Appendix G

Seepage Analyses Results

Seepage Analysis
Section A - Existing Condition
Ash Disposal Areas 2 and 3

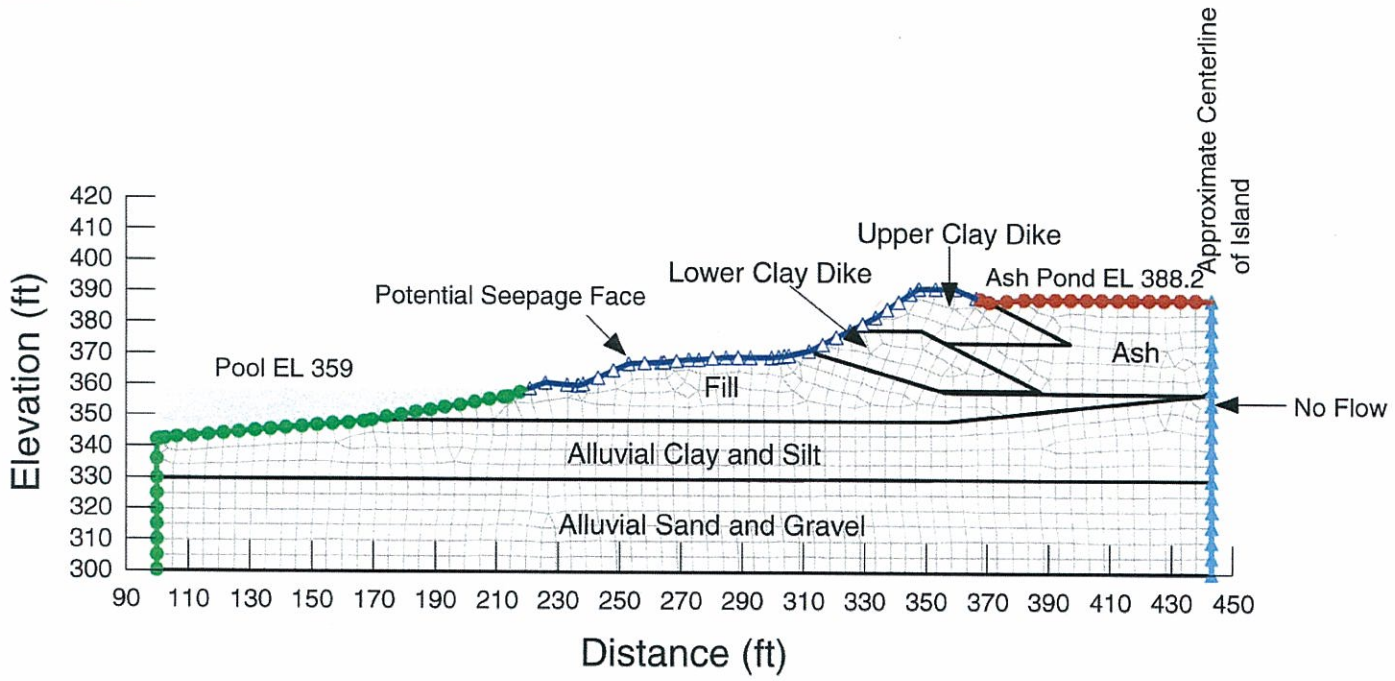
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section A.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	3.28e-008	1	0.34
Lower Dike	3.28e-005	1	0.34
Ash	3.28e-005	0.1	0.41
Fill	1.64e-005	0.2	0.3
Alluvial Clay and Silt	6.56e-006	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25



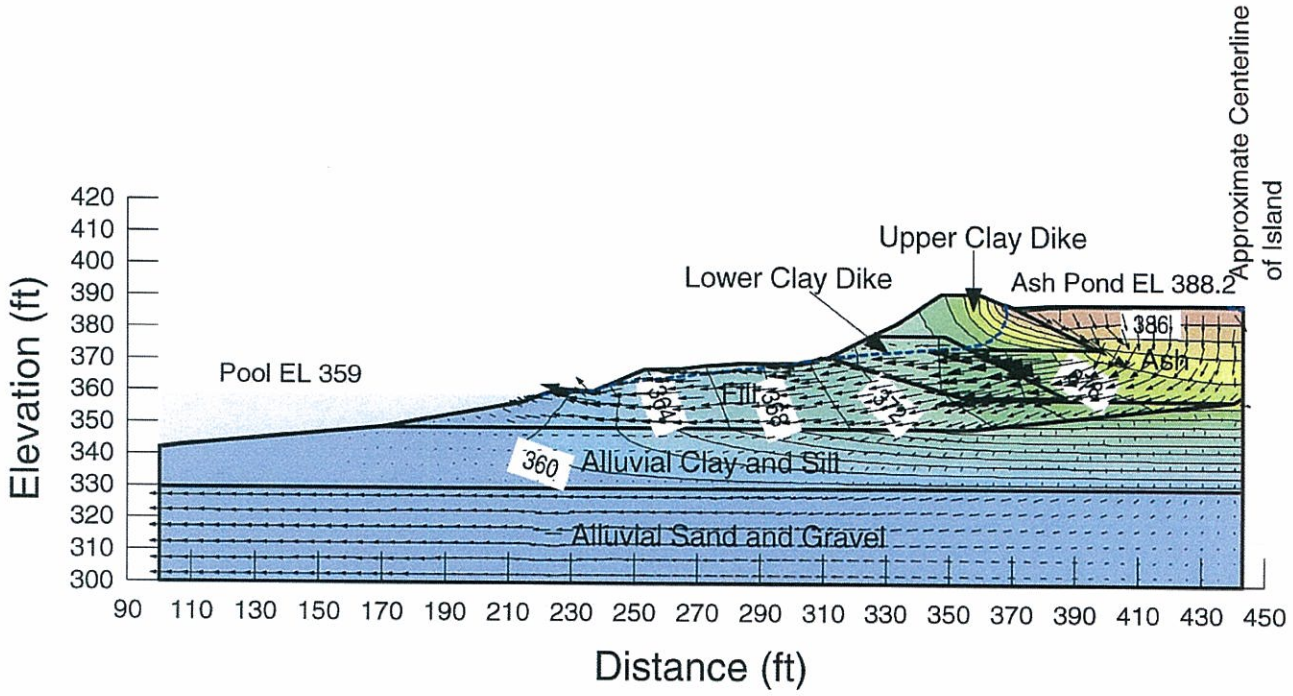
Seepage Analysis
Section A - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section A.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Total Head With Flow Vectors



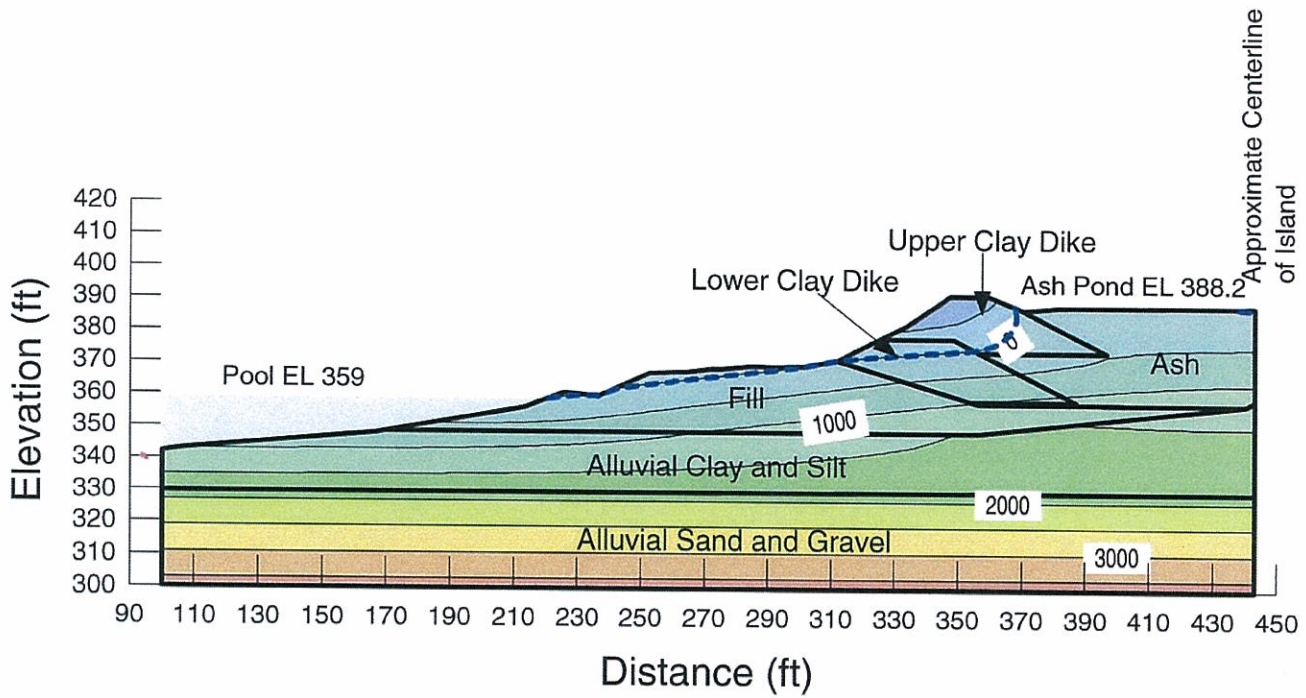
Seepage Analysis
Section A - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section A.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



Seepage Analysis
Section A - Existing Condition
Ash Disposal Areas 2 and 3

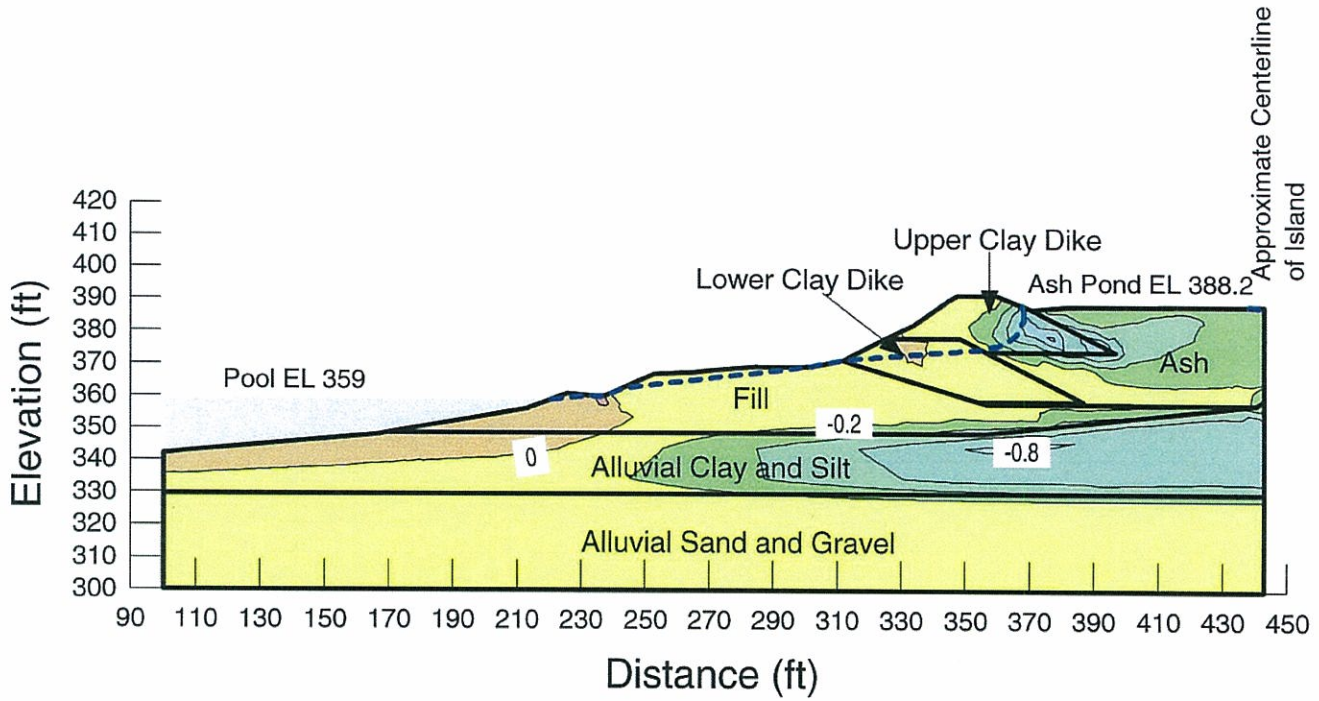
Vertical Gradient

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section A.gsz

Piping Potential
Maximum occurs at (236.54, 359.89
Total Head = 359.89 ft
At (237.27, 358.04)
Total Head = 360.81 ft
dH = 0.92 ft dl = 1.99
i = 0.46 i(criticial) = 1.22
FSpiping = 2.7

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section B - Existing Condition
Ash Disposal Areas 2 and 3

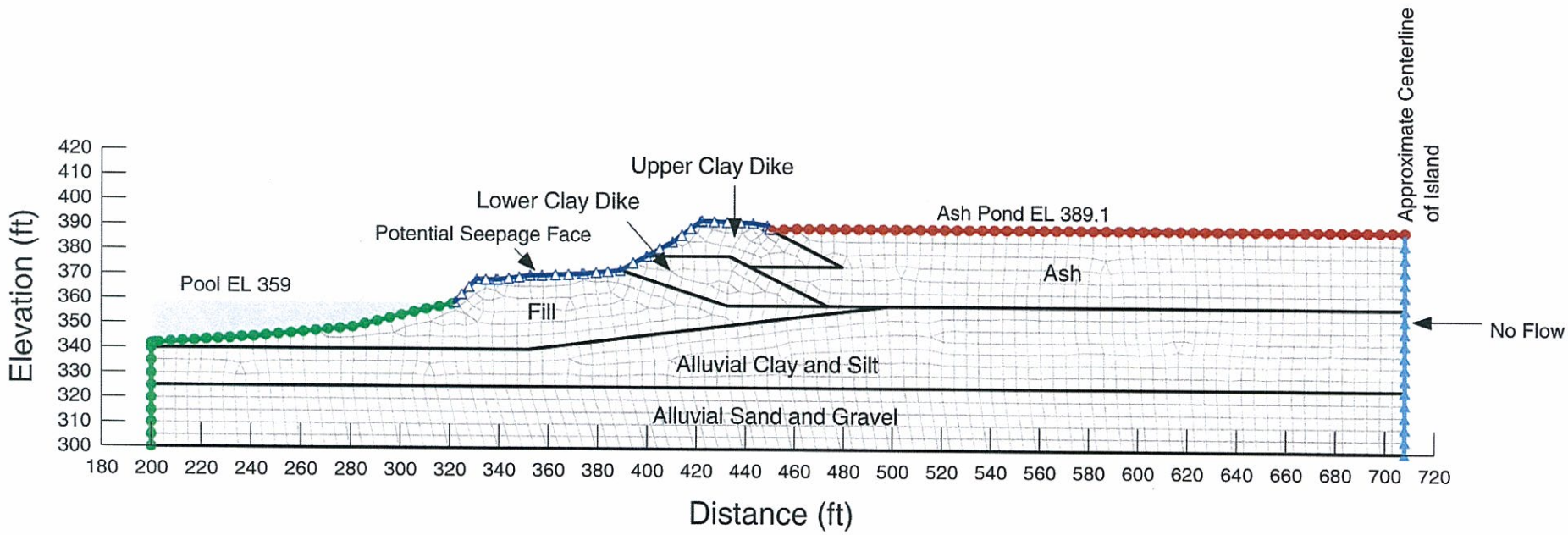
Johnsonville Fossil Plant
Tennesee Valley Authority

Boundary Conditions with Mesh

January 2010
Method: Steady-State
File Name: JOF Section B.gsz

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	3.28e-008	1	0.34
Lower Dike	9.84e-007	1	0.34
Ash	3.28e-005	0.2	0.41
Fill	1.64e-006	0.2	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



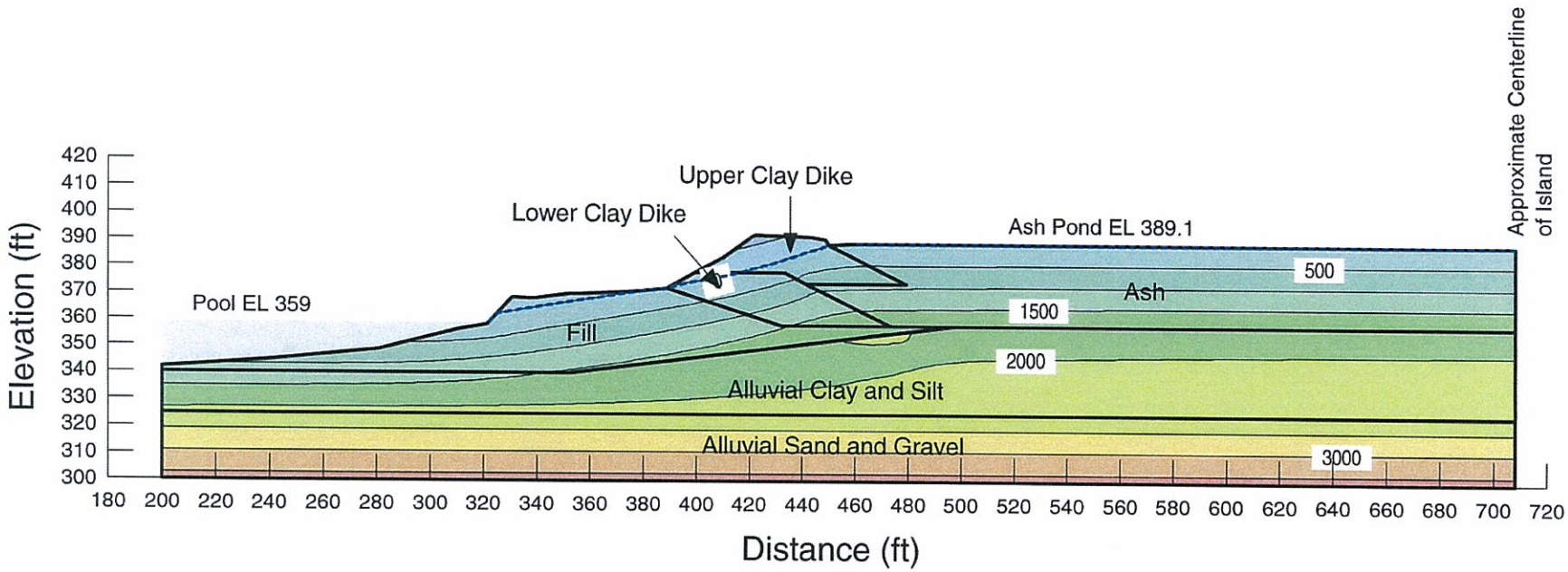
Seepage Analysis
Section B - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section B.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



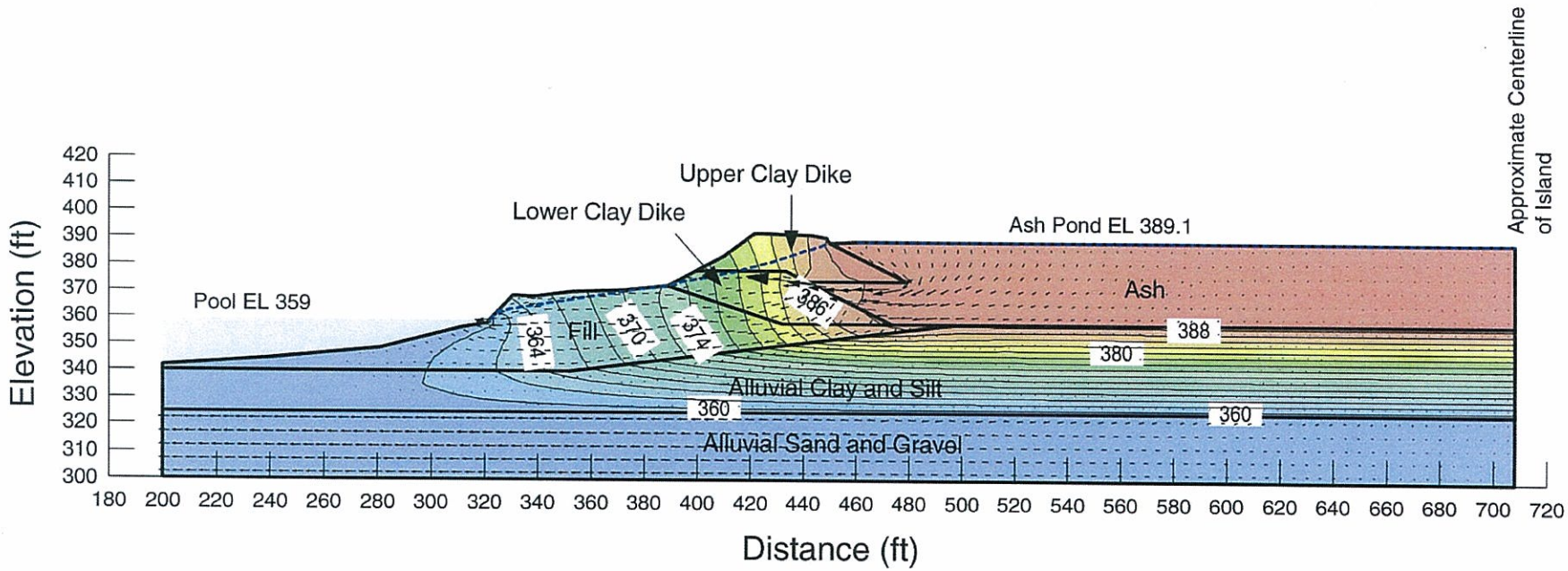
Seepage Analysis
Section B - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

Total Head with Flow Vectors

January 2010
Method: Steady-State
File Name: JOF Section B.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section B - Existing Condition
Ash Disposal Areas 2 and 3

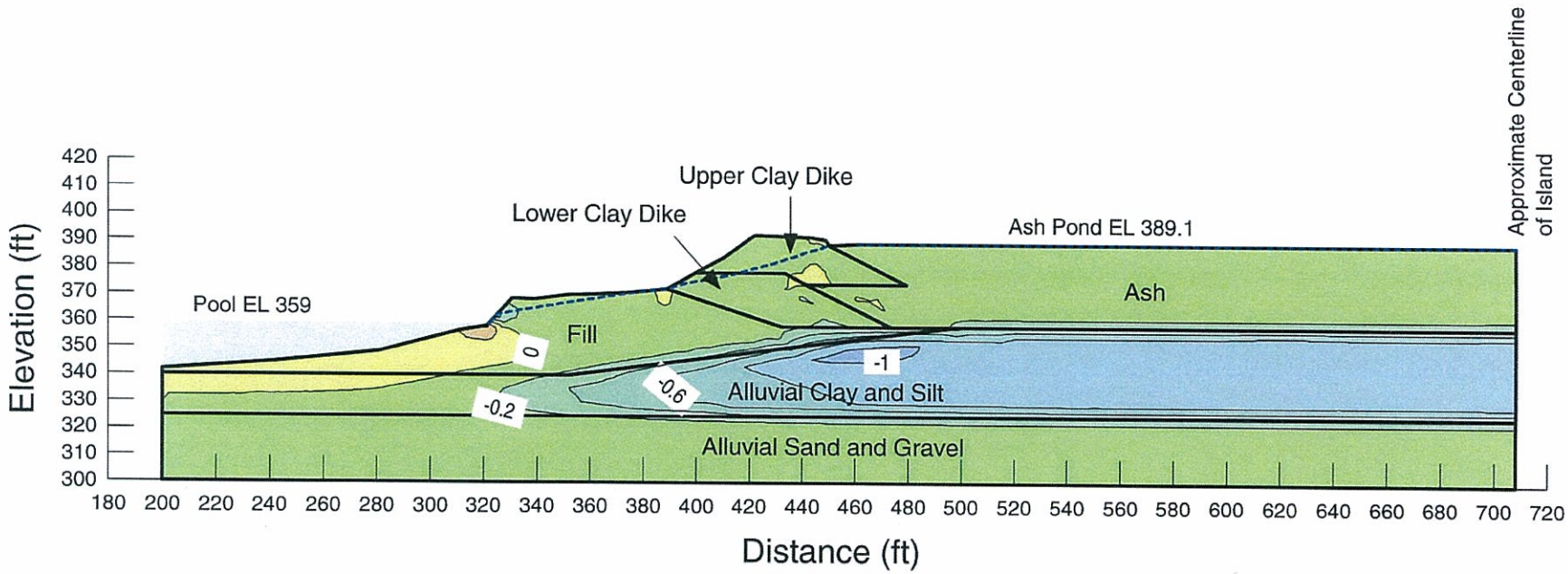
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section B.gsz

Vertical Gradient

Piping Potential
Maximum occurs at (320.76, 358.114)
Total Head = 359.0 ft
At (321.847, 355.355)
Total Head = 360.47 ft
dH = 1.47 ft dl = 2.97
i = 0.49 i(criticial) = 1.22
FSpiping = 2.5

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section C - Existing Condition
Ash Disposal Areas 2 and 3

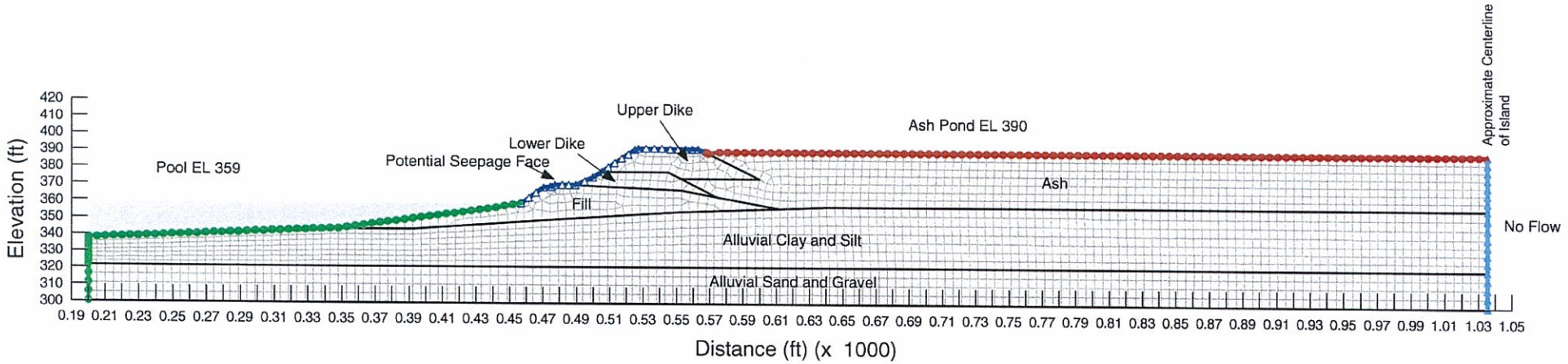
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	3.28e-008	1	0.34
Lower Dike	6.56e-005	1	0.34
Ash	1.64e-005	0.2	0.41
Fill	8.2e-006	0.2	0.3
Alluvial Clay and Silt	6.56e-006	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25



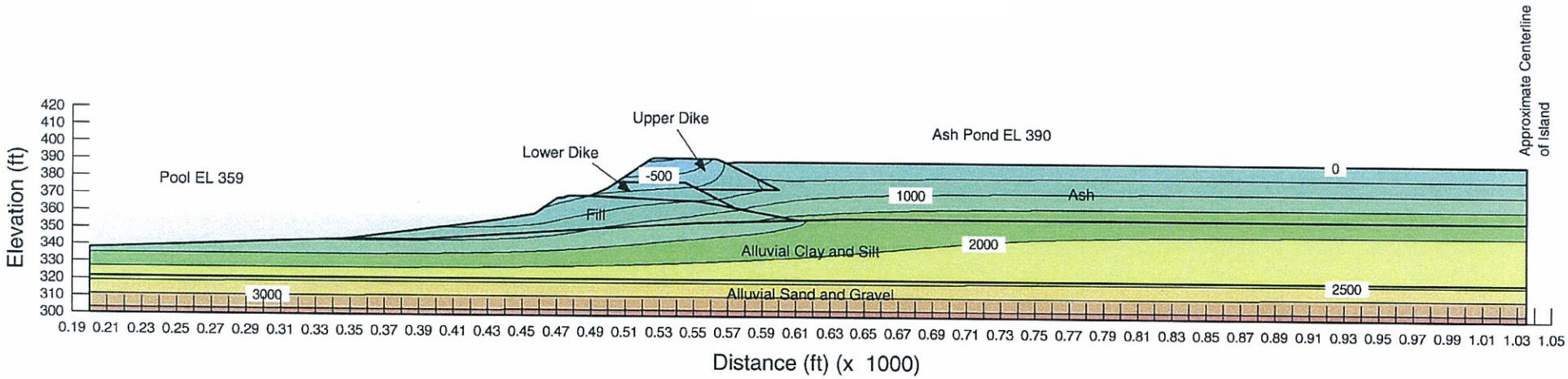
Seepage Analysis
Section C - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



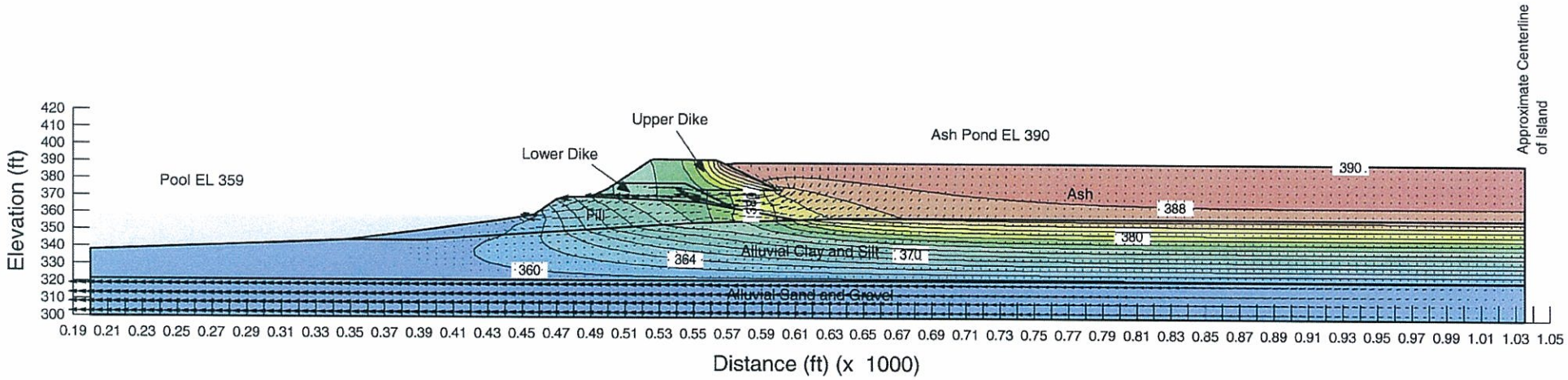
Seepage Analysis
Section C - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Total Head with Flow Vectors



Seepage Analysis
Section C - Existing Condition
Ash Disposal Areas 2 and 3

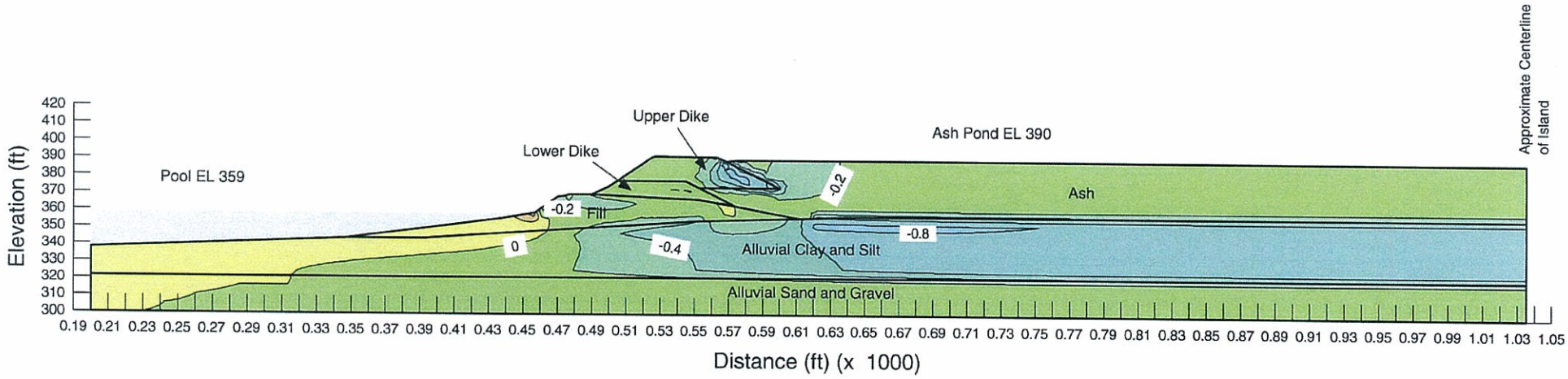
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C.gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Vertical Gradient

Piping Potential
Maximum occurs at (456.7, 359.2)
Total Head = 359.0 ft
At (454.63, 353.71)
Total Head = 360.75 ft
dH = 1.75 ft dl = 5.49
i = 0.40 i(criticial) = 1.22
FSpiping = 3.0



Seepage Analysis
Section C1 - Existing Condition
Ash Disposal Areas 2 and 3

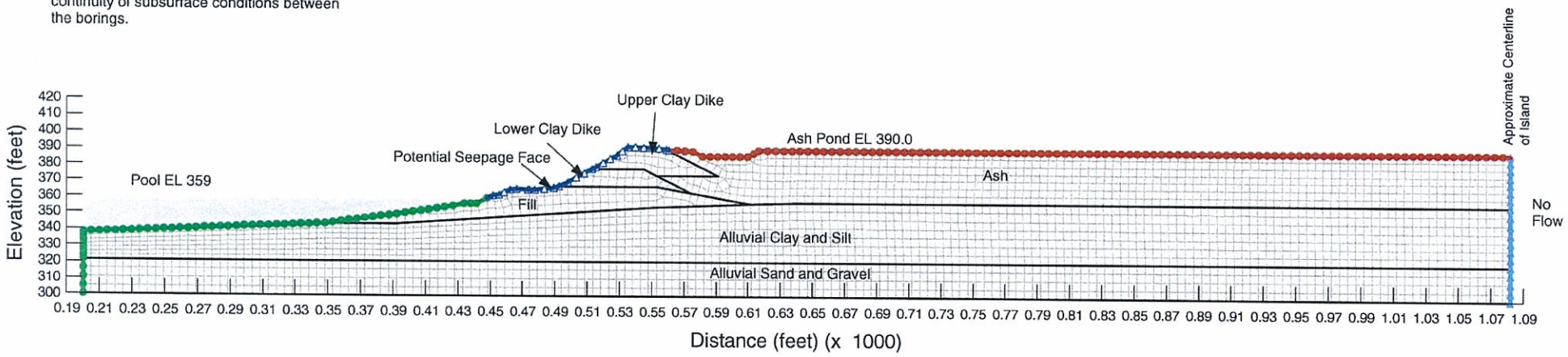
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C1.gsz

Note:
The results and analysis shown here are based an available subsurface information, laboratory test results, and apprioximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	3.28e-008	1	0.34
Lower Dike	3.28e-006	1	0.34
Ash	3.28e-005	0.1	0.41
Fill	1.64e-005	0.2	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25



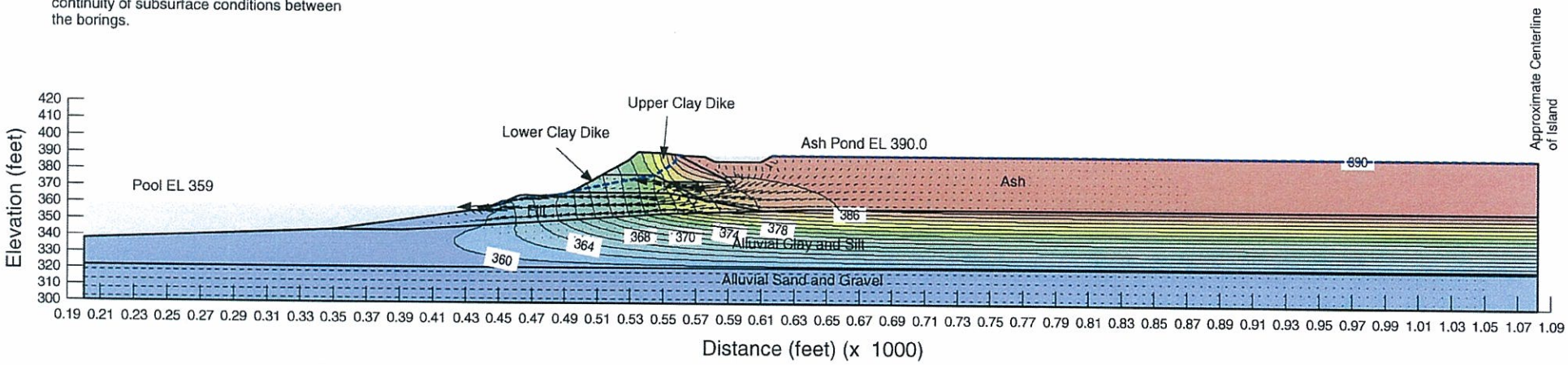
Seepage Analysis
Section C1 - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C1.gsz

Total Head with Flow Vectors

Note:
The results and analysis shown here are based an available subsurface information, laboratory test results, and apprioximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

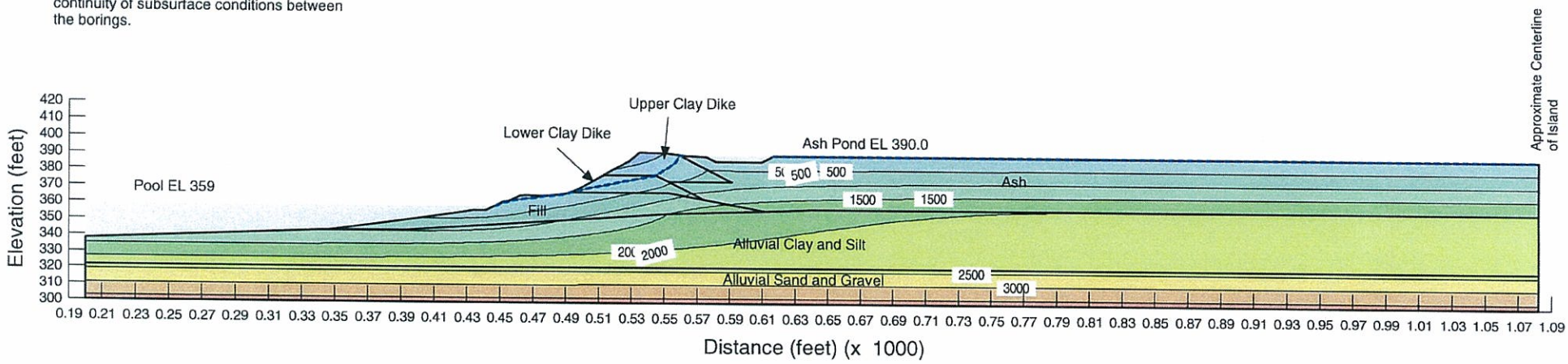


Seepage Analysis
Section C1 - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority
January 2010
Method: Steady-State
File Name: JOF Section C1.gsz

Pore Water Pressure (psf)

Note:
The results and analysis shown here are based an available subsurface information, laboratory test results, and apprioximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section C1 - Existing Condition
Ash Disposal Areas 2 and 3

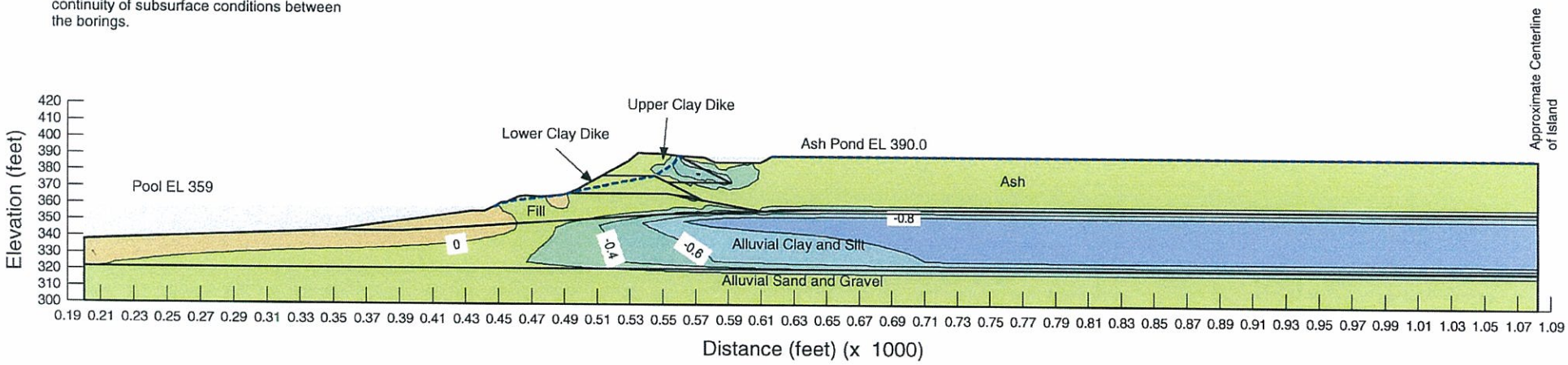
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section C1.gsz

Vertical Gradient

Piping Potential
Maximum occurs at (441.5, 356.2)
Total Head = 359.0 ft
At (442.80, 351.83)
Total Head = 359.98 ft
dH = 0.98 ft dl = 4.56
i = 0.215 i(criticial) = 1.22
FSpiping = 5.7

Note:
The results and analysis shown here are based an available subsurface information, laboratory test results, and apprioximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section E - Existing Condition
Ash Disposal Areas 2 and 3

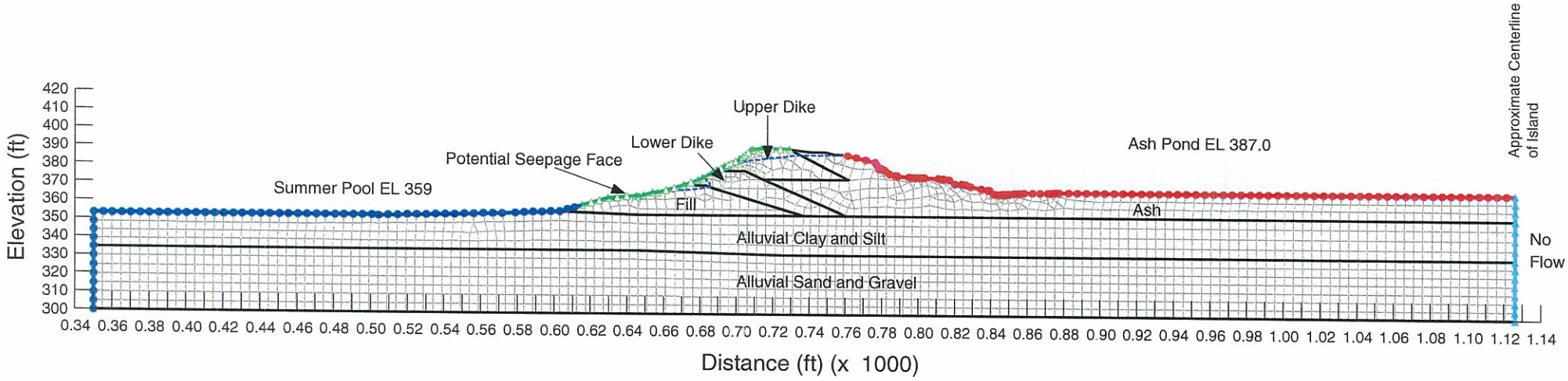
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section E (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Fill	2.46e-006	0.33333333	0.3
Lower Dike	3.28e-007	0.1	0.34
Ash	3.28e-005	0.1	0.41
Upper Dike	3.28e-007	0.1	0.34
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25



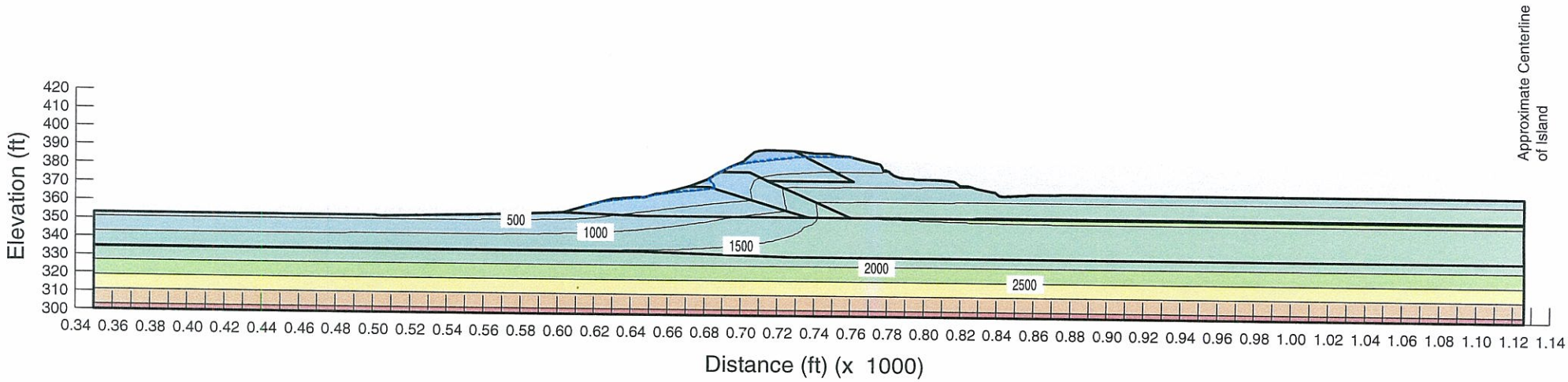
Seepage Analysis
Section E - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section E (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



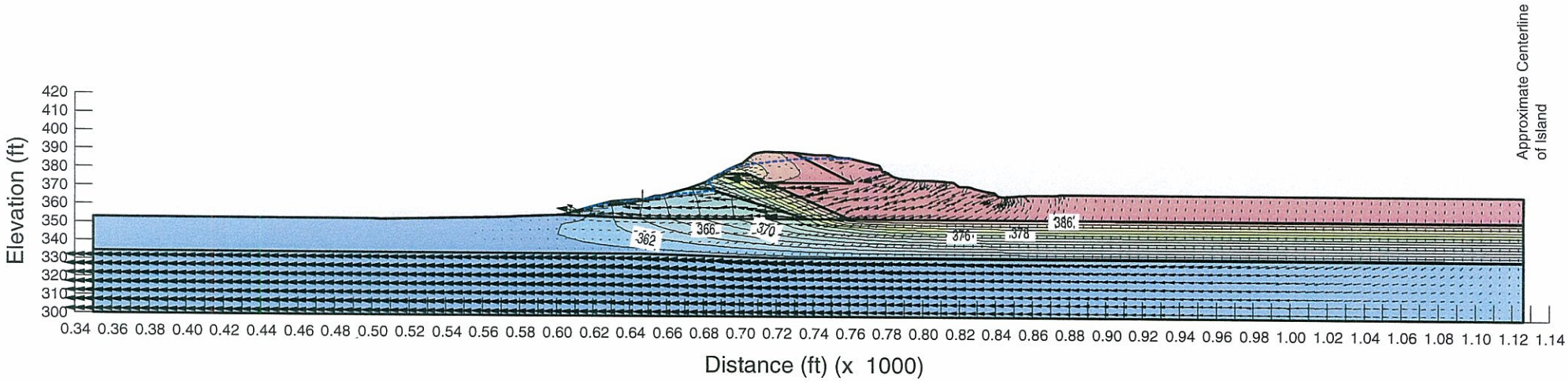
Seepage Analysis
Section E - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section E (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Total Head with Flow Vectors



Seepage Analysis
Section E - Existing Condition
Ash Disposal Areas 2 and 3

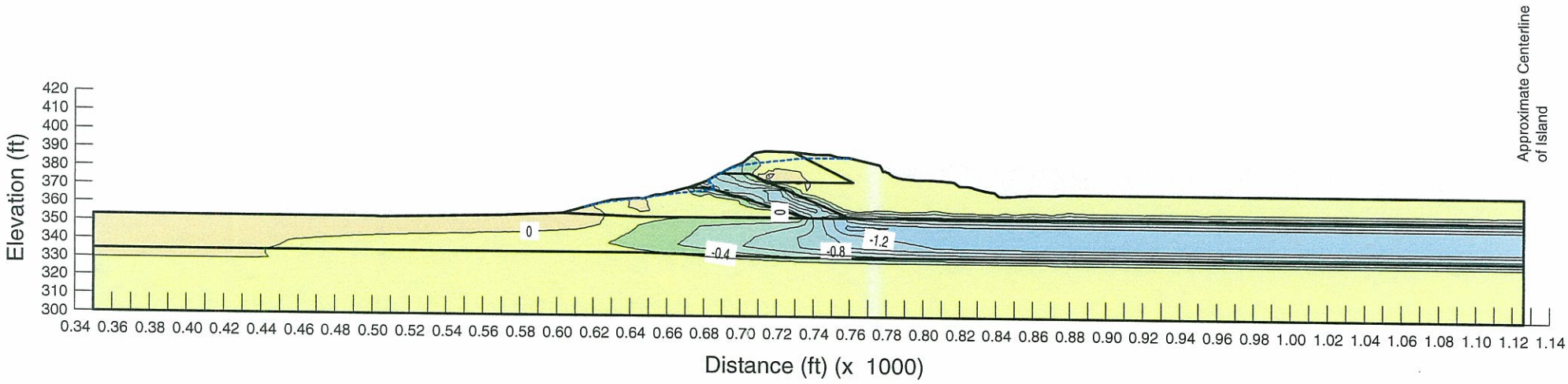
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section E (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Vertical Gradient

Piping Potential
Maximum occurs at (615.36, 359)
Total Head = 359 ft
At (617.37, 349.875)
Total Head = 360.87 ft
dH = 1.87 ft dl = 9.125
i = 0.173 i(criticial) = 1.22
FSpiping = 7.1



Seepage Analysis
Section F - Existing Condition
Ash Disposal Areas 2 and 3

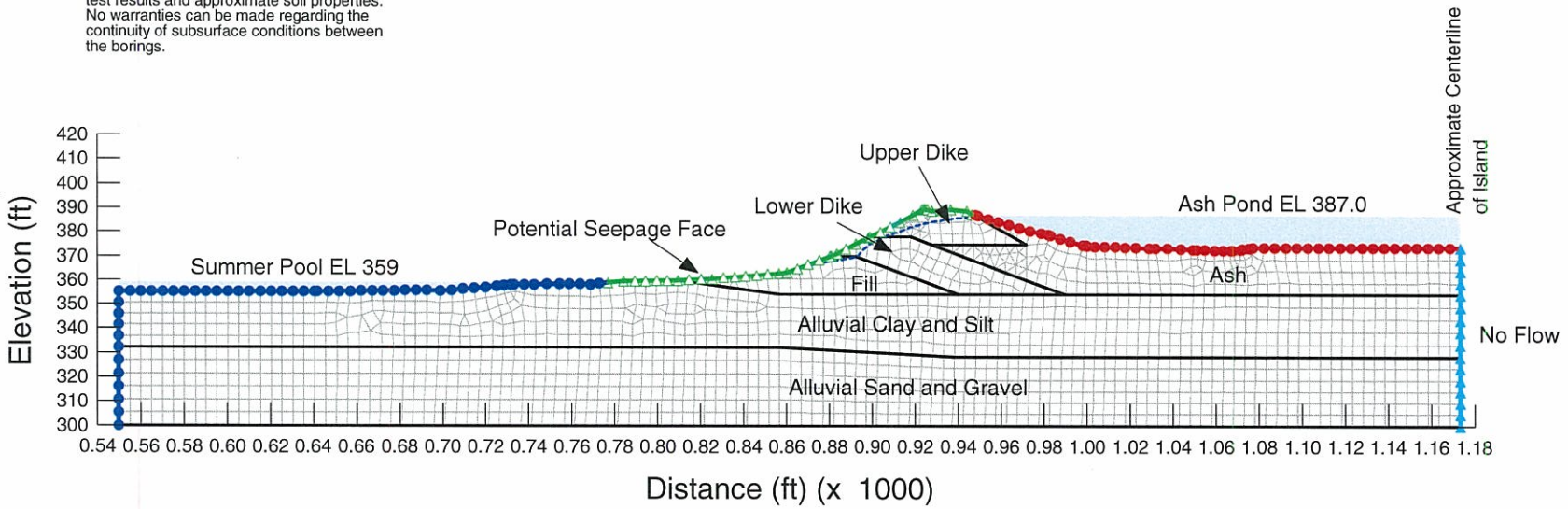
Johnsonville Fossil Plant
Tennesee Valley Authority

Boundary Conditions with Mesh

January 2010
Method: Steady-State
File Name: JOF Section F (revised Ash).gsz

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	9.84e-008	0.33333333	0.34
Lower Dike	2.76e-007	0.142857	0.34
Ash	3.28e-005	0.1	0.41
Fill	9.84e-007	0.33333333	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



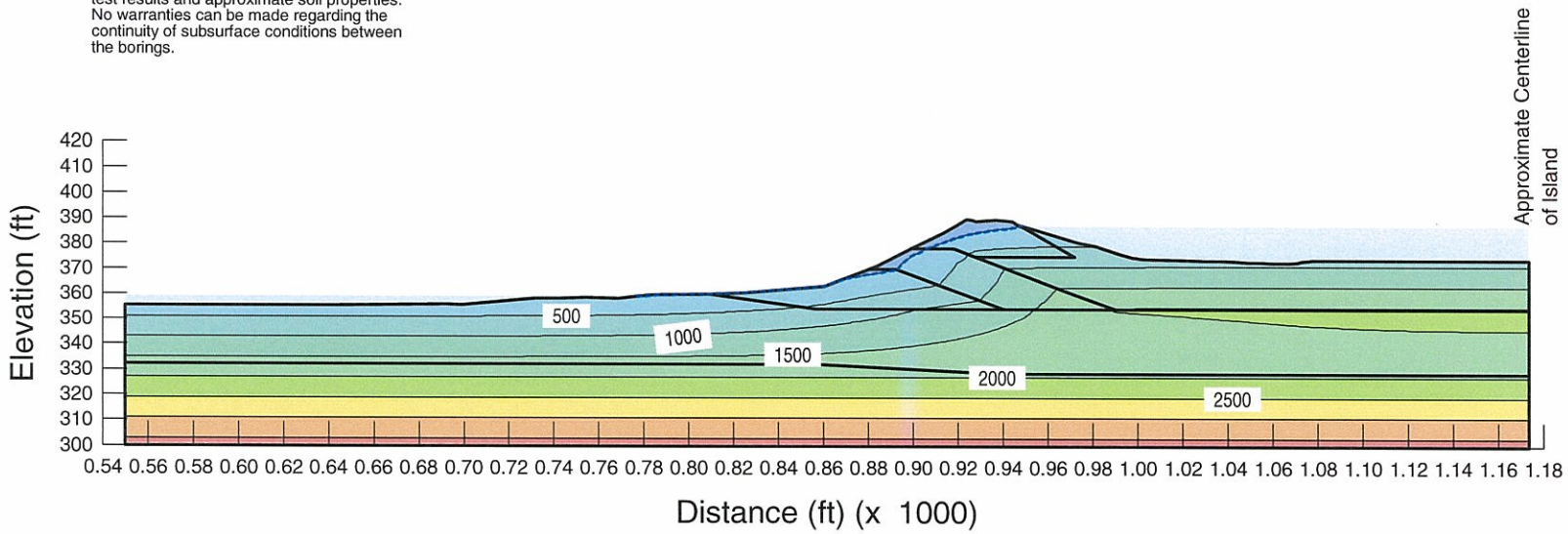
Seepage Analysis
Section F - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section F (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



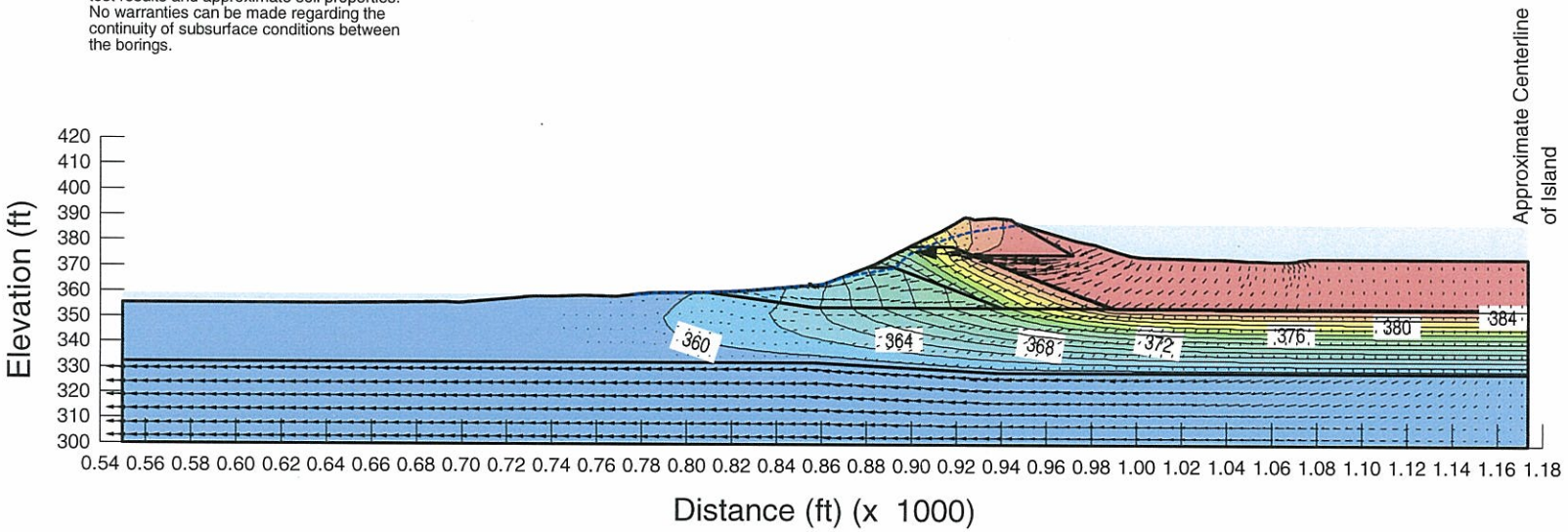
Seepage Analysis
Section F - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

Total Head with Flow Vectors

January 2010
Method: Steady-State
File Name: JOF Section F (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section F - Existing Condition
Ash Disposal Areas 2 and 3

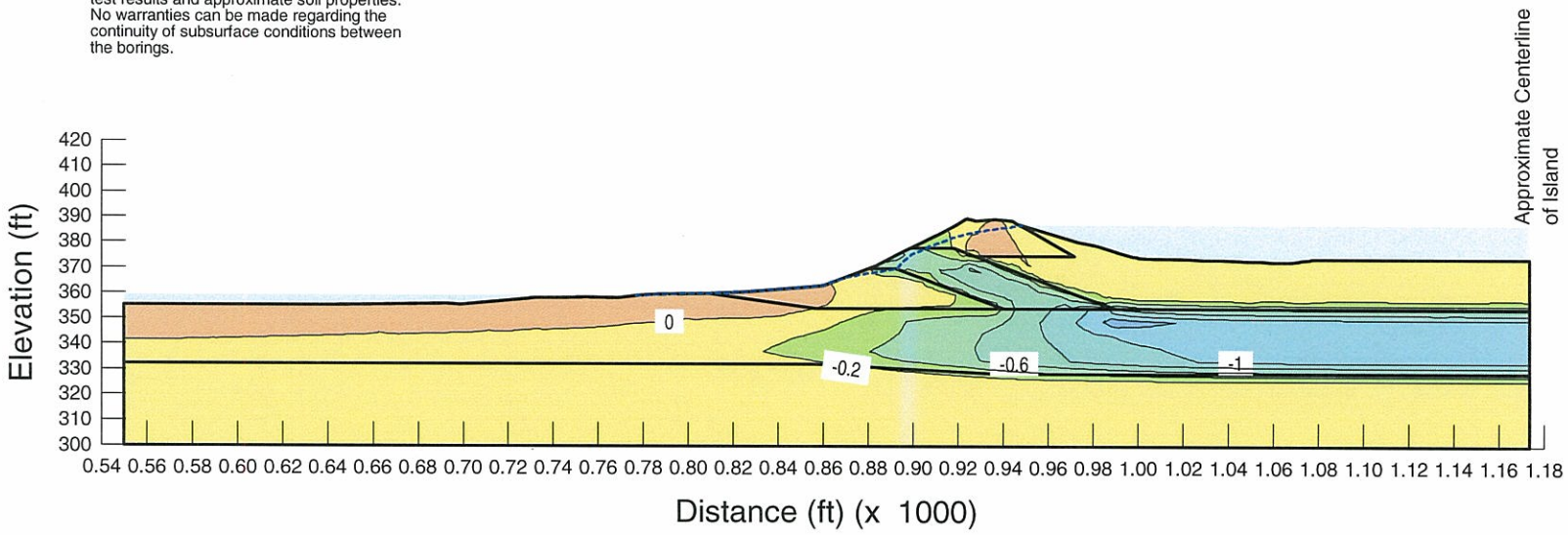
Johnsonville Fossil Plant
Tennesee Valley Authority

Vertical Gradient

January 2010
Method: Steady-State
File Name: JOF Section F (revised Ash).gsz

Piping Potential
Maximum occurs at (856.7, 362.9)
Total Head = 362.9 ft
At (856.7, 354)
Total Head = 363.69 ft
dH = 0.79 ft dl = 8.9
i = 0.117 i(criticial) = 1.22
FSpiping = 10.4

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section I - Existing Condition
Ash Disposal Areas 2 and 3

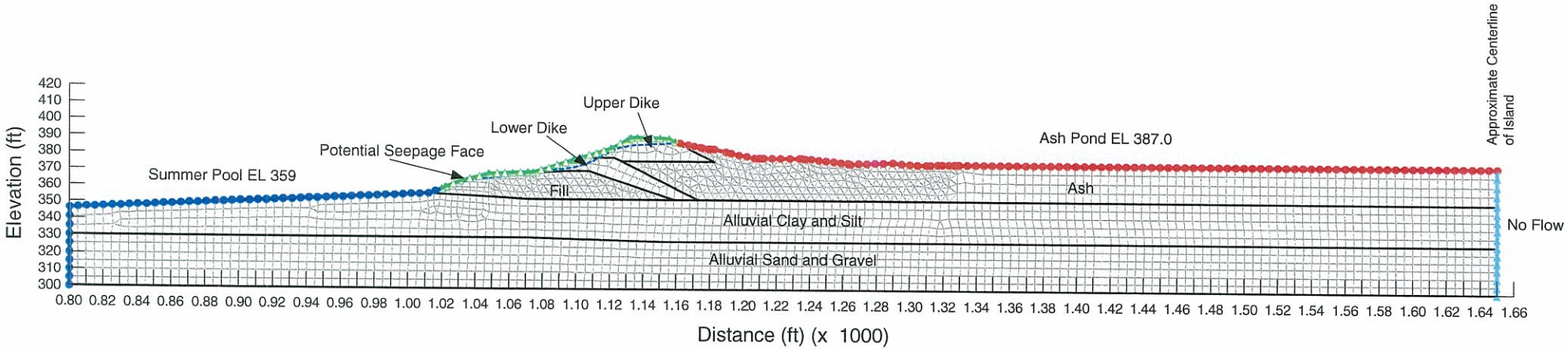
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section I (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	6.56e-008	1	0.34
Lower Dike	1.97e-007	0.333	0.34
Ash	3.28e-005	0.1	0.41
Fill	1.97e-006	0.333	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25



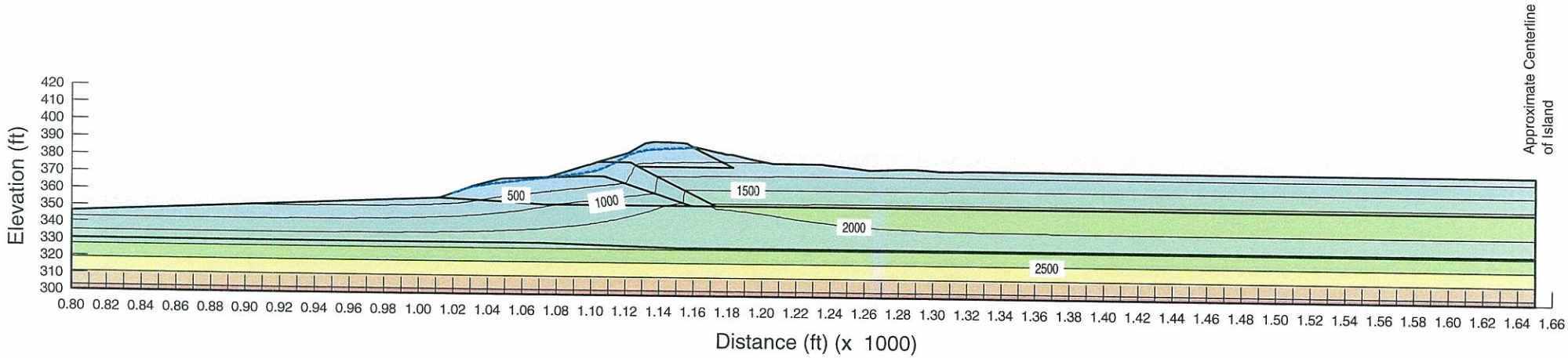
Seepage Analysis
Section I - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section I (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Pore Water Pressure (psf)



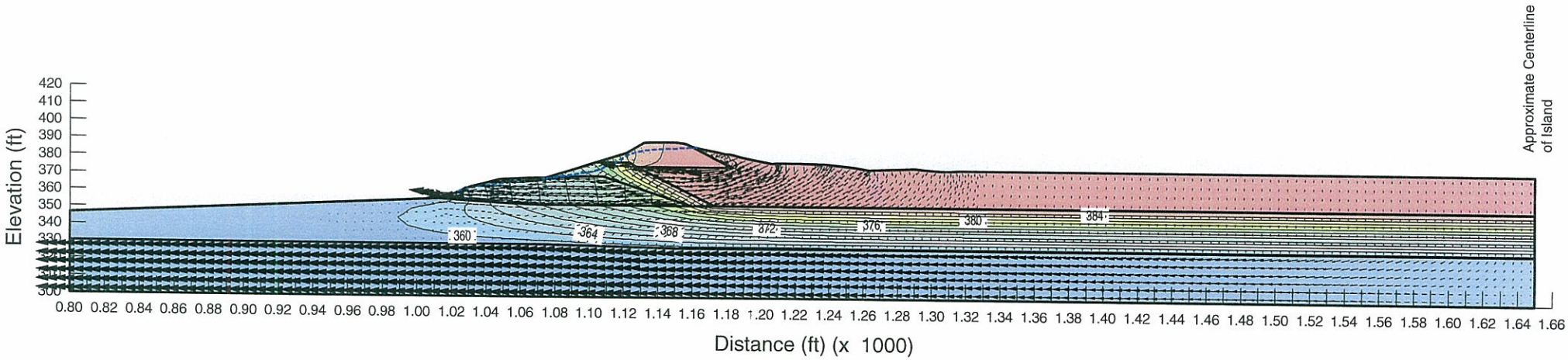
Seepage Analysis
Section I - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section I (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Total Head with Flow Vectors



Seepage Analysis
Section I - Existing Condition
Ash Disposal Areas 2 and 3

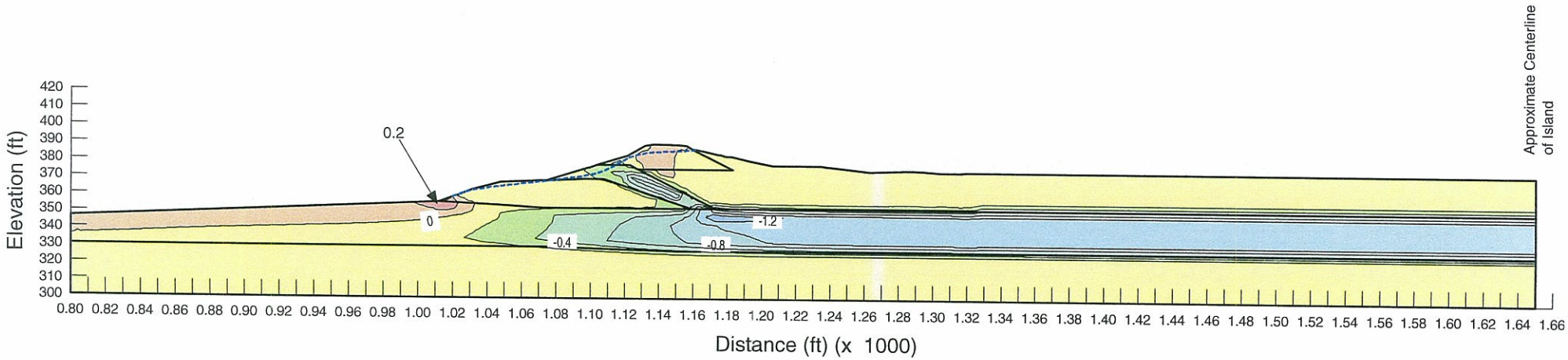
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section I (revised Ash).gsz

Vertical Gradient

Piping Potential
Maximum occurs at (1007.05, 355.867)
Total Head = 359 ft
At (1007.324, 350.859)
Total Head = 360.45 ft
dH = 1.45 ft dl = 5.01
i = 0.28 i(criticial) = 1.00
FSpiping = 3.6

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.



Seepage Analysis
Section K - Existing Condition
Ash Disposal Areas 2 and 3

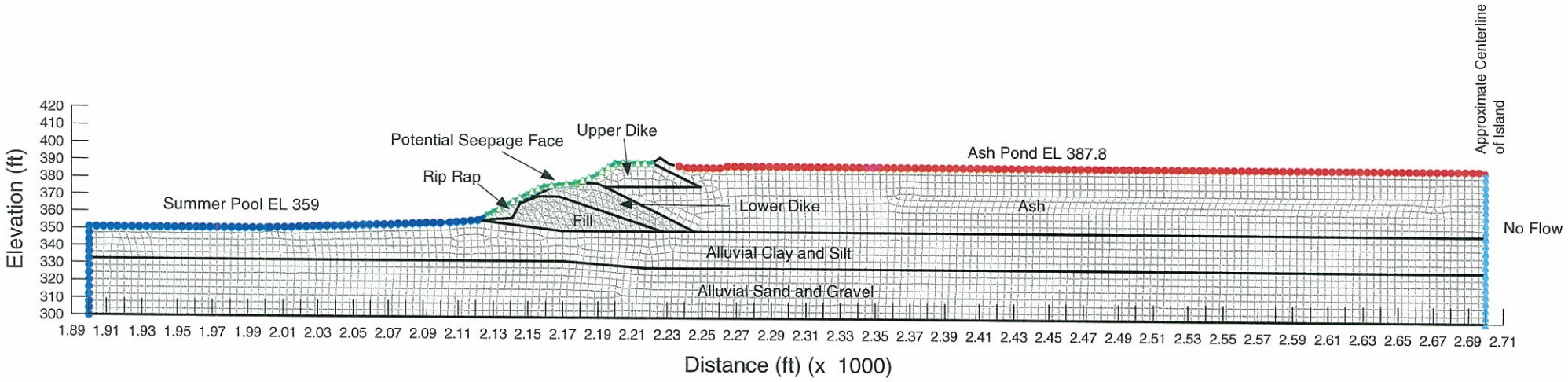
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section K (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	9.84e-008	1	0.34
Lower Dike	2.95e-007	0.333	0.34
Ash	3.28e-005	0.1	0.41
Fill	4.92e-006	0.333	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25
Riprap	0.0328	1	0.62



Seepage Analysis
Section K - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section K (revised Ash).gsz

Note:
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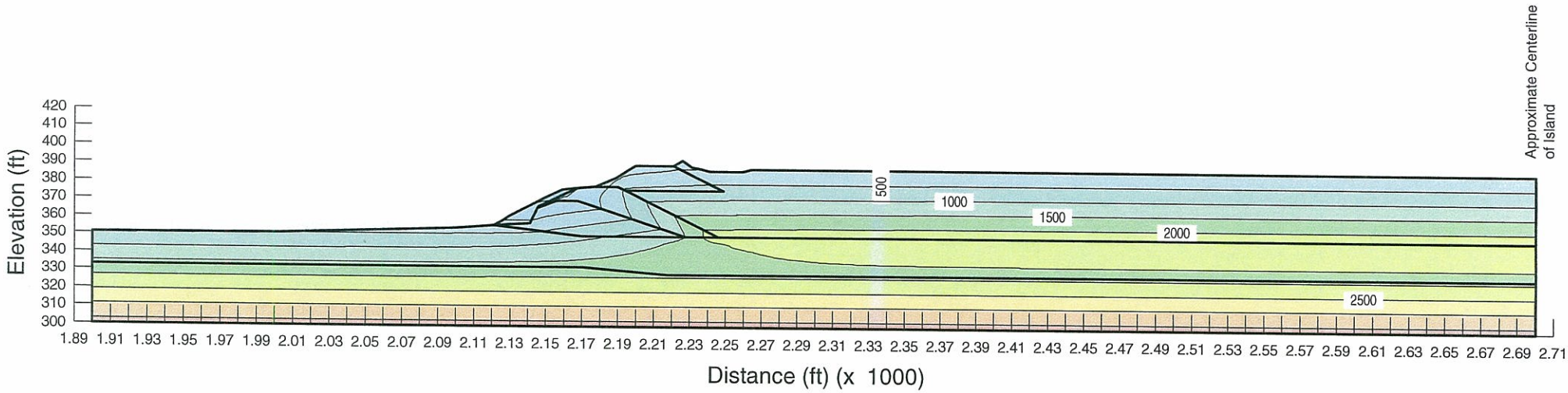
Pore Water Pressure (psf)



Seepage Analysis
Section K - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section K (revised Ash).gsz

Note:
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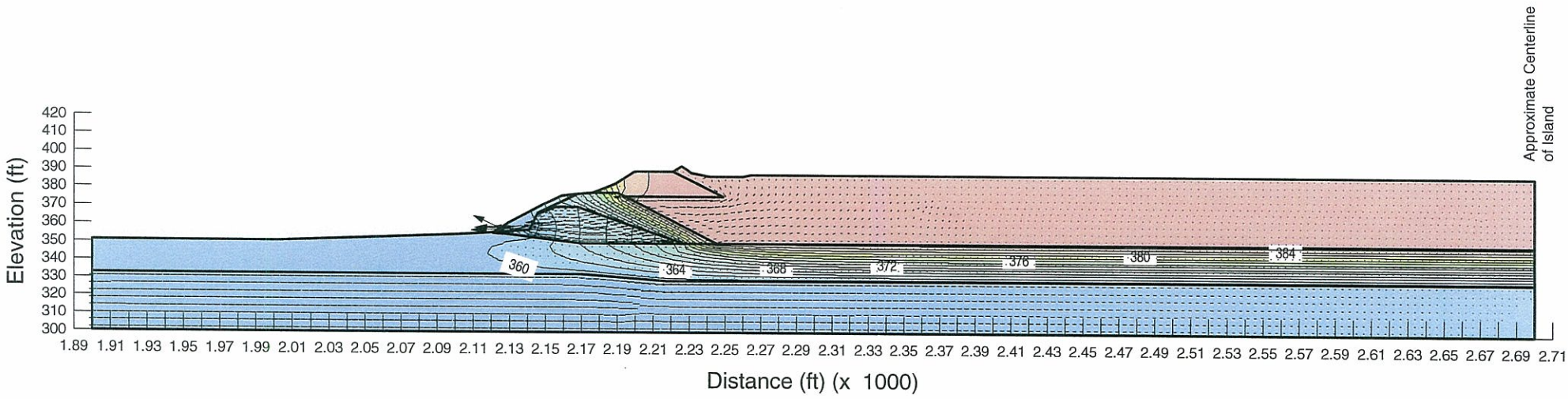
Total Head with Flow Vectors



Seepage Analysis
Section K - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

Vertical Gradient

January 2010
Method: Steady-State
File Name: JOF Section K (revised Ash).gsz

Note:
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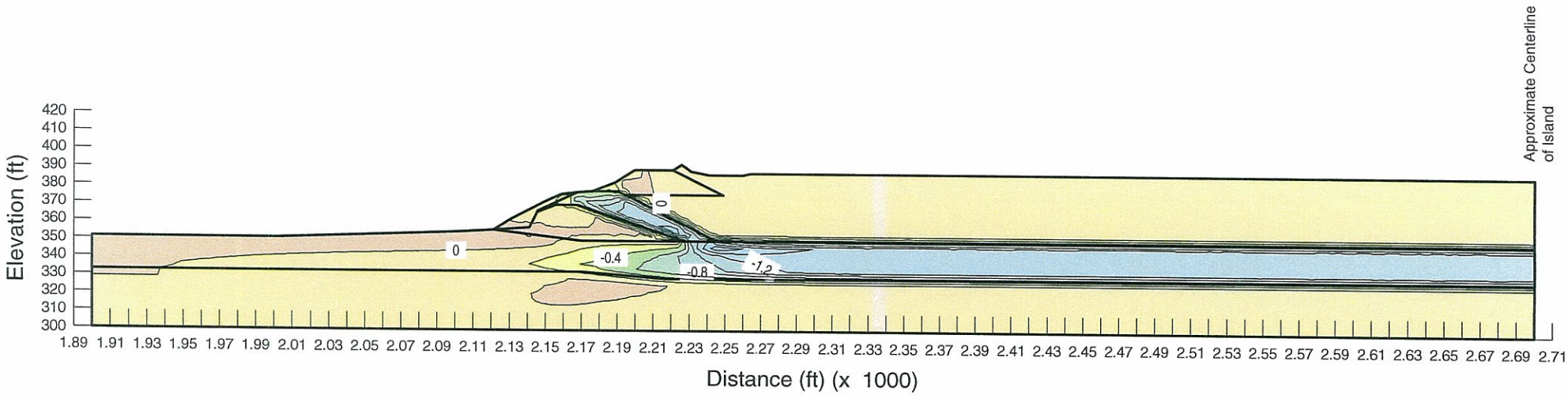
Piping Potential
Maximum occurs at (2117.1, 355.625)
Total Head = 359 ft
At (2117.192, 347.69)
Total Head = 359.899 ft
dH = 0.899 ft dl = 7.935
i = 0.113 i(criticial) = 1.00
FSpiping = 8.85



Seepage Analysis
Section M - Existing Condition
Ash Disposal Areas 2 and 3

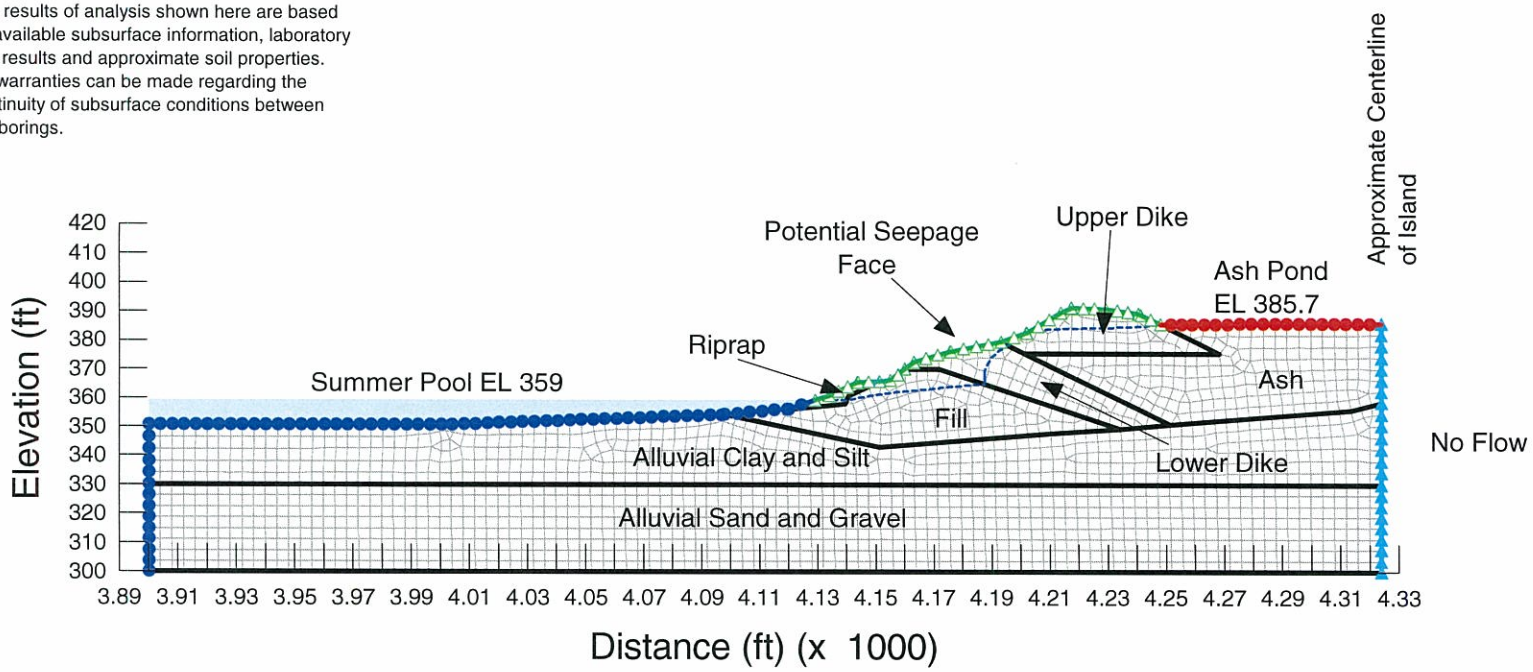
Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section M (revised Ash).gsz

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.

Boundary Conditions with Mesh

Material Type	Ksat (ft/sec)	Kratio (kh/kv)	Wsat
Upper Dike	6.56e-008	1	0.34
Lower Dike	1.97e-007	0.33333333	0.34
Ash	3.28e-005	0.1	0.41
Fill	3.28e-006	0.33333333	0.3
Alluvial Clay and Silt	6.56e-007	0.05	0.39
Alluvial Sand and Gravel	0.00656	0.05	0.25
Riprap	0.0328	1	0.62



Seepage Analysis
Section M - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

January 2010
Method: Steady-State
File Name: JOF Section M (revised Ash).gsz

Note:
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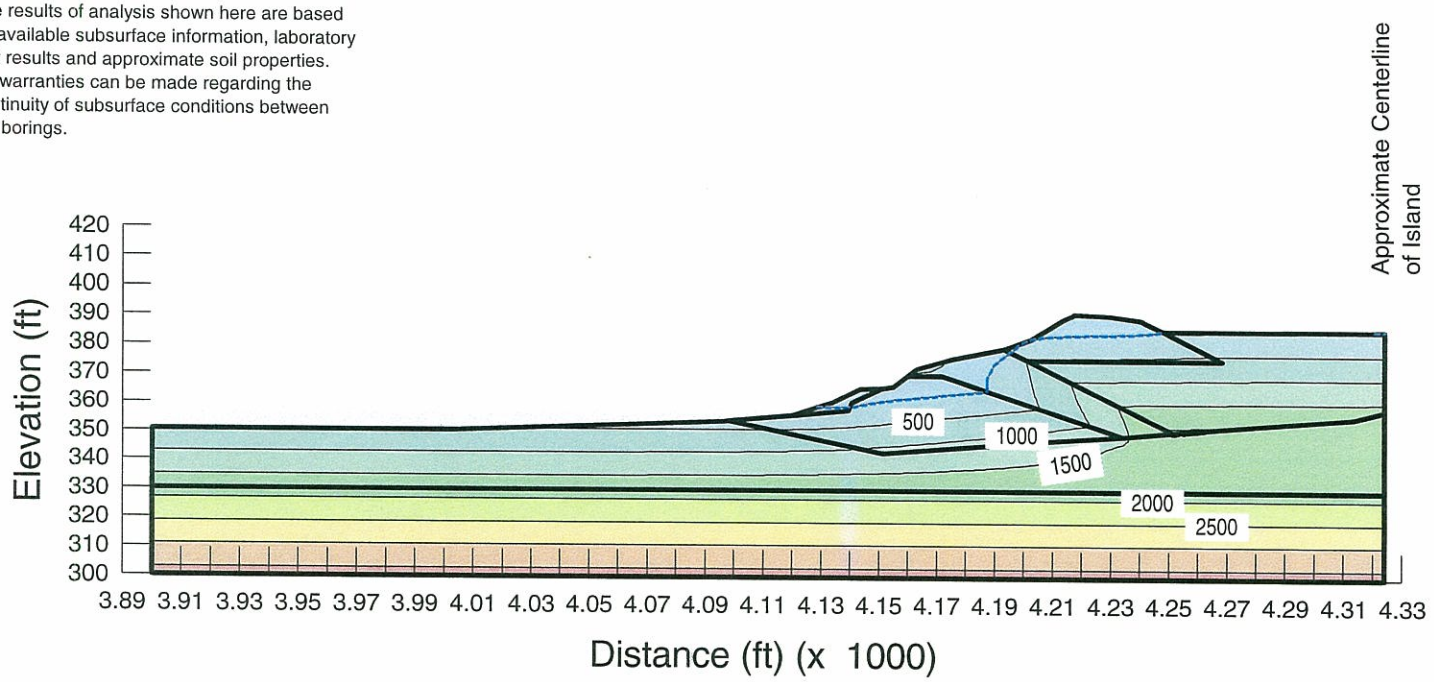
Pore Water Pressure (psf)



Seepage Analysis
Section M - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

Total Head with Flow Vectors

January 2010
Method: Steady-State
File Name: JOF Section M (revised Ash).gsz

Note:
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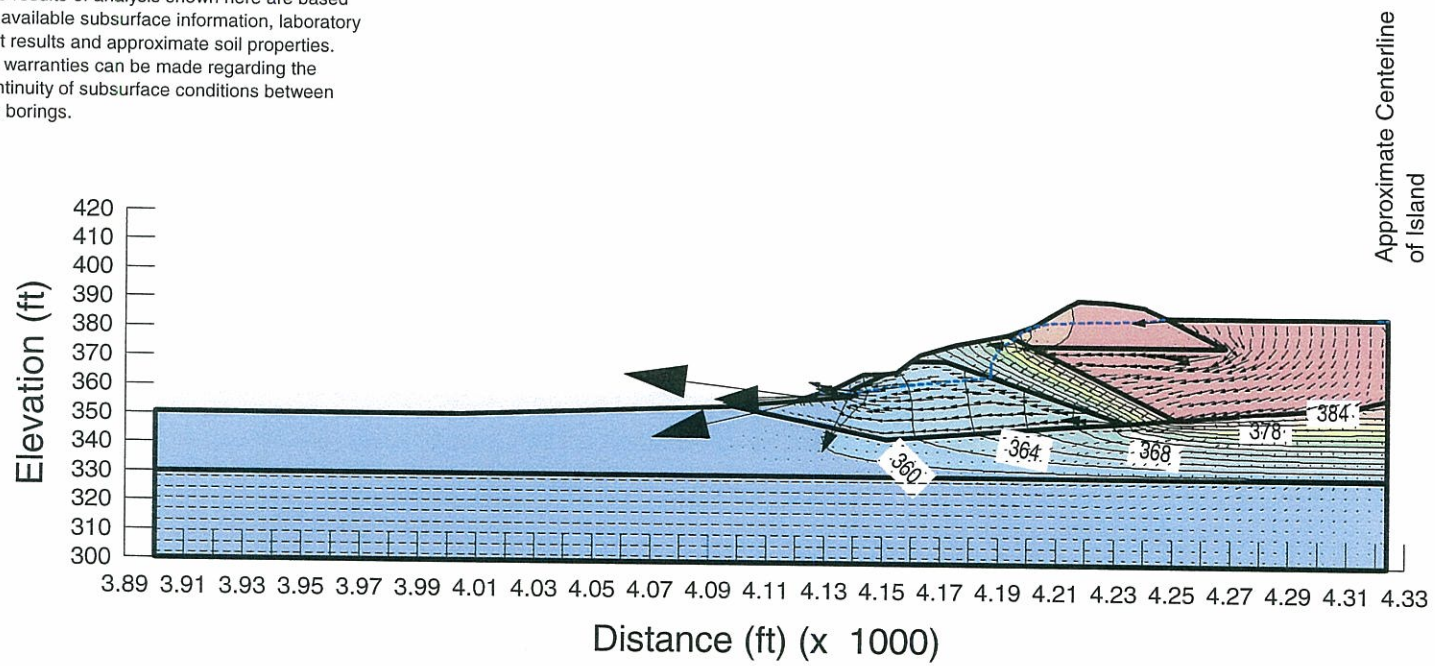

Seepage Analysis
Section M - Existing Condition
Ash Disposal Areas 2 and 3

Johnsonville Fossil Plant
Tennesee Valley Authority

Vertical Gradient

January 2010
Method: Steady-State
File Name: JOF Section M (revised Ash).gsz

Piping Potential
Maximum occurs at (4119.4, 356)
Total Head = 359 ft
At (4124.0543, 352.711)
Total Head = 359.212 ft
dH = 0.212 ft dL = 3.289
i = 0.036 i(criticial) = 1.22
FSpiping = >3.0

Note:
The results of analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. No warranties can be made regarding the continuity of subsurface conditions between the borings.