



CRESTONE PEAK
RESOURCES

Crestone Peak Resources

DJ BASIN

S4-T1N-R65W (RUEGGE)

RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL

OH

Design: FINAL

Standard Survey Report

09 October, 2019

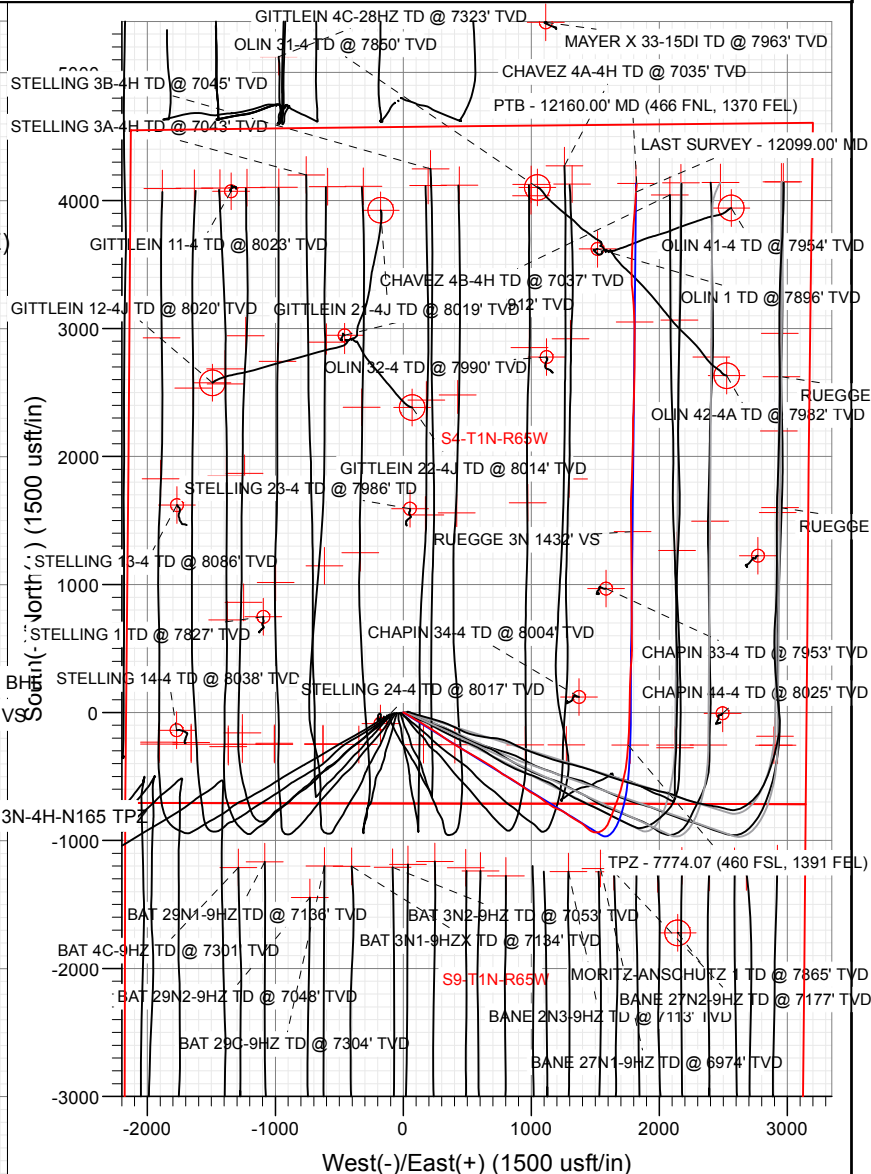
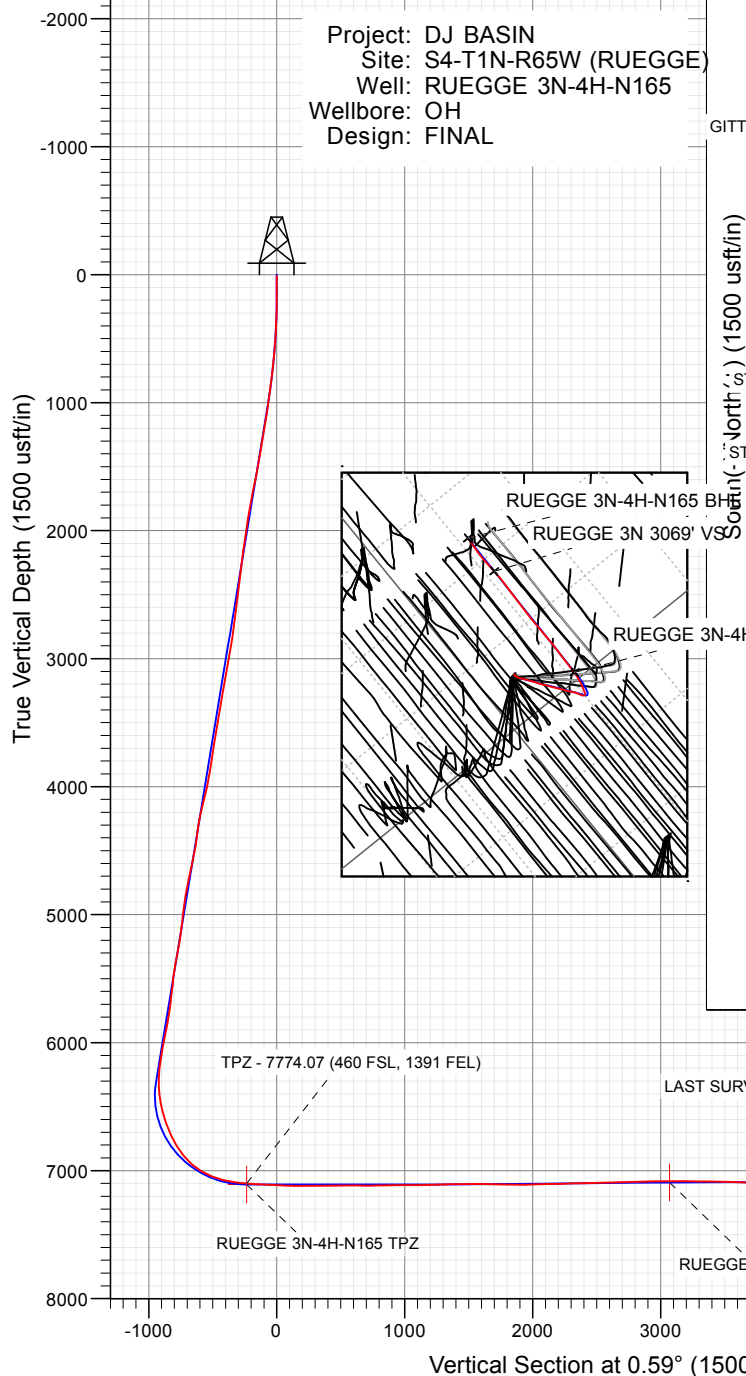




SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	1033.76	17.68	121.78	1019.81	-71.23	114.96	2.00	121.78	-70.04	
4	6584.35	17.68	121.78	6308.37	-958.86	1547.54	0.00	0.00	-942.87	
5	7822.43	90.00	0.59	7108.00	-253.87	1772.83	8.00	-119.98	-235.60	RUEGGE 3N-4H-N165 TPZ
6	9490.03	90.00	0.59	7108.00	1413.64	1790.11	0.00	0.00	1432.00	RUEGGE 3N 1432' VS
7	9520.34	90.61	0.59	7107.84	1443.95	1790.42	2.00	0.00	1462.31	
8	11096.80	90.61	0.59	7091.16	3020.24	1806.75	0.00	0.00	3038.69	
9	11127.11	90.00	0.59	7091.00	3050.55	1807.06	2.00	180.00	3069.00	RUEGGE 3N 3069' VS
10	12210.24	90.00	0.59	7091.00	4133.62	1818.28	0.00	0.00	4152.12	RUEGGE 3N-4H-N165 BHL

Type User	Target No Target (Freehand)	Azimuth 0.59	Origin Type S/N	N/S 0.00	E/W 0.00	From TVD 0.00
Name		TVD	+N-S	+E-W		Latitude
RUEGGE 3N 3069 VS		7091.01	3050.55	1807.06		40.083643
RUEGGE 3N-4H-N165 BHL		7108.00	1413.62	1818.28		40.086617
RUEGGE 3N 1432 VS		7108.00	1413.64	1790.11		40.079150
RUEGGE 3N-4H-N165 TP2		7108.00	-273.87	1722.83		40.074572

Project: DJ BASIN
Site: S4-T1N-R65W (RUEGGE)
Well: RUEGGE 3N-4H-N165
Wellbore: OH
Design: FINAL



Azimuths to True North
Magnetic North: 8.17°

Magnetic Field
Strength: 52104.9nT
Dip Angle: 66.47°
Date: 7/11/2018
Model: HDGM FILE



CATHEDRAL

WELL DETAILS: RUEGGE 3N-4H-N165

4915.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1271350.87	3232080.61	40.075269	-104.670668



Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL
Project:	DJ BASIN	TVD Reference:	23' KB @ 4938.00usft
Site:	S4-T1N-R65W (RUEGGE)	MD Reference:	23' KB @ 4938.00usft
Well:	RUEGGE 3N-4H-N165	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	DJ BASIN		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		S4-T1N-R65W (RUEGGE)			
Site Position:		Northing:	1,271,333.68 usft	Latitude:	40.075225
From:	Map	Easting:	3,231,971.96 usft	Longitude:	-104.671057
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well	RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL					
Well Position	+N/-S	0.00 usft	Northing:	1,271,350.87 usft	Latitude:	40.075269
	+E/-W	0.00 usft	Easting:	3,232,080.61 usft	Longitude:	-104.670668
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,915.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	7/11/2018	8.17	66.47	52,104.90000000

Design		FINAL			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	0.59	

Survey Program		Date	10/9/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
139.00	2,456.00	Survey #1 (OH)	VESSI_GYROFLEX	VESSI Gyroflex Gyro	
2,653.00	12,160.00	Survey #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Survey										
	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
	139.00	0.21	143.60	139.00	-0.19	0.14	-0.19	0.16	0.16	0.00
	231.00	2.39	121.79	230.97	-1.34	1.87	-1.32	2.39	2.37	-23.71
	322.00	3.84	115.19	321.83	-3.63	6.24	-3.57	1.64	1.59	-7.25
	391.00	5.10	112.24	390.62	-5.78	11.17	-5.66	1.86	1.83	-4.28
	452.00	5.71	116.39	451.35	-8.15	16.40	-7.98	1.19	1.00	6.80
	534.00	7.97	120.02	532.76	-12.81	24.98	-12.55	2.80	2.76	4.43
	620.00	10.20	119.34	617.68	-19.53	36.78	-19.15	2.60	2.59	-0.79
	701.00	11.08	122.18	697.29	-27.18	49.62	-26.67	1.26	1.09	3.51

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL
Project:	DJ BASIN	TVD Reference:	23' KB @ 4938.00usft
Site:	S4-T1N-R65W (RUEGGE)	MD Reference:	23' KB @ 4938.00usft
Well:	RUEGGE 3N-4H-N165	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
785.00	12.74	121.93	779.47	-36.38	64.31	-35.72	1.98	1.98	-0.30
868.00	14.80	122.44	860.09	-46.91	81.03	-46.07	2.49	2.48	0.61
950.00	16.57	120.84	939.03	-58.52	99.91	-57.49	2.22	2.16	-1.95
1,032.00	15.93	119.99	1,017.75	-70.14	119.69	-68.91	0.83	-0.78	-1.04
1,115.00	16.23	119.55	1,097.51	-81.56	139.65	-80.11	0.39	0.36	-0.53
1,198.00	17.81	120.27	1,176.87	-93.68	160.70	-92.02	1.92	1.90	0.87
1,281.00	19.21	122.77	1,255.57	-107.47	183.15	-105.58	1.94	1.69	3.01
1,363.00	18.11	123.34	1,333.26	-121.77	205.14	-119.65	1.36	-1.34	0.70
1,446.00	16.61	121.94	1,412.48	-135.14	225.98	-132.81	1.88	-1.81	-1.69
1,529.00	18.02	122.02	1,491.72	-148.22	246.94	-145.67	1.70	1.70	0.10
1,612.00	20.08	124.51	1,570.17	-163.10	269.57	-160.32	2.67	2.48	3.00
1,697.00	19.73	125.25	1,650.09	-179.65	293.31	-176.62	0.51	-0.41	0.87
1,780.00	19.49	126.69	1,728.28	-196.01	315.85	-192.75	0.65	-0.29	1.73
1,861.00	17.86	123.19	1,805.01	-210.89	337.08	-207.40	2.44	-2.01	-4.32
1,943.00	17.13	122.29	1,883.22	-224.22	357.82	-220.52	0.95	-0.89	-1.10
2,028.00	16.39	121.63	1,964.61	-237.20	378.61	-233.29	0.90	-0.87	-0.78
2,117.00	14.63	122.69	2,050.36	-249.85	398.76	-245.73	2.00	-1.98	1.19
2,207.00	15.39	122.93	2,137.29	-262.48	418.35	-258.16	0.85	0.84	0.27
2,297.00	15.44	119.88	2,224.05	-274.94	438.76	-270.41	0.90	0.06	-3.39
2,386.00	15.06	119.87	2,309.92	-286.61	459.06	-281.86	0.43	-0.43	-0.01
2,456.00	13.65	120.71	2,377.73	-295.35	474.05	-290.46	2.04	-2.01	1.20
2,653.00	13.84	115.74	2,569.10	-317.46	515.26	-312.14	0.61	0.10	-2.52
2,748.00	14.41	117.76	2,661.23	-327.90	535.96	-322.36	0.79	0.60	2.13
2,843.00	14.99	124.00	2,753.12	-340.28	556.60	-334.53	1.77	0.61	6.57
2,937.00	16.61	121.80	2,843.57	-354.15	578.10	-348.18	1.84	1.72	-2.34
3,032.00	20.96	121.10	2,933.49	-370.09	604.20	-363.85	4.59	4.58	-0.74
3,126.00	17.97	120.13	3,022.10	-386.06	631.15	-379.54	3.20	-3.18	-1.03
3,231.00	18.37	120.92	3,121.87	-402.69	659.35	-395.88	0.45	0.38	0.75
3,326.00	18.19	121.10	3,212.07	-418.04	684.89	-410.97	0.20	-0.19	0.19
3,420.00	17.23	126.46	3,301.62	-433.90	708.65	-426.58	2.01	-1.02	5.70
3,515.00	17.97	124.70	3,392.18	-450.60	732.02	-443.04	0.96	0.78	-1.85
3,610.00	17.67	127.34	3,482.62	-467.69	755.53	-459.88	0.91	-0.32	2.78
3,704.00	16.52	121.72	3,572.47	-483.37	778.24	-475.33	2.14	-1.22	-5.98
3,799.00	17.23	117.67	3,663.38	-497.01	802.19	-488.72	1.45	0.75	-4.26
3,894.00	18.11	118.99	3,753.90	-510.70	827.57	-502.15	1.02	0.93	1.39
3,989.00	17.80	120.92	3,844.28	-525.31	852.94	-516.50	0.71	-0.33	2.03
4,084.00	18.85	123.47	3,934.46	-541.24	878.20	-532.17	1.39	1.11	2.68
4,178.00	20.83	125.67	4,022.88	-559.36	904.45	-550.02	2.25	2.11	2.34
4,273.00	23.69	126.11	4,110.79	-580.46	933.59	-570.82	3.02	3.01	0.46
4,367.00	22.32	125.32	4,197.31	-601.91	963.42	-591.96	1.49	-1.46	-0.84
4,462.00	17.62	122.15	4,286.57	-620.00	990.33	-609.77	5.08	-4.95	-3.34
4,557.00	13.89	116.44	4,378.00	-632.74	1,012.72	-622.28	4.25	-3.93	-6.01

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL
Project:	DJ BASIN	TVD Reference:	23' KB @ 4938.00usft
Site:	S4-T1N-R65W (RUEGGE)	MD Reference:	23' KB @ 4938.00usft
Well:	RUEGGE 3N-4H-N165	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,651.00	19.73	120.40	4,467.94	-645.80	1,036.53	-635.09	6.33	6.21	4.21
4,746.00	19.51	125.06	4,557.43	-663.03	1,063.35	-652.05	1.66	-0.23	4.91
4,841.00	19.69	129.63	4,646.93	-682.35	1,088.66	-671.11	1.62	0.19	4.81
4,936.00	20.87	124.79	4,736.05	-702.22	1,114.88	-690.70	2.16	1.24	-5.09
5,031.00	17.40	122.86	4,825.79	-719.58	1,140.72	-707.80	3.71	-3.65	-2.03
5,125.00	15.95	121.89	4,915.83	-734.03	1,163.49	-722.02	1.57	-1.54	-1.03
5,219.00	16.08	113.89	5,006.19	-746.13	1,186.37	-733.88	2.35	0.14	-8.51
5,313.00	17.49	109.67	5,096.19	-756.16	1,211.57	-743.64	1.98	1.50	-4.49
5,408.00	19.03	117.06	5,186.42	-768.01	1,238.81	-755.22	2.92	1.62	7.78
5,503.00	20.65	124.79	5,275.79	-784.62	1,266.37	-771.54	3.24	1.71	8.14
5,597.00	15.86	126.20	5,365.03	-801.67	1,290.36	-788.34	5.12	-5.10	1.50
5,692.00	13.32	125.23	5,456.96	-815.66	1,309.78	-802.12	2.69	-2.67	-1.02
5,786.00	13.27	122.33	5,548.45	-827.67	1,327.74	-813.96	0.71	-0.05	-3.09
5,881.00	14.85	121.19	5,640.60	-839.81	1,347.37	-825.89	1.69	1.66	-1.20
5,976.00	15.21	115.65	5,732.35	-851.51	1,369.02	-837.37	1.56	0.38	-5.83
6,071.00	15.65	124.18	5,823.94	-864.10	1,390.85	-849.73	2.43	0.46	8.98
6,166.00	16.44	132.17	5,915.25	-880.33	1,411.42	-865.75	2.47	0.83	8.41
6,261.00	17.27	134.55	6,006.17	-899.25	1,431.43	-884.46	1.14	0.87	2.51
6,356.00	16.30	125.85	6,097.13	-916.95	1,452.29	-901.95	2.83	-1.02	-9.16
6,451.00	16.88	113.98	6,188.21	-930.37	1,475.71	-915.12	3.61	0.61	-12.49
6,545.00	15.82	95.96	6,278.46	-937.25	1,500.94	-921.74	5.49	-1.13	-19.17
6,640.00	16.83	74.08	6,369.72	-934.82	1,527.07	-919.04	6.52	1.06	-23.03
6,734.00	19.29	57.56	6,459.14	-922.75	1,553.28	-906.70	6.02	2.62	-17.57
6,829.00	18.85	42.53	6,548.98	-903.01	1,576.91	-886.72	5.18	-0.46	-15.82
6,924.00	21.49	26.79	6,638.21	-876.14	1,595.14	-859.67	6.33	2.78	-16.57
7,019.00	26.37	22.93	6,725.02	-841.15	1,611.22	-824.52	5.39	5.14	-4.06
7,113.00	32.65	20.73	6,806.79	-798.17	1,628.34	-781.36	6.78	6.68	-2.34
7,208.00	40.96	22.49	6,882.79	-745.34	1,649.36	-728.31	8.82	8.75	1.85
7,303.00	49.79	19.94	6,949.46	-682.34	1,673.70	-665.07	9.49	9.29	-2.68
7,397.00	60.16	17.30	7,003.35	-609.46	1,698.13	-591.95	11.27	11.03	-2.81
7,492.00	69.79	11.59	7,043.51	-526.21	1,719.40	-508.47	11.50	10.14	-6.01
7,586.00	75.15	9.92	7,071.82	-438.18	1,736.10	-420.28	5.95	5.70	-1.78
7,680.00	81.69	6.67	7,090.68	-347.11	1,749.35	-329.08	7.74	6.96	-3.46
7,774.07	86.83	2.66	7,100.09	-253.87	1,756.94	-235.77	6.92	5.46	-4.26
TPZ - 7774.07 (460 FSL, 1391 FEL)									
7,775.00	86.88	2.62	7,100.14	-252.95	1,756.98	-234.84	6.92	5.48	-4.23
7,870.00	85.47	2.97	7,106.48	-158.27	1,761.61	-140.13	1.53	-1.48	0.37
7,965.00	87.89	1.22	7,111.98	-63.51	1,765.07	-45.33	3.14	2.55	-1.84
8,059.00	87.45	1.57	7,115.80	30.39	1,767.36	48.58	0.60	-0.47	0.37
8,154.00	89.60	0.34	7,118.25	125.33	1,768.94	143.54	2.61	2.26	-1.29
8,248.00	90.26	2.18	7,118.36	219.31	1,771.01	237.53	2.08	0.70	1.96
8,343.00	90.62	3.59	7,117.63	314.18	1,775.79	332.45	1.53	0.38	1.48
8,438.00	90.48	4.29	7,116.72	408.95	1,782.32	427.28	0.75	-0.15	0.74

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Site:	S4-T1N-R65W (RUEGGE)	MD Reference:	23' KB @ 4938.00usft
Well:	RUEGGE 3N-4H-N165	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,532.00	90.18	359.64	7,116.18	502.87	1,785.54	521.23	4.96	-0.32	-4.95	
8,627.00	89.87	359.81	7,116.14	597.87	1,785.08	616.22	0.37	-0.33	0.18	
8,722.00	89.08	359.90	7,117.01	692.86	1,784.84	711.21	0.84	-0.83	0.09	
8,816.00	91.58	359.55	7,116.47	786.85	1,784.39	805.19	2.69	2.66	-0.37	
8,911.00	91.06	0.07	7,114.28	881.83	1,784.08	900.15	0.77	-0.55	0.55	
9,006.00	89.91	359.28	7,113.47	976.82	1,783.54	995.13	1.47	-1.21	-0.83	
9,100.00	91.01	359.28	7,112.72	1,070.81	1,782.36	1,089.10	1.17	1.17	0.00	
9,195.00	91.45	359.64	7,110.68	1,165.78	1,781.46	1,184.06	0.60	0.46	0.38	
9,289.00	91.27	359.81	7,108.45	1,259.75	1,781.01	1,278.03	0.26	-0.19	0.18	
9,384.00	90.66	359.64	7,106.85	1,354.74	1,780.55	1,373.00	0.67	-0.64	-0.18	
9,479.00	90.92	358.76	7,105.54	1,449.72	1,779.23	1,467.96	0.97	0.27	-0.93	
9,574.00	90.44	0.69	7,104.41	1,544.71	1,778.77	1,562.94	2.09	-0.51	2.03	
9,668.00	88.64	359.81	7,105.17	1,638.70	1,779.18	1,656.93	2.13	-1.91	-0.94	
9,763.00	88.86	2.36	7,107.24	1,733.65	1,780.98	1,751.90	2.69	0.23	2.68	
9,857.00	88.73	2.36	7,109.22	1,827.55	1,784.85	1,845.83	0.14	-0.14	0.00	
9,952.00	91.19	2.10	7,109.28	1,922.47	1,788.55	1,940.79	2.60	2.59	-0.27	
10,046.00	92.11	1.57	7,106.58	2,016.38	1,791.55	2,034.72	1.13	0.98	-0.56	
10,141.00	91.32	0.87	7,103.73	2,111.32	1,793.58	2,129.67	1.11	-0.83	-0.74	
10,236.00	90.66	359.55	7,102.09	2,206.30	1,793.92	2,224.65	1.55	-0.69	-1.39	
10,330.00	91.89	2.97	7,100.00	2,300.24	1,795.99	2,318.61	3.87	1.31	3.64	
10,425.00	91.14	1.48	7,097.49	2,395.13	1,799.68	2,413.53	1.76	-0.79	-1.57	
10,520.00	91.63	1.83	7,095.19	2,490.06	1,802.42	2,508.49	0.63	0.52	0.37	
10,614.00	91.67	1.31	7,092.48	2,583.99	1,804.99	2,602.44	0.55	0.04	-0.55	
10,709.00	91.76	0.16	7,089.64	2,678.93	1,806.21	2,697.39	1.21	0.09	-1.21	
10,804.00	91.49	359.81	7,086.95	2,773.90	1,806.19	2,792.35	0.47	-0.28	-0.37	
10,899.00	92.11	0.16	7,083.96	2,868.85	1,806.16	2,887.30	0.75	0.65	0.37	
10,993.00	90.26	359.90	7,082.02	2,962.82	1,806.21	2,981.27	1.99	-1.97	-0.28	
11,088.00	90.35	0.51	7,081.51	3,057.82	1,806.55	3,076.26	0.65	0.09	0.64	
11,182.00	89.39	355.68	7,081.73	3,151.74	1,803.43	3,170.14	5.24	-1.02	-5.14	
11,277.00	88.33	352.08	7,083.62	3,246.16	1,793.30	3,264.46	3.95	-1.12	-3.79	
11,372.00	89.65	358.32	7,085.29	3,340.77	1,785.36	3,358.97	6.71	1.39	6.57	
11,466.00	89.30	359.02	7,086.16	3,434.74	1,783.18	3,452.92	0.83	-0.37	0.74	
11,561.00	88.64	2.10	7,087.86	3,529.71	1,784.11	3,547.89	3.32	-0.69	3.24	
11,656.00	86.88	2.36	7,091.58	3,624.56	1,787.80	3,642.77	1.87	-1.85	0.27	
11,750.00	88.02	3.77	7,095.76	3,718.33	1,792.82	3,736.59	1.93	1.21	1.50	
11,844.00	86.27	3.68	7,100.44	3,812.01	1,798.92	3,830.33	1.86	-1.86	-0.10	
11,939.00	88.77	5.26	7,104.55	3,906.62	1,806.32	3,925.01	3.11	2.63	1.66	
12,033.00	91.58	3.85	7,104.26	4,000.31	1,813.78	4,018.77	3.34	2.99	-1.50	
12,099.00	92.68	4.29	7,101.81	4,066.10	1,818.46	4,084.61	1.79	1.67	0.67	
LAST SURVEY - 12099.00' MD										
12,160.00	92.68	4.29	7,098.96	4,126.86	1,823.02	4,145.41	0.00	0.00	0.00	
PTB - 12160.00' MD (466 FNL, 1370 FEL)										

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well RUEGGE 3N-4H-N165 - Slot RUEGGE 3N-4H-N165 SHL
Project:	DJ BASIN	TVD Reference:	23' KB @ 4938.00usft
Site:	S4-T1N-R65W (RUEGGE)	MD Reference:	23' KB @ 4938.00usft
Well:	RUEGGE 3N-4H-N165	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Design Targets
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RUEGGE 3N 3069' VS - actual wellpath misses target center by 9.46usft at 11080.68usft MD (7081.56 TVD, 3050.50 N, 1806.49 E) - Point	0.00	0.00	7,091.00	3,050.55	1,807.06	1,274,418.18	3,233,859.07	40.083644	-104.664210
RUEGGE 3N-4H-N165 I - actual wellpath misses target center by 11.47usft at 12160.00usft MD (7098.96 TVD, 4126.86 N, 1823.02 E) - Point	0.00	0.00	7,091.00	4,133.62	1,818.28	1,275,501.31	3,233,860.15	40.086617	-104.664169
RUEGGE 3N-4H-N165 T - actual wellpath misses target center by 17.71usft at 7775.38usft MD (7100.16 TVD, -252.57 N, 1757.00 E) - Point	0.00	0.00	7,108.00	-253.87	1,772.83	1,271,113.59	3,233,855.74	40.074572	-104.664333

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,774.07	7,100.09	-253.87	1,756.94	TPZ - 7774.07 (460 FSL, 1391 FEL)
12,099.00	7,101.81	4,066.10	1,818.46	LAST SURVEY - 12099.00' MD
12,160.00	7,098.96	4,126.86	1,823.02	PTB - 12160.00' MD (466 FNL, 1370 FEL)

Checked By: _____ Approved By: _____ Date: _____