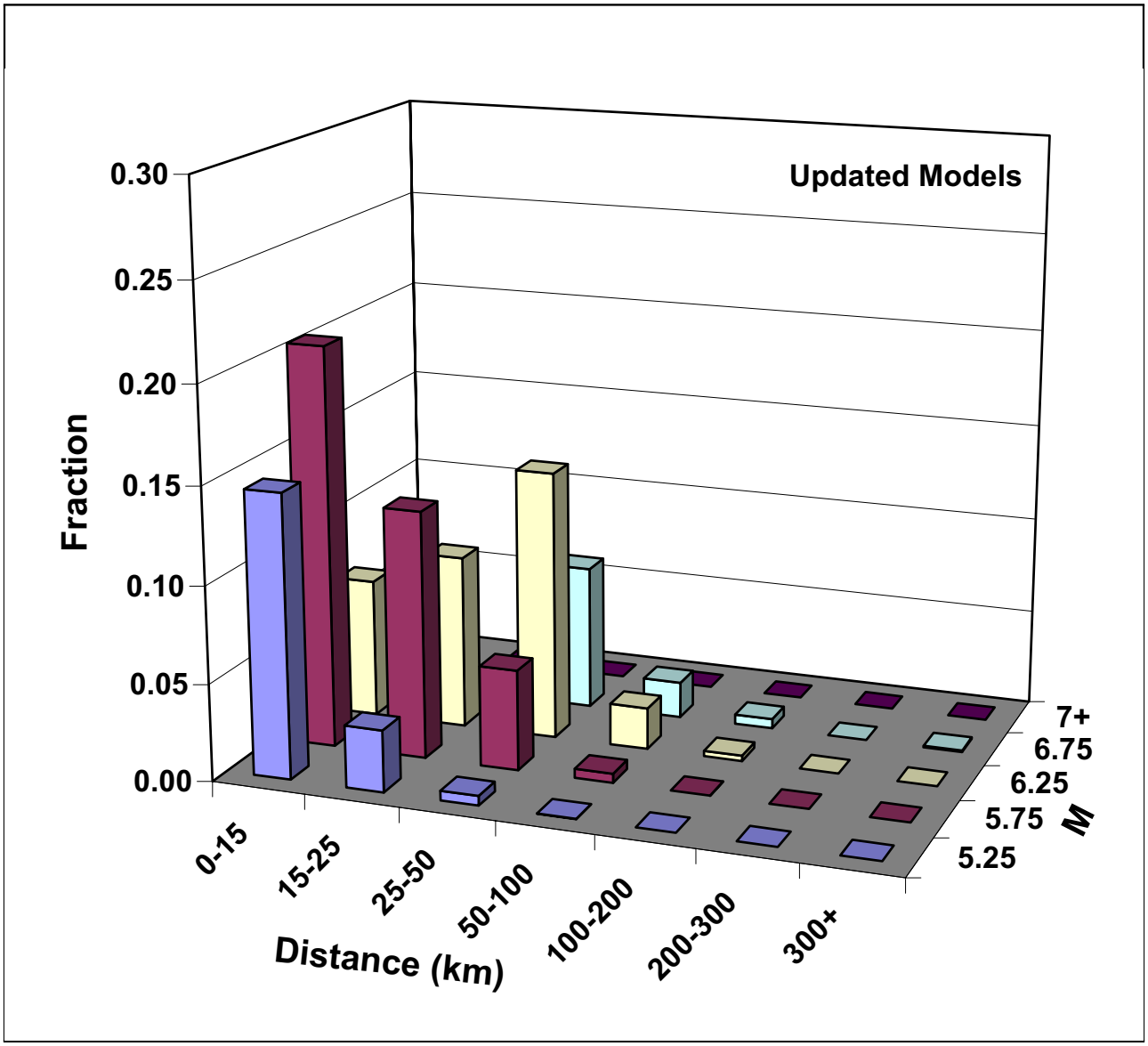


Figure 2.5-46 Low-Frequency, 10^{-5} Median, Magnitude-Distance Deaggregation Using Updated Source and Ground Motion Models

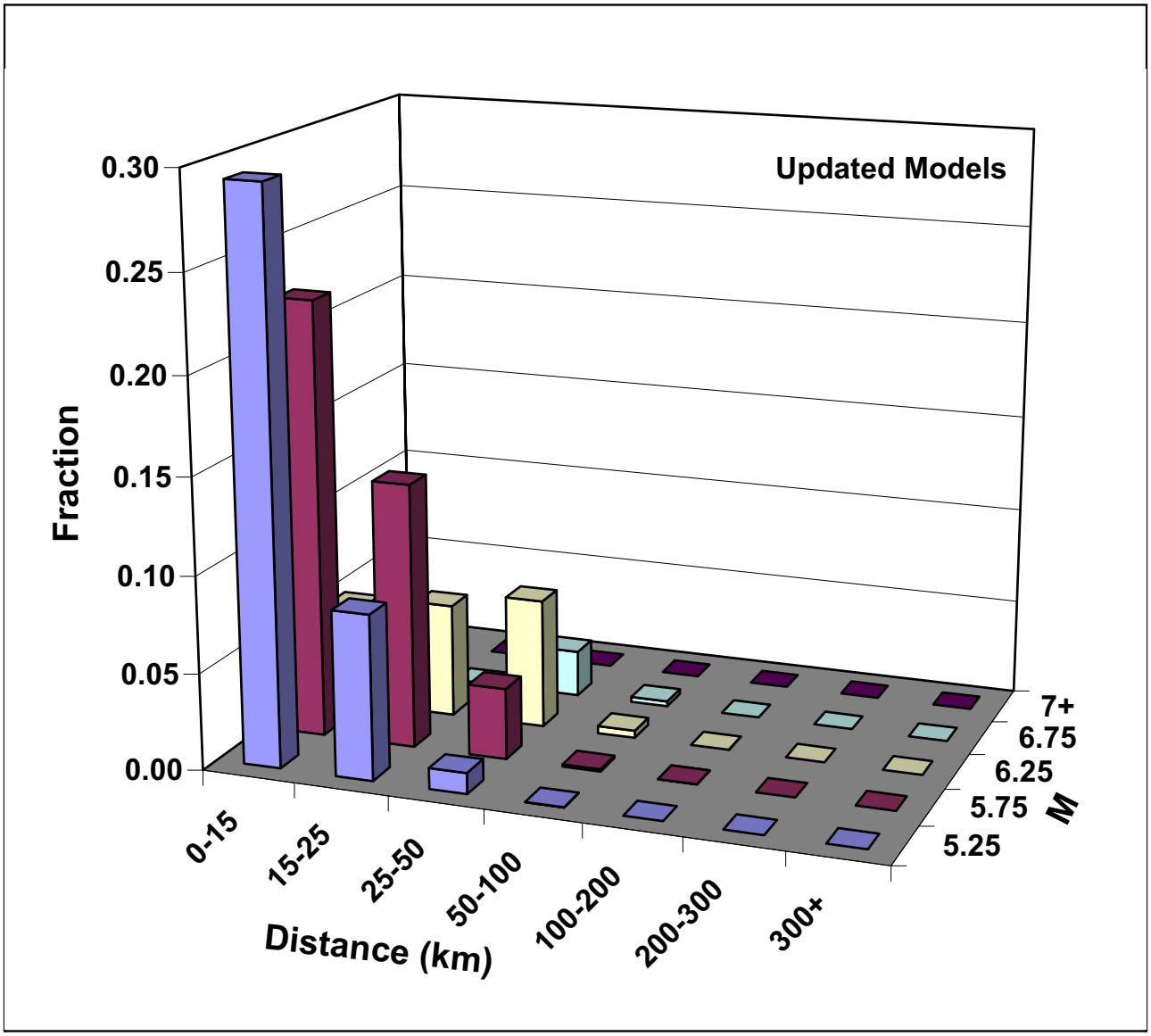


Figure 2.5-47 High-Frequency, 10^{-5} Median, Magnitude-Distance Deaggregation Using Updated Source and Ground Motion Models

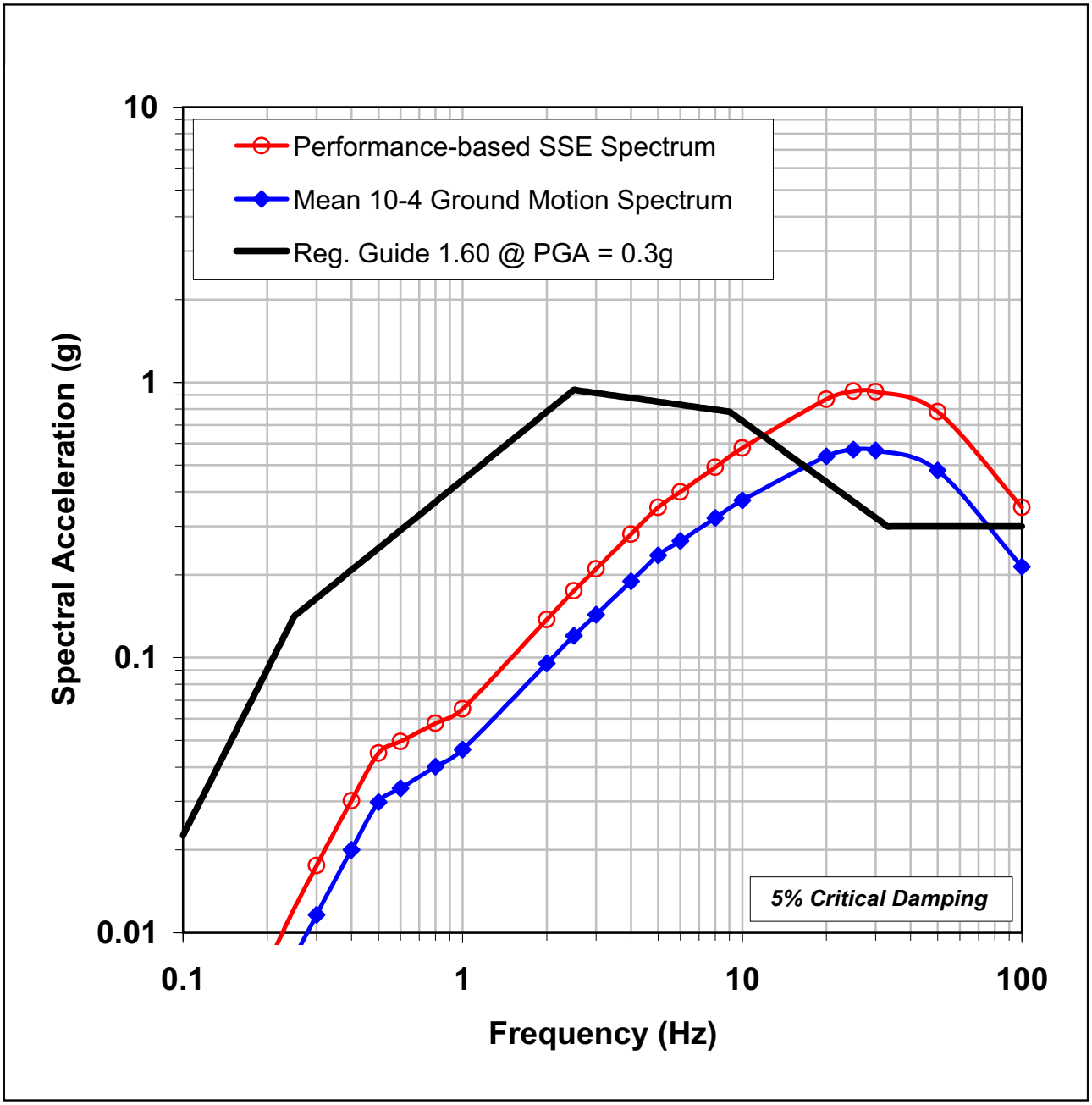


Figure 2.5-48 Selected Performance-Based Horizontal SSE Response Spectrum, As Scaled from Mean 10^{-4} Ground Motion Spectrum, Compared to RG 1.60 Spectrum Anchored to 0.3g

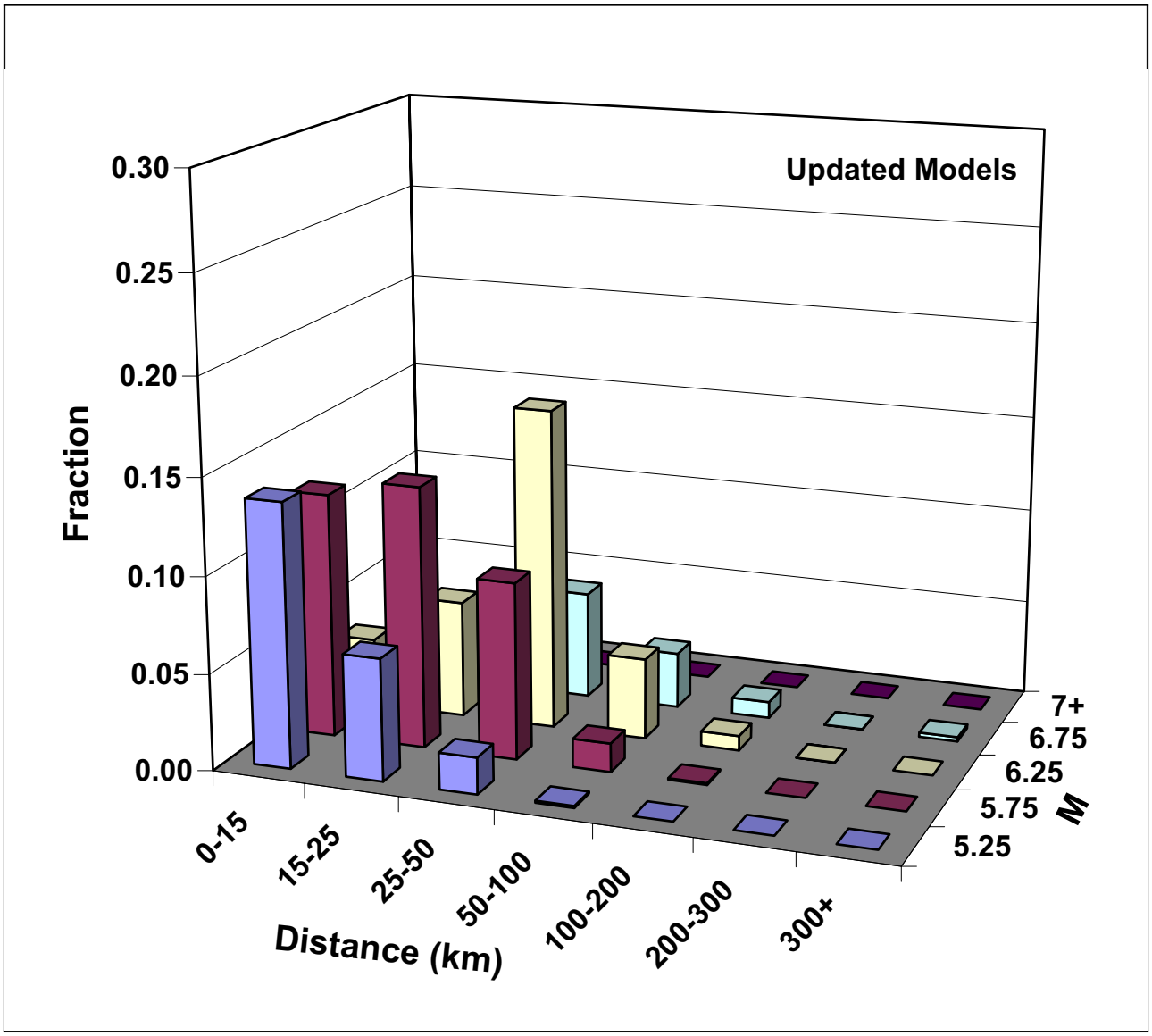


Figure 2.5-49 Magnitude-Distance Deaggregation for Low-Frequencies (1 and 2.5 Hz) at a Mean Annual Frequency of 5×10^{-5} Using Updated Source and Ground Motion Models

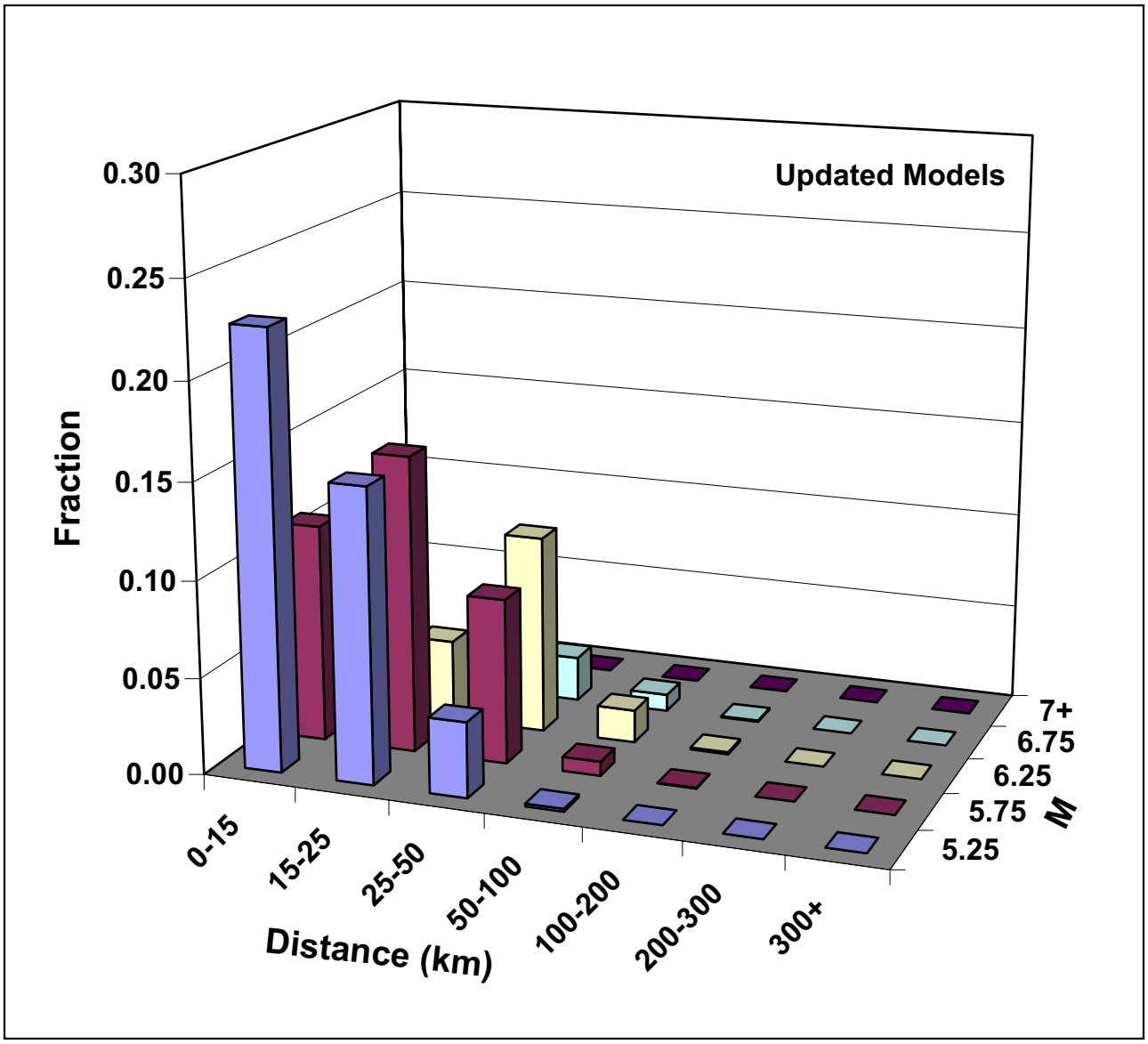


Figure 2.5-50 Magnitude-Distance Deaggregation for High-Frequencies (5 and 10 Hz) at a Mean Annual Frequency of 5×10^{-5} Using Updated Source and Ground Motion Models

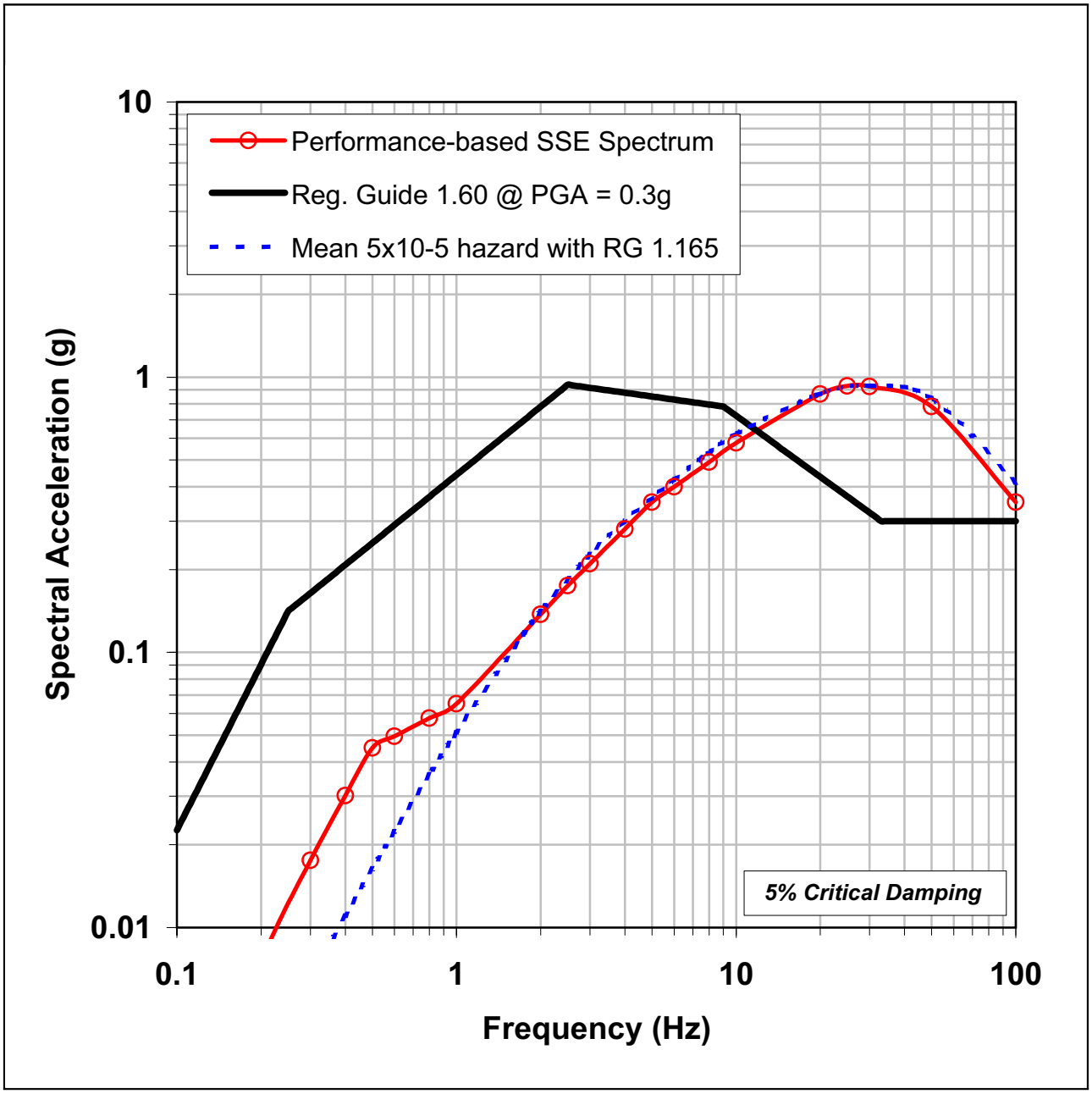


Figure 2.5-51 Horizontal Ground Motion Spectrum Calculated for Reference Probability of Mean 5×10^{-5}, Compared to RG 1.60 Spectrum Anchored to 0.3g and to Selected SSE Spectrum

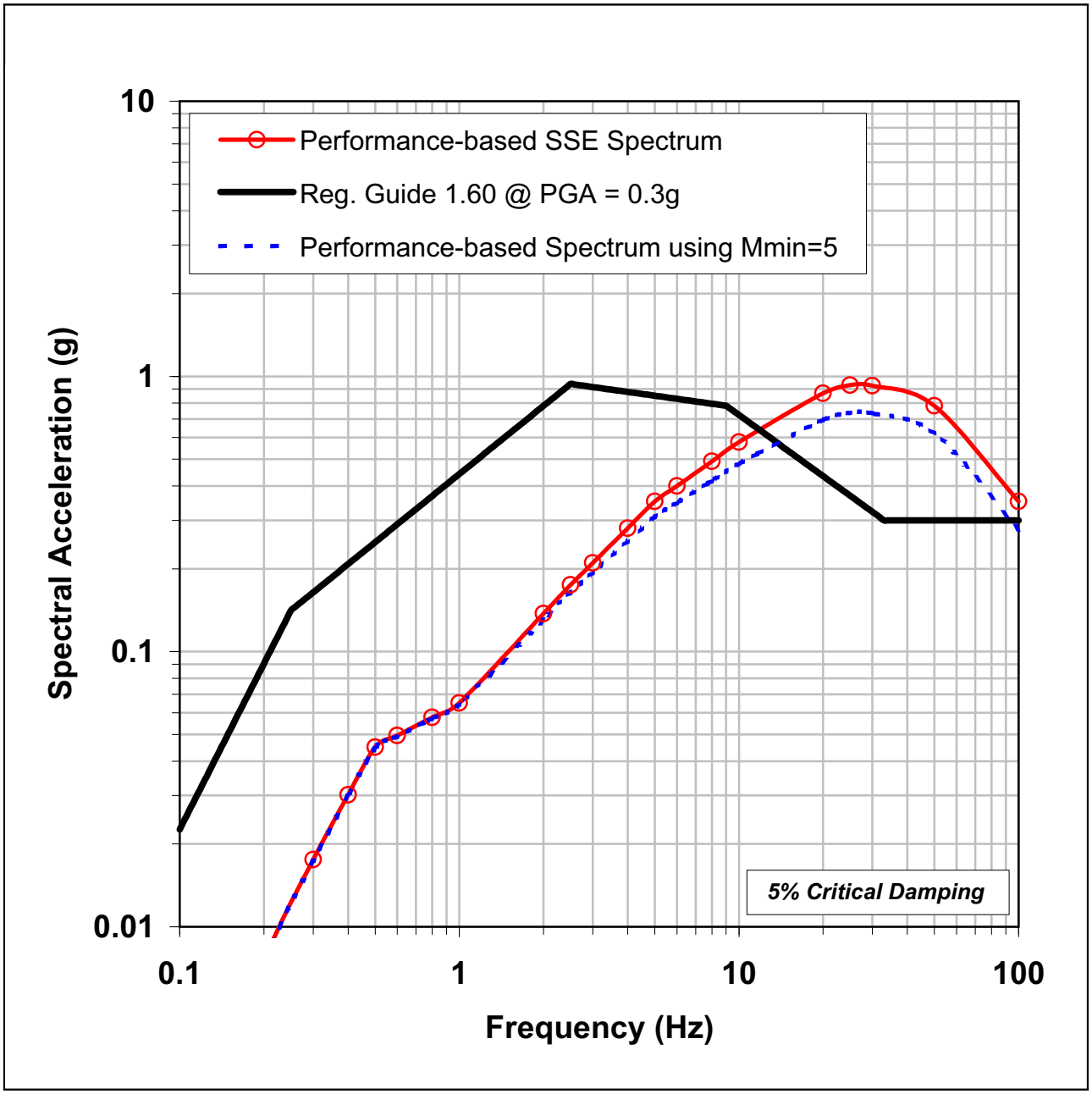


Figure 2.5-52 Sensitivity Plot of Scaled Spectrum Calculated Using Alternative Lower-Bound M of 5.0 and Scaling Factors in Table 2.5-27, Compared to RG 1.60 Spectrum Anchored to 0.3g and to Selected SSE Spectrum

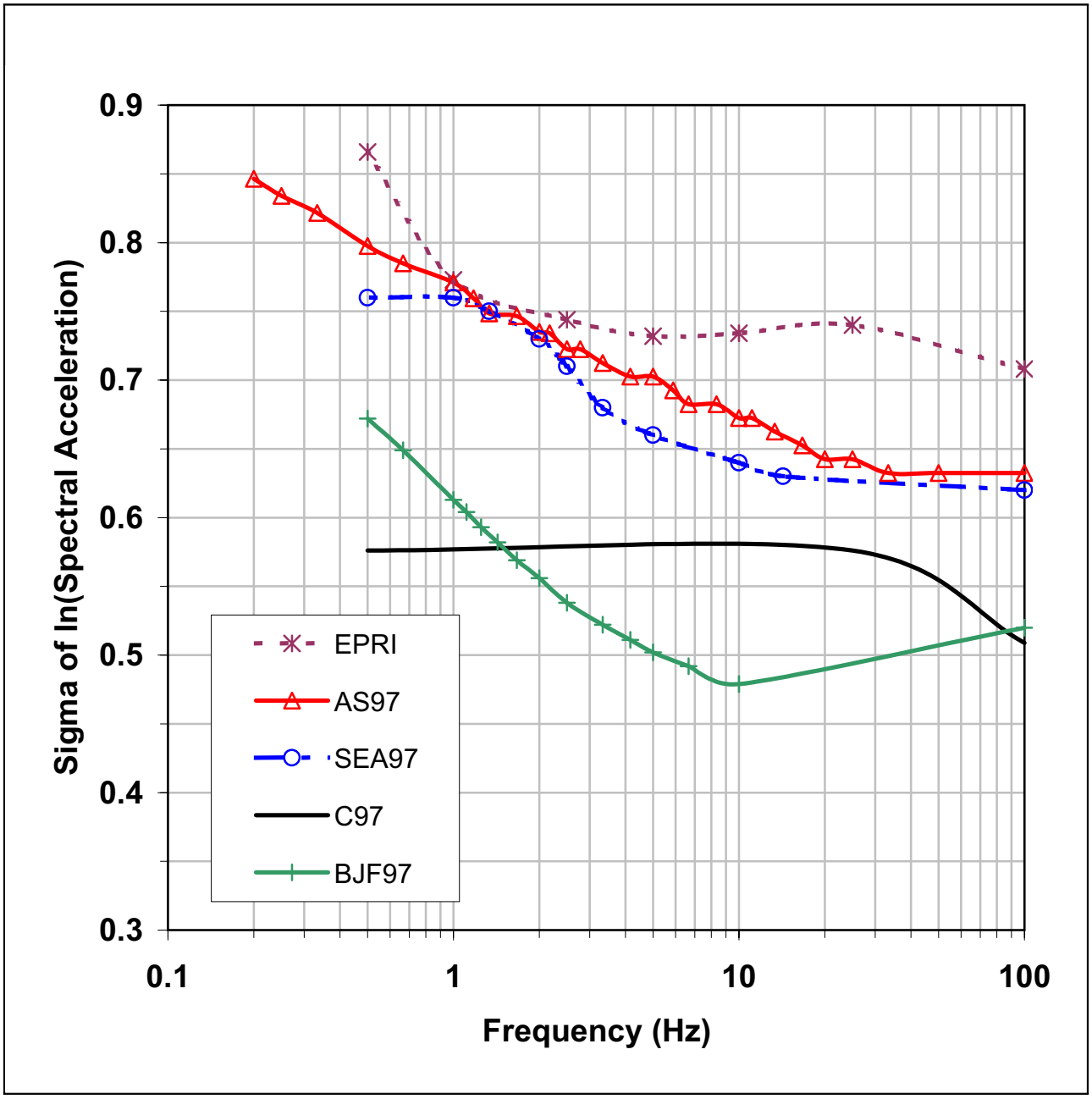


Figure 2.5-53 Comparison of Aleatory Sigmas Reported for California with Weighted Average Aleatory Sigma from EPRI Ground Motion 2003 Models for M = 5.5, R_{CD} = 20 km

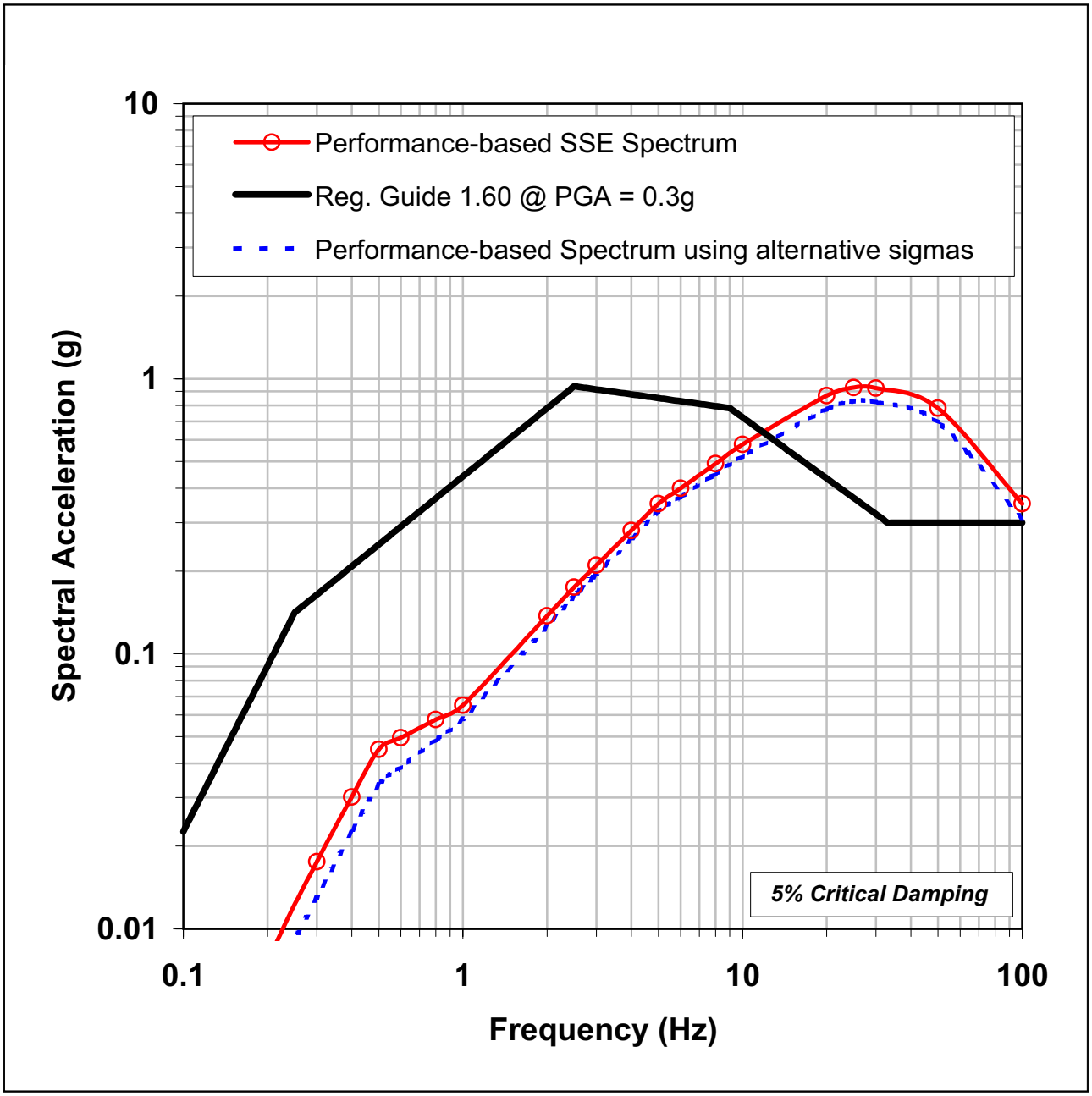


Figure 2.5-54 Sensitivity Plot of Scaled Spectrum Calculated Using Alternative Ground Motion Aleatory Uncertainties and Scaling Factors in Table 2.5-28, Compared to RG 1.60 Spectrum Anchored to 0.3g and to Selected SSE Spectrum

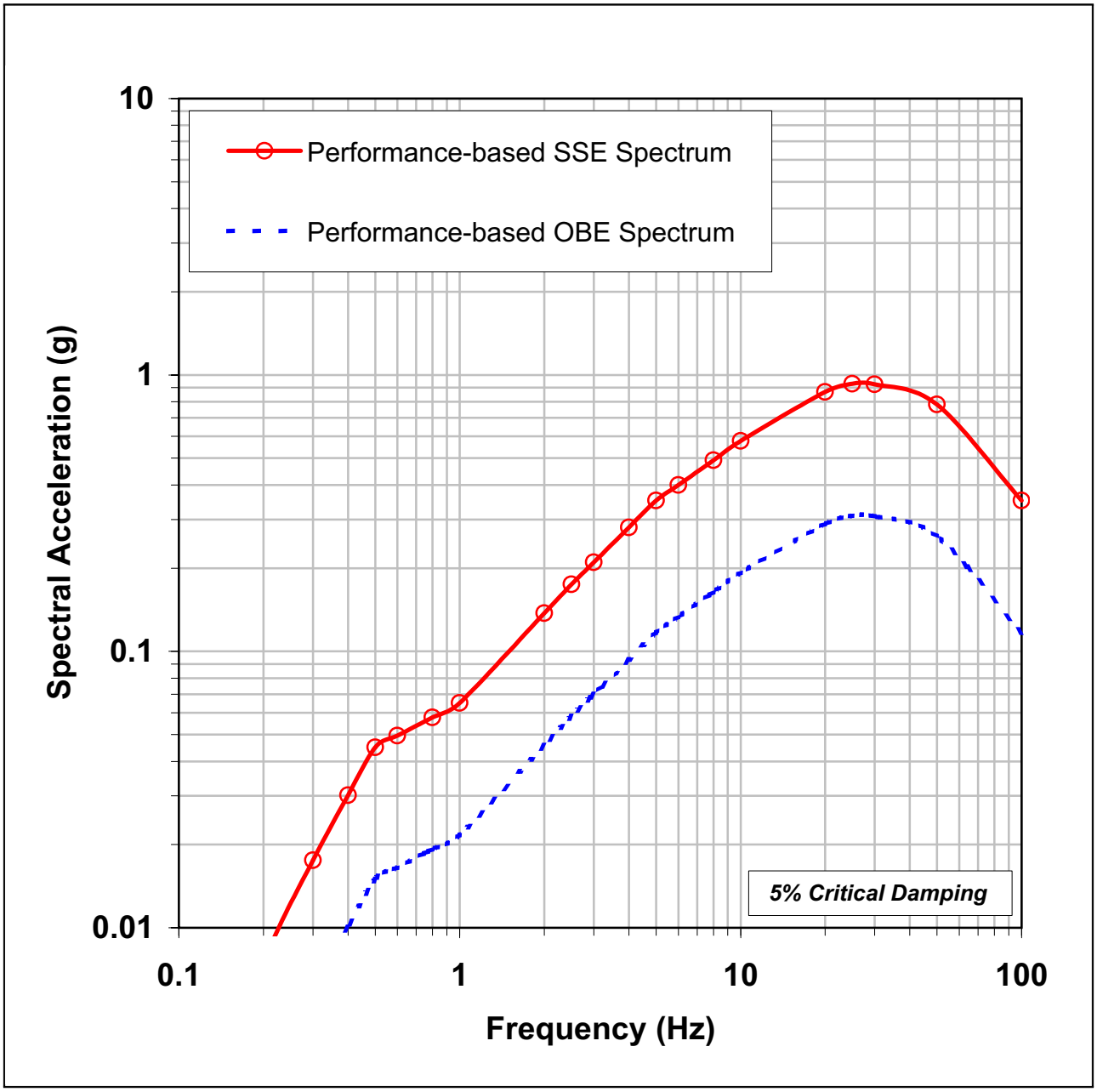


Figure 2.5-55 Horizontal SSE and OBE Response Spectra Based on Updated Models (5% of Critical Damping)

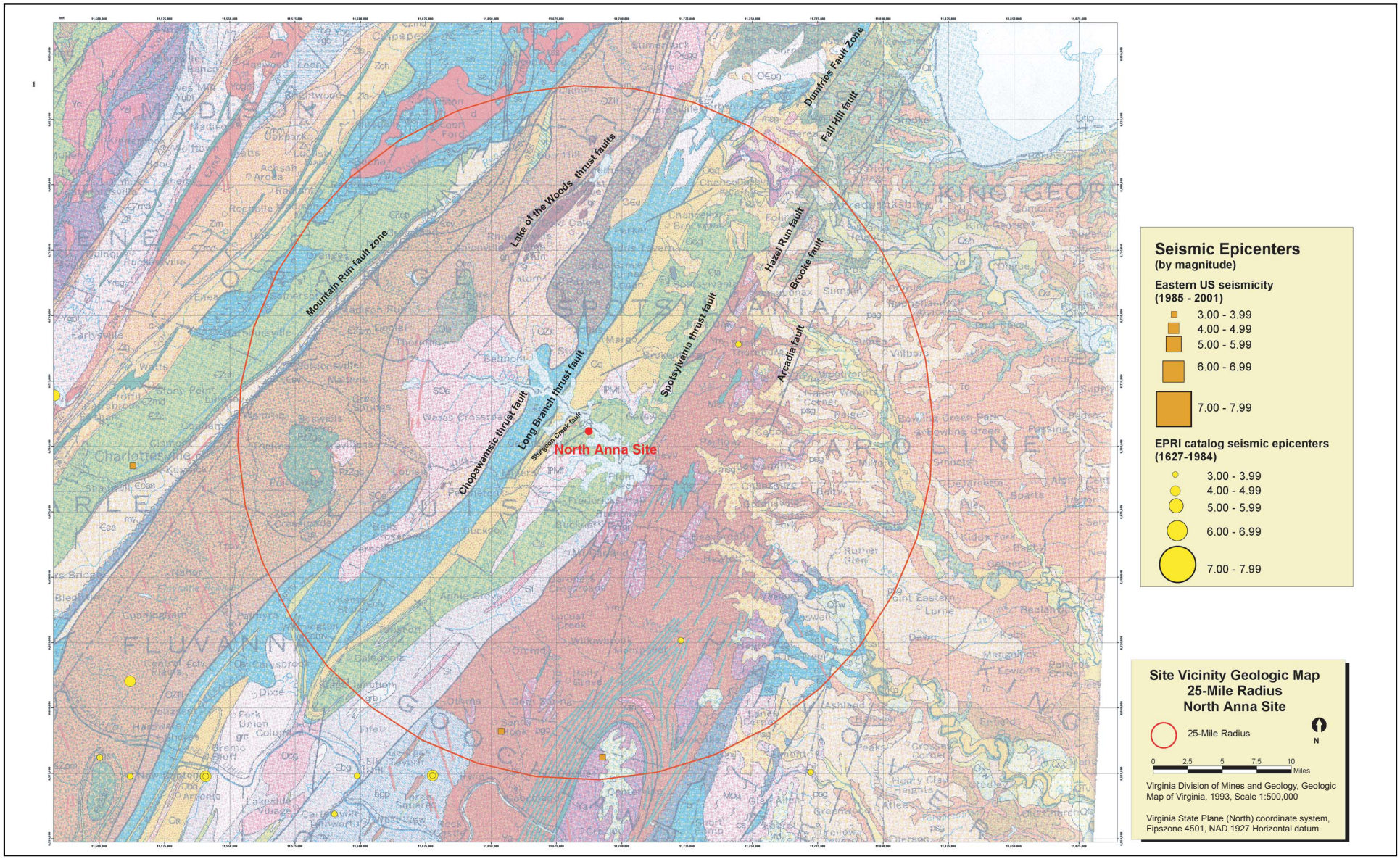


Figure 2.5-56 Site Vicinity Geologic Map and Seismicity (25-Mile Radius)

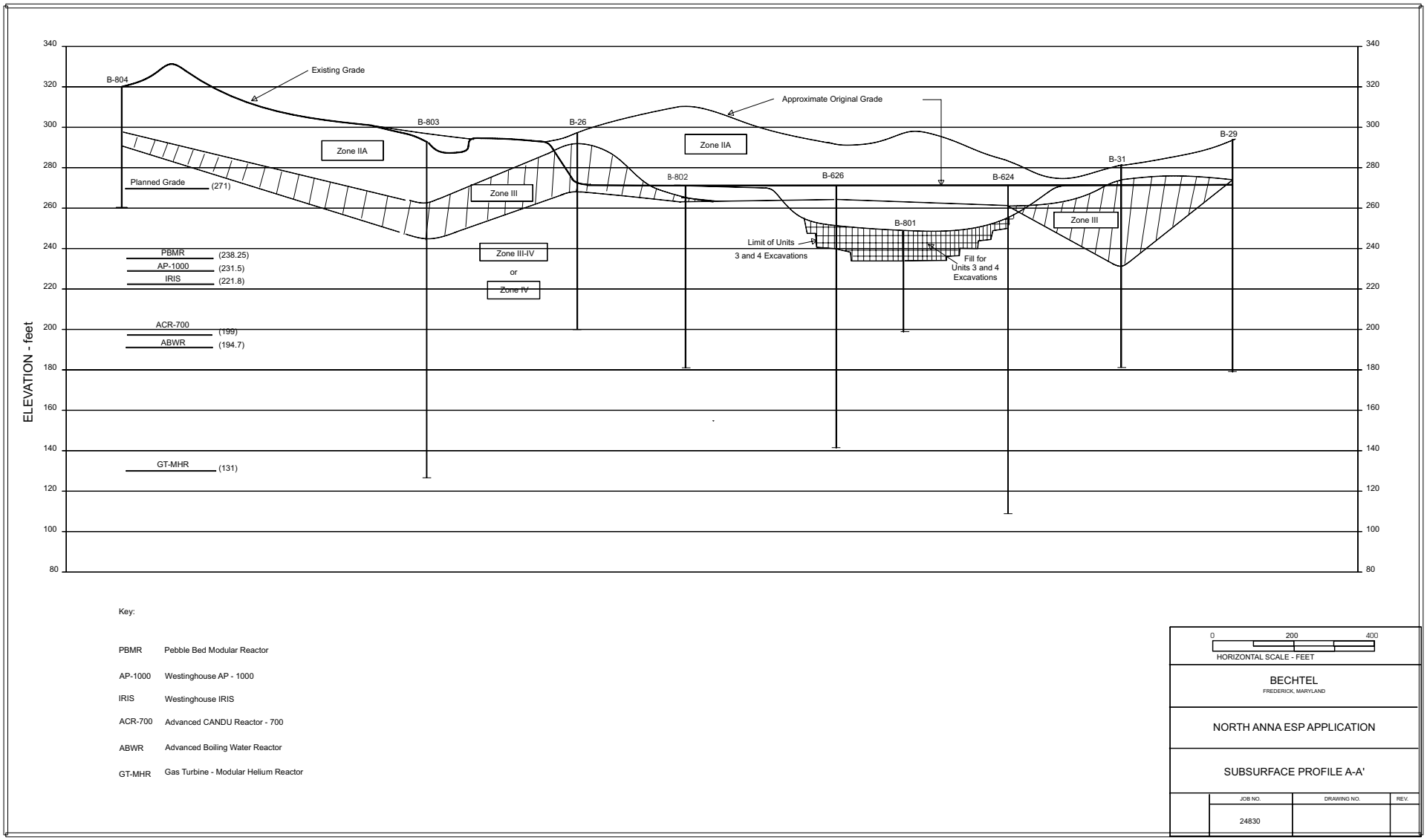
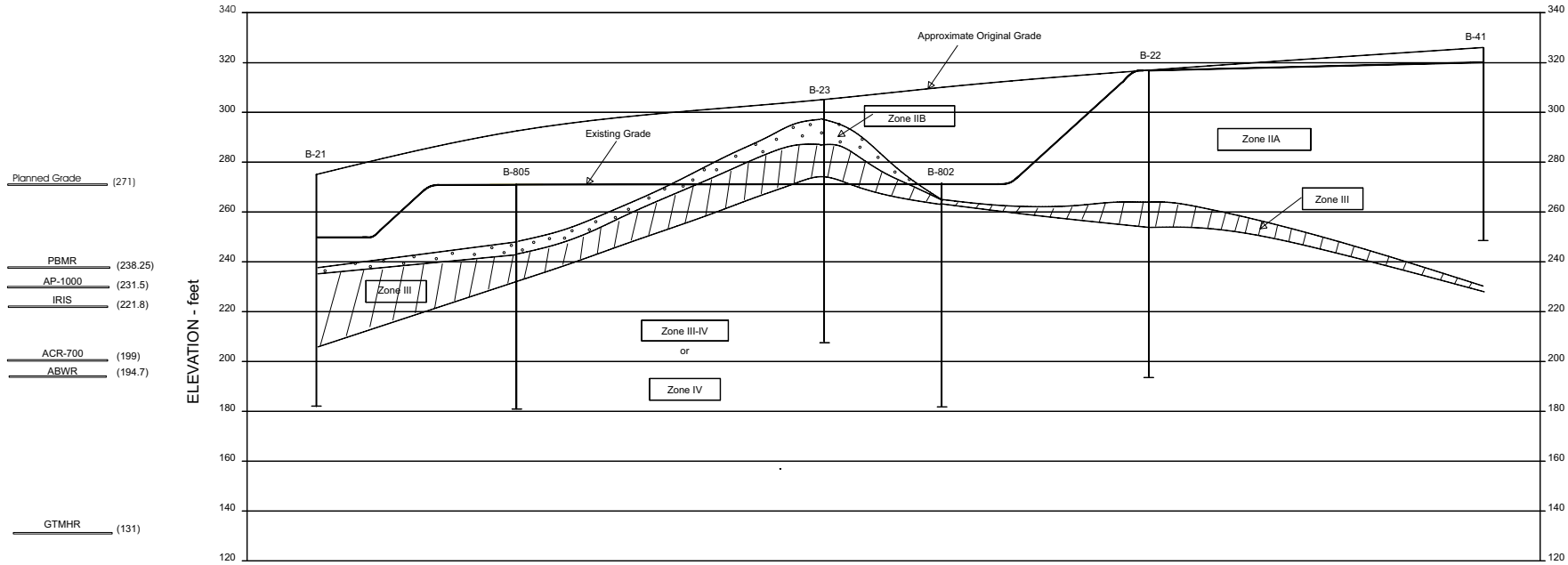


Figure 2.5-57 Subsurface Profile A-A'



Key:

PBMR	Pebble Bed Modular Reactor
AP-1000	Westinghouse AP - 1000
IRIS	Westinghouse IRIS
ACR-700	Advanced CANDU Reactor - 700
ABWR	Advanced Boiling Water Reactor
GT-MHR	Gas Turbine - Modular Helium Reactor

0 100 200
HORIZONTAL SCALE - FEET

BECHTEL
FREDERICK, MARYLAND

NORTH ANNA ESP APPLICATION

SUBSURFACE PROFILE B-B'

JOB NO.	DRAWING NO.	REV.
24830		

Figure 2.5-58 Subsurface Profile B-B'

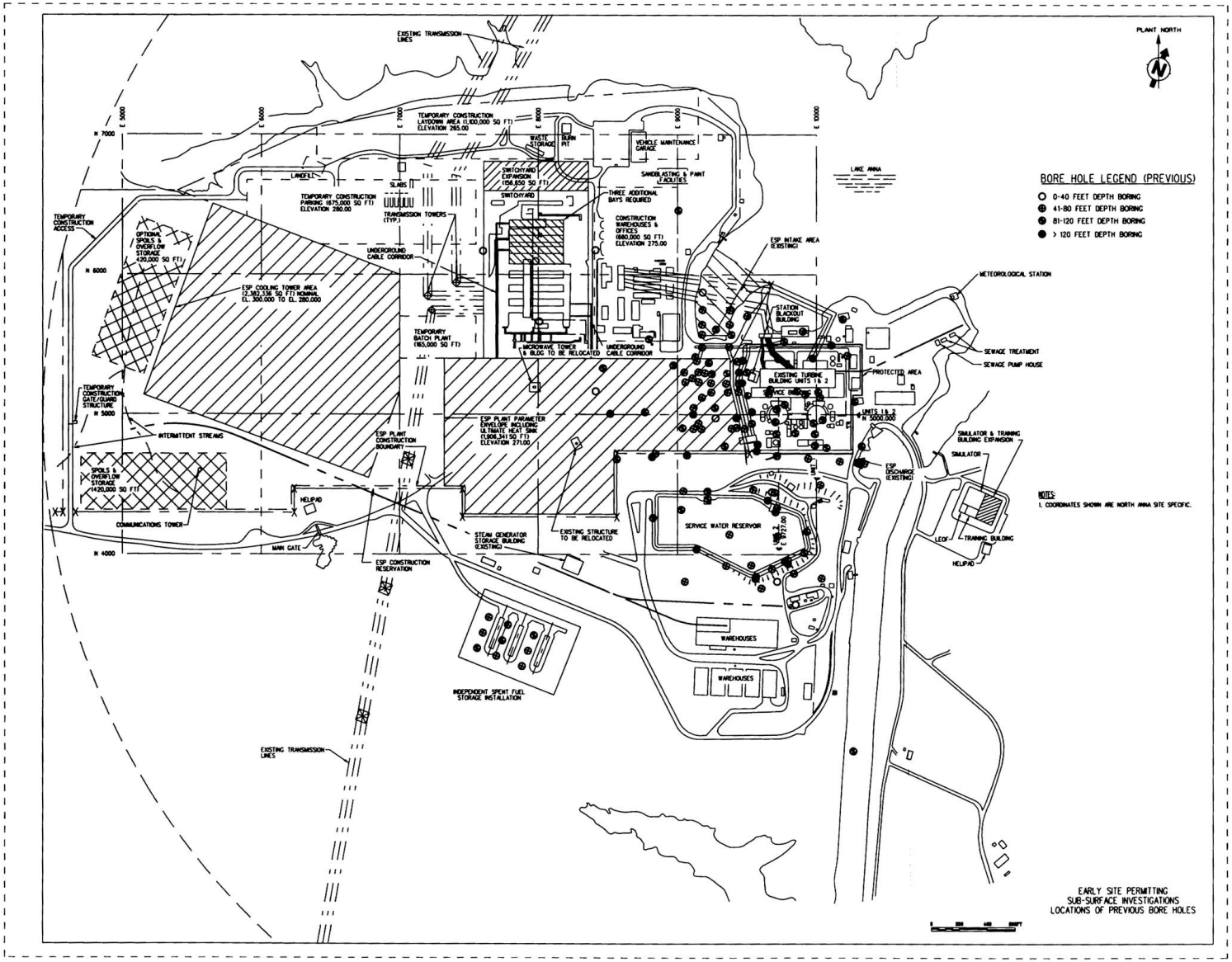


Figure 2.5-59 Locations of Previous Boreholes

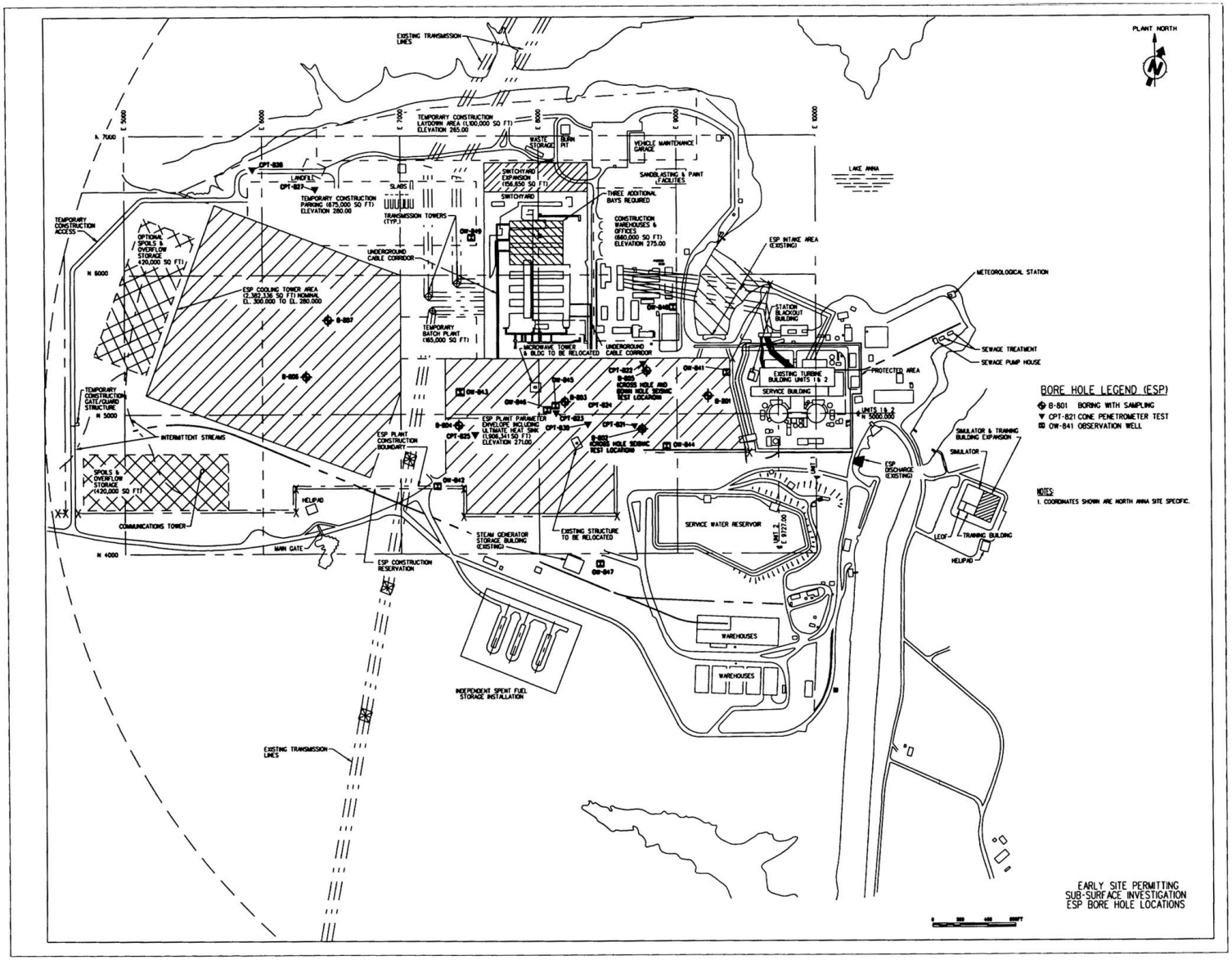


Figure 2.5-60 ESP Borehole Locations

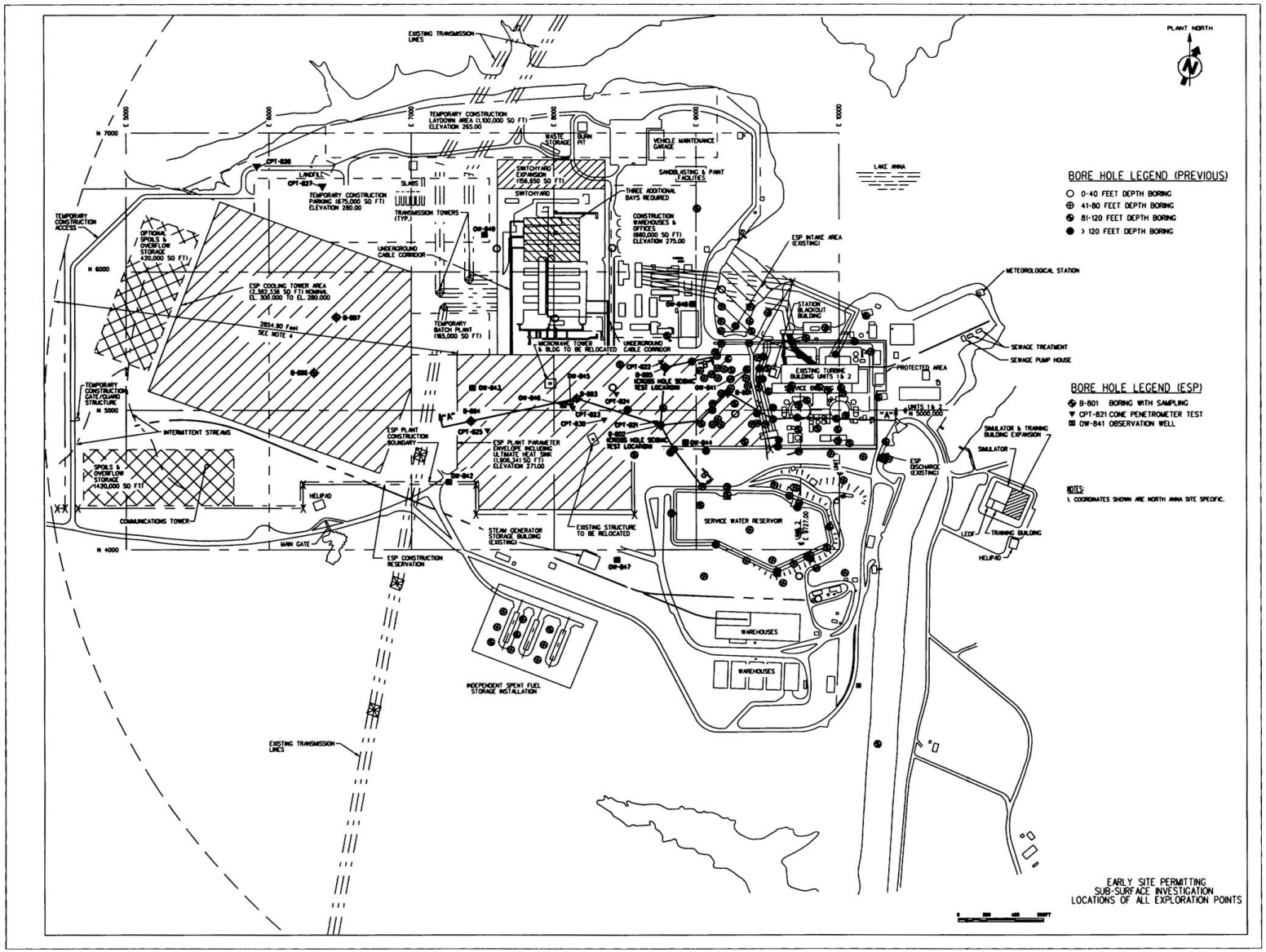


Figure 2.5-61 Locations of All Exploration Points

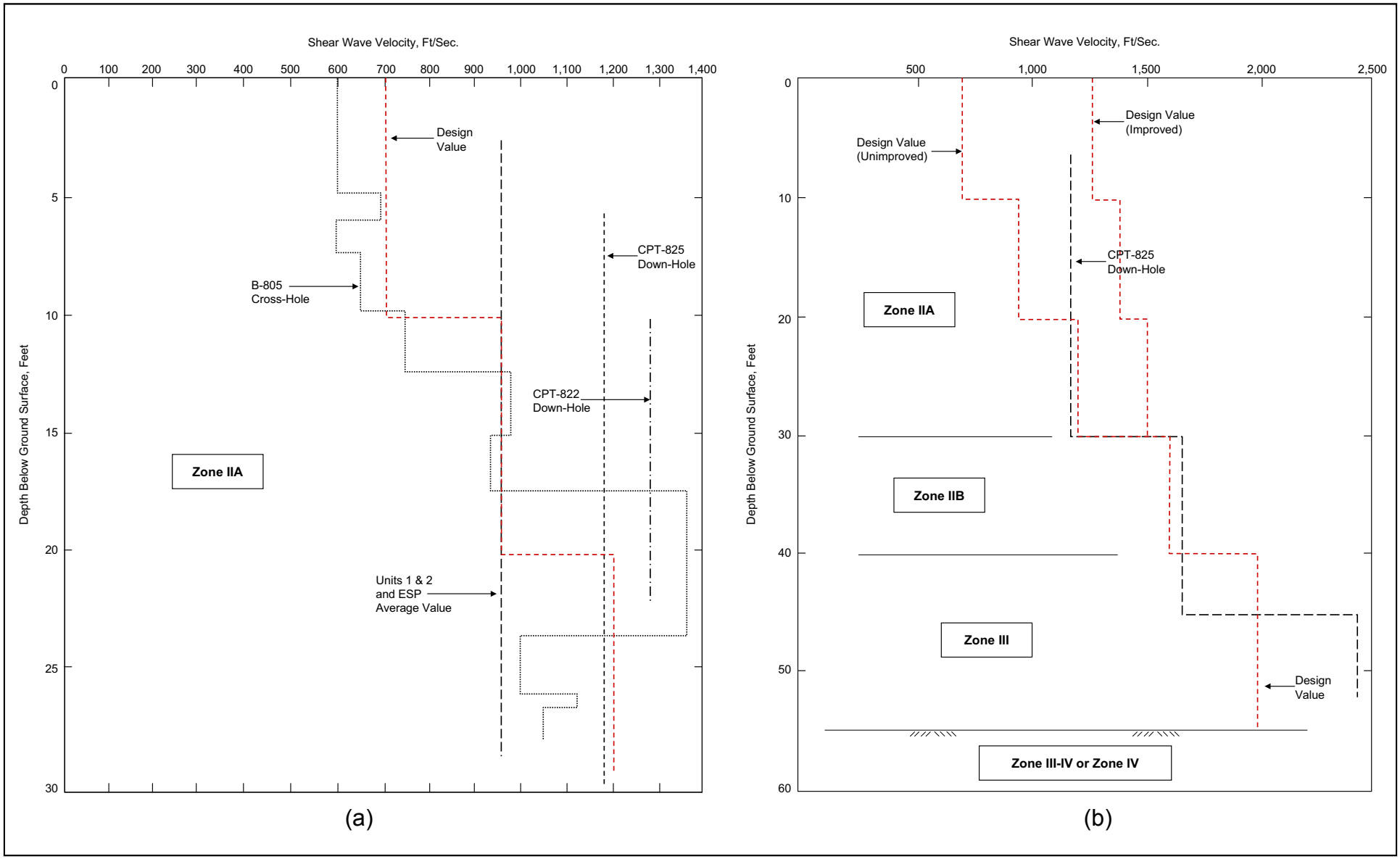


Figure 2.5-62 Zone IIA Shear Wave Velocity Profile (a) Full-Depth Shear Wave Velocity Profile (b)

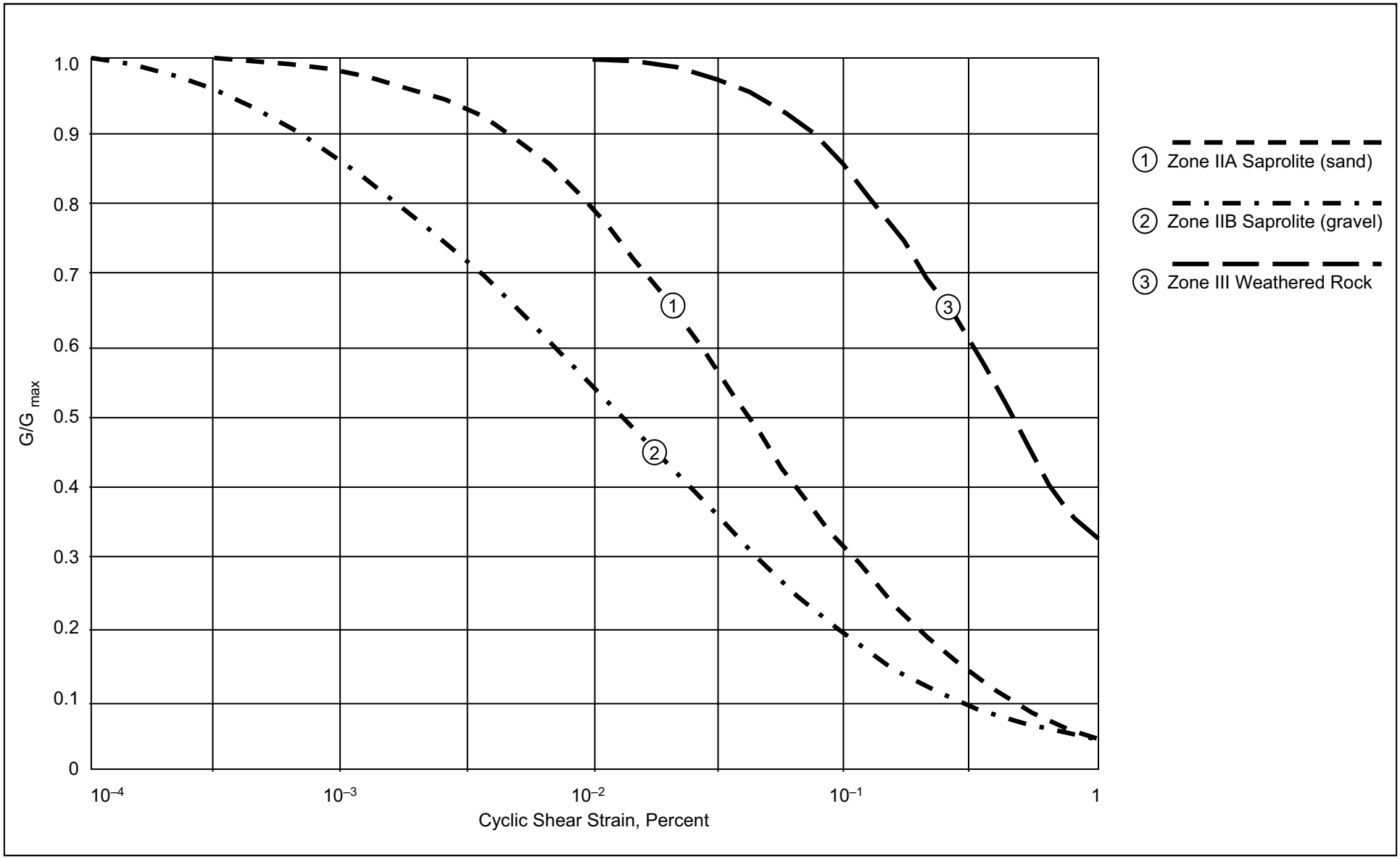


Figure 2.5-63 Variation of Normalized Shear Modulus with Cycle Shear Strain

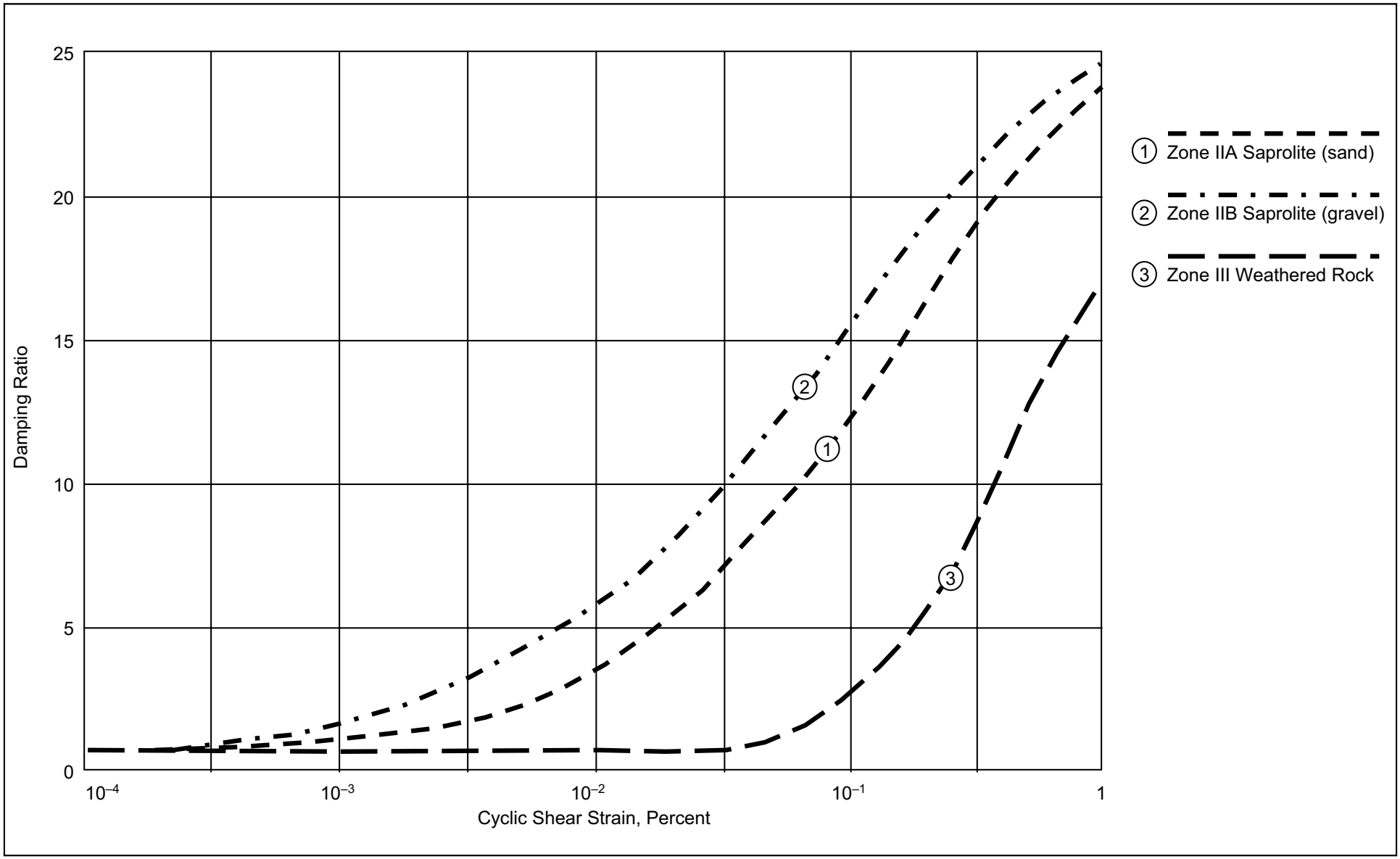


Figure 2.5-64 Variation of Damping Ratio with Cyclic Shear Strain

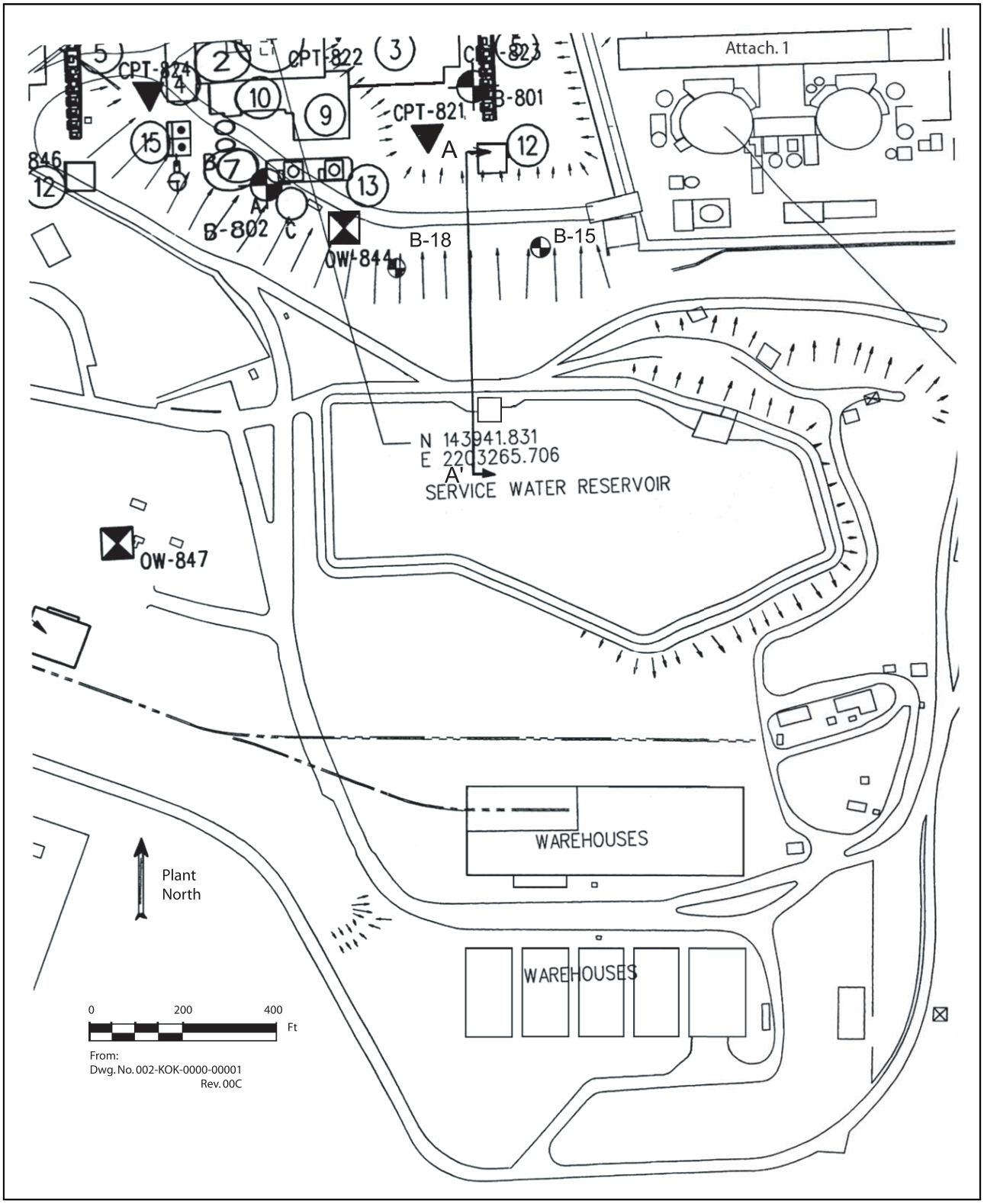


Figure 2.5-65 Plan View of Slope North of the SWR

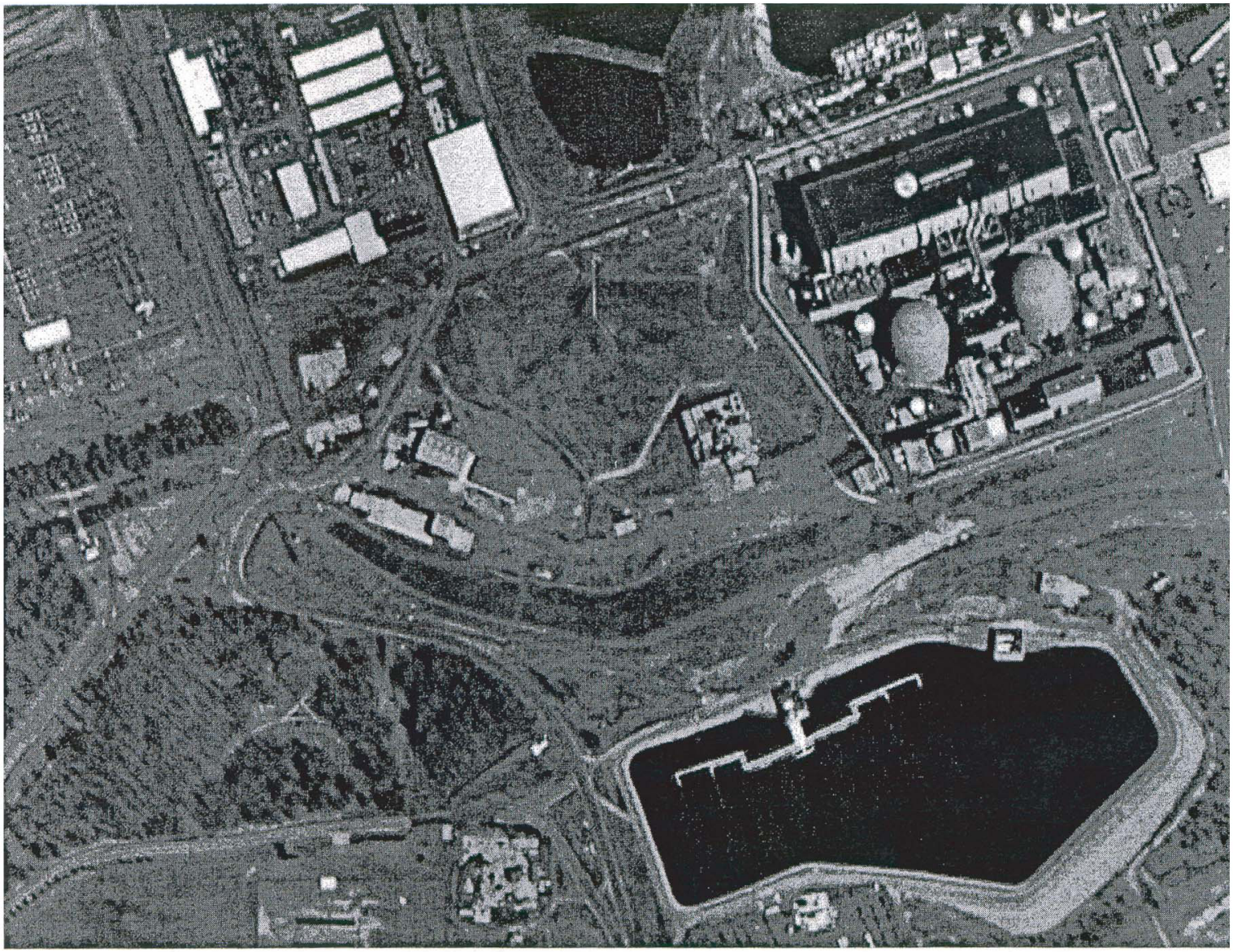


Figure 2.5-66 Photograph of Plan View of Slope North of the SWR

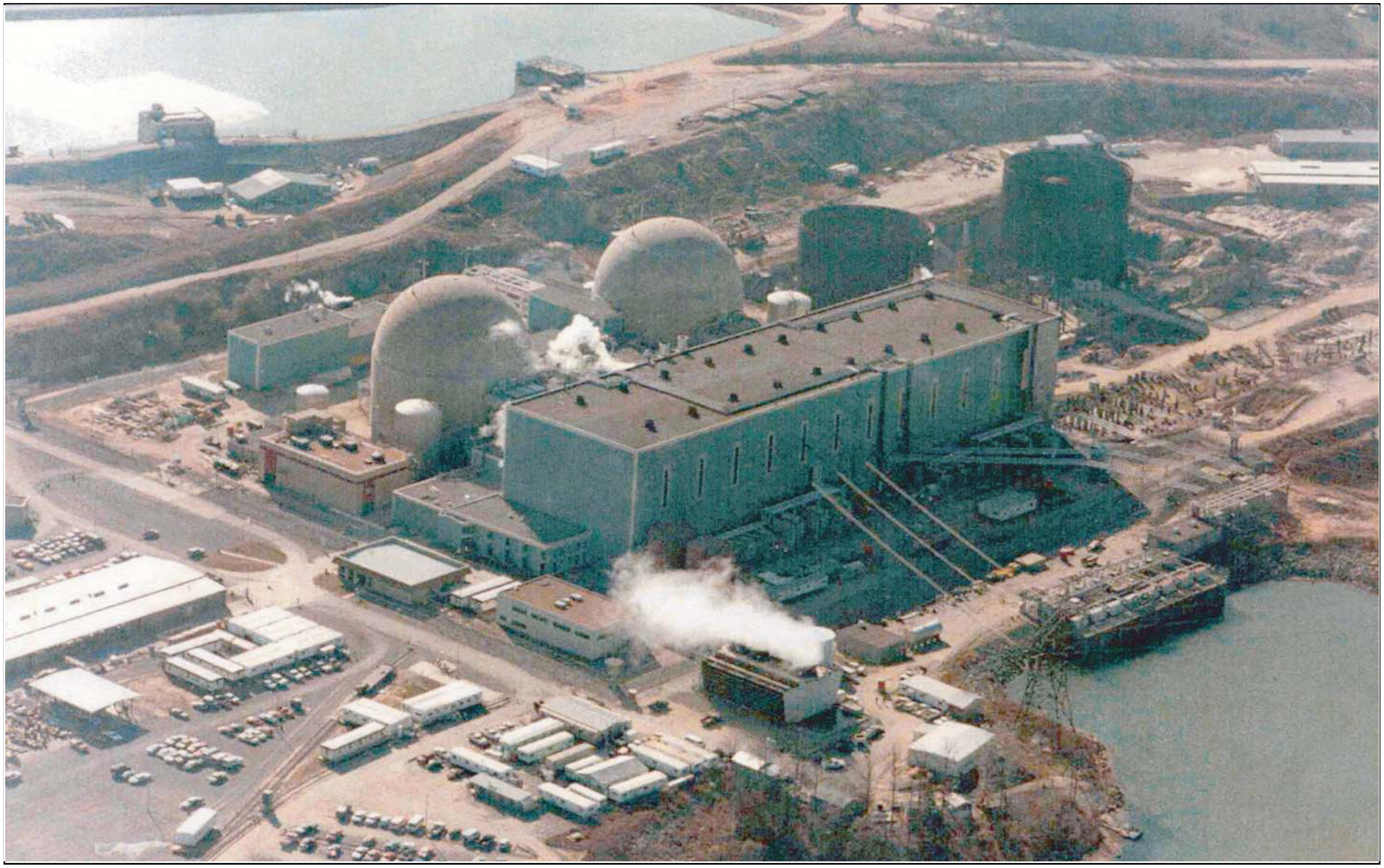


Figure 2.5-67 Photograph of Slope North of the SWR

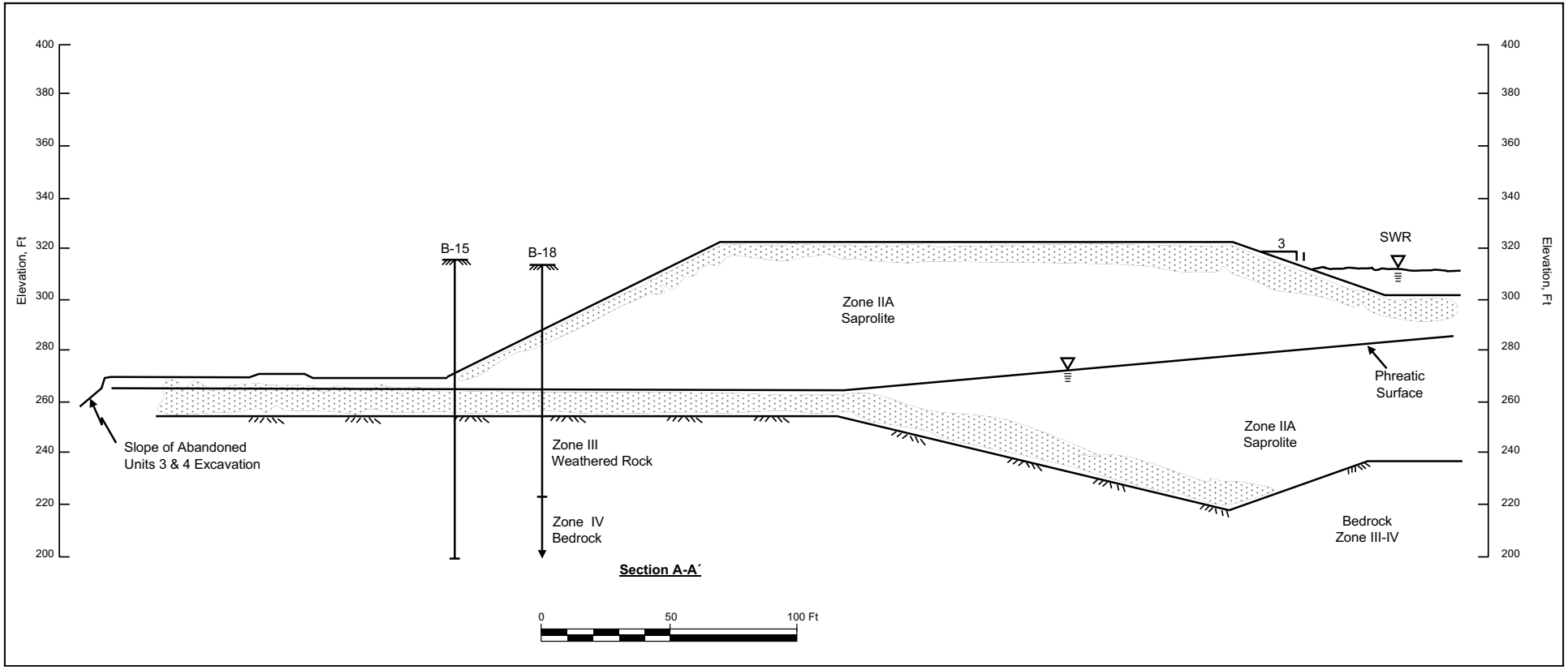
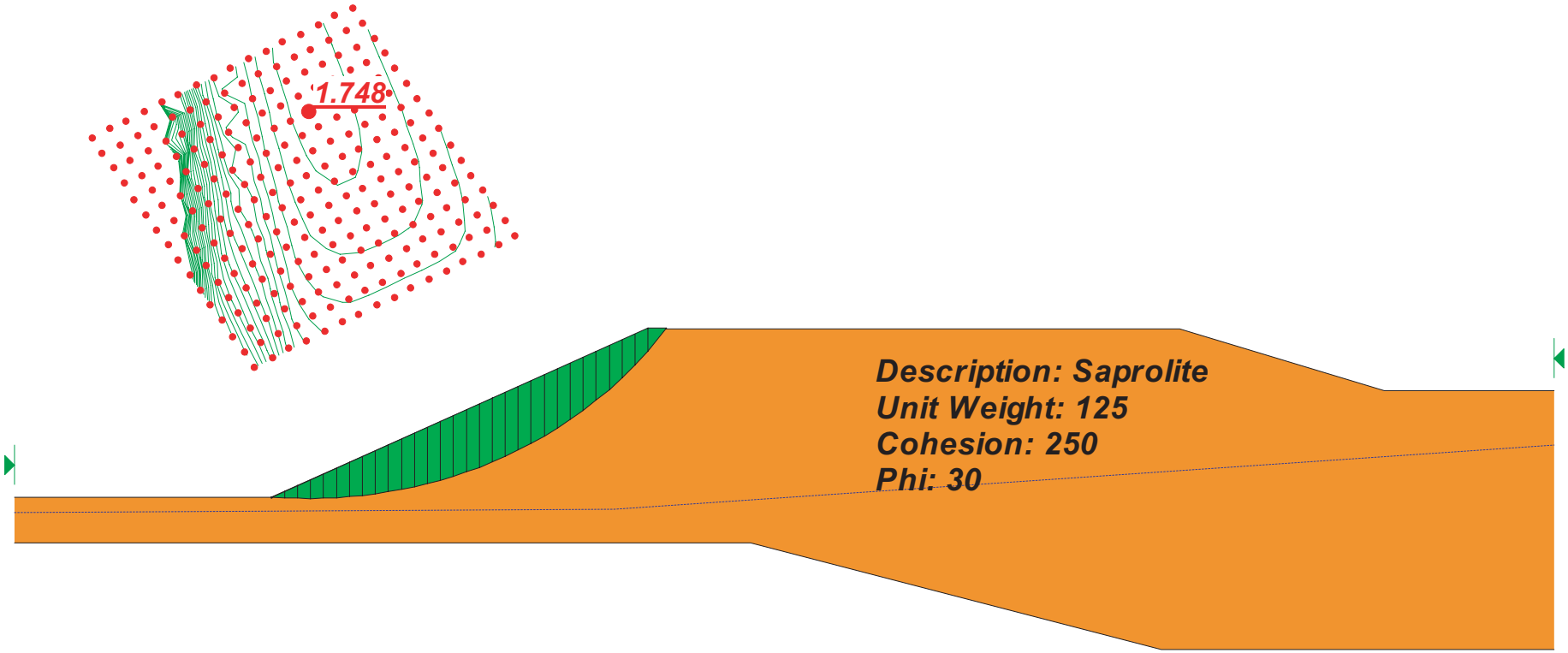
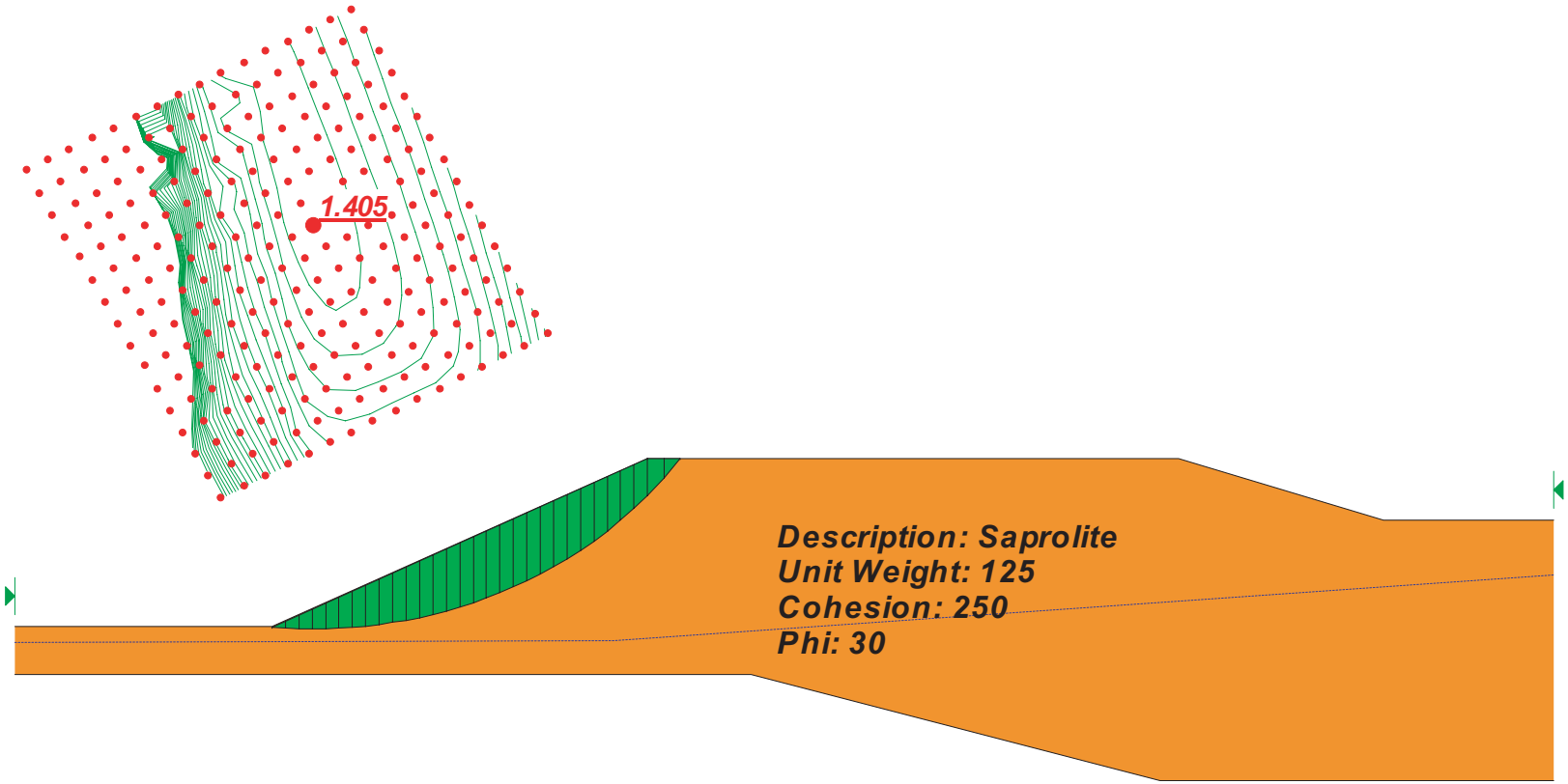


Figure 2.5-68 Cross-Section of Existing Slope North of the SWR



Description: North Anna Existing Slope
Comments: 2H:1V Slope - Saprolite
File Name: Existing NC 1.slp
Last Saved Date: 9/2/2003
Analysis Method: Bishop
P.W.P. Option: Piezometric Lines / Ru
Seismic Coefficient: (none)

Figure 2.5-69 SLOPE/W Analysis of Long-Term Static Case



Description: North Anna Existing Slope
Comments: 2H:1V Slope - Saprolite - Seis Case 2
File Name: Existing NC 1 (seis2).slp
Last Saved Date: 9/2/2003
Analysis Method: Bishop
P.W.P. Option: Piezometric Lines / Ru
Seismic Coefficient: Horizontal (0.1g)

Figure 2.5-70 SLOPE/W Analysis of Seismic Case

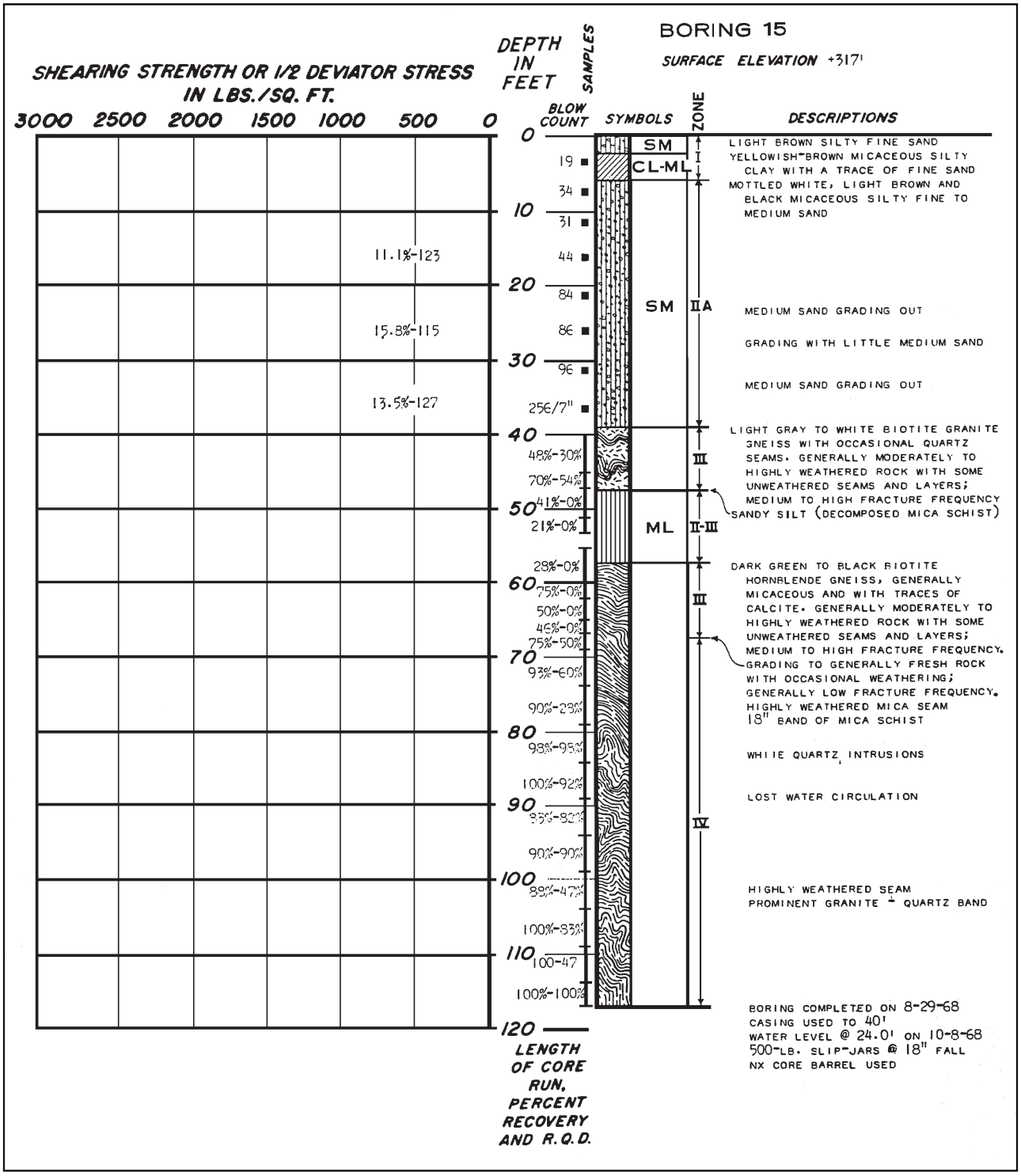


Figure 2.5-71 Log of Boring B-15

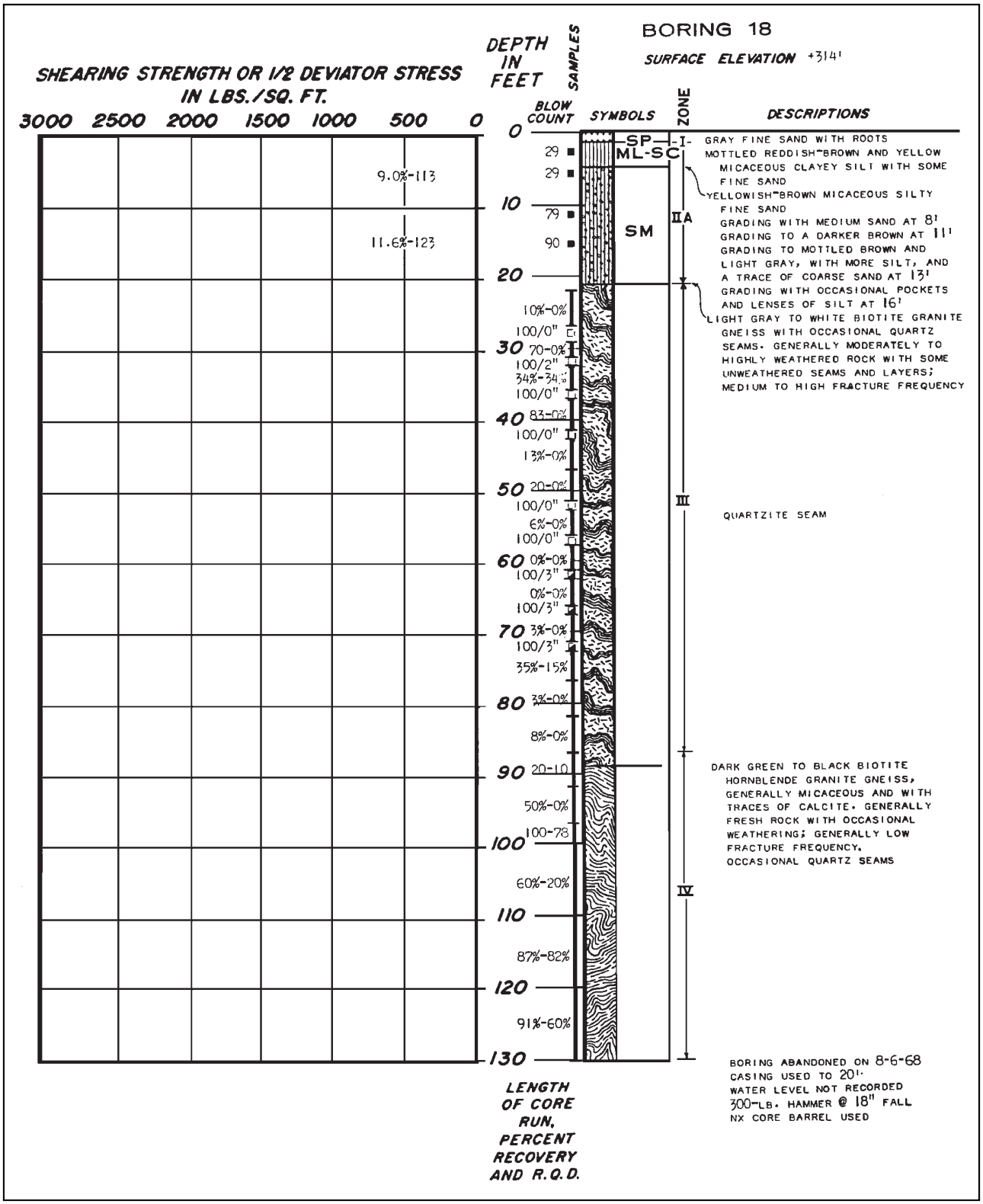


Figure 2.5-72 Log of Boring B-18