

# **CRESTONE PEAK RESOURCES**

**WELD COUNTY**

**SEC 22-T1N-R68W**

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

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**01 March, 2022**

Project: WELD COUNTY  
Site: SEC 22-T1N-R68W  
Well: COSSLETT EAST 1I-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 1I-22H-H168

+N/-S	+E/-W	Northing	Easting	5182.00	Latitude	Longitude	Spot
0.00	0.00	1257557.54	3144452.88		40.039230°N	104.984080°W	

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	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
3	2429.47	36.59	63.82	2307.63	249.08	506.65	2.43	63.82	2.43	
4	8605.60	36.59	63.82	7266.61	1873.31	3810.44	0.00	0.00	18.29	
5	9659.14	90.00	180.19	7870.00	1319.45	4209.90	10.00	111.71	692.05	LP-COSSLETT E 1I-H168
6	19383.51	90.00	180.19	7870.00	-8404.86	4177.09	0.00	0.00	9385.62	PBHL-COSSLETT E 1I-H168

ANNOTATIONS

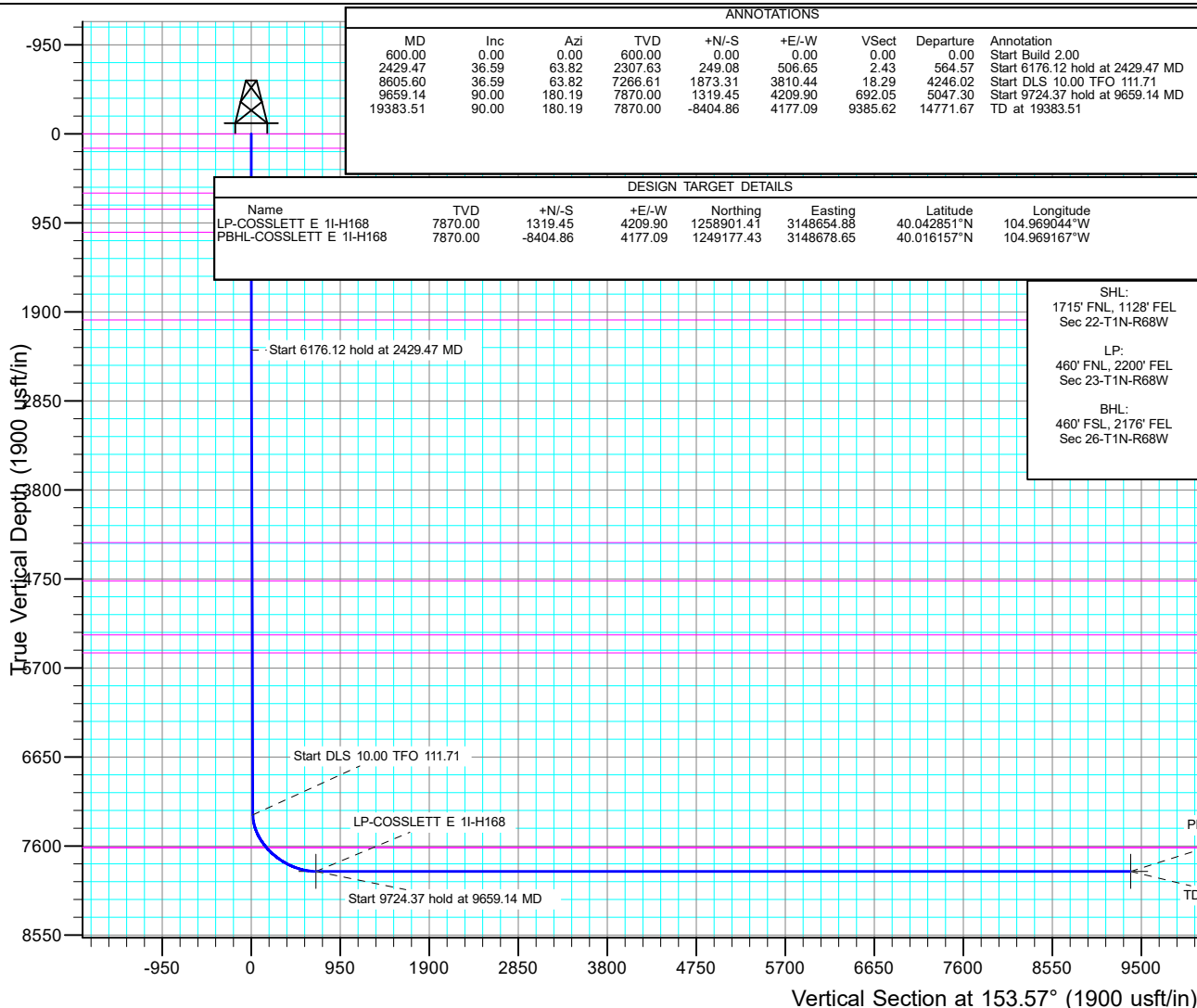
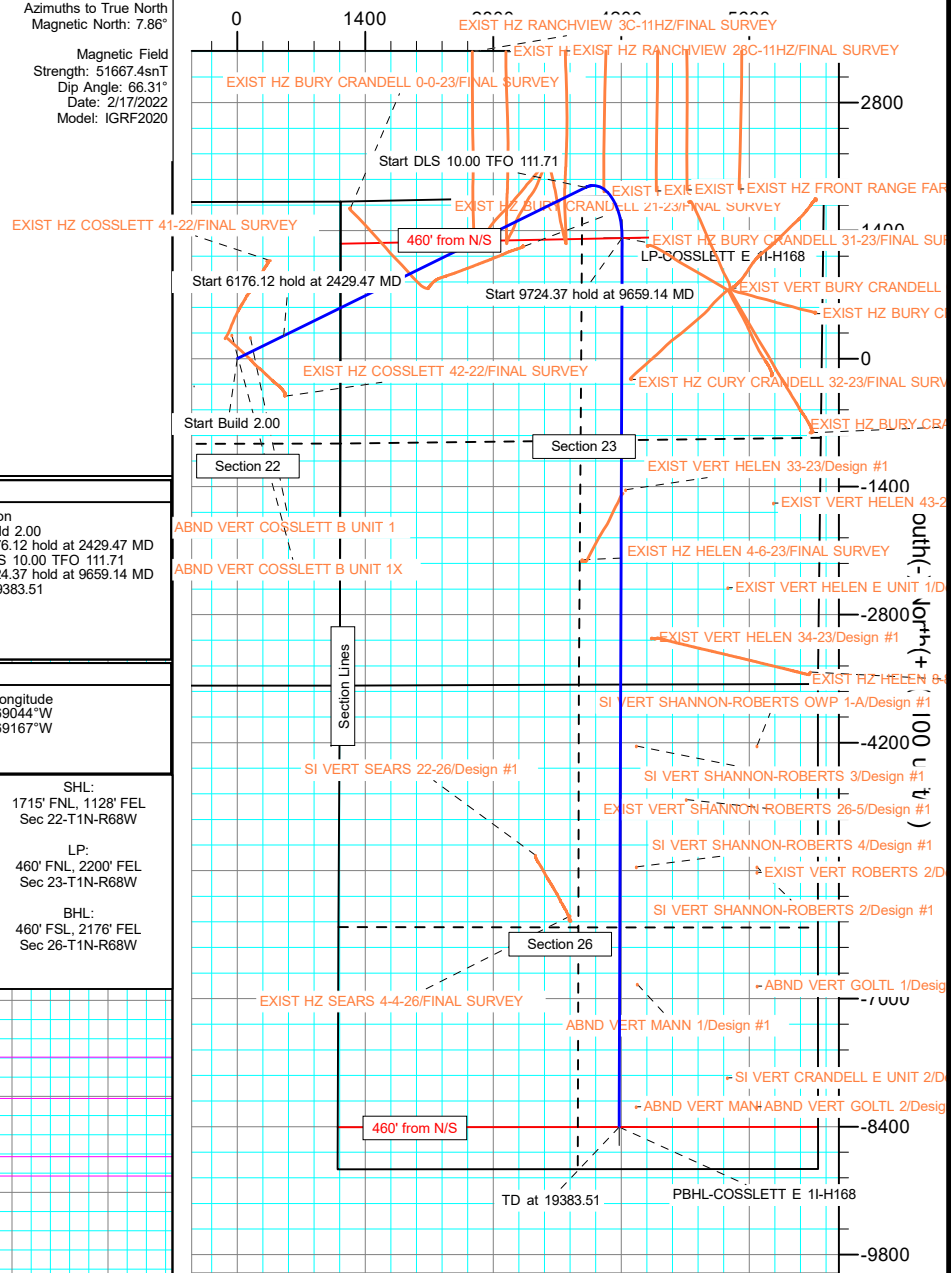
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	Start Build 2.00
2429.47	36.59	63.82	2307.63	249.08	506.65	2.43	564.57	Start 6176.12 hold at 2429.47 MD
8605.60	36.59	63.82	7266.61	1873.31	3810.44	18.29	4246.02	Start DLS 10.00 TFO 111.71
9659.14	90.00	180.19	7870.00	1319.45	4209.90	692.05	5047.30	Start 9724.37 hold at 9659.14 MD
19383.51	90.00	180.19	7870.00	-8404.86	4177.09	9385.62	14771.67	TD at 19383.51

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP-COSSLETT E 1I-H168	7870.00	1319.45	4209.90	1258901.41	3148654.88	40.042851°N	104.969044°W
PBHL-COSSLETT E 1I-H168	7870.00	-8404.86	4177.09	1249177.43	3148678.65	40.016157°N	104.969167°W

SHL:  
1715' FNL, 1128' FEL  
Sec 22-T1N-R68W  
  
LP:  
460' FNL, 2200' FEL  
Sec 23-T1N-R68W  
  
BHL:  
460' FSL, 2176' FEL  
Sec 26-T1N-R68W

West(-)/East(+) (2100 usft/in)



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 11-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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 11-22H-H168					
Well Position	+N/-S	-1,717.97 usft	Northing:	1,257,557.54 usft	Latitude:	40.039230°N
	+E/-W	-1,131.49 usft	Easting:	3,144,452.88 usft	Longitude:	104.984080°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,182.00 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	2/17/2022	7.86	66.31	51,667.43287983

<b>Design</b>	PROPOSAL 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	153.57

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/1/2022		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	19,383.51	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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,429.47	36.59	63.82	2,307.63	249.08	506.65	2.00	2.00	0.00	63.82	
8,605.60	36.59	63.82	7,266.61	1,873.31	3,810.44	0.00	0.00	0.00	0.00	
9,659.14	90.00	180.19	7,870.00	1,319.45	4,209.90	10.00	5.07	11.05	111.71	LP-COSSLETT E 11-H
19,383.51	90.00	180.19	7,870.00	-8,404.86	4,177.09	0.00	0.00	0.00	0.00	PBHL-COSSLETT E

# Planning Report

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<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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
154.00	0.00	0.00	154.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Laramie Formation</b>									
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
<b>Start Build 2.00</b>									
631.00	0.62	63.82	631.00	0.07	0.15	0.00	2.00	2.00	0.00
<b>Fox Hills sandstone</b>									
700.00	2.00	63.82	699.98	0.77	1.57	0.01	2.00	2.00	0.00
800.00	4.00	63.82	799.84	3.08	6.26	0.03	2.00	2.00	0.00
803.17	4.06	63.82	803.00	3.18	6.46	0.03	2.00	2.00	0.00
<b>Pierre Formation</b>									
900.00	6.00	63.82	899.45	6.92	14.08	0.07	2.00	2.00	0.00
1,000.00	8.00	63.82	998.70	12.30	25.02	0.12	2.00	2.00	0.00
1,050.86	9.02	63.82	1,049.00	15.62	31.77	0.15	2.00	2.00	0.00
<b>Upper Pierre aquifer</b>									
1,100.00	10.00	63.82	1,097.47	19.20	39.06	0.19	2.00	2.00	0.00
1,200.00	12.00	63.82	1,195.62	27.62	56.18	0.27	2.00	2.00	0.00
1,300.00	14.00	63.82	1,293.06	37.54	76.37	0.37	2.00	2.00	0.00
1,400.00	16.00	63.82	1,389.64	48.96	99.59	0.48	2.00	2.00	0.00
1,500.00	18.00	63.82	1,485.27	61.86	125.83	0.60	2.00	2.00	0.00
1,600.00	20.00	63.82	1,579.82	76.22	155.04	0.74	2.00	2.00	0.00
1,700.00	22.00	63.82	1,673.17	92.03	187.20	0.90	2.00	2.00	0.00
1,800.00	24.00	63.82	1,765.21	109.27	222.27	1.07	2.00	2.00	0.00
1,900.00	26.00	63.82	1,855.84	127.92	260.19	1.25	2.00	2.00	0.00
2,000.00	28.00	63.82	1,944.94	147.95	300.93	1.44	2.00	2.00	0.00
2,045.57	28.91	63.82	1,985.00	157.52	320.42	1.54	2.00	2.00	0.00
<b>Base of Upper Pierre aquifer</b>									
2,100.00	30.00	63.82	2,032.39	169.33	344.44	1.65	2.00	2.00	0.00
2,200.00	32.00	63.82	2,118.11	192.06	390.65	1.87	2.00	2.00	0.00
2,300.00	34.00	63.82	2,201.97	216.08	439.53	2.11	2.00	2.00	0.00
2,400.00	36.00	63.82	2,283.88	241.39	491.00	2.36	2.00	2.00	0.00
2,429.47	36.59	63.82	2,307.63	249.08	506.65	2.43	2.00	2.00	0.00
<b>Start 6176.12 hold at 2429.47 MD</b>									
2,500.00	36.59	63.82	2,364.26	267.63	544.38	2.61	0.00	0.00	0.00
2,600.00	36.59	63.82	2,444.56	293.93	597.87	2.87	0.00	0.00	0.00
2,700.00	36.59	63.82	2,524.85	320.23	651.37	3.13	0.00	0.00	0.00
2,800.00	36.59	63.82	2,605.14	346.53	704.86	3.38	0.00	0.00	0.00
2,900.00	36.59	63.82	2,685.43	372.83	758.35	3.64	0.00	0.00	0.00
3,000.00	36.59	63.82	2,765.73	399.12	811.85	3.90	0.00	0.00	0.00
3,100.00	36.59	63.82	2,846.02	425.42	865.34	4.15	0.00	0.00	0.00
3,200.00	36.59	63.82	2,926.31	451.72	918.83	4.41	0.00	0.00	0.00
3,300.00	36.59	63.82	3,006.60	478.02	972.32	4.67	0.00	0.00	0.00
3,400.00	36.59	63.82	3,086.90	504.32	1,025.82	4.92	0.00	0.00	0.00
3,500.00	36.59	63.82	3,167.19	530.62	1,079.31	5.18	0.00	0.00	0.00
3,600.00	36.59	63.82	3,247.48	556.92	1,132.80	5.44	0.00	0.00	0.00
3,700.00	36.59	63.82	3,327.77	583.21	1,186.30	5.69	0.00	0.00	0.00
3,800.00	36.59	63.82	3,408.07	609.51	1,239.79	5.95	0.00	0.00	0.00

# Planning Report

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<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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)	
3,900.00	36.59	63.82	3,488.36	635.81	1,293.28	6.21	0.00	0.00	0.00	
4,000.00	36.59	63.82	3,568.65	662.11	1,346.77	6.46	0.00	0.00	0.00	
4,100.00	36.59	63.82	3,648.95	688.41	1,400.27	6.72	0.00	0.00	0.00	
4,200.00	36.59	63.82	3,729.24	714.71	1,453.76	6.98	0.00	0.00	0.00	
4,300.00	36.59	63.82	3,809.53	741.01	1,507.25	7.23	0.00	0.00	0.00	
4,400.00	36.59	63.82	3,889.82	767.30	1,560.75	7.49	0.00	0.00	0.00	
4,500.00	36.59	63.82	3,970.12	793.60	1,614.24	7.75	0.00	0.00	0.00	
4,600.00	36.59	63.82	4,050.41	819.90	1,667.73	8.00	0.00	0.00	0.00	
4,700.00	36.59	63.82	4,130.70	846.20	1,721.22	8.26	0.00	0.00	0.00	
4,800.00	36.59	63.82	4,210.99	872.50	1,774.72	8.52	0.00	0.00	0.00	
4,900.00	36.59	63.82	4,291.29	898.80	1,828.21	8.77	0.00	0.00	0.00	
4,989.32	36.59	63.82	4,363.00	922.28	1,875.99	9.00	0.00	0.00	0.00	
Larimer sandstone										
5,000.00	36.59	63.82	4,371.58	925.09	1,881.70	9.03	0.00	0.00	0.00	
5,100.00	36.59	63.82	4,451.87	951.39	1,935.20	9.29	0.00	0.00	0.00	
5,200.00	36.59	63.82	4,532.16	977.69	1,988.69	9.54	0.00	0.00	0.00	
5,300.00	36.59	63.82	4,612.46	1,003.99	2,042.18	9.80	0.00	0.00	0.00	
5,400.00	36.59	63.82	4,692.75	1,030.29	2,095.67	10.06	0.00	0.00	0.00	
5,497.46	36.59	63.82	4,771.00	1,055.92	2,147.81	10.31	0.00	0.00	0.00	
Terry ("Sussex") sandstone										
5,500.00	36.59	63.82	4,773.04	1,056.59	2,149.17	10.31	0.00	0.00	0.00	
5,600.00	36.59	63.82	4,853.34	1,082.89	2,202.66	10.57	0.00	0.00	0.00	
5,700.00	36.59	63.82	4,933.63	1,109.18	2,256.15	10.83	0.00	0.00	0.00	
5,800.00	36.59	63.82	5,013.92	1,135.48	2,309.64	11.08	0.00	0.00	0.00	
5,900.00	36.59	63.82	5,094.21	1,161.78	2,363.14	11.34	0.00	0.00	0.00	
6,000.00	36.59	63.82	5,174.51	1,188.08	2,416.63	11.60	0.00	0.00	0.00	
6,100.00	36.59	63.82	5,254.80	1,214.38	2,470.12	11.85	0.00	0.00	0.00	
6,200.00	36.59	63.82	5,335.09	1,240.68	2,523.62	12.11	0.00	0.00	0.00	
6,213.59	36.59	63.82	5,346.00	1,244.25	2,530.88	12.15	0.00	0.00	0.00	
Hygiene ("Shannon") sandstone										
6,300.00	36.59	63.82	5,415.38	1,266.97	2,577.11	12.37	0.00	0.00	0.00	
6,400.00	36.59	63.82	5,495.68	1,293.27	2,630.60	12.62	0.00	0.00	0.00	
6,453.96	36.59	63.82	5,539.00	1,307.46	2,659.46	12.76	0.00	0.00	0.00	
Pierre shale										
6,500.00	36.59	63.82	5,575.97	1,319.57	2,684.09	12.88	0.00	0.00	0.00	
6,600.00	36.59	63.82	5,656.26	1,345.87	2,737.59	13.14	0.00	0.00	0.00	
6,700.00	36.59	63.82	5,736.55	1,372.17	2,791.08	13.39	0.00	0.00	0.00	
6,800.00	36.59	63.82	5,816.85	1,398.47	2,844.57	13.65	0.00	0.00	0.00	
6,900.00	36.59	63.82	5,897.14	1,424.77	2,898.07	13.91	0.00	0.00	0.00	
7,000.00	36.59	63.82	5,977.43	1,451.06	2,951.56	14.16	0.00	0.00	0.00	
7,100.00	36.59	63.82	6,057.72	1,477.36	3,005.05	14.42	0.00	0.00	0.00	
7,200.00	36.59	63.82	6,138.02	1,503.66	3,058.54	14.68	0.00	0.00	0.00	
7,300.00	36.59	63.82	6,218.31	1,529.96	3,112.04	14.93	0.00	0.00	0.00	
7,400.00	36.59	63.82	6,298.60	1,556.26	3,165.53	15.19	0.00	0.00	0.00	
7,500.00	36.59	63.82	6,378.90	1,582.56	3,219.02	15.45	0.00	0.00	0.00	
7,600.00	36.59	63.82	6,459.19	1,608.85	3,272.52	15.70	0.00	0.00	0.00	
7,700.00	36.59	63.82	6,539.48	1,635.15	3,326.01	15.96	0.00	0.00	0.00	
7,800.00	36.59	63.82	6,619.77	1,661.45	3,379.50	16.22	0.00	0.00	0.00	
7,900.00	36.59	63.82	6,700.07	1,687.75	3,432.99	16.47	0.00	0.00	0.00	
8,000.00	36.59	63.82	6,780.36	1,714.05	3,486.49	16.73	0.00	0.00	0.00	
8,100.00	36.59	63.82	6,860.65	1,740.35	3,539.98	16.99	0.00	0.00	0.00	
8,200.00	36.59	63.82	6,940.94	1,766.65	3,593.47	17.24	0.00	0.00	0.00	
8,300.00	36.59	63.82	7,021.24	1,792.94	3,646.97	17.50	0.00	0.00	0.00	
8,400.00	36.59	63.82	7,101.53	1,819.24	3,700.46	17.76	0.00	0.00	0.00	

# Planning Report

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<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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	36.59	63.82	7,181.82	1,845.54	3,753.95	18.02	0.00	0.00	0.00
8,605.60	36.59	63.82	7,266.61	1,873.31	3,810.44	18.29	0.00	0.00	0.00
Start DLS 10.00 TFO 111.71									
8,650.00	35.16	71.00	7,302.60	1,883.32	3,834.41	20.00	10.00	-3.23	16.16
8,700.00	34.08	79.60	7,343.78	1,890.54	3,861.82	25.73	10.00	-2.14	17.21
8,750.00	33.64	88.54	7,385.32	1,893.42	3,889.46	35.45	10.00	-0.89	17.89
8,800.00	33.85	97.54	7,426.92	1,891.95	3,917.13	49.08	10.00	0.41	18.00
8,850.00	34.69	106.30	7,468.27	1,886.12	3,944.61	66.53	10.00	1.70	17.51
8,900.00	36.14	114.57	7,509.04	1,875.99	3,971.69	87.65	10.00	2.88	16.53
8,950.00	38.11	122.19	7,548.93	1,861.63	3,998.17	112.30	10.00	3.94	15.24
9,000.00	40.52	129.10	7,587.63	1,843.16	4,023.85	140.27	10.00	4.83	13.83
9,033.85	42.37	133.39	7,613.00	1,828.38	4,040.68	160.99	10.00	5.47	12.65
Sharon Springs									
9,040.63	42.76	134.21	7,618.00	1,825.20	4,043.99	165.31	10.00	5.74	12.10
Niobrara									
9,050.00	43.31	135.32	7,624.85	1,820.70	4,048.53	171.36	10.00	5.84	11.89
9,100.00	46.40	140.90	7,660.30	1,794.44	4,072.02	205.33	10.00	6.18	11.15
9,150.00	49.74	145.91	7,693.72	1,764.58	4,094.15	241.93	10.00	6.67	10.02
9,200.00	53.27	150.43	7,724.85	1,731.33	4,114.74	280.86	10.00	7.06	9.05
9,250.00	56.95	154.55	7,753.45	1,694.96	4,133.64	321.85	10.00	7.37	8.24
9,300.00	60.76	158.34	7,779.31	1,655.73	4,150.71	364.57	10.00	7.62	7.57
9,350.00	64.67	161.85	7,802.23	1,613.96	4,165.81	408.70	10.00	7.82	7.02
9,400.00	68.66	165.13	7,822.03	1,569.95	4,178.84	453.90	10.00	7.97	6.57
9,450.00	72.71	168.24	7,838.57	1,524.05	4,189.68	499.84	10.00	8.10	6.22
9,500.00	76.80	171.22	7,851.72	1,476.59	4,198.27	546.15	10.00	8.19	5.95
9,550.00	80.93	174.10	7,861.37	1,427.95	4,204.52	592.50	10.00	8.25	5.76
9,600.00	85.08	176.91	7,867.46	1,378.49	4,208.41	638.52	10.00	8.30	5.62
9,650.00	89.24	179.69	7,869.94	1,328.59	4,209.89	683.86	10.00	8.32	5.55
9,659.14	90.00	180.19	7,870.00	1,319.45	4,209.90	692.05	10.00	8.33	5.54
Start 9724.37 hold at 9659.14 MD									
9,700.00	90.00	180.19	7,870.00	1,278.59	4,209.76	728.58	0.00	0.00	0.00
9,800.00	90.00	180.19	7,870.00	1,178.59	4,209.42	817.98	0.00	0.00	0.00
9,900.00	90.00	180.19	7,870.00	1,078.59	4,209.08	907.38	0.00	0.00	0.00
10,000.00	90.00	180.19	7,870.00	978.59	4,208.75	996.78	0.00	0.00	0.00
10,100.00	90.00	180.19	7,870.00	878.59	4,208.41	1,086.18	0.00	0.00	0.00
10,200.00	90.00	180.19	7,870.00	778.59	4,208.07	1,175.58	0.00	0.00	0.00
10,300.00	90.00	180.19	7,870.00	678.60	4,207.73	1,264.98	0.00	0.00	0.00
10,400.00	90.00	180.19	7,870.00	578.60	4,207.40	1,354.38	0.00	0.00	0.00
10,500.00	90.00	180.19	7,870.00	478.60	4,207.06	1,443.78	0.00	0.00	0.00
10,600.00	90.00	180.19	7,870.00	378.60	4,206.72	1,533.18	0.00	0.00	0.00
10,700.00	90.00	180.19	7,870.00	278.60	4,206.38	1,622.58	0.00	0.00	0.00
10,800.00	90.00	180.19	7,870.00	178.60	4,206.05	1,711.98	0.00	0.00	0.00
10,900.00	90.00	180.19	7,870.00	78.60	4,205.71	1,801.38	0.00	0.00	0.00
11,000.00	90.00	180.19	7,870.00	-21.40	4,205.37	1,890.78	0.00	0.00	0.00
11,100.00	90.00	180.19	7,870.00	-121.40	4,205.04	1,980.18	0.00	0.00	0.00
11,200.00	90.00	180.19	7,870.00	-221.40	4,204.70	2,069.58	0.00	0.00	0.00
11,300.00	90.00	180.19	7,870.00	-321.40	4,204.36	2,158.98	0.00	0.00	0.00
11,400.00	90.00	180.19	7,870.00	-421.40	4,204.02	2,248.38	0.00	0.00	0.00
11,500.00	90.00	180.19	7,870.00	-521.40	4,203.69	2,337.78	0.00	0.00	0.00
11,600.00	90.00	180.19	7,870.00	-621.40	4,203.35	2,427.18	0.00	0.00	0.00
11,700.00	90.00	180.19	7,870.00	-721.40	4,203.01	2,516.58	0.00	0.00	0.00
11,800.00	90.00	180.19	7,870.00	-821.40	4,202.67	2,605.97	0.00	0.00	0.00
11,900.00	90.00	180.19	7,870.00	-921.40	4,202.34	2,695.37	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 11-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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	7,870.00	-1,021.40	4,202.00	2,784.77	0.00	0.00	0.00
12,100.00	90.00	180.19	7,870.00	-1,121.39	4,201.66	2,874.17	0.00	0.00	0.00
12,200.00	90.00	180.19	7,870.00	-1,221.39	4,201.32	2,963.57	0.00	0.00	0.00
12,300.00	90.00	180.19	7,870.00	-1,321.39	4,200.99	3,052.97	0.00	0.00	0.00
12,400.00	90.00	180.19	7,870.00	-1,421.39	4,200.65	3,142.37	0.00	0.00	0.00
12,500.00	90.00	180.19	7,870.00	-1,521.39	4,200.31	3,231.77	0.00	0.00	0.00
12,600.00	90.00	180.19	7,870.00	-1,621.39	4,199.98	3,321.17	0.00	0.00	0.00
12,700.00	90.00	180.19	7,870.00	-1,721.39	4,199.64	3,410.57	0.00	0.00	0.00
12,800.00	90.00	180.19	7,870.00	-1,821.39	4,199.30	3,499.97	0.00	0.00	0.00
12,900.00	90.00	180.19	7,870.00	-1,921.39	4,198.96	3,589.37	0.00	0.00	0.00
13,000.00	90.00	180.19	7,870.00	-2,021.39	4,198.63	3,678.77	0.00	0.00	0.00
13,100.00	90.00	180.19	7,870.00	-2,121.39	4,198.29	3,768.17	0.00	0.00	0.00
13,200.00	90.00	180.19	7,870.00	-2,221.39	4,197.95	3,857.57	0.00	0.00	0.00
13,300.00	90.00	180.19	7,870.00	-2,321.39	4,197.61	3,946.97	0.00	0.00	0.00
13,400.00	90.00	180.19	7,870.00	-2,421.39	4,197.28	4,036.37	0.00	0.00	0.00
13,500.00	90.00	180.19	7,870.00	-2,521.39	4,196.94	4,125.77	0.00	0.00	0.00
13,600.00	90.00	180.19	7,870.00	-2,621.39	4,196.60	4,215.17	0.00	0.00	0.00
13,700.00	90.00	180.19	7,870.00	-2,721.39	4,196.26	4,304.57	0.00	0.00	0.00
13,800.00	90.00	180.19	7,870.00	-2,821.38	4,195.93	4,393.97	0.00	0.00	0.00
13,900.00	90.00	180.19	7,870.00	-2,921.38	4,195.59	4,483.37	0.00	0.00	0.00
14,000.00	90.00	180.19	7,870.00	-3,021.38	4,195.25	4,572.77	0.00	0.00	0.00
14,100.00	90.00	180.19	7,870.00	-3,121.38	4,194.92	4,662.17	0.00	0.00	0.00
14,200.00	90.00	180.19	7,870.00	-3,221.38	4,194.58	4,751.57	0.00	0.00	0.00
14,300.00	90.00	180.19	7,870.00	-3,321.38	4,194.24	4,840.97	0.00	0.00	0.00
14,400.00	90.00	180.19	7,870.00	-3,421.38	4,193.90	4,930.37	0.00	0.00	0.00
14,500.00	90.00	180.19	7,870.00	-3,521.38	4,193.57	5,019.77	0.00	0.00	0.00
14,600.00	90.00	180.19	7,870.00	-3,621.38	4,193.23	5,109.17	0.00	0.00	0.00
14,700.00	90.00	180.19	7,870.00	-3,721.38	4,192.89	5,198.57	0.00	0.00	0.00
14,800.00	90.00	180.19	7,870.00	-3,821.38	4,192.55	5,287.97	0.00	0.00	0.00
14,900.00	90.00	180.19	7,870.00	-3,921.38	4,192.22	5,377.37	0.00	0.00	0.00
15,000.00	90.00	180.19	7,870.00	-4,021.38	4,191.88	5,466.77	0.00	0.00	0.00
15,100.00	90.00	180.19	7,870.00	-4,121.38	4,191.54	5,556.17	0.00	0.00	0.00
15,200.00	90.00	180.19	7,870.00	-4,221.38	4,191.20	5,645.57	0.00	0.00	0.00
15,300.00	90.00	180.19	7,870.00	-4,321.38	4,190.87	5,734.97	0.00	0.00	0.00
15,400.00	90.00	180.19	7,870.00	-4,421.38	4,190.53	5,824.37	0.00	0.00	0.00
15,500.00	90.00	180.19	7,870.00	-4,521.38	4,190.19	5,913.77	0.00	0.00	0.00
15,600.00	90.00	180.19	7,870.00	-4,621.37	4,189.86	6,003.17	0.00	0.00	0.00
15,700.00	90.00	180.19	7,870.00	-4,721.37	4,189.52	6,092.57	0.00	0.00	0.00
15,800.00	90.00	180.19	7,870.00	-4,821.37	4,189.18	6,181.97	0.00	0.00	0.00
15,900.00	90.00	180.19	7,870.00	-4,921.37	4,188.84	6,271.37	0.00	0.00	0.00
16,000.00	90.00	180.19	7,870.00	-5,021.37	4,188.51	6,360.77	0.00	0.00	0.00
16,100.00	90.00	180.19	7,870.00	-5,121.37	4,188.17	6,450.17	0.00	0.00	0.00
16,200.00	90.00	180.19	7,870.00	-5,221.37	4,187.83	6,539.57	0.00	0.00	0.00
16,300.00	90.00	180.19	7,870.00	-5,321.37	4,187.49	6,628.97	0.00	0.00	0.00
16,400.00	90.00	180.19	7,870.00	-5,421.37	4,187.16	6,718.37	0.00	0.00	0.00
16,500.00	90.00	180.19	7,870.00	-5,521.37	4,186.82	6,807.77	0.00	0.00	0.00
16,600.00	90.00	180.19	7,870.00	-5,621.37	4,186.48	6,897.17	0.00	0.00	0.00
16,700.00	90.00	180.19	7,870.00	-5,721.37	4,186.14	6,986.57	0.00	0.00	0.00
16,800.00	90.00	180.19	7,870.00	-5,821.37	4,185.81	7,075.97	0.00	0.00	0.00
16,900.00	90.00	180.19	7,870.00	-5,921.37	4,185.47	7,165.37	0.00	0.00	0.00
17,000.00	90.00	180.19	7,870.00	-6,021.37	4,185.13	7,254.76	0.00	0.00	0.00
17,100.00	90.00	180.19	7,870.00	-6,121.37	4,184.80	7,344.16	0.00	0.00	0.00
17,200.00	90.00	180.19	7,870.00	-6,221.37	4,184.46	7,433.56	0.00	0.00	0.00
17,300.00	90.00	180.19	7,870.00	-6,321.37	4,184.12	7,522.96	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 11-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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	7,870.00	-6,421.36	4,183.78	7,612.36	0.00	0.00	0.00	
17,500.00	90.00	180.19	7,870.00	-6,521.36	4,183.45	7,701.76	0.00	0.00	0.00	
17,600.00	90.00	180.19	7,870.00	-6,621.36	4,183.11	7,791.16	0.00	0.00	0.00	
17,700.00	90.00	180.19	7,870.00	-6,721.36	4,182.77	7,880.56	0.00	0.00	0.00	
17,800.00	90.00	180.19	7,870.00	-6,821.36	4,182.43	7,969.96	0.00	0.00	0.00	
17,900.00	90.00	180.19	7,870.00	-6,921.36	4,182.10	8,059.36	0.00	0.00	0.00	
18,000.00	90.00	180.19	7,870.00	-7,021.36	4,181.76	8,148.76	0.00	0.00	0.00	
18,100.00	90.00	180.19	7,870.00	-7,121.36	4,181.42	8,238.16	0.00	0.00	0.00	
18,200.00	90.00	180.19	7,870.00	-7,221.36	4,181.09	8,327.56	0.00	0.00	0.00	
18,300.00	90.00	180.19	7,870.00	-7,321.36	4,180.75	8,416.96	0.00	0.00	0.00	
18,400.00	90.00	180.19	7,870.00	-7,421.36	4,180.41	8,506.36	0.00	0.00	0.00	
18,500.00	90.00	180.19	7,870.00	-7,521.36	4,180.07	8,595.76	0.00	0.00	0.00	
18,600.00	90.00	180.19	7,870.00	-7,621.36	4,179.74	8,685.16	0.00	0.00	0.00	
18,700.00	90.00	180.19	7,870.00	-7,721.36	4,179.40	8,774.56	0.00	0.00	0.00	
18,800.00	90.00	180.19	7,870.00	-7,821.36	4,179.06	8,863.96	0.00	0.00	0.00	
18,900.00	90.00	180.19	7,870.00	-7,921.36	4,178.72	8,953.36	0.00	0.00	0.00	
19,000.00	90.00	180.19	7,870.00	-8,021.36	4,178.39	9,042.76	0.00	0.00	0.00	
19,100.00	90.00	180.19	7,870.00	-8,121.35	4,178.05	9,132.16	0.00	0.00	0.00	
19,200.00	90.00	180.19	7,870.00	-8,221.35	4,177.71	9,221.56	0.00	0.00	0.00	
19,300.00	90.00	180.19	7,870.00	-8,321.35	4,177.37	9,310.96	0.00	0.00	0.00	
19,383.51	90.00	180.19	7,870.00	-8,404.86	4,177.09	9,385.62	0.00	0.00	0.00	
TD at 19383.51										

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
LP-COSSLETT E 11-H168 - plan hits target center - Point	0.00	0.00	7,870.00	1,319.45	4,209.90	1,258,901.41	3,148,654.88	40.042851°N		104.969044°W
PBHL-COSSLETT E 11-H168 - plan hits target center - Point	0.00	0.00	7,870.00	-8,404.86	4,177.09	1,249,177.42	3,148,678.65	40.016157°N		104.969167°W



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well COSSLETT EAST 11-22H-H168
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5207.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5207.00usft
<b>Site:</b>	SEC 22-T1N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	COSSLETT EAST 11-22H-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				
631.00	631.00	Fox Hills sandstone				
803.17	803.00	Pierre Formation				
1,050.86	1,049.00	Upper Pierre aquifer				
2,045.57	1,985.00	Base of Upper Pierre aquifer				
4,989.32	4,363.00	Larimer sandstone				
5,497.46	4,771.00	Terry ("Sussex") sandstone				
6,213.59	5,346.00	Hygiene ("Shannon") sandstone				
6,453.96	5,539.00	Pierre shale				
9,033.85	7,613.00	Sharon Springs				
9,040.63	7,618.00	Niobrara				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
600.00	600.00	0.00	0.00	Start Build 2.00
2,429.47	2,307.63	249.08	506.65	Start 6176.12 hold at 2429.47 MD
8,605.60	7,266.61	1,873.31	3,810.44	Start DLS 10.00 TFO 111.71
9,659.14	7,870.00	1,319.45	4,209.90	Start 9724.37 hold at 9659.14 MD
19,383.51	7,870.00	-8,404.86	4,177.09	TD at 19383.51