0.00
7,000.00	4.28	214.61	6,987.87	-269.57	-186.02	-265.56	0.00	0.00	0.00
7,100.00	4.28	214.61	7,087.60	-275.71	-190.26	-271.61	0.00	0.00	0.00
7,200.00	4.28	214.61	7,187.32	-281.84	-194.49	-277.65	0.00	0.00	0.00
7,300.00	4.28	214.61	7,287.04	-287.98	-198.72	-283.70	0.00	0.00	0.00
7,400.00	4.28	214.61	7,386.76	-294.12	-202.96	-289.74	0.00	0.00	0.00
7,500.00	4.28	214.61	7,486.48	-300.25	-207.19	-295.79	0.00	0.00	0.00
7,525.96	4.28	214.61	7,512.37	-301.85	-208.29	-297.36	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,600.00	4.57	328.19	7,586.29	-301.61	-211.42	-297.06	10.00	0.40	153.41
7,700.00	14.09	350.42	7,684.88	-286.18	-215.56	-281.54	10.00	9.51	22.23
7,800.00	24.00	354.67	7,779.29	-253.85	-219.48	-249.14	10.00	9.91	4.25
7,900.00	33.96	356.53	7,866.67	-205.61	-223.07	-200.83	10.00	9.96	1.85
8,000.00	43.93	357.61	7,944.35	-142.91	-226.21	-138.08	10.00	9.98	1.09
8,100.00	53.92	358.36	8,009.97	-67.67	-228.82	-62.80	10.00	9.98	0.75
8,200.00	63.91	358.94	8,061.54	17.84	-230.81	22.73	10.00	9.99	0.58
8,300.00	73.89	359.43	8,097.49	111.00	-232.12	115.90	10.00	9.99	0.49
8,400.00	83.89	359.87	8,116.74	209.00	-232.71	213.89	10.00	9.99	0.44
8,461.50	90.03	0.13	8,120.00	270.38	-232.71	275.26	10.00	9.99	0.42
Begin 90.03° lateral									
8,500.00	90.03	0.13	8,119.98	308.89	-232.62	313.75	0.00	0.00	0.00
8,600.00	90.03	0.13	8,119.93	408.89	-232.39	413.72	0.00	0.00	0.00
8,700.00	90.03	0.13	8,119.88	508.89	-232.16	513.70	0.00	0.00	0.00
8,800.00	90.03	0.13	8,119.82	608.89	-231.94	613.67	0.00	0.00	0.00
8,900.00	90.03	0.13	8,119.77	708.89	-231.71	713.64	0.00	0.00	0.00
9,000.00	90.03	0.13	8,119.72	808.89	-231.48	813.61	0.00	0.00	0.00
9,100.00	90.03	0.13	8,119.67	908.89	-231.25	913.59	0.00	0.00	0.00
9,200.00	90.03	0.13	8,119.62	1,008.89	-231.02	1,013.56	0.00	0.00	0.00
9,300.00	90.03	0.13	8,119.57	1,108.88	-230.79	1,113.53	0.00	0.00	0.00
9,400.00	90.03	0.13	8,119.51	1,208.88	-230.56	1,213.50	0.00	0.00	0.00
9,500.00	90.03	0.13	8,119.46	1,308.88	-230.33	1,313.48	0.00	0.00	0.00
9,600.00	90.03	0.13	8,119.41	1,408.88	-230.10	1,413.45	0.00	0.00	0.00
9,700.00	90.03	0.13	8,119.36	1,508.88	-229.87	1,513.42	0.00	0.00	0.00
9,800.00	90.03	0.13	8,119.31	1,608.88	-229.64	1,613.39	0.00	0.00	0.00
9,900.00	90.03	0.13	8,119.26	1,708.88	-229.42	1,713.37	0.00	0.00	0.00

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Site:	Section 28-T12N-R64W	**North Reference:**	True
Well:	Ries Fee 503-2821H	**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	8,119.20	1,808.88	-229.19	1,813.34	0.00	0.00	0.00
10,100.00	90.03	0.13	8,119.15	1,908.88	-228.96	1,913.31	0.00	0.00	0.00
10,200.00	90.03	0.13	8,119.10	2,008.88	-228.73	2,013.28	0.00	0.00	0.00
10,300.00	90.03	0.13	8,119.05	2,108.88	-228.50	2,113.25	0.00	0.00	0.00
10,400.00	90.03	0.13	8,119.00	2,208.88	-228.27	2,213.23	0.00	0.00	0.00
10,500.00	90.03	0.13	8,118.94	2,308.88	-228.04	2,313.20	0.00	0.00	0.00
10,600.00	90.03	0.13	8,118.89	2,408.88	-227.81	2,413.17	0.00	0.00	0.00
10,700.00	90.03	0.13	8,118.84	2,508.88	-227.58	2,513.14	0.00	0.00	0.00
10,800.00	90.03	0.13	8,118.79	2,608.88	-227.35	2,613.12	0.00	0.00	0.00
10,900.00	90.03	0.13	8,118.74	2,708.88	-227.12	2,713.09	0.00	0.00	0.00
11,000.00	90.03	0.13	8,118.69	2,808.88	-226.90	2,813.06	0.00	0.00	0.00
11,100.00	90.03	0.13	8,118.63	2,908.88	-226.67	2,913.03	0.00	0.00	0.00
11,200.00	90.03	0.13	8,118.58	3,008.88	-226.44	3,013.01	0.00	0.00	0.00
11,300.00	90.03	0.13	8,118.53	3,108.88	-226.21	3,112.98	0.00	0.00	0.00
11,400.00	90.03	0.13	8,118.48	3,208.88	-225.98	3,212.95	0.00	0.00	0.00
11,500.00	90.03	0.13	8,118.43	3,308.88	-225.75	3,312.92	0.00	0.00	0.00
11,600.00	90.03	0.13	8,118.37	3,408.88	-225.52	3,412.90	0.00	0.00	0.00
11,700.00	90.03	0.13	8,118.32	3,508.88	-225.29	3,512.87	0.00	0.00	0.00
11,800.00	90.03	0.13	8,118.27	3,608.88	-225.06	3,612.84	0.00	0.00	0.00
11,900.00	90.03	0.13	8,118.22	3,708.88	-224.83	3,712.81	0.00	0.00	0.00
12,000.00	90.03	0.13	8,118.17	3,808.88	-224.60	3,812.78	0.00	0.00	0.00
12,100.00	90.03	0.13	8,118.12	3,908.88	-224.38	3,912.76	0.00	0.00	0.00
12,200.00	90.03	0.13	8,118.06	4,008.88	-224.15	4,012.73	0.00	0.00	0.00
12,300.00	90.03	0.13	8,118.01	4,108.88	-223.92	4,112.70	0.00	0.00	0.00
12,400.00	90.03	0.13	8,117.96	4,208.88	-223.69	4,212.67	0.00	0.00	0.00
12,500.00	90.03	0.13	8,117.91	4,308.88	-223.46	4,312.65	0.00	0.00	0.00
12,600.00	90.03	0.13	8,117.86	4,408.88	-223.23	4,412.62	0.00	0.00	0.00
12,700.00	90.03	0.13	8,117.81	4,508.88	-223.00	4,512.59	0.00	0.00	0.00
12,800.00	90.03	0.13	8,117.75	4,608.88	-222.77	4,612.56	0.00	0.00	0.00
12,900.00	90.03	0.13	8,117.70	4,708.88	-222.54	4,712.54	0.00	0.00	0.00
13,000.00	90.03	0.13	8,117.65	4,808.87	-222.31	4,812.51	0.00	0.00	0.00
13,100.00	90.03	0.13	8,117.60	4,908.87	-222.08	4,912.48	0.00	0.00	0.00
13,200.00	90.03	0.13	8,117.55	5,008.87	-221.86	5,012.45	0.00	0.00	0.00
13,300.00	90.03	0.13	8,117.49	5,108.87	-221.63	5,112.43	0.00	0.00	0.00
13,400.00	90.03	0.13	8,117.44	5,208.87	-221.40	5,212.40	0.00	0.00	0.00
13,500.00	90.03	0.13	8,117.39	5,308.87	-221.17	5,312.37	0.00	0.00	0.00
13,600.00	90.03	0.13	8,117.34	5,408.87	-220.94	5,412.34	0.00	0.00	0.00
13,700.00	90.03	0.13	8,117.29	5,508.87	-220.71	5,512.32	0.00	0.00	0.00
13,800.00	90.03	0.13	8,117.24	5,608.87	-220.48	5,612.29	0.00	0.00	0.00
13,900.00	90.03	0.13	8,117.18	5,708.87	-220.25	5,712.26	0.00	0.00	0.00
14,000.00	90.03	0.13	8,117.13	5,808.87	-220.02	5,812.23	0.00	0.00	0.00
14,100.00	90.03	0.13	8,117.08	5,908.87	-219.79	5,912.20	0.00	0.00	0.00
14,200.00	90.03	0.13	8,117.03	6,008.87	-219.56	6,012.18	0.00	0.00	0.00
14,300.00	90.03	0.13	8,116.98	6,108.87	-219.34	6,112.15	0.00	0.00	0.00
14,400.00	90.03	0.13	8,116.92	6,208.87	-219.11	6,212.12	0.00	0.00	0.00
14,500.00	90.03	0.13	8,116.87	6,308.87	-218.88	6,312.09	0.00	0.00	0.00
14,600.00	90.03	0.13	8,116.82	6,408.87	-218.65	6,412.07	0.00	0.00	0.00
14,700.00	90.03	0.13	8,116.77	6,508.87	-218.42	6,512.04	0.00	0.00	0.00
14,800.00	90.03	0.13	8,116.72	6,608.87	-218.19	6,612.01	0.00	0.00	0.00
14,900.00	90.03	0.13	8,116.67	6,708.87	-217.96	6,711.98	0.00	0.00	0.00
15,000.00	90.03	0.13	8,116.61	6,808.87	-217.73	6,811.96	0.00	0.00	0.00
15,100.00	90.03	0.13	8,116.56	6,908.87	-217.50	6,911.93	0.00	0.00	0.00
15,200.00	90.03	0.13	8,116.51	7,008.87	-217.27	7,011.90	0.00	0.00	0.00
15,300.00	90.03	0.13	8,116.46	7,108.87	-217.04	7,111.87	0.00	0.00	0.00

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	8,116.41	7,208.87	-216.82	7,211.85	0.00	0.00	0.00
15,500.00	90.03	0.13	8,116.36	7,308.87	-216.59	7,311.82	0.00	0.00	0.00
15,600.00	90.03	0.13	8,116.30	7,408.87	-216.36	7,411.79	0.00	0.00	0.00
15,700.00	90.03	0.13	8,116.25	7,508.87	-216.13	7,511.76	0.00	0.00	0.00
15,800.00	90.03	0.13	8,116.20	7,608.87	-215.90	7,611.73	0.00	0.00	0.00
15,900.00	90.03	0.13	8,116.15	7,708.87	-215.67	7,711.71	0.00	0.00	0.00
16,000.00	90.03	0.13	8,116.10	7,808.87	-215.44	7,811.68	0.00	0.00	0.00
16,100.00	90.03	0.13	8,116.04	7,908.87	-215.21	7,911.65	0.00	0.00	0.00
16,200.00	90.03	0.13	8,115.99	8,008.87	-214.98	8,011.62	0.00	0.00	0.00
16,300.00	90.03	0.13	8,115.94	8,108.87	-214.75	8,111.60	0.00	0.00	0.00
16,400.00	90.03	0.13	8,115.89	8,208.87	-214.52	8,211.57	0.00	0.00	0.00
16,500.00	90.03	0.13	8,115.84	8,308.87	-214.30	8,311.54	0.00	0.00	0.00
16,600.00	90.03	0.13	8,115.79	8,408.86	-214.07	8,411.51	0.00	0.00	0.00
16,700.00	90.03	0.13	8,115.73	8,508.86	-213.84	8,511.49	0.00	0.00	0.00
16,800.00	90.03	0.13	8,115.68	8,608.86	-213.61	8,611.46	0.00	0.00	0.00
16,900.00	90.03	0.13	8,115.63	8,708.86	-213.38	8,711.43	0.00	0.00	0.00
17,000.00	90.03	0.13	8,115.58	8,808.86	-213.15	8,811.40	0.00	0.00	0.00
17,100.00	90.03	0.13	8,115.53	8,908.86	-212.92	8,911.38	0.00	0.00	0.00
17,200.00	90.03	0.13	8,115.47	9,008.86	-212.69	9,011.35	0.00	0.00	0.00
17,300.00	90.03	0.13	8,115.42	9,108.86	-212.46	9,111.32	0.00	0.00	0.00
17,400.00	90.03	0.13	8,115.37	9,208.86	-212.23	9,211.29	0.00	0.00	0.00
17,500.00	90.03	0.13	8,115.32	9,308.86	-212.00	9,311.27	0.00	0.00	0.00
17,600.00	90.03	0.13	8,115.27	9,408.86	-211.78	9,411.24	0.00	0.00	0.00
17,700.00	90.03	0.13	8,115.22	9,508.86	-211.55	9,511.21	0.00	0.00	0.00
17,800.00	90.03	0.13	8,115.16	9,608.86	-211.32	9,611.18	0.00	0.00	0.00
17,900.00	90.03	0.13	8,115.11	9,708.86	-211.09	9,711.15	0.00	0.00	0.00
18,000.00	90.03	0.13	8,115.06	9,808.86	-210.86	9,811.13	0.00	0.00	0.00
18,100.00	90.03	0.13	8,115.01	9,908.86	-210.63	9,911.10	0.00	0.00	0.00
18,116.57	90.03	0.13	8,115.00	9,925.43	-210.59	9,927.66	0.00	0.00	0.00
PBHL/TD 18116.57 MD/8115.00 TVD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Ries Fee 503-2821H PB - plan hits target center - Point	0.00	0.00	8,115.00	9,925.43	-210.59	1,608,554.84	3,261,930.78	40.99999042	-104.55111288
Ries Fee 503-2821H EP - plan hits target center - Point	0.00	0.00	8,120.00	270.38	-232.71	1,598,900.13	3,262,012.06	40.97349204	-104.55119268

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Hole		
Design:	plan1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,500.00	2,500.00	0.00	0.00	KOP Begin 2°/100' build
2,713.78	2,713.58	-6.56	-4.53	Begin 4.28° tangent
7,525.96	7,512.37	-301.85	-208.29	Begin 10°/100' build/turn
8,461.50	8,120.00	270.38	-232.71	Begin 90.03° lateral
18,116.57	8,115.00	9,925.43	-210.59	PBHL/TD 18116.57 MD/8115.00 TVD

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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 503-2821H, Surf loc: 323 FSL 2067 FEL Section 28-T12N-R64W

Well Position	**+N/-S**	0.00 ft	**Northing:**	1,598,632.25 usft	**Latitude:**	40.97274997
	+E/-W	0.00 ft	**Easting:**	3,262,247.66 usft	**Longitude:**	-104.55035000
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	358.78

Plan Survey Tool Program **Date** 4/8/2018

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,116.57	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	
2,713.78	4.28	214.61	2,713.58	-6.56	-4.53	2.00	2.00	0.00	214.61	
7,525.96	4.28	214.61	7,512.37	-301.85	-208.29	0.00	0.00	0.00	0.00	
8,461.50	90.03	0.13	8,120.00	270.38	-232.71	10.00	9.17	15.56	145.45	Ries Fee 503-2821H
18,116.57	90.03	0.13	8,115.00	9,925.43	-210.59	0.00	0.00	0.00	0.00	Ries Fee 503-2821H

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
100.00	0.00	0.00	100.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
200.00	0.00	0.00	200.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
300.00	0.00	0.00	300.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
400.00	0.00	0.00	400.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
500.00	0.00	0.00	500.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
600.00	0.00	0.00	600.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
700.00	0.00	0.00	700.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
800.00	0.00	0.00	800.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
900.00	0.00	0.00	900.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,800.00	0.00	0.00	1,800.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
1,900.00	0.00	0.00	1,900.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,000.00	0.00	0.00	2,000.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,100.00	0.00	0.00	2,100.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,200.00	0.00	0.00	2,200.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,300.00	0.00	0.00	2,300.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,400.00	0.00	0.00	2,400.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
2,500.00	0.00	0.00	2,500.00	0.00	0.00	1,598,632.25	3,262,247.66	40.97274997	-104.55035000
KOP Begin 2°/100' build									
2,600.00	2.00	214.61	2,599.98	-1.44	-0.99	1,598,630.80	3,262,246.68	40.97274602	-104.55035358
2,700.00	4.00	214.61	2,699.84	-5.74	-3.96	1,598,626.46	3,262,243.75	40.97273420	-104.55036435
2,713.78	4.28	214.61	2,713.58	-6.56	-4.53	1,598,625.64	3,262,243.20	40.97273196	-104.55036639
Begin 4.28° tangent									
2,800.00	4.28	214.61	2,799.56	-11.85	-8.18	1,598,620.31	3,262,239.60	40.97271744	-104.55037961
2,900.00	4.28	214.61	2,899.28	-17.99	-12.41	1,598,614.13	3,262,235.44	40.97270060	-104.55039495
3,000.00	4.28	214.61	2,999.01	-24.12	-16.65	1,598,607.95	3,262,231.27	40.97268376	-104.55041028
3,100.00	4.28	214.61	3,098.73	-30.26	-20.88	1,598,601.77	3,262,227.10	40.97266691	-104.55042561
3,200.00	4.28	214.61	3,198.45	-36.40	-25.12	1,598,595.59	3,262,222.93	40.97265007	-104.55044095
3,300.00	4.28	214.61	3,298.17	-42.53	-29.35	1,598,589.41	3,262,218.76	40.97263323	-104.55045628
3,400.00	4.28	214.61	3,397.89	-48.67	-33.59	1,598,583.22	3,262,214.59	40.97261639	-104.55047161
3,500.00	4.28	214.61	3,497.61	-54.81	-37.82	1,598,577.04	3,262,210.43	40.97259955	-104.55048694
3,600.00	4.28	214.61	3,597.34	-60.94	-42.05	1,598,570.86	3,262,206.26	40.97258271	-104.55050228
3,700.00	4.28	214.61	3,697.06	-67.08	-46.29	1,598,564.68	3,262,202.09	40.97256587	-104.55051761
3,800.00	4.28	214.61	3,796.78	-73.21	-50.52	1,598,558.50	3,262,197.92	40.97254903	-104.55053294
3,900.00	4.28	214.61	3,896.50	-79.35	-54.76	1,598,552.32	3,262,193.75	40.97253219	-104.55054828
4,000.00	4.28	214.61	3,996.22	-85.49	-58.99	1,598,546.14	3,262,189.58	40.97251535	-104.55056361
4,100.00	4.28	214.61	4,095.94	-91.62	-63.23	1,598,539.96	3,262,185.41	40.97249851	-104.55057894
4,200.00	4.28	214.61	4,195.67	-97.76	-67.46	1,598,533.78	3,262,181.25	40.97248166	-104.55059428
4,300.00	4.28	214.61	4,295.39	-103.90	-71.69	1,598,527.59	3,262,177.08	40.97246482	-104.55060961
4,400.00	4.28	214.61	4,395.11	-110.03	-75.93	1,598,521.41	3,262,172.91	40.97244798	-104.55062494
4,500.00	4.28	214.61	4,494.83	-116.17	-80.16	1,598,515.23	3,262,168.74	40.97243114	-104.55064027
4,600.00	4.28	214.61	4,594.55	-122.30	-84.40	1,598,509.05	3,262,164.57	40.97241430	-104.55065561
4,700.00	4.28	214.61	4,694.27	-128.44	-88.63	1,598,502.87	3,262,160.40	40.97239746	-104.55067094
4,800.00	4.28	214.61	4,794.00	-134.58	-92.87	1,598,496.69	3,262,156.24	40.97238062	-104.55068627
4,900.00	4.28	214.61	4,893.72	-140.71	-97.10	1,598,490.51	3,262,152.07	40.97236378	-104.55070161
5,000.00	4.28	214.61	4,993.44	-146.85	-101.33	1,598,484.33	3,262,147.90	40.97234694	-104.55071694

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	4.28	214.61	5,093.16	-152.98	-105.57	1,598,478.14	3,262,143.73	40.97233010	-104.55073227
5,200.00	4.28	214.61	5,192.88	-159.12	-109.80	1,598,471.96	3,262,139.56	40.97231326	-104.55074760
5,300.00	4.28	214.61	5,292.60	-165.26	-114.04	1,598,465.78	3,262,135.39	40.97229642	-104.55076294
5,400.00	4.28	214.61	5,392.33	-171.39	-118.27	1,598,459.60	3,262,131.23	40.97227957	-104.55077827
5,500.00	4.28	214.61	5,492.05	-177.53	-122.51	1,598,453.42	3,262,127.06	40.97226273	-104.55079360
5,600.00	4.28	214.61	5,591.77	-183.67	-126.74	1,598,447.24	3,262,122.89	40.97224589	-104.55080894
5,700.00	4.28	214.61	5,691.49	-189.80	-130.98	1,598,441.06	3,262,118.72	40.97222905	-104.55082427
5,800.00	4.28	214.61	5,791.21	-195.94	-135.21	1,598,434.88	3,262,114.55	40.97221221	-104.55083960
5,900.00	4.28	214.61	5,890.93	-202.07	-139.44	1,598,428.70	3,262,110.38	40.97219537	-104.55085493
6,000.00	4.28	214.61	5,990.66	-208.21	-143.68	1,598,422.51	3,262,106.22	40.97217853	-104.55087027
6,100.00	4.28	214.61	6,090.38	-214.35	-147.91	1,598,416.33	3,262,102.05	40.97216169	-104.55088560
6,200.00	4.28	214.61	6,190.10	-220.48	-152.15	1,598,410.15	3,262,097.88	40.97214485	-104.55090093
6,300.00	4.28	214.61	6,289.82	-226.62	-156.38	1,598,403.97	3,262,093.71	40.97212801	-104.55091627
6,400.00	4.28	214.61	6,389.54	-232.75	-160.62	1,598,397.79	3,262,089.54	40.97211116	-104.55093160
6,500.00	4.28	214.61	6,489.26	-238.89	-164.85	1,598,391.61	3,262,085.37	40.97209432	-104.55094693
6,600.00	4.28	214.61	6,588.99	-245.03	-169.08	1,598,385.43	3,262,081.20	40.97207748	-104.55096226
6,700.00	4.28	214.61	6,688.71	-251.16	-173.32	1,598,379.25	3,262,077.04	40.97206064	-104.55097760
6,800.00	4.28	214.61	6,788.43	-257.30	-177.55	1,598,373.07	3,262,072.87	40.97204380	-104.55099293
6,900.00	4.28	214.61	6,888.15	-263.44	-181.79	1,598,366.88	3,262,068.70	40.97202696	-104.55100826
7,000.00	4.28	214.61	6,987.87	-269.57	-186.02	1,598,360.70	3,262,064.53	40.97201012	-104.55102360
7,100.00	4.28	214.61	7,087.60	-275.71	-190.26	1,598,354.52	3,262,060.36	40.97199328	-104.55103893
7,200.00	4.28	214.61	7,187.32	-281.84	-194.49	1,598,348.34	3,262,056.19	40.97197644	-104.55105426
7,300.00	4.28	214.61	7,287.04	-287.98	-198.72	1,598,342.16	3,262,052.03	40.97195960	-104.55106959
7,400.00	4.28	214.61	7,386.76	-294.12	-202.96	1,598,335.98	3,262,047.86	40.97194276	-104.55108493
7,500.00	4.28	214.61	7,486.48	-300.25	-207.19	1,598,329.80	3,262,043.69	40.97192591	-104.55110026
7,525.96	4.28	214.61	7,512.37	-301.85	-208.29	1,598,328.19	3,262,042.61	40.97192154	-104.55110424
Begin 10°/100' build/turn									
7,600.00	4.57	328.19	7,586.29	-301.61	-211.42	1,598,328.40	3,262,039.48	40.97192219	-104.55111557
7,700.00	14.09	350.42	7,684.88	-286.18	-215.56	1,598,343.78	3,262,035.17	40.97196453	-104.55113055
7,800.00	24.00	354.67	7,779.29	-253.85	-219.48	1,598,376.06	3,262,030.91	40.97205325	-104.55114475
7,900.00	33.96	356.53	7,866.67	-205.61	-223.07	1,598,424.26	3,262,026.80	40.97218566	-104.55115775
8,000.00	43.93	357.61	7,944.35	-142.91	-226.21	1,598,486.92	3,262,022.98	40.97235774	-104.55116914
8,100.00	53.92	358.36	8,009.97	-67.67	-228.82	1,598,562.14	3,262,019.57	40.97256425	-104.55117858
8,200.00	63.91	358.94	8,061.54	17.84	-230.81	1,598,647.61	3,262,016.67	40.97279892	-104.55118578
8,300.00	73.89	359.43	8,097.49	111.00	-232.12	1,598,740.76	3,262,014.36	40.97305462	-104.55119053
8,400.00	83.89	359.87	8,116.74	209.00	-232.71	1,598,838.75	3,262,012.72	40.97332358	-104.55119268
8,461.50	90.03	0.13	8,120.00	270.38	-232.71	1,598,900.13	3,262,012.06	40.97349204	-104.55119268
Begin 90.03° lateral									
8,500.00	90.03	0.13	8,119.98	308.89	-232.62	1,598,938.63	3,262,011.74	40.97359771	-104.55119236
8,600.00	90.03	0.13	8,119.93	408.89	-232.39	1,599,038.62	3,262,010.90	40.97387216	-104.55119153
8,700.00	90.03	0.13	8,119.88	508.89	-232.16	1,599,138.62	3,262,010.06	40.97414662	-104.55119071
8,800.00	90.03	0.13	8,119.82	608.89	-231.94	1,599,238.62	3,262,009.21	40.97442107	-104.55118988
8,900.00	90.03	0.13	8,119.77	708.89	-231.71	1,599,338.61	3,262,008.37	40.97469552	-104.55118906
9,000.00	90.03	0.13	8,119.72	808.89	-231.48	1,599,438.61	3,262,007.53	40.97496997	-104.55118823
9,100.00	90.03	0.13	8,119.67	908.89	-231.25	1,599,538.61	3,262,006.69	40.97524442	-104.55118740
9,200.00	90.03	0.13	8,119.62	1,008.89	-231.02	1,599,638.60	3,262,005.85	40.97551887	-104.55118658
9,300.00	90.03	0.13	8,119.57	1,108.88	-230.79	1,599,738.60	3,262,005.00	40.97579333	-104.55118575
9,400.00	90.03	0.13	8,119.51	1,208.88	-230.56	1,599,838.59	3,262,004.16	40.97606778	-104.55118492
9,500.00	90.03	0.13	8,119.46	1,308.88	-230.33	1,599,938.59	3,262,003.32	40.97634223	-104.55118410
9,600.00	90.03	0.13	8,119.41	1,408.88	-230.10	1,600,038.59	3,262,002.48	40.97661668	-104.55118327
9,700.00	90.03	0.13	8,119.36	1,508.88	-229.87	1,600,138.58	3,262,001.64	40.97689113	-104.55118245
9,800.00	90.03	0.13	8,119.31	1,608.88	-229.64	1,600,238.58	3,262,000.79	40.97716558	-104.55118162
9,900.00	90.03	0.13	8,119.26	1,708.88	-229.42	1,600,338.58	3,261,999.95	40.97744004	-104.55118079
10,000.00	90.03	0.13	8,119.20	1,808.88	-229.19	1,600,438.57	3,261,999.11	40.97771449	-104.55117997

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	8,119.15	1,908.88	-228.96	1,600,538.57	3,261,998.27	40.97798894	-104.55117914
10,200.00	90.03	0.13	8,119.10	2,008.88	-228.73	1,600,638.56	3,261,997.43	40.97826339	-104.55117832
10,300.00	90.03	0.13	8,119.05	2,108.88	-228.50	1,600,738.56	3,261,996.59	40.97853784	-104.55117749
10,400.00	90.03	0.13	8,119.00	2,208.88	-228.27	1,600,838.56	3,261,995.74	40.97881229	-104.55117666
10,500.00	90.03	0.13	8,118.94	2,308.88	-228.04	1,600,938.55	3,261,994.90	40.97908674	-104.55117584
10,600.00	90.03	0.13	8,118.89	2,408.88	-227.81	1,601,038.55	3,261,994.06	40.97936119	-104.55117501
10,700.00	90.03	0.13	8,118.84	2,508.88	-227.58	1,601,138.55	3,261,993.22	40.97963565	-104.55117418
10,800.00	90.03	0.13	8,118.79	2,608.88	-227.35	1,601,238.54	3,261,992.38	40.97991010	-104.55117336
10,900.00	90.03	0.13	8,118.74	2,708.88	-227.12	1,601,338.54	3,261,991.53	40.98018455	-104.55117253
11,000.00	90.03	0.13	8,118.69	2,808.88	-226.90	1,601,438.53	3,261,990.69	40.98045900	-104.55117170
11,100.00	90.03	0.13	8,118.63	2,908.88	-226.67	1,601,538.53	3,261,989.85	40.98073345	-104.55117088
11,200.00	90.03	0.13	8,118.58	3,008.88	-226.44	1,601,638.53	3,261,989.01	40.98100790	-104.55117005
11,300.00	90.03	0.13	8,118.53	3,108.88	-226.21	1,601,738.52	3,261,988.17	40.98128235	-104.55116923
11,400.00	90.03	0.13	8,118.48	3,208.88	-225.98	1,601,838.52	3,261,987.33	40.98155680	-104.55116840
11,500.00	90.03	0.13	8,118.43	3,308.88	-225.75	1,601,938.52	3,261,986.48	40.98183125	-104.55116757
11,600.00	90.03	0.13	8,118.37	3,408.88	-225.52	1,602,038.51	3,261,985.64	40.98210570	-104.55116675
11,700.00	90.03	0.13	8,118.32	3,508.88	-225.29	1,602,138.51	3,261,984.80	40.98238016	-104.55116592
11,800.00	90.03	0.13	8,118.27	3,608.88	-225.06	1,602,238.50	3,261,983.96	40.98265461	-104.55116509
11,900.00	90.03	0.13	8,118.22	3,708.88	-224.83	1,602,338.50	3,261,983.12	40.98292906	-104.55116427
12,000.00	90.03	0.13	8,118.17	3,808.88	-224.60	1,602,438.50	3,261,982.27	40.98320351	-104.55116344
12,100.00	90.03	0.13	8,118.12	3,908.88	-224.38	1,602,538.49	3,261,981.43	40.98347796	-104.55116262
12,200.00	90.03	0.13	8,118.06	4,008.88	-224.15	1,602,638.49	3,261,980.59	40.98375241	-104.55116179
12,300.00	90.03	0.13	8,118.01	4,108.88	-223.92	1,602,738.49	3,261,979.75	40.98402686	-104.55116096
12,400.00	90.03	0.13	8,117.96	4,208.88	-223.69	1,602,838.48	3,261,978.91	40.98430131	-104.55116014
12,500.00	90.03	0.13	8,117.91	4,308.88	-223.46	1,602,938.48	3,261,978.07	40.98457576	-104.55115931
12,600.00	90.03	0.13	8,117.86	4,408.88	-223.23	1,603,038.47	3,261,977.22	40.98485021	-104.55115848
12,700.00	90.03	0.13	8,117.81	4,508.88	-223.00	1,603,138.47	3,261,976.38	40.98512466	-104.55115766
12,800.00	90.03	0.13	8,117.75	4,608.88	-222.77	1,603,238.47	3,261,975.54	40.98539911	-104.55115683
12,900.00	90.03	0.13	8,117.70	4,708.88	-222.54	1,603,338.46	3,261,974.70	40.98567356	-104.55115600
13,000.00	90.03	0.13	8,117.65	4,808.87	-222.31	1,603,438.46	3,261,973.86	40.98594801	-104.55115518
13,100.00	90.03	0.13	8,117.60	4,908.87	-222.08	1,603,538.46	3,261,973.01	40.98622246	-104.55115435
13,200.00	90.03	0.13	8,117.55	5,008.87	-221.86	1,603,638.45	3,261,972.17	40.98649692	-104.55115352
13,300.00	90.03	0.13	8,117.49	5,108.87	-221.63	1,603,738.45	3,261,971.33	40.98677137	-104.55115270
13,400.00	90.03	0.13	8,117.44	5,208.87	-221.40	1,603,838.44	3,261,970.49	40.98704582	-104.55115187
13,500.00	90.03	0.13	8,117.39	5,308.87	-221.17	1,603,938.44	3,261,969.65	40.98732027	-104.55115105
13,600.00	90.03	0.13	8,117.34	5,408.87	-220.94	1,604,038.44	3,261,968.81	40.98759472	-104.55115022
13,700.00	90.03	0.13	8,117.29	5,508.87	-220.71	1,604,138.43	3,261,967.96	40.98786917	-104.55114939
13,800.00	90.03	0.13	8,117.24	5,608.87	-220.48	1,604,238.43	3,261,967.12	40.98814362	-104.55114857
13,900.00	90.03	0.13	8,117.18	5,708.87	-220.25	1,604,338.43	3,261,966.28	40.98841807	-104.55114774
14,000.00	90.03	0.13	8,117.13	5,808.87	-220.02	1,604,438.42	3,261,965.44	40.98869252	-104.55114691
14,100.00	90.03	0.13	8,117.08	5,908.87	-219.79	1,604,538.42	3,261,964.60	40.98896697	-104.55114609
14,200.00	90.03	0.13	8,117.03	6,008.87	-219.56	1,604,638.41	3,261,963.75	40.98924142	-104.55114526
14,300.00	90.03	0.13	8,116.98	6,108.87	-219.34	1,604,738.41	3,261,962.91	40.98951587	-104.55114443
14,400.00	90.03	0.13	8,116.92	6,208.87	-219.11	1,604,838.41	3,261,962.07	40.98979032	-104.55114361
14,500.00	90.03	0.13	8,116.87	6,308.87	-218.88	1,604,938.40	3,261,961.23	40.99006477	-104.55114278
14,600.00	90.03	0.13	8,116.82	6,408.87	-218.65	1,605,038.40	3,261,960.39	40.99033922	-104.55114195
14,700.00	90.03	0.13	8,116.77	6,508.87	-218.42	1,605,138.40	3,261,959.54	40.99061367	-104.55114113
14,800.00	90.03	0.13	8,116.72	6,608.87	-218.19	1,605,238.39	3,261,958.70	40.99088812	-104.55114030
14,900.00	90.03	0.13	8,116.67	6,708.87	-217.96	1,605,338.39	3,261,957.86	40.99116257	-104.55113947
15,000.00	90.03	0.13	8,116.61	6,808.87	-217.73	1,605,438.38	3,261,957.02	40.99143702	-104.55113865
15,100.00	90.03	0.13	8,116.56	6,908.87	-217.50	1,605,538.38	3,261,956.18	40.99171147	-104.55113782
15,200.00	90.03	0.13	8,116.51	7,008.87	-217.27	1,605,638.38	3,261,955.34	40.99198592	-104.55113699
15,300.00	90.03	0.13	8,116.46	7,108.87	-217.04	1,605,738.37	3,261,954.49	40.99226037	-104.55113617
15,400.00	90.03	0.13	8,116.41	7,208.87	-216.82	1,605,838.37	3,261,953.65	40.99253482	-104.55113534
15,500.00	90.03	0.13	8,116.36	7,308.87	-216.59	1,605,938.37	3,261,952.81	40.99280927	-104.55113452

Database:	DB_Jul2216dt_v14	**Local Co-ordinate Reference:**	Well Ries Fee 503-2821H
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 503-2821H	**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	8,116.30	7,408.87	-216.36	1,606,038.36	3,261,951.97	40.99308372	-104.55113369
15,700.00	90.03	0.13	8,116.25	7,508.87	-216.13	1,606,138.36	3,261,951.13	40.99335817	-104.55113286
15,800.00	90.03	0.13	8,116.20	7,608.87	-215.90	1,606,238.35	3,261,950.28	40.99363262	-104.55113204
15,900.00	90.03	0.13	8,116.15	7,708.87	-215.67	1,606,338.35	3,261,949.44	40.99390707	-104.55113121
16,000.00	90.03	0.13	8,116.10	7,808.87	-215.44	1,606,438.35	3,261,948.60	40.99418152	-104.55113038
16,100.00	90.03	0.13	8,116.04	7,908.87	-215.21	1,606,538.34	3,261,947.76	40.99445596	-104.55112956
16,200.00	90.03	0.13	8,115.99	8,008.87	-214.98	1,606,638.34	3,261,946.92	40.99473041	-104.55112873
16,300.00	90.03	0.13	8,115.94	8,108.87	-214.75	1,606,738.34	3,261,946.08	40.99500486	-104.55112790
16,400.00	90.03	0.13	8,115.89	8,208.87	-214.52	1,606,838.33	3,261,945.23	40.99527931	-104.55112708
16,500.00	90.03	0.13	8,115.84	8,308.87	-214.30	1,606,938.33	3,261,944.39	40.99555376	-104.55112625
16,600.00	90.03	0.13	8,115.79	8,408.86	-214.07	1,607,038.32	3,261,943.55	40.99582821	-104.55112542
16,700.00	90.03	0.13	8,115.73	8,508.86	-213.84	1,607,138.32	3,261,942.71	40.99610266	-104.55112460
16,800.00	90.03	0.13	8,115.68	8,608.86	-213.61	1,607,238.32	3,261,941.87	40.99637711	-104.55112377
16,900.00	90.03	0.13	8,115.63	8,708.86	-213.38	1,607,338.31	3,261,941.02	40.99665156	-104.55112294
17,000.00	90.03	0.13	8,115.58	8,808.86	-213.15	1,607,438.31	3,261,940.18	40.99692601	-104.55112212
17,100.00	90.03	0.13	8,115.53	8,908.86	-212.92	1,607,538.31	3,261,939.34	40.99720046	-104.55112129
17,200.00	90.03	0.13	8,115.47	9,008.86	-212.69	1,607,638.30	3,261,938.50	40.99747491	-104.55112046
17,300.00	90.03	0.13	8,115.42	9,108.86	-212.46	1,607,738.30	3,261,937.66	40.99774936	-104.55111964
17,400.00	90.03	0.13	8,115.37	9,208.86	-212.23	1,607,838.29	3,261,936.82	40.99802381	-104.55111881
17,500.00	90.03	0.13	8,115.32	9,308.86	-212.00	1,607,938.29	3,261,935.97	40.99829826	-104.55111798
17,600.00	90.03	0.13	8,115.27	9,408.86	-211.78	1,608,038.29	3,261,935.13	40.99857270	-104.55111716
17,700.00	90.03	0.13	8,115.22	9,508.86	-211.55	1,608,138.28	3,261,934.29	40.99884715	-104.55111633
17,800.00	90.03	0.13	8,115.16	9,608.86	-211.32	1,608,238.28	3,261,933.45	40.99912160	-104.55111550
17,900.00	90.03	0.13	8,115.11	9,708.86	-211.09	1,608,338.28	3,261,932.61	40.99939605	-104.55111468
18,000.00	90.03	0.13	8,115.06	9,808.86	-210.86	1,608,438.27	3,261,931.76	40.99967050	-104.55111385
18,100.00	90.03	0.13	8,115.01	9,908.86	-210.63	1,608,538.27	3,261,930.92	40.99994495	-104.55111302
18,116.57	90.03	0.13	8,115.00	9,925.43	-210.59	1,608,554.84	3,261,930.78	40.99999042	-104.55111288
PBHL/TD 18116.57 MD/8115.00 TVD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Ries Fee 503-2821H PB - plan hits target center - Point	0.00	0.00	8,115.00	9,925.43	-210.59	1,608,554.84	3,261,930.78	40.99999042	-104.55111288
Ries Fee 503-2821H EP - plan hits target center - Point	0.00	0.00	8,120.00	270.38	-232.71	1,598,900.13	3,262,012.06	40.97349204	-104.55119268

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,500.00	2,500.00	0.00	0.00	KOP Begin 2°/100' build
2,713.78	2,713.58	-6.56	-4.53	Begin 4.28° tangent
7,525.96	7,512.37	-301.85	-208.29	Begin 10°/100' build/turn
8,461.50	8,120.00	270.38	-232.71	Begin 90.03° lateral
18,116.57	8,115.00	9,925.43	-210.59	PBHL/TD 18116.57 MD/8115.00 TVD