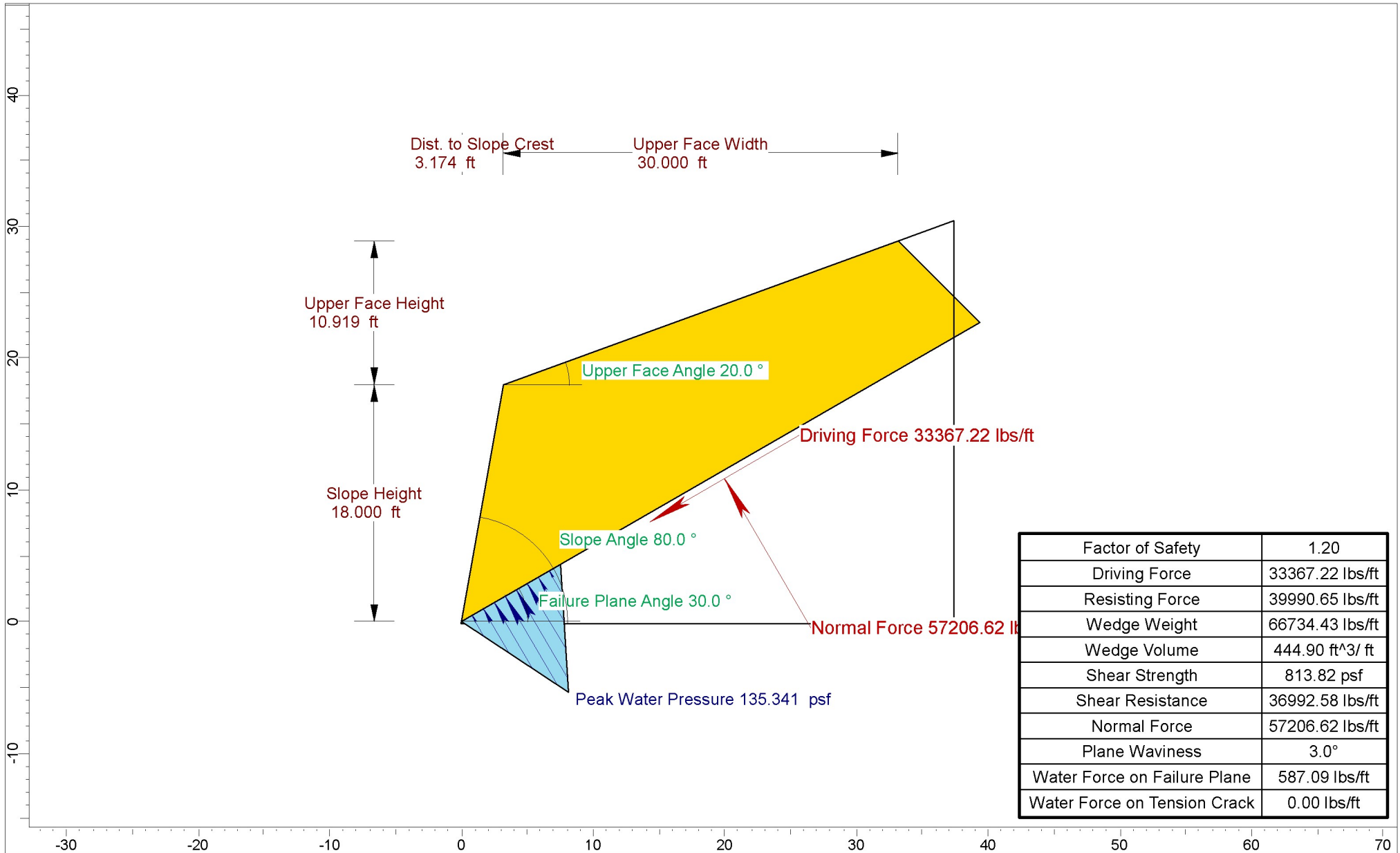
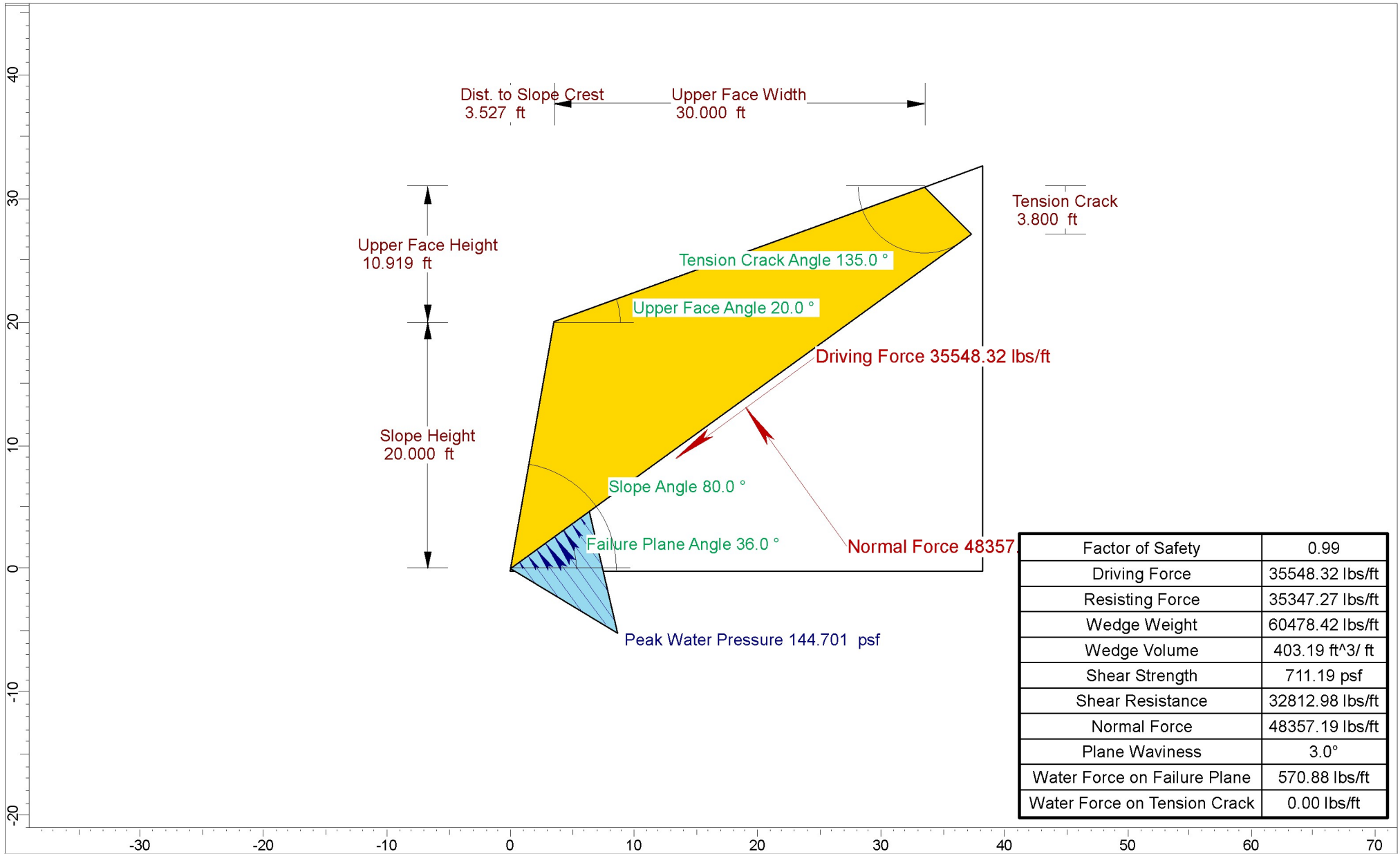


Appendix D

PLANAR FAILURE RESULTS



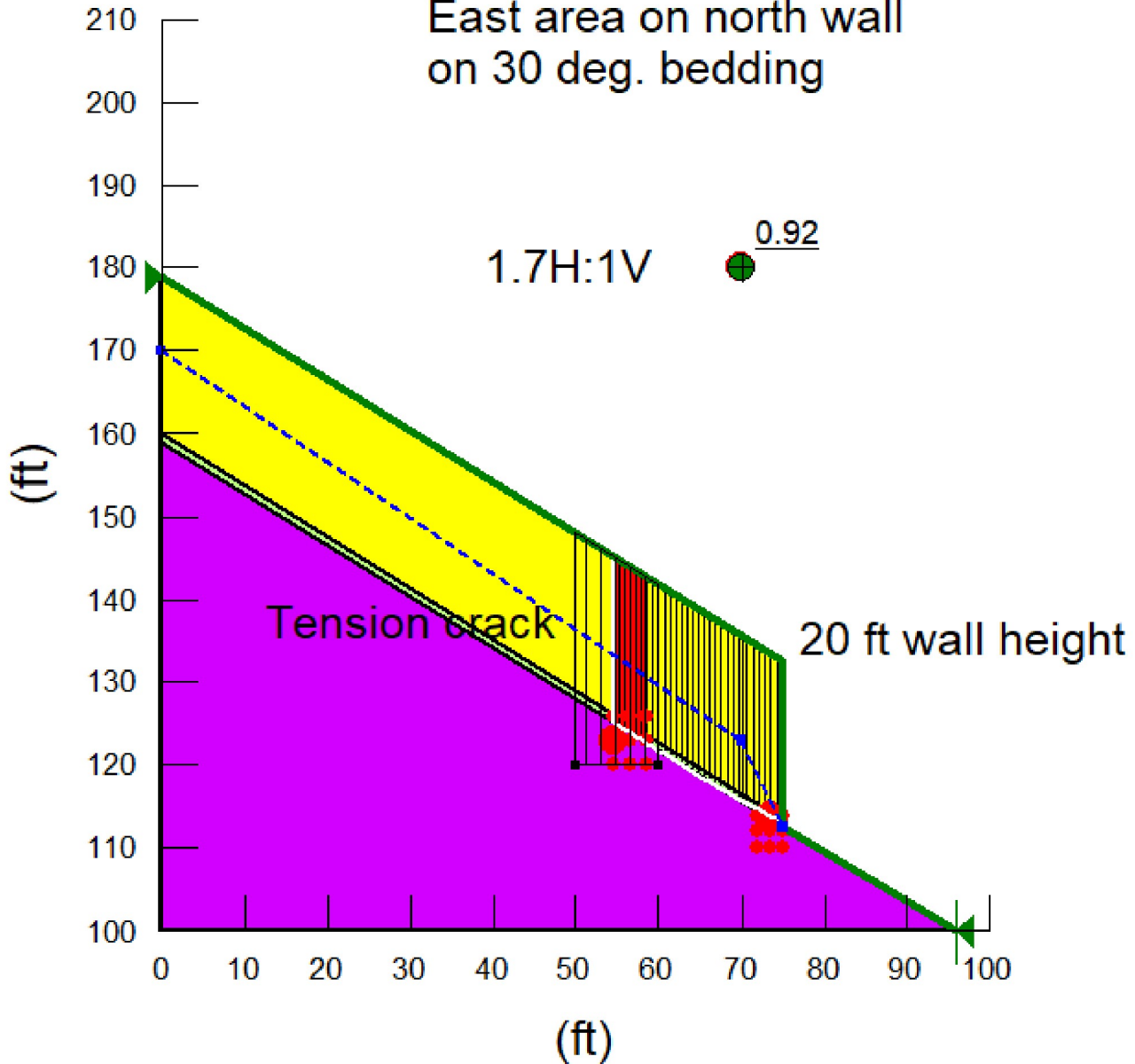
<i>Project</i>		Mid Continent East Face	
<i>Analysis Description</i>		Planar Wedge Stability Analysis	
<i>Drawn By</i>	Sundermann	<i>Company</i>	Kilduff Underground Engineering
<i>Date</i>	5/1/2023, 7:54:04 PM	<i>File Name</i>	RocPlane_EastFace.pln4



Factor of Safety	0.99
Driving Force	35548.32 lbs/ft
Resisting Force	35347.27 lbs/ft
Wedge Weight	60478.42 lbs/ft
Wedge Volume	403.19 ft ³ /ft
Shear Strength	711.19 psf
Shear Resistance	32812.98 lbs/ft
Normal Force	48357.19 lbs/ft
Plane Waviness	3.0°
Water Force on Failure Plane	570.88 lbs/ft
Water Force on Tension Crack	0.00 lbs/ft

<i>Project</i>		Mid Continent Mine	
<i>Analysis Description</i>		Planar Wedge Back Analysis - West Face	
<i>Drawn By</i>	Sundermann	<i>Company</i>	Kilduff Underground Engineering
<i>Date</i>	5/1/2023, 7:54:04 PM	<i>File Name</i>	RocPlane_WestFace_BackAnalysis.pln4

East area on north wall
on 30 deg. bedding



Name: Joint material
Unit Weight: 130 pcf
Cohesion': 550 psf
Phi': 25 °
Piezometric Line: 1

Name: Rock mass
Unit Weight: 150 pcf
Cohesion': 10,000 psf
Phi': 35 °
Piezometric Line: 1

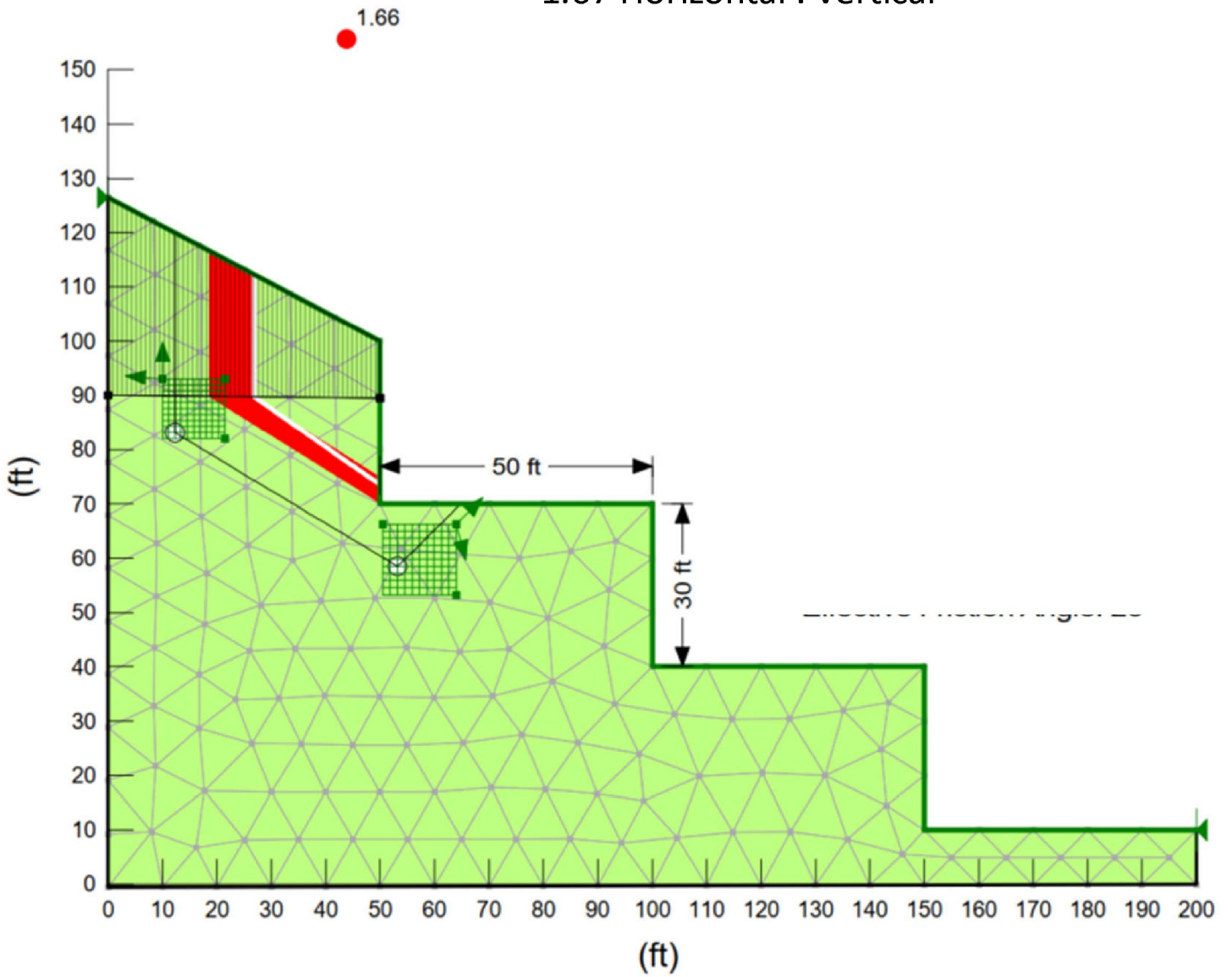



Mid Continent Mine
Failure Analyses
and Stabilization
Glenwood Springs, CO

West Face
Slope/W Backanalyses

Appendix D

Mid-Continent Quarry – WEST FACE
 Proposed Bench Geometry
 1.67 Horizontal : Vertical




 Name: Joint material - Massive Limestone
 Unit Weight: 150 pcf
 Effective Cohesion: 40 psf
 Effective Friction Angle: 25 °



Mid Continent Mine
 Failure Analyses
 and Stabilization
 Glenwood Springs, CO

**Bench Geometry
 Stability Model**

Appendix D