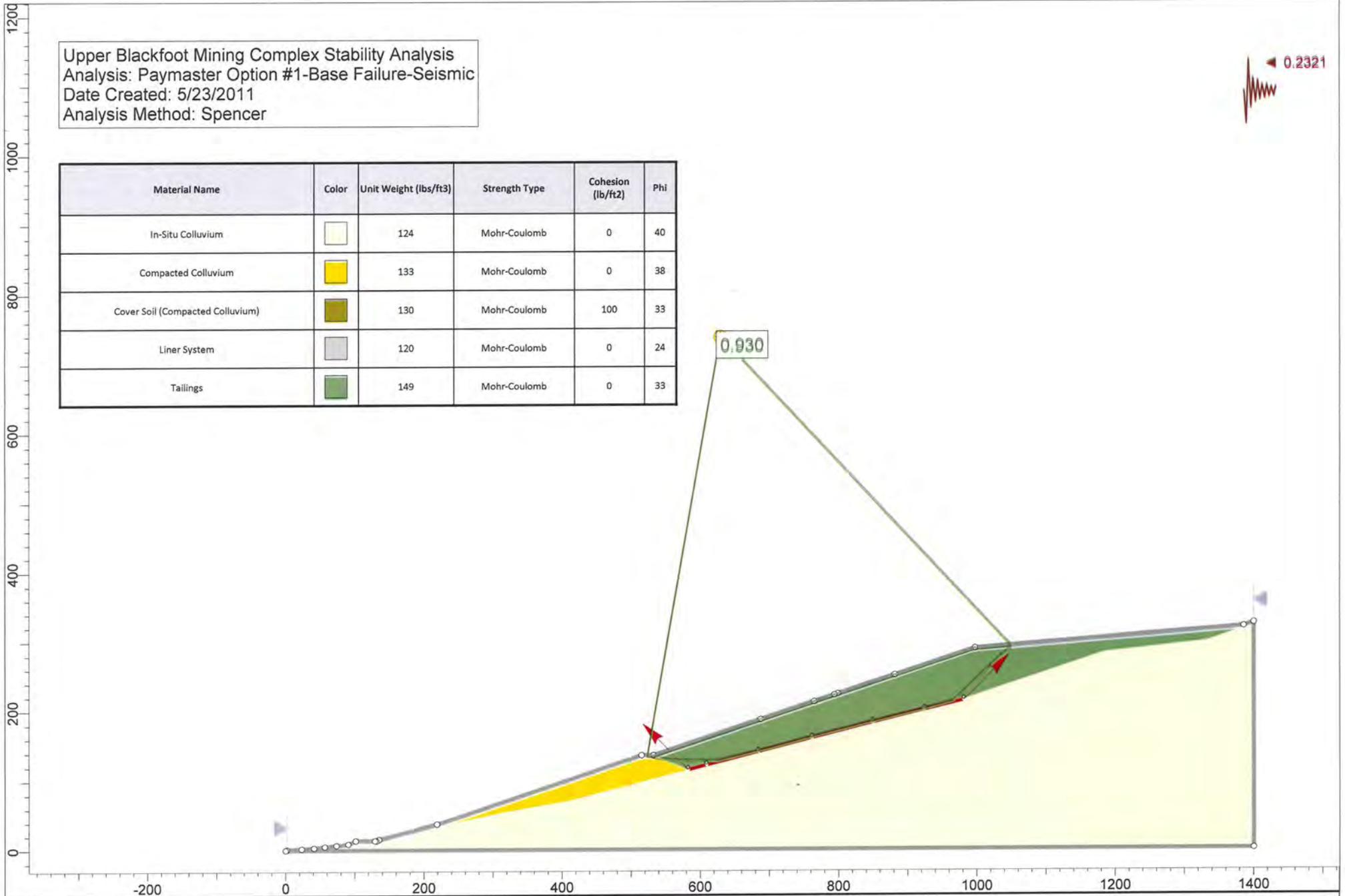


Paymaster Option #1, Berm Constructed of Imported Soils, 3H:1V Slope, 1,051,167 CY Tailings

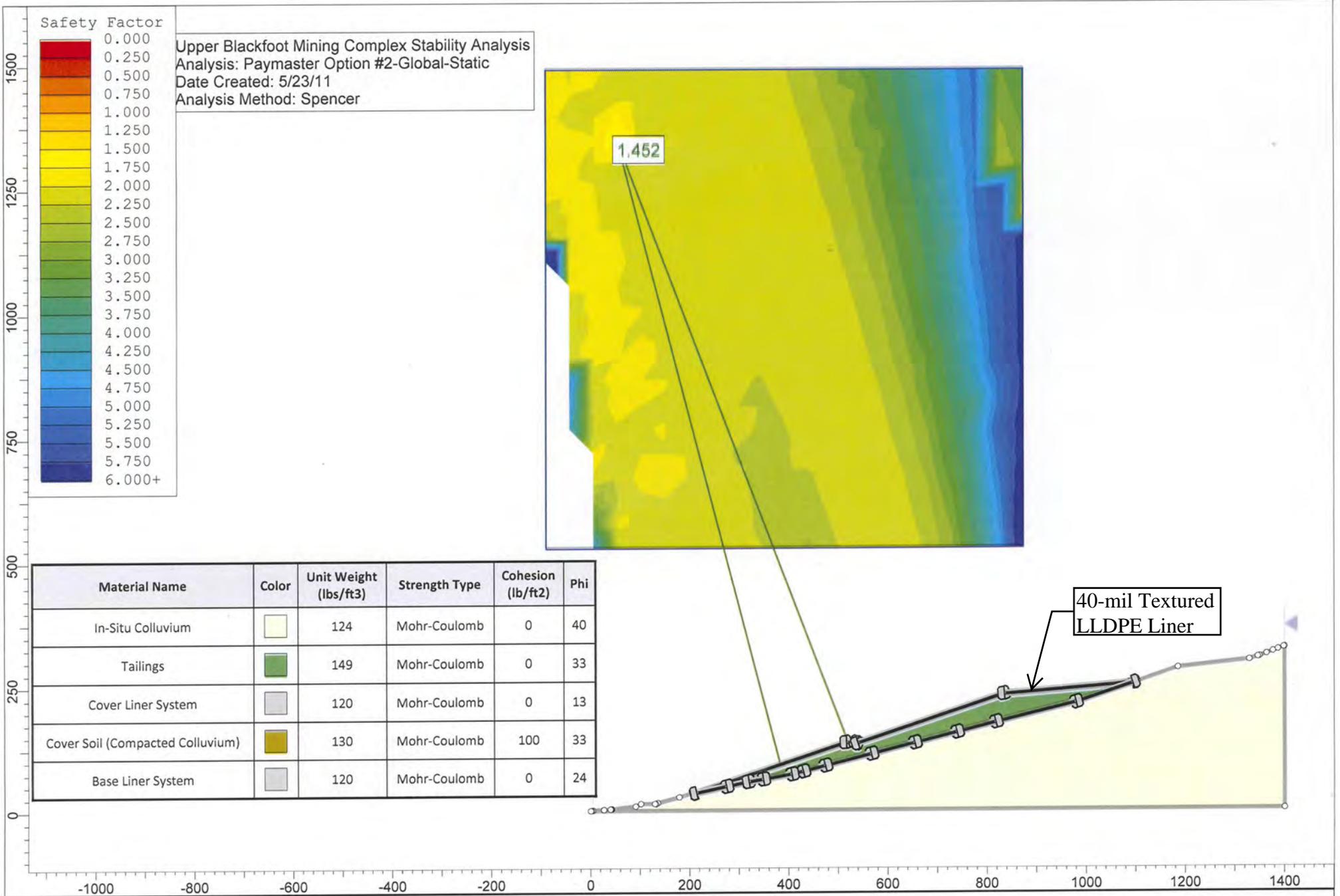
Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Paymaster Option #1-Base Failure-Seismic
 Date Created: 5/23/2011
 Analysis Method: Spencer



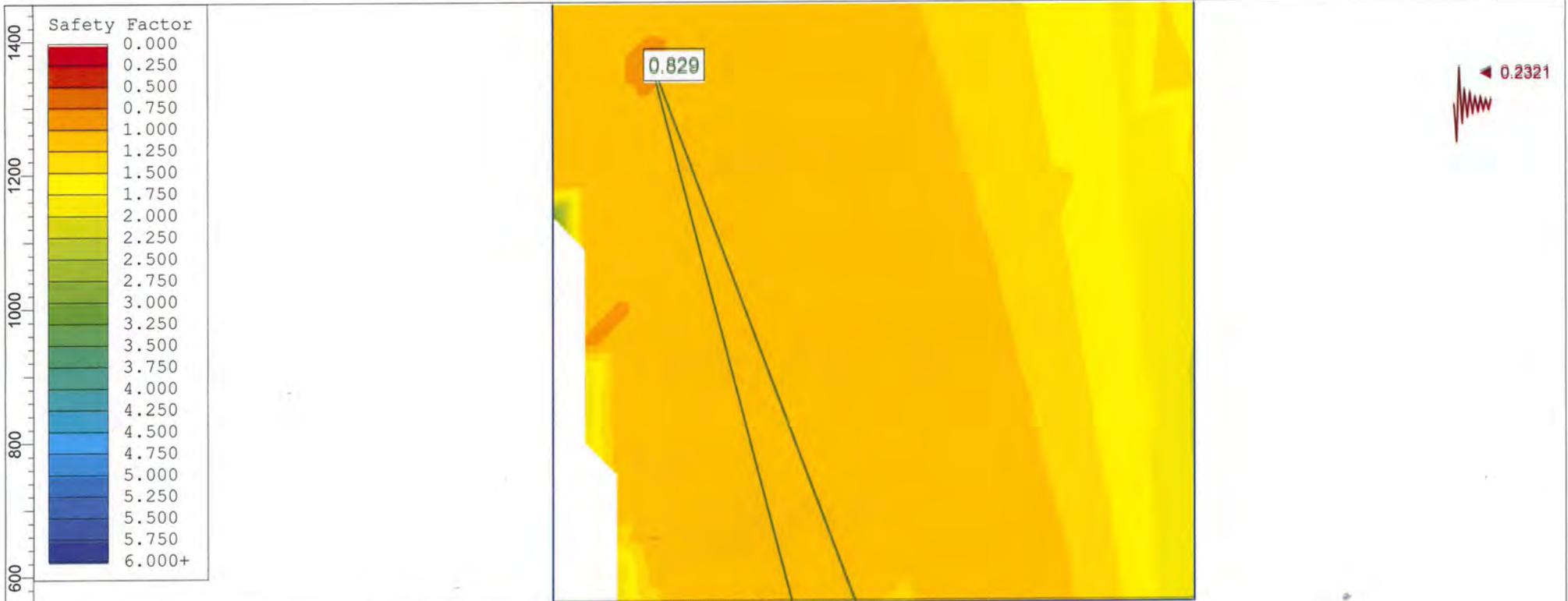
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
In-Situ Colluvium	Light Yellow	124	Mohr-Coulomb	0	40
Compacted Colluvium	Yellow	133	Mohr-Coulomb	0	38
Cover Soil (Compacted Colluvium)	Olive Green	130	Mohr-Coulomb	100	33
Liner System	Grey	120	Mohr-Coulomb	0	24
Tailings	Dark Green	149	Mohr-Coulomb	0	33



Paymaster Option #2, Berm Constructed of Tailings, 3H:1V Slope, 1,015,283 CY Tailings

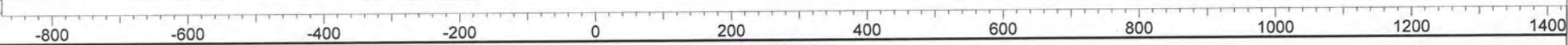


Paymaster Option #2, Berm Constructed of Tailings, 3H:1V Slope, 1,015,283 CY Tailings



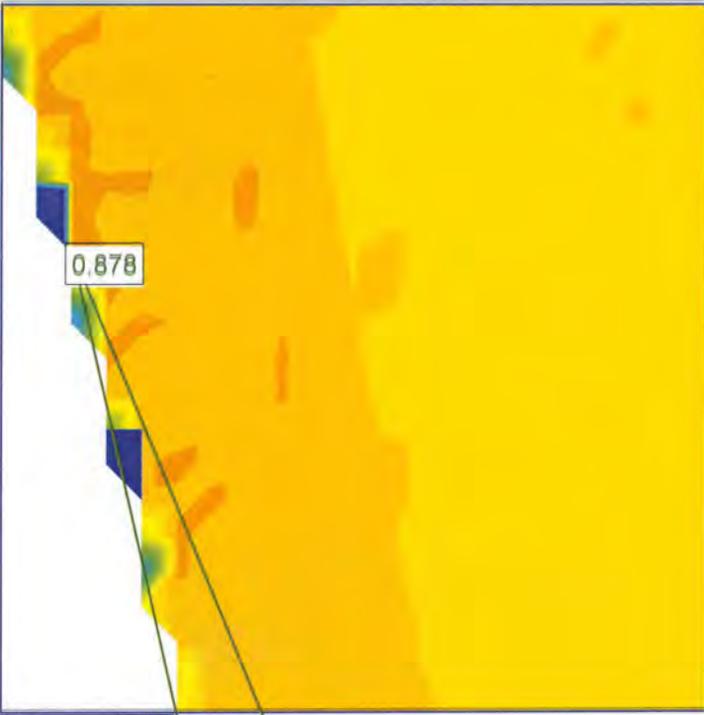
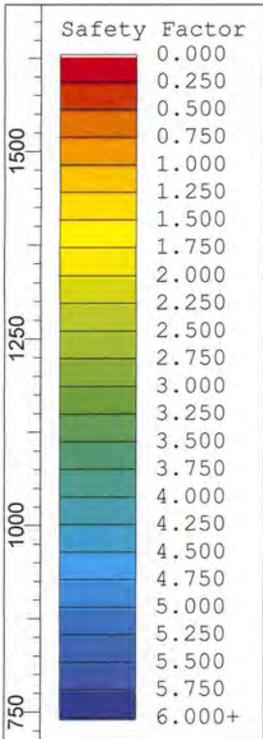
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi
In-Situ Colluvium		124	Mohr-Coulomb	0	40
Tailings		149	Mohr-Coulomb	0	33
Cover Liner System		120	Mohr-Coulomb	0	13
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33
Base Liner System		120	Mohr-Coulomb	0	24

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Paymaster Option #2-Global-Seismic
 Date Created: 5/23/11
 Analysis Method: Spencer



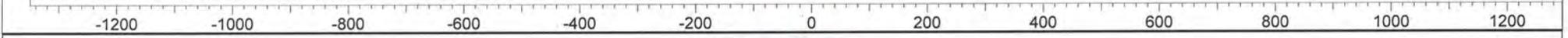
Paymaster Option #3, Berm Constructed of Tailings, 4H:1V Slope, 1,036,443 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Paymaster Option #3-Global-Seismic
 Date Created: 6/6/11
 Analysis Method: Spencer

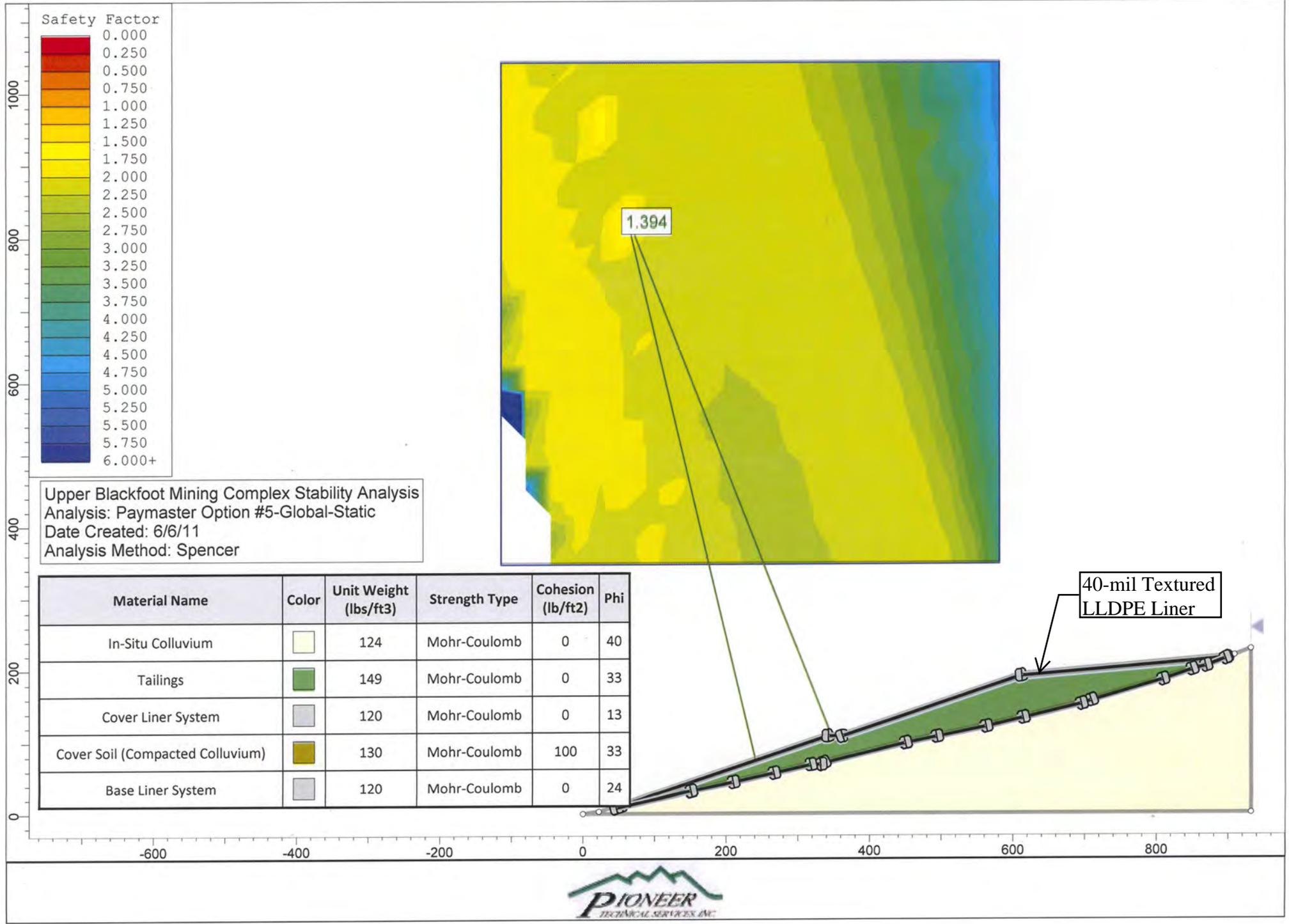


Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi
In-Situ Colluvium		124	Mohr-Coulomb	0	40
Tailings		149	Mohr-Coulomb	0	33
Cover Liner System		120	Mohr-Coulomb	0	13
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33
Base Liner System		120	Mohr-Coulomb	0	24

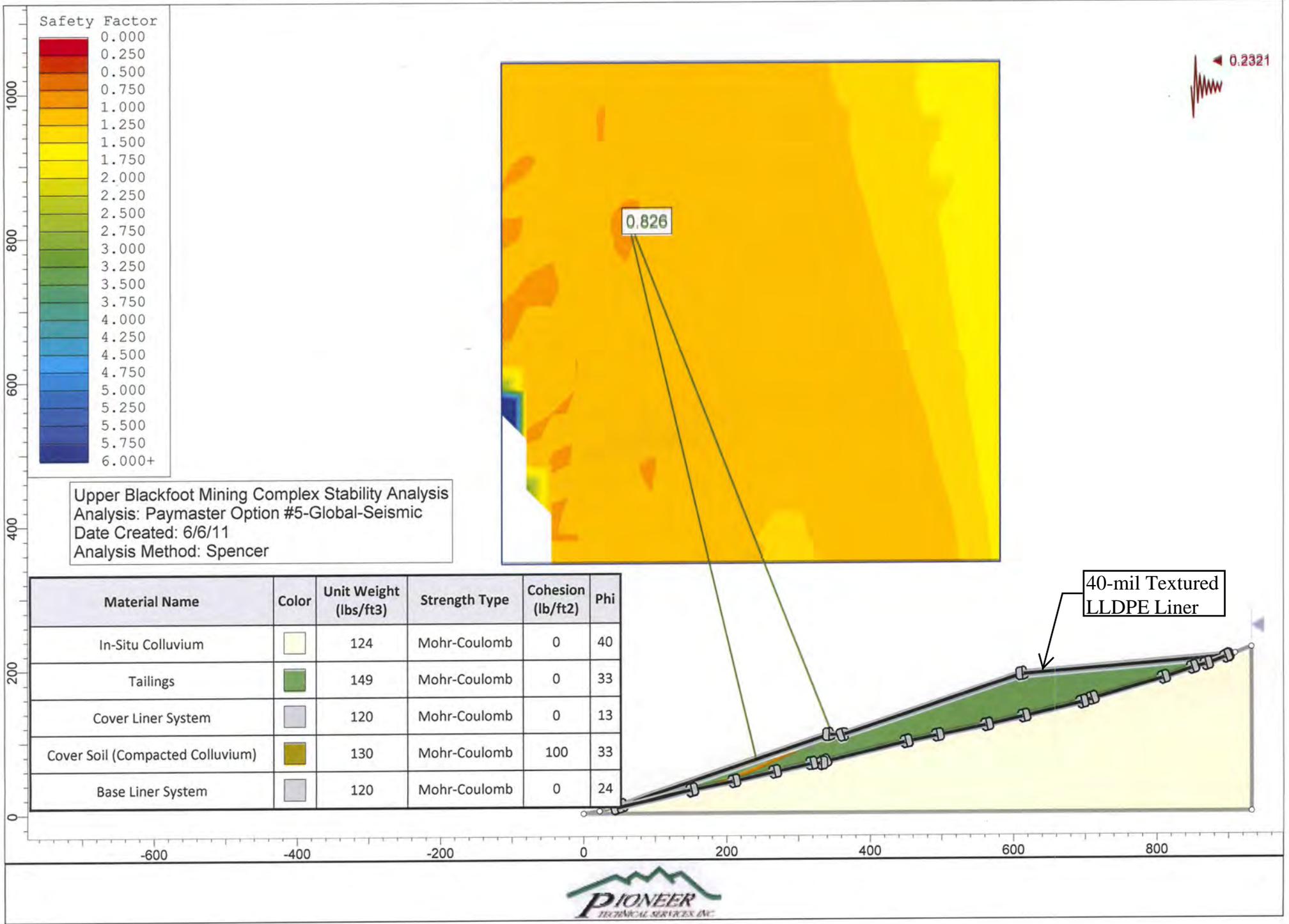
40-mil Textured LLDPE Liner



Paymaster Option #5, Berm Constructed of Tailings, 3H:1V Slope, 627,671 CY Tailings



Paymaster Option #5, Berm Constructed of Tailings, 3H:1V Slope, 627,671 CY Tailings



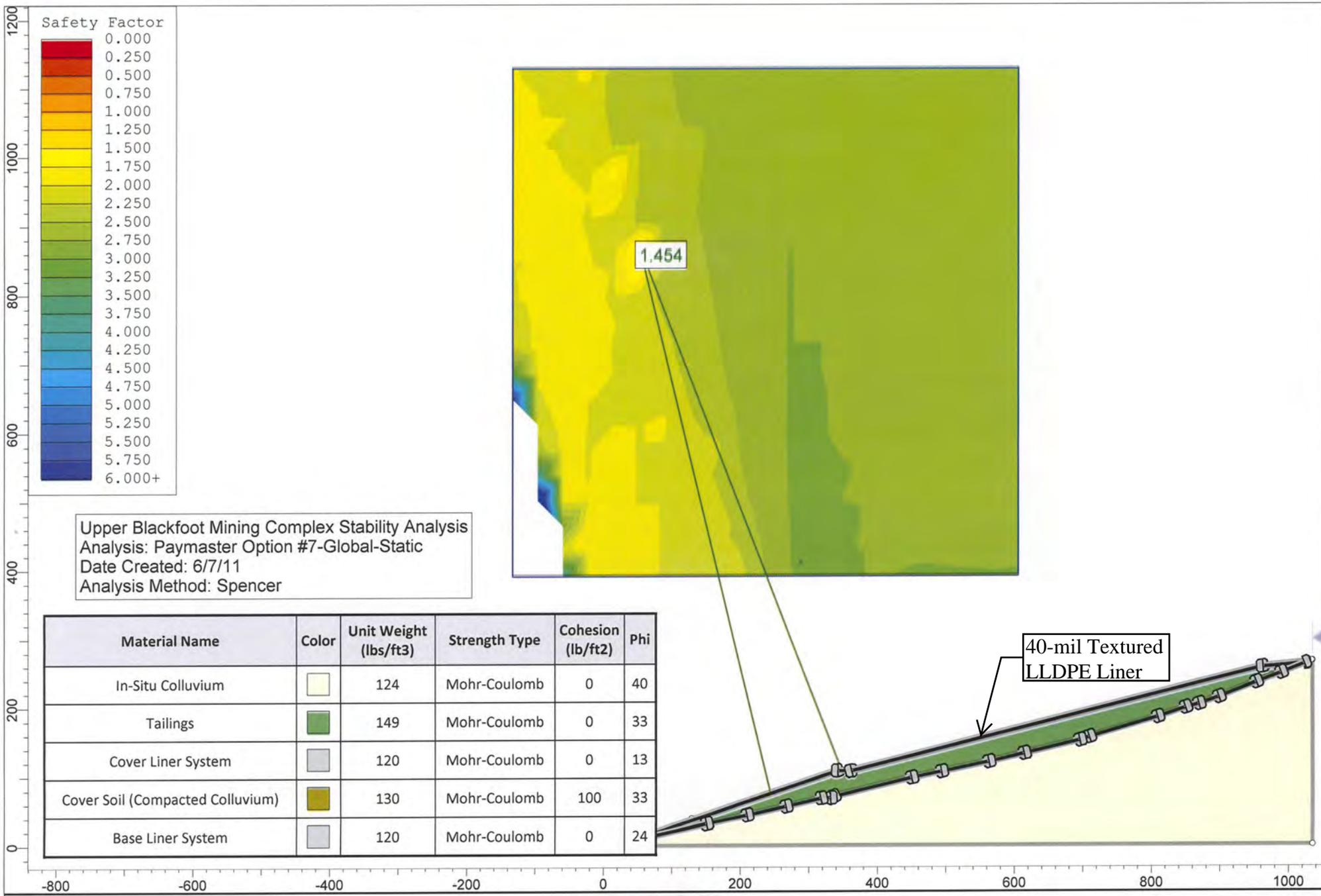
Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Paymaster Option #5-Global-Seismic
 Date Created: 6/6/11
 Analysis Method: Spencer

Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi
In-Situ Colluvium		124	Mohr-Coulomb	0	40
Tailings		149	Mohr-Coulomb	0	33
Cover Liner System		120	Mohr-Coulomb	0	13
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33
Base Liner System		120	Mohr-Coulomb	0	24

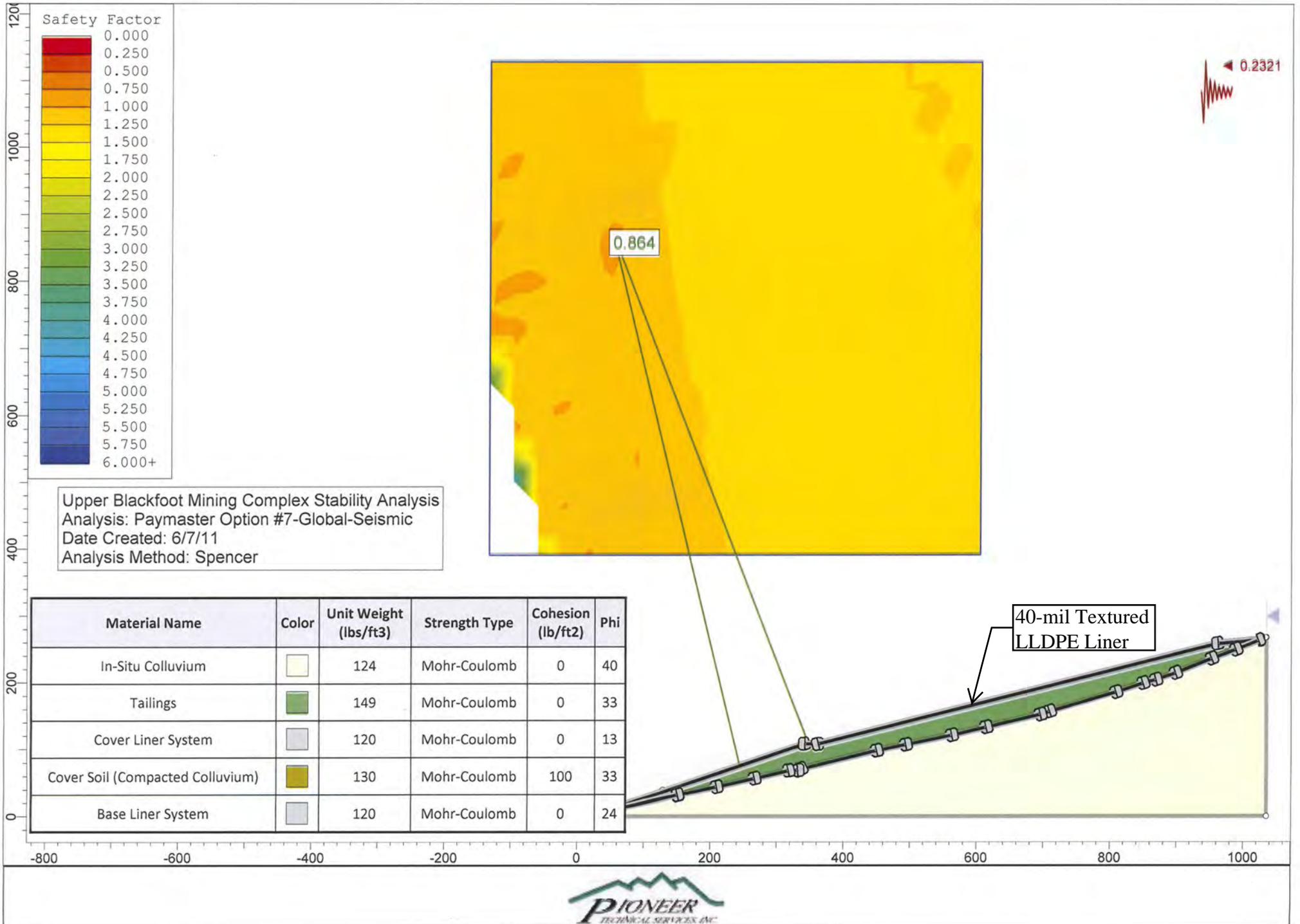
40-mil Textured LLDPE Liner



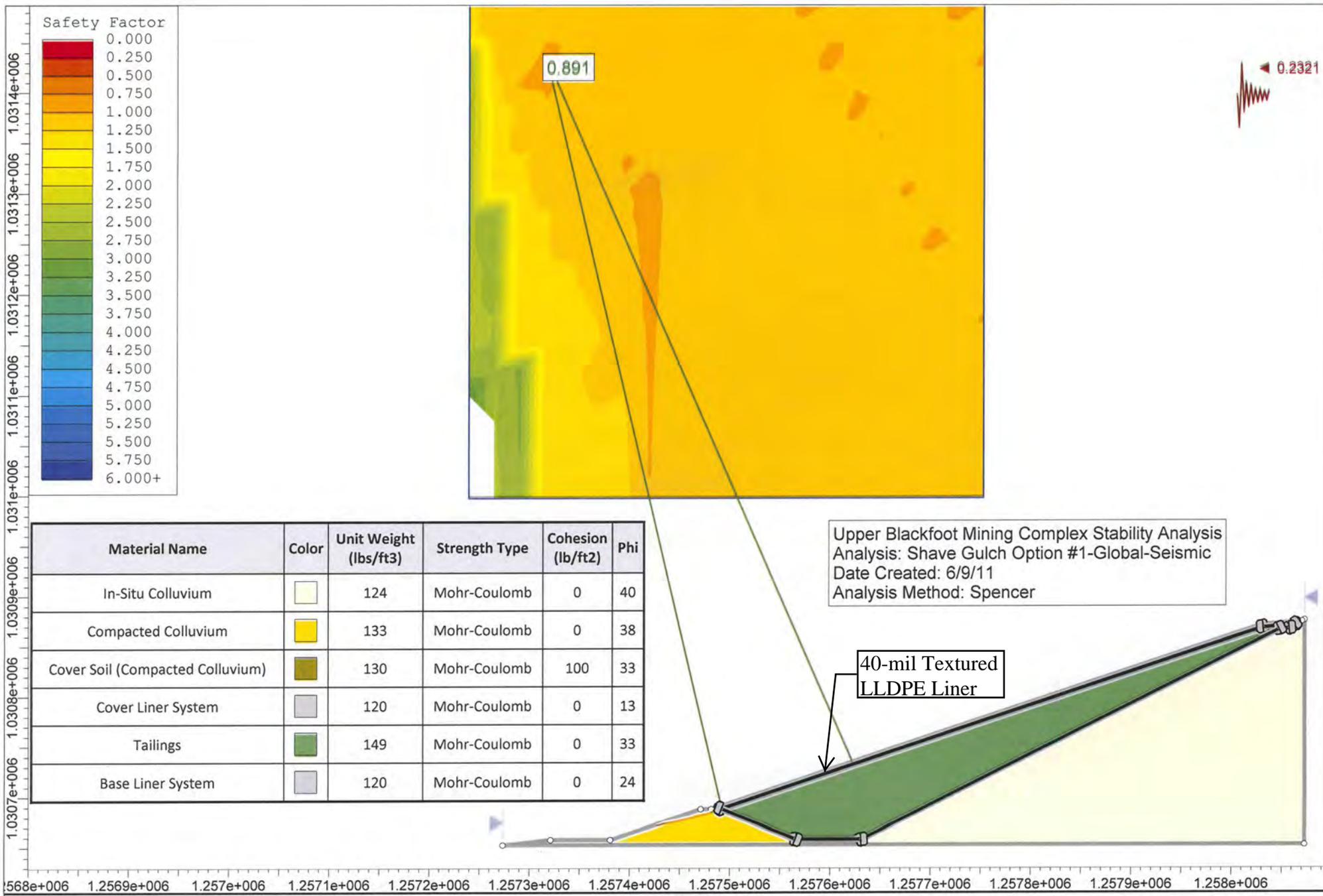
Paymaster Option #7, Berm Constructed of Tailings, 4H:1V Slope, 653,496 CY Tailings



Paymaster Option #7, Berm Constructed of Tailings, 4H:1V Slope, 653,496 CY Tailings



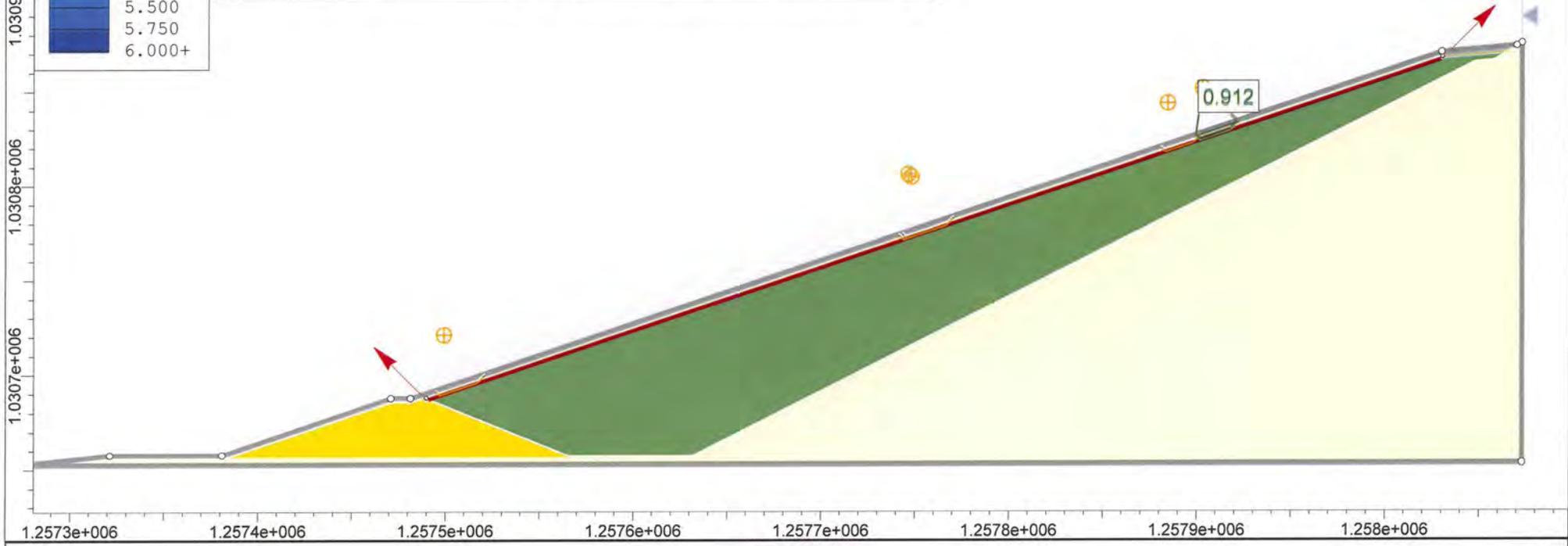
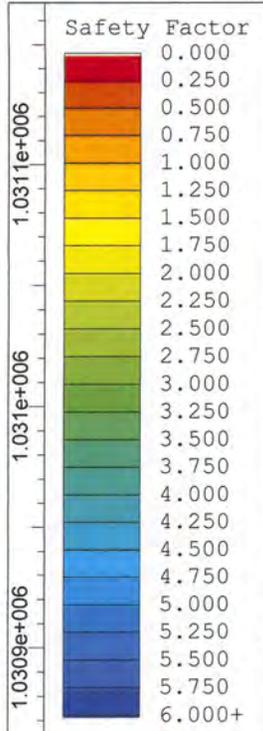
Shave Gulch Option #1, Berm Constructed of Imported Soils, 3H:1V Slope, 396,640 CY Tailings



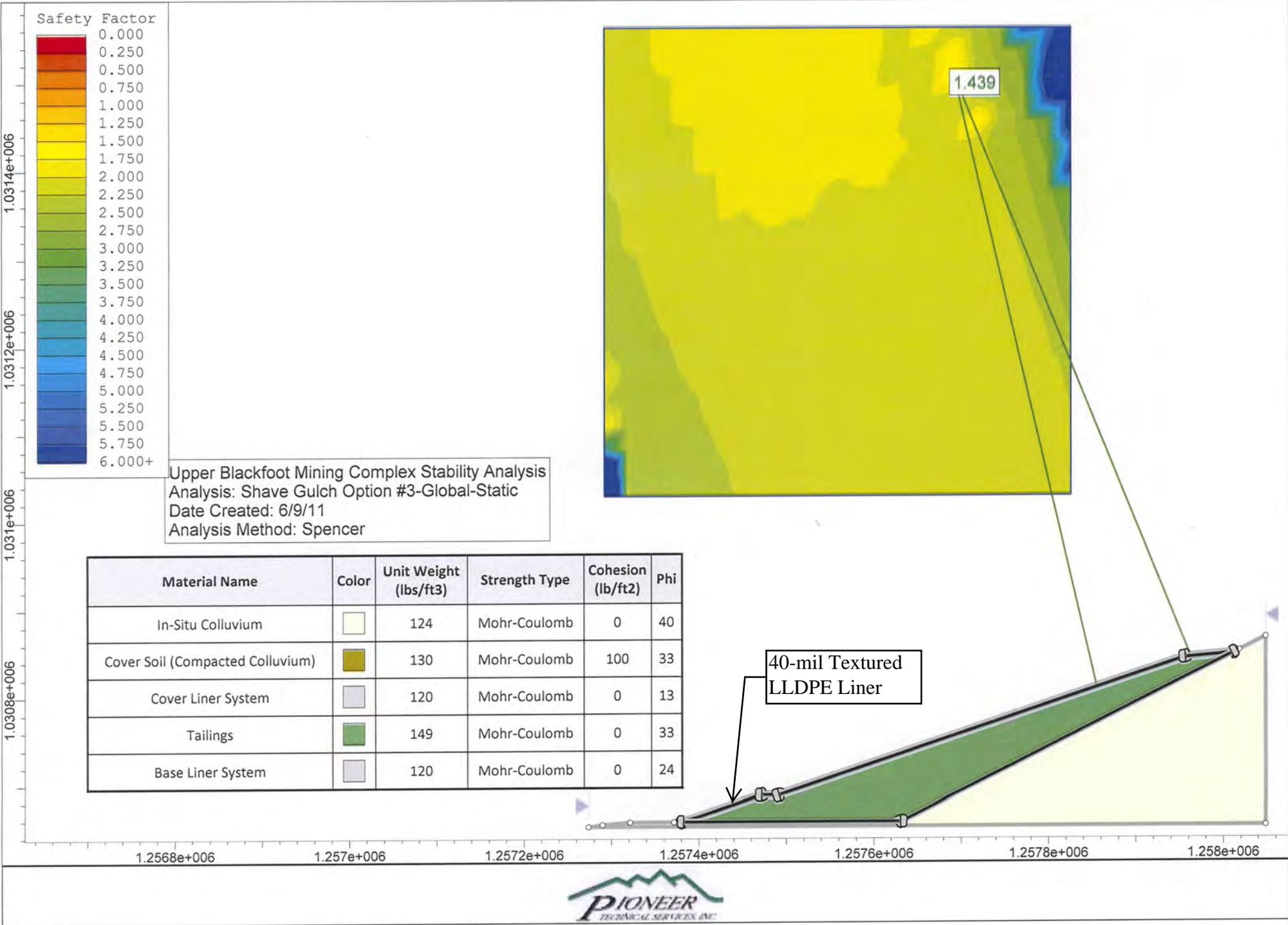
Shave Gulch Option #1, Berm Constructed of Imported Soils, 3H:1V Slope, 396,640 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Shave Gulch Option #1-Cover Failure-Seismic
 Date Created: 6/9/11
 Analysis Method: Spencer

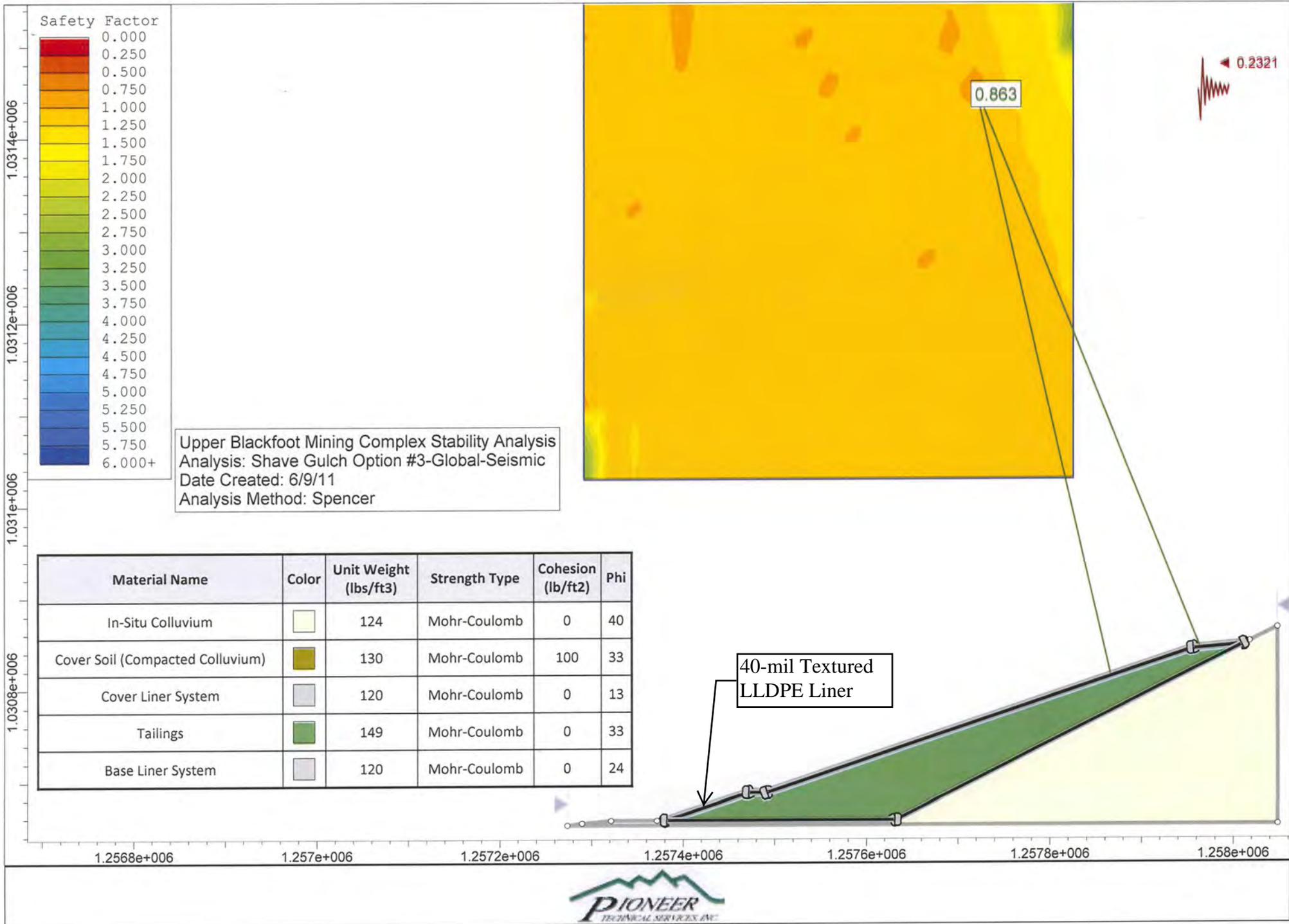
Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi
In-Situ Colluvium		124	Mohr-Coulomb	0	40
Compacted Colluvium		133	Mohr-Coulomb	0	38
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33
Cover Liner System		120	Mohr-Coulomb	0	13
Tailings		149	Mohr-Coulomb	0	33
Base Liner System		120	Mohr-Coulomb	0	24



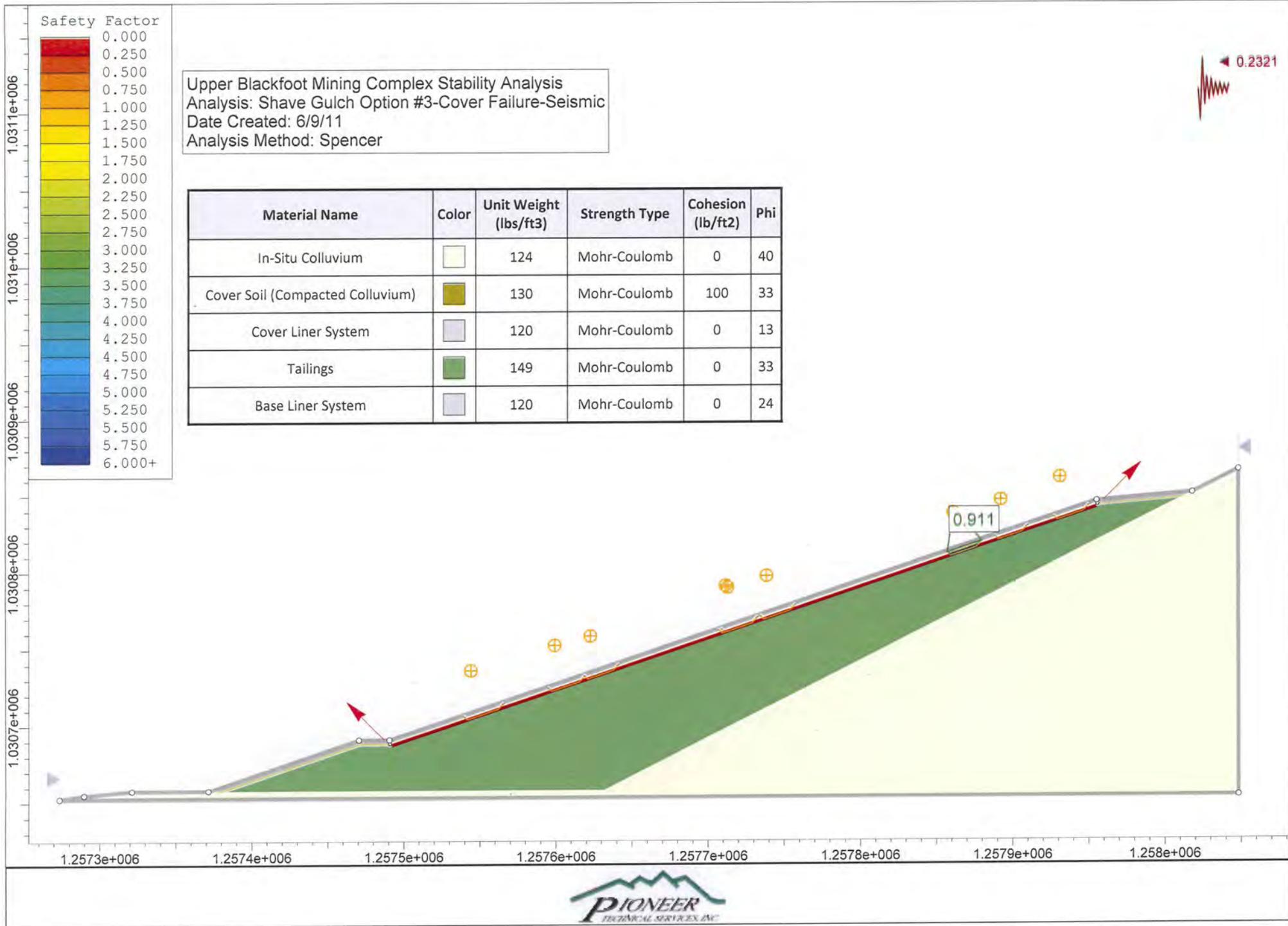
Shave Gulch Option #3, Berm Constructed of Tailings, 3H:1V Slope, 492,389 CY Tailings



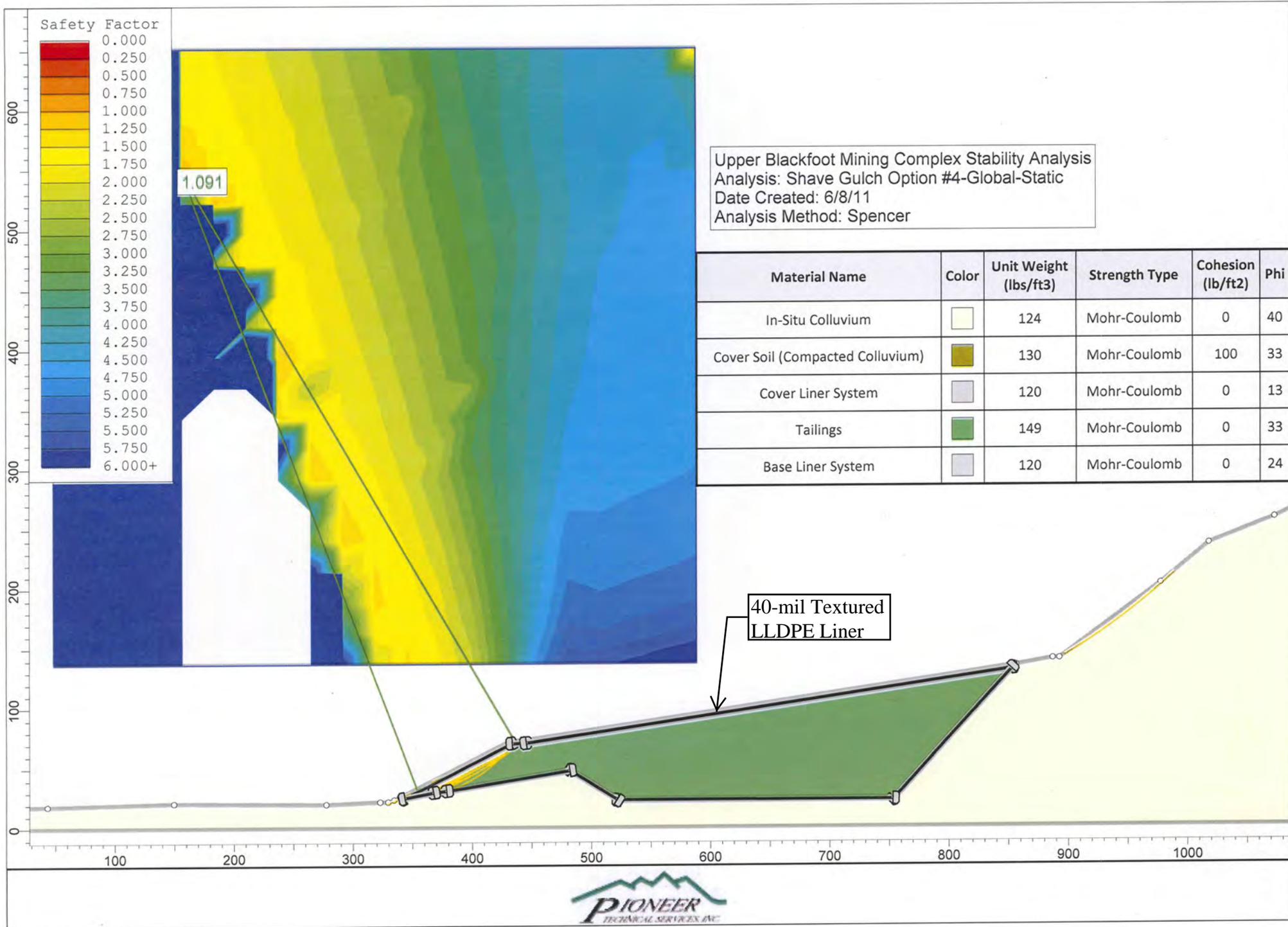
Shave Gulch Option #3, Berm Constructed of Tailings, 3H:1V Slope, 492,389 CY Tailings



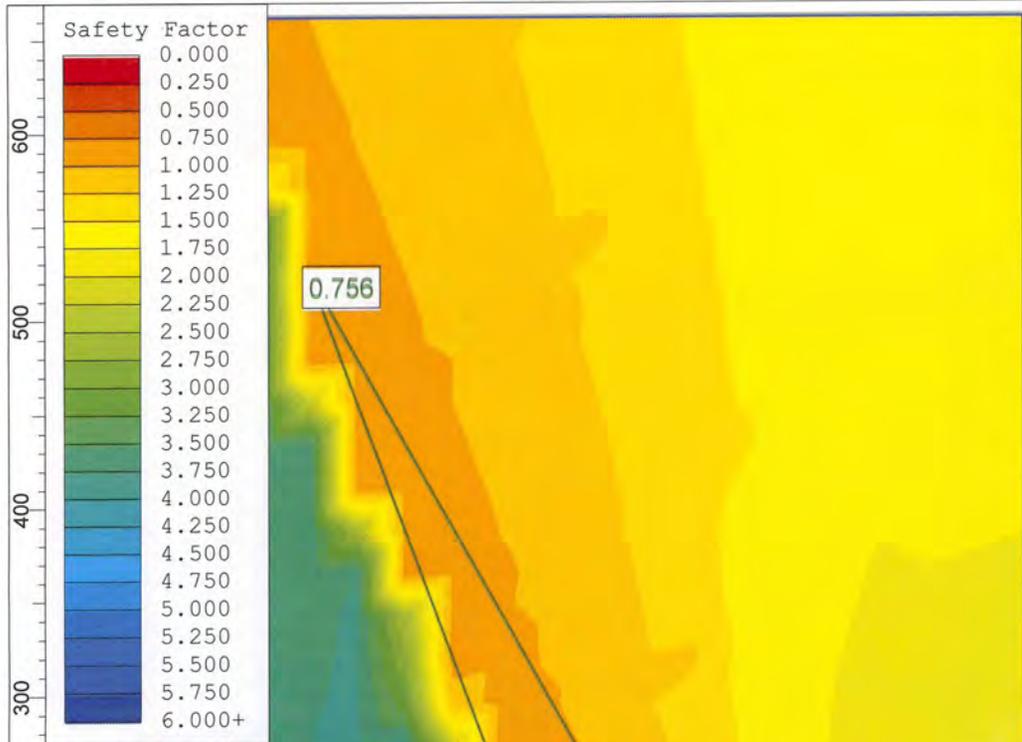
Shave Gulch Option #3, Berm Constructed of Tailings, 3H:1V Slope, 492,389 CY Tailings



Shave Gulch Option #4, Berm Constructed of Tailings, 6.7H:1V Slope, ~400,000 CY Tailings



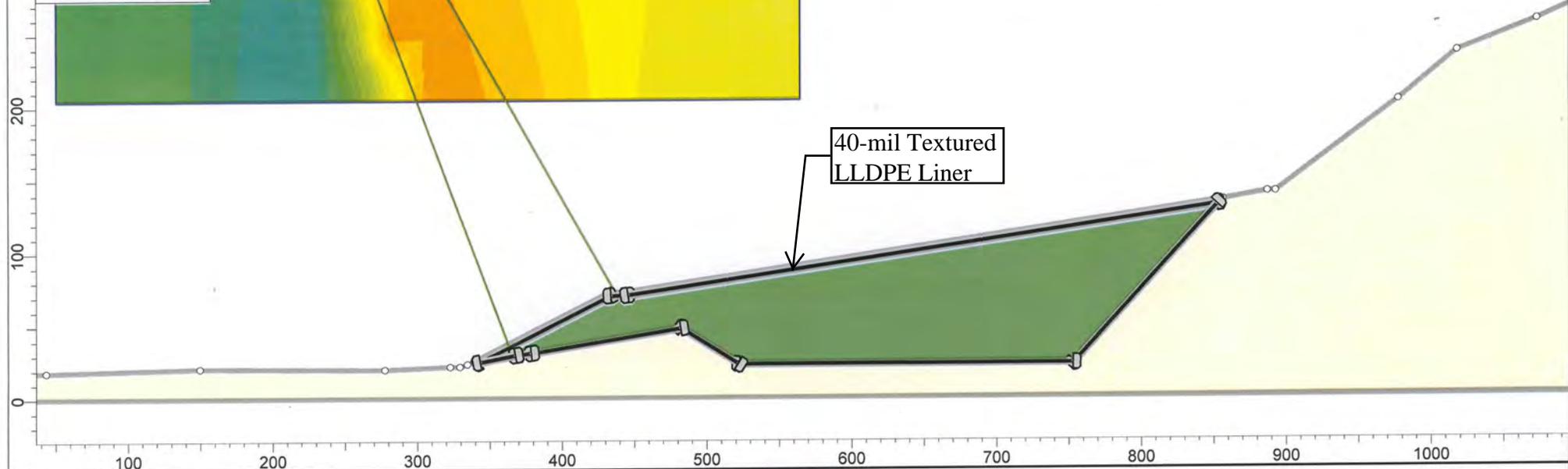
Shave Gulch Option #4, Berm Constructed of Tailings, 6.7H:1V Slope, ~400,000 CY Tailings



Upper Blackfoot Mining Complex Stability Analysis
 Analysis: Shave Gulch Option #4-Global-Seismic
 Date Created: 6/8/11
 Analysis Method: Spencer



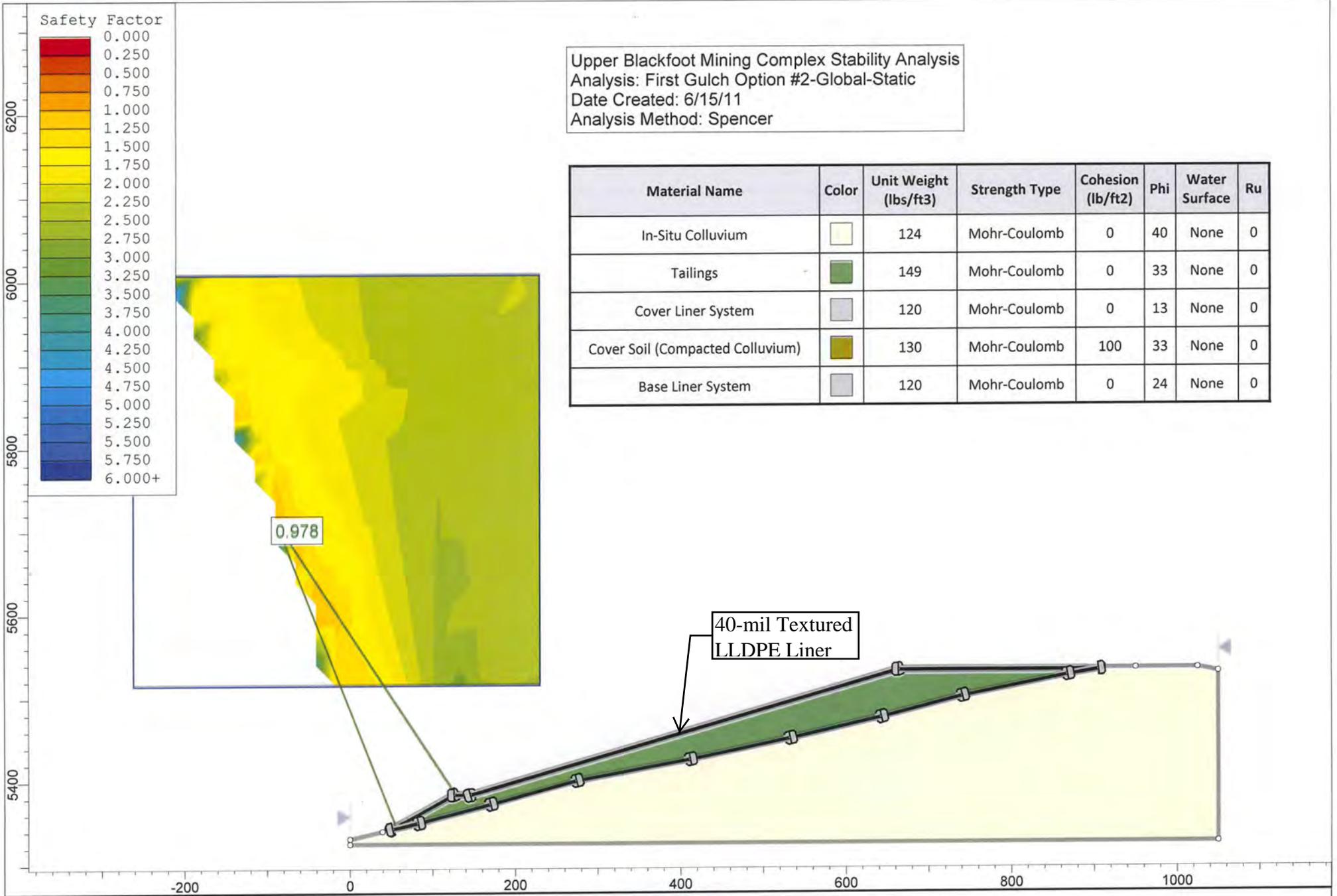
Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi
In-Situ Colluvium		124	Mohr-Coulomb	0	40
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33
Cover Liner System		120	Mohr-Coulomb	0	13
Tailings		149	Mohr-Coulomb	0	33
Base Liner System		120	Mohr-Coulomb	0	24



First Gulch Option #2, Berm Constructed of Tailings, 3.5H:1V Slope, ~500,000 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: First Gulch Option #2-Global-Static
 Date Created: 6/15/11
 Analysis Method: Spencer

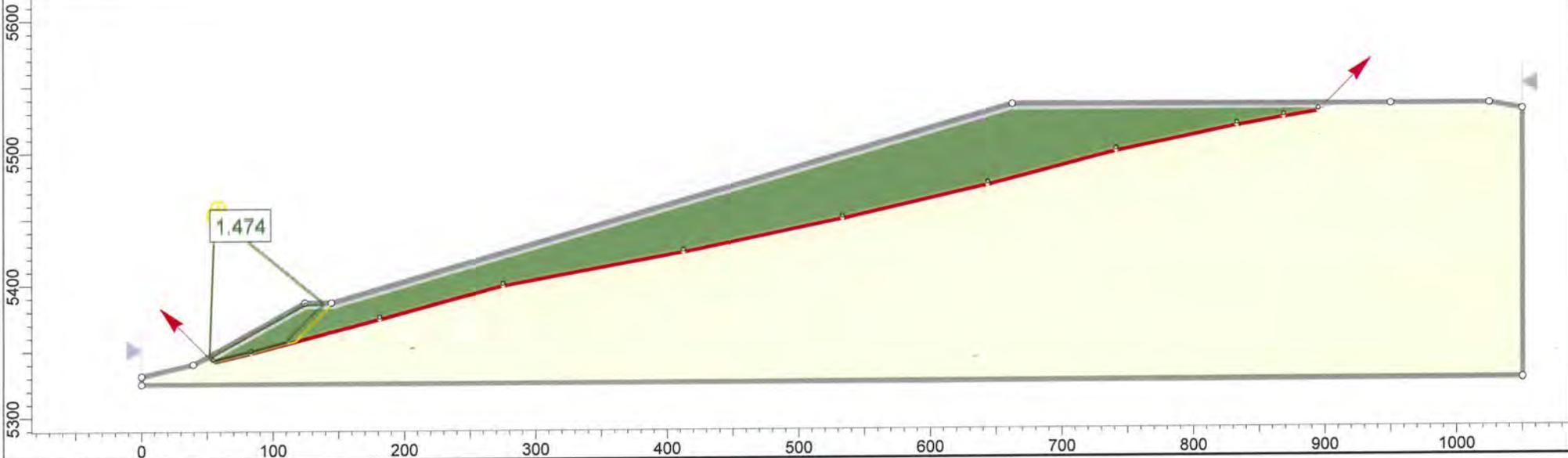
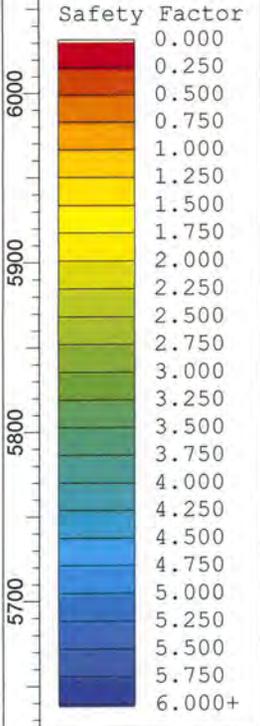
Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi	Water Surface	Ru
In-Situ Colluvium		124	Mohr-Coulomb	0	40	None	0
Tailings		149	Mohr-Coulomb	0	33	None	0
Cover Liner System		120	Mohr-Coulomb	0	13	None	0
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33	None	0
Base Liner System		120	Mohr-Coulomb	0	24	None	0



First Gulch Option #2, Berm Constructed of Tailings, 3.5H:1V Slope, ~500,000 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: First Gulch #2-Base Failure
 Date Created: 6/15/11
 Analysis Method: Spencer

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi	Water Surface	Ru
In-Situ Colluvium		124	Mohr-Coulomb	0	40	None	0
Tailings		149	Mohr-Coulomb	0	33	None	0
Cover Liner System		120	Mohr-Coulomb </td <td>0</td> <td>13</td> <td>None</td> <td>0</td>	0	13	None	0
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33	None	0
Base Liner System		120	Mohr-Coulomb	0	24	None	0



First Gulch Option #2, Berm Constructed of Tailings, 3.5H:1V Slope, ~500,000 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: First Gulch #2-Cover Failure
 Date Created: 6/15/11
 Analysis Method: Spencer

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (lb/ft2)	Phi	Water Surface	Ru
In-Situ Colluvium		124	Mohr-Coulomb	0	40	None	0
Tailings		149	Mohr-Coulomb	0	33	None	0
Cover Liner System		120	Mohr-Coulomb	0	13	None	0
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33	None	0
Base Liner System		120	Mohr-Coulomb	0	24	None	0

F.S. = 1.423, where

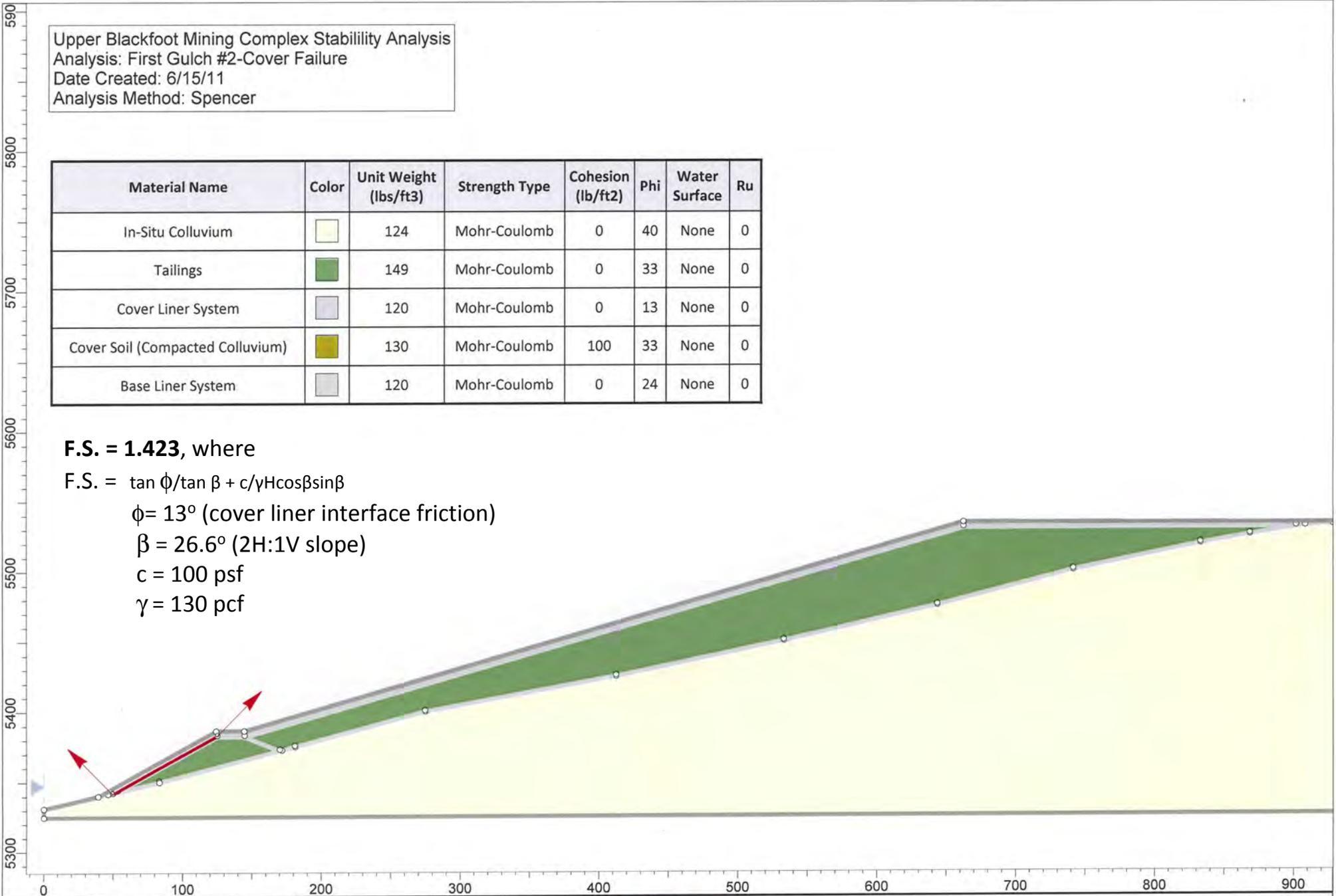
$$F.S. = \frac{\tan \phi}{\tan \beta} + \frac{c}{\gamma H \cos \beta \sin \beta}$$

$\phi = 13^\circ$ (cover liner interface friction)

$\beta = 26.6^\circ$ (2H:1V slope)

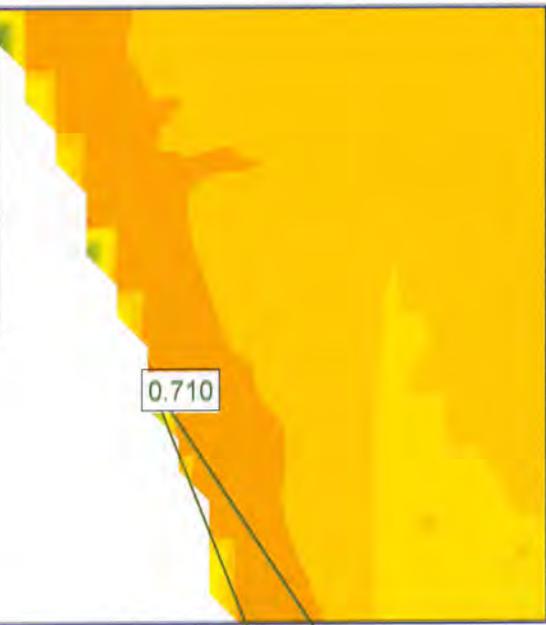
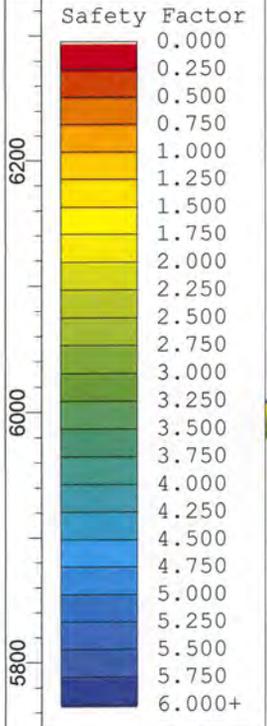
$c = 100$ psf

$\gamma = 130$ pcf



First Gulch Option #2, Berm Constructed of Tailings, 3.5H:1V Slope, ~500,000 CY Tailings

Upper Blackfoot Mining Complex Stability Analysis
 Analysis: First Gulch Option #2-Global-Seismic
 Date Created: 6/15/11
 Analysis Method: Spencer



Material Name	Color	Unit Weight (lbs/ft ³)	Strength Type	Cohesion (lb/ft ²)	Phi	Water Surface	Ru
In-Situ Colluvium		124	Mohr-Coulomb	0	40	None	0
Tailings		149	Mohr-Coulomb	0	33	None	0
Cover Liner System		120	Mohr-Coulomb	0	13	None	0
Cover Soil (Compacted Colluvium)		130	Mohr-Coulomb	100	33	None	0
Base Liner System		120	Mohr-Coulomb	0	24	None	0

