

# **CRESTONE PEAK RESOURCES**

**WELD COUNTY**

**SEC 22-T1N-R68W**

**COSSLETT EAST 1N-22H-H168**

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**24 February, 2023**



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 1N-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5206.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5206.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	WELD COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		SEC 22-T1N-R68W			
Site Position:		Northing:	1,259,282.05 usft	Latitude:	40.043946°N
From:	Lat/Long	Easting:	3,145,574.24 usft	Longitude:	104.980039°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.34 °

Well	COSSLETT EAST 1N-22H-H168					
Well Position	+N/-S	-1,718.34 usft	Northing:	1,257,557.46 usft	Latitude:	40.039229°N
	+E/-W	-1,081.37 usft	Easting:	3,144,503.00 usft	Longitude:	104.983901°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,181.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/16/2022	7.86	66.31	51,667.74801715

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	145.26

<b>Plan Survey Tool Program</b>	<b>Date</b>	2/24/2023			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	20,184.95	PROPOSAL 1 (OWB)	MWD OWSG	
				OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
2,292.11	43.84	70.45	2,084.36	267.18	752.54	2.00	2.00	0.00	70.45	
9,392.50	43.84	70.45	7,205.52	1,912.69	5,387.36	0.00	0.00	0.00	0.00	
10,427.79	90.00	180.19	7,730.00	1,354.03	5,859.58	10.00	4.46	10.60	104.51	LP-COSSLETT E 1N-
20,184.95	90.00	180.19	7,730.00	-8,403.07	5,826.59	0.00	0.00	0.00	0.00	PBHL-COSSLETT E

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<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5206.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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
<b>Denver Formation</b>									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
154.00	1.08	70.45	154.00	0.17	0.48	0.13	2.00	2.00	0.00
<b>Laramie Formation</b>									
200.00	2.00	70.45	199.98	0.58	1.64	0.46	2.00	2.00	0.00
300.00	4.00	70.45	299.84	2.33	6.58	1.83	2.00	2.00	0.00
400.00	6.00	70.45	399.45	5.25	14.79	4.11	2.00	2.00	0.00
500.00	8.00	70.45	498.70	9.33	26.27	7.31	2.00	2.00	0.00
600.00	10.00	70.45	597.47	14.56	41.01	11.40	2.00	2.00	0.00
634.09	10.68	70.45	631.00	16.61	46.78	13.01	2.00	2.00	0.00
<b>Fox Hills sandstone</b>									
700.00	12.00	70.45	695.62	20.95	58.99	16.40	2.00	2.00	0.00
800.00	14.00	70.45	793.06	28.47	80.19	22.30	2.00	2.00	0.00
810.25	14.21	70.45	803.00	29.31	82.55	22.95	2.00	2.00	0.00
<b>Pierre Formation</b>									
900.00	16.00	70.45	889.64	37.13	104.58	29.08	2.00	2.00	0.00
1,000.00	18.00	70.45	985.27	46.91	132.13	36.74	2.00	2.00	0.00
1,067.27	19.35	70.45	1,049.00	54.12	152.43	42.38	2.00	2.00	0.00
<b>Upper Pierre aquifer</b>									
1,100.00	20.00	70.45	1,079.82	57.80	162.81	45.27	2.00	2.00	0.00
1,200.00	22.00	70.45	1,173.17	69.79	196.58	54.66	2.00	2.00	0.00
1,300.00	24.00	70.45	1,265.21	82.86	233.40	64.90	2.00	2.00	0.00
1,400.00	26.00	70.45	1,355.84	97.00	273.23	75.97	2.00	2.00	0.00
1,500.00	28.00	70.45	1,444.94	112.19	316.01	87.87	2.00	2.00	0.00
1,600.00	30.00	70.45	1,532.39	128.41	361.69	100.57	2.00	2.00	0.00
1,700.00	32.00	70.45	1,618.11	145.64	410.22	114.06	2.00	2.00	0.00
1,800.00	34.00	70.45	1,701.97	163.86	461.55	128.33	2.00	2.00	0.00
1,900.00	36.00	70.45	1,783.88	183.05	515.60	143.36	2.00	2.00	0.00
2,000.00	38.00	70.45	1,863.74	203.19	572.31	159.13	2.00	2.00	0.00
2,100.00	40.00	70.45	1,941.45	224.24	631.61	175.62	2.00	2.00	0.00
2,157.34	41.15	70.45	1,985.00	236.72	666.75	185.39	2.00	2.00	0.00
<b>Base of Upper Pierre aquifer</b>									
2,200.00	42.00	70.45	2,016.92	246.19	693.43	192.81	2.00	2.00	0.00
2,292.11	43.84	70.45	2,084.36	267.18	752.54	209.24	2.00	2.00	0.00
<b>Start 7100.39 hold at 2292.11 MD</b>									
2,300.00	43.84	70.45	2,090.06	269.00	757.69	210.68	0.00	0.00	0.00
2,400.00	43.84	70.45	2,162.18	292.18	822.97	228.83	0.00	0.00	0.00
2,500.00	43.84	70.45	2,234.31	315.35	888.24	246.98	0.00	0.00	0.00
2,600.00	43.84	70.45	2,306.43	338.53	953.52	265.13	0.00	0.00	0.00
2,700.00	43.84	70.45	2,378.56	361.70	1,018.79	283.28	0.00	0.00	0.00
2,800.00	43.84	70.45	2,450.68	384.88	1,084.07	301.43	0.00	0.00	0.00
2,900.00	43.84	70.45	2,522.81	408.05	1,149.34	319.58	0.00	0.00	0.00
3,000.00	43.84	70.45	2,594.93	431.23	1,214.62	337.73	0.00	0.00	0.00
3,100.00	43.84	70.45	2,667.06	454.40	1,279.89	355.88	0.00	0.00	0.00
3,200.00	43.84	70.45	2,739.18	477.58	1,345.17	374.03	0.00	0.00	0.00
3,300.00	43.84	70.45	2,811.31	500.75	1,410.45	392.18	0.00	0.00	0.00
3,400.00	43.84	70.45	2,883.43	523.93	1,475.72	410.33	0.00	0.00	0.00
3,500.00	43.84	70.45	2,955.56	547.10	1,541.00	428.48	0.00	0.00	0.00
3,600.00	43.84	70.45	3,027.68	570.28	1,606.27	446.63	0.00	0.00	0.00
3,700.00	43.84	70.45	3,099.81	593.45	1,671.55	464.78	0.00	0.00	0.00
3,800.00	43.84	70.45	3,171.93	616.63	1,736.82	482.93	0.00	0.00	0.00

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<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,900.00	43.84	70.45	3,244.06	639.80	1,802.10	501.08	0.00	0.00	0.00	
4,000.00	43.84	70.45	3,316.18	662.98	1,867.38	519.23	0.00	0.00	0.00	
4,100.00	43.84	70.45	3,388.31	686.15	1,932.65	537.38	0.00	0.00	0.00	
4,200.00	43.84	70.45	3,460.43	709.33	1,997.93	555.53	0.00	0.00	0.00	
4,300.00	43.84	70.45	3,532.56	732.50	2,063.20	573.68	0.00	0.00	0.00	
4,400.00	43.84	70.45	3,604.68	755.68	2,128.48	591.83	0.00	0.00	0.00	
4,500.00	43.84	70.45	3,676.81	778.85	2,193.75	609.98	0.00	0.00	0.00	
4,600.00	43.84	70.45	3,748.93	802.03	2,259.03	628.13	0.00	0.00	0.00	
4,700.00	43.84	70.45	3,821.06	825.20	2,324.30	646.28	0.00	0.00	0.00	
4,800.00	43.84	70.45	3,893.18	848.38	2,389.58	664.43	0.00	0.00	0.00	
4,900.00	43.84	70.45	3,965.31	871.55	2,454.86	682.58	0.00	0.00	0.00	
5,000.00	43.84	70.45	4,037.43	894.73	2,520.13	700.73	0.00	0.00	0.00	
5,100.00	43.84	70.45	4,109.56	917.90	2,585.41	718.88	0.00	0.00	0.00	
5,200.00	43.84	70.45	4,181.68	941.08	2,650.68	737.03	0.00	0.00	0.00	
5,300.00	43.84	70.45	4,253.81	964.25	2,715.96	755.18	0.00	0.00	0.00	
5,400.00	43.84	70.45	4,325.93	987.43	2,781.23	773.33	0.00	0.00	0.00	
5,451.40	43.84	70.45	4,363.00	999.34	2,814.78	782.66	0.00	0.00	0.00	
Larimer sandstone										
5,500.00	43.84	70.45	4,398.06	1,010.60	2,846.51	791.48	0.00	0.00	0.00	
5,600.00	43.84	70.45	4,470.18	1,033.78	2,911.79	809.63	0.00	0.00	0.00	
5,700.00	43.84	70.45	4,542.31	1,056.95	2,977.06	827.78	0.00	0.00	0.00	
5,800.00	43.84	70.45	4,614.43	1,080.13	3,042.34	845.93	0.00	0.00	0.00	
5,900.00	43.84	70.45	4,686.56	1,103.30	3,107.61	864.08	0.00	0.00	0.00	
6,000.00	43.84	70.45	4,758.68	1,126.48	3,172.89	882.23	0.00	0.00	0.00	
6,017.08	43.84	70.45	4,771.00	1,130.44	3,184.04	885.33	0.00	0.00	0.00	
Terry ("Sussex") sandstone										
6,100.00	43.84	70.45	4,830.81	1,149.65	3,238.16	900.38	0.00	0.00	0.00	
6,200.00	43.84	70.45	4,902.93	1,172.83	3,303.44	918.53	0.00	0.00	0.00	
6,300.00	43.84	70.45	4,975.06	1,196.00	3,368.71	936.68	0.00	0.00	0.00	
6,400.00	43.84	70.45	5,047.18	1,219.18	3,433.99	954.83	0.00	0.00	0.00	
6,500.00	43.84	70.45	5,119.31	1,242.35	3,499.27	972.98	0.00	0.00	0.00	
6,600.00	43.84	70.45	5,191.43	1,265.53	3,564.54	991.13	0.00	0.00	0.00	
6,700.00	43.84	70.45	5,263.56	1,288.70	3,629.82	1,009.28	0.00	0.00	0.00	
6,800.00	43.84	70.45	5,335.68	1,311.88	3,695.09	1,027.43	0.00	0.00	0.00	
6,814.31	43.84	70.45	5,346.00	1,315.19	3,704.43	1,030.03	0.00	0.00	0.00	
Hygiene ("Shannon") sandstone										
6,900.00	43.84	70.45	5,407.81	1,335.05	3,760.37	1,045.58	0.00	0.00	0.00	
7,000.00	43.84	70.45	5,479.93	1,358.23	3,825.64	1,063.73	0.00	0.00	0.00	
7,081.90	43.84	70.45	5,539.00	1,377.21	3,879.10	1,078.59	0.00	0.00	0.00	
Pierre shale										
7,100.00	43.84	70.45	5,552.06	1,381.40	3,890.92	1,081.88	0.00	0.00	0.00	
7,200.00	43.84	70.45	5,624.18	1,404.58	3,956.20	1,100.03	0.00	0.00	0.00	
7,300.00	43.84	70.45	5,696.31	1,427.75	4,021.47	1,118.18	0.00	0.00	0.00	
7,400.00	43.84	70.45	5,768.43	1,450.93	4,086.75	1,136.33	0.00	0.00	0.00	
7,500.00	43.84	70.45	5,840.56	1,474.10	4,152.02	1,154.48	0.00	0.00	0.00	
7,600.00	43.84	70.45	5,912.68	1,497.28	4,217.30	1,172.63	0.00	0.00	0.00	
7,700.00	43.84	70.45	5,984.81	1,520.45	4,282.57	1,190.78	0.00	0.00	0.00	
7,800.00	43.84	70.45	6,056.93	1,543.63	4,347.85	1,208.93	0.00	0.00	0.00	
7,900.00	43.84	70.45	6,129.06	1,566.80	4,413.12	1,227.08	0.00	0.00	0.00	
8,000.00	43.84	70.45	6,201.18	1,589.98	4,478.40	1,245.23	0.00	0.00	0.00	
8,100.00	43.84	70.45	6,273.31	1,613.15	4,543.68	1,263.38	0.00	0.00	0.00	
8,200.00	43.84	70.45	6,345.43	1,636.33	4,608.95	1,281.53	0.00	0.00	0.00	
8,300.00	43.84	70.45	6,417.56	1,659.50	4,674.23	1,299.68	0.00	0.00	0.00	
8,400.00	43.84	70.45	6,489.68	1,682.68	4,739.50	1,317.83	0.00	0.00	0.00	

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<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,500.00	43.84	70.45	6,561.81	1,705.85	4,804.78	1,335.98	0.00	0.00	0.00
8,600.00	43.84	70.45	6,633.93	1,729.03	4,870.05	1,354.13	0.00	0.00	0.00
8,700.00	43.84	70.45	6,706.06	1,752.20	4,935.33	1,372.28	0.00	0.00	0.00
8,800.00	43.84	70.45	6,778.18	1,775.38	5,000.61	1,390.43	0.00	0.00	0.00
8,900.00	43.84	70.45	6,850.31	1,798.55	5,065.88	1,408.58	0.00	0.00	0.00
9,000.00	43.84	70.45	6,922.43	1,821.73	5,131.16	1,426.73	0.00	0.00	0.00
9,100.00	43.84	70.45	6,994.56	1,844.90	5,196.43	1,444.88	0.00	0.00	0.00
9,200.00	43.84	70.45	7,066.68	1,868.08	5,261.71	1,463.03	0.00	0.00	0.00
9,300.00	43.84	70.45	7,138.81	1,891.25	5,326.98	1,481.18	0.00	0.00	0.00
9,392.50	43.84	70.45	7,205.52	1,912.69	5,387.36	1,497.97	0.00	0.00	0.00
Start DLS 10.00 TFO 104.51									
9,400.00	43.66	71.51	7,210.94	1,914.38	5,392.27	1,499.37	10.00	-2.44	14.02
9,450.00	42.69	78.68	7,247.42	1,923.19	5,425.28	1,510.95	10.00	-1.93	14.34
9,500.00	42.19	86.05	7,284.35	1,927.67	5,458.67	1,526.29	10.00	-1.01	14.75
9,550.00	42.16	93.50	7,321.43	1,927.80	5,492.19	1,545.28	10.00	-0.05	14.90
9,600.00	42.61	100.89	7,358.38	1,923.58	5,525.58	1,567.78	10.00	0.91	14.78
9,650.00	43.53	108.09	7,394.93	1,915.03	5,558.59	1,593.61	10.00	1.83	14.40
9,700.00	44.88	115.00	7,430.79	1,902.22	5,590.96	1,622.59	10.00	2.70	13.81
9,750.00	46.63	121.54	7,465.70	1,885.24	5,622.46	1,654.48	10.00	3.49	13.09
9,800.00	48.72	127.68	7,499.38	1,864.24	5,652.83	1,689.05	10.00	4.19	12.28
9,850.00	51.13	133.42	7,531.58	1,839.36	5,681.86	1,726.04	10.00	4.81	11.47
9,900.00	53.79	138.76	7,562.06	1,810.80	5,709.31	1,765.15	10.00	5.33	10.68
9,950.00	56.68	143.73	7,590.58	1,778.77	5,734.98	1,806.10	10.00	5.77	9.95
9,992.26	59.26	147.67	7,613.00	1,749.17	5,755.15	1,841.91	10.00	6.11	9.34
Sharon Springs									
10,000.00	59.75	148.37	7,616.93	1,743.52	5,758.68	1,848.57	10.00	6.28	9.03
10,002.13	59.88	148.56	7,618.00	1,741.94	5,759.64	1,850.41	10.00	6.31	8.97
Niobrara									
10,050.00	62.97	152.73	7,640.90	1,705.31	5,780.22	1,892.24	10.00	6.45	8.70
10,100.00	66.32	156.84	7,662.32	1,664.44	5,799.44	1,936.78	10.00	6.70	8.22
10,150.00	69.77	160.74	7,681.01	1,621.22	5,816.20	1,981.85	10.00	6.91	7.80
10,200.00	73.31	164.47	7,696.85	1,575.97	5,830.36	2,027.10	10.00	7.07	7.46
10,250.00	76.91	168.06	7,709.70	1,529.05	5,841.82	2,072.19	10.00	7.20	7.18
10,300.00	80.56	171.55	7,719.47	1,480.80	5,850.49	2,116.78	10.00	7.30	6.97
10,350.00	84.24	174.96	7,726.09	1,431.60	5,856.30	2,160.52	10.00	7.36	6.83
10,400.00	87.94	178.33	7,729.50	1,381.82	5,859.22	2,203.09	10.00	7.40	6.74
10,427.79	90.00	180.19	7,730.00	1,354.03	5,859.58	2,226.13	10.00	7.42	6.71
Start 9757.16 hold at 10427.79 MD - CODELL									
10,500.00	90.00	180.19	7,730.00	1,281.83	5,859.33	2,285.33	0.00	0.00	0.00
10,600.00	90.00	180.19	7,730.00	1,181.83	5,858.99	2,367.31	0.00	0.00	0.00
10,700.00	90.00	180.19	7,730.00	1,081.83	5,858.66	2,449.30	0.00	0.00	0.00
10,800.00	90.00	180.19	7,730.00	981.83	5,858.32	2,531.28	0.00	0.00	0.00
10,900.00	90.00	180.19	7,730.00	881.83	5,857.98	2,613.27	0.00	0.00	0.00
11,000.00	90.00	180.19	7,730.00	781.83	5,857.64	2,695.25	0.00	0.00	0.00
11,100.00	90.00	180.19	7,730.00	681.83	5,857.30	2,777.24	0.00	0.00	0.00
11,200.00	90.00	180.19	7,730.00	581.83	5,856.96	2,859.22	0.00	0.00	0.00
11,300.00	90.00	180.19	7,730.00	481.83	5,856.63	2,941.21	0.00	0.00	0.00
11,400.00	90.00	180.19	7,730.00	381.83	5,856.29	3,023.19	0.00	0.00	0.00
11,500.00	90.00	180.19	7,730.00	281.83	5,855.95	3,105.17	0.00	0.00	0.00
11,600.00	90.00	180.19	7,730.00	181.83	5,855.61	3,187.16	0.00	0.00	0.00
11,700.00	90.00	180.19	7,730.00	81.83	5,855.27	3,269.14	0.00	0.00	0.00
11,800.00	90.00	180.19	7,730.00	-18.17	5,854.94	3,351.13	0.00	0.00	0.00
11,900.00	90.00	180.19	7,730.00	-118.17	5,854.60	3,433.11	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 1N-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5206.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5206.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,000.00	90.00	180.19	7,730.00	-218.16	5,854.26	3,515.10	0.00	0.00	0.00	
12,100.00	90.00	180.19	7,730.00	-318.16	5,853.92	3,597.08	0.00	0.00	0.00	
12,200.00	90.00	180.19	7,730.00	-418.16	5,853.58	3,679.07	0.00	0.00	0.00	
12,300.00	90.00	180.19	7,730.00	-518.16	5,853.25	3,761.05	0.00	0.00	0.00	
12,400.00	90.00	180.19	7,730.00	-618.16	5,852.91	3,843.04	0.00	0.00	0.00	
12,500.00	90.00	180.19	7,730.00	-718.16	5,852.57	3,925.02	0.00	0.00	0.00	
12,600.00	90.00	180.19	7,730.00	-818.16	5,852.23	4,007.00	0.00	0.00	0.00	
12,700.00	90.00	180.19	7,730.00	-918.16	5,851.89	4,088.99	0.00	0.00	0.00	
12,800.00	90.00	180.19	7,730.00	-1,018.16	5,851.56	4,170.97	0.00	0.00	0.00	
12,900.00	90.00	180.19	7,730.00	-1,118.16	5,851.22	4,252.96	0.00	0.00	0.00	
13,000.00	90.00	180.19	7,730.00	-1,218.16	5,850.88	4,334.94	0.00	0.00	0.00	
13,100.00	90.00	180.19	7,730.00	-1,318.16	5,850.54	4,416.93	0.00	0.00	0.00	
13,200.00	90.00	180.19	7,730.00	-1,418.16	5,850.20	4,498.91	0.00	0.00	0.00	
13,300.00	90.00	180.19	7,730.00	-1,518.16	5,849.86	4,580.90	0.00	0.00	0.00	
13,400.00	90.00	180.19	7,730.00	-1,618.16	5,849.53	4,662.88	0.00	0.00	0.00	
13,500.00	90.00	180.19	7,730.00	-1,718.16	5,849.19	4,744.87	0.00	0.00	0.00	
13,600.00	90.00	180.19	7,730.00	-1,818.16	5,848.85	4,826.85	0.00	0.00	0.00	
13,700.00	90.00	180.19	7,730.00	-1,918.16	5,848.51	4,908.83	0.00	0.00	0.00	
13,800.00	90.00	180.19	7,730.00	-2,018.15	5,848.17	4,990.82	0.00	0.00	0.00	
13,900.00	90.00	180.19	7,730.00	-2,118.15	5,847.84	5,072.80	0.00	0.00	0.00	
14,000.00	90.00	180.19	7,730.00	-2,218.15	5,847.50	5,154.79	0.00	0.00	0.00	
14,100.00	90.00	180.19	7,730.00	-2,318.15	5,847.16	5,236.77	0.00	0.00	0.00	
14,200.00	90.00	180.19	7,730.00	-2,418.15	5,846.82	5,318.76	0.00	0.00	0.00	
14,300.00	90.00	180.19	7,730.00	-2,518.15	5,846.48	5,400.74	0.00	0.00	0.00	
14,400.00	90.00	180.19	7,730.00	-2,618.15	5,846.15	5,482.73	0.00	0.00	0.00	
14,500.00	90.00	180.19	7,730.00	-2,718.15	5,845.81	5,564.71	0.00	0.00	0.00	
14,600.00	90.00	180.19	7,730.00	-2,818.15	5,845.47	5,646.70	0.00	0.00	0.00	
14,700.00	90.00	180.19	7,730.00	-2,918.15	5,845.13	5,728.68	0.00	0.00	0.00	
14,800.00	90.00	180.19	7,730.00	-3,018.15	5,844.79	5,810.66	0.00	0.00	0.00	
14,900.00	90.00	180.19	7,730.00	-3,118.15	5,844.45	5,892.65	0.00	0.00	0.00	
15,000.00	90.00	180.19	7,730.00	-3,218.15	5,844.12	5,974.63	0.00	0.00	0.00	
15,100.00	90.00	180.19	7,730.00	-3,318.15	5,843.78	6,056.62	0.00	0.00	0.00	
15,200.00	90.00	180.19	7,730.00	-3,418.15	5,843.44	6,138.60	0.00	0.00	0.00	
15,300.00	90.00	180.19	7,730.00	-3,518.15	5,843.10	6,220.59	0.00	0.00	0.00	
15,400.00	90.00	180.19	7,730.00	-3,618.15	5,842.76	6,302.57	0.00	0.00	0.00	
15,500.00	90.00	180.19	7,730.00	-3,718.14	5,842.43	6,384.56	0.00	0.00	0.00	
15,600.00	90.00	180.19	7,730.00	-3,818.14	5,842.09	6,466.54	0.00	0.00	0.00	
15,700.00	90.00	180.19	7,730.00	-3,918.14	5,841.75	6,548.53	0.00	0.00	0.00	
15,800.00	90.00	180.19	7,730.00	-4,018.14	5,841.41	6,630.51	0.00	0.00	0.00	
15,900.00	90.00	180.19	7,730.00	-4,118.14	5,841.07	6,712.49	0.00	0.00	0.00	
16,000.00	90.00	180.19	7,730.00	-4,218.14	5,840.74	6,794.48	0.00	0.00	0.00	
16,100.00	90.00	180.19	7,730.00	-4,318.14	5,840.40	6,876.46	0.00	0.00	0.00	
16,200.00	90.00	180.19	7,730.00	-4,418.14	5,840.06	6,958.45	0.00	0.00	0.00	
16,300.00	90.00	180.19	7,730.00	-4,518.14	5,839.72	7,040.43	0.00	0.00	0.00	
16,400.00	90.00	180.19	7,730.00	-4,618.14	5,839.38	7,122.42	0.00	0.00	0.00	
16,500.00	90.00	180.19	7,730.00	-4,718.14	5,839.05	7,204.40	0.00	0.00	0.00	
16,600.00	90.00	180.19	7,730.00	-4,818.14	5,838.71	7,286.39	0.00	0.00	0.00	
16,700.00	90.00	180.19	7,730.00	-4,918.14	5,838.37	7,368.37	0.00	0.00	0.00	
16,800.00	90.00	180.19	7,730.00	-5,018.14	5,838.03	7,450.36	0.00	0.00	0.00	
16,900.00	90.00	180.19	7,730.00	-5,118.14	5,837.69	7,532.34	0.00	0.00	0.00	
17,000.00	90.00	180.19	7,730.00	-5,218.14	5,837.35	7,614.32	0.00	0.00	0.00	
17,100.00	90.00	180.19	7,730.00	-5,318.14	5,837.02	7,696.31	0.00	0.00	0.00	
17,200.00	90.00	180.19	7,730.00	-5,418.14	5,836.68	7,778.29	0.00	0.00	0.00	
17,300.00	90.00	180.19	7,730.00	-5,518.13	5,836.34	7,860.28	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 1N-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5206.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5206.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
17,400.00	90.00	180.19	7,730.00	-5,618.13	5,836.00	7,942.26	0.00	0.00	0.00	
17,500.00	90.00	180.19	7,730.00	-5,718.13	5,835.66	8,024.25	0.00	0.00	0.00	
17,600.00	90.00	180.19	7,730.00	-5,818.13	5,835.33	8,106.23	0.00	0.00	0.00	
17,700.00	90.00	180.19	7,730.00	-5,918.13	5,834.99	8,188.22	0.00	0.00	0.00	
17,800.00	90.00	180.19	7,730.00	-6,018.13	5,834.65	8,270.20	0.00	0.00	0.00	
17,900.00	90.00	180.19	7,730.00	-6,118.13	5,834.31	8,352.19	0.00	0.00	0.00	
18,000.00	90.00	180.19	7,730.00	-6,218.13	5,833.97	8,434.17	0.00	0.00	0.00	
18,100.00	90.00	180.19	7,730.00	-6,318.13	5,833.64	8,516.15	0.00	0.00	0.00	
18,200.00	90.00	180.19	7,730.00	-6,418.13	5,833.30	8,598.14	0.00	0.00	0.00	
18,300.00	90.00	180.19	7,730.00	-6,518.13	5,832.96	8,680.12	0.00	0.00	0.00	
18,400.00	90.00	180.19	7,730.00	-6,618.13	5,832.62	8,762.11	0.00	0.00	0.00	
18,500.00	90.00	180.19	7,730.00	-6,718.13	5,832.28	8,844.09	0.00	0.00	0.00	
18,600.00	90.00	180.19	7,730.00	-6,818.13	5,831.94	8,926.08	0.00	0.00	0.00	
18,700.00	90.00	180.19	7,730.00	-6,918.13	5,831.61	9,008.06	0.00	0.00	0.00	
18,800.00	90.00	180.19	7,730.00	-7,018.13	5,831.27	9,090.05	0.00	0.00	0.00	
18,900.00	90.00	180.19	7,730.00	-7,118.13	5,830.93	9,172.03	0.00	0.00	0.00	
19,000.00	90.00	180.19	7,730.00	-7,218.12	5,830.59	9,254.01	0.00	0.00	0.00	
19,100.00	90.00	180.19	7,730.00	-7,318.12	5,830.25	9,336.00	0.00	0.00	0.00	
19,200.00	90.00	180.19	7,730.00	-7,418.12	5,829.92	9,417.98	0.00	0.00	0.00	
19,300.00	90.00	180.19	7,730.00	-7,518.12	5,829.58	9,499.97	0.00	0.00	0.00	
19,400.00	90.00	180.19	7,730.00	-7,618.12	5,829.24	9,581.95	0.00	0.00	0.00	
19,500.00	90.00	180.19	7,730.00	-7,718.12	5,828.90	9,663.94	0.00	0.00	0.00	
19,600.00	90.00	180.19	7,730.00	-7,818.12	5,828.56	9,745.92	0.00	0.00	0.00	
19,700.00	90.00	180.19	7,730.00	-7,918.12	5,828.23	9,827.91	0.00	0.00	0.00	
19,800.00	90.00	180.19	7,730.00	-8,018.12	5,827.89	9,909.89	0.00	0.00	0.00	
19,900.00	90.00	180.19	7,730.00	-8,118.12	5,827.55	9,991.88	0.00	0.00	0.00	
20,000.00	90.00	180.19	7,730.00	-8,218.12	5,827.21	10,073.86	0.00	0.00	0.00	
20,100.00	90.00	180.19	7,730.00	-8,318.12	5,826.87	10,155.84	0.00	0.00	0.00	
20,184.95	90.00	180.19	7,730.00	-8,403.07	5,826.59	10,225.49	0.00	0.00	0.00	
TD at 20184.95										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
LP-COSSLETT E 1N-H1 - plan hits target center - Point	0.00	0.00	7,730.00	1,354.03	5,859.58	1,258,945.53	3,150,354.39	40.042944°N	104.962973°W
PBHL-COSSLETT E 1N - plan hits target center - Point	0.00	0.00	7,730.00	-8,403.07	5,826.59	1,249,188.75	3,150,378.18	40.016160°N	104.963099°W

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 1N-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5206.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5206.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 1N-22H-H168	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	Denver Formation				
154.00	154.00	Laramie Formation				
634.09	631.00	Fox Hills sandstone				
810.25	803.00	Pierre Formation				
1,067.27	1,049.00	Upper Pierre aquifer				
2,157.34	1,985.00	Base of Upper Pierre aquifer				
5,451.40	4,363.00	Larimer sandstone				
6,017.08	4,771.00	Terry ("Sussex") sandstone				
6,814.31	5,346.00	Hygiene ("Shannon") sandstone				
7,081.90	5,539.00	Pierre shale				
9,992.26	7,613.00	Sharon Springs				
10,002.13	7,618.00	Niobrara				
10,427.79	7,730.00	CODELL		0.00		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.00	0.00	Start Build 2.00
2,292.11	2,084.36	267.18	752.54	Start 7100.39 hold at 2292.11 MD
9,392.50	7,205.52	1,912.69	5,387.36	Start DLS 10.00 TFO 104.51
10,427.79	7,730.00	1,354.03	5,859.58	Start 9757.16 hold at 10427.79 MD
20,184.95	7,730.00	-8,403.07	5,826.59	TD at 20184.95