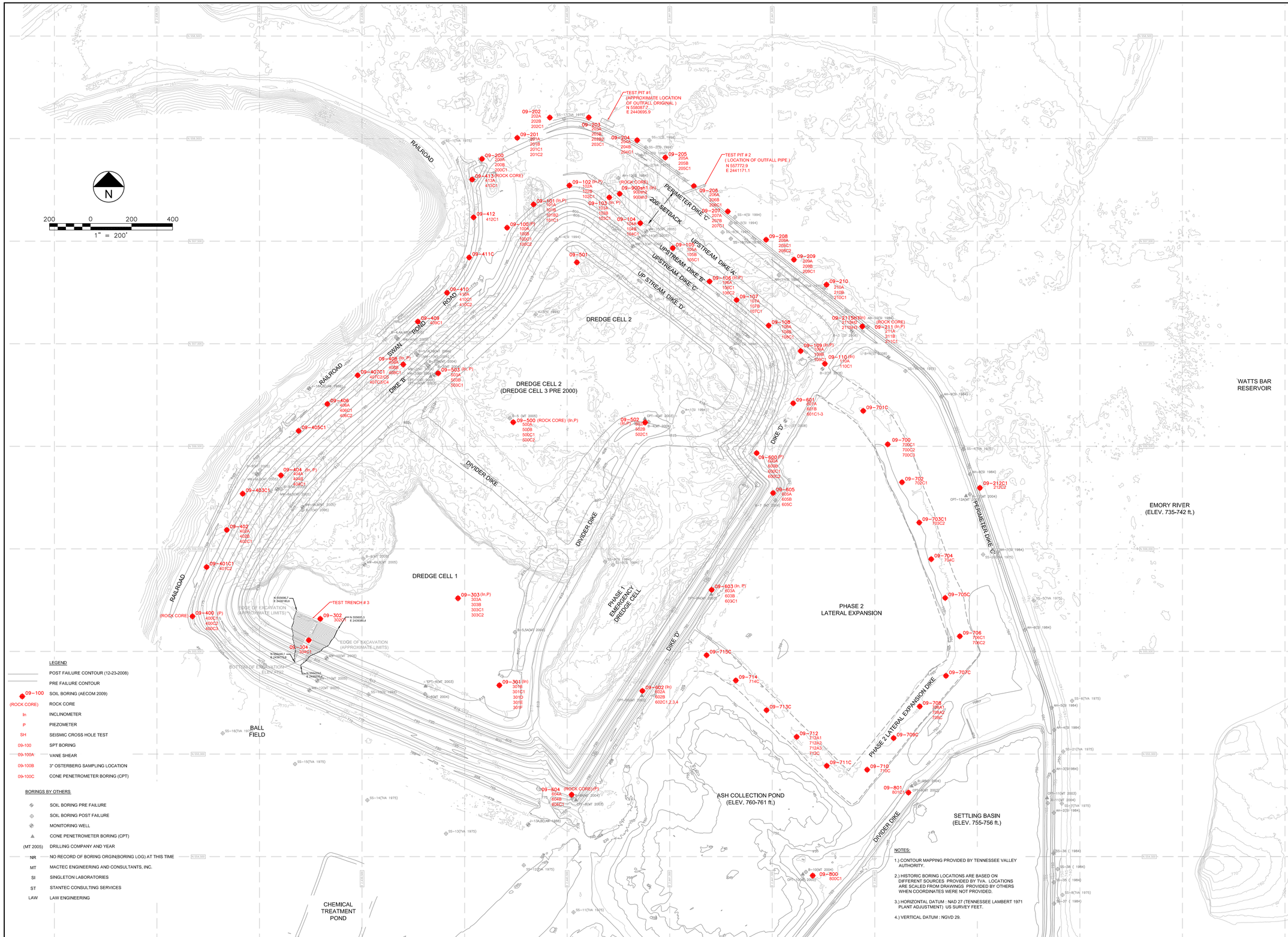

LEGEND

	POST FAILURE CONTOUR (12-23-2008)
	PRE FAILURE CONTOUR
09-100	SOIL BORING (AECOM 2009)
(ROCK CORE)	ROCK CORE
In	INCLINOMETER
P	PIEZOMETER
SH	SEISMIC CROSS HOLE TEST
09-100	SPT BORING
09-100A	VANE SHEAR
09-100B	3" OSTERBERG SAMPLING LOCATION
09-100C	CONE PENETROMETER BORING (CPT)

BORINGS BY OTHERS

	SOIL BORING PRE FAILURE
	SOIL BORING POST FAILURE
	MONITORING WELL
	CONE PENETROMETER BORING (CPT)
(MT 2005)	DRILLING COMPANY AND YEAR
NR	NO RECORD OF BORING ORGIN(BORING LOG) AT THIS TIME
MT	MACTEC ENGINEERING AND CONSULTANTS, INC.
SI	SINGLETON LABORATORIES
ST	STANTEC CONSULTING SERVICES
LAW	LAW ENGINEERING

NOTES:

1.) CONTOUR MAPPING PROVIDED BY TENNESSEE VALLEY AUTHORITY.

2.) HISTORIC BORING LOCATIONS ARE BASED ON DIFFERENT SOURCES PROVIDED BY TVA. LOCATIONS ARE SCALED FROM DRAWINGS PROVIDED BY OTHERS WHEN COORDINATES WERE NOT PROVIDED.

3.) HORIZONTAL DATUM : NAD 27 (TENNESSEE LAMBERT 1971 PLANT ADJUSTMENT) US SURVEY FEET.

4.) VERTICAL DATUM : NGVD 29.

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ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

EXPLORATION LOCATION DIAGRAM

Issued

Rev	Date	Description

Designed:

Drawn:	DTB	6/12/2009
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PROJECT NUMBER
60095742

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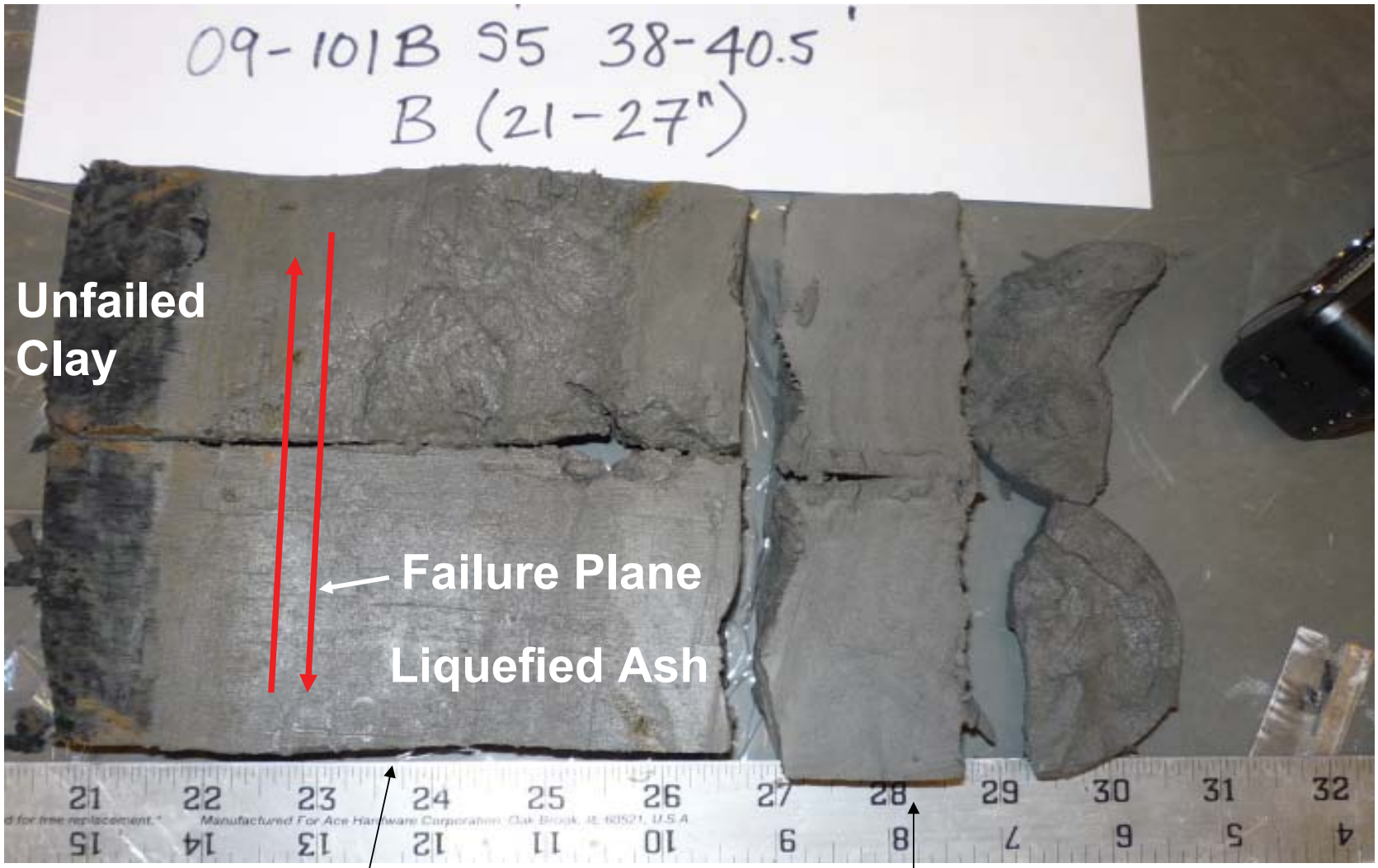
1.3.4_1

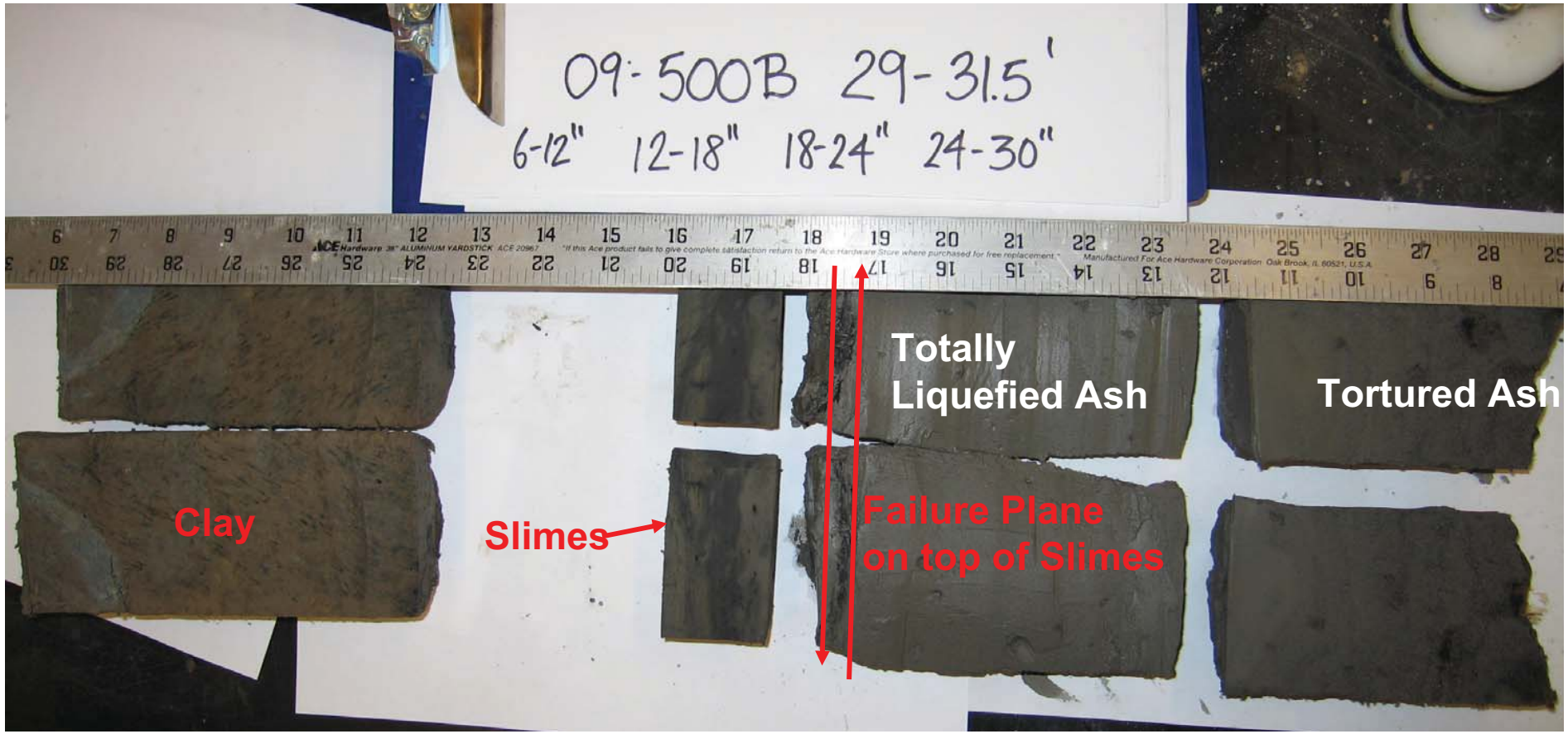
X:\PROJECTS\60095742\DWG\G60095742-bores-final-AECOM.dwg, 6/13/2009 4:59:58 PM, DEARMAN, DANIEL, STS.stb

Failed Clay/Ash Interface at 09-101B

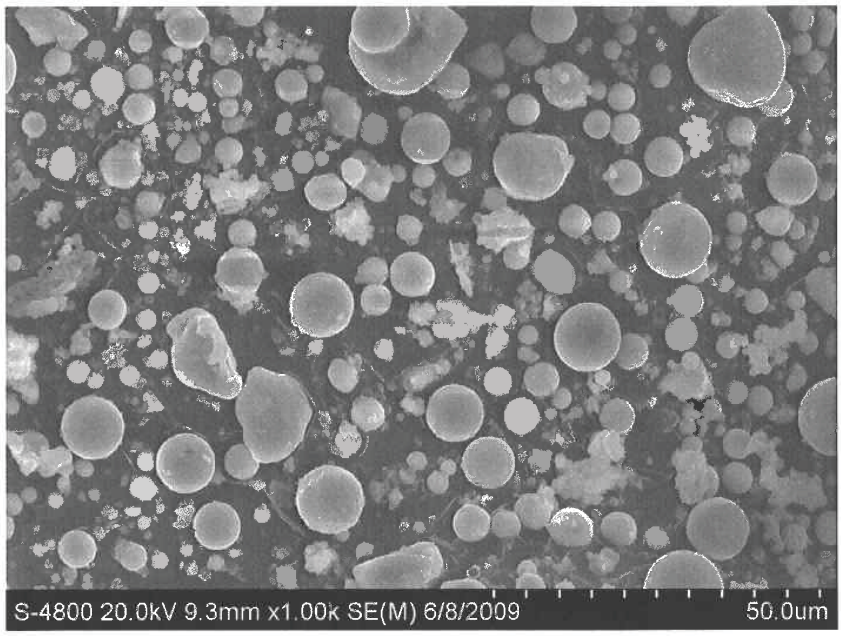


Tortured Ash of Split Tube Sample

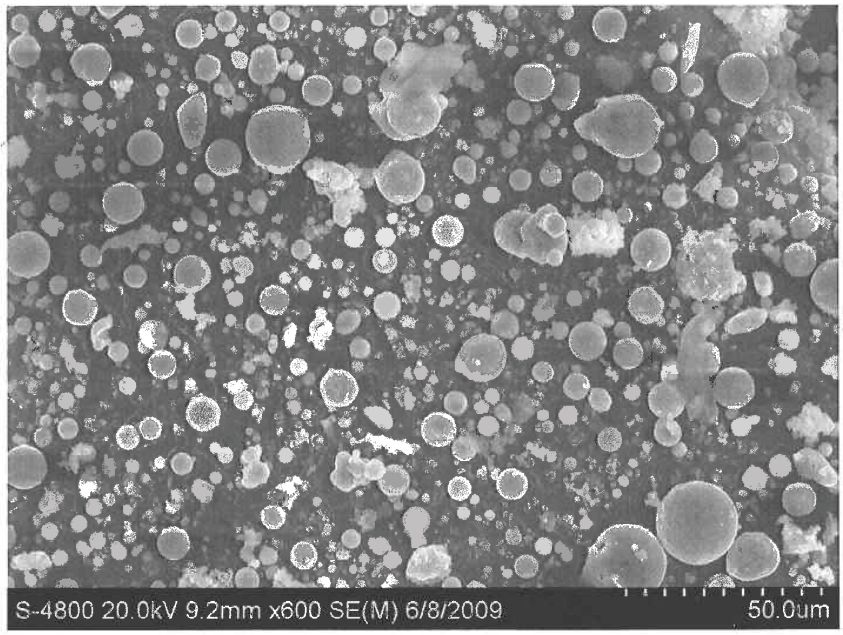
Clay/Laminated Silt/Failed Ash at 09-500B, OST5



09-500B S5 29.0 to 31.5 ft

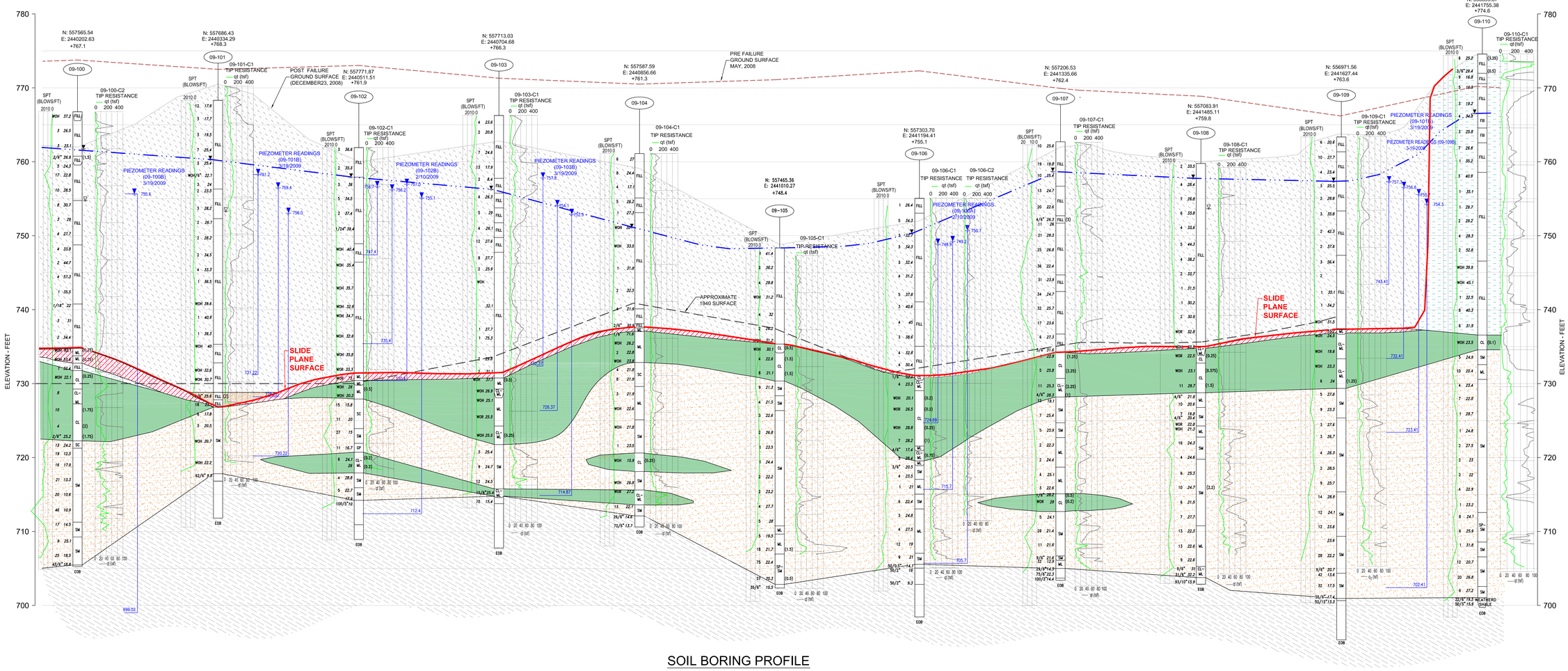


SEM 1



SEM Image 2

Figure 1.3.4_5: Scanning electron micrographs of slime sample from Boring 09-503B, S-3 37.5-38.0 feet. Magnification is 600X. Tick marks on the scale of 5μm each



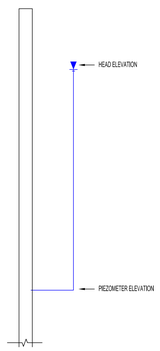
SOIL BORING PROFILE

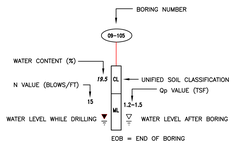
NOTE:

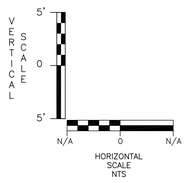
THE STRATA LINES SHOWN ARE INTERPOLATED FROM DATA OBTAINED AT BORING LOCATIONS. ACTUAL SOIL CONDITIONS IN-SITU MAY VARY.

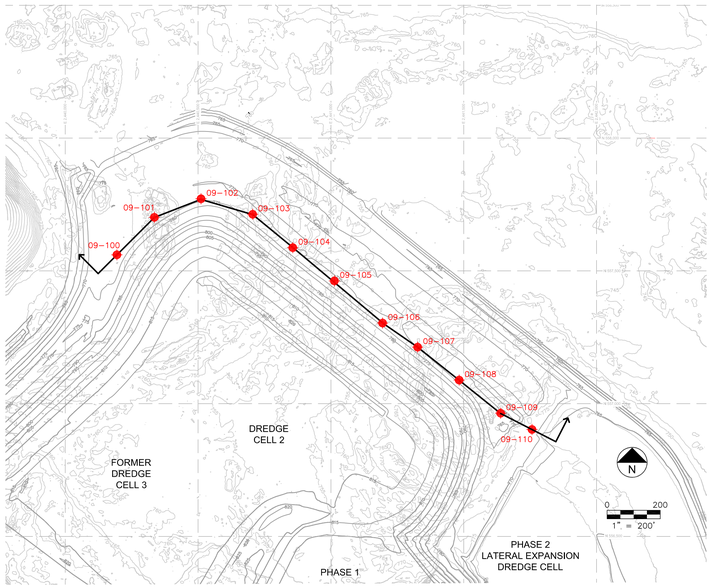
LEGEND

- UNFAILED ASH
- FAILED FLY ASH
- SLIDE DEBRIS
- VERY SOFT, LAMINATED, SENSITIVE, SILT SIZE SLIMES
- CLAY AND SILT (ALLUVIUM)
- SILTY SAND AND SILT (ALLUVIUM)
- WEATHERED SHALE (BEDROCK)
- WATER LEVEL OBSERVED IN BORING









PROFILE LOCATION

SCALE : 1" = 200'

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ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

100 BORING SERIES SOIL PROFILE

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60095742

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1.3.4_4
6

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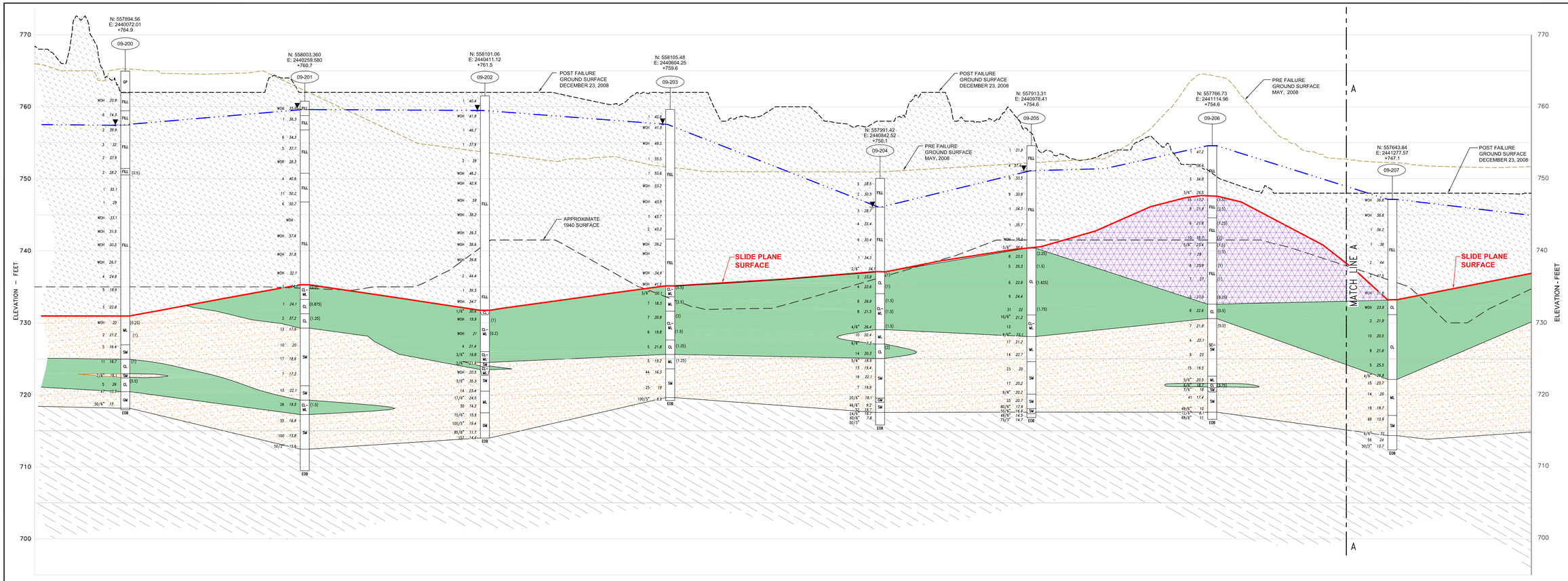
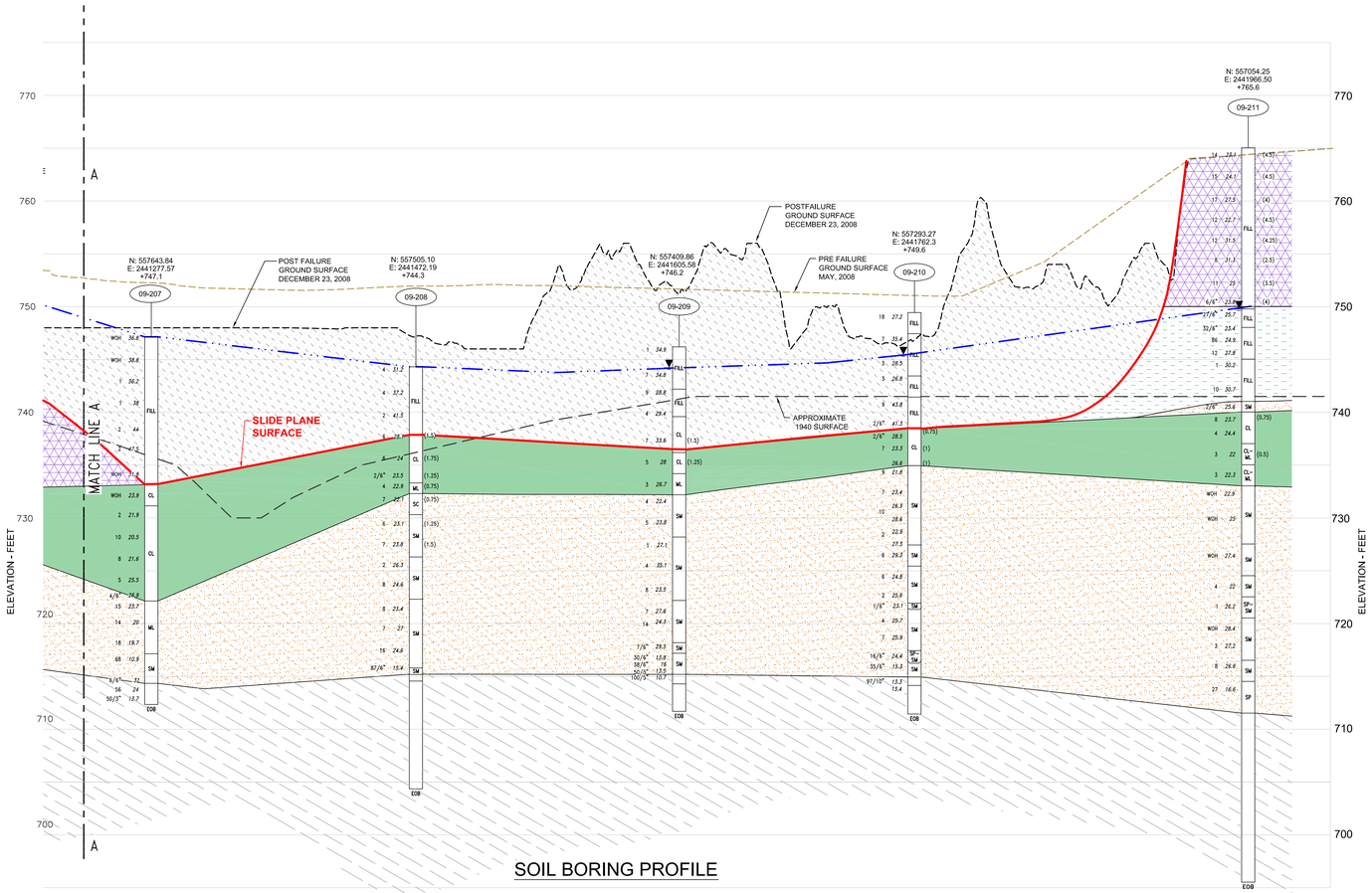


SOIL BORING PROFILE



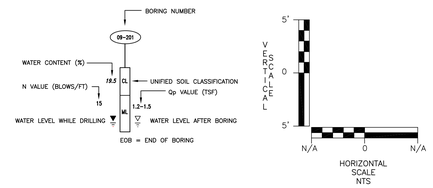
SOIL BORING PROFILE

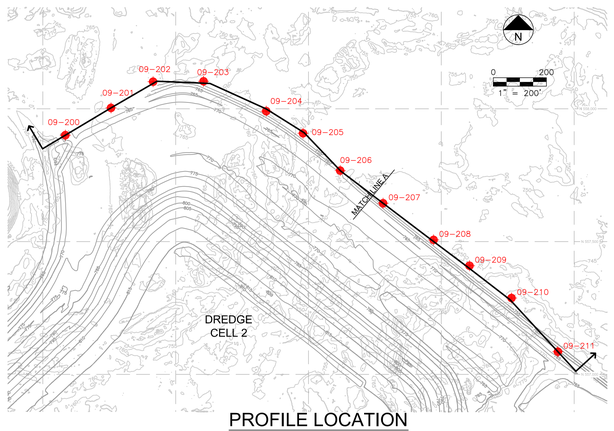
NOTE:

THE STRATA LINES SHOWN ARE INTERPOLATED FROM DATA OBTAINED AT BORING LOCATIONS. ACTUAL SOIL CONDITIONS IN-SITU MAY VARY.

LEGEND

- UNFAILED ASH
- FAILED FLY ASH
- DIKE C CLAY FILL
- VERY SOFT, LAMINATED, SENSITIVE, SILT SIZE SLIMES
- CLAY AND SILT (ALLUVIUM)
- SILTY SAND AND SILT (ALLUVIUM)
- WEATHERED SHALE (BEDROCK)
- WATER LEVEL OBSERVED IN BORING





PROFILE LOCATION
SCALE : 1" = 200'

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ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

200 BORING SERIES SOIL PROFILE

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60095742

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1.3.4_7

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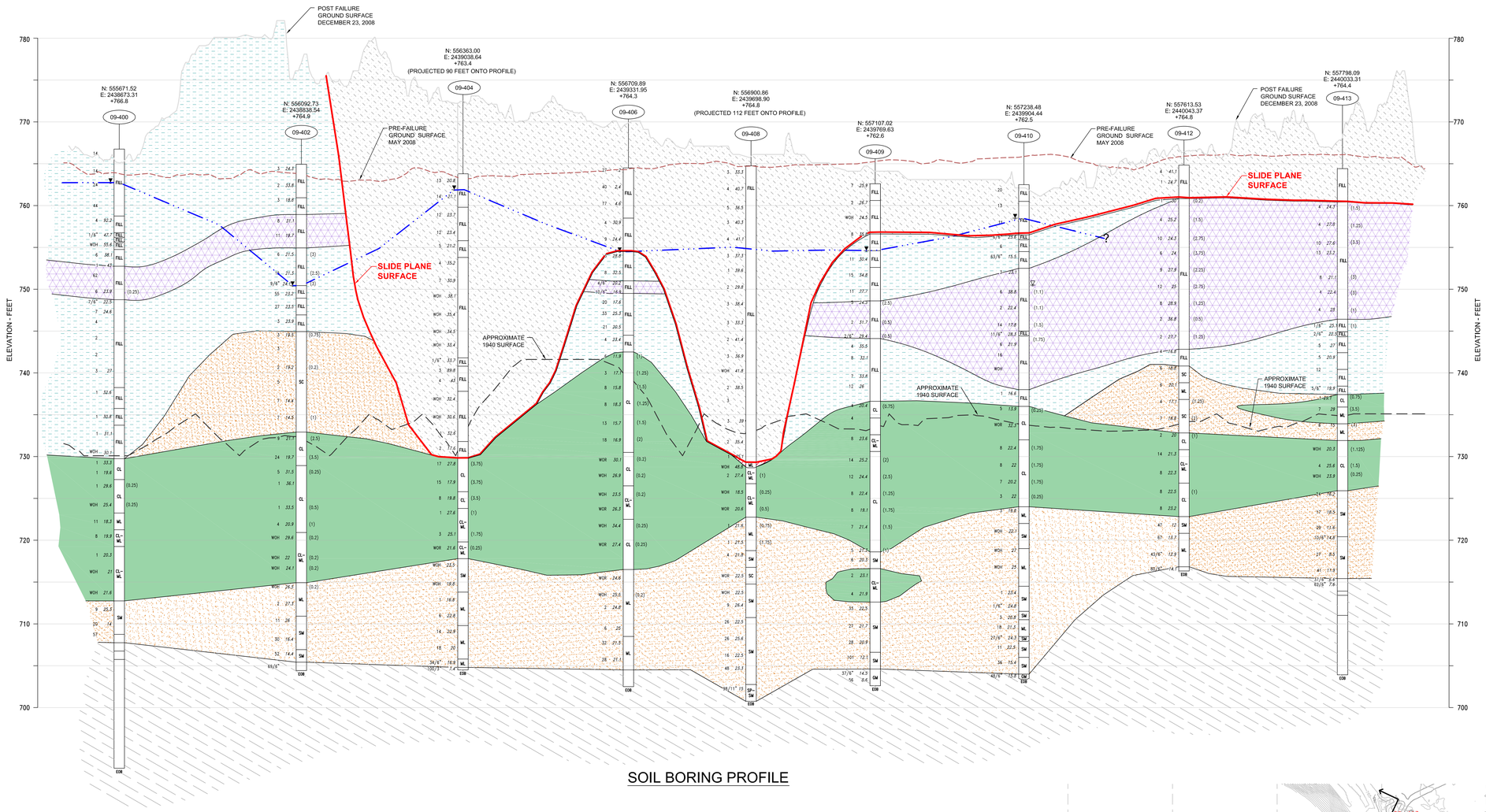


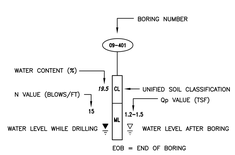
SOIL BORING PROFILE

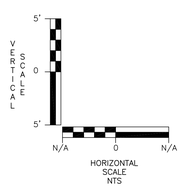
NOTE:

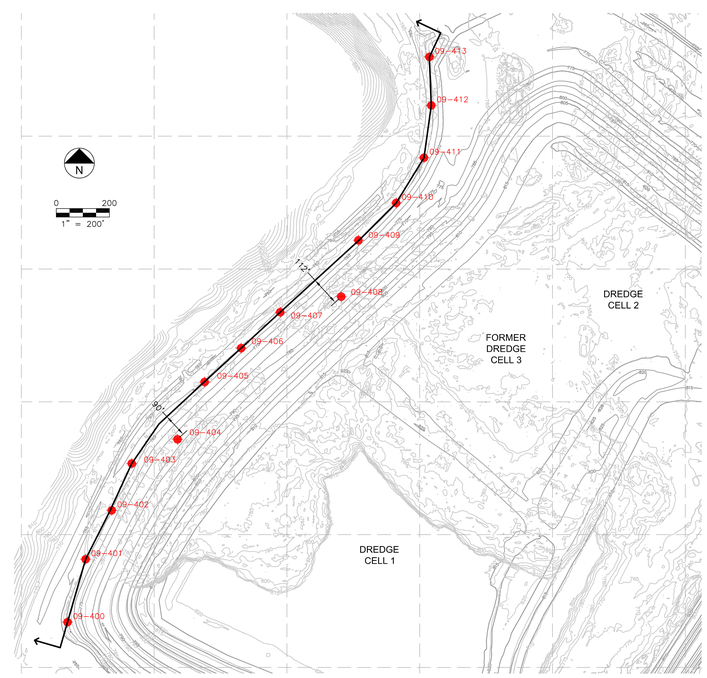
THE STRATA LINES SHOWN ARE INTERPOLATED FROM DATA OBTAINED AT BORING LOCATIONS. ACTUAL SOIL CONDITIONS IN-SITU MAY VARY.

LEGEND

- UNFAILED ASH
- FAILED FLY ASH
- DIKE B CLAY FILL
- VERY SOFT, LAMINATED, SENSITIVE SILT SIZE SLIMES
- CLAY AND SILT (ALLUVIUM)
- SILTY SAND AND SILT (ALLUVIUM)
- WEATHERED SHALE (BEDROCK)
- WATER LEVEL OBSERVED IN BORING







PROFILE LOCATION

SCALE : 1" = 200'

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ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

400 SERIES BORING PROFILE

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SHEET REFERENCE NUMBER
1.3.4_8

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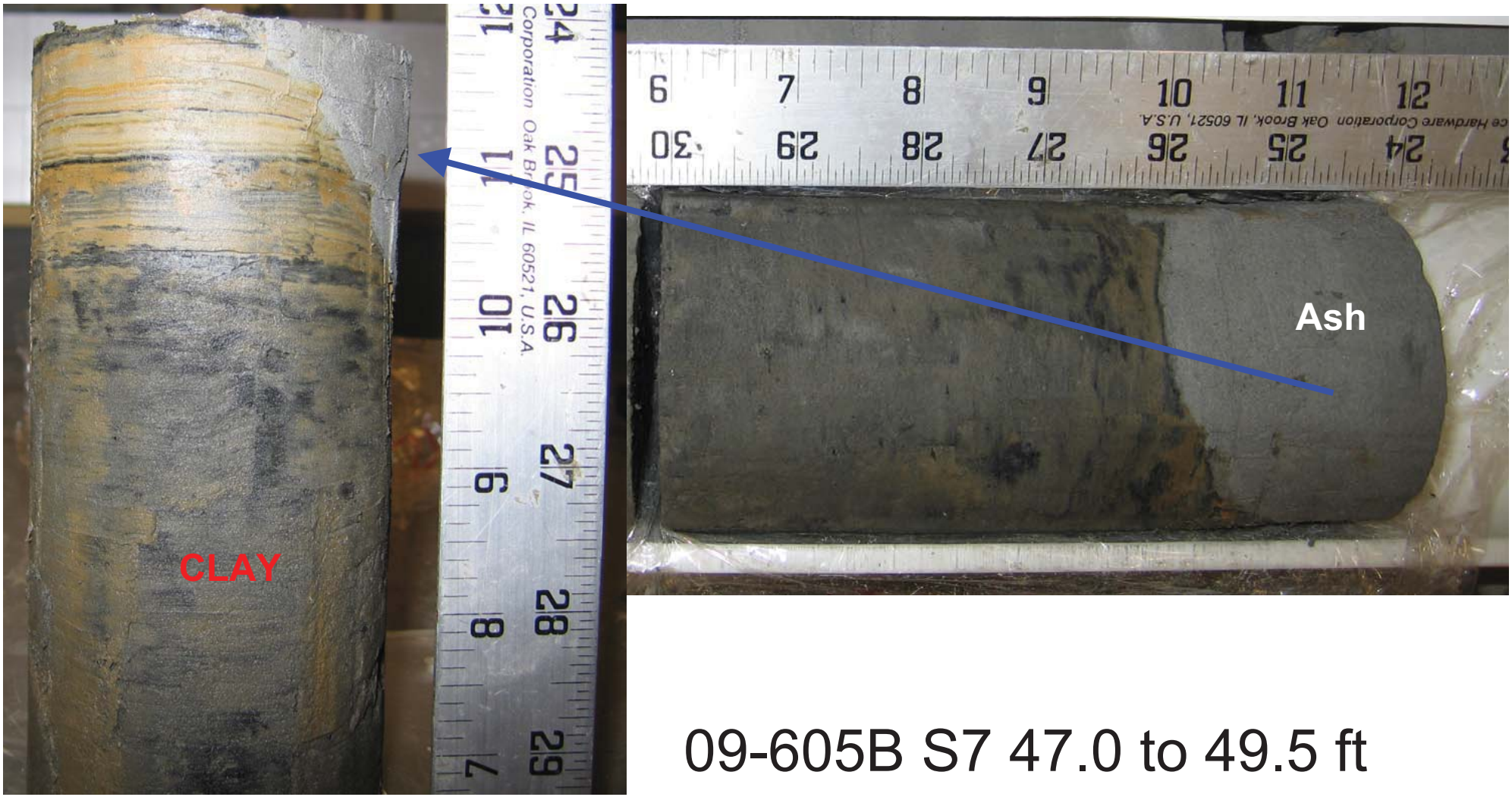
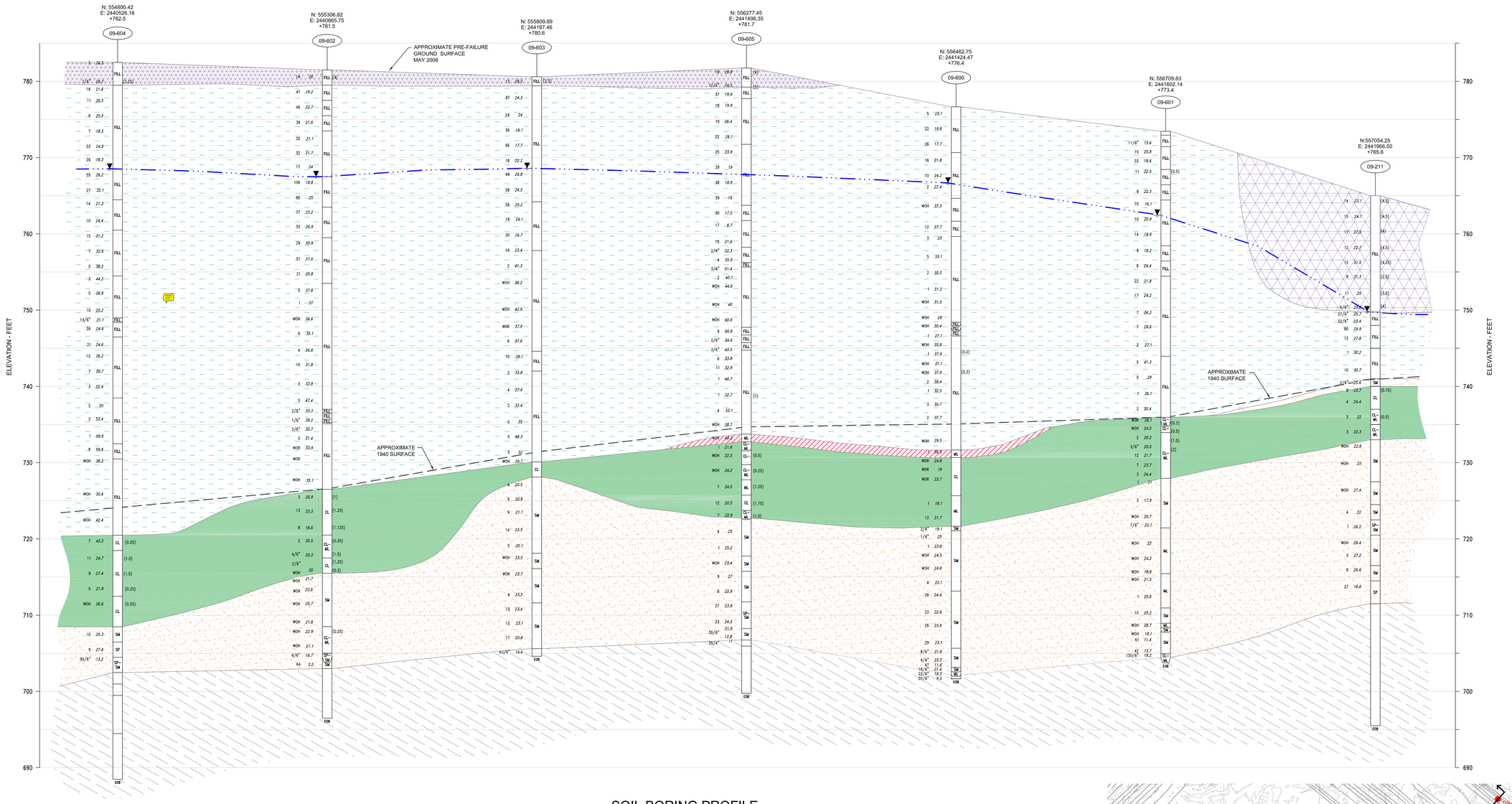
Interface of Laminated Silt/Ash and Unfailed Flyash at 09-605B



09-605B S7 47.0 to 49.5 ft



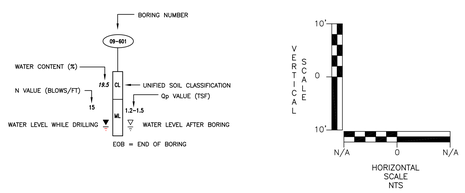
SOIL BORING PROFILE

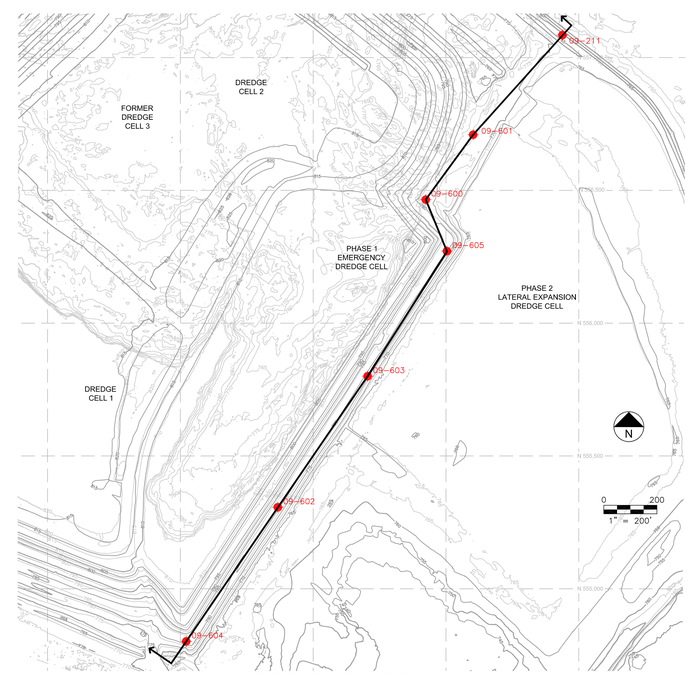
NOTE:

THE STRATA LINES SHOWN ARE INTERPOLATED FROM DATA OBTAINED AT BORING LOCATIONS. ACTUAL SOIL CONDITIONS IN-SITU MAY VARY.

LEGEND

- UNFAILED ASH
- FAILED FLY ASH
- DIKE C CLAY FILL
- NEW CLAY FILL
- VERY SOFT, LAMINATED, SENSITIVE, SILT SIZE SLIMES
- CLAY AND SILT (ALLUVIUM)
- SILTY SAND AND SILT (ALLUVIUM)
- WEATHERED SHALE (BEDROCK)
- WATER LEVEL OBSERVED IN BORING





PROFILE LOCATION

SCALE : 1" = 200'

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ROOT CAUSE ANALYSIS
TVA KINGSTON DREDGE CELL FAILURE
ON DECEMBER 22, 2008
KINGSTON FOSSIL PLANT
HARRIMAN, TENNESSEE

600 SERIES BORING PROFILE

Issued

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PROJECT NUMBER
60095742

SHEET REFERENCE NUMBER
1.3.4_10

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