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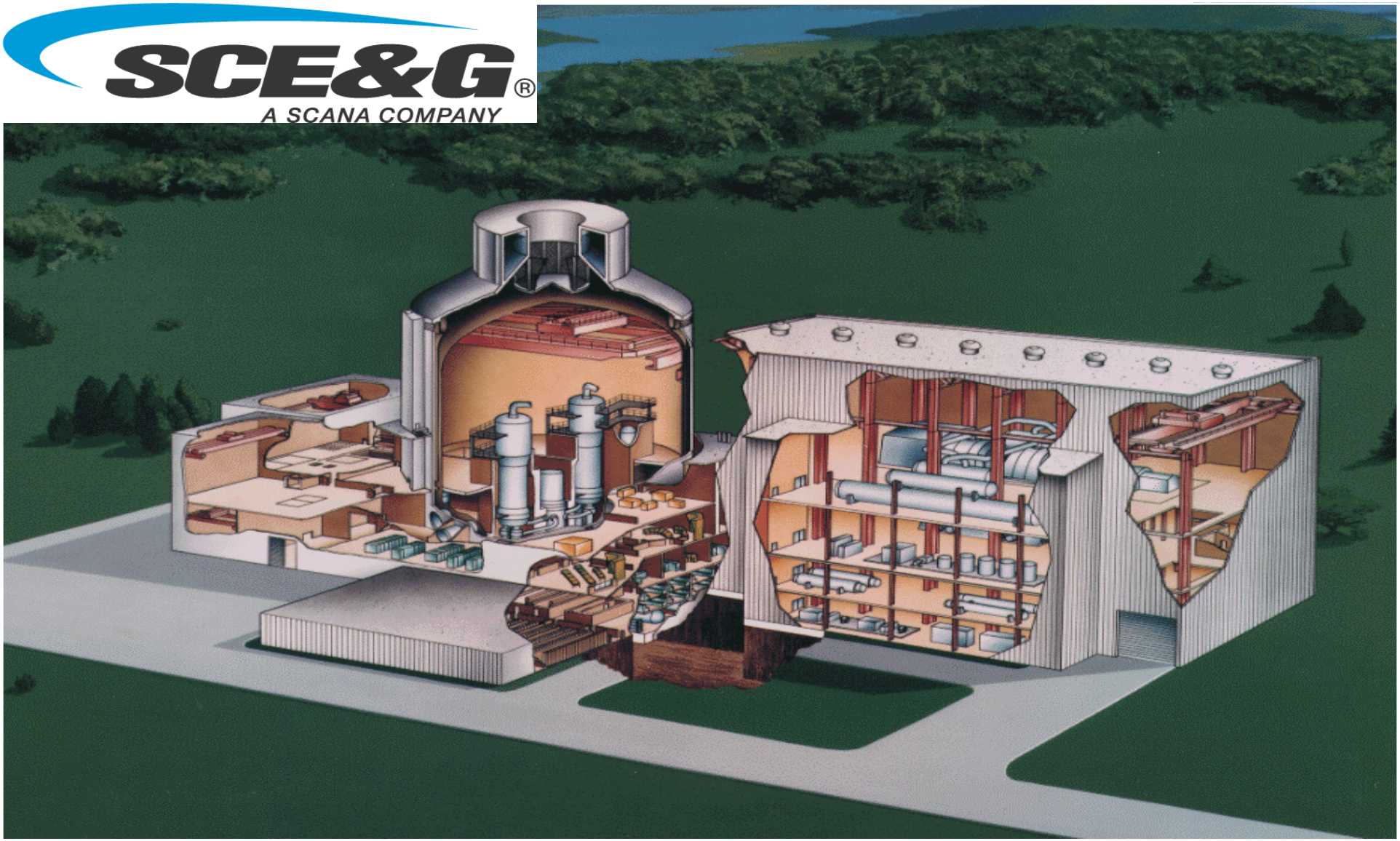
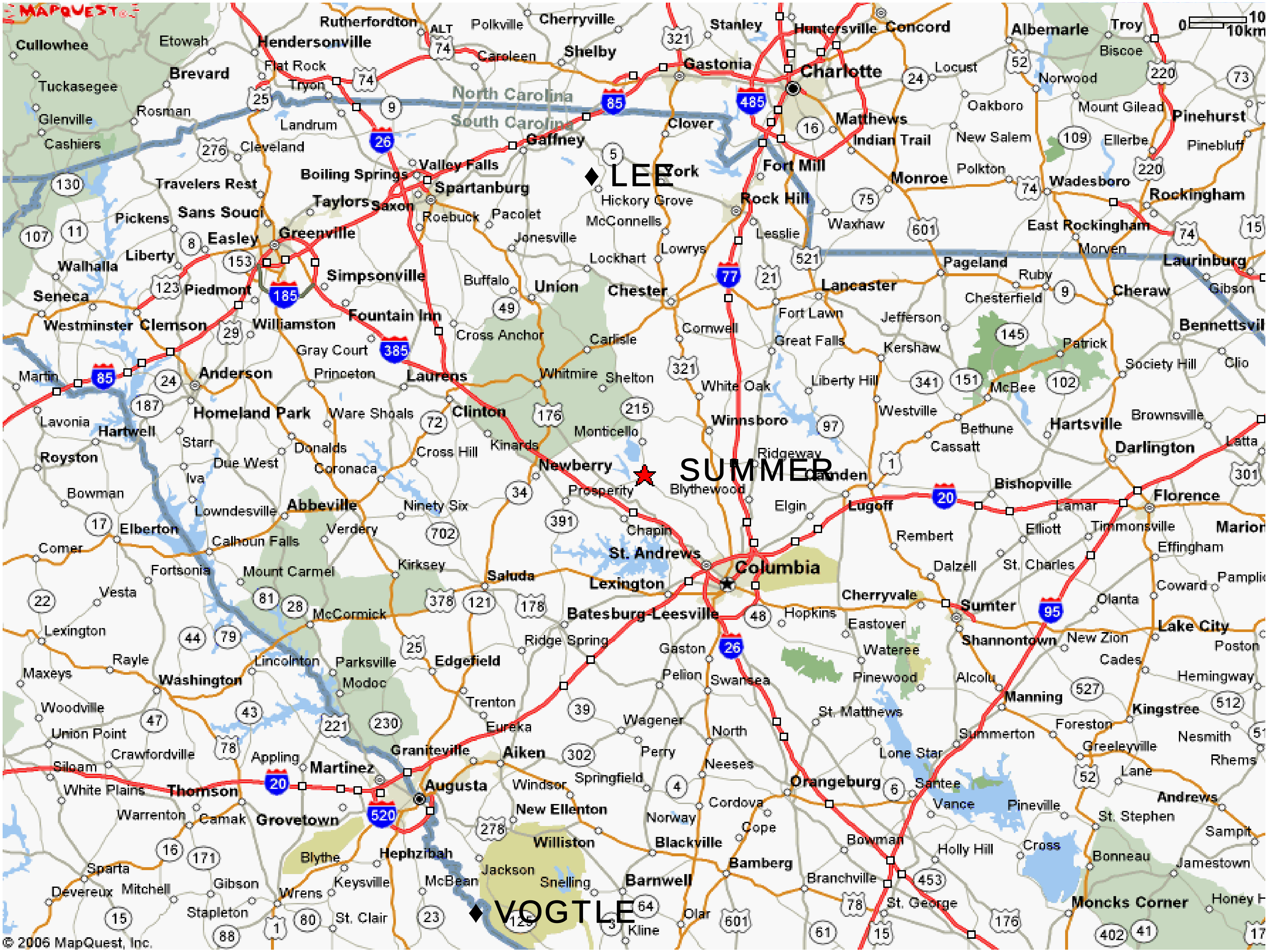


Virgil C. Summer Nuclear Station Units 2 & 3
(Westinghouse AP1000)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North Carolina
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Etowah
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Cleveland
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Warrenton
Camak
Grovetown
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Cordova
Vance
Pineville
St. Stephen
Norway
Cope
Sampit
Williston
Blackville
Bowman
Holly Hill
Cross
Blythe
Hephzibah
Bonneau
Sparta
Jackson
Bamberg
Jamestown
Devereux
Mitchell
Gibson
Keysville
McBean
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Barnwell
Branchville
Wrens
St. George
Moncks Corner
Honey H
Stapleton
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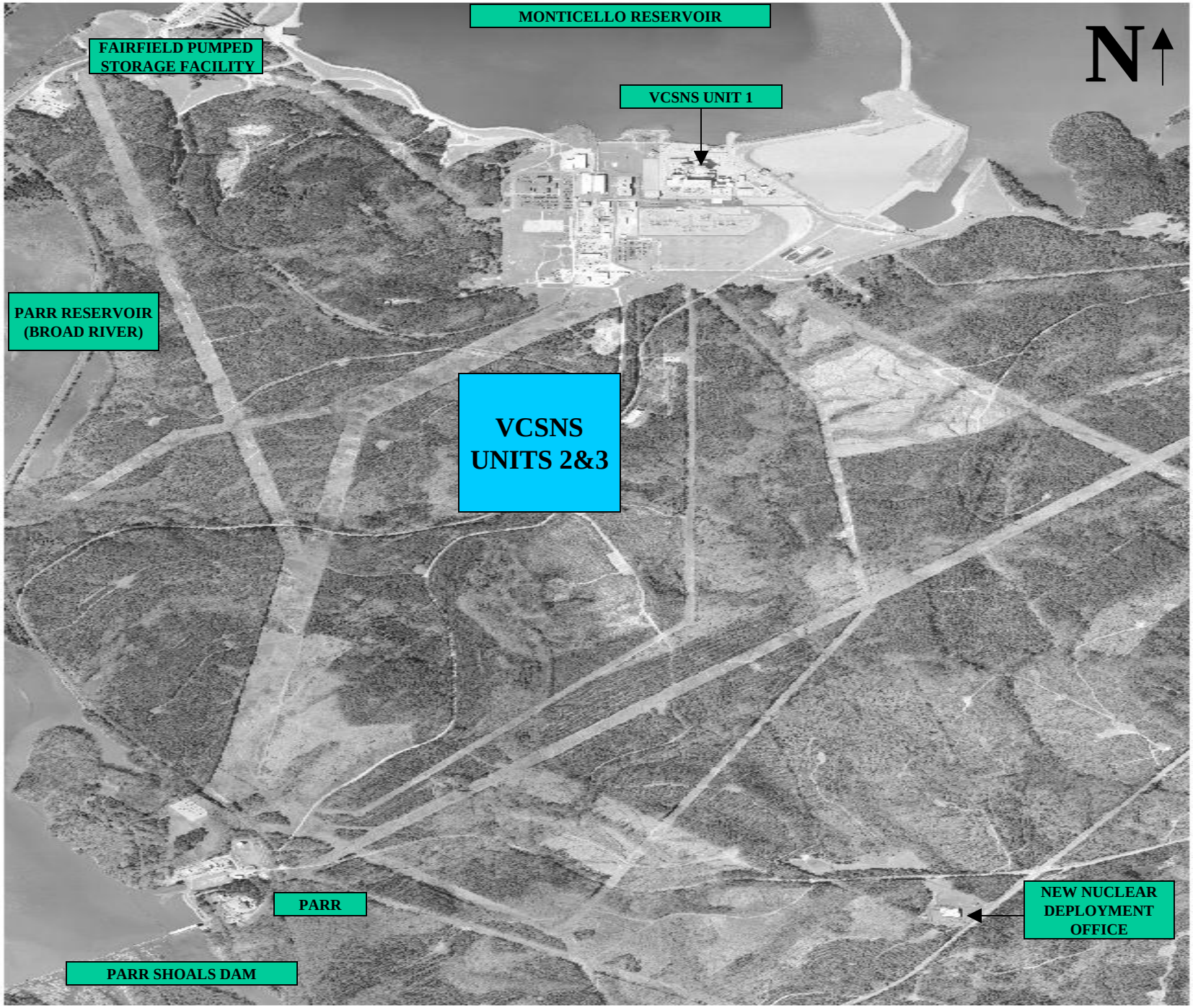
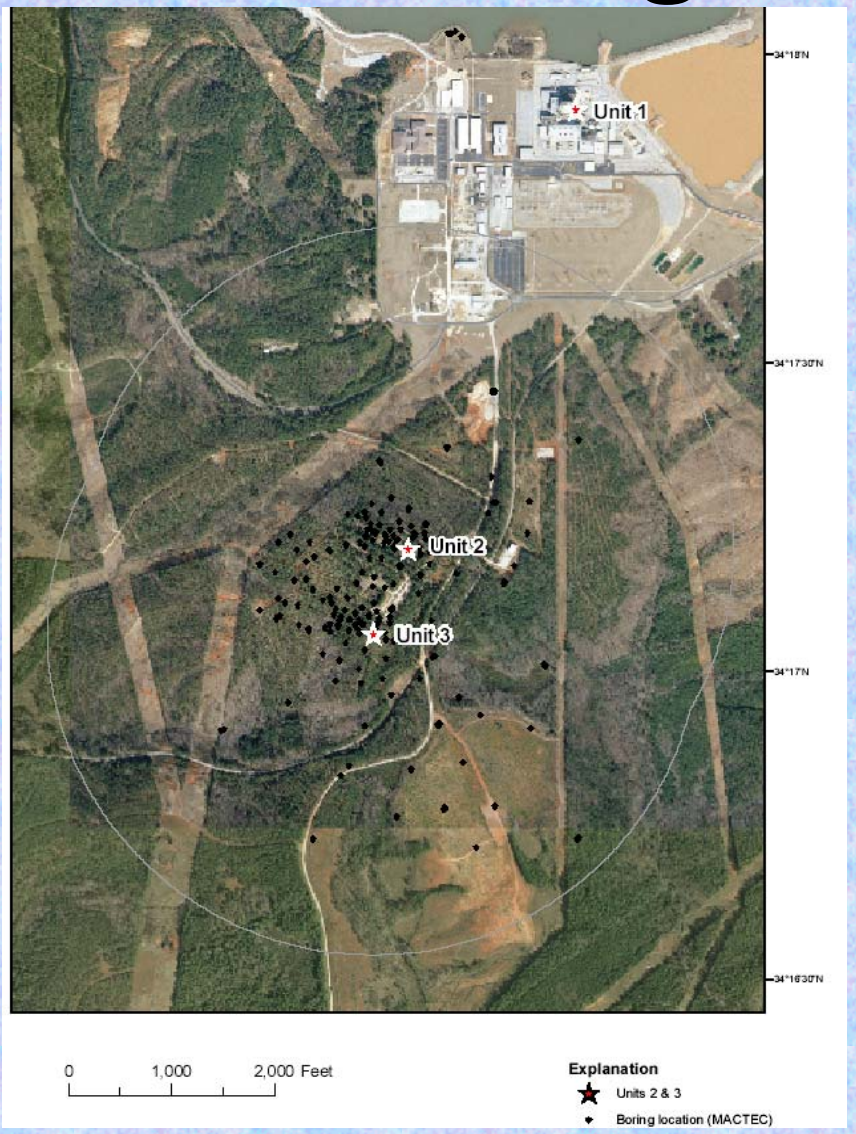
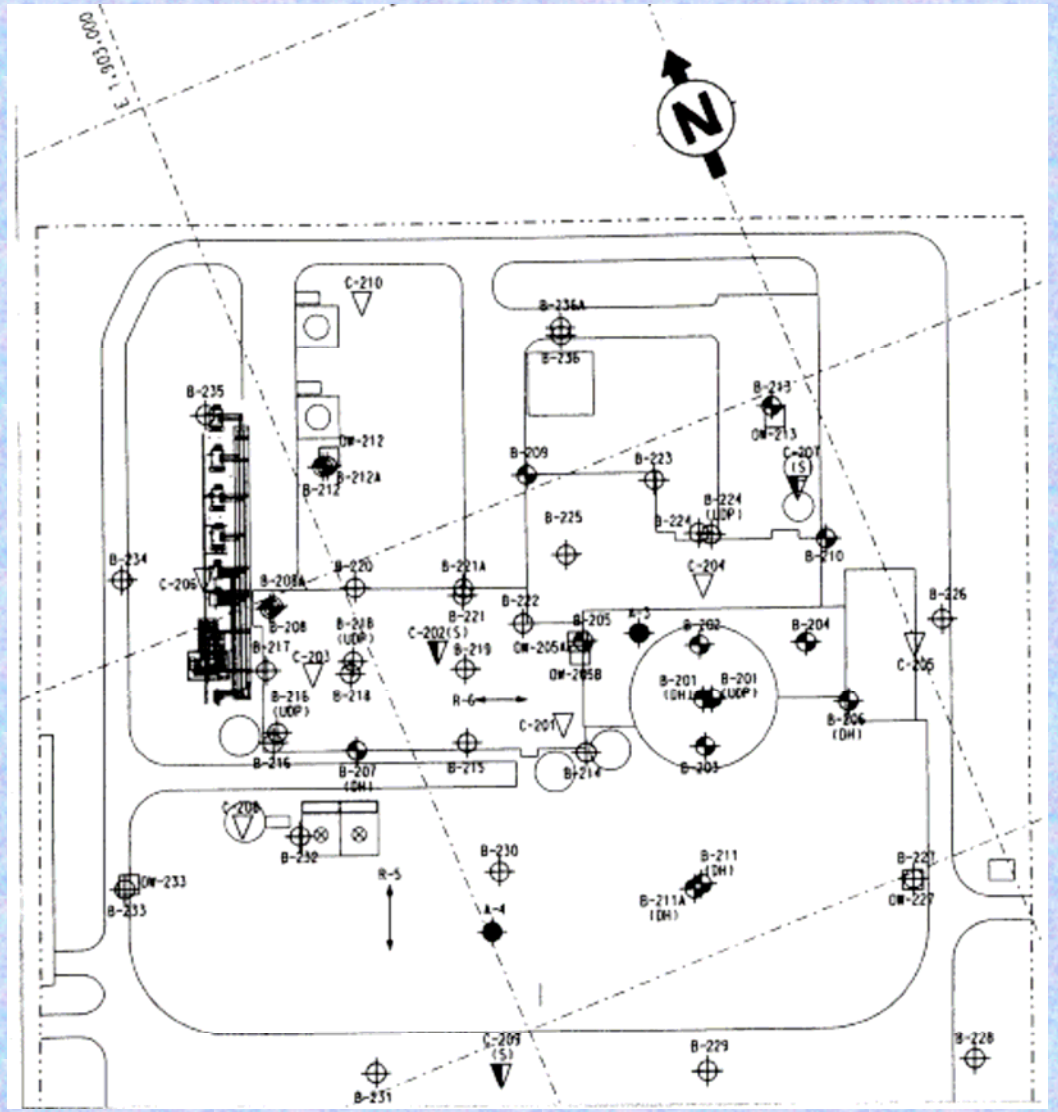

MONTICELLO RESERVOIR
FAIRFIELD PUMPED STORAGE FACILITY
N
VCSNS UNIT 1
PARR RESERVOIR (BROAD RIVER)
VCSNS UNITS 2&3
PARR
NEW NUCLEAR DEPLOYMENT OFFICE
PARR SHOALS DAM

Geotechnical Boring Layout



Geotechnical Boring Layout



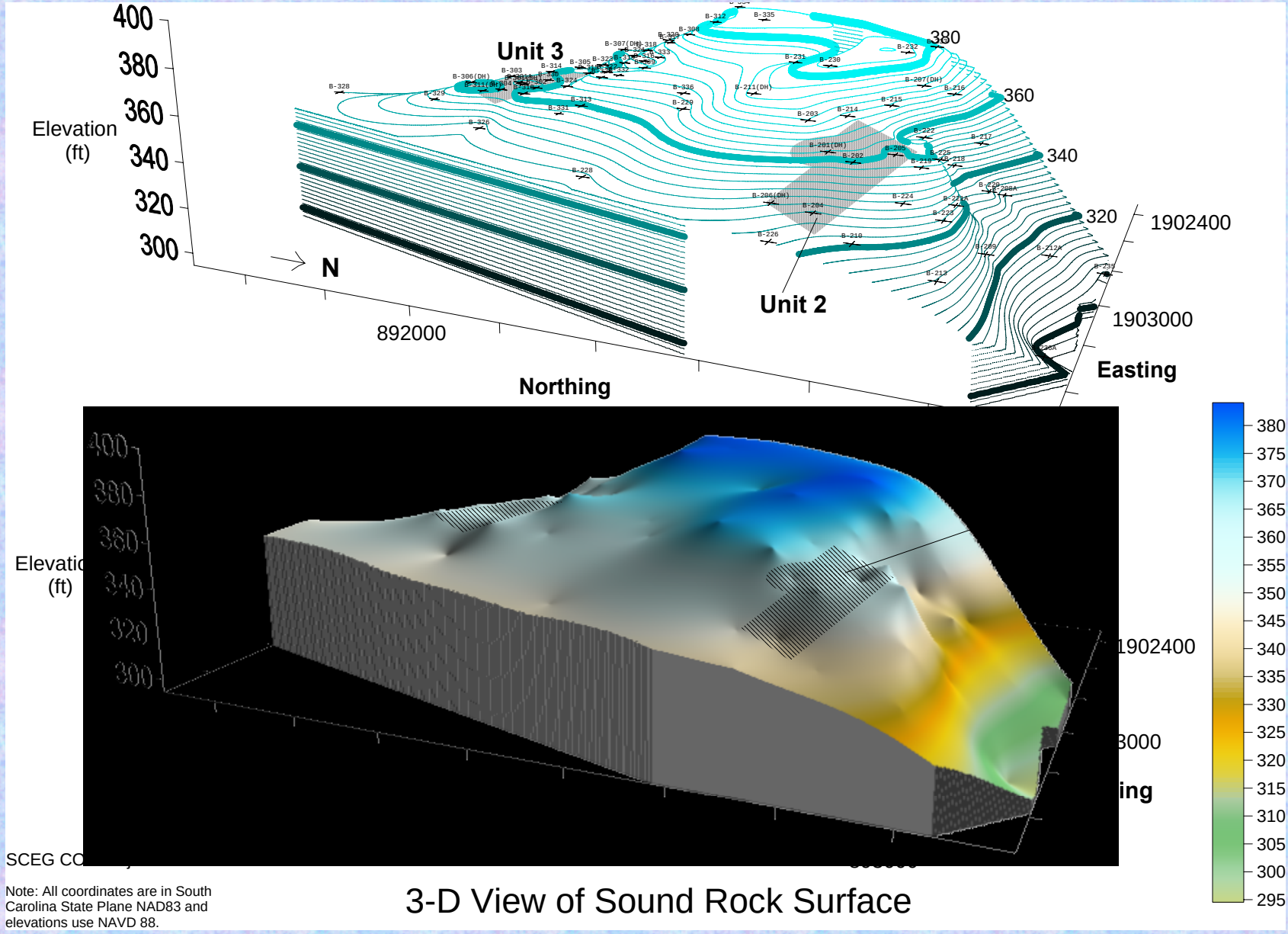
Geotechnical Investigation Summary

Soil & Rock Borings	111
Observation Wells	31
Cone Penetrometer Tests	36
Test Pits	4
Suspension Velocity Logging	8

Existing Subsurface Profile (Typical)

Residual Soils – Reddish Soils, Typically Sandy Silts (ML) and Silty Sands (SM) with Variable Clay Content	**0 – 20’**
Saprolite – Completely Weathered Rock Degraded to a Soil Consistency; Soil retains relict rock structure	**20’ – 40’**
Partially Weathered Rock – Transition Zone from Residual Soil / Saprolite to Rock	**40’ – 45’**
Competent Rock	**45’ – 65’**

Sound Rock Surface View



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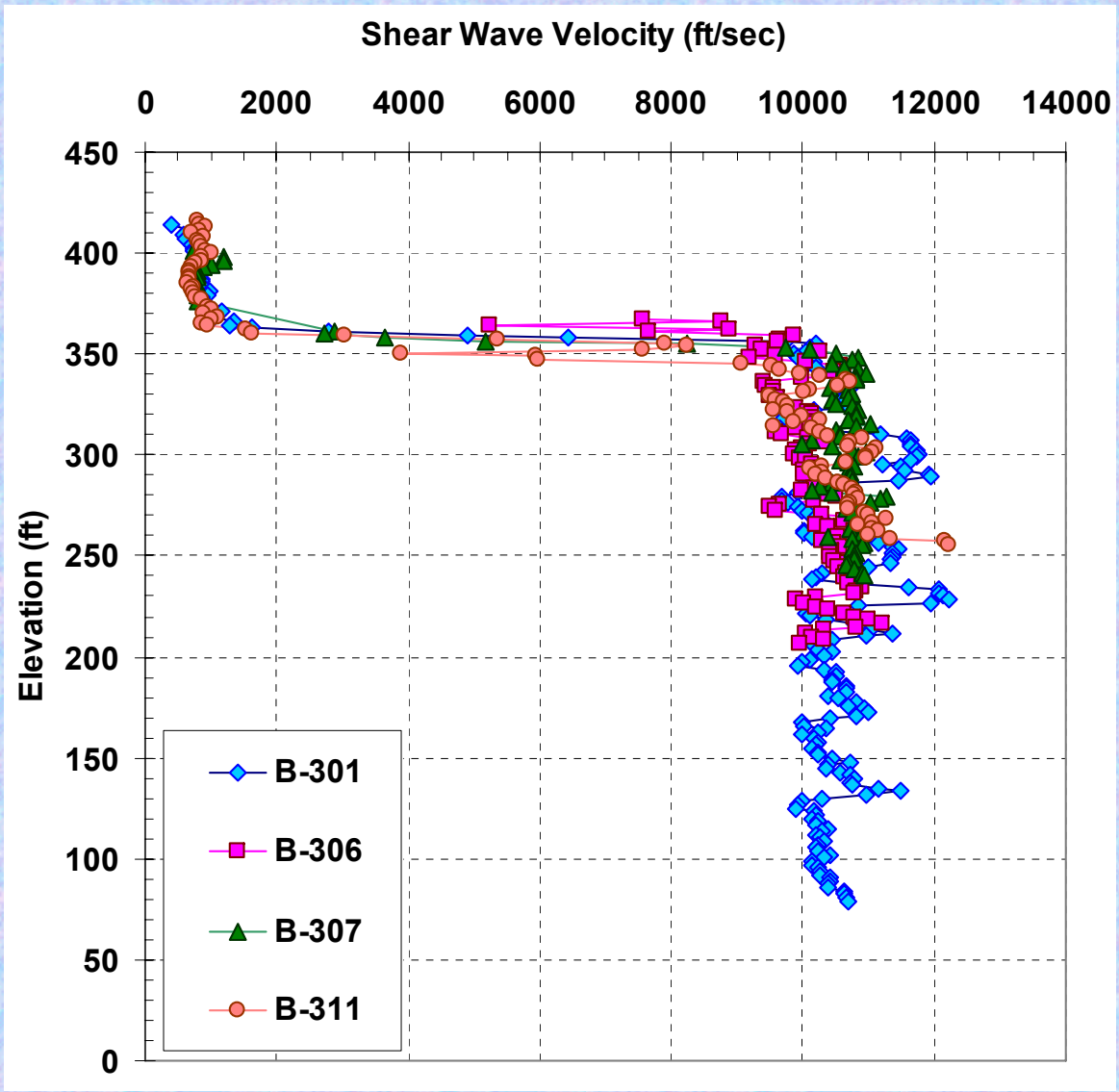
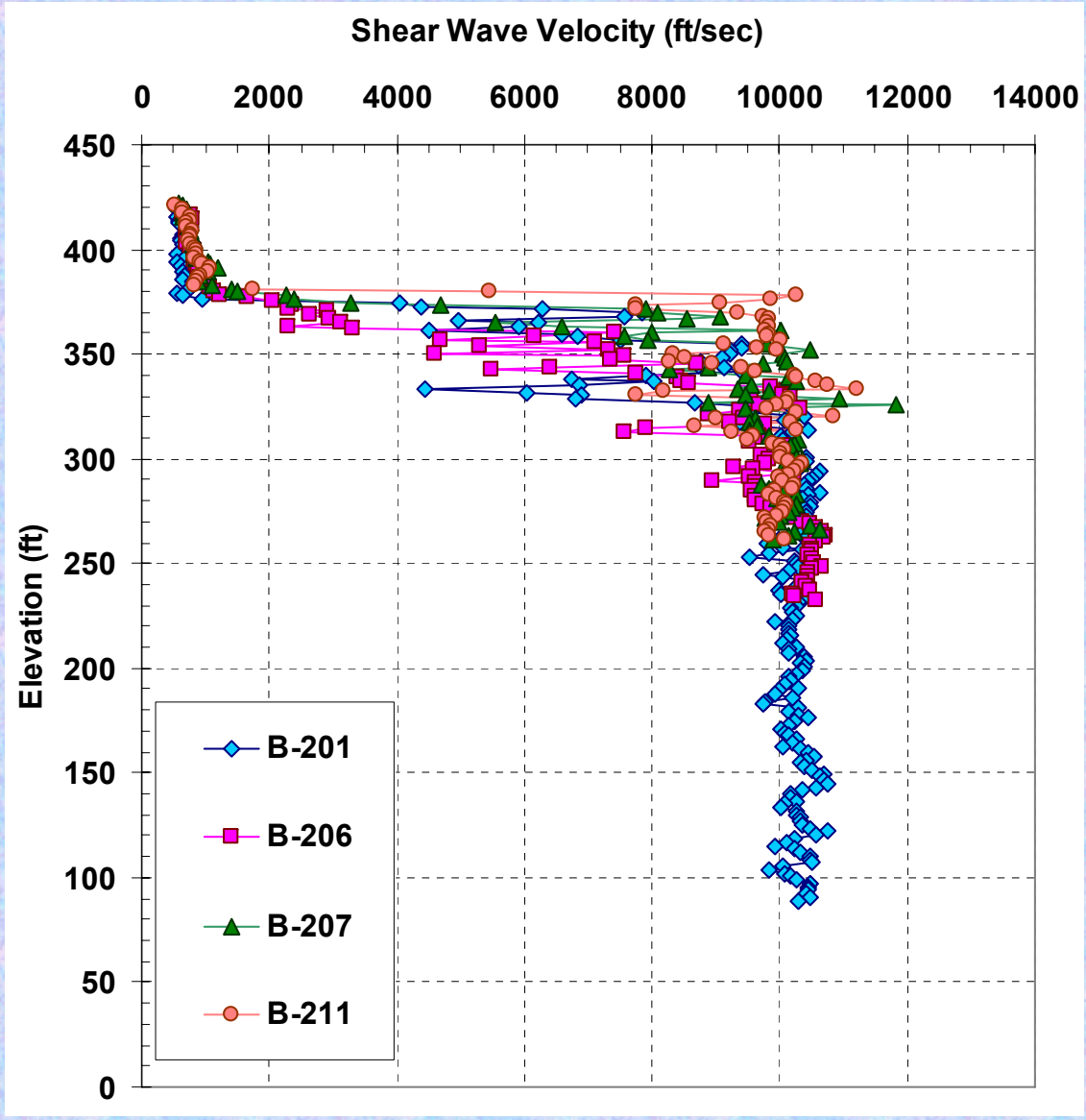
Note: All coordinates are in South Carolina State Plane NAD83 and elevations use NAVD 88.

3-D View of Sound Rock Surface

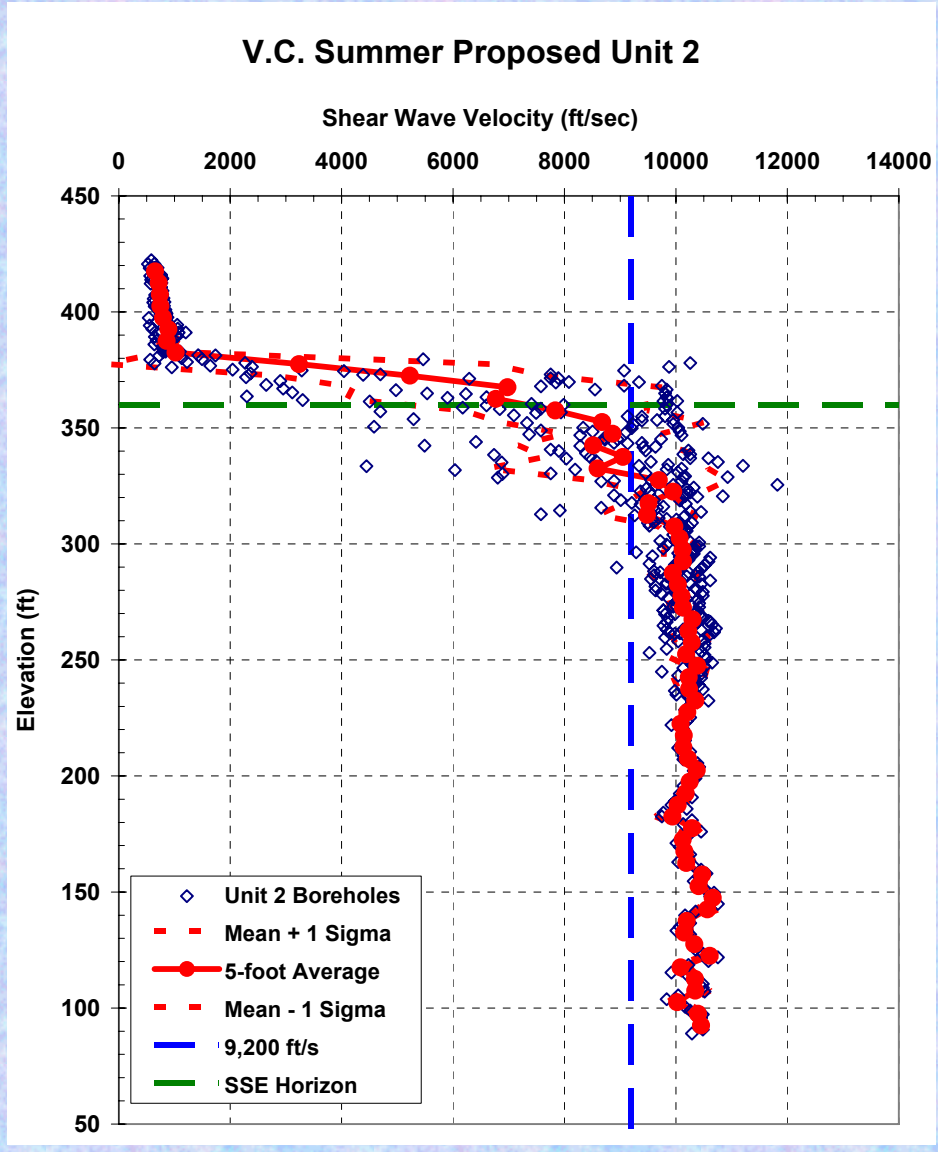
Rock Shear Wave Velocity Unit 3 Power Block



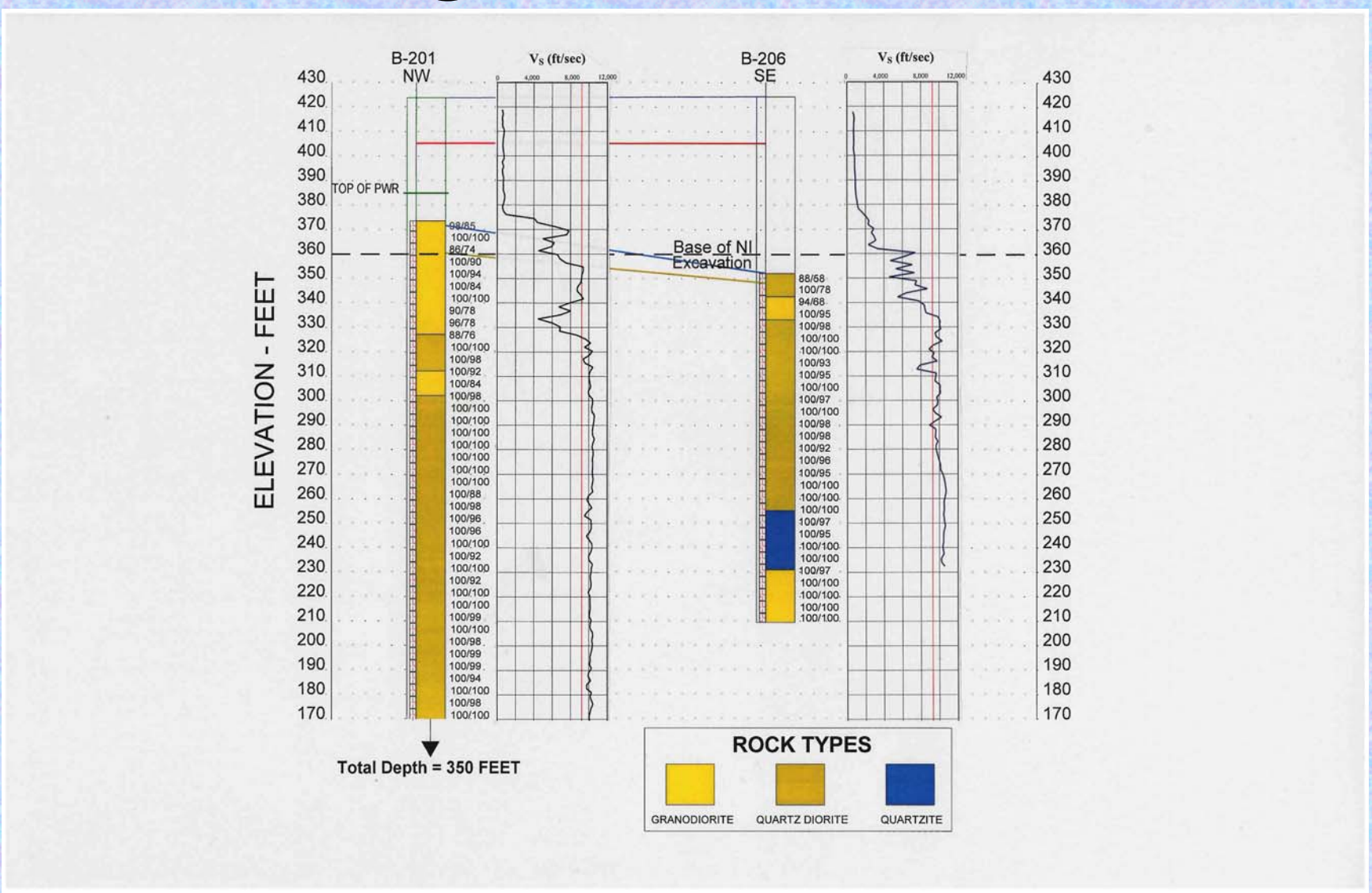
Rock Shear Wave Velocity Unit 2 Power Block



Average Rock Shear Wave Velocity Unit 2



Borings B-201 and B-206



Construction / Backfill Plans

- Establish Plant Grade at Elevation ~ 400’
- Excavate Power Block to Competent Rock at Elevation ~ 360’
- **Nuclear Island**: Place Fill Concrete Leveling Mat
- **Other Structures**: Install Engineered Backfill to Structure Foundation Level