Qlso?

Cafeteria Bldg.

C'

PROPOSED SITE
LOCATION PERIMETER

Warehouse

WLA CPT-1
el. 133.2

WLA B-1
el. 133.1

WLA CPT-4
el. 155.2'

Flat Pad
at elev. 154-156'

Flat Pad
at elev. 132-134'

WLA B-2
el. 133.7

A

A'

WLA B-2a
el. 133.7

Water Tank

Cut Slope

To
Mississippi
River

WLA CPT-3
el. 157.6

?

B

WLA B-3
el. 154.8

WLA CPT-2
el. 133.9'

B'

Qlso?

?

C

Existing Grand Gulf
Nuclear Power
Station

UNIT 2
(not completed)

UNIT 1
(operational)

N

0 100 200 feet

Approximate Scale

Explanation

- Approximate 2-foot topographic elevation contour
- WLA exploratory boring and top-of-hole elevation; 2003
- WLA Cone Penetrometer Test (CPT) sounding and top-of-hole elevation; 2003
- A — A' Geologic cross section location
- Qlso? Possible shallow soil slump

Note:
Base map modified from a preliminary topographic map provided by Entergy (2002). Elevation contours and facilities are approximately located, and locally may not reflect current conditions.

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EARLY SITE PERMIT APPLICATION
SITE SAFETY ANALYSIS REPORT

SITE EXPLORATION LOCATIONS

FIGURE 2.5-69 REV. 0

1522d Grand Gulf 10/10/03

Qlso?

Cafeteria Bldg.

C'

PROPOSED SITE
LOCATION PERIMETER

Warehouse

WLA CPT-1
el. 133.2

WLA B-1
el. 133.1

WLA CPT-4
el. 155.2'

Flat Pad
at elev. 154-156'

Flat Pad
at elev. 132-134'

WLA B-2
el. 133.7

A

A'

WLA B-2a
el. 133.7

Water Tank

Cut Slope

To
Mississippi
River

WLA CPT-3
el. 157.6

?

B

WLA B-3
el. 154.8

WLA CPT-2
el. 133.9'

B'

Qlso?

?

C

Existing Grand Gulf
Nuclear Power
Station

UNIT 2
(not completed)

UNIT 1
(operational)

N

0 100 200 feet

Approximate Scale

Explanation

- Approximate 2-foot topographic elevation contour
- WLA exploratory boring and top-of-hole elevation; 2003
- WLA Cone Penetrometer Test (CPT) sounding and top-of-hole elevation; 2003
- A — A' Geologic cross section location
- Qlso? Possible shallow soil slump

Note:
Base map modified from a preliminary topographic map provided by Entergy (2002). Elevation contours and facilities are approximately located, and locally may not reflect current conditions.

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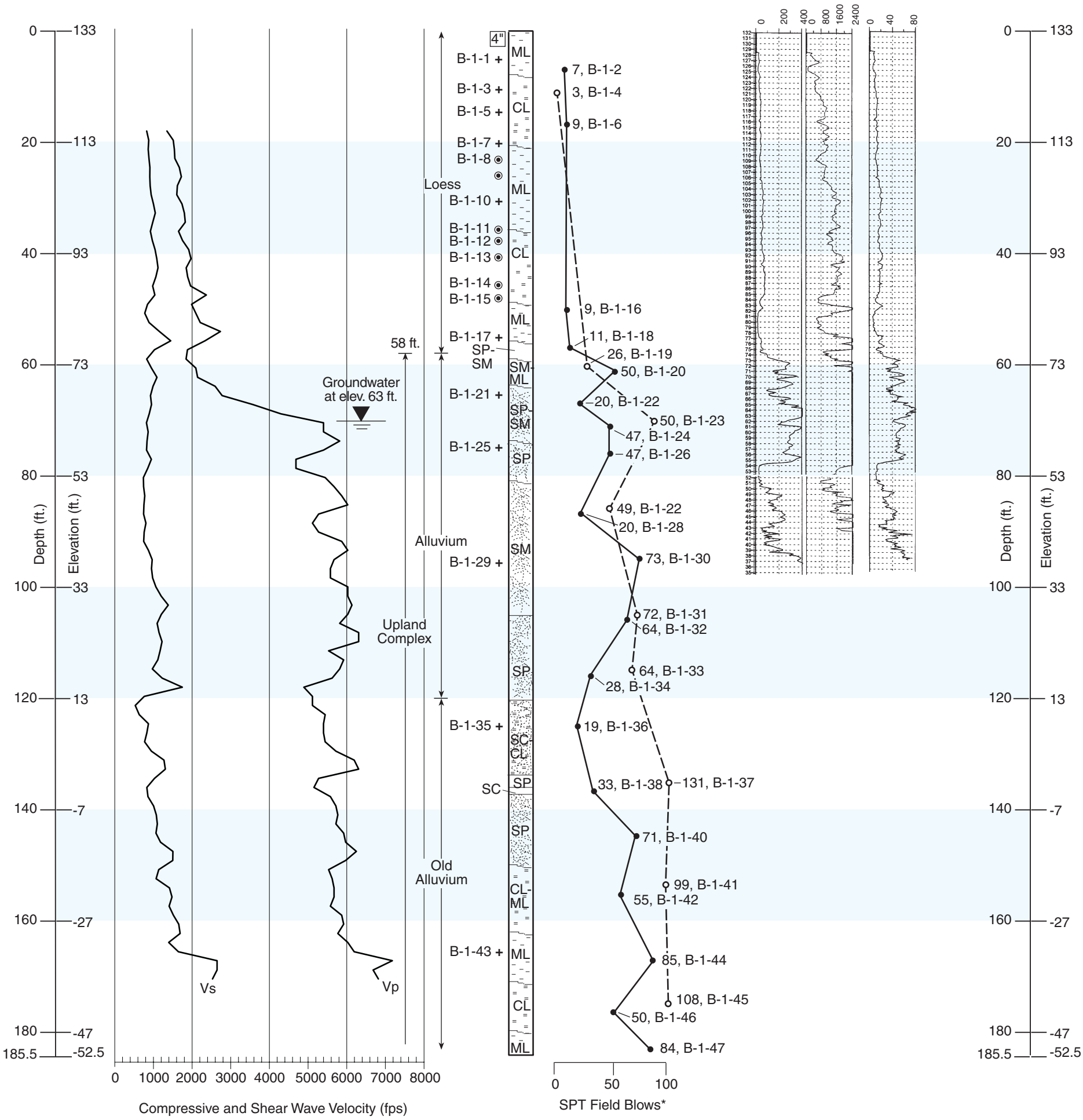
SITE EXPLORATION LOCATIONS

FIGURE 2.5-70 REV. 0

1522d Grand Gulf 10/13/03

P-S Logger Velocity Profile	Geologic Units	Log of Boring WLA-B-1	Plot of SPT Blow Counts	Cone Penetration Test CPT-1



Notes:
1. Downhole geophysics in uncased hole performed by T. Martin of Geovision.
2. Groundwater level interpreted from geophysical log.
3. Vs = Shear Wave Velocity
   Vp = Compressional Wave Velocity
4. CPT-1 is located approximately 10 feet northeast of B-1.
5. Elevation of ground surface at boring is 133.2 feet.
6. Boring started on July 24, and completed July 30, 2002.
7. SPT field blows determined with a 140 lb. hammer, and 30" drop.

Explanation

Sampler type and number

- • SPT sampler
- ◉ SPT sampler (pushed)
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby sampler (pushed)
- 4" Mud rotary hole diameter

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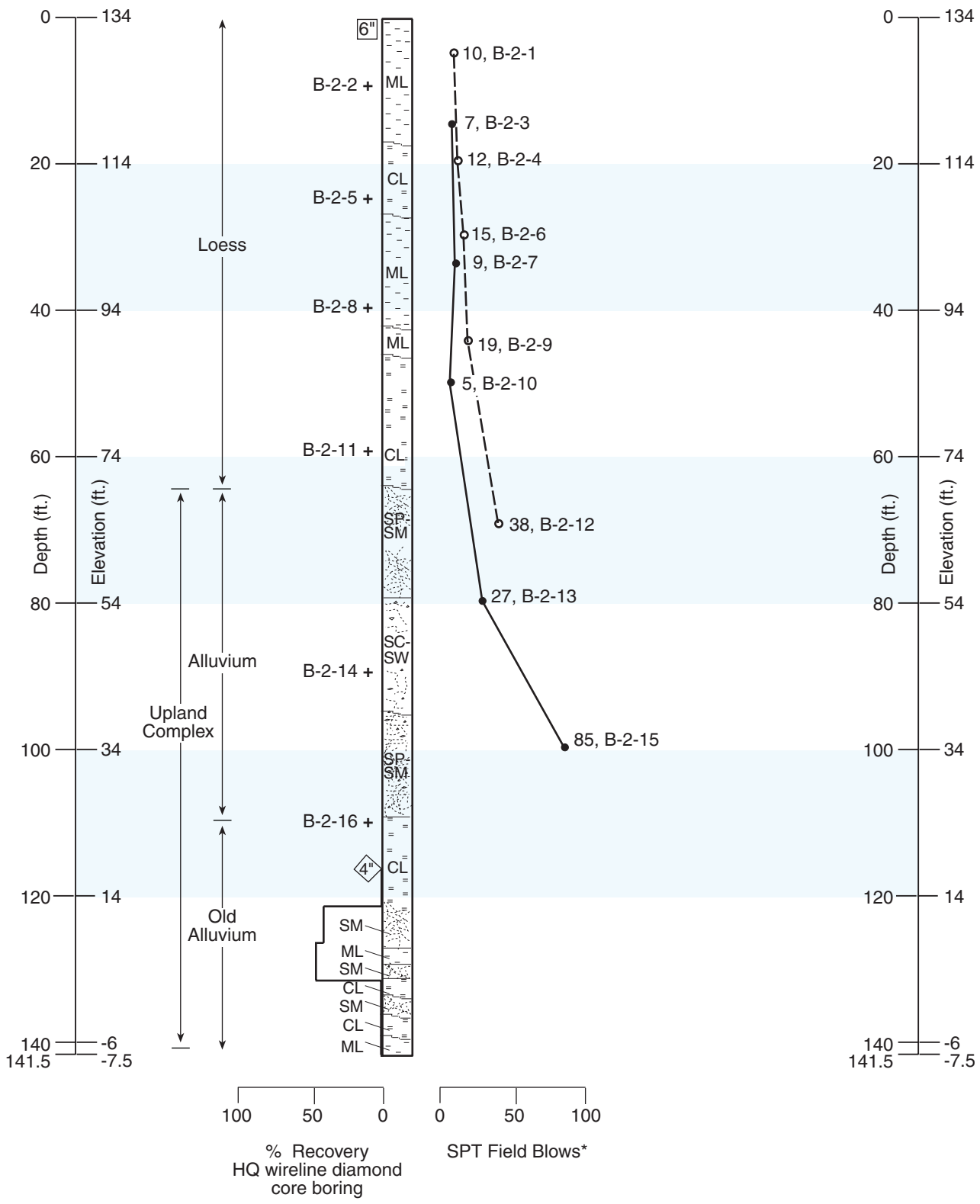
BORING SUMMARY SHEET
BORING WLA B-1

FIGURE 2.5-71 REV. 0

Geologic Units	Log of Boring WLA-B-2	Plot of SPT Blow Counts



Notes:
1. Elevation of ground surface at boring is 133.6 feet.
2. Boring started on July 30, 2002, and completed on August 2, 2002
3. SPT field blows determined with a 140 lb. hammer, and 30" drop.

Explanation

Sampler type and number

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby sampler (pushed)
- 6" Mud rotary hole diameter
- 4" Wireline corehole diameter

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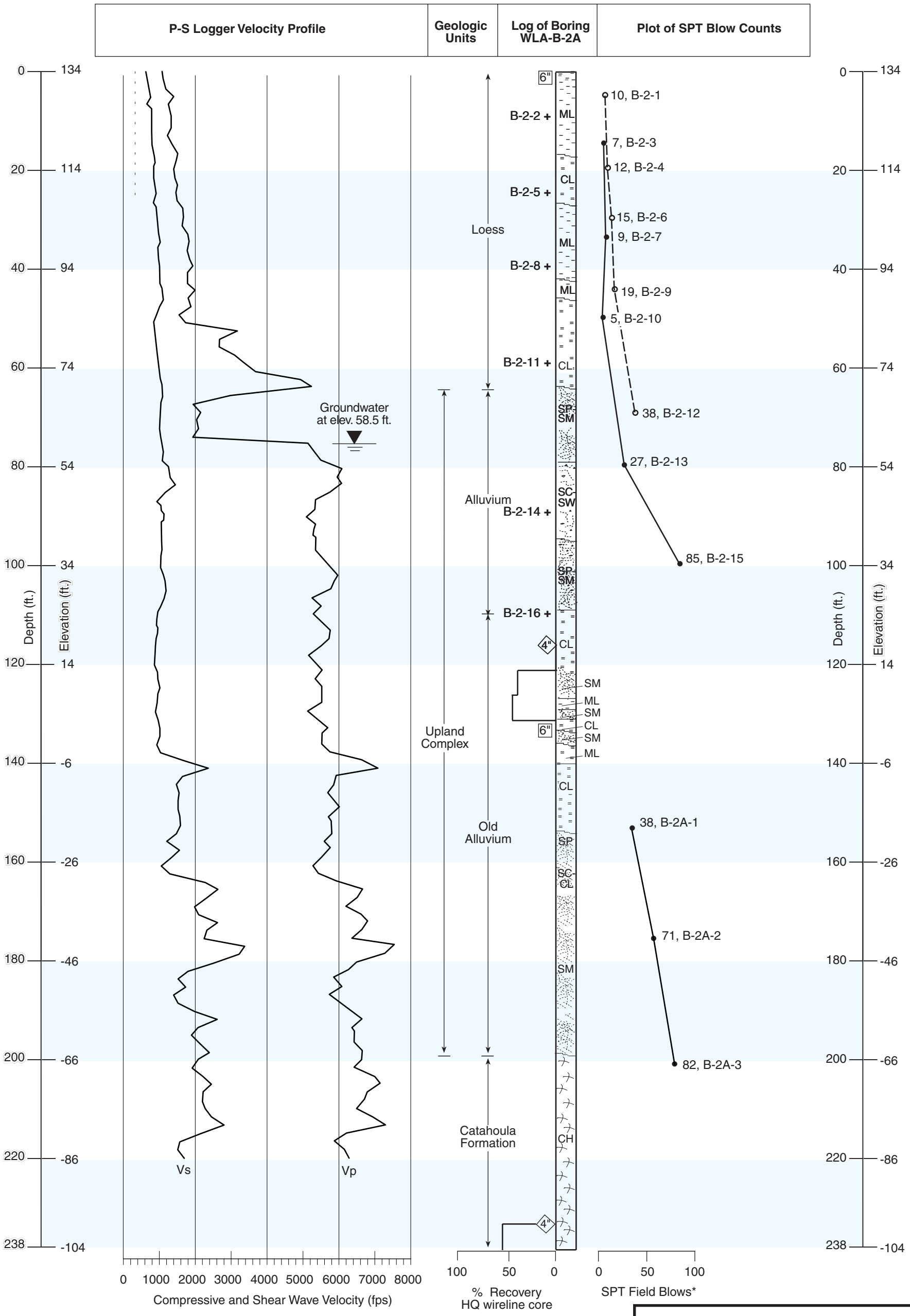
BORING SUMMARY SHEET
BORING WLA B-2

FIGURE 2.5-72 REV. 0



Notes:
1. Downhole geophysics in bald hole preformed by T. Martin of Geovision.
2. Groundwater level interpreted from geophysical log.
3. Vs = Shear Wave Velocity Vp = Compressional Wave Velocity
4. Elevation of ground surface at boring is 133.7 feet.
5. Boring started August 8, 2002, and completed on August 19, 2002.
6. SPT field blows determined with a 140 lb. hammer, and 30" drop.

Explanation

Sampler type and number

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby sampler (pushed)
- 6" Mud rotary hole diameter
- 4" Wireline corehole diameter

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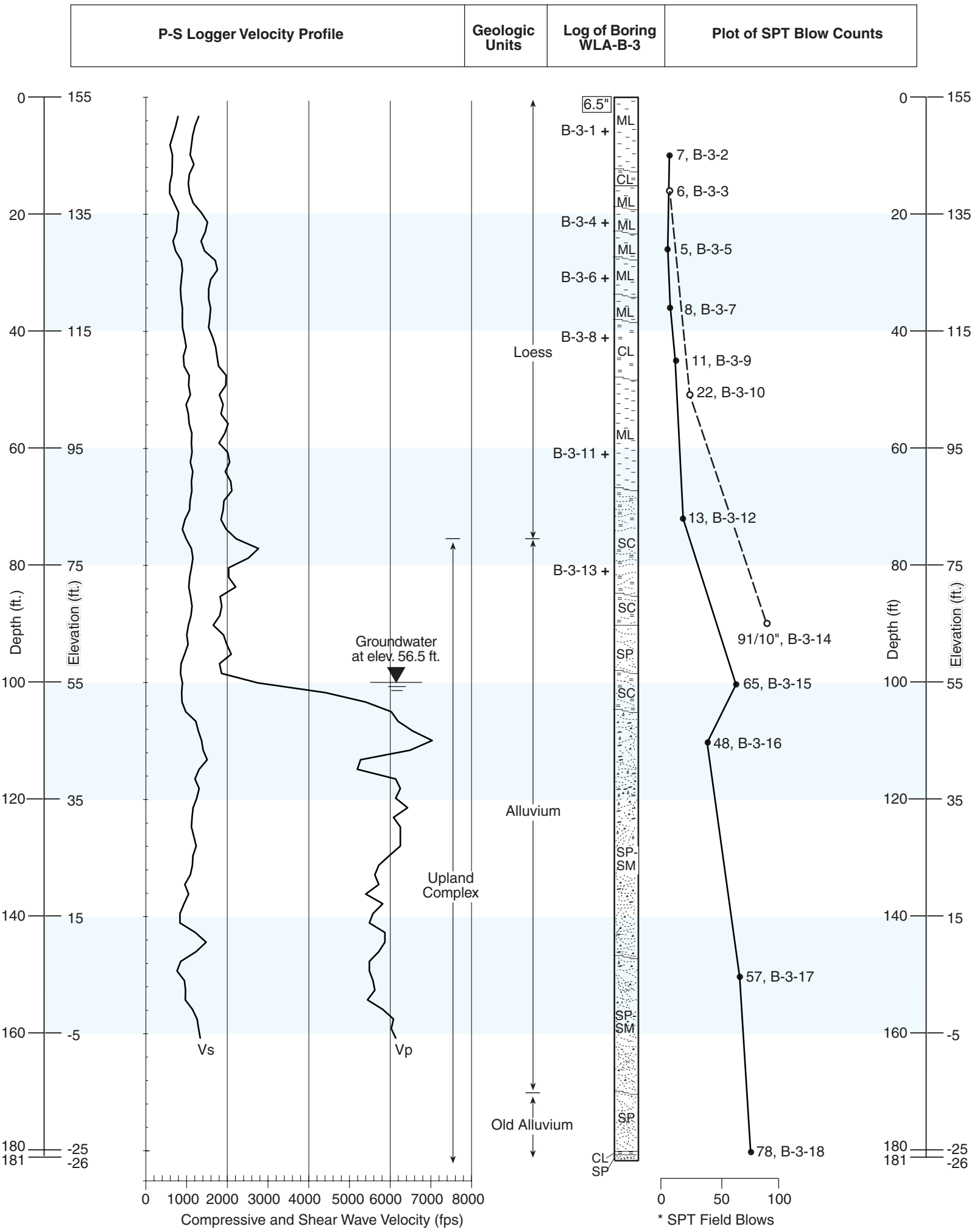
BORING SUMMARY SHEET,
BORING WLA B-2A

FIGURE 2.5-73 REV. 0



Notes:

1. Downhole geophysics in bald hole preformed by T. Martin of Geovision.
2. Groundwater level interpreted from geophysical log.
3. Vs = Shear Wave Velocity Vp = Compressional Wave Velocity
4. Elevation of ground surface at boring is 154.8 feet
5. Boring started on August 12, 2002 and completed on August 15, 2002
6. SPT field blows determined with a 140 lb. hammer, and 30" drop

* Blows determined with a 140 lb. hammer, 30" drop.

Explanation

Sampler type and number

- • SPT sampler
- ○ 3.0" O.D. "ModCal" sampler
- \+ 3.0" O.D. thin wall Shelby sampler (pushed)
- 6.5" Mud rotary hole diameter

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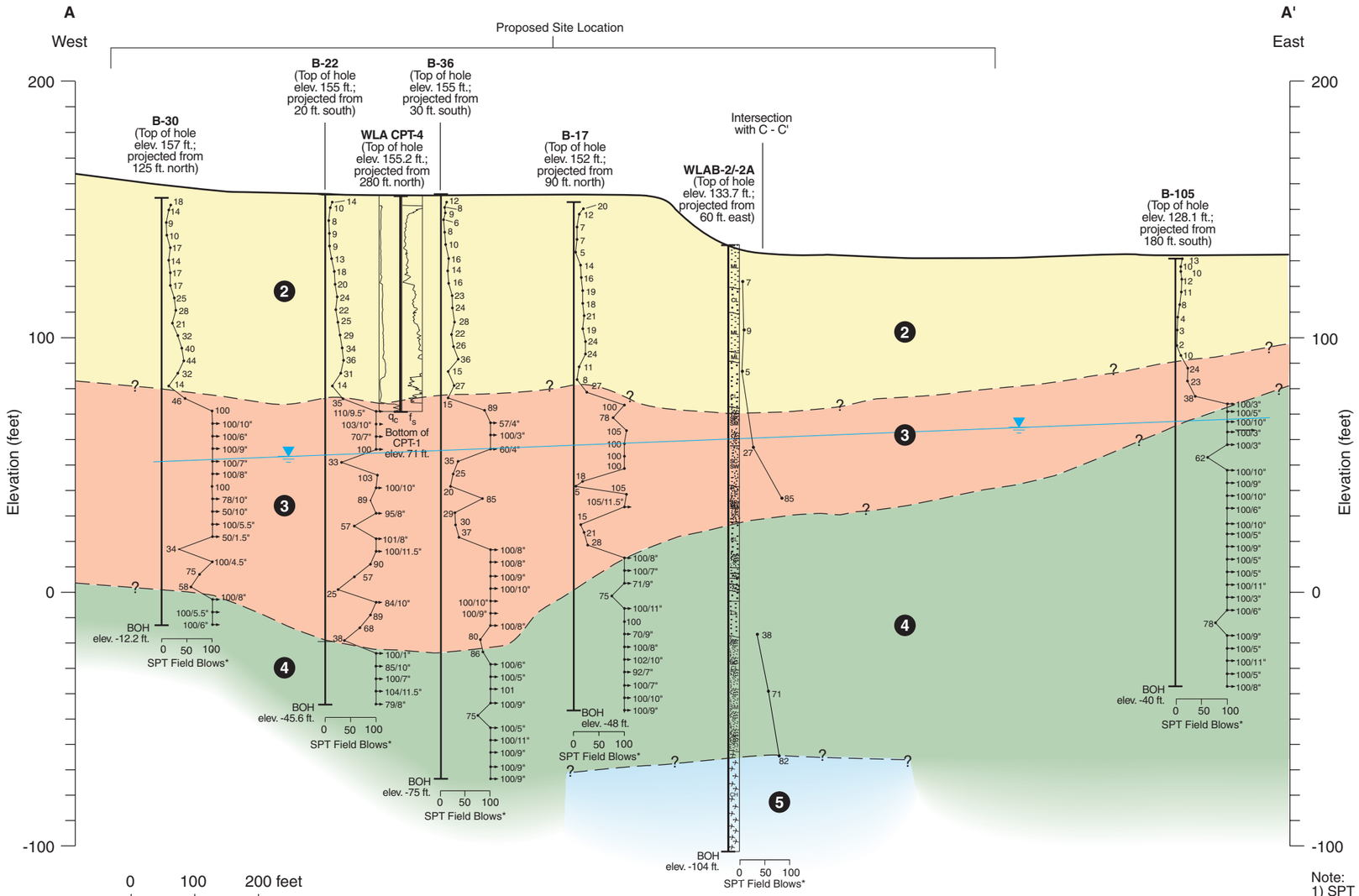
BORING SUMMARY SHEET,
BORING B-3

FIGURE 2.5-74 REV. 0



Explanation

- 2 Loess
- 3 Alluvium
- 4 Old alluvium
- Upland Complex
- 5 Catahoula Formation
- Groundwater table measured in July/August 2002 by P-S geophysical logging

Note:
1) SPT blow counts are uncorrected field blows, and WLA boring SPT data were collected with an automatic trip hammer.
2) Borings with preface "B" are from GGNS UFSAR.

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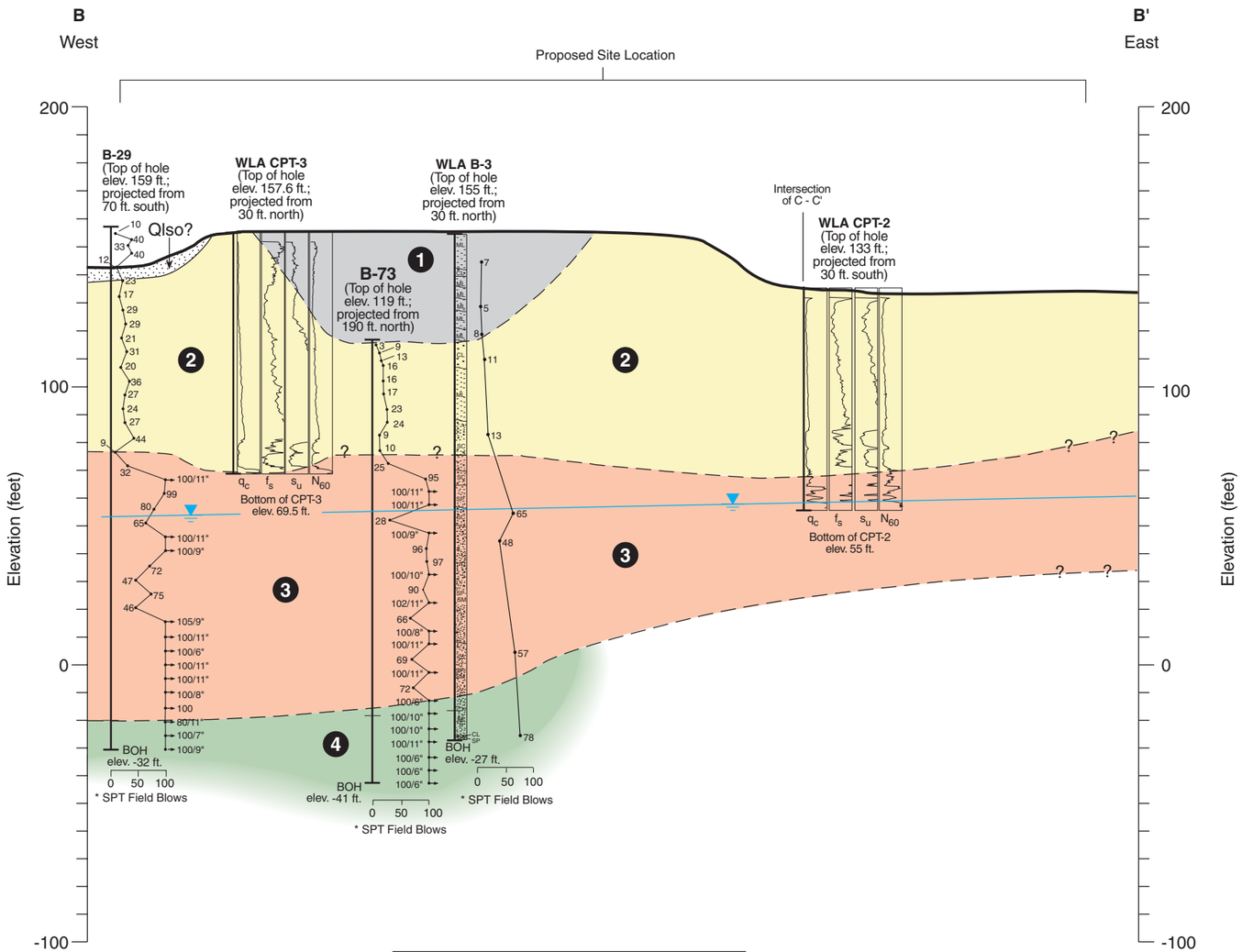
GEOLOGIC SECTION A - A'

FIGURE 2.5-75 REV. 0



Note:
1) SPT blow counts are uncorrected field blows, and WLA boring SPT data were collected with an automatic trip hammer.
2) Borings with preface "B" are from GGNS UFSAR.

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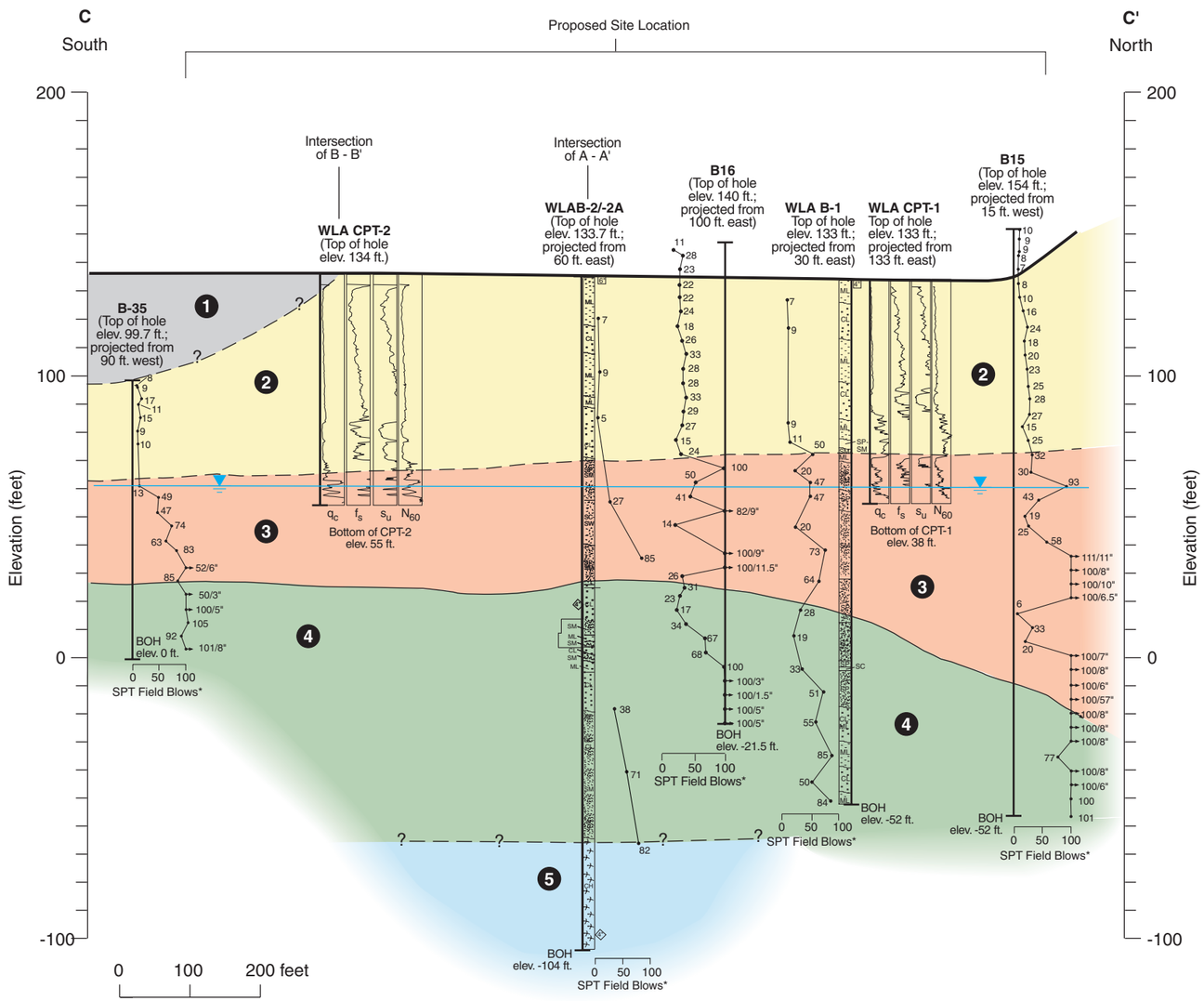
GEOLOGIC SECTION B - B'

FIGURE 2.5-76 REV. 0



Note:
1) SPT blow counts are uncorrected field blows, and WLA boring SPT data were collected with an automatic trip hammer.
2) Borings with preface "B" are from GGNS UFSAR.

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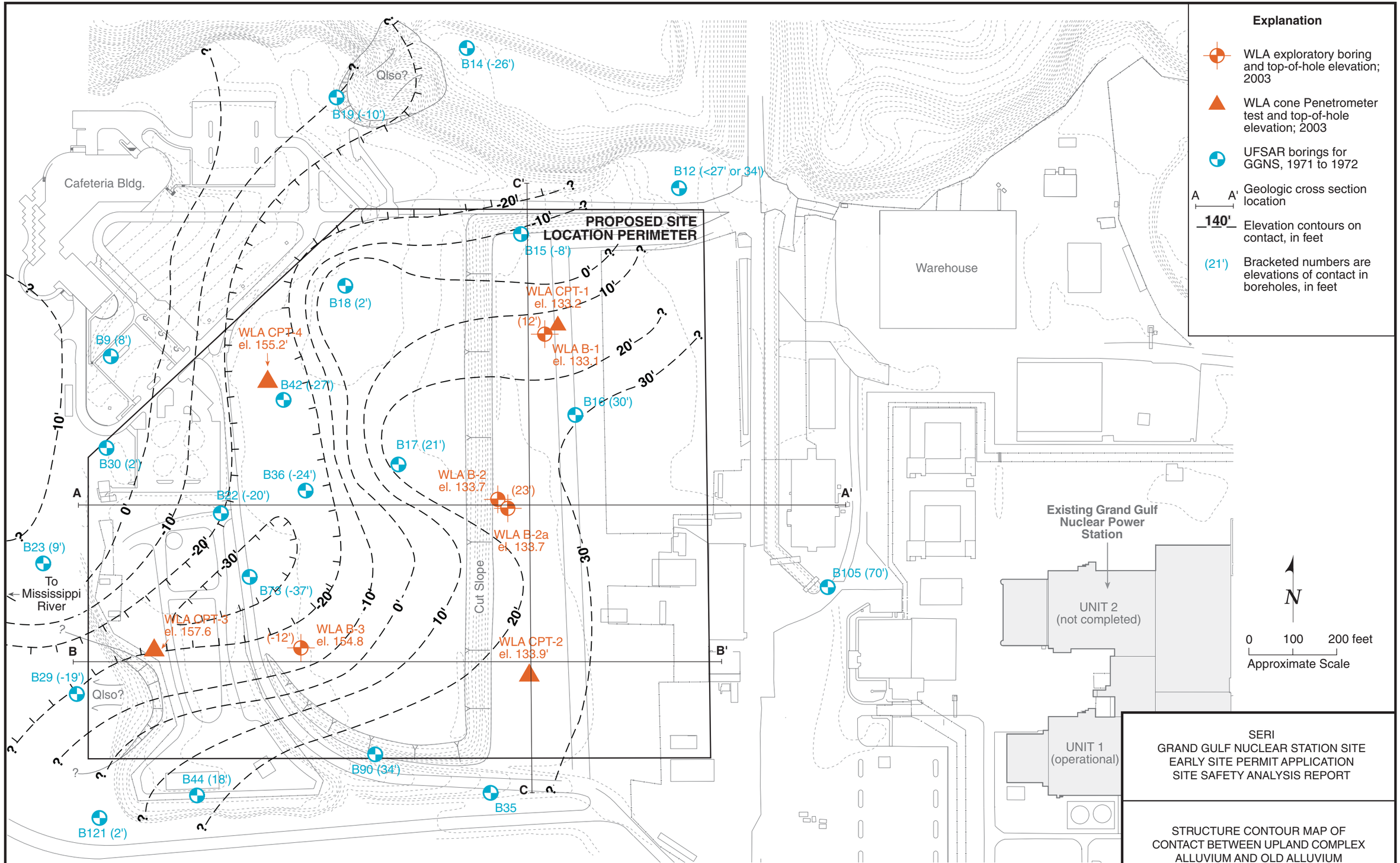
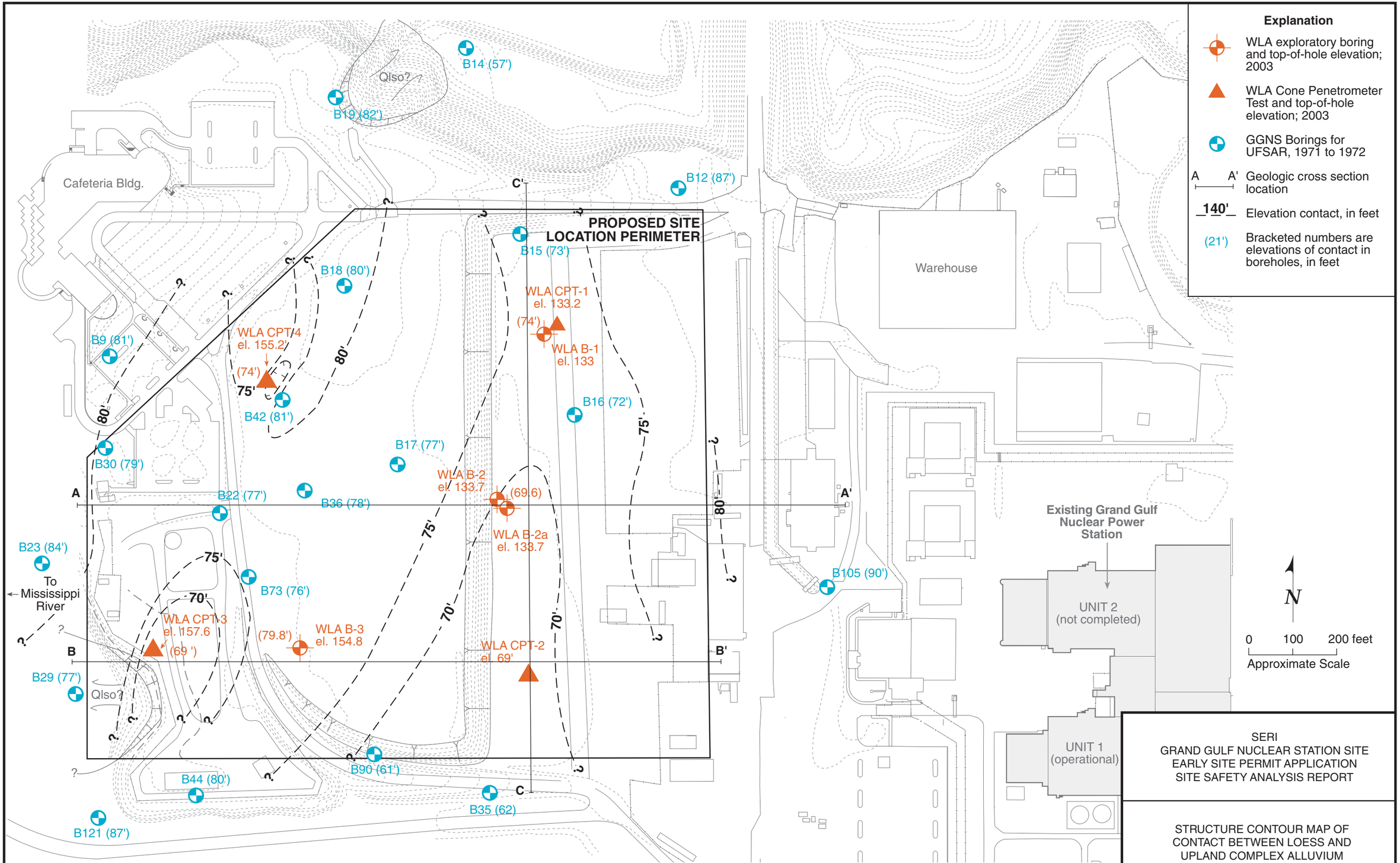
GEOLOGIC SECTION C - C'

FIGURE 2.5-77 REV. 0



1522d Grand Gulf



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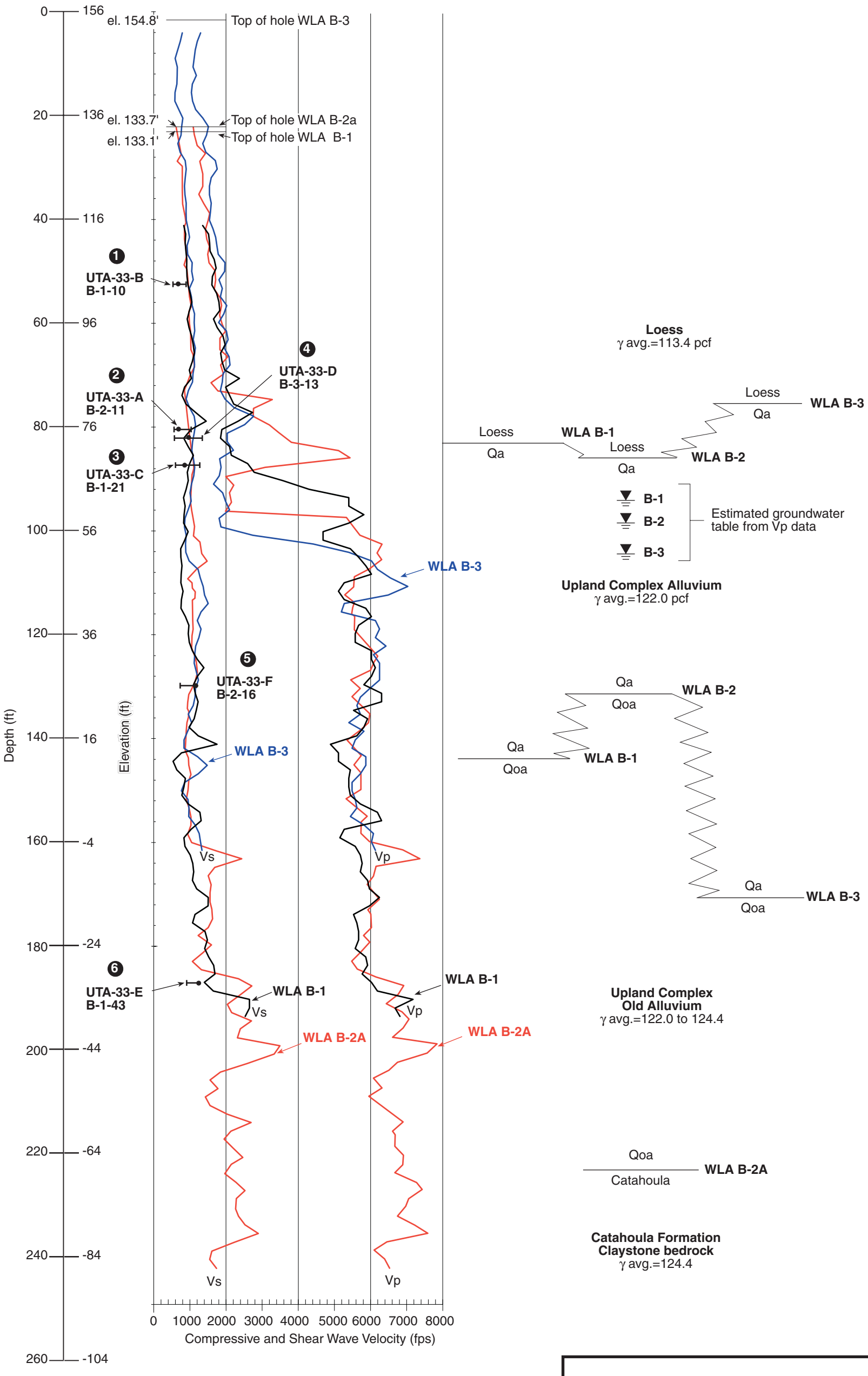
STRUCTURE CONTOUR MAP OF CONTACT BETWEEN LOESS AND UPLAND COMPLEX ALLUVIUM

FIGURE 2.5-79 REV. 0

1522d Grand Gulf



Explanation

❶ Location of UTEXAS dynamic test sample, and sample number UTA-33-B-B-1-10.

⊢● Range of laboratory determined shear wave velocity for UTEXAS test specimens. The range reflects variation in velocity under different confining pressures. Circle points indicate velocity determined at estimated in situ confining stress levels.

γ avg. Estimated average in situ unit weight for geologic layer, in pounds per cubic foot.

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SUMMARY OF P-S VELOCITY PROFILES

FIGURE 2.5-80 REV. 0