

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 22-T1N-R68W

COSSLETT EAST 1C-22H-H168

OWB

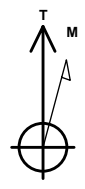
Plan: PROPOSAL 1

Standard Planning Report

01 March, 2022

Project: WELD COUNTY
Site: SEC 22-T1N-R68W
Well: COSSLETT EAST 1C-22H-H168
Wellbore: OWB
Design: PROPOSAL 1

PROJECT DETAILS: WELD COUNTY
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level



Azimuths to True North
 Magnetic North: 7.86°
 Magnetic Field
 Strength: 51667.4snT
 Dip Angle: 66.31°
 Date: 2/17/2022
 Model: IGRF2020

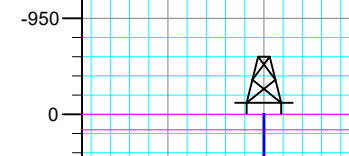
WELL DETAILS: COSSLETT EAST 1C-22H-H168

+N/-S	+E/-W	Northing	Easting	5183.00	Latitude	Longitude	Slot
0.00	0.00	1257557.55	3144392.96		40.039231°N	104.984294°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	0.00	
3	2580.62	27.61	47.12	2527.80	222.03	239.10	2.00	47.12	-154.35	
4	7656.30	27.61	47.12	7025.36	1822.81	1963.01	0.00	0.00	-1267.16	
5	8740.83	90.00	180.20	7730.00	1278.40	2230.39	10.00	129.64	-672.83	LP-COSSLETT E 1C-H168
6	18426.22	90.00	180.20	7730.00	-8406.94	2197.36	0.00	0.00	8689.36	PBHL-COSSLETT E 1C-H168

ANNOTATIONS

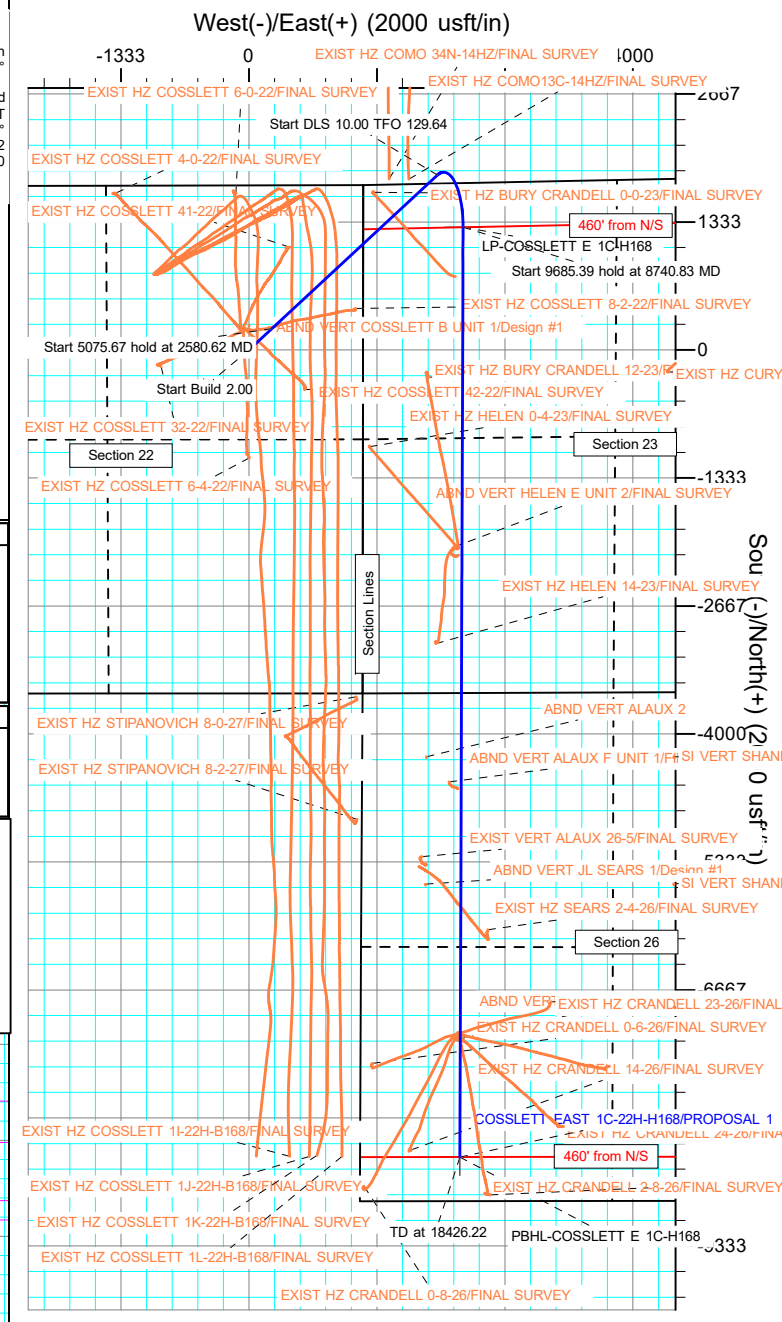
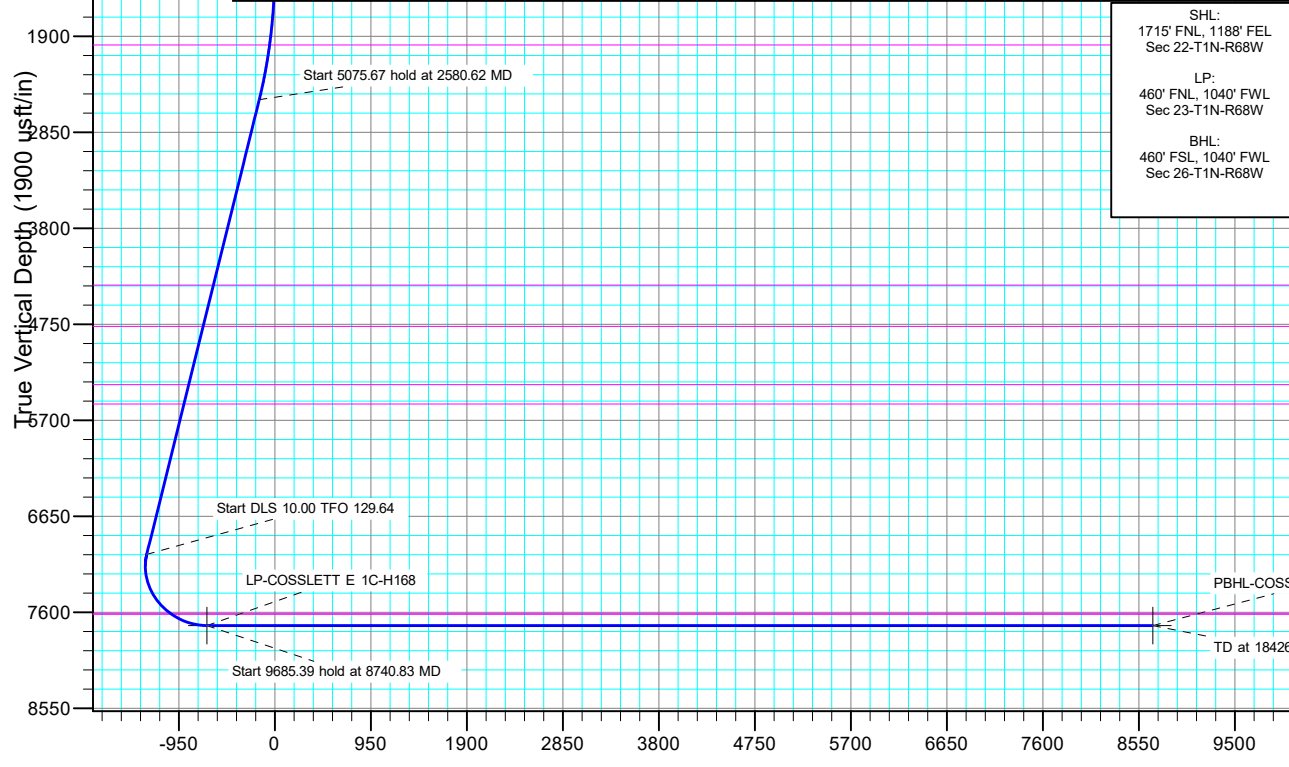


MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00	Start Build 2.00
2580.62	27.61	47.12	2527.80	222.03	239.10	-154.35	326.29	Start 5075.67 hold at 2580.62 MD
7656.30	27.61	47.12	7025.36	1822.81	1963.01	-1267.16	2678.81	Start DLS 10.00 TFO 129.64
8740.83	90.00	180.20	7730.00	1278.40	2230.39	-672.83	3397.58	Start 9685.39 hold at 8740.83 MD
18426.22	90.00	180.20	7730.00	-8406.94	2197.36	8689.36	13082.97	TD at 18426.22

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP-COSSLETT E 1C-H168	7730.00	1278.40	2230.39	1258848.85	3146615.80	40.042740°N	104.976328°W
PBHL-COSSLETT E 1C-H168	7730.00	-8406.94	2197.36	1249163.84	3146639.10	40.016153°N	104.976449°W

SHL:
 1715' FNL, 1188' FEL
 Sec 22-T1N-R68W
 LP:
 460' FNL, 1040' FWL
 Sec 23-T1N-R68W
 BHL:
 460' FSL, 1040' FWL
 Sec 26-T1N-R68W



Vertical Section at 165.35° (1900 usft/in)

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Project	WELD COUNTY		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 1C-22H-H168					
Well Position	+N/-S	-1,717.60 usft	Northing:	1,257,557.55 usft	Latitude:	40.039231°N
	+E/-W	-1,191.41 usft	Easting:	3,144,392.96 usft	Longitude:	104.984294°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,183.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2/17/2022	7.86	66.31	51,667.40284320

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	165.35

Plan Survey Tool Program	Date	3/1/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,426.22	PROPOSAL 1 (OWB)	MWD OWSG	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,580.62	27.61	47.12	2,527.80	222.03	239.10	2.00	2.00	0.00	47.12	
7,656.30	27.61	47.12	7,025.36	1,822.81	1,963.01	0.00	0.00	0.00	0.00	
8,740.83	90.00	180.20	7,730.00	1,278.40	2,230.39	10.00	5.75	12.27	129.64	LP-COSSLETT E 1C-
18,426.22	90.00	180.20	7,730.00	-8,406.94	2,197.36	0.00	0.00	0.00	0.00	PBHL-COSSLETT E

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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	
Denver Formation										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
154.00	0.00	0.00	154.00	0.00	0.00	0.00	0.00	0.00	0.00	
Laramie Formation										
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	
631.00	0.00	0.00	631.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fox Hills sandstone										
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	
803.00	0.00	0.00	803.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pierre Formation										
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	
1,049.00	0.00	0.00	1,049.00	0.00	0.00	0.00	0.00	0.00	0.00	
Upper Pierre aquifer										
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	
Start Build 2.00										
1,300.00	2.00	47.12	1,299.98	1.19	1.28	-0.83	2.00	2.00	0.00	
1,400.00	4.00	47.12	1,399.84	4.75	5.11	-3.30	2.00	2.00	0.00	
1,500.00	6.00	47.12	1,499.45	10.68	11.50	-7.42	2.00	2.00	0.00	
1,600.00	8.00	47.12	1,598.70	18.97	20.43	-13.19	2.00	2.00	0.00	
1,700.00	10.00	47.12	1,697.47	29.62	31.89	-20.59	2.00	2.00	0.00	
1,800.00	12.00	47.12	1,795.62	42.60	45.87	-29.61	2.00	2.00	0.00	
1,900.00	14.00	47.12	1,893.06	57.90	62.36	-40.25	2.00	2.00	0.00	
1,995.17	15.90	47.12	1,985.00	74.61	80.35	-51.87	2.00	2.00	0.00	
Base of Upper Pierre aquifer										
2,000.00	16.00	47.12	1,989.64	75.51	81.32	-52.50	2.00	2.00	0.00	
2,100.00	18.00	47.12	2,085.27	95.41	102.75	-66.32	2.00	2.00	0.00	
2,200.00	20.00	47.12	2,179.82	117.56	126.60	-81.72	2.00	2.00	0.00	
2,300.00	22.00	47.12	2,273.17	141.94	152.86	-98.68	2.00	2.00	0.00	
2,400.00	24.00	47.12	2,365.21	168.53	181.49	-117.16	2.00	2.00	0.00	
2,500.00	26.00	47.12	2,455.84	197.29	212.46	-137.15	2.00	2.00	0.00	
2,580.62	27.61	47.12	2,527.80	222.03	239.10	-154.35	2.00	2.00	0.00	
Start 5075.67 hold at 2580.62 MD										
2,600.00	27.61	47.12	2,544.97	228.14	245.69	-158.59	0.00	0.00	0.00	
2,700.00	27.61	47.12	2,633.58	259.68	279.65	-180.52	0.00	0.00	0.00	
2,800.00	27.61	47.12	2,722.19	291.21	313.61	-202.44	0.00	0.00	0.00	
2,900.00	27.61	47.12	2,810.80	322.75	347.58	-224.37	0.00	0.00	0.00	
3,000.00	27.61	47.12	2,899.41	354.29	381.54	-246.29	0.00	0.00	0.00	
3,100.00	27.61	47.12	2,988.02	385.83	415.51	-268.22	0.00	0.00	0.00	
3,200.00	27.61	47.12	3,076.63	417.37	449.47	-290.14	0.00	0.00	0.00	
3,300.00	27.61	47.12	3,165.24	448.91	483.43	-312.06	0.00	0.00	0.00	
3,400.00	27.61	47.12	3,253.85	480.44	517.40	-333.99	0.00	0.00	0.00	
3,500.00	27.61	47.12	3,342.46	511.98	551.36	-355.91	0.00	0.00	0.00	
3,600.00	27.61	47.12	3,431.07	543.52	585.33	-377.84	0.00	0.00	0.00	
3,700.00	27.61	47.12	3,519.68	575.06	619.29	-399.76	0.00	0.00	0.00	
3,800.00	27.61	47.12	3,608.29	606.60	653.25	-421.69	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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	27.61	47.12	3,696.90	638.14	687.22	-443.61	0.00	0.00	0.00
4,000.00	27.61	47.12	3,785.51	669.67	721.18	-465.54	0.00	0.00	0.00
4,100.00	27.61	47.12	3,874.12	701.21	755.15	-487.46	0.00	0.00	0.00
4,200.00	27.61	47.12	3,962.73	732.75	789.11	-509.38	0.00	0.00	0.00
4,300.00	27.61	47.12	4,051.34	764.29	823.08	-531.31	0.00	0.00	0.00
4,400.00	27.61	47.12	4,139.95	795.83	857.04	-553.23	0.00	0.00	0.00
4,500.00	27.61	47.12	4,228.56	827.37	891.00	-575.16	0.00	0.00	0.00
4,600.00	27.61	47.12	4,317.17	858.90	924.97	-597.08	0.00	0.00	0.00
4,651.72	27.61	47.12	4,363.00	875.21	942.53	-608.42	0.00	0.00	0.00
Larimer sandstone									
4,700.00	27.61	47.12	4,405.78	890.44	958.93	-619.01	0.00	0.00	0.00
4,800.00	27.61	47.12	4,494.39	921.98	992.90	-640.93	0.00	0.00	0.00
4,900.00	27.61	47.12	4,583.00	953.52	1,026.86	-662.85	0.00	0.00	0.00
5,000.00	27.61	47.12	4,671.61	985.06	1,060.82	-684.78	0.00	0.00	0.00
5,100.00	27.61	47.12	4,760.22	1,016.60	1,094.79	-706.70	0.00	0.00	0.00
5,112.16	27.61	47.12	4,771.00	1,020.43	1,098.92	-709.37	0.00	0.00	0.00
Terry ("Sussex") sandstone									
5,200.00	27.61	47.12	4,848.83	1,048.13	1,128.75	-728.63	0.00	0.00	0.00
5,300.00	27.61	47.12	4,937.44	1,079.67	1,162.72	-750.55	0.00	0.00	0.00
5,400.00	27.61	47.12	5,026.05	1,111.21	1,196.68	-772.48	0.00	0.00	0.00
5,500.00	27.61	47.12	5,114.66	1,142.75	1,230.64	-794.40	0.00	0.00	0.00
5,600.00	27.61	47.12	5,203.27	1,174.29	1,264.61	-816.33	0.00	0.00	0.00
5,700.00	27.61	47.12	5,291.88	1,205.82	1,298.57	-838.25	0.00	0.00	0.00
5,761.07	27.61	47.12	5,346.00	1,225.09	1,319.32	-851.64	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
5,800.00	27.61	47.12	5,380.50	1,237.36	1,332.54	-860.17	0.00	0.00	0.00
5,900.00	27.61	47.12	5,469.11	1,268.90	1,366.50	-882.10	0.00	0.00	0.00
5,978.88	27.61	47.12	5,539.00	1,293.78	1,393.29	-899.39	0.00	0.00	0.00
Pierre shale									
6,000.00	27.61	47.12	5,557.72	1,300.44	1,400.47	-904.02	0.00	0.00	0.00
6,100.00	27.61	47.12	5,646.33	1,331.98	1,434.43	-925.95	0.00	0.00	0.00
6,200.00	27.61	47.12	5,734.94	1,363.52	1,468.39	-947.87	0.00	0.00	0.00
6,300.00	27.61	47.12	5,823.55	1,395.05	1,502.36	-969.80	0.00	0.00	0.00
6,400.00	27.61	47.12	5,912.16	1,426.59	1,536.32	-991.72	0.00	0.00	0.00
6,500.00	27.61	47.12	6,000.77	1,458.13	1,570.29	-1,013.65	0.00	0.00	0.00
6,600.00	27.61	47.12	6,089.38	1,489.67	1,604.25	-1,035.57	0.00	0.00	0.00
6,700.00	27.61	47.12	6,177.99	1,521.21	1,638.21	-1,057.49	0.00	0.00	0.00
6,800.00	27.61	47.12	6,266.60	1,552.75	1,672.18	-1,079.42	0.00	0.00	0.00
6,900.00	27.61	47.12	6,355.21	1,584.28	1,706.14	-1,101.34	0.00	0.00	0.00
7,000.00	27.61	47.12	6,443.82	1,615.82	1,740.11	-1,123.27	0.00	0.00	0.00
7,100.00	27.61	47.12	6,532.43	1,647.36	1,774.07	-1,145.19	0.00	0.00	0.00
7,200.00	27.61	47.12	6,621.04	1,678.90	1,808.03	-1,167.12	0.00	0.00	0.00
7,300.00	27.61	47.12	6,709.65	1,710.44	1,842.00	-1,189.04	0.00	0.00	0.00
7,400.00	27.61	47.12	6,798.26	1,741.98	1,875.96	-1,210.96	0.00	0.00	0.00
7,500.00	27.61	47.12	6,886.87	1,773.51	1,909.93	-1,232.89	0.00	0.00	0.00
7,600.00	27.61	47.12	6,975.48	1,805.05	1,943.89	-1,254.81	0.00	0.00	0.00
7,656.30	27.61	47.12	7,025.36	1,822.81	1,963.01	-1,267.16	0.00	0.00	0.00
Start DLS 10.00 TFO 129.64									
7,700.00	25.03	55.09	7,064.54	1,835.00	1,978.02	-1,275.15	10.00	-5.90	18.24
7,750.00	22.72	66.07	7,110.29	1,844.97	1,995.53	-1,280.38	10.00	-4.63	21.95
7,800.00	21.29	78.88	7,156.67	1,850.64	2,013.28	-1,281.38	10.00	-2.86	25.64
7,850.00	20.93	92.76	7,203.34	1,851.96	2,031.11	-1,278.14	10.00	-0.72	27.76
7,900.00	21.70	106.39	7,249.95	1,848.92	2,048.91	-1,270.70	10.00	1.53	27.25
7,950.00	23.48	118.58	7,296.14	1,841.55	2,066.54	-1,259.11	10.00	3.56	24.39

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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)
8,000.00	26.06	128.82	7,341.56	1,829.89	2,083.85	-1,243.45	10.00	5.17	20.48
8,050.00	29.24	137.15	7,385.86	1,814.04	2,100.72	-1,223.85	10.00	6.36	16.67
8,100.00	32.84	143.90	7,428.71	1,794.12	2,117.02	-1,200.46	10.00	7.20	13.49
8,150.00	36.74	149.40	7,469.77	1,770.28	2,132.63	-1,173.44	10.00	7.79	11.01
8,200.00	40.84	153.96	7,508.75	1,742.70	2,147.43	-1,143.02	10.00	8.21	9.12
8,250.00	45.10	157.81	7,545.33	1,711.60	2,161.30	-1,109.42	10.00	8.52	7.70
8,300.00	49.47	161.13	7,579.25	1,677.20	2,174.14	-1,072.89	10.00	8.74	6.63
8,350.00	53.92	164.03	7,610.24	1,639.77	2,185.86	-1,033.71	10.00	8.90	5.81
8,354.72	54.34	164.29	7,613.00	1,636.09	2,186.90	-1,029.89	10.00	8.98	5.44
Sharon Springs									
8,363.38	55.12	164.75	7,618.00	1,629.28	2,188.79	-1,022.82	10.00	8.99	5.35
Niobrara									
8,400.00	58.43	166.62	7,638.06	1,599.60	2,196.35	-992.19	10.00	9.04	5.10
8,450.00	63.00	168.97	7,662.52	1,556.99	2,205.55	-948.64	10.00	9.12	4.70
8,500.00	67.59	171.13	7,683.41	1,512.26	2,213.38	-903.39	10.00	9.20	4.33
8,550.00	72.22	173.16	7,700.59	1,465.76	2,219.79	-856.78	10.00	9.25	4.05
8,600.00	76.86	175.08	7,713.91	1,417.83	2,224.72	-809.17	10.00	9.29	3.84
8,650.00	81.52	176.93	7,723.29	1,368.86	2,228.13	-760.92	10.00	9.32	3.70
8,700.00	86.19	178.74	7,728.64	1,319.20	2,230.01	-712.39	10.00	9.33	3.61
8,740.83	90.00	180.20	7,730.00	1,278.40	2,230.39	-672.83	10.00	9.34	3.57
Start 9685.39 hold at 8740.83 MD									
8,800.00	90.00	180.20	7,730.00	1,219.23	2,230.18	-615.63	0.00	0.00	0.00
8,900.00	90.00	180.20	7,730.00	1,119.23	2,229.84	-518.97	0.00	0.00	0.00
9,000.00	90.00	180.20	7,730.00	1,019.23	2,229.50	-422.31	0.00	0.00	0.00
9,100.00	90.00	180.20	7,730.00	919.23	2,229.16	-325.64	0.00	0.00	0.00
9,200.00	90.00	180.20	7,730.00	819.23	2,228.82	-228.98	0.00	0.00	0.00
9,300.00	90.00	180.20	7,730.00	719.23	2,228.48	-132.32	0.00	0.00	0.00
9,400.00	90.00	180.20	7,730.00	619.23	2,228.14	-35.65	0.00	0.00	0.00
9,500.00	90.00	180.20	7,730.00	519.23	2,227.80	61.01	0.00	0.00	0.00
9,600.00	90.00	180.20	7,730.00	419.23	2,227.46	157.67	0.00	0.00	0.00
9,700.00	90.00	180.20	7,730.00	319.23	2,227.12	254.33	0.00	0.00	0.00
9,800.00	90.00	180.20	7,730.00	219.23	2,226.77	351.00	0.00	0.00	0.00
9,900.00	90.00	180.20	7,730.00	119.23	2,226.43	447.66	0.00	0.00	0.00
10,000.00	90.00	180.20	7,730.00	19.24	2,226.09	544.32	0.00	0.00	0.00
10,100.00	90.00	180.20	7,730.00	-80.76	2,225.75	640.99	0.00	0.00	0.00
10,200.00	90.00	180.20	7,730.00	-180.76	2,225.41	737.65	0.00	0.00	0.00
10,300.00	90.00	180.20	7,730.00	-280.76	2,225.07	834.31	0.00	0.00	0.00
10,400.00	90.00	180.20	7,730.00	-380.76	2,224.73	930.98	0.00	0.00	0.00
10,500.00	90.00	180.20	7,730.00	-480.76	2,224.39	1,027.64	0.00	0.00	0.00
10,600.00	90.00	180.20	7,730.00	-580.76	2,224.05	1,124.30	0.00	0.00	0.00
10,700.00	90.00	180.20	7,730.00	-680.76	2,223.71	1,220.96	0.00	0.00	0.00
10,800.00	90.00	180.20	7,730.00	-780.76	2,223.37	1,317.63	0.00	0.00	0.00
10,900.00	90.00	180.20	7,730.00	-880.76	2,223.02	1,414.29	0.00	0.00	0.00
11,000.00	90.00	180.20	7,730.00	-980.76	2,222.68	1,510.95	0.00	0.00	0.00
11,100.00	90.00	180.20	7,730.00	-1,080.76	2,222.34	1,607.62	0.00	0.00	0.00
11,200.00	90.00	180.20	7,730.00	-1,180.76	2,222.00	1,704.28	0.00	0.00	0.00
11,300.00	90.00	180.20	7,730.00	-1,280.76	2,221.66	1,800.94	0.00	0.00	0.00
11,400.00	90.00	180.20	7,730.00	-1,380.76	2,221.32	1,897.61	0.00	0.00	0.00
11,500.00	90.00	180.20	7,730.00	-1,480.76	2,220.98	1,994.27	0.00	0.00	0.00
11,600.00	90.00	180.20	7,730.00	-1,580.76	2,220.64	2,090.93	0.00	0.00	0.00
11,700.00	90.00	180.20	7,730.00	-1,680.75	2,220.30	2,187.59	0.00	0.00	0.00
11,800.00	90.00	180.20	7,730.00	-1,780.75	2,219.96	2,284.26	0.00	0.00	0.00
11,900.00	90.00	180.20	7,730.00	-1,880.75	2,219.62	2,380.92	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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	180.20	7,730.00	-1,980.75	2,219.27	2,477.58	0.00	0.00	0.00	
12,100.00	90.00	180.20	7,730.00	-2,080.75	2,218.93	2,574.25	0.00	0.00	0.00	
12,200.00	90.00	180.20	7,730.00	-2,180.75	2,218.59	2,670.91	0.00	0.00	0.00	
12,300.00	90.00	180.20	7,730.00	-2,280.75	2,218.25	2,767.57	0.00	0.00	0.00	
12,400.00	90.00	180.20	7,730.00	-2,380.75	2,217.91	2,864.24	0.00	0.00	0.00	
12,500.00	90.00	180.20	7,730.00	-2,480.75	2,217.57	2,960.90	0.00	0.00	0.00	
12,600.00	90.00	180.20	7,730.00	-2,580.75	2,217.23	3,057.56	0.00	0.00	0.00	
12,700.00	90.00	180.20	7,730.00	-2,680.75	2,216.89	3,154.22	0.00	0.00	0.00	
12,800.00	90.00	180.20	7,730.00	-2,780.75	2,216.55	3,250.89	0.00	0.00	0.00	
12,900.00	90.00	180.20	7,730.00	-2,880.75	2,216.21	3,347.55	0.00	0.00	0.00	
13,000.00	90.00	180.20	7,730.00	-2,980.75	2,215.86	3,444.21	0.00	0.00	0.00	
13,100.00	90.00	180.20	7,730.00	-3,080.75	2,215.52	3,540.88	0.00	0.00	0.00	
13,200.00	90.00	180.20	7,730.00	-3,180.75	2,215.18	3,637.54	0.00	0.00	0.00	
13,300.00	90.00	180.20	7,730.00	-3,280.75	2,214.84	3,734.20	0.00	0.00	0.00	
13,400.00	90.00	180.20	7,730.00	-3,380.74	2,214.50	3,830.87	0.00	0.00	0.00	
13,500.00	90.00	180.20	7,730.00	-3,480.74	2,214.16	3,927.53	0.00	0.00	0.00	
13,600.00	90.00	180.20	7,730.00	-3,580.74	2,213.82	4,024.19	0.00	0.00	0.00	
13,700.00	90.00	180.20	7,730.00	-3,680.74	2,213.48	4,120.85	0.00	0.00	0.00	
13,800.00	90.00	180.20	7,730.00	-3,780.74	2,213.14	4,217.52	0.00	0.00	0.00	
13,900.00	90.00	180.20	7,730.00	-3,880.74	2,212.80	4,314.18	0.00	0.00	0.00	
14,000.00	90.00	180.20	7,730.00	-3,980.74	2,212.46	4,410.84	0.00	0.00	0.00	
14,100.00	90.00	180.20	7,730.00	-4,080.74	2,212.11	4,507.51	0.00	0.00	0.00	
14,200.00	90.00	180.20	7,730.00	-4,180.74	2,211.77	4,604.17	0.00	0.00	0.00	
14,300.00	90.00	180.20	7,730.00	-4,280.74	2,211.43	4,700.83	0.00	0.00	0.00	
14,400.00	90.00	180.20	7,730.00	-4,380.74	2,211.09	4,797.50	0.00	0.00	0.00	
14,500.00	90.00	180.20	7,730.00	-4,480.74	2,210.75	4,894.16	0.00	0.00	0.00	
14,600.00	90.00	180.20	7,730.00	-4,580.74	2,210.41	4,990.82	0.00	0.00	0.00	
14,700.00	90.00	180.20	7,730.00	-4,680.74	2,210.07	5,087.48	0.00	0.00	0.00	
14,800.00	90.00	180.20	7,730.00	-4,780.74	2,209.73	5,184.15	0.00	0.00	0.00	
14,900.00	90.00	180.20	7,730.00	-4,880.74	2,209.39	5,280.81	0.00	0.00	0.00	
15,000.00	90.00	180.20	7,730.00	-4,980.74	2,209.05	5,377.47	0.00	0.00	0.00	
15,100.00	90.00	180.20	7,730.00	-5,080.74	2,208.70	5,474.14	0.00	0.00	0.00	
15,200.00	90.00	180.20	7,730.00	-5,180.73	2,208.36	5,570.80	0.00	0.00	0.00	
15,300.00	90.00	180.20	7,730.00	-5,280.73	2,208.02	5,667.46	0.00	0.00	0.00	
15,400.00	90.00	180.20	7,730.00	-5,380.73	2,207.68	5,764.13	0.00	0.00	0.00	
15,500.00	90.00	180.20	7,730.00	-5,480.73	2,207.34	5,860.79	0.00	0.00	0.00	
15,600.00	90.00	180.20	7,730.00	-5,580.73	2,207.00	5,957.45	0.00	0.00	0.00	
15,700.00	90.00	180.20	7,730.00	-5,680.73	2,206.66	6,054.11	0.00	0.00	0.00	
15,800.00	90.00	180.20	7,730.00	-5,780.73	2,206.32	6,150.78	0.00	0.00	0.00	
15,900.00	90.00	180.20	7,730.00	-5,880.73	2,205.98	6,247.44	0.00	0.00	0.00	
16,000.00	90.00	180.20	7,730.00	-5,980.73	2,205.64	6,344.10	0.00	0.00	0.00	
16,100.00	90.00	180.20	7,730.00	-6,080.73	2,205.30	6,440.77	0.00	0.00	0.00	
16,200.00	90.00	180.20	7,730.00	-6,180.73	2,204.95	6,537.43	0.00	0.00	0.00	
16,300.00	90.00	180.20	7,730.00	-6,280.73	2,204.61	6,634.09	0.00	0.00	0.00	
16,400.00	90.00	180.20	7,730.00	-6,380.73	2,204.27	6,730.76	0.00	0.00	0.00	
16,500.00	90.00	180.20	7,730.00	-6,480.73	2,203.93	6,827.42	0.00	0.00	0.00	
16,600.00	90.00	180.20	7,730.00	-6,580.73	2,203.59	6,924.08	0.00	0.00	0.00	
16,700.00	90.00	180.20	7,730.00	-6,680.73	2,203.25	7,020.74	0.00	0.00	0.00	
16,800.00	90.00	180.20	7,730.00	-6,780.73	2,202.91	7,117.41	0.00	0.00	0.00	
16,900.00	90.00	180.20	7,730.00	-6,880.72	2,202.57	7,214.07	0.00	0.00	0.00	
17,000.00	90.00	180.20	7,730.00	-6,980.72	2,202.23	7,310.73	0.00	0.00	0.00	
17,100.00	90.00	180.20	7,730.00	-7,080.72	2,201.89	7,407.40	0.00	0.00	0.00	
17,200.00	90.00	180.20	7,730.00	-7,180.72	2,201.55	7,504.06	0.00	0.00	0.00	
17,300.00	90.00	180.20	7,730.00	-7,280.72	2,201.20	7,600.72	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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	180.20	7,730.00	-7,380.72	2,200.86	7,697.39	0.00	0.00	0.00	
17,500.00	90.00	180.20	7,730.00	-7,480.72	2,200.52	7,794.05	0.00	0.00	0.00	
17,600.00	90.00	180.20	7,730.00	-7,580.72	2,200.18	7,890.71	0.00	0.00	0.00	
17,700.00	90.00	180.20	7,730.00	-7,680.72	2,199.84	7,987.37	0.00	0.00	0.00	
17,800.00	90.00	180.20	7,730.00	-7,780.72	2,199.50	8,084.04	0.00	0.00	0.00	
17,900.00	90.00	180.20	7,730.00	-7,880.72	2,199.16	8,180.70	0.00	0.00	0.00	
18,000.00	90.00	180.20	7,730.00	-7,980.72	2,198.82	8,277.36	0.00	0.00	0.00	
18,100.00	90.00	180.20	7,730.00	-8,080.72	2,198.48	8,374.03	0.00	0.00	0.00	
18,200.00	90.00	180.20	7,730.00	-8,180.72	2,198.14	8,470.69	0.00	0.00	0.00	
18,300.00	90.00	180.20	7,730.00	-8,280.72	2,197.79	8,567.35	0.00	0.00	0.00	
18,400.00	90.00	180.20	7,730.00	-8,380.72	2,197.45	8,664.02	0.00	0.00	0.00	
18,426.22	90.00	180.20	7,730.00	-8,406.94	2,197.36	8,689.36	0.00	0.00	0.00	
TD at 18426.22										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
LP-COSSLETT E 1C-H1 - hit/miss target - Shape - Point	0.00	0.00	7,730.00	1,278.40	2,230.39	1,258,848.85	3,146,615.80	40.042740°N	104.976328°W	
PBHL-COSSLETT E 1C - plan hits target center - Point	0.00	0.00	7,730.00	-8,406.94	2,197.36	1,249,163.84	3,146,639.10	40.016153°N	104.976449°W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	0.00	Denver Formation				
154.00	154.00	Laramie Formation				
631.00	631.00	Fox Hills sandstone				
803.00	803.00	Pierre Formation				
1,049.00	1,049.00	Upper Pierre aquifer				
1,995.17	1,985.00	Base of Upper Pierre aquifer				
4,651.72	4,363.00	Larimer sandstone				
5,112.16	4,771.00	Terry ("Sussex") sandstone				
5,761.07	5,346.00	Hygiene ("Shannon") sandstone				
5,978.88	5,539.00	Pierre shale				
8,354.72	7,613.00	Sharon Springs				
8,363.38	7,618.00	Niobrara				

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-22H-H168
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5208.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	North Reference:	True
Well:	COSSLETT EAST 1C-22H-H168	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Plan Annotations					
	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
			+N/-S (usft)	+E/-W (usft)	
	1,200.00	1,200.00	0.00	0.00	Start Build 2.00
	2,580.62	2,527.80	222.03	239.10	Start 5075.67 hold at 2580.62 MD
	7,656.30	7,025.36	1,822.81	1,963.01	Start DLS 10.00 TFO 129.64
	8,740.83	7,730.00	1,278.40	2,230.39	Start 9685.39 hold at 8740.83 MD
	18,426.22	7,730.00	-8,406.94	2,197.36	TD at 18426.22