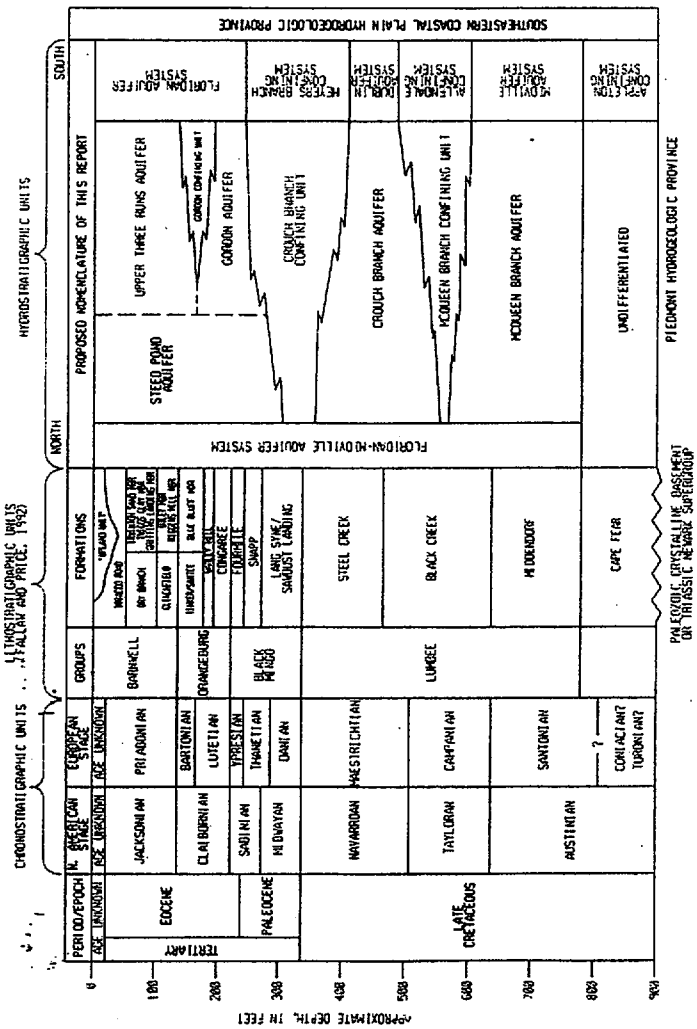


Figure 1.4-20 Relationship Between the Hydro- and Lithostratigraphic Units at the SRS

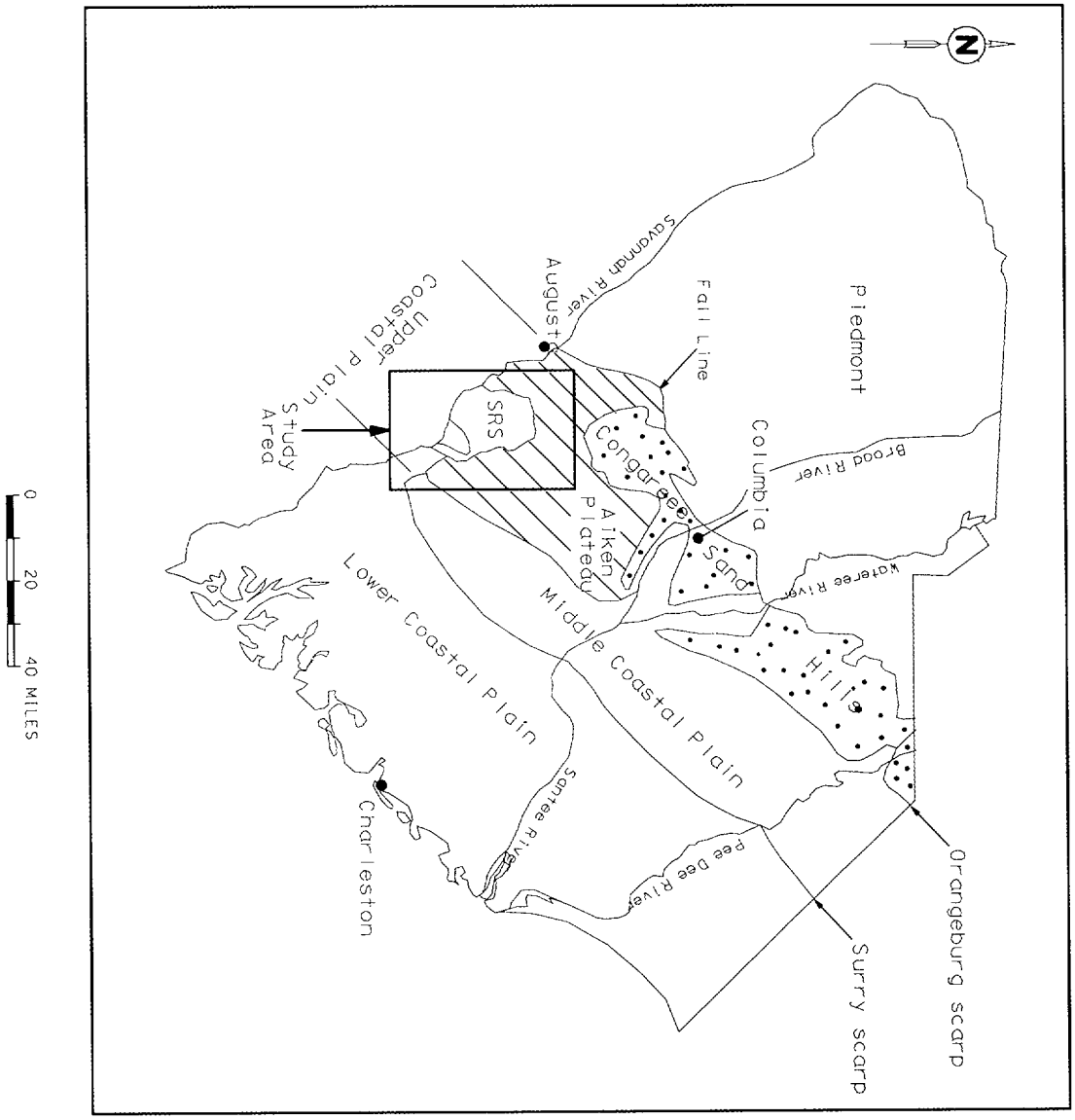
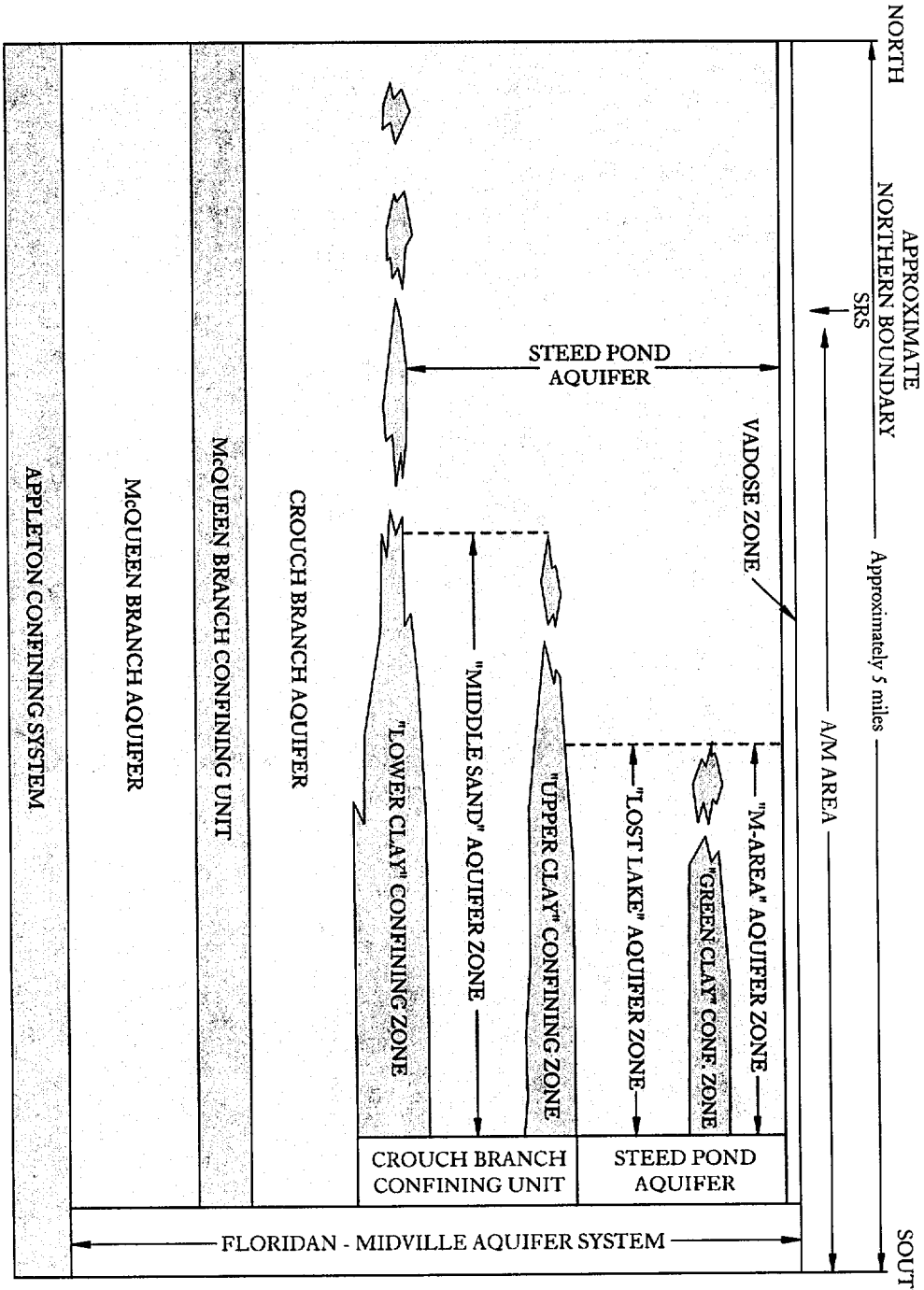


Figure 1.4-21 Regional Physiographic Map of South Carolina



Schematic north-south hydrostratigraphic section for the A/M-Area, SRS.

GO0203E

Figure 1.4-22 Regional Cross Section Showing Up- and Downdip Relationships of the Various Aquifer and Confining Units at the SRS and Surrounding Region

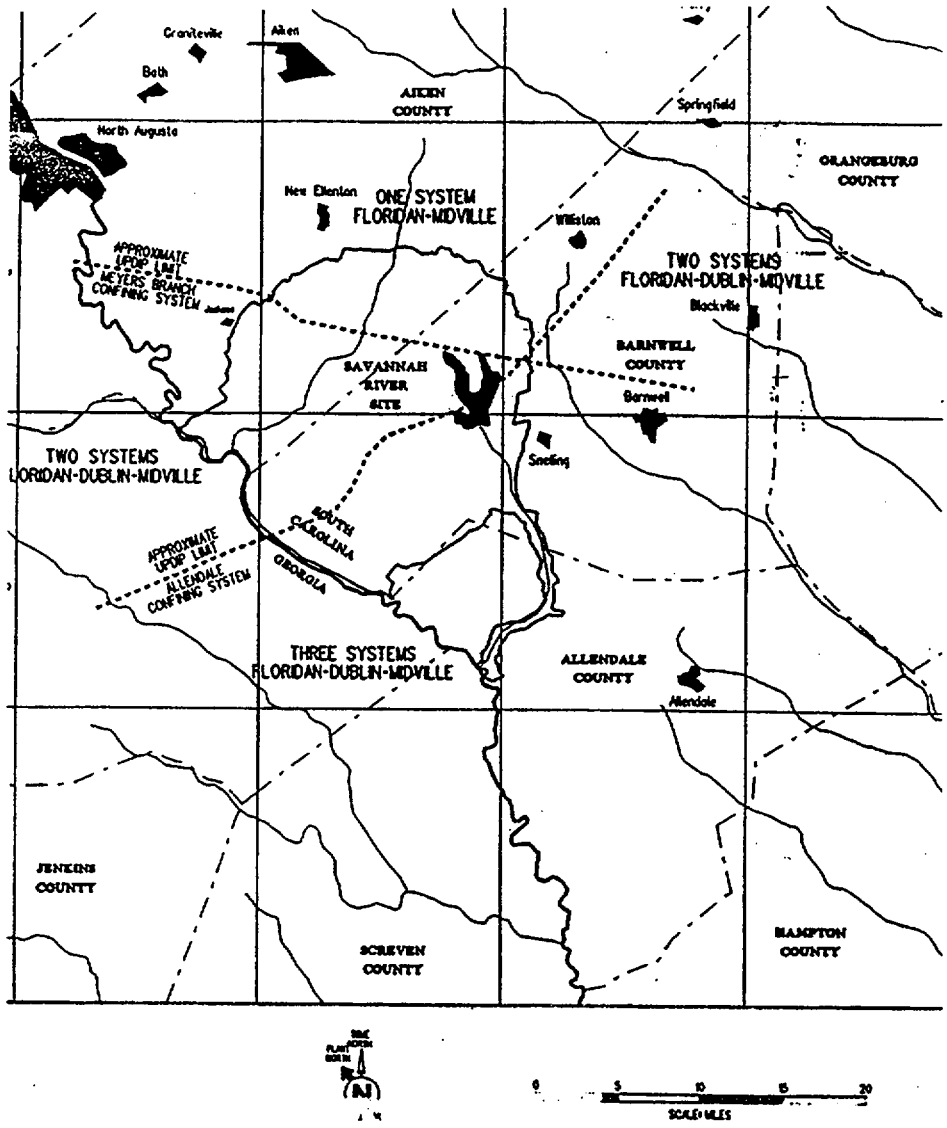


Figure 1.4-23 Map Showing the Updip Limit of the Meyers Branch and Allendale Confining Units

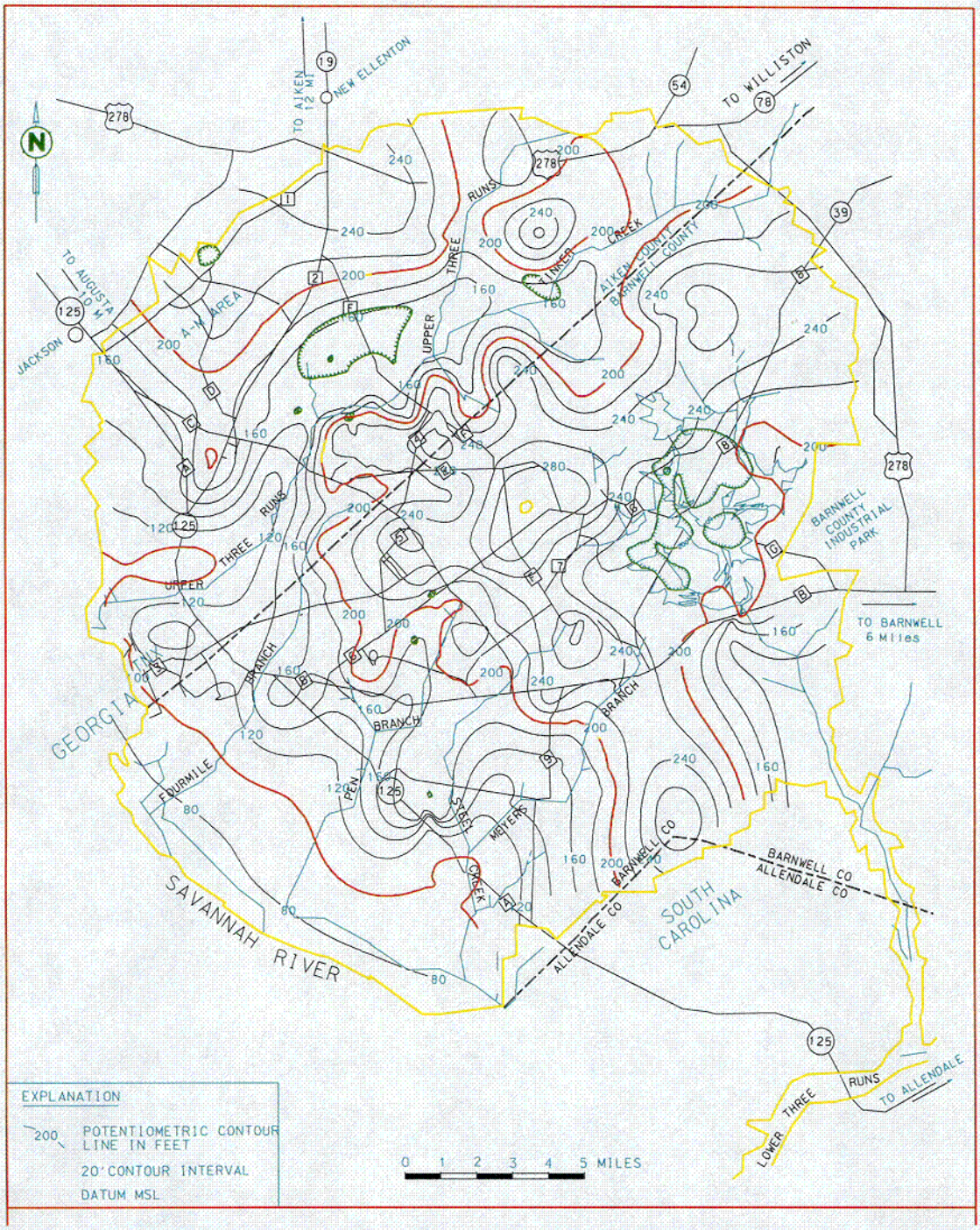


Figure 1.4-24 Potentiometric Map of the Upper Three Runs/Steed Pond Aquifers

C01

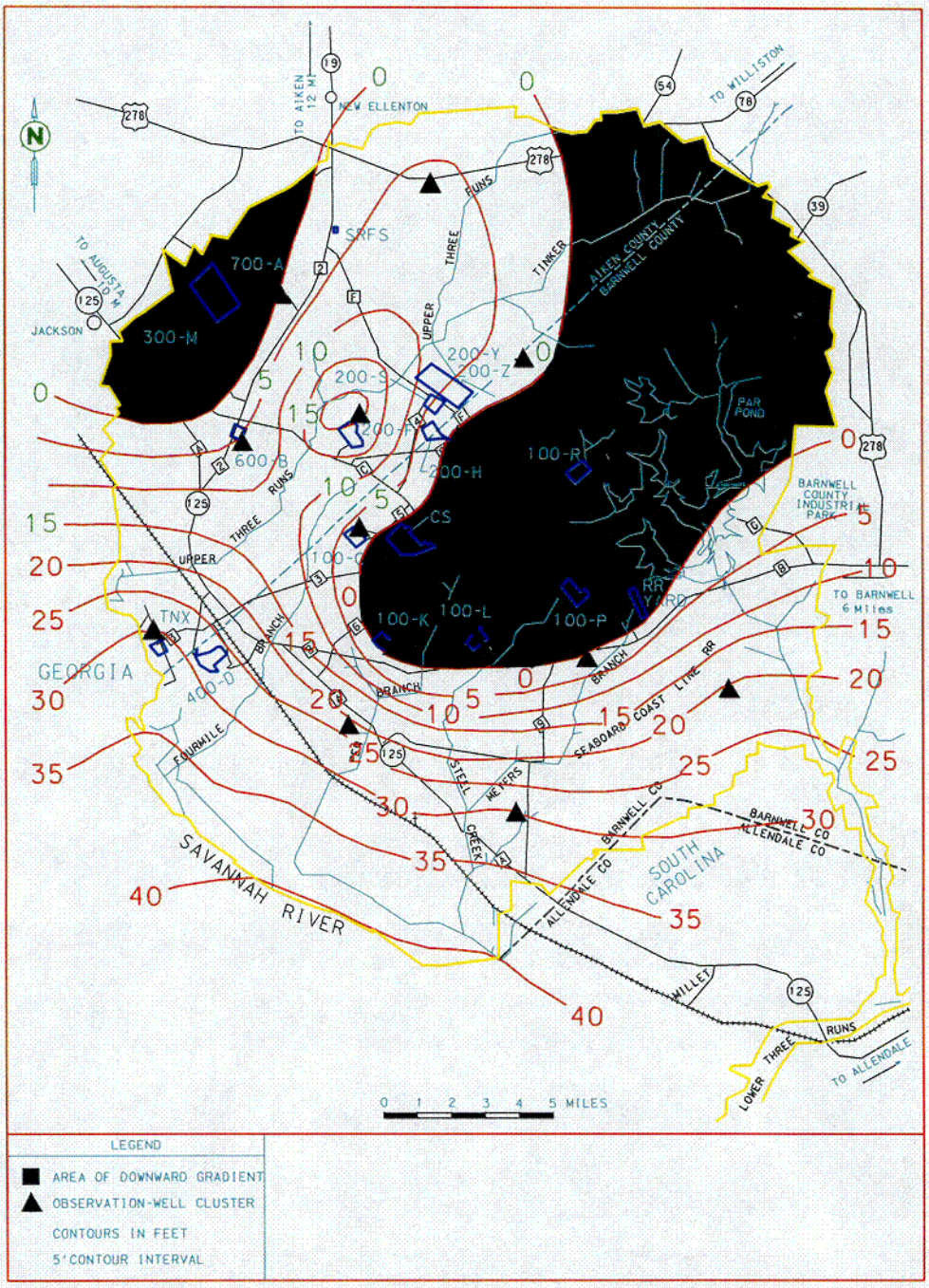


Figure 1.4-25 Map Showing the Head Difference Between the Gordon and Crouch Branch Aquifers (Across the Gordon Confining Unit)

C02

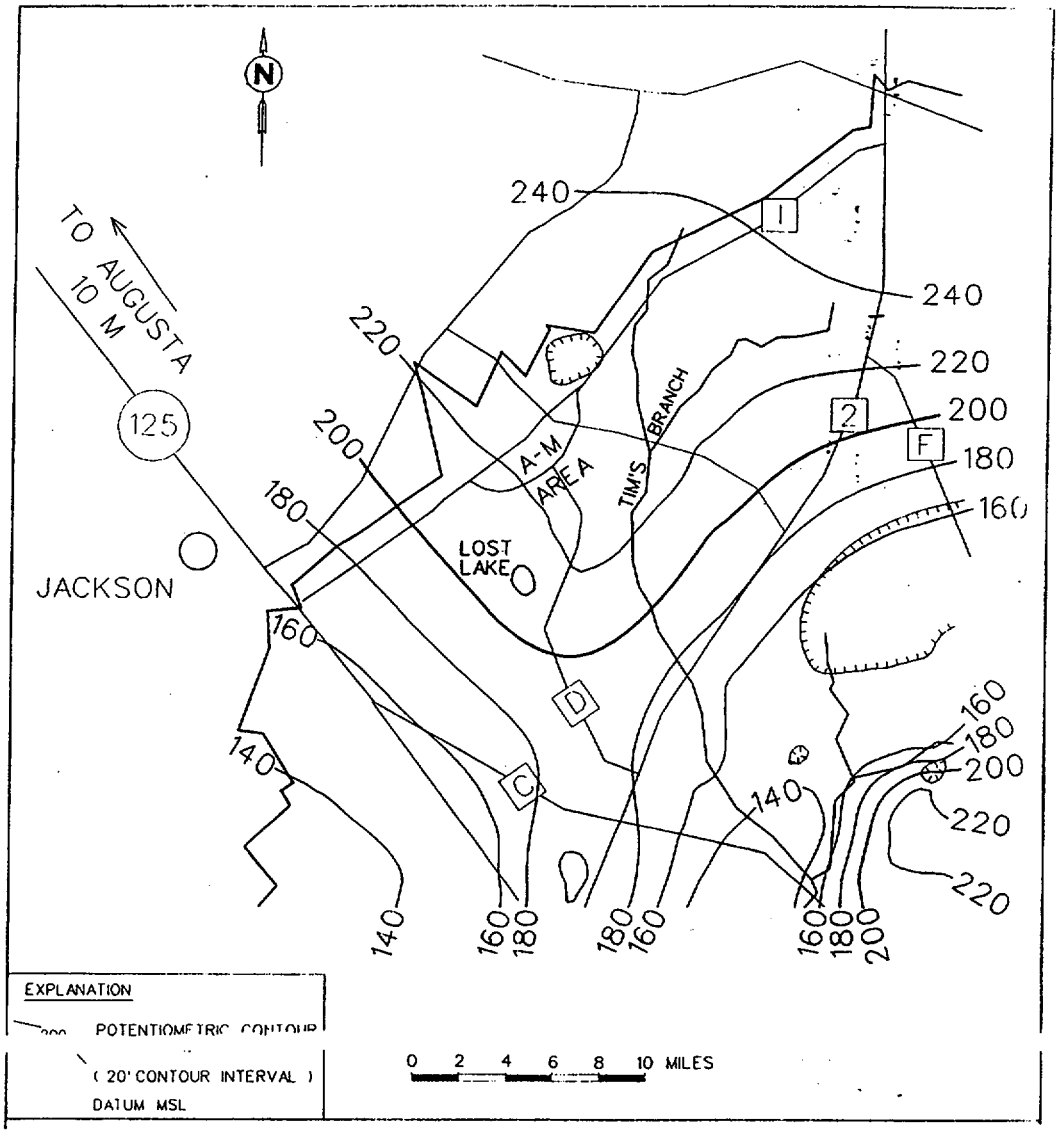


Figure 1.4-26 Water Table Map of A/M Area

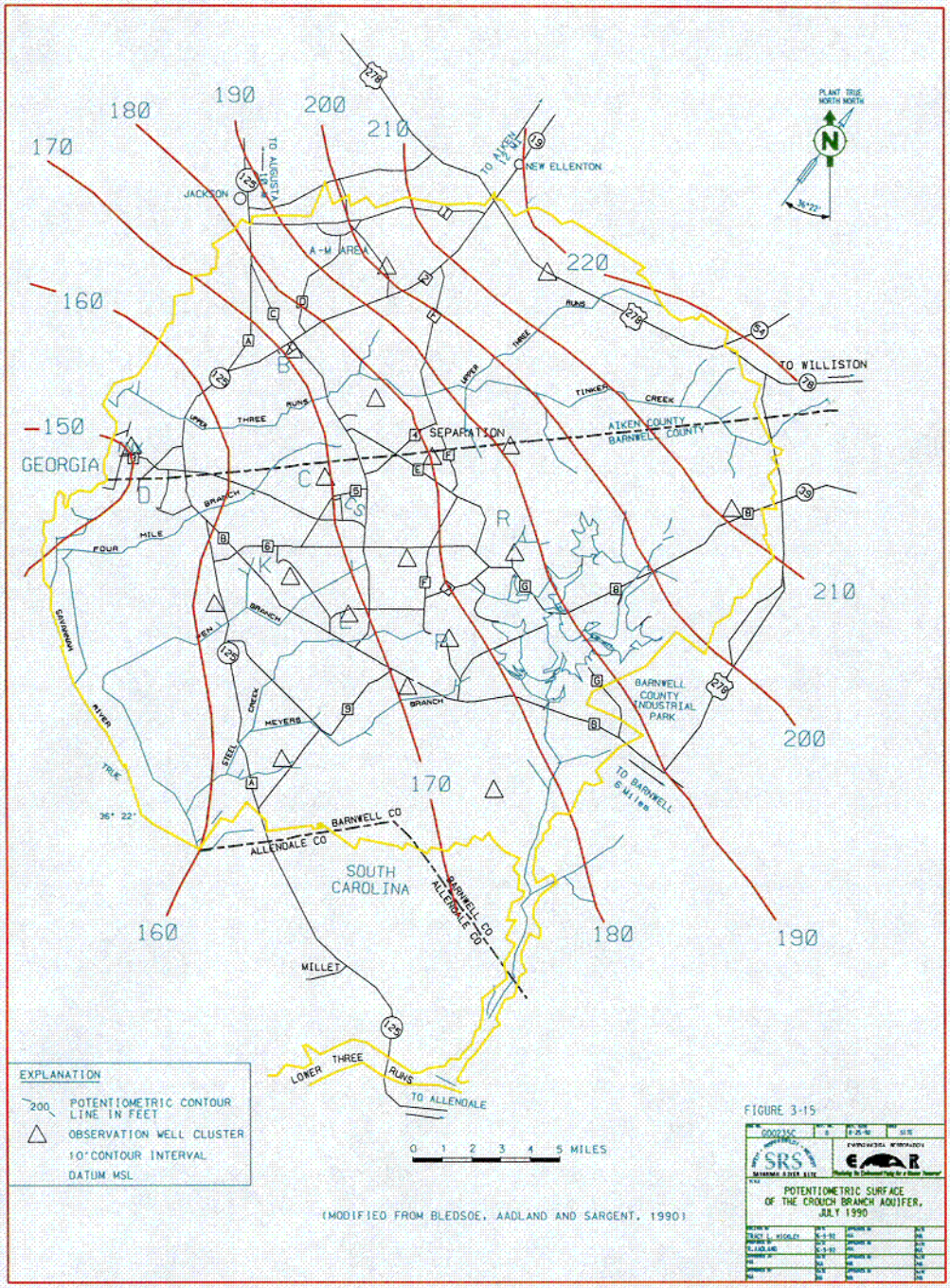


Figure 1.4-27 Potentiometric Surface of the Crouch Branch Aquifer Unit

C03

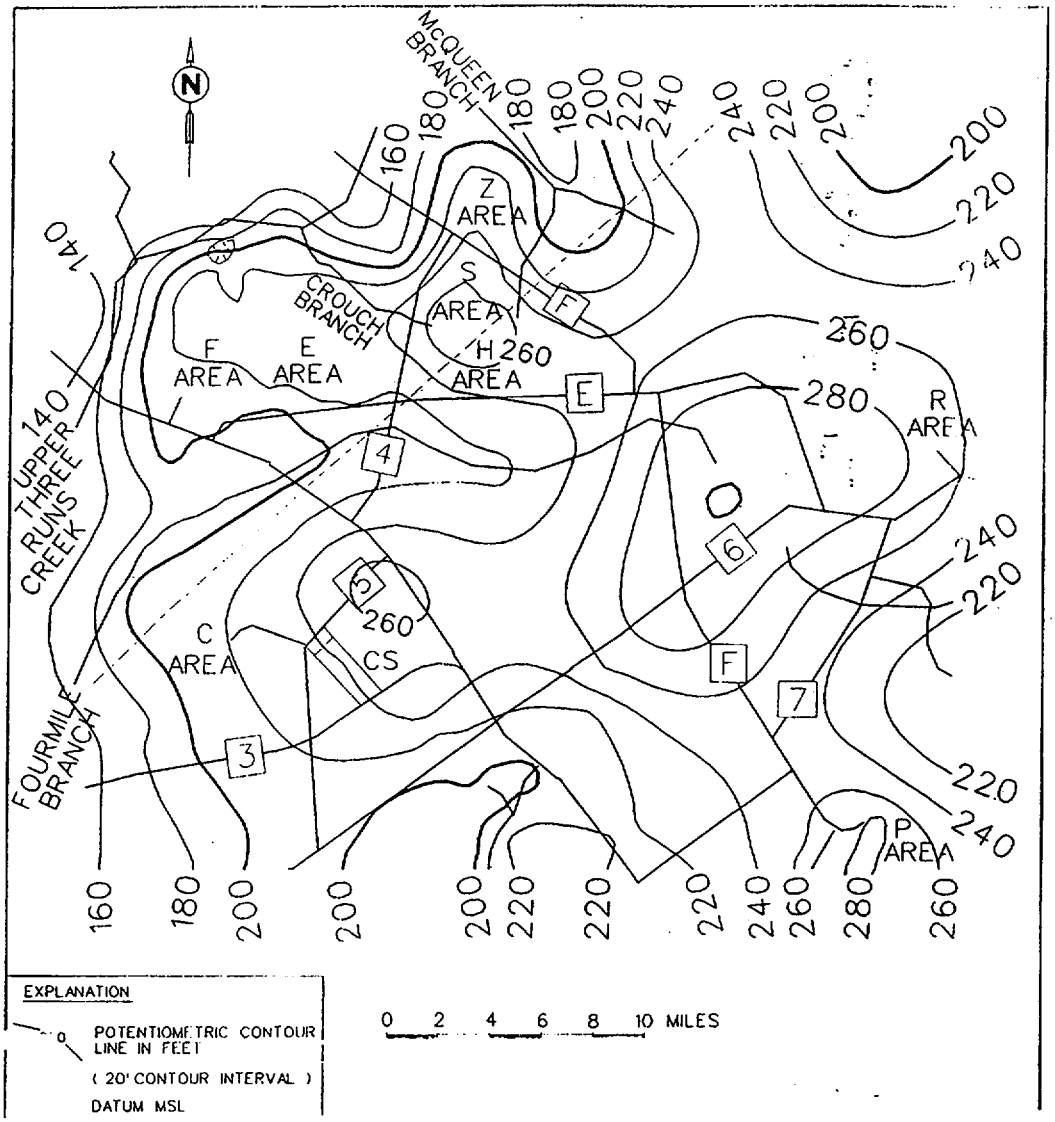


Figure 1.4-28 Water Table Map of the General Separations Area

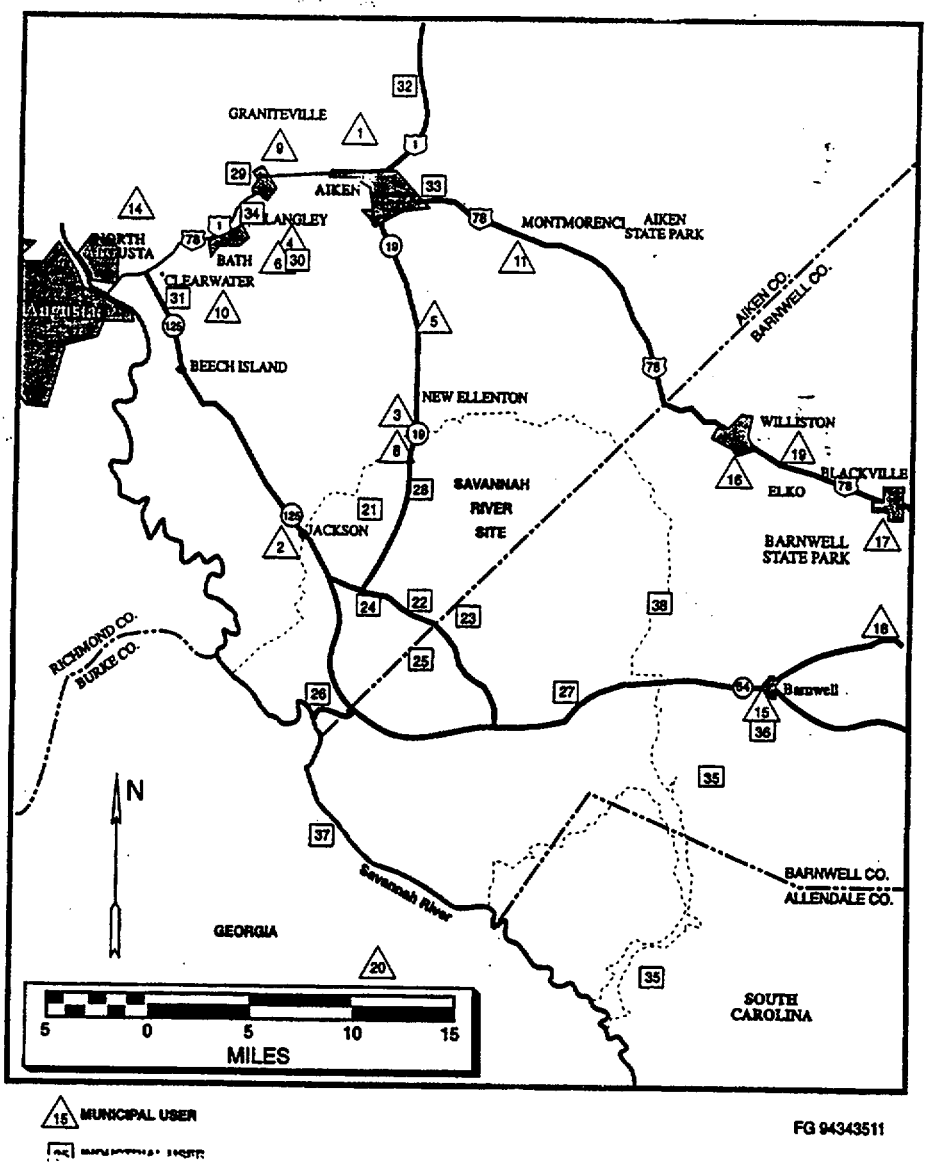


Figure 1.4-29 Locations of Municipal and Industrial Groundwater Users within a 25-Mile Radius of S Area

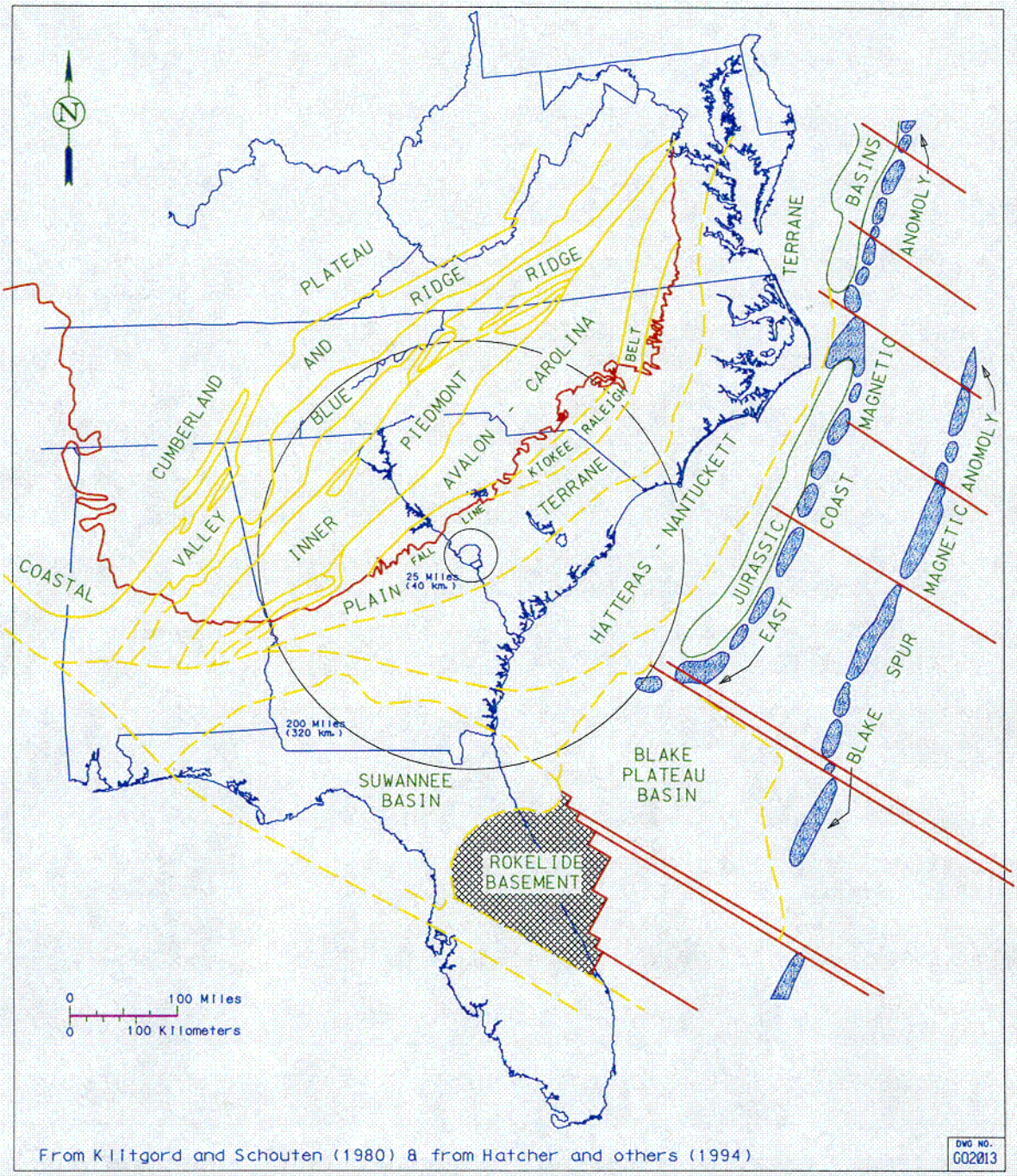


Figure 1.4-30 Tectonic Index Map of Southern Appalachians and Continental Margin

C04

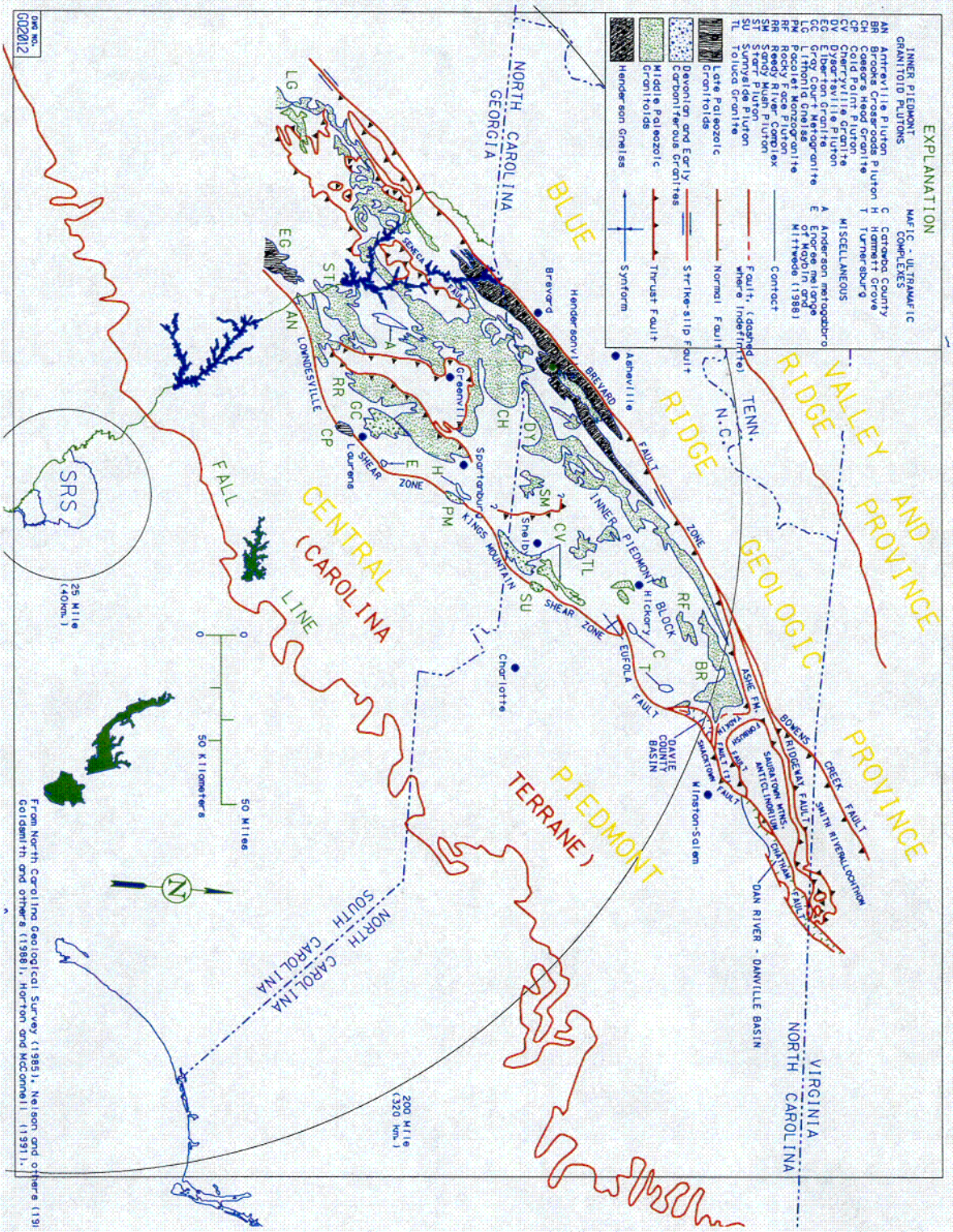


Figure 1.4-31 Tectonic Map of Western Piedmont with Bounding Provinces

C05

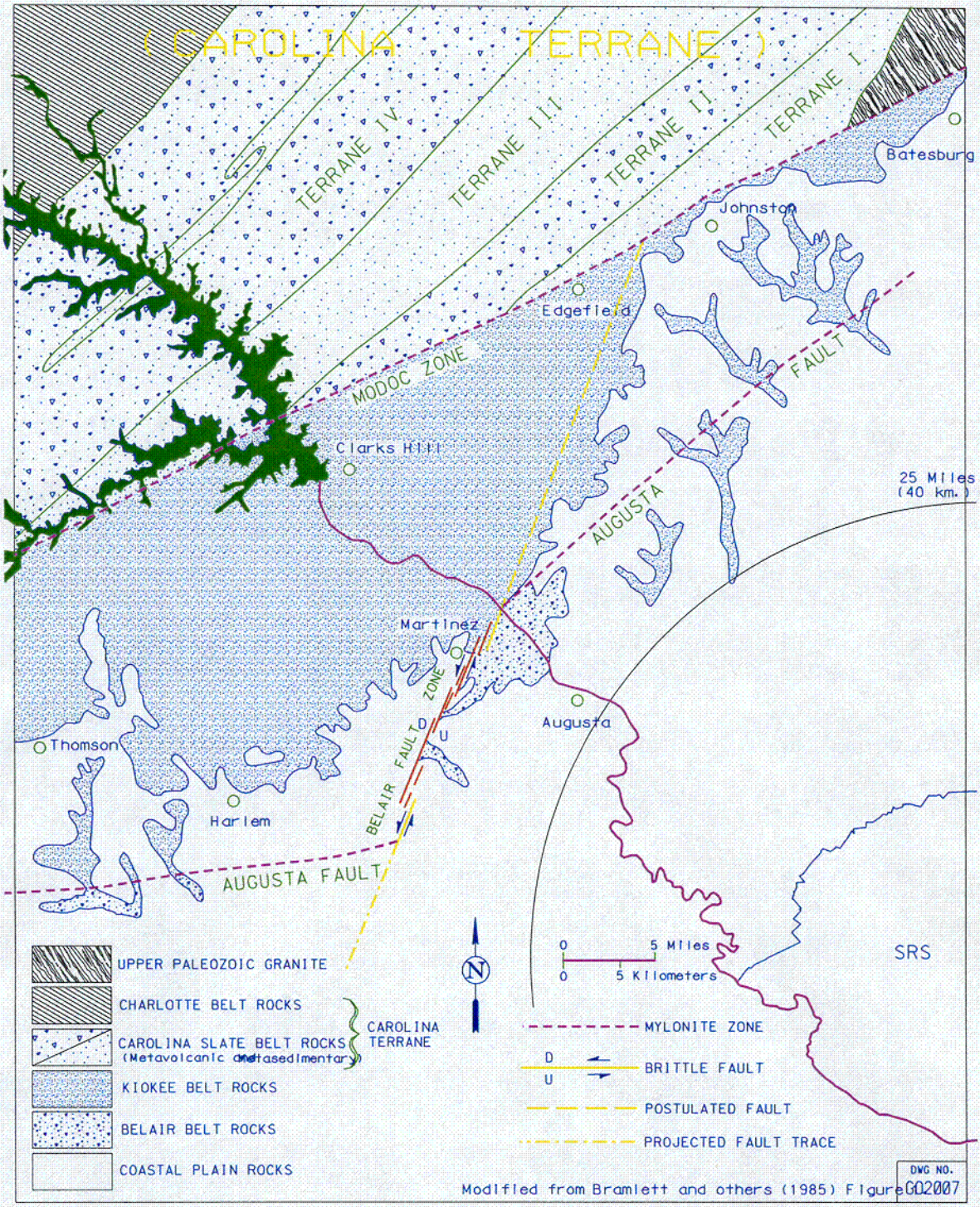


Figure 1.4-32 Tectonic Map of Southeastern Portion of the Carolina Terrain

C06

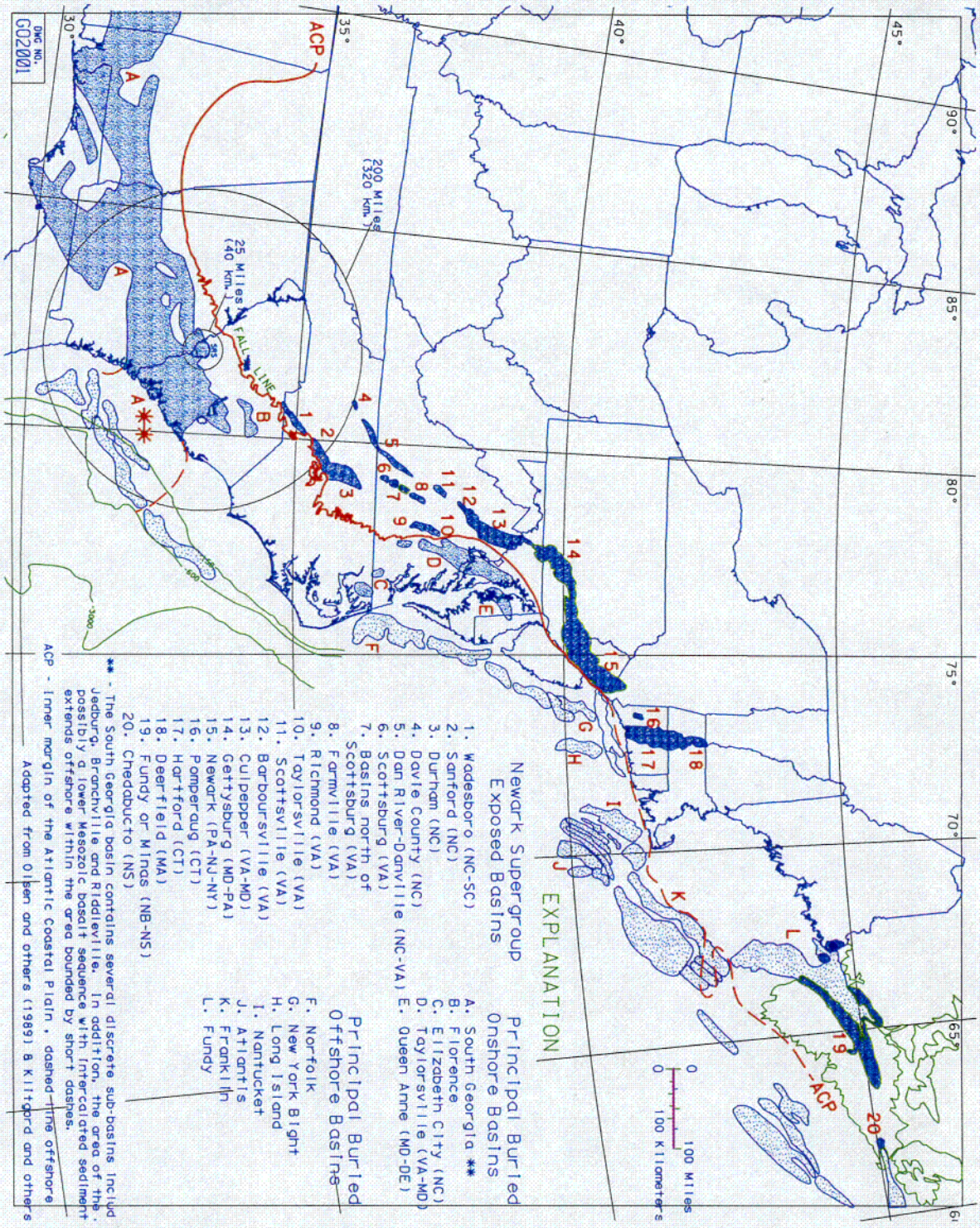


Figure 1.4-33 Location Map of Buried and Exposed Triassic Rift Basins on the Eastern Continental Margin

C07

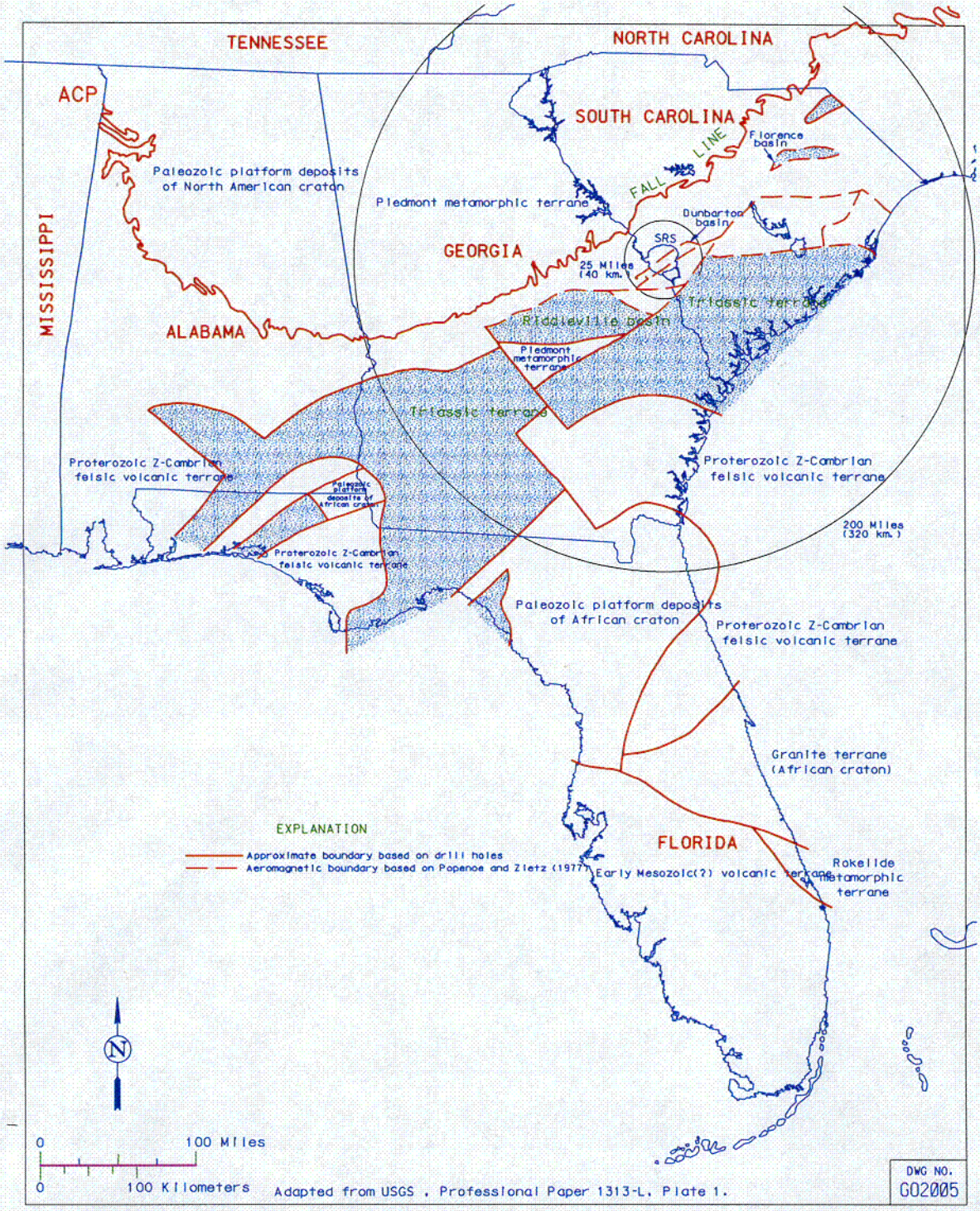


Figure 1.4-34 Detail Map of Triassic Rift Basins in Alabama, Georgia, and South Carolina

C08

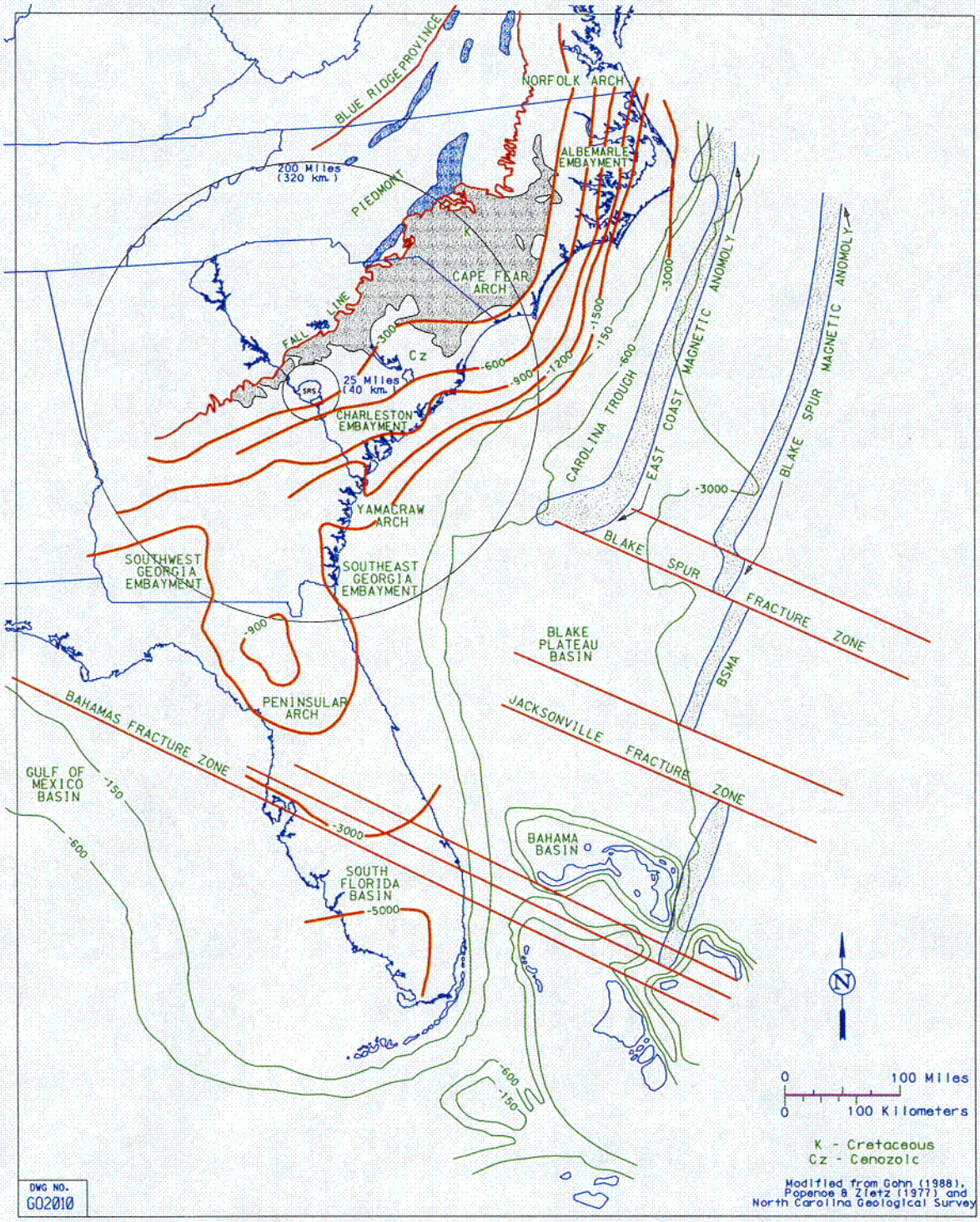


Figure 1.4-35 Map View of the Continental Margin and the Position of the Carolina Trough

C09

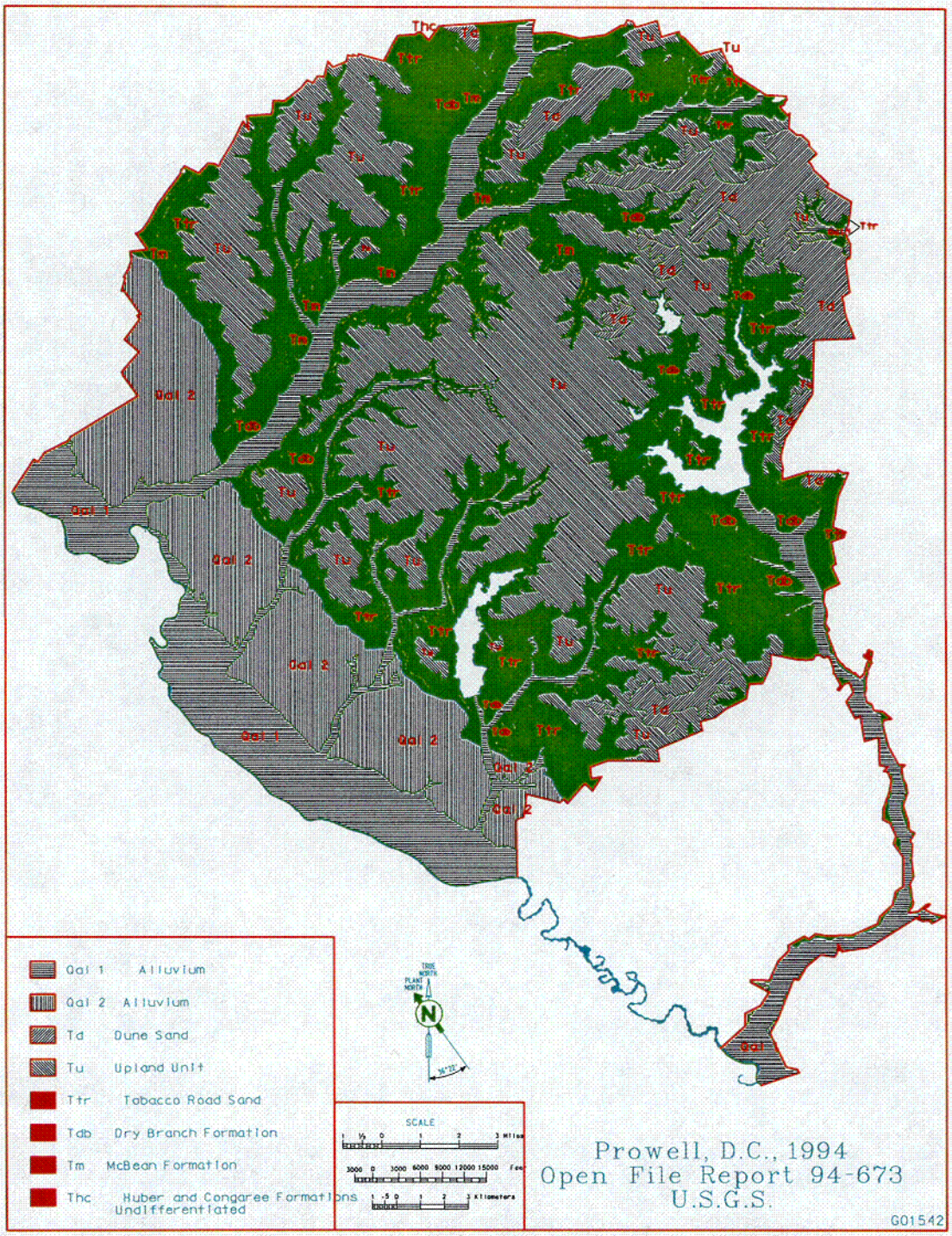


Figure 1.4-36 Site Geologic Map

C10

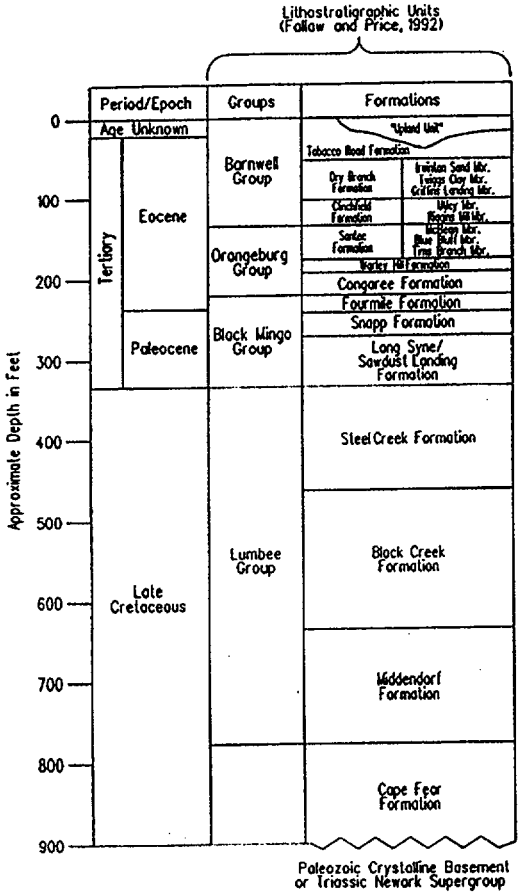


Figure 1.4-37 Lithologic Column Delineating Stratigraphic Nomenclature and Geologic Age

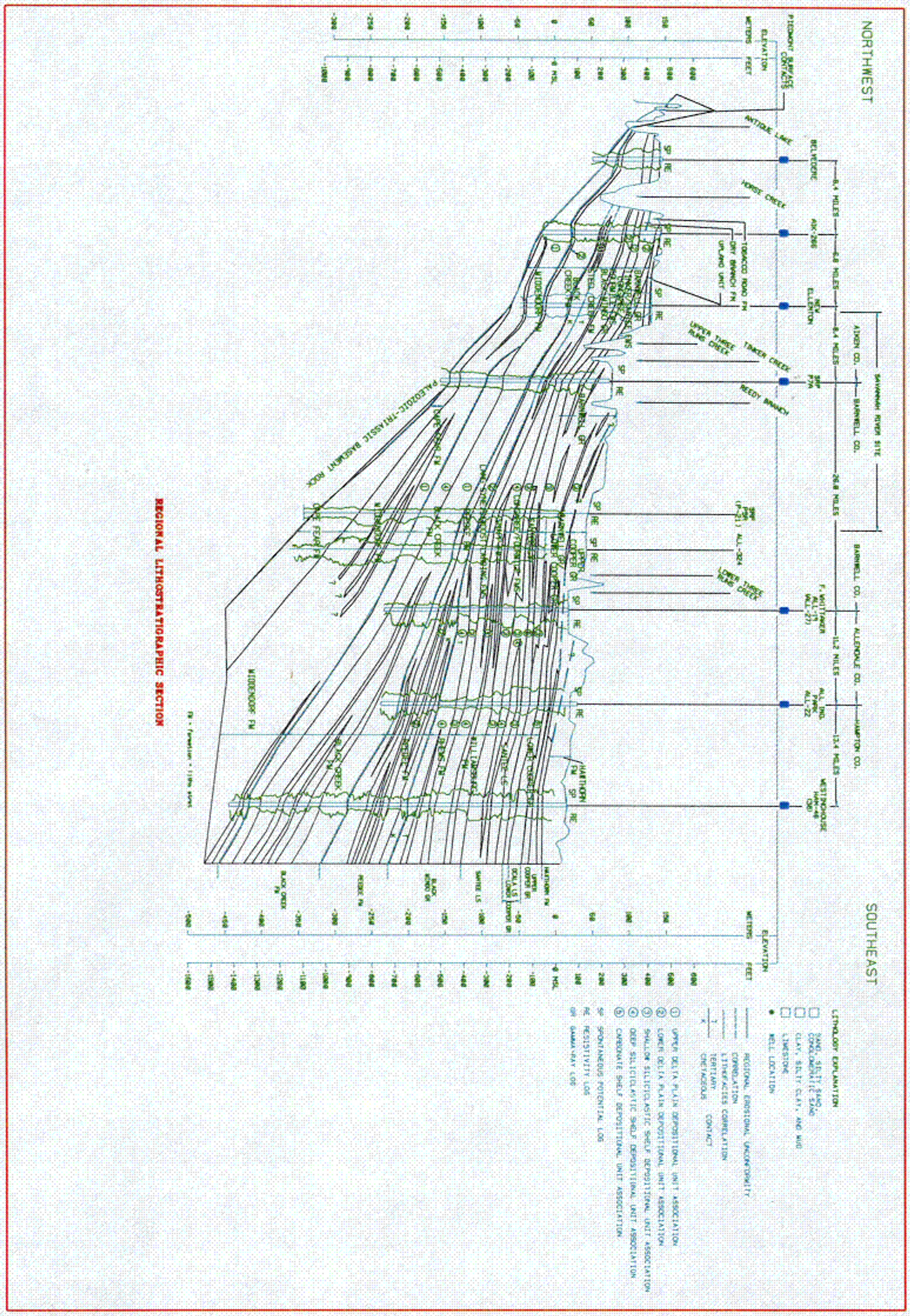


Figure 1.4-38 Regional Geologic Cross Section

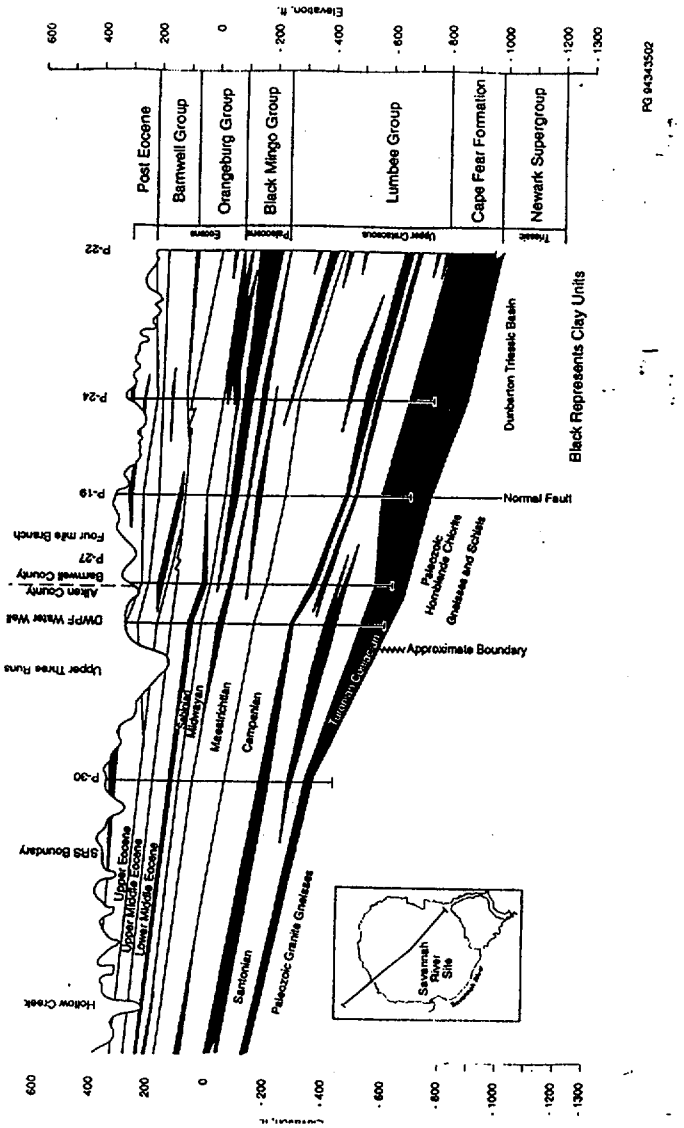


Figure 1.4-39 Geologic Cross Section of the Coastal Plain Sediments in the SRS Area

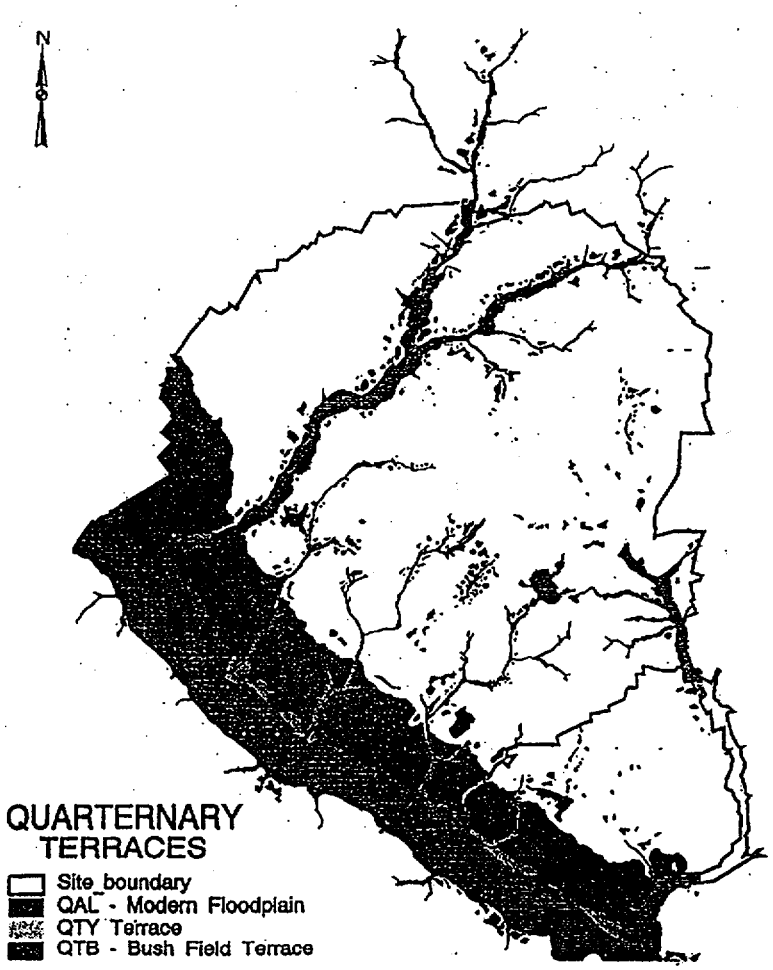


Figure 1.4-40 Quaternary Index Map of Savannah River Site

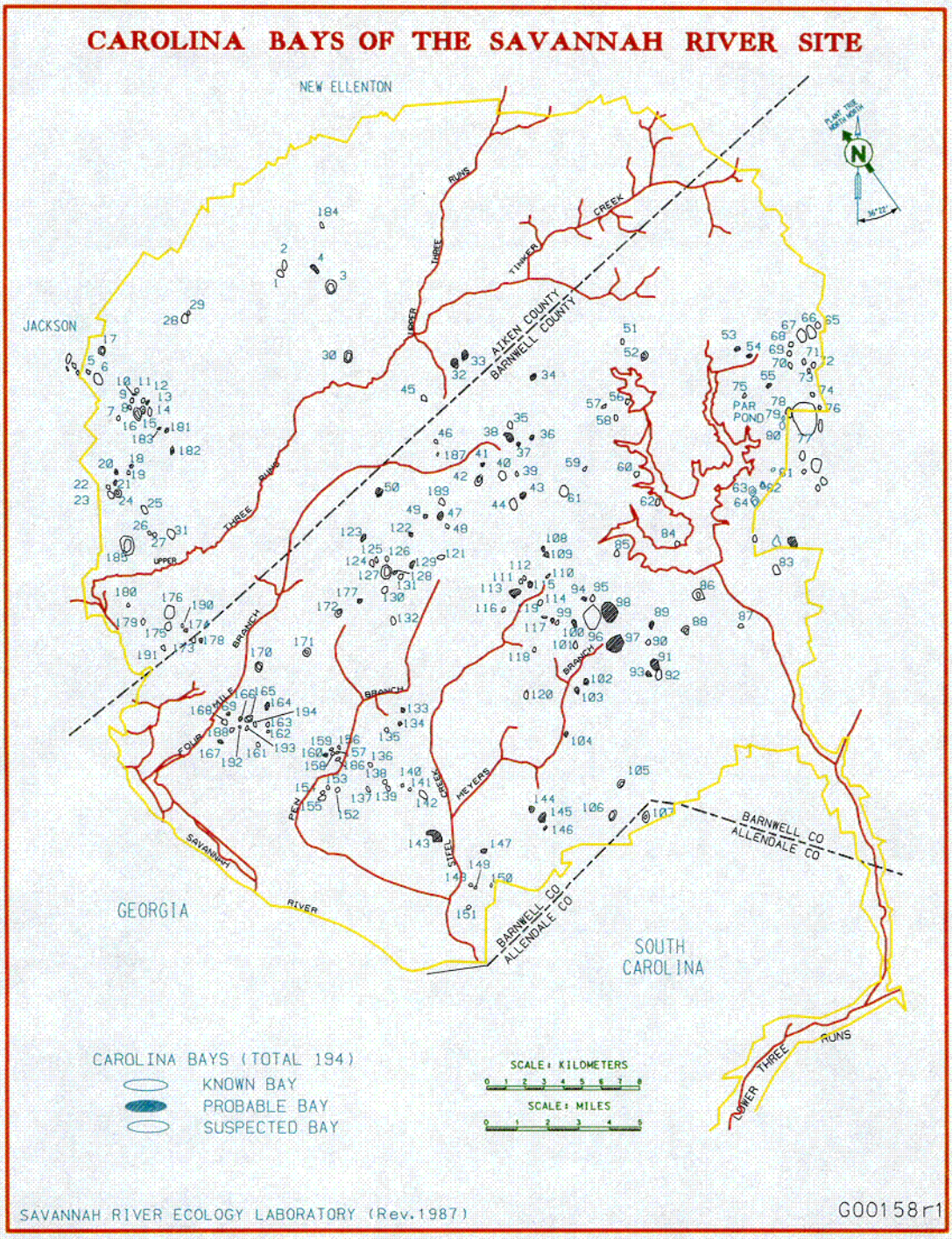


Figure 1.4-41 Carolina Bay Index Map

C12

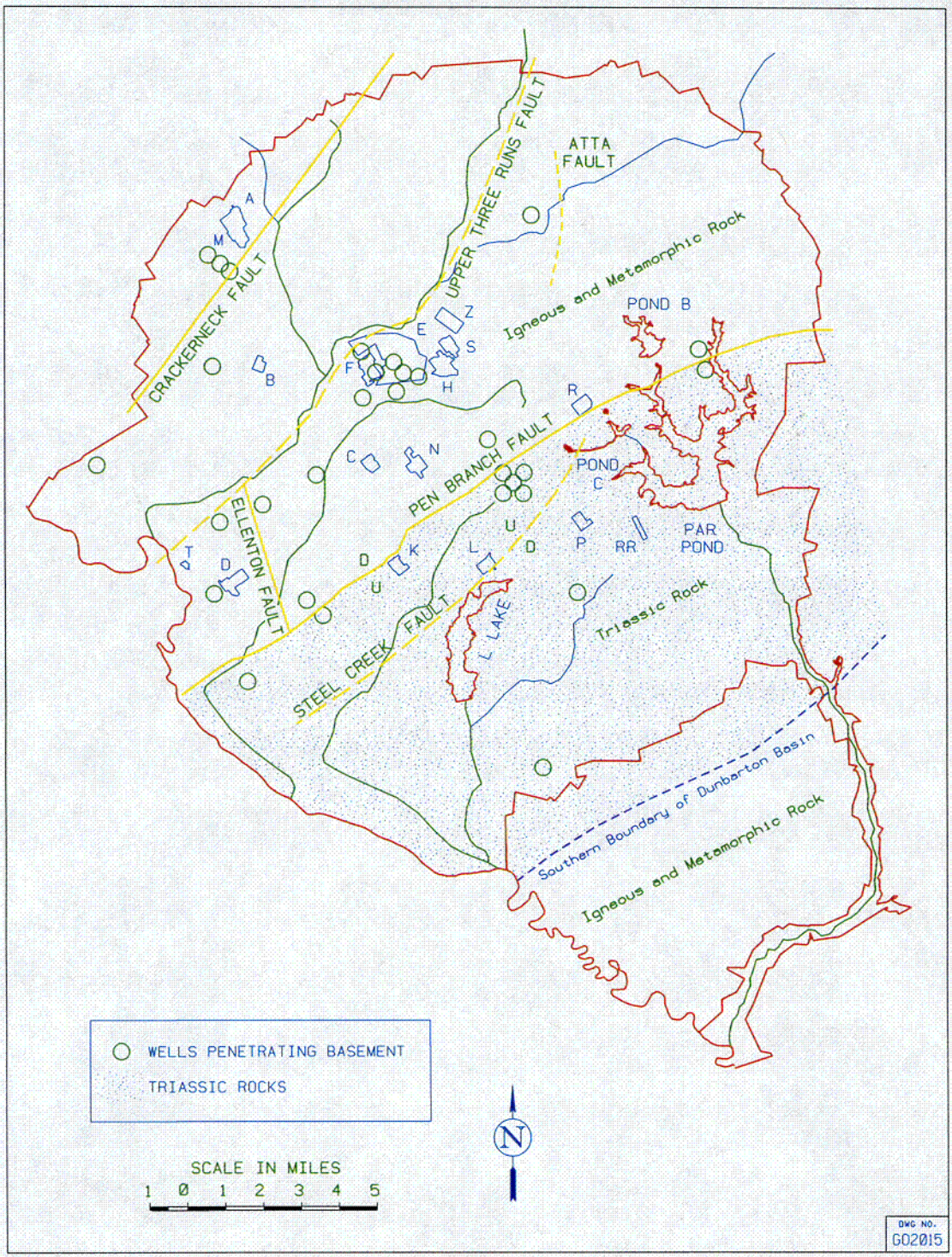


Figure 1.4-42 Pre-Cretaceous Basement Rocks Beneath SRS

C13

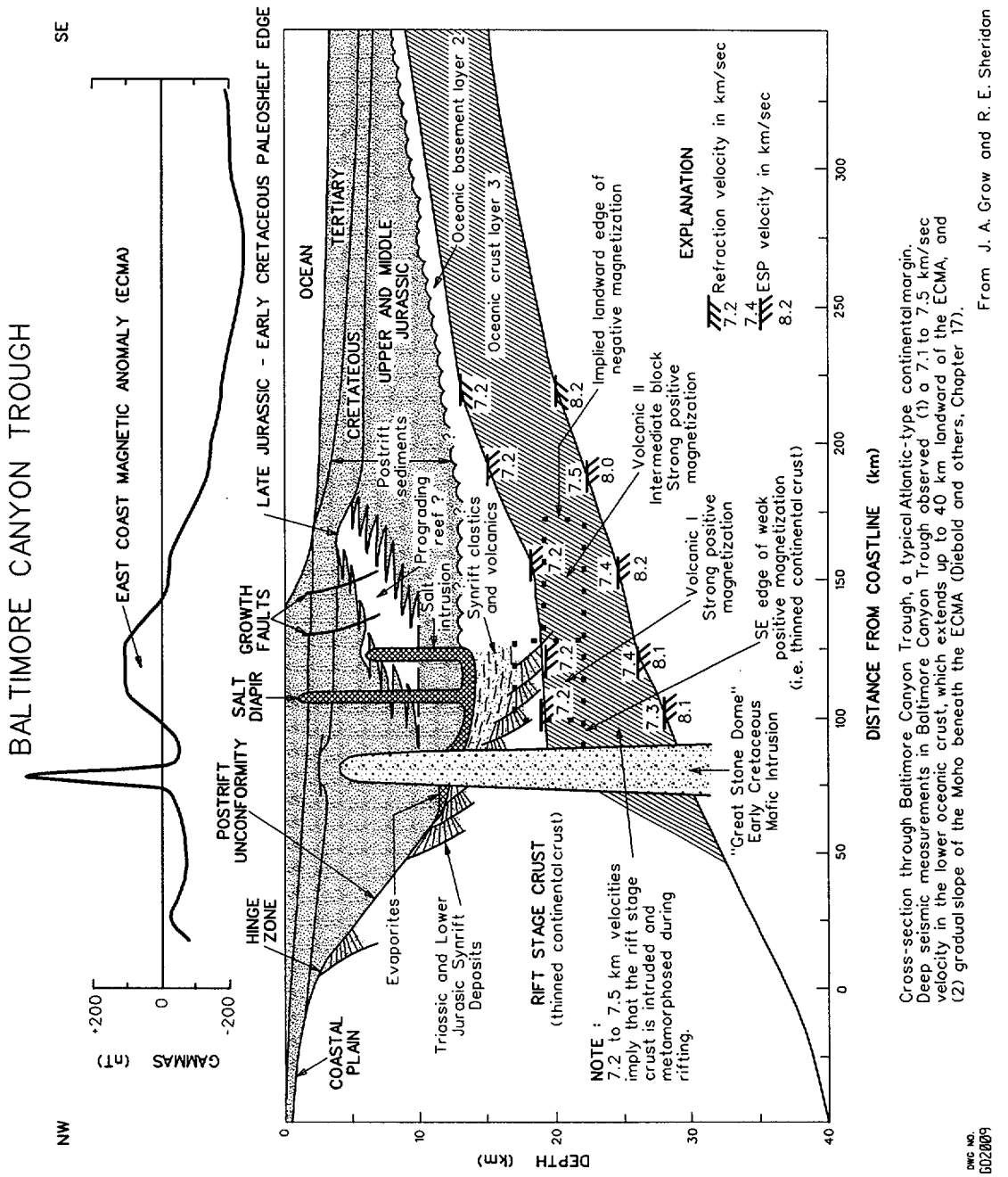


Figure 1.4-43 Cross Section View of the Offshore Baltimore Canyon Trough

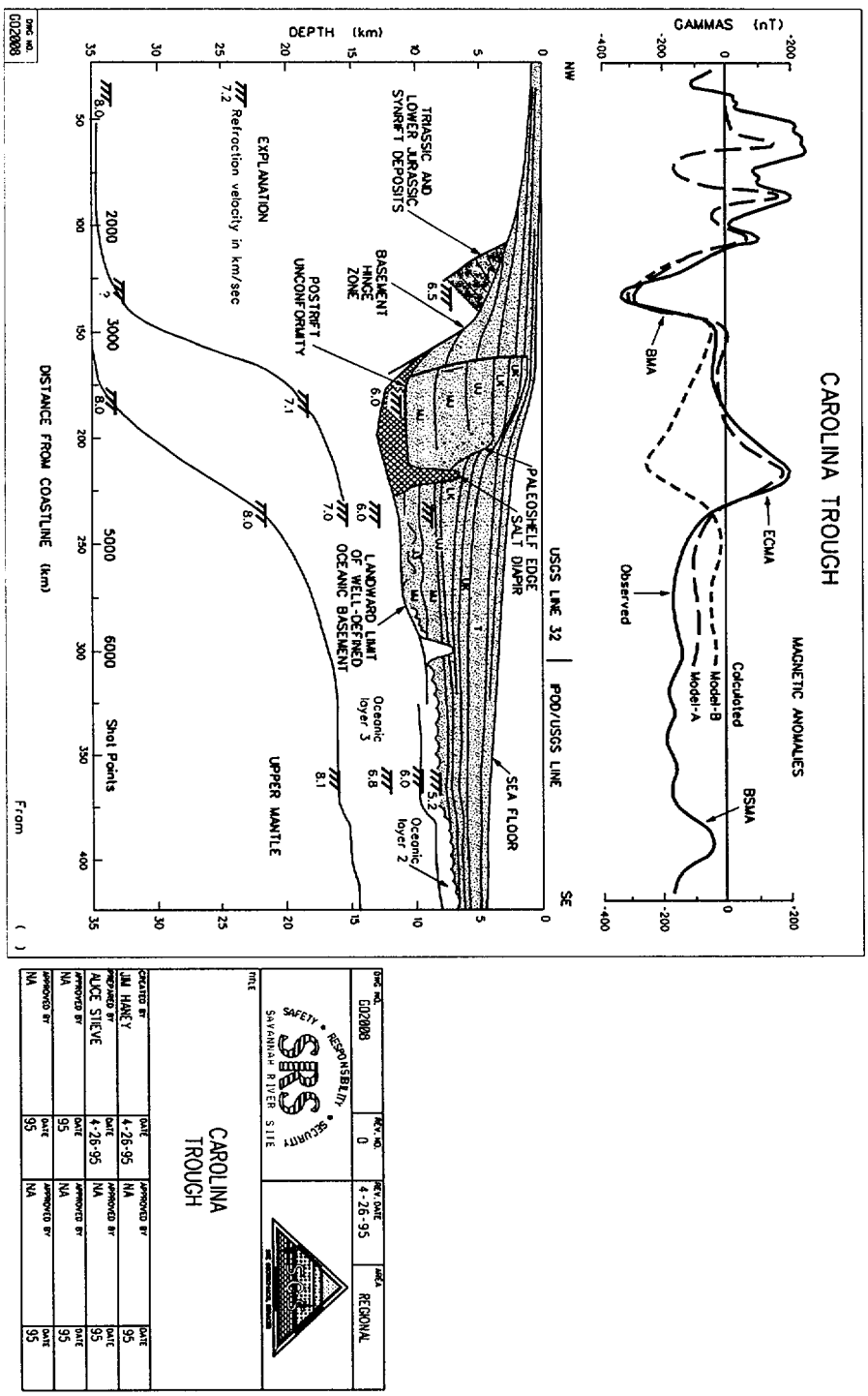


Figure 1.4-44 Cross Section View of Carolina Trough

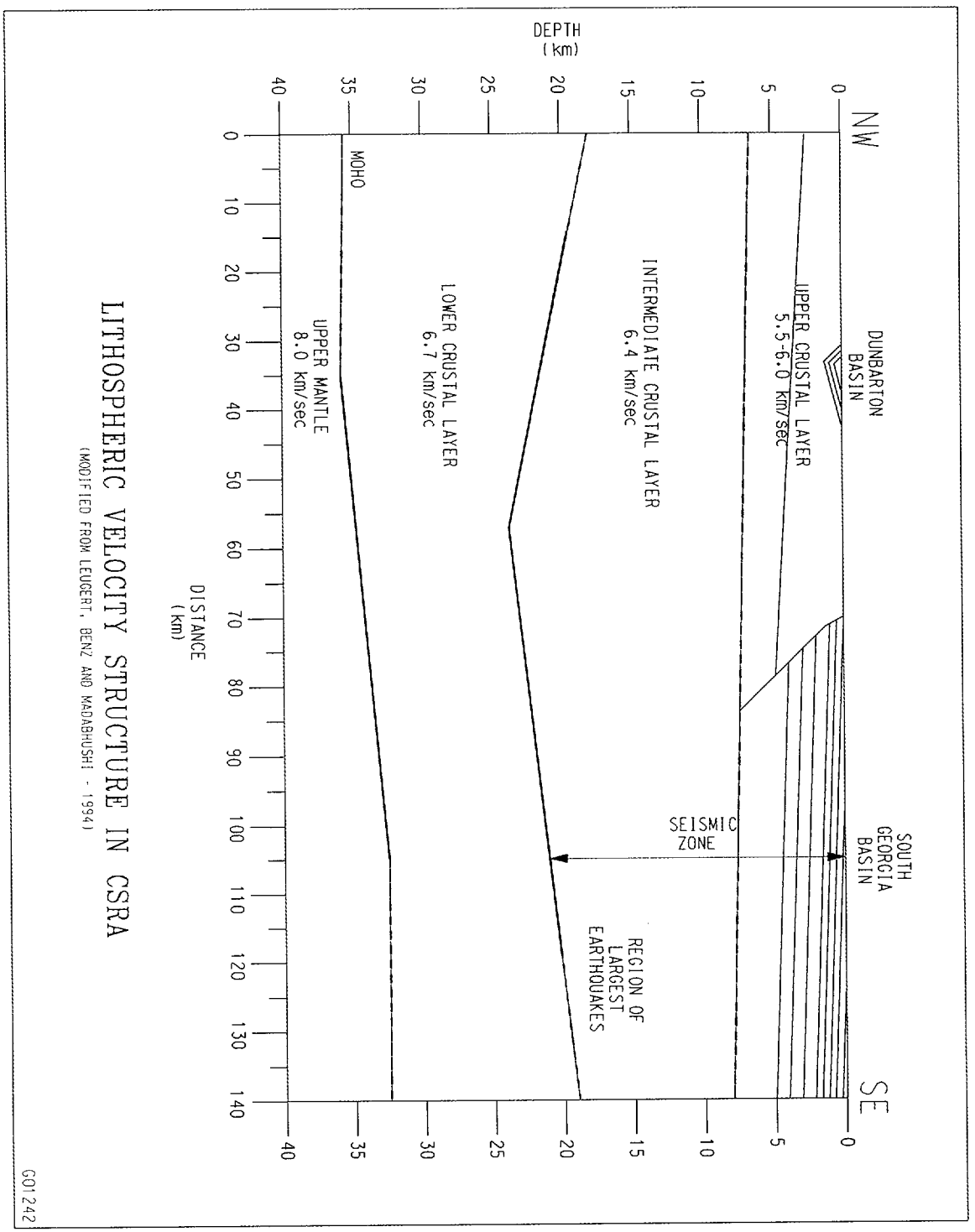


Figure 1.4-45 Lithospheric Velocity Model of Crust Below Savannah River Site

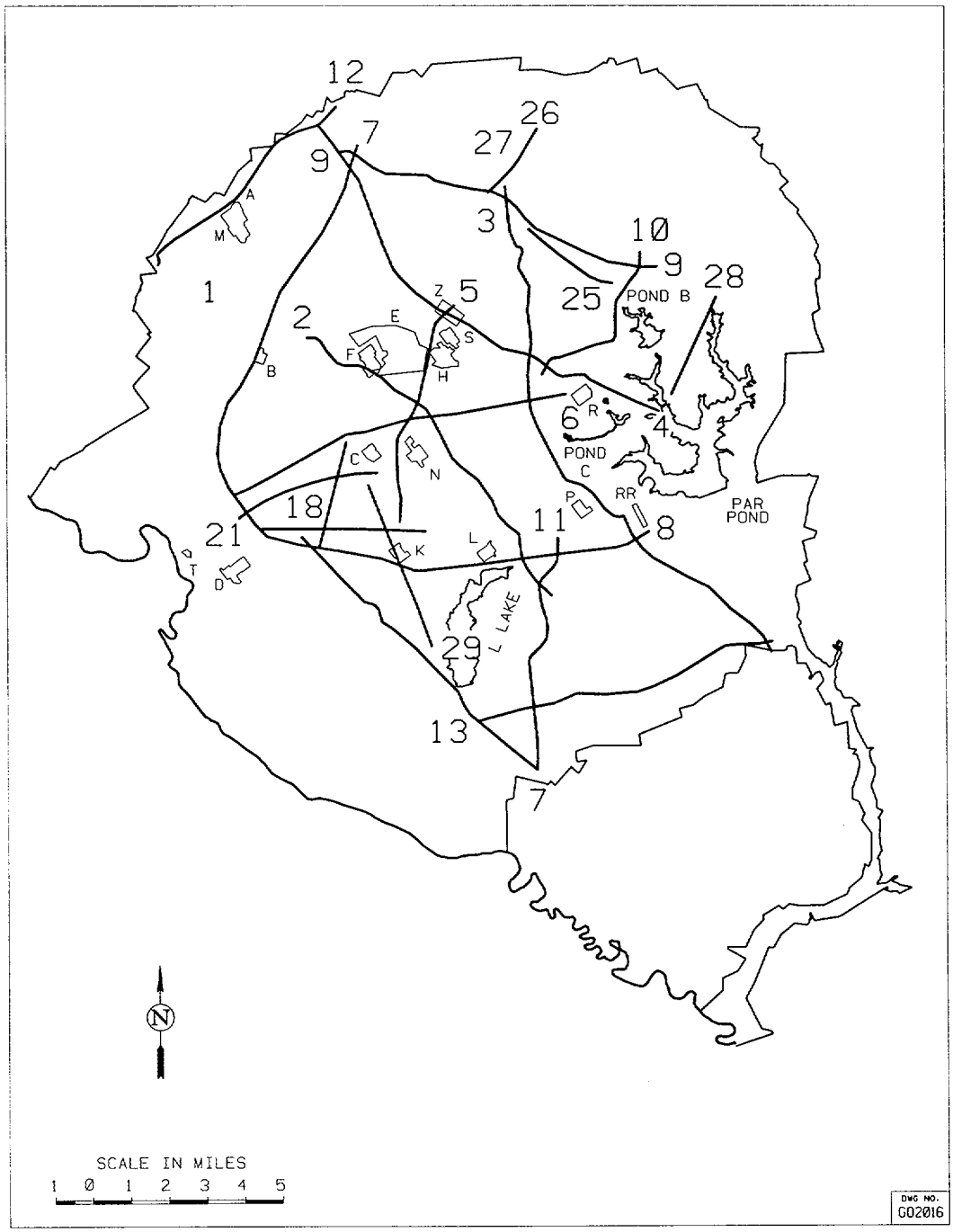


Figure 1.4-46 Conoco Seismic Reflection Survey Index Map

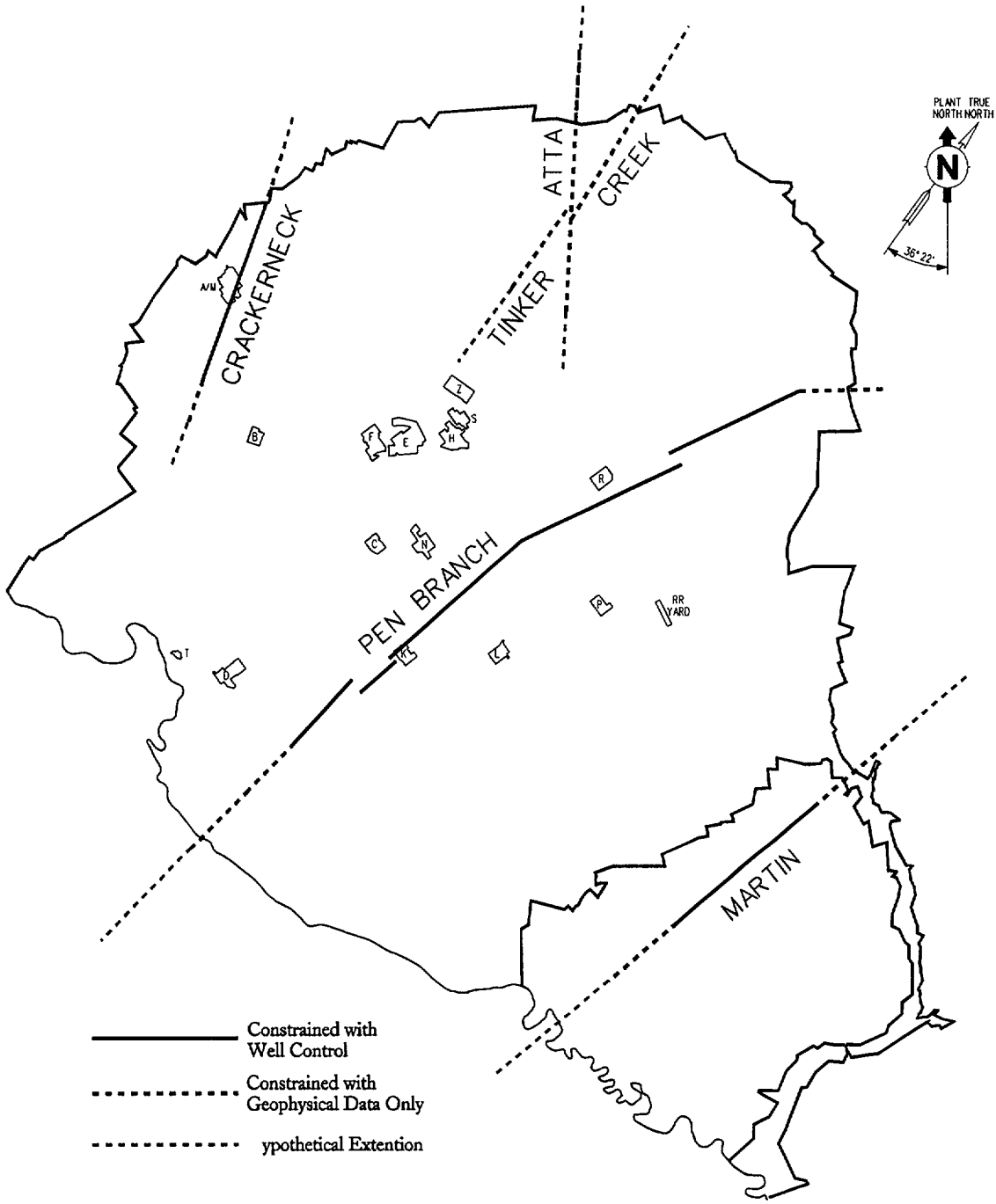


Figure 1.4-47 Regional Scale Faults for SRS and Vicinity

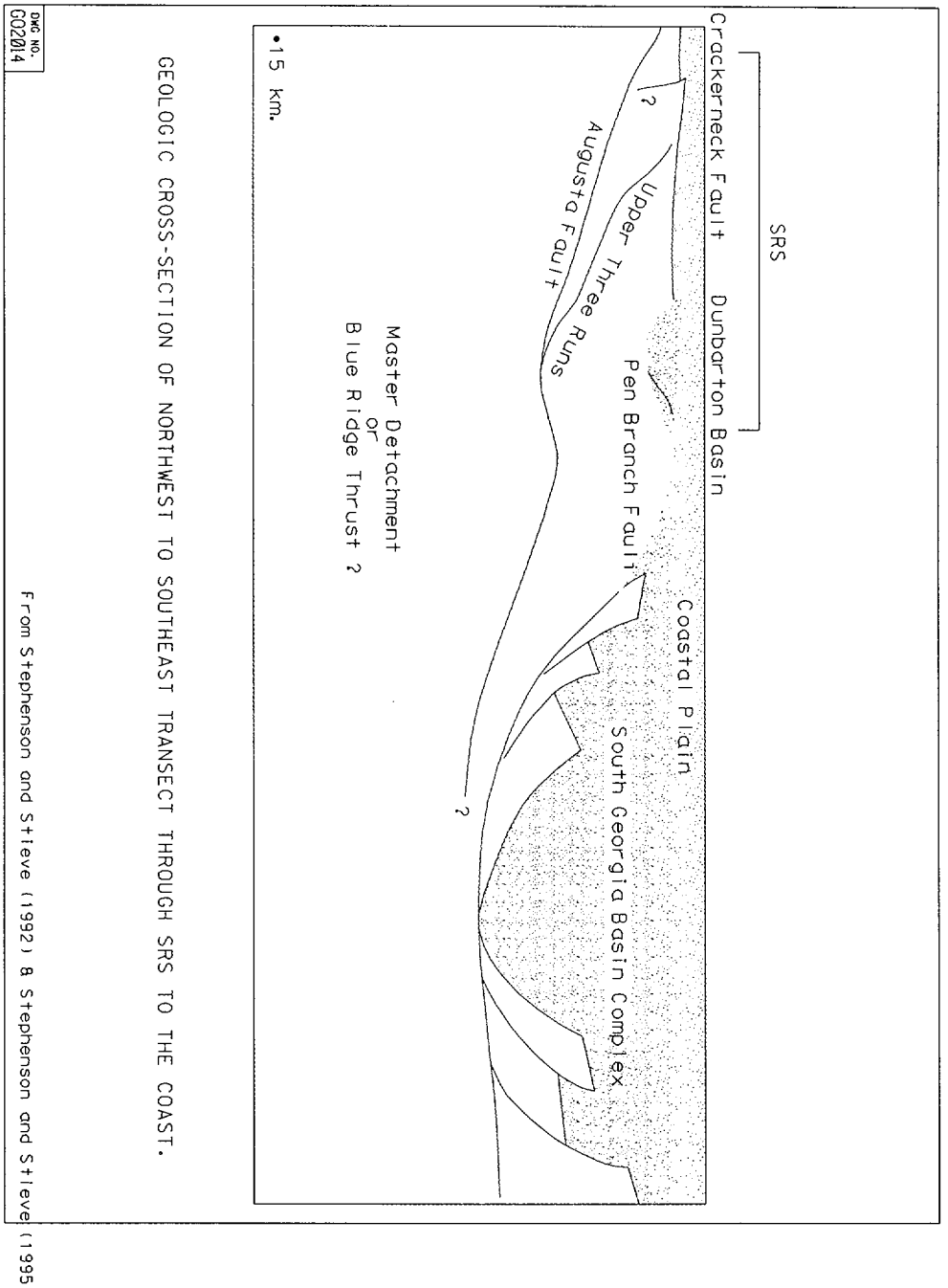


Figure 1.4-48 Model of Dunbarton Basin and South Georgia Rift Complex

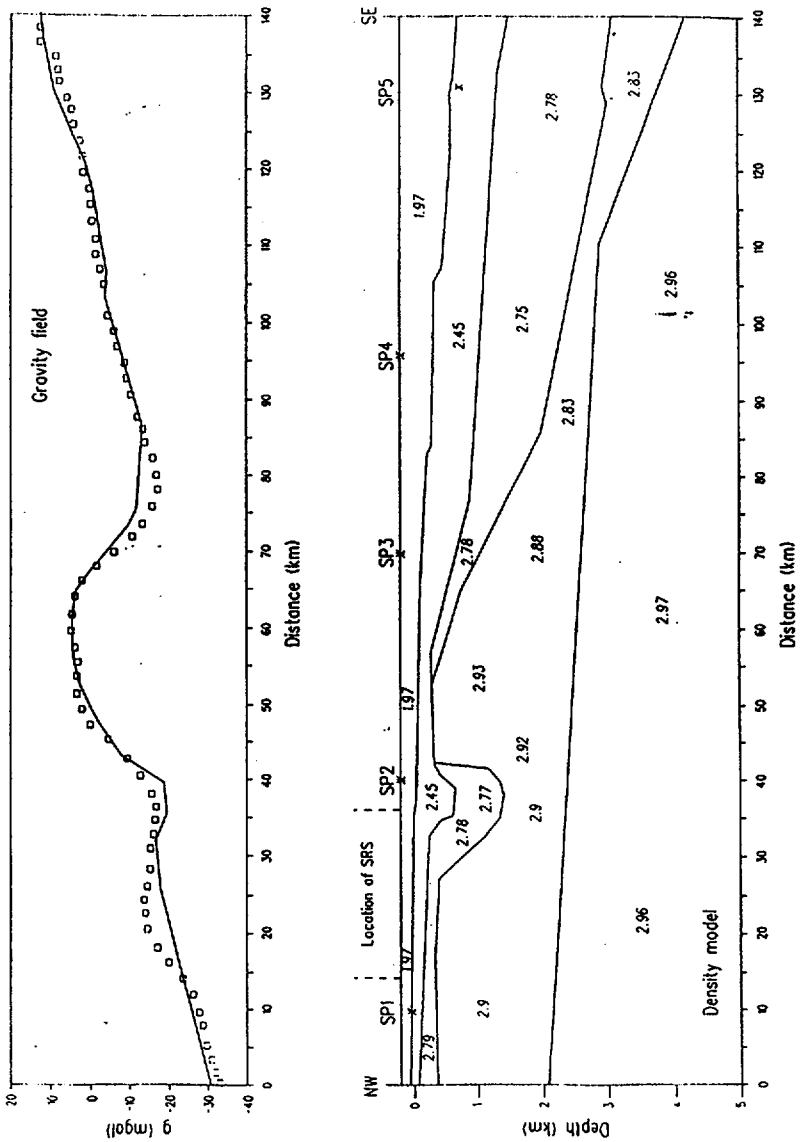


Figure 1.4-49 Gravity Model of Dunbarton and South Georgia Rift

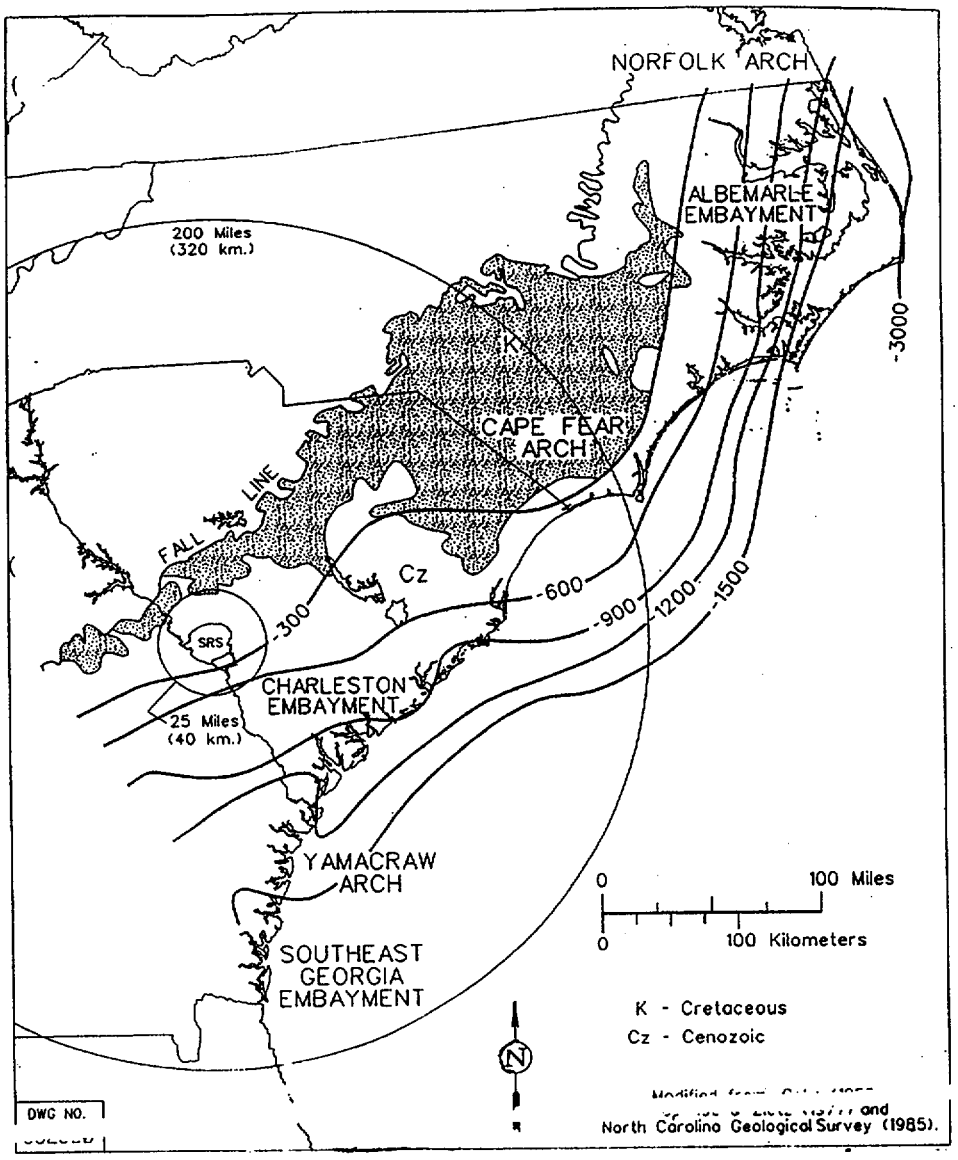
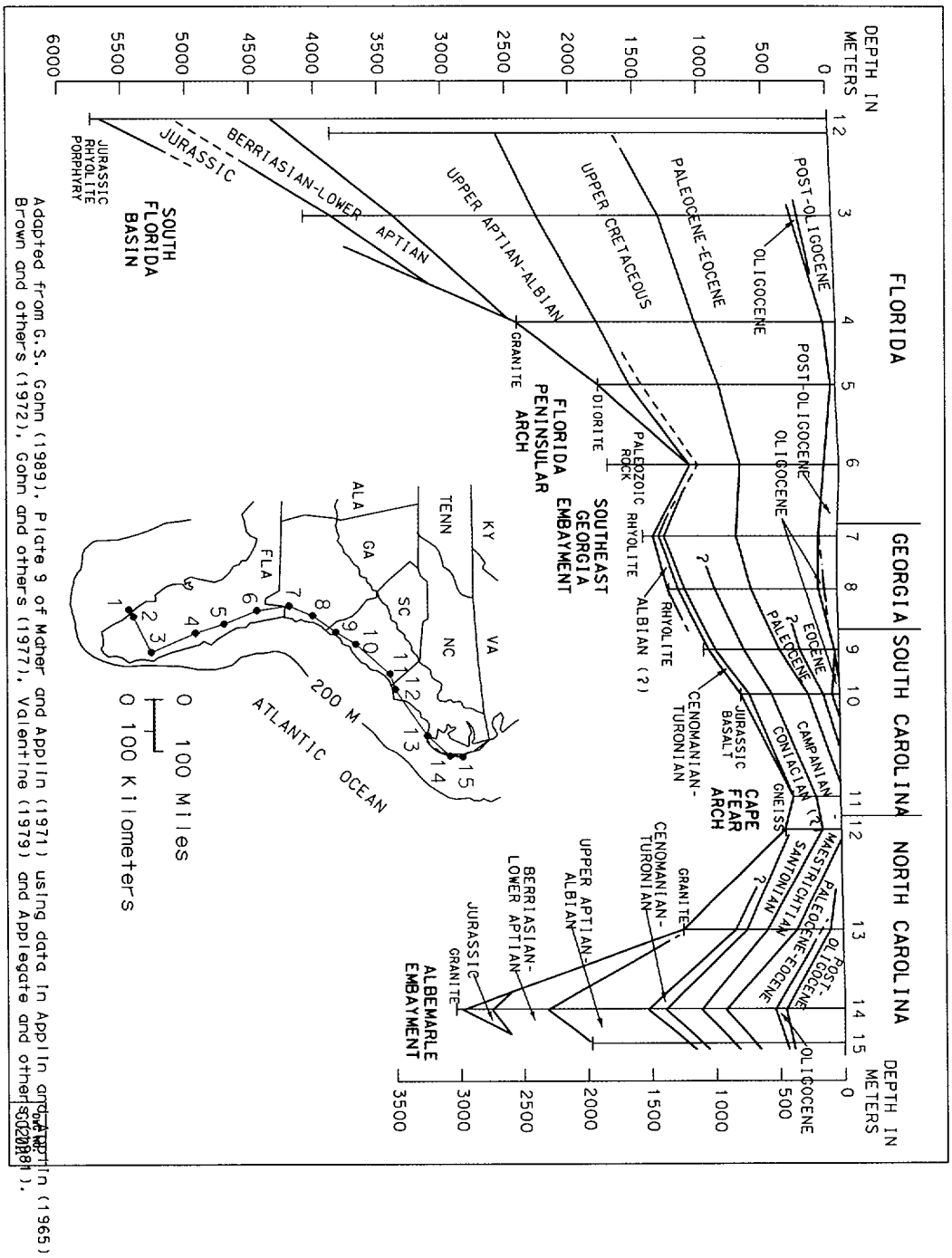


Figure 1.4-50 Cape Fear Arch



Adapted from G.S. Gohn (1989), Plate 9 of Maher and Applin (1971) using data in Applin and Applin (1965), Brown and others (1972), Gohn and others (1977), Valentine (1979) and Applegate and others (1981).

Figure 1.4-51 Cross Section of Cape Fear Arch

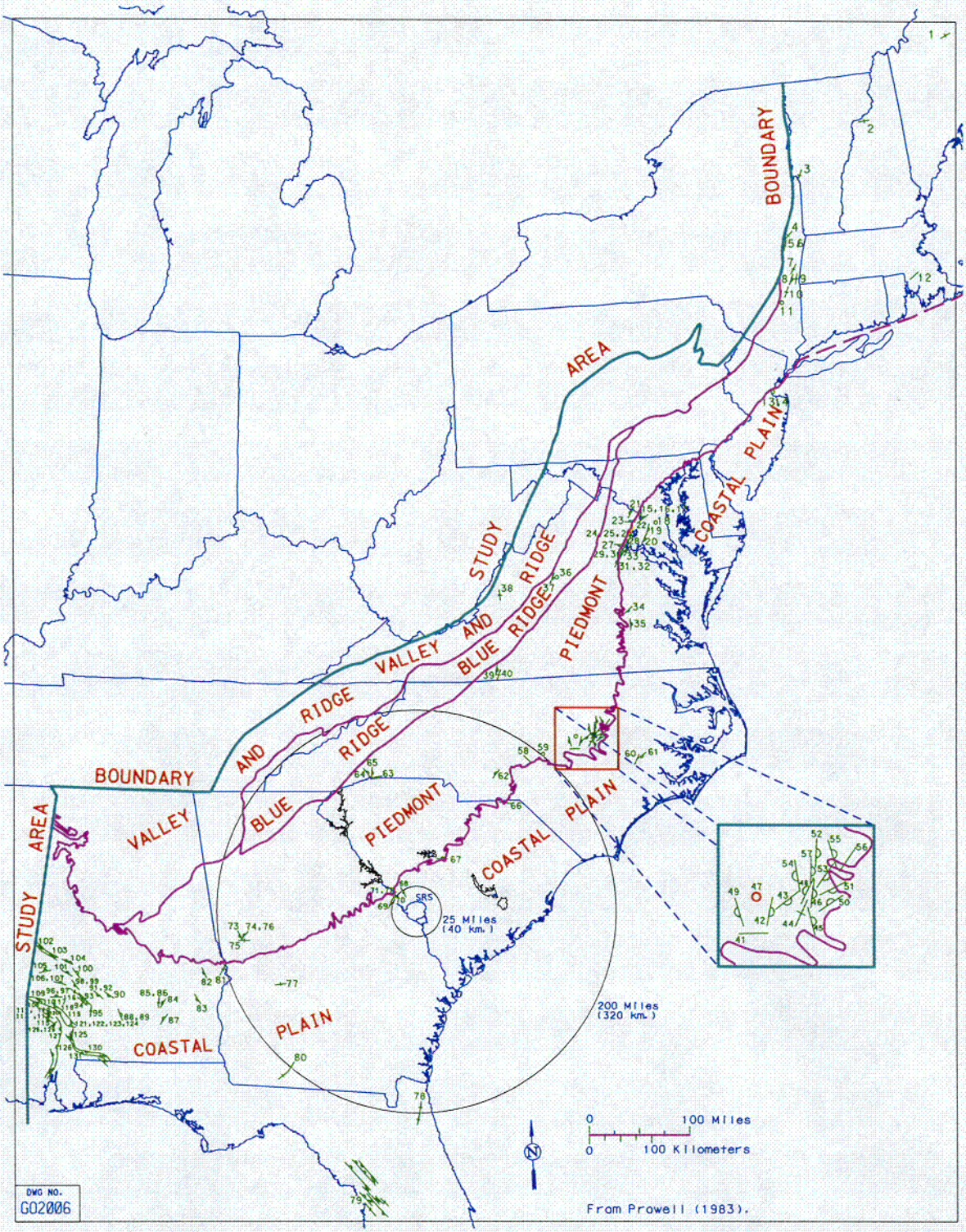


Figure 1.4-52 Coastal Plain Faults from USGS

C14

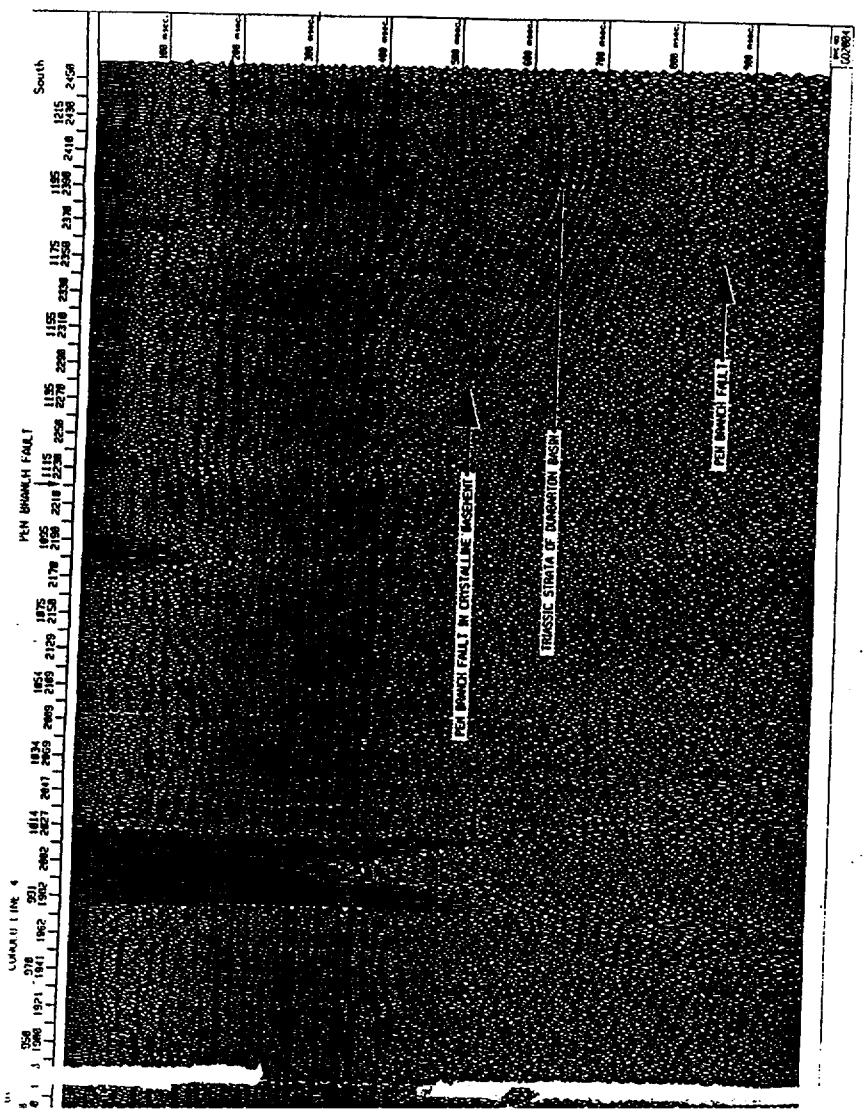


Figure 1.4-53 Pen Branch Fault on the Conoco Seismic Reflection Profile

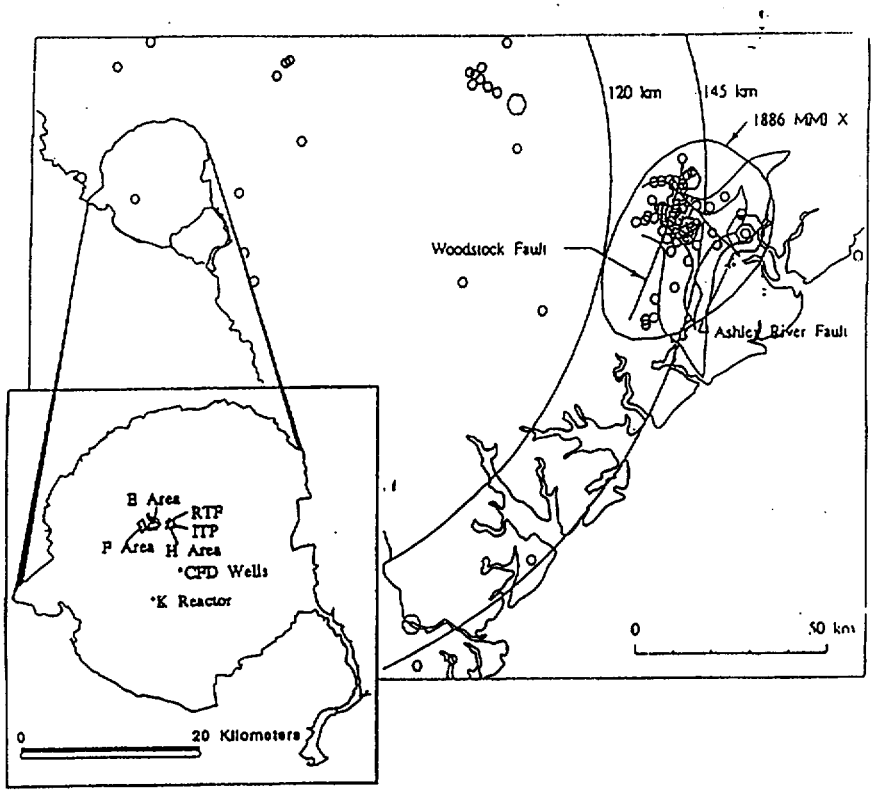


Figure 1.4-54 Ashley River/Woodstock Faults

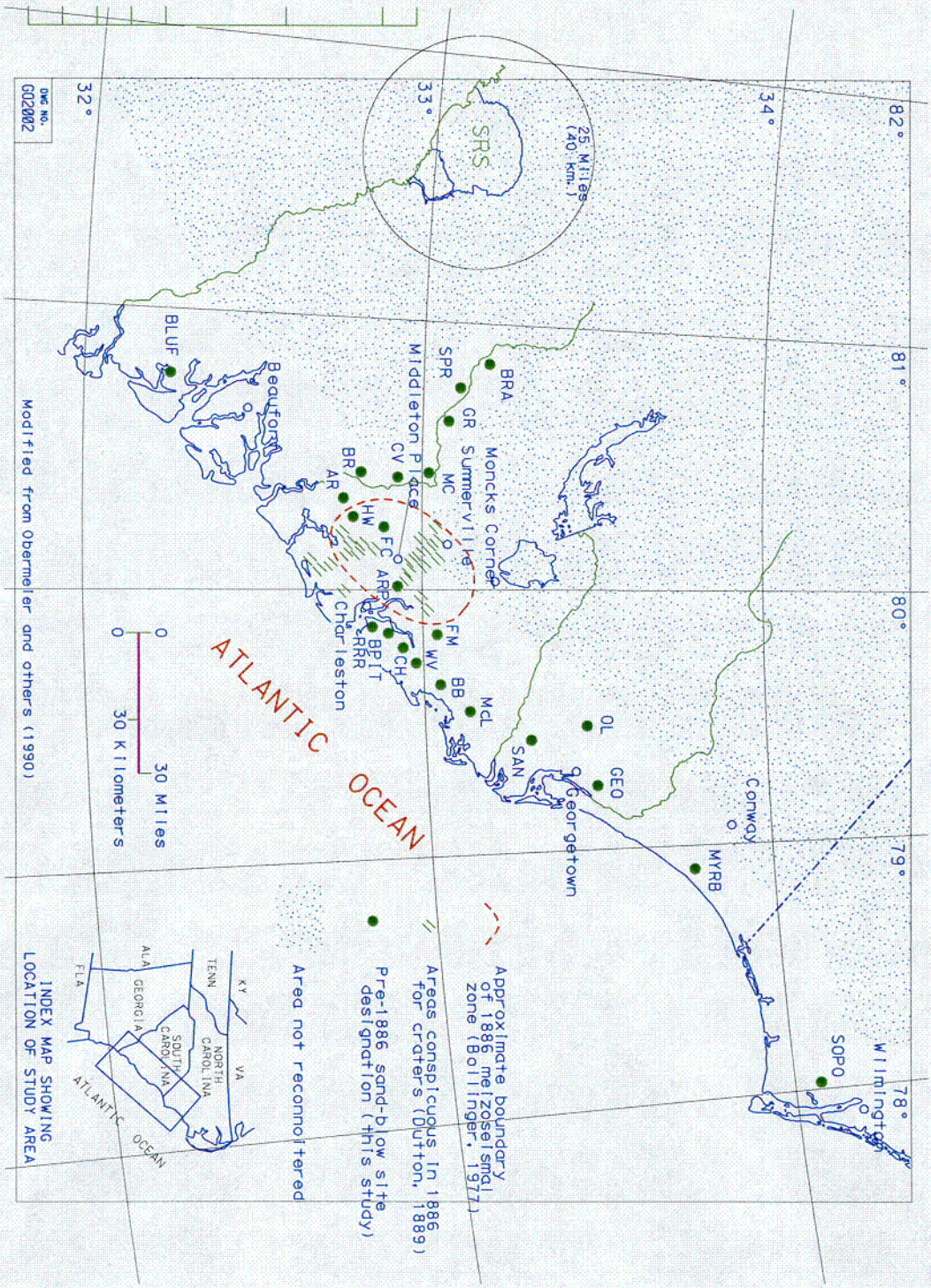


Figure 1.4-55 Aerial Distribution of Paleoseismic/Paleolifiquication Sites on the Lower Coastal Plain

C15

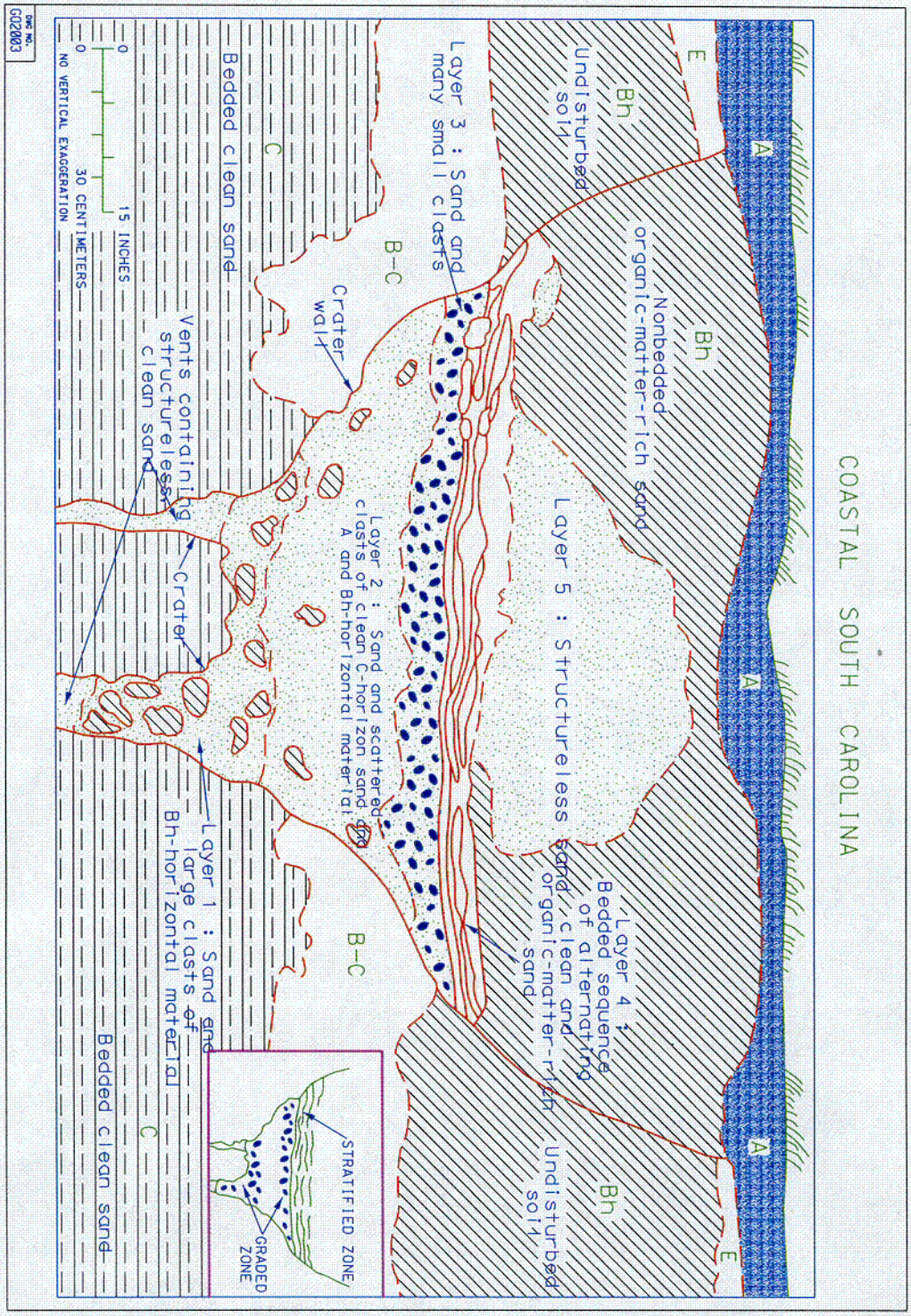


Figure 1.4-56 Cross Section View of a Typical Sand Blow in South Carolina

C16

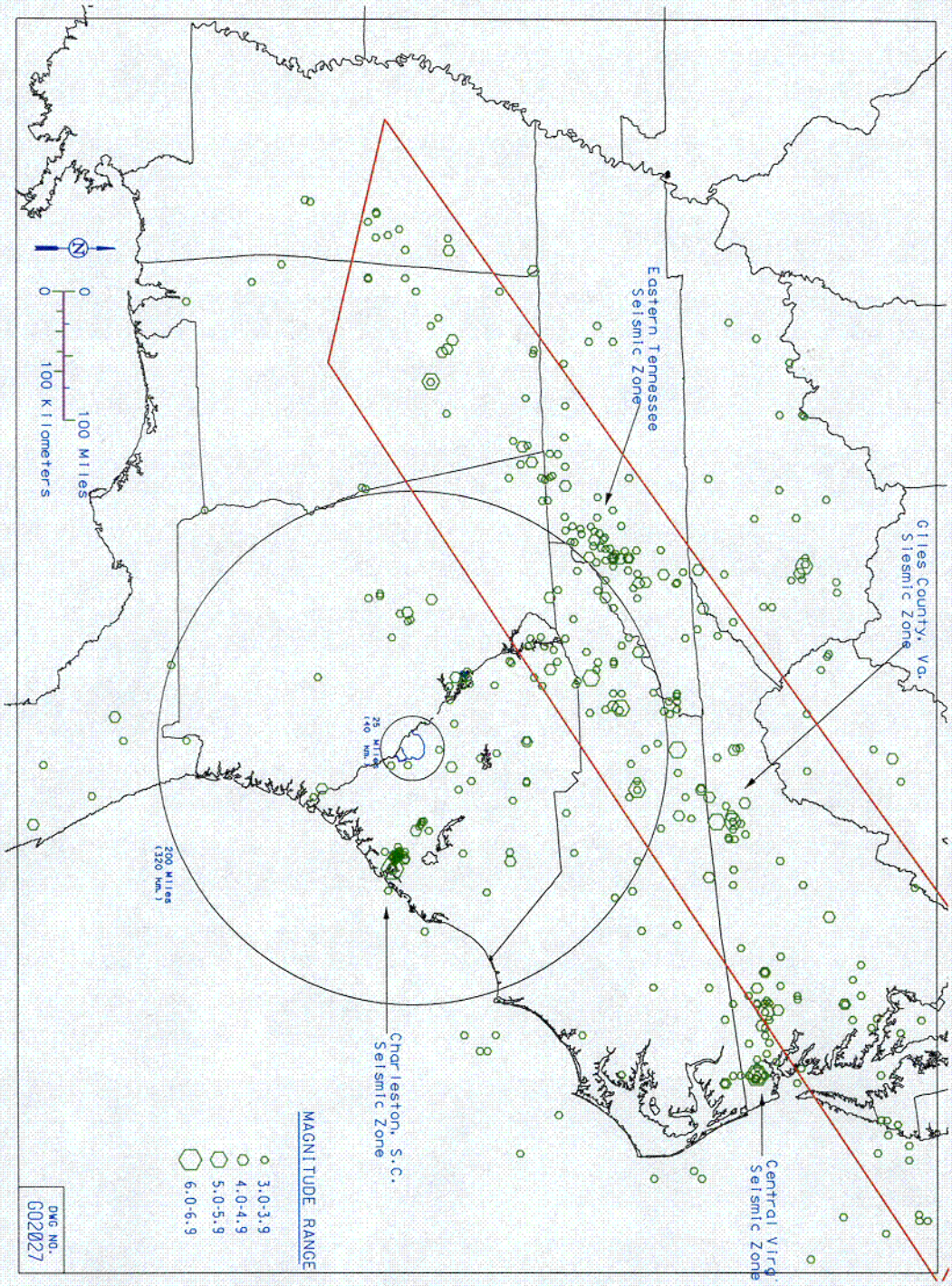


Figure 1.4-57 Historical and Instrumental Seismicity Map (Magnitudes ≥ 3) for Southeastern United States, 1568-1993

C17

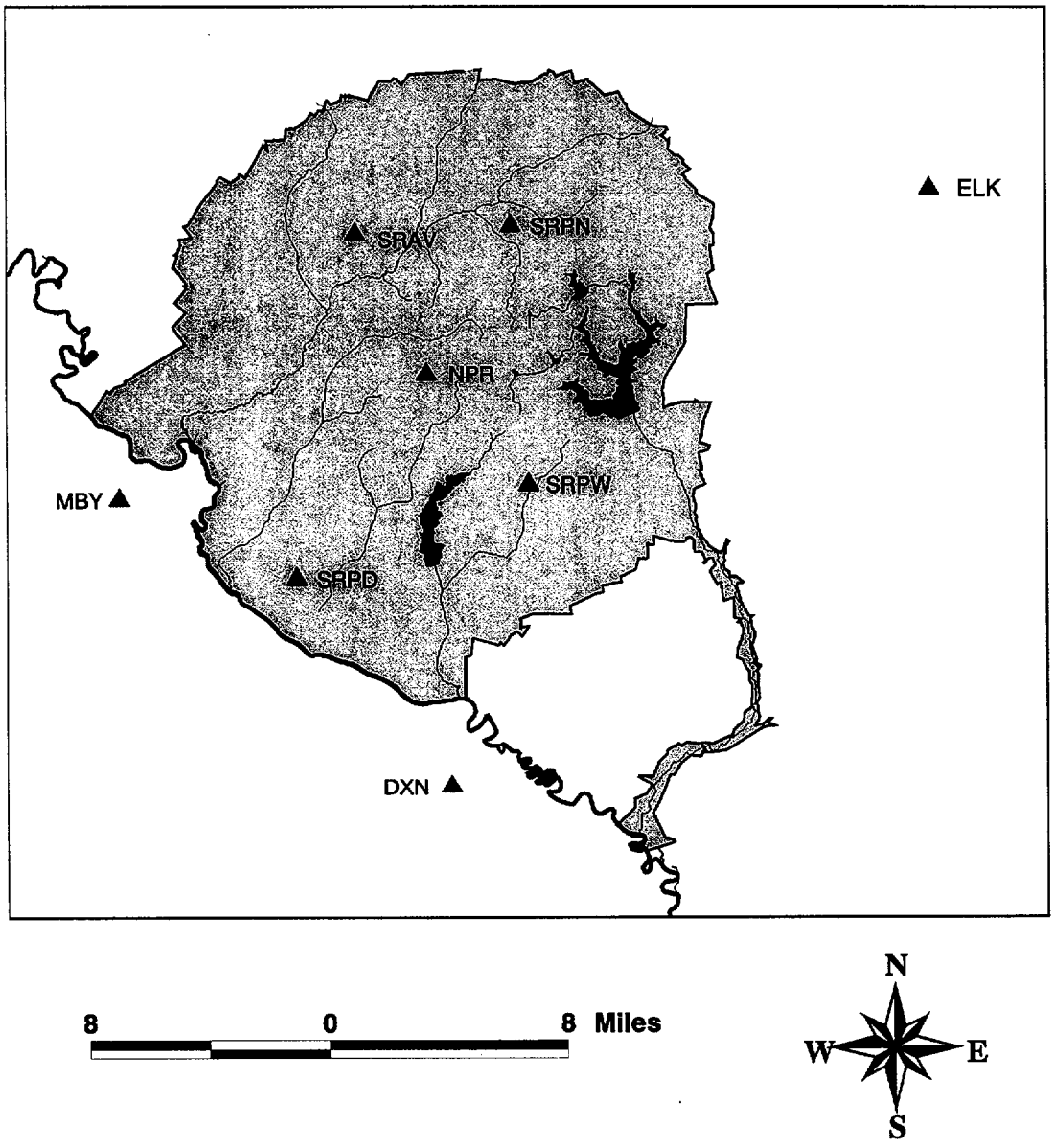


Figure 1.4-58 Current Station Configuration of SRS Short-Period Recording Stations

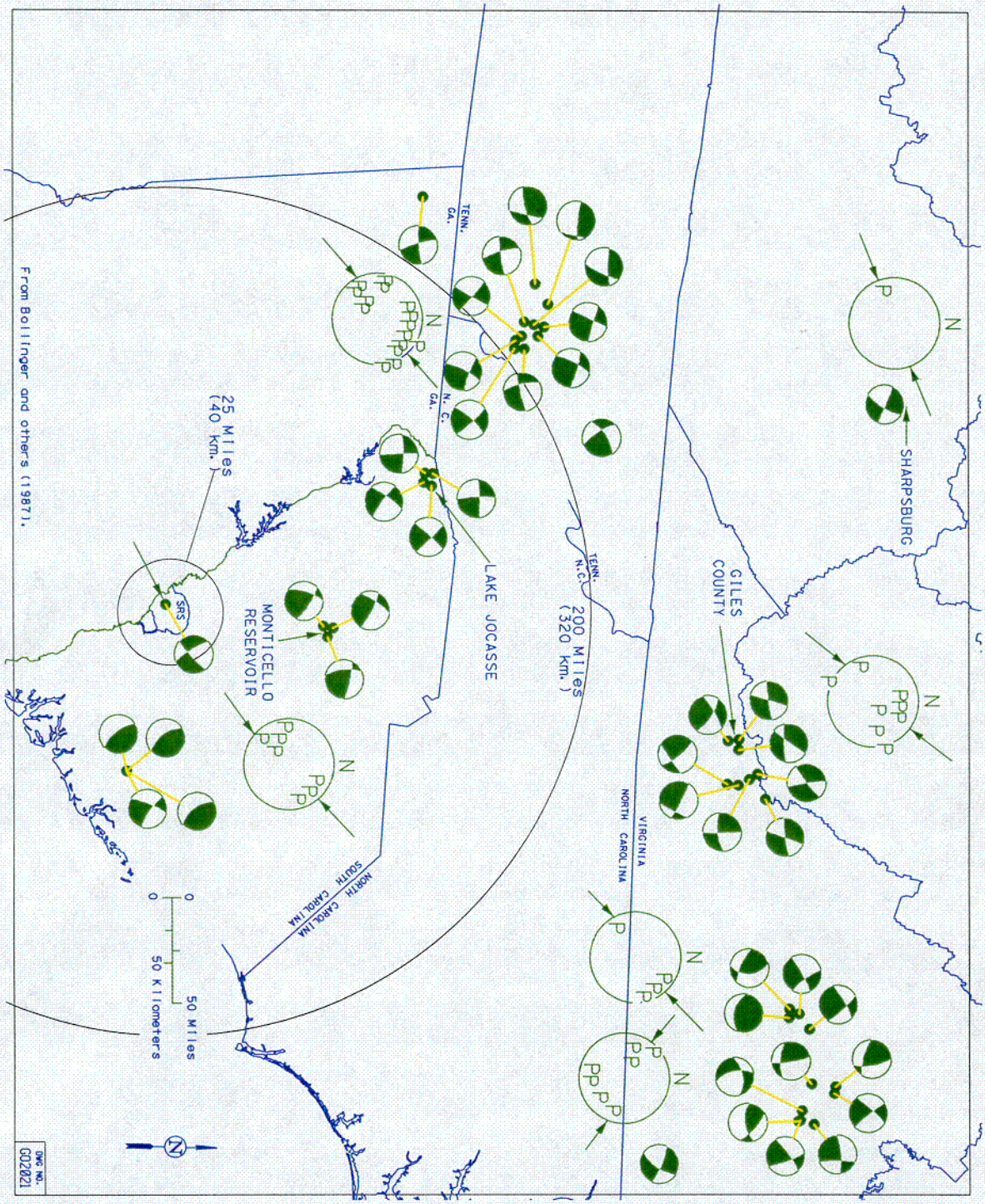


Figure 1.4-59 Summary Fault Plant Solutions for Southeastern United States

C18

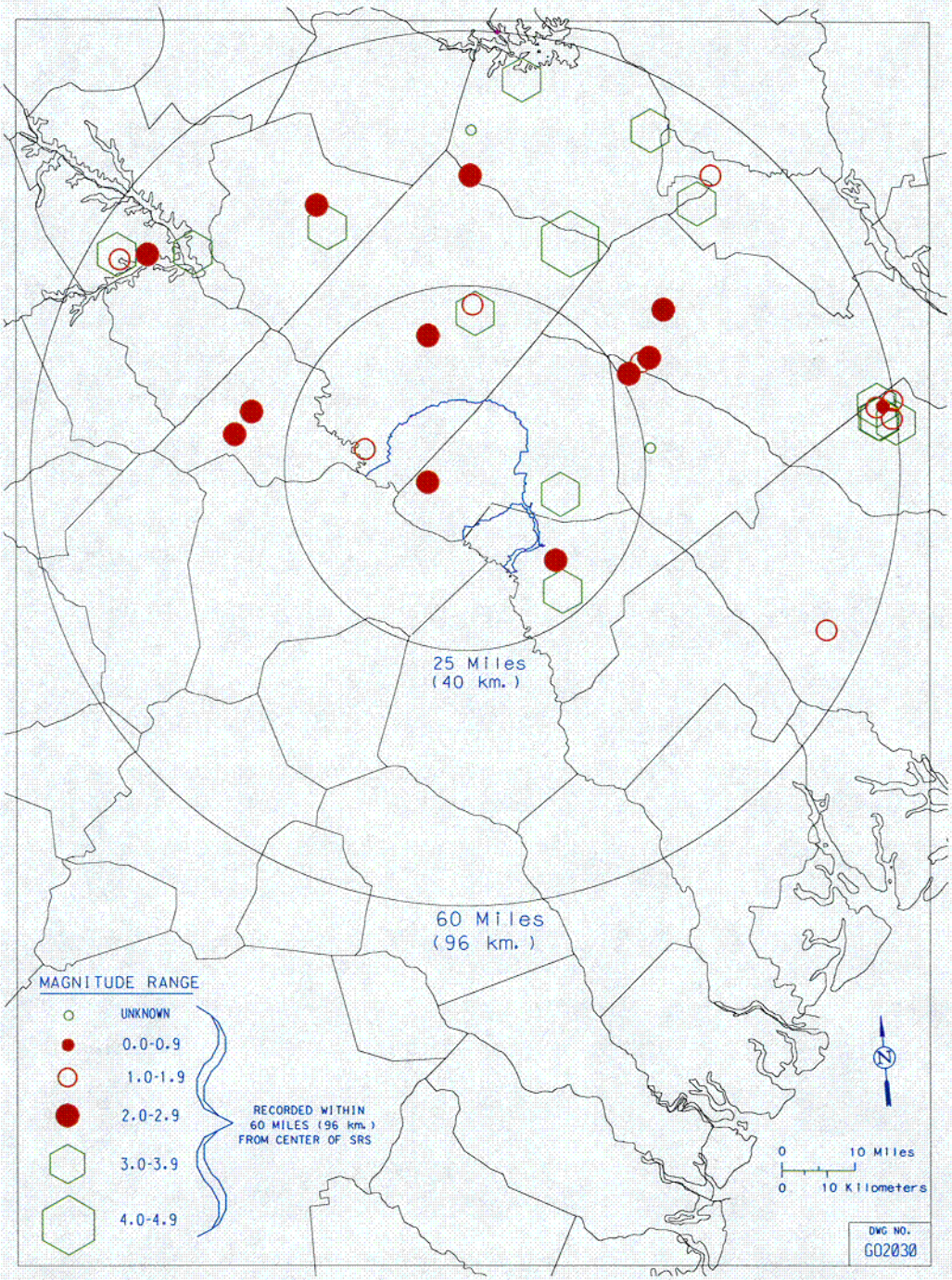


Figure 1.4-60 Historic Seismicity Within 50 miles of SRS Boundary (60 Miles from Center of SRS) |

C19

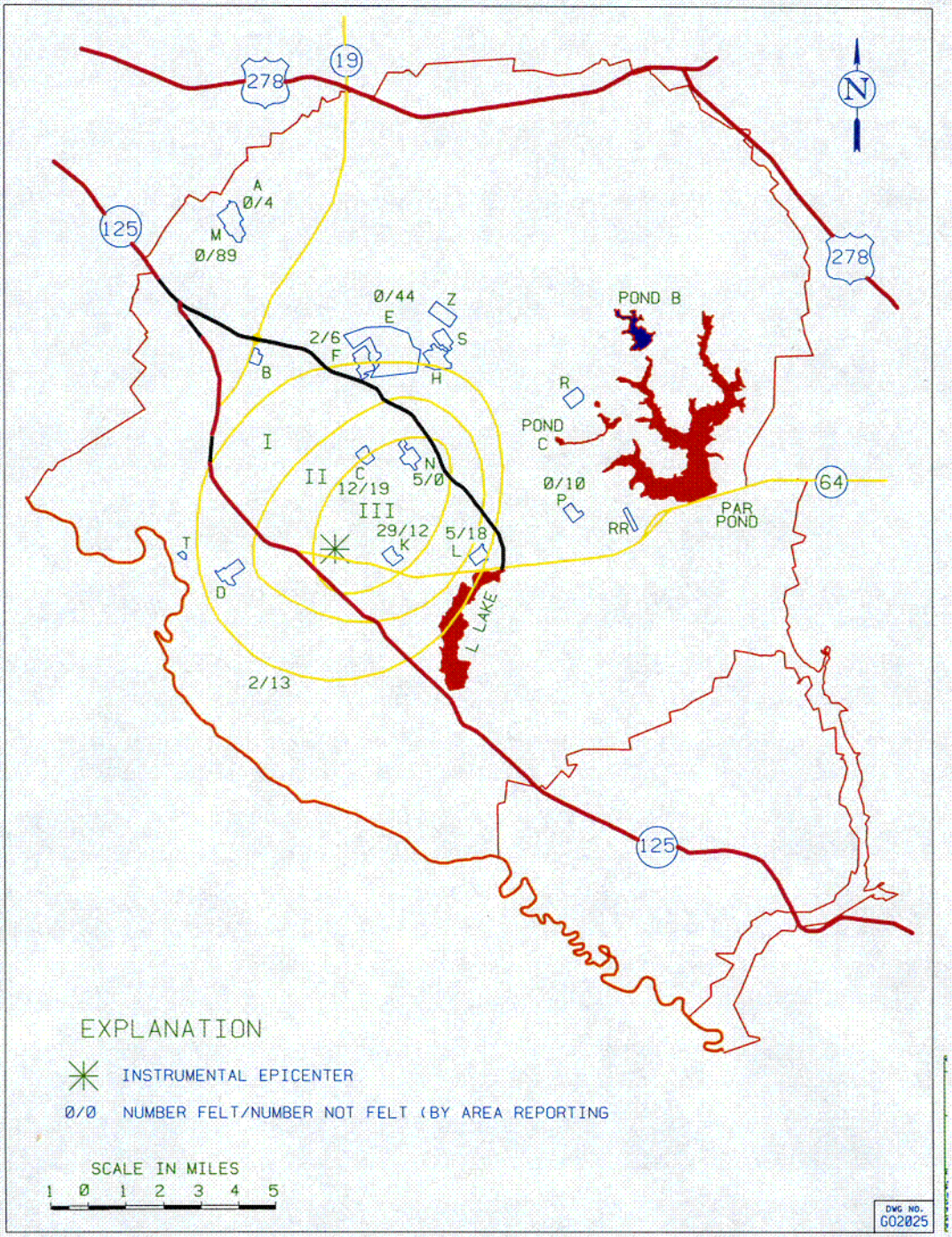


Figure 1.4-61 Isoseismal Map Showing Reported Intensities for the June 1985 Earthquake

C20

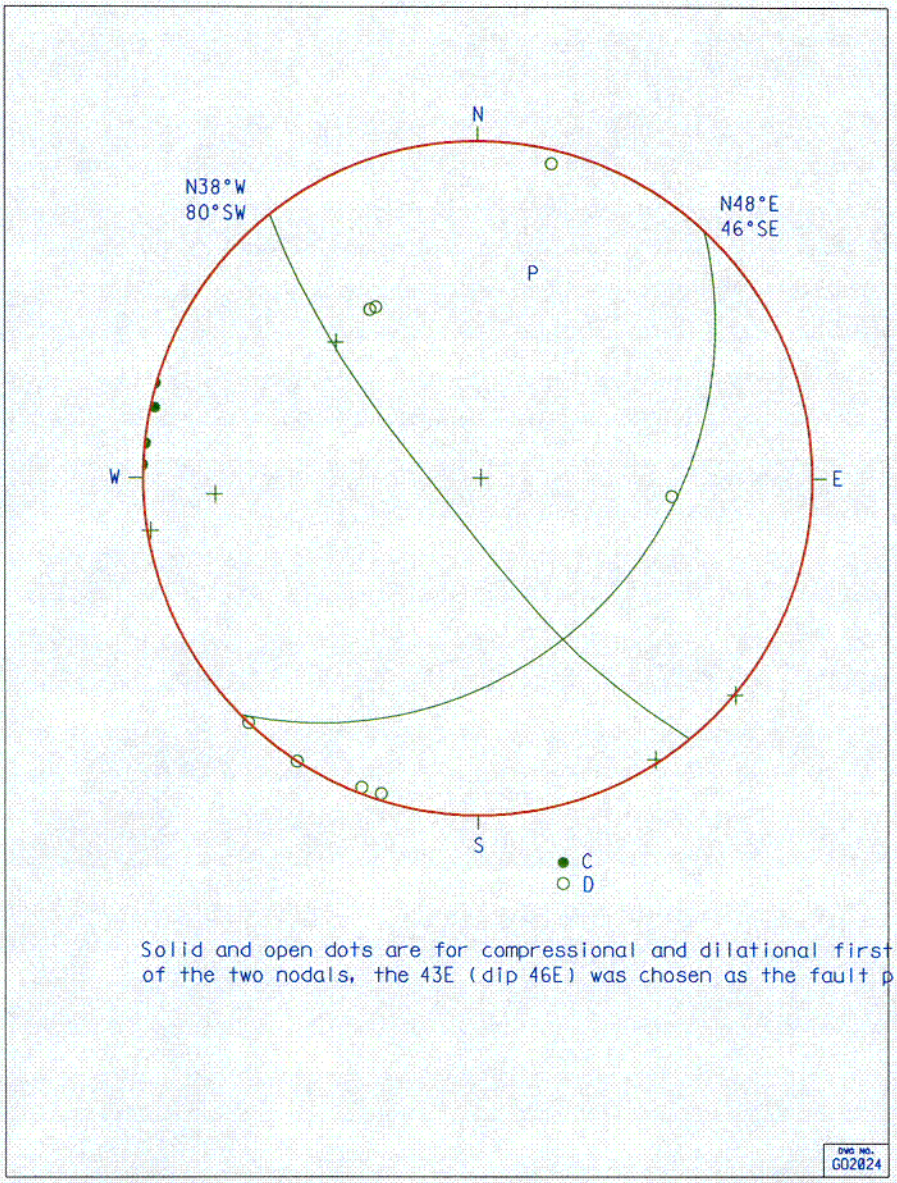


Figure 1.4-62 Fault Plane Solution for the June 1985 Earthquake (SRS)

C21

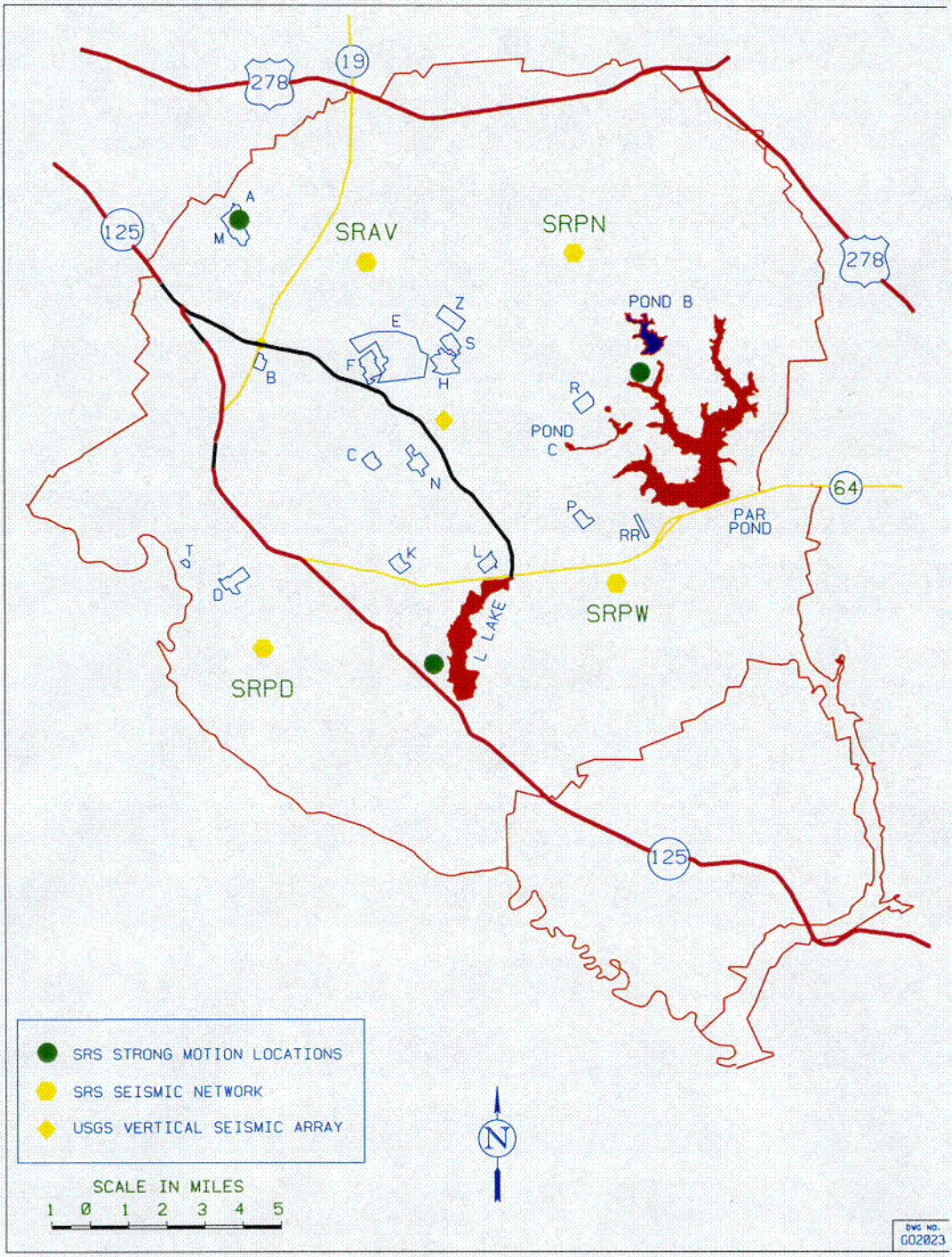


Figure 1.4-63 Locations of Seismic Instrumentation Deployed at SRS

C22

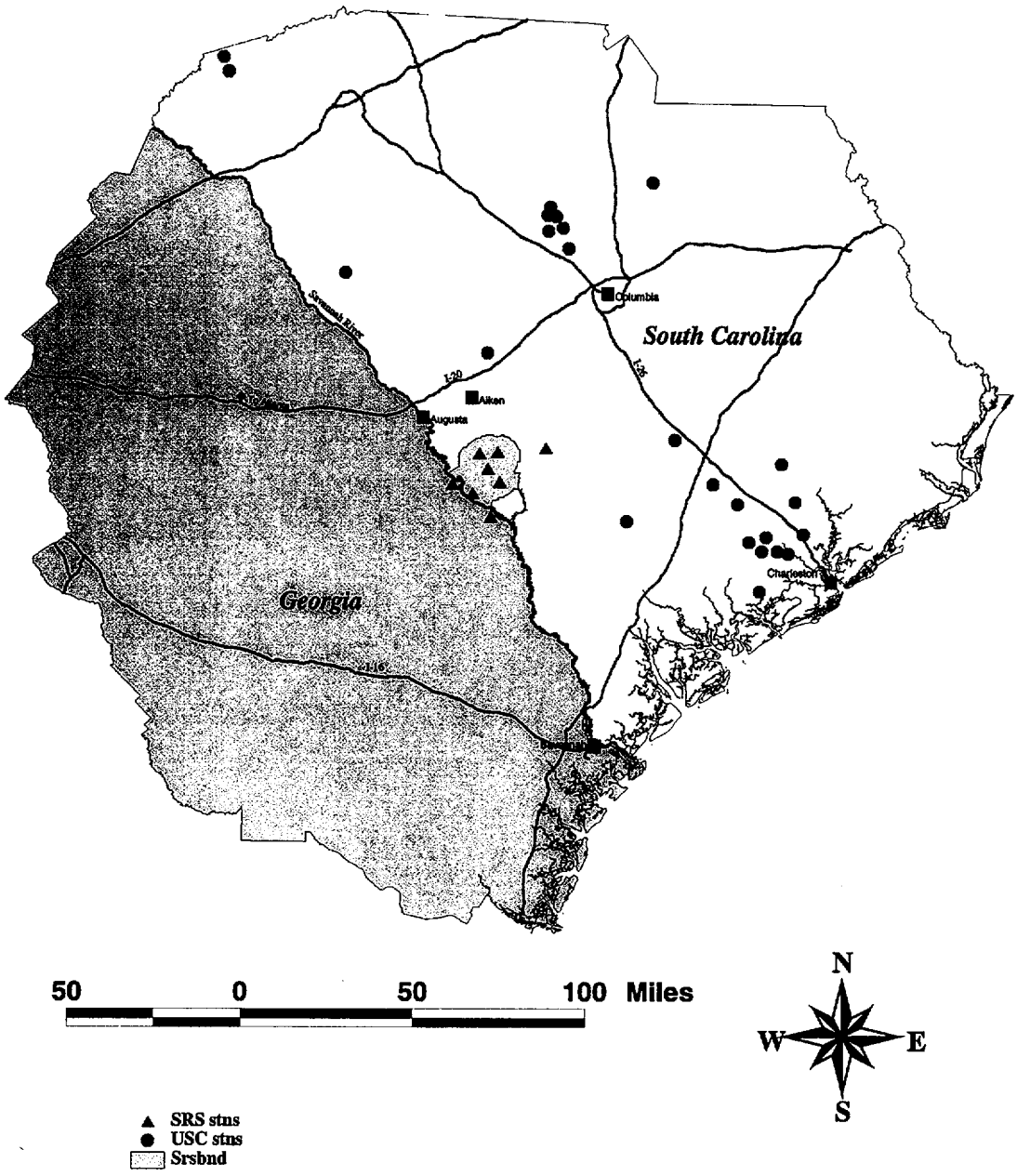


Figure 1.4-64 Existing Seismic Network for SRS and the Surrounding Region

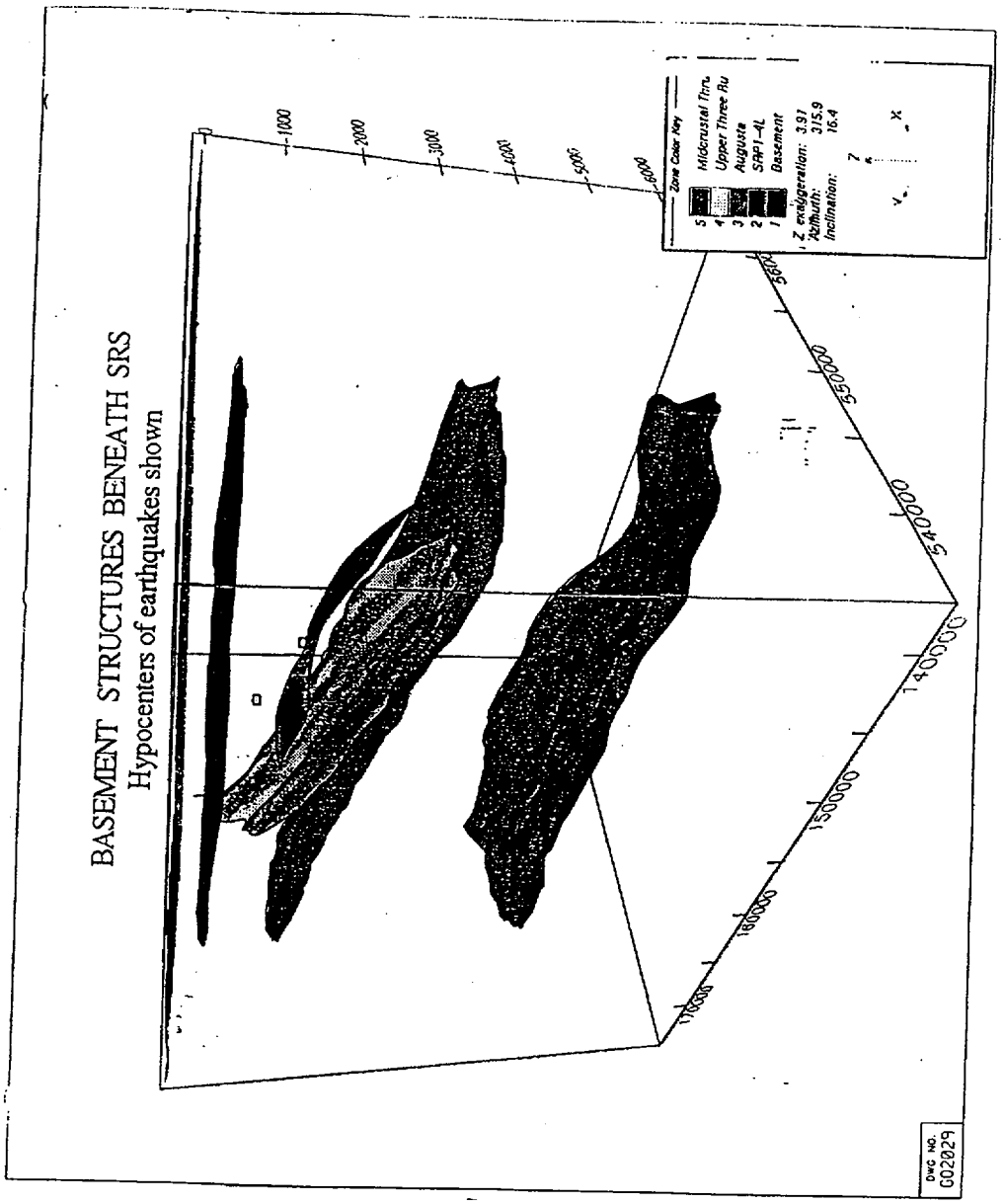


Figure 1.4-65 Basement Reflectors Beneath the SRS

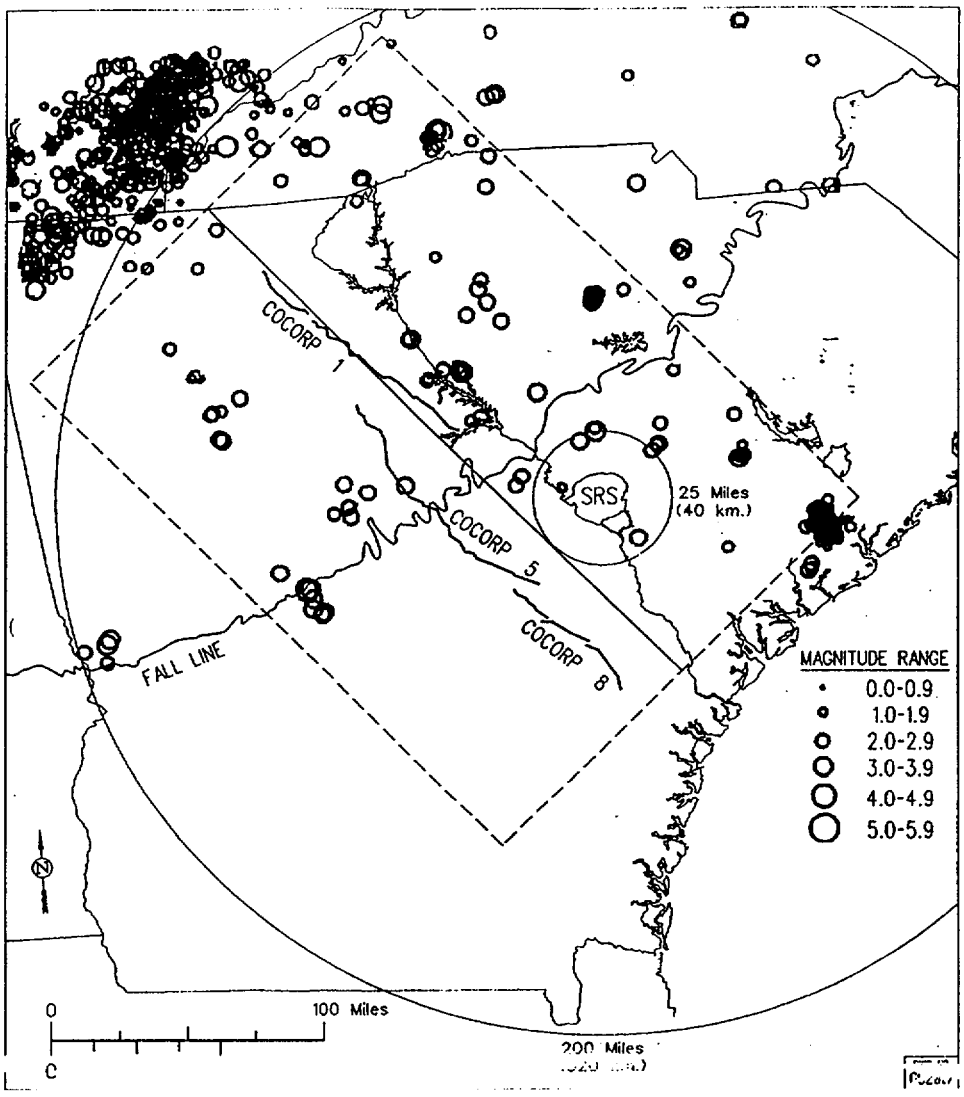


Figure 1.4-66 Zone of Seismicity Along the Savannah River

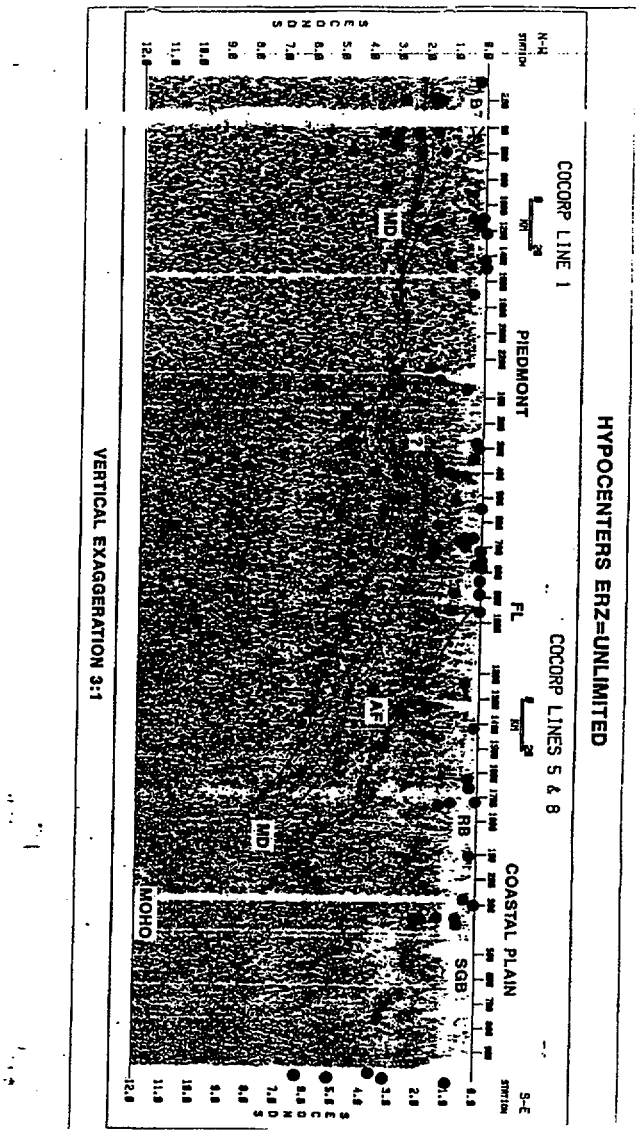


Figure 1.4-67 Reflection Seismic Section Paralleling the Savannah River with all Hypocenters Located Within 50 Mile Radius of SRS Boundary

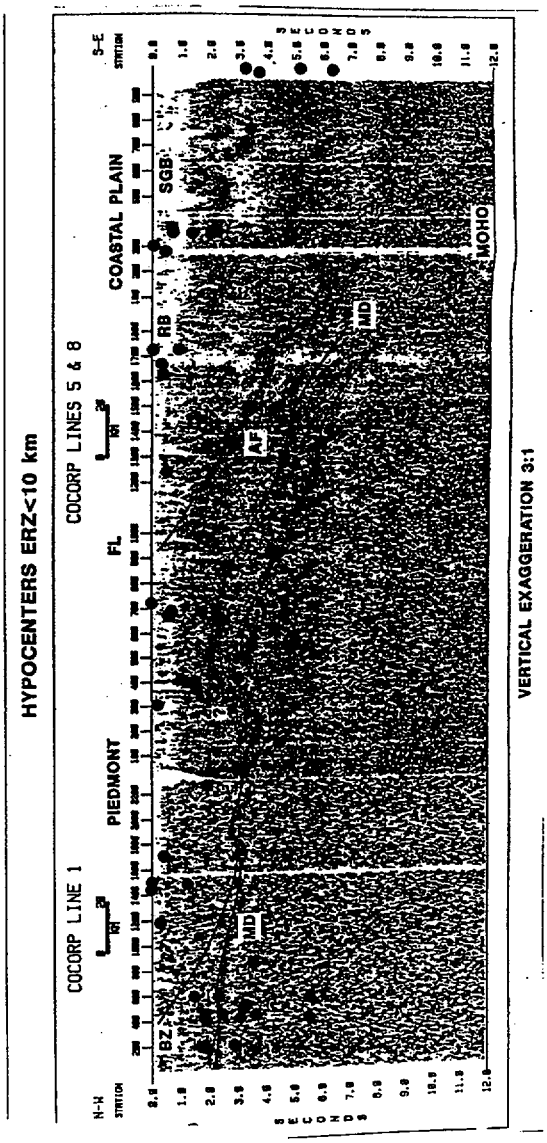


Figure 1.4-68 Reflection Seismic Section Paralleling the Savannah River with all Hypocenters with ERZ <10 Within the Zone Projected onto the Plan

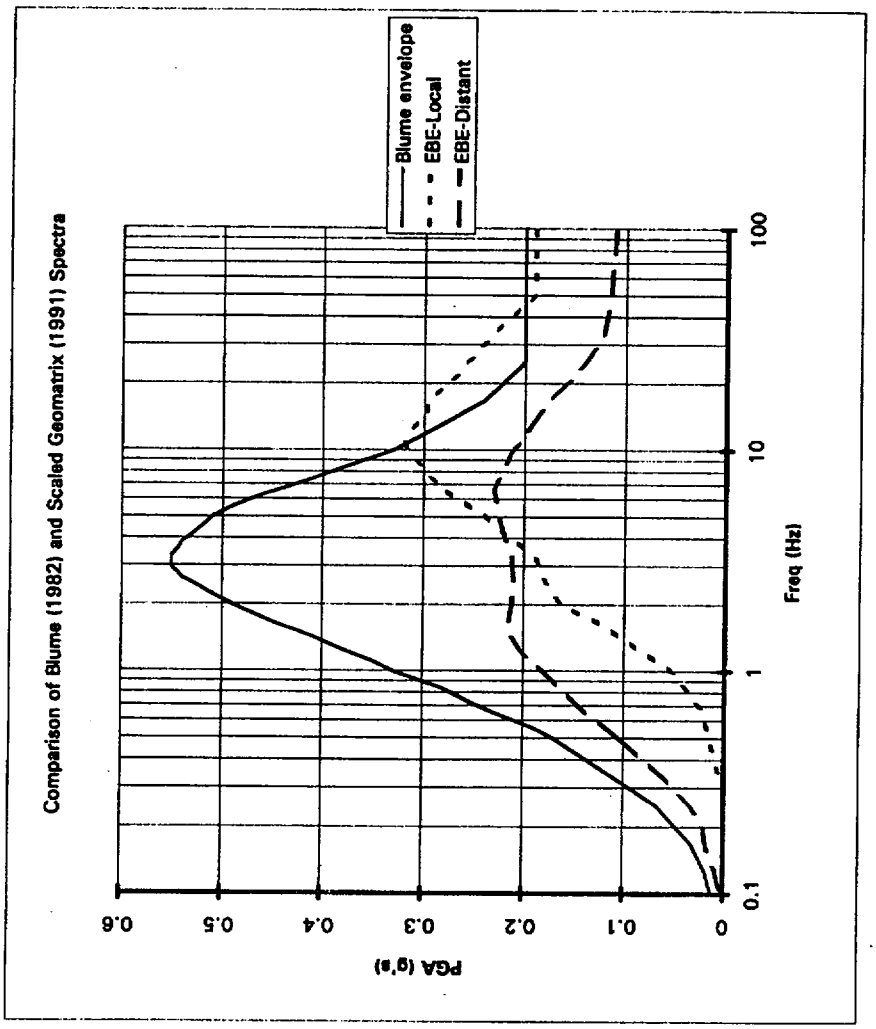


Figure 1.4-69 Response Spectrum Envelope Developed by URS/Blume (1982)

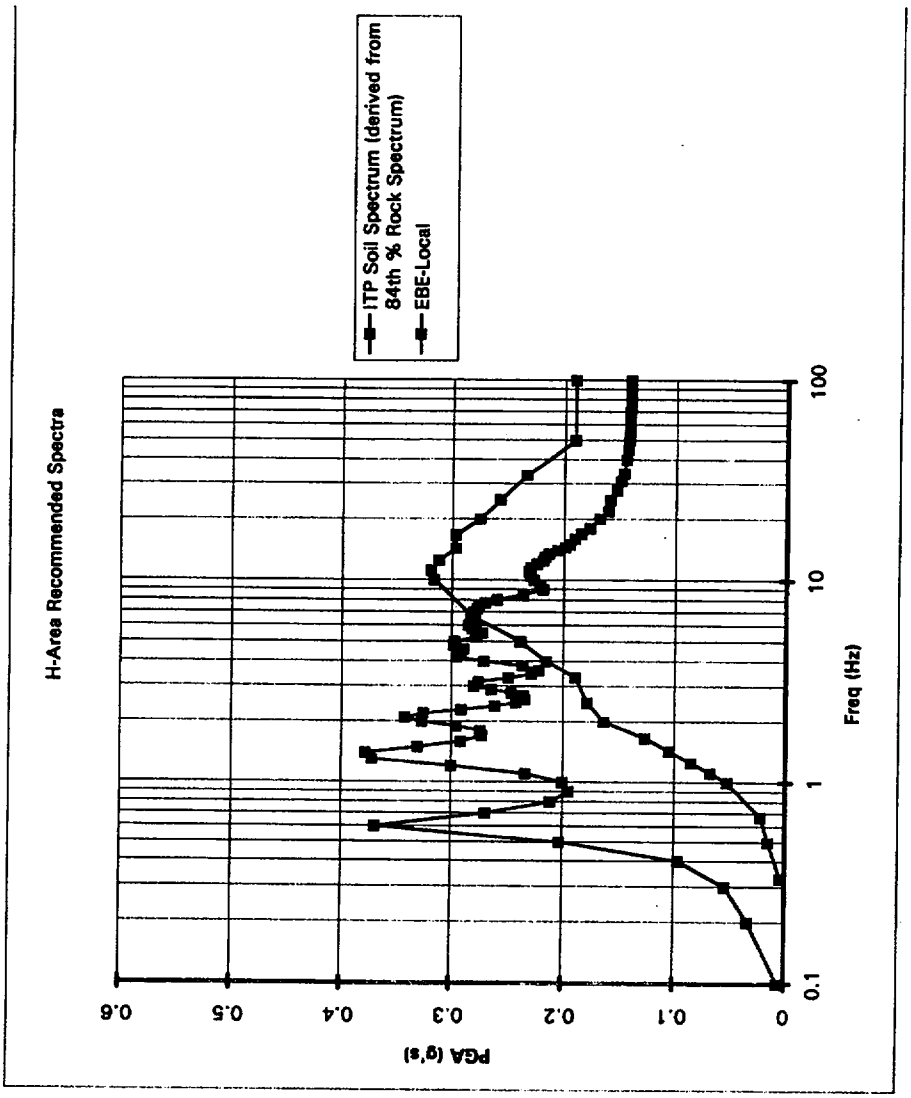


Figure 1.4-70 Spectra Recommended for the H-Area

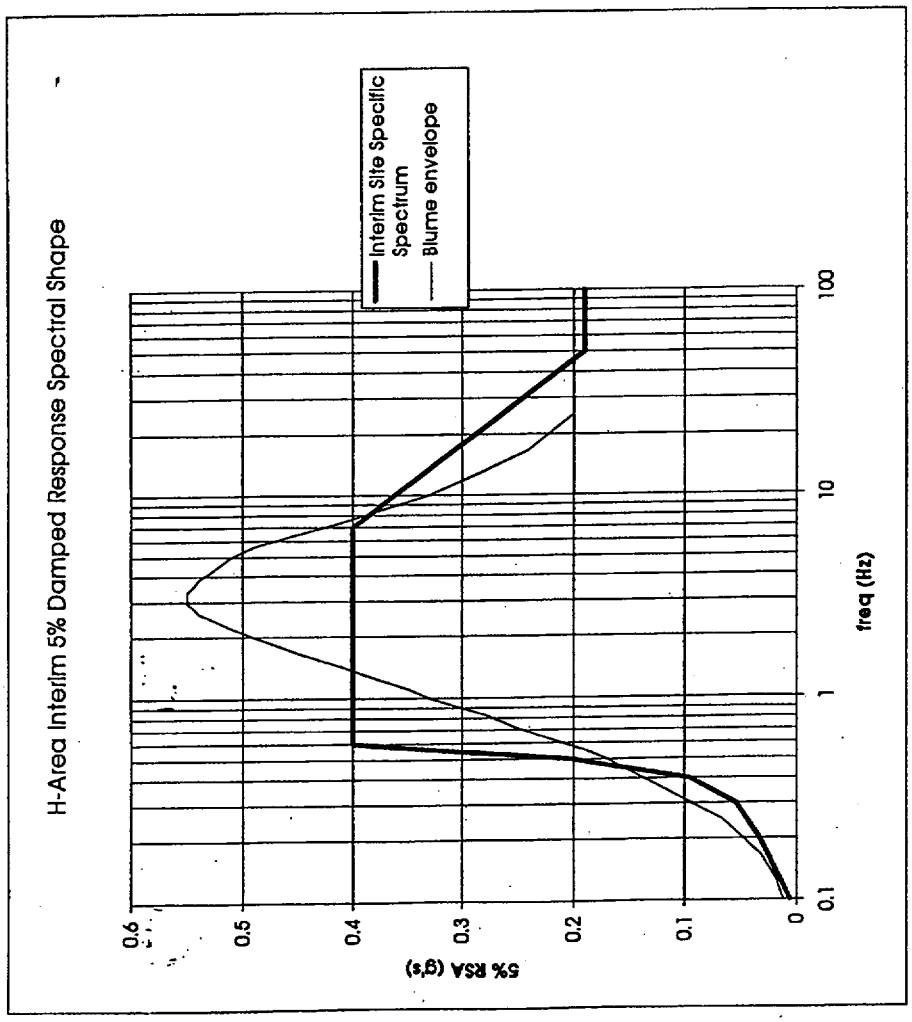


Figure 1.4-71 Interim Site Spectrum Versus Blume Envelope

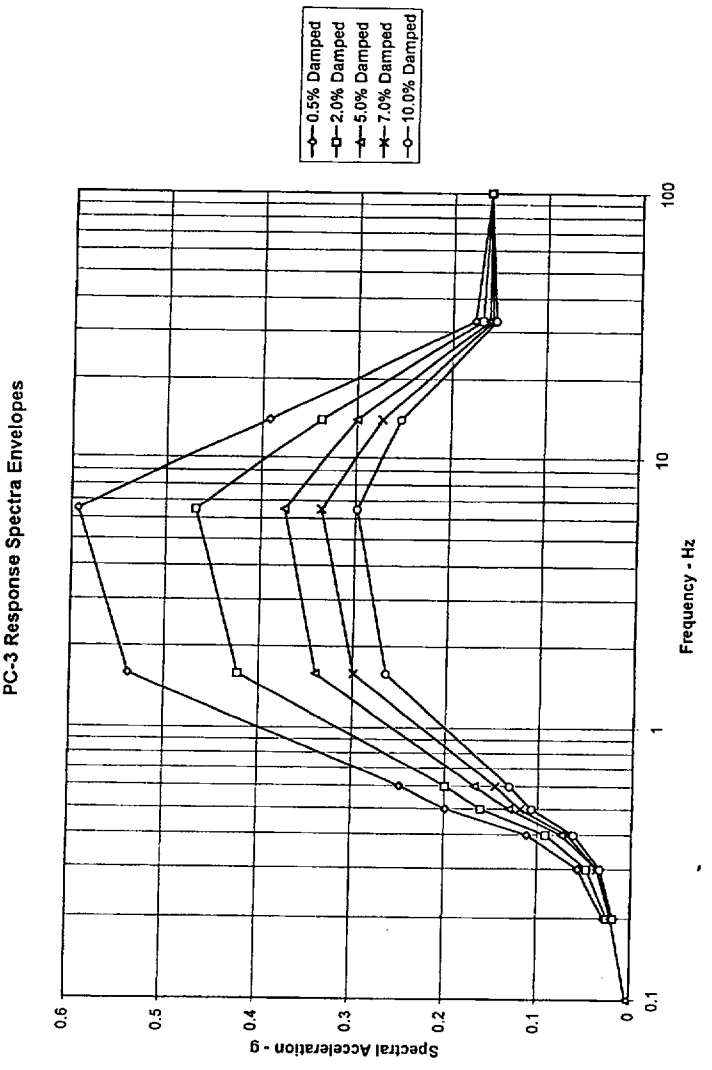


Figure 1.4-72 PC-3 Response Spectra Envelopes

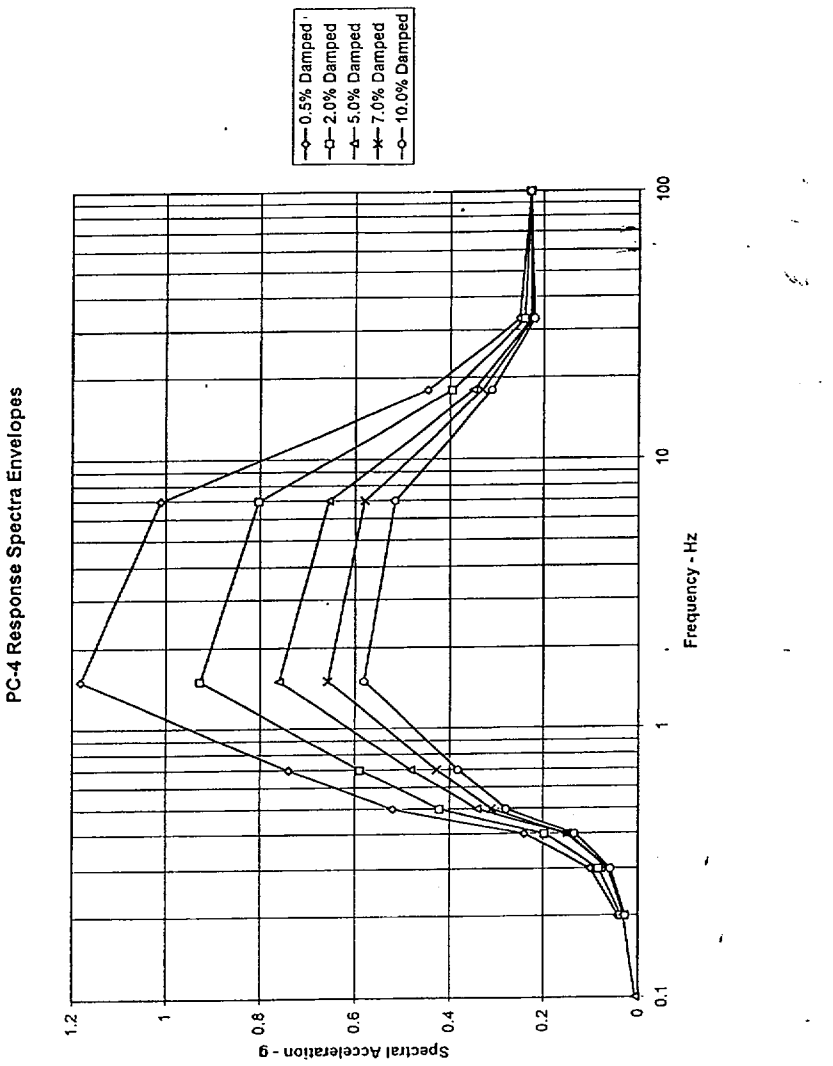


Figure 1.4-73 PC-4 Response Spectra Envelopes

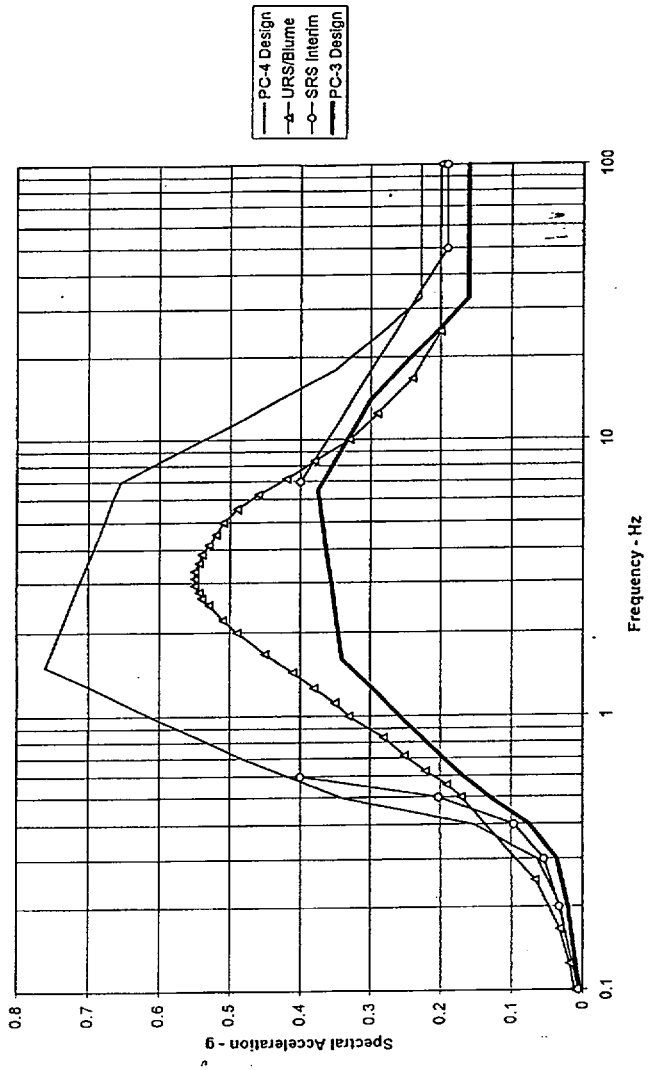


Figure 1.4-74 Comparison - PC-3, PC-4 Blume, SRS Interim Spectra (5% Damping)

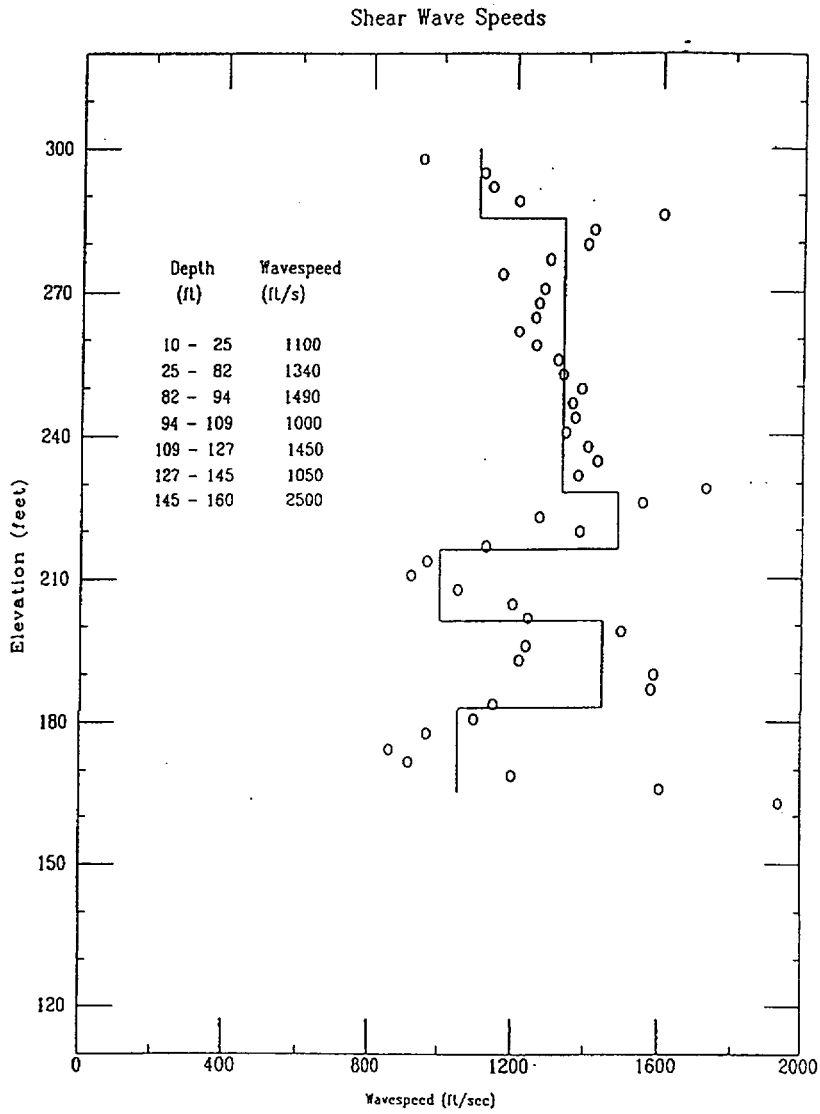


Figure 1.4-75 Example Seismic Cone Penetrometer S-wave Interpretation (Solid Lines). Measurements taken in F-Area

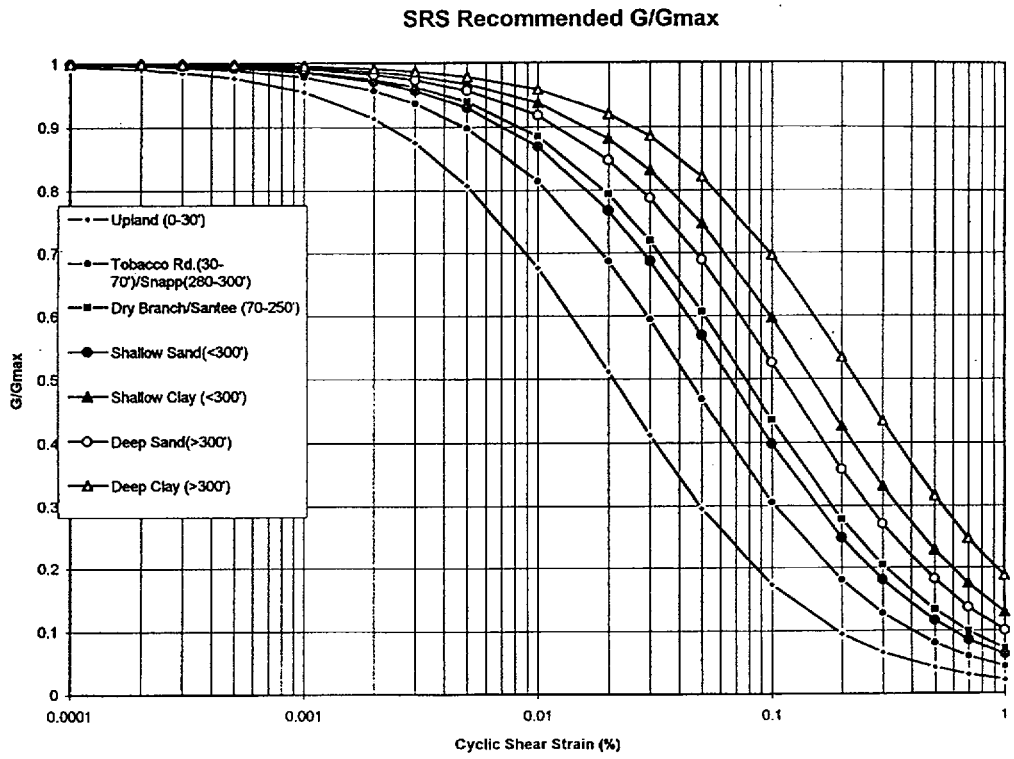


Figure 1.4-76 SRS Recommended G/Gmax

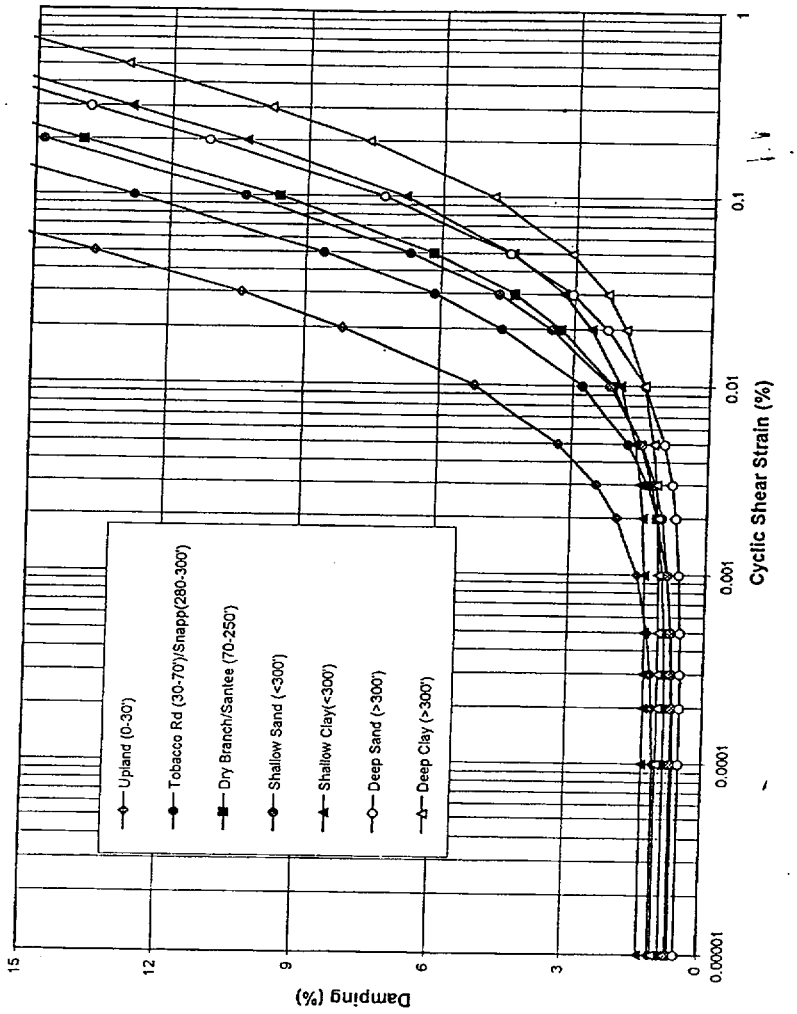


Figure 1.4-77 SRS Recommended Damping

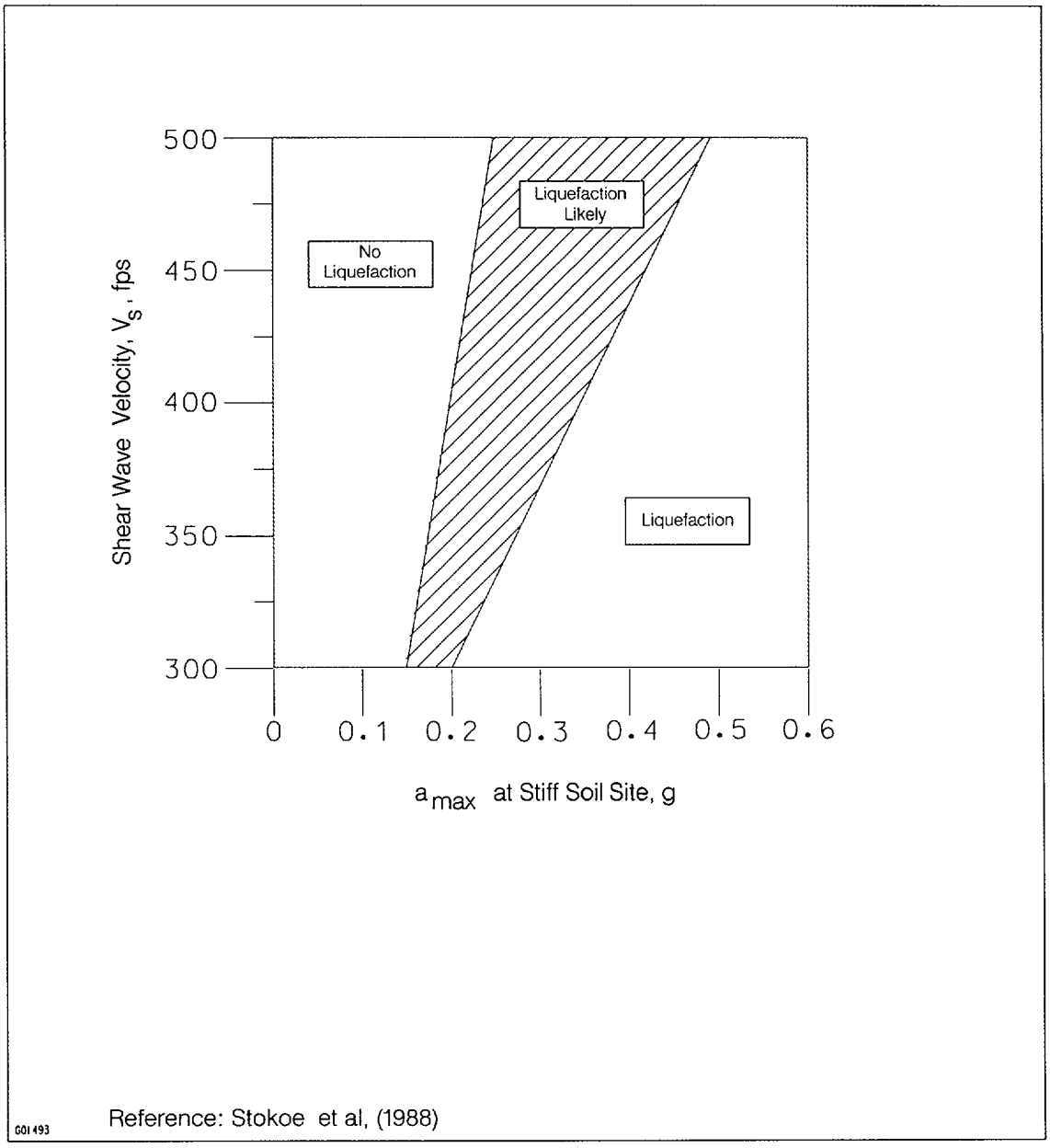


Figure 1.4-78 Shear Wave Velocity Versus Maximum Ground Surface Acceleration Determining Liquefaction Susceptibility

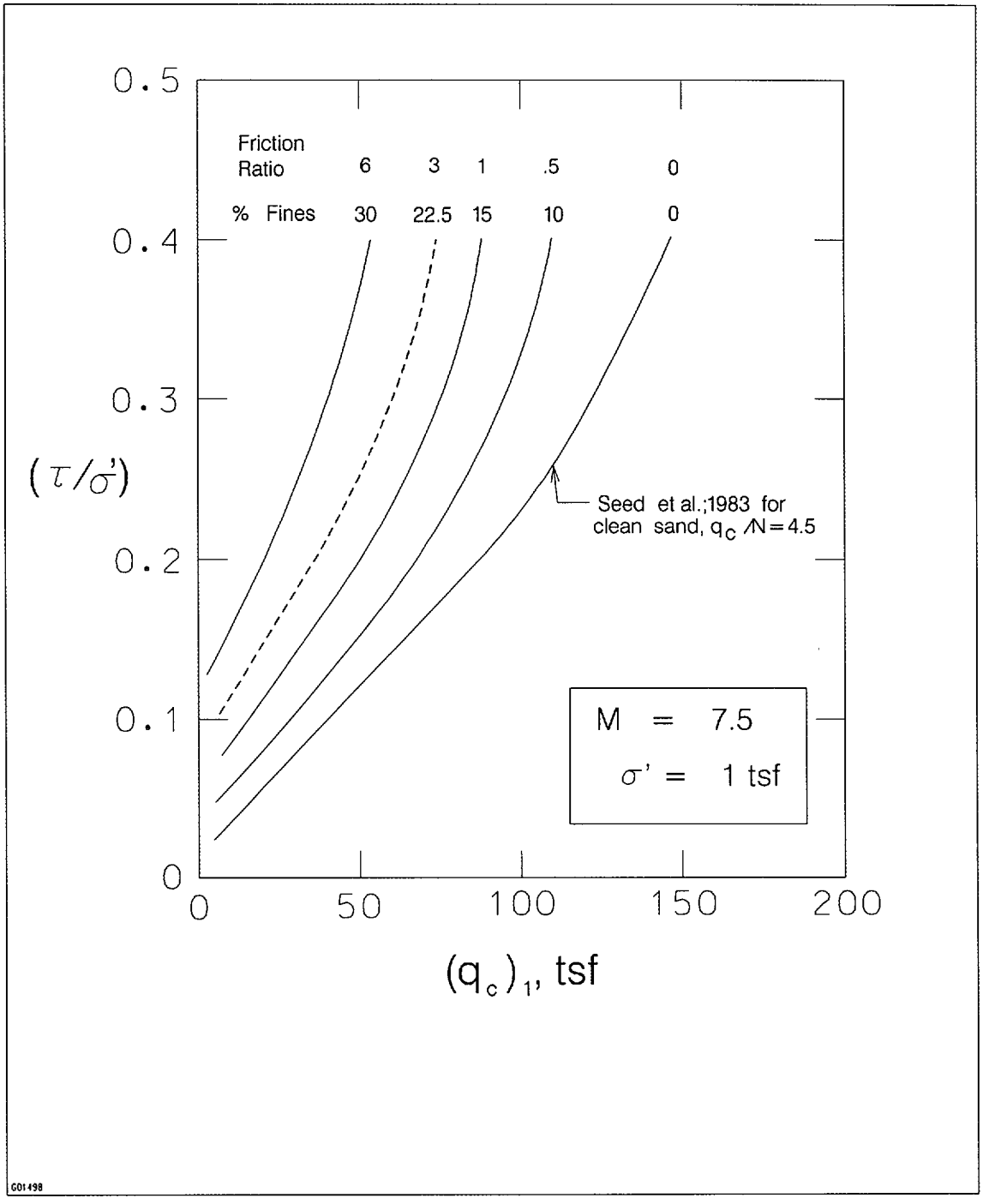


Figure 1.4-79 Normalized CPT Tip Resistance vs. Cyclic Stress Ratio

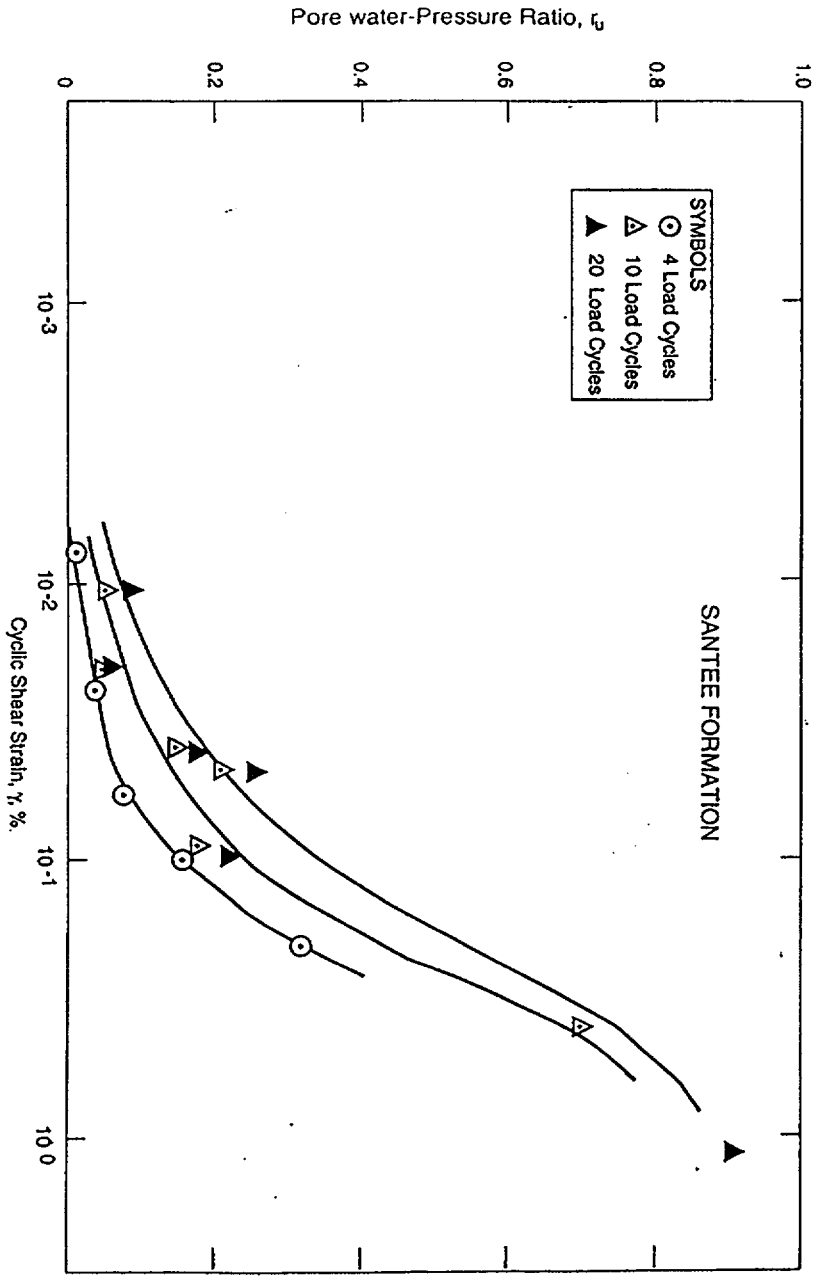


Figure 1.4-80 Pore Pressure Ratio Versus Cyclic Shear Strain for the Santee Formation at the ITP Facility

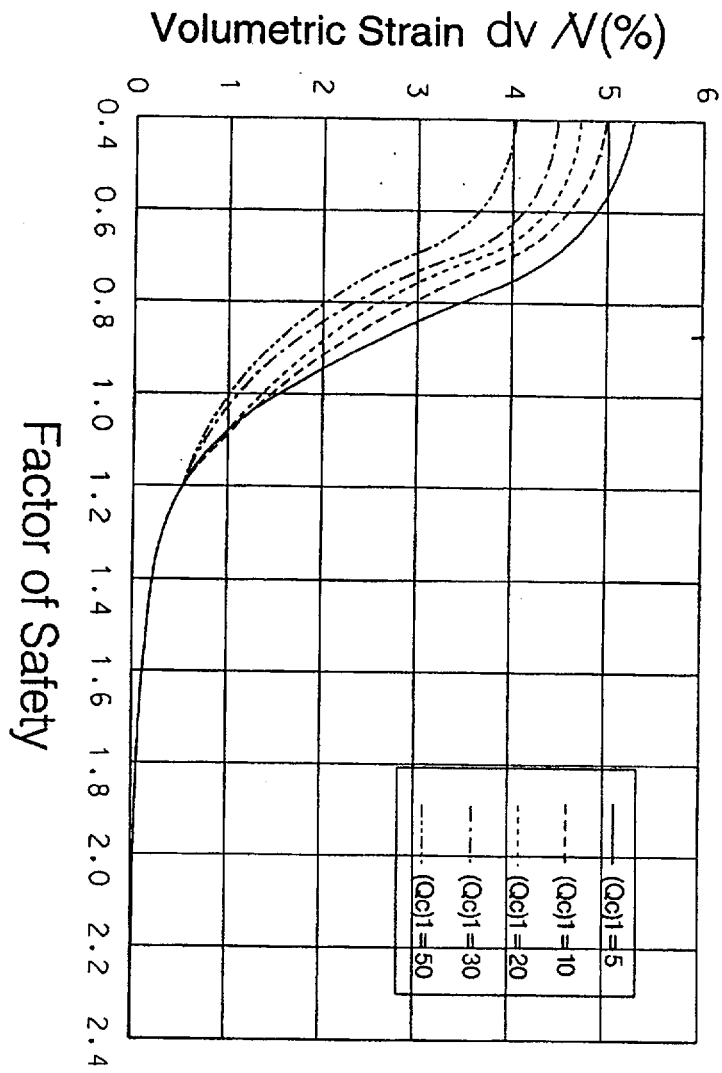


Figure 1.4-81 Volumetric Strain Versus Factor of Safety

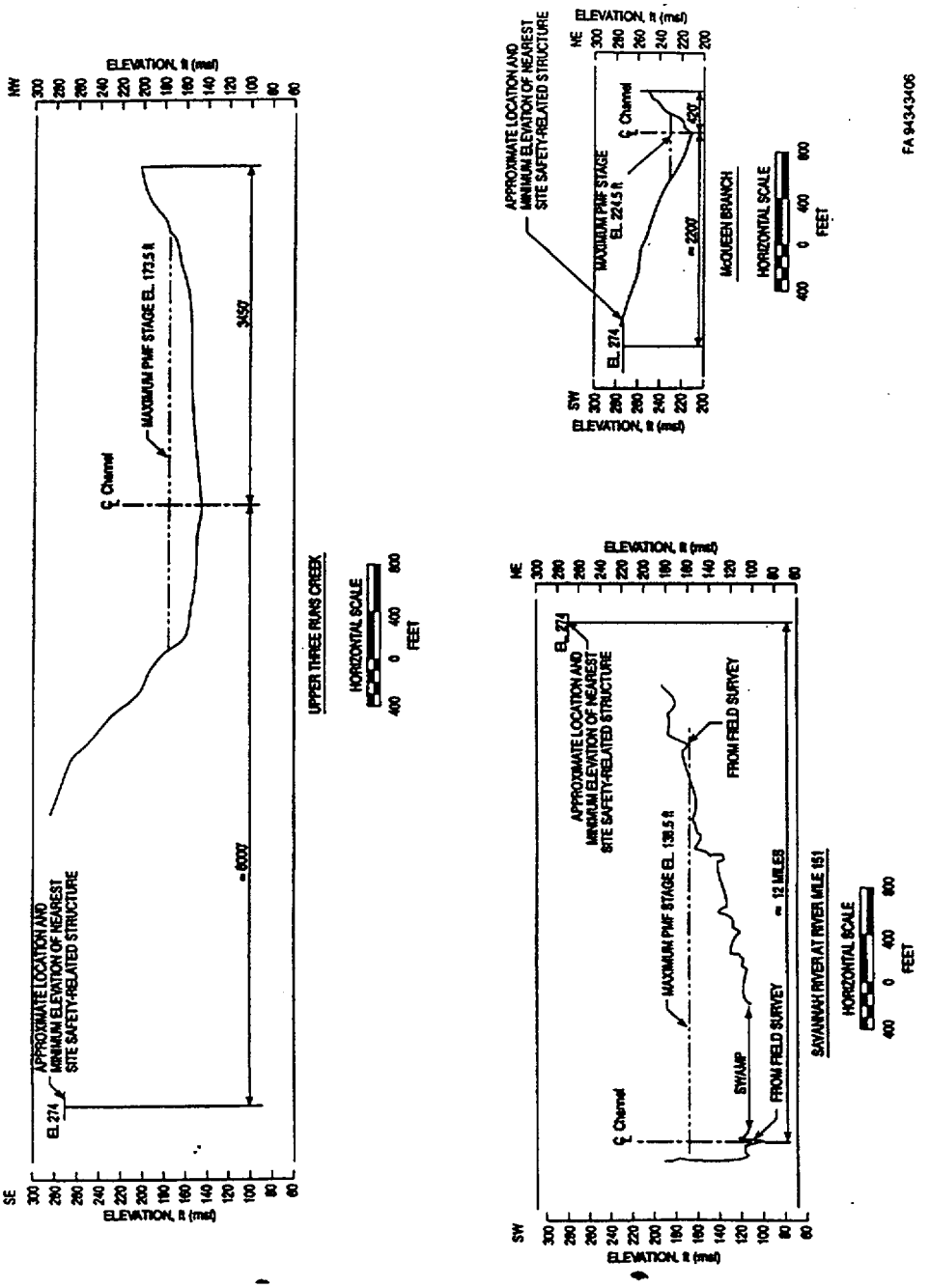


Figure 1.5-1 River and Stream Cross Sections and Peak Water Level Stages at Probable Maximum Flood Conditions

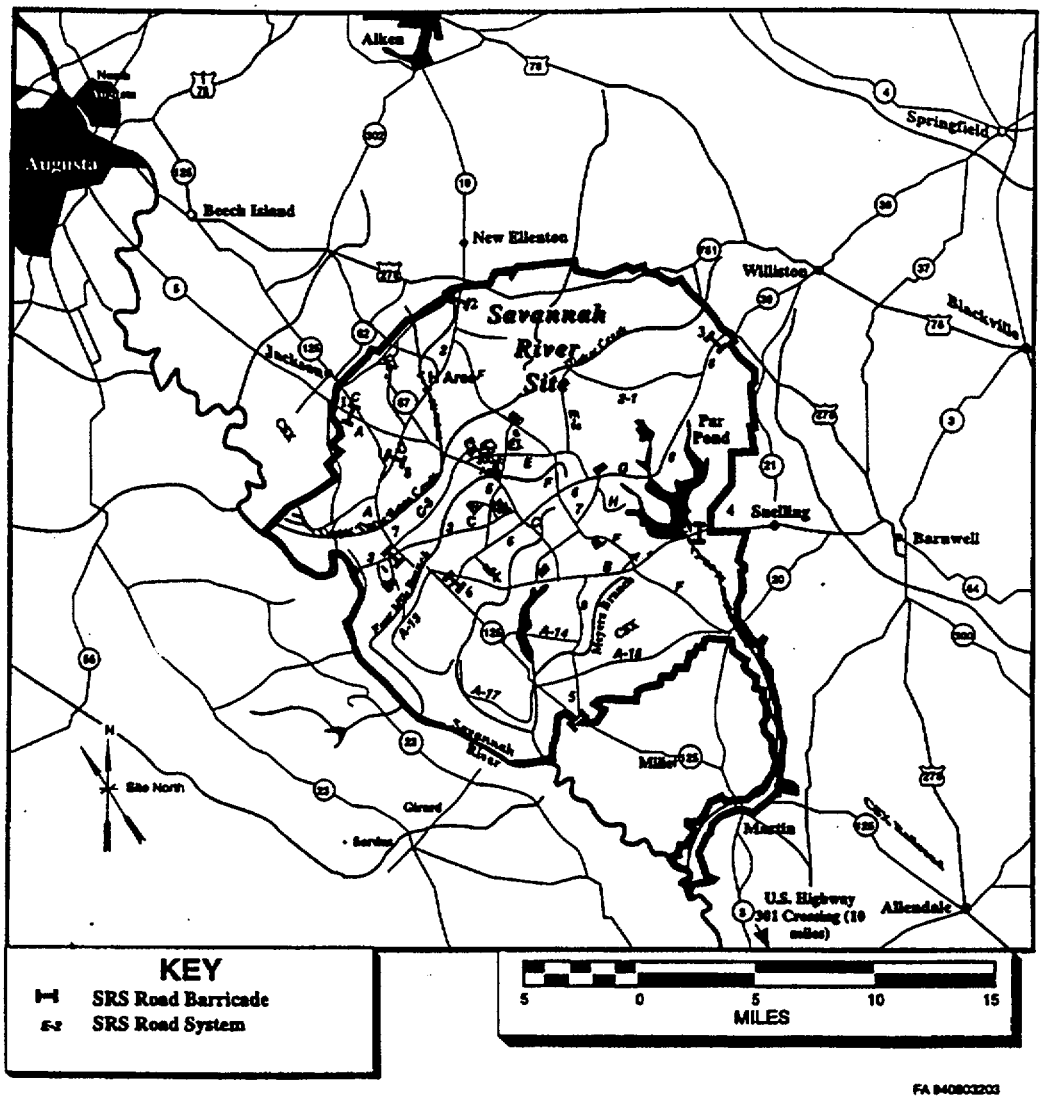


Figure 1.6-1 Road and Highway Network in the SRS Vicinity

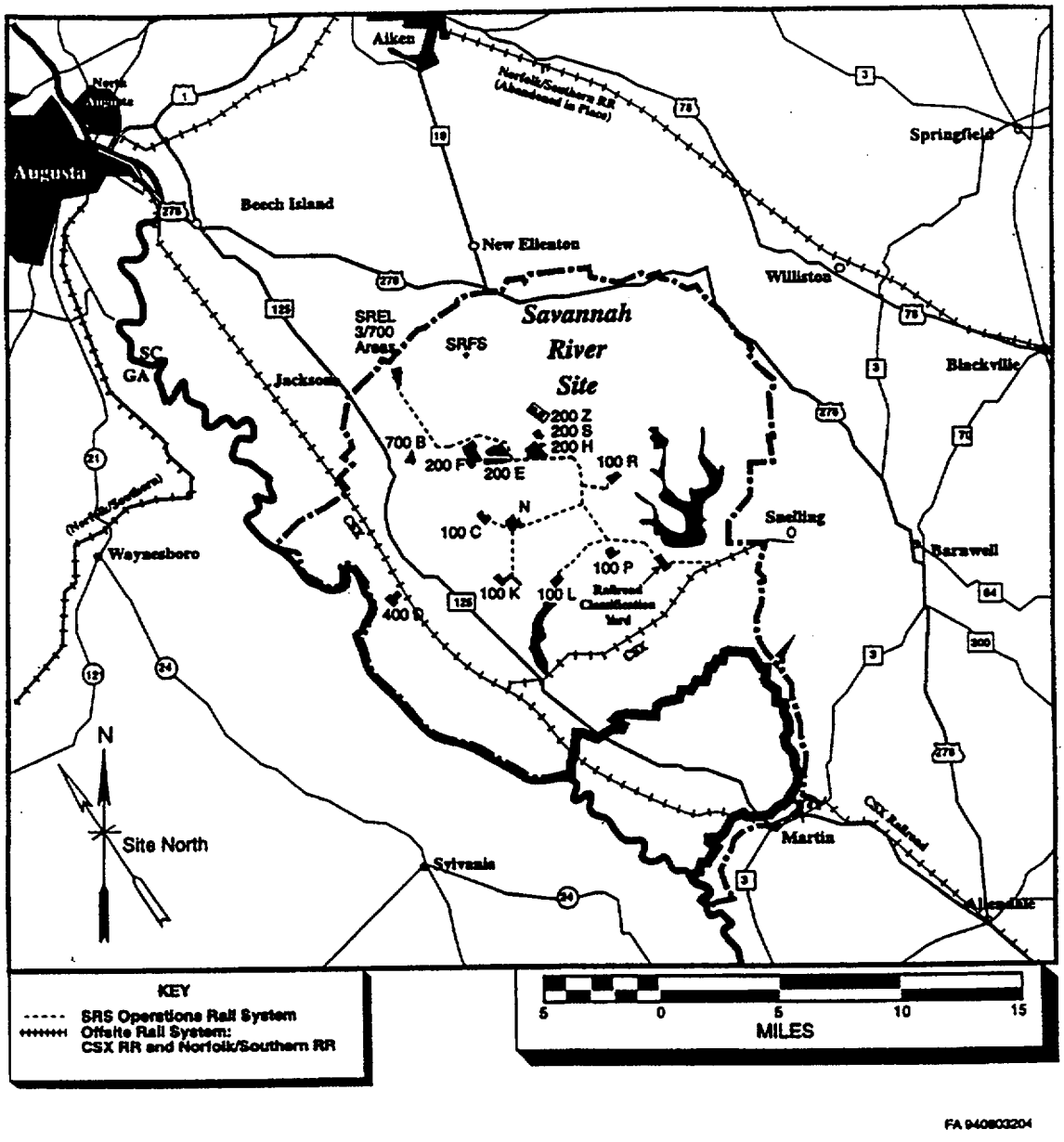
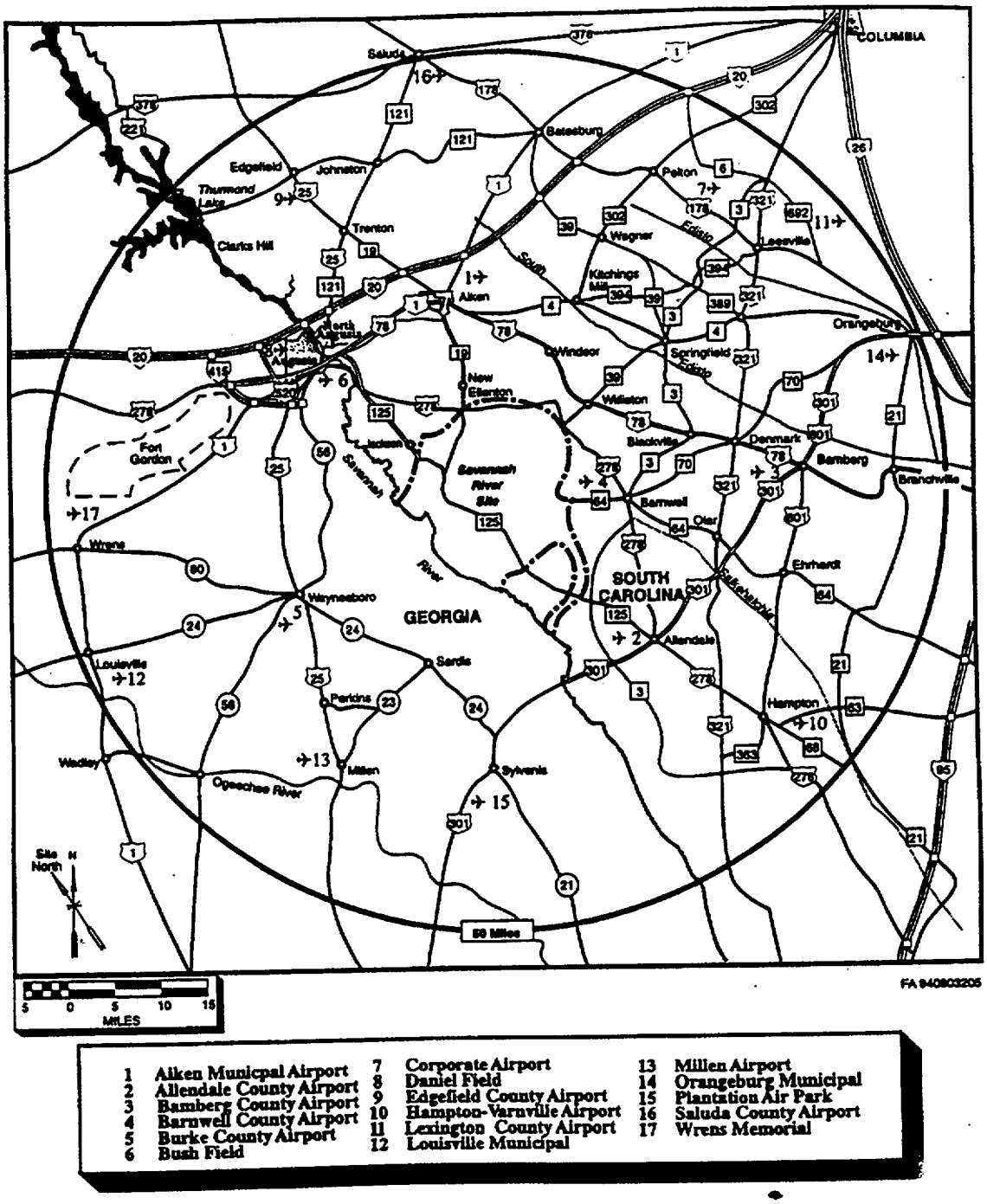


Figure 1.6-2 Railroad Network in the SRS Vicinity



1	Aiken Municipal Airport	7	Corporate Airport	13	Millen Airport
2	Allendale County Airport	8	Daniel Field	14	Orangeburg Municipal
3	Bamberg County Airport	9	Edgefield County Airport	15	Plantation Air Park
4	Barnwell County Airport	10	Hampton-Varnville Airport	16	Saluda County Airport
5	Burke County Airport	11	Lexington County Airport	17	Wrens Memorial
6	Bush Field	12	Louisville Municipal		

Figure 1.6-3 Public Airports Within 50 Miles of SRS Center

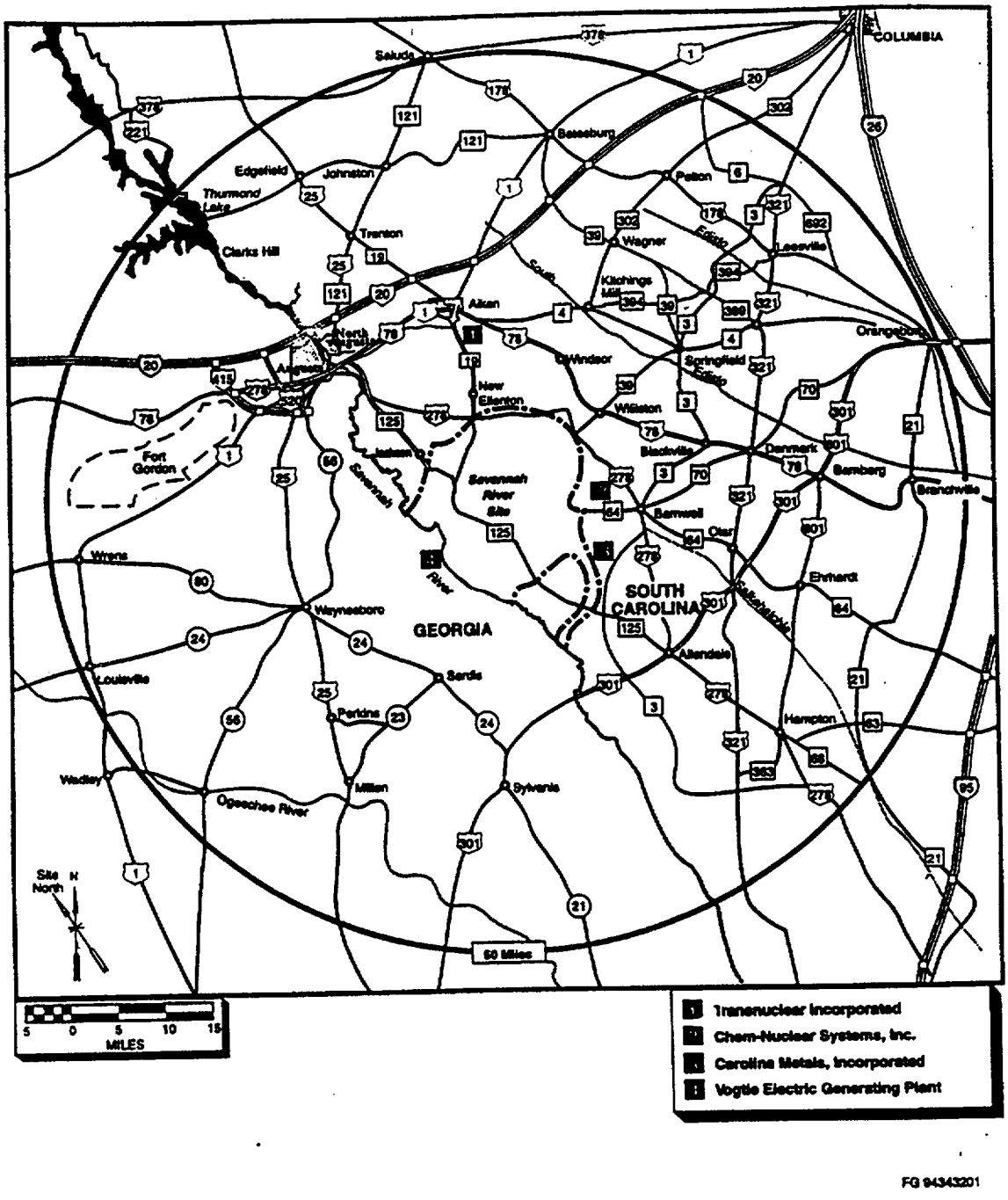
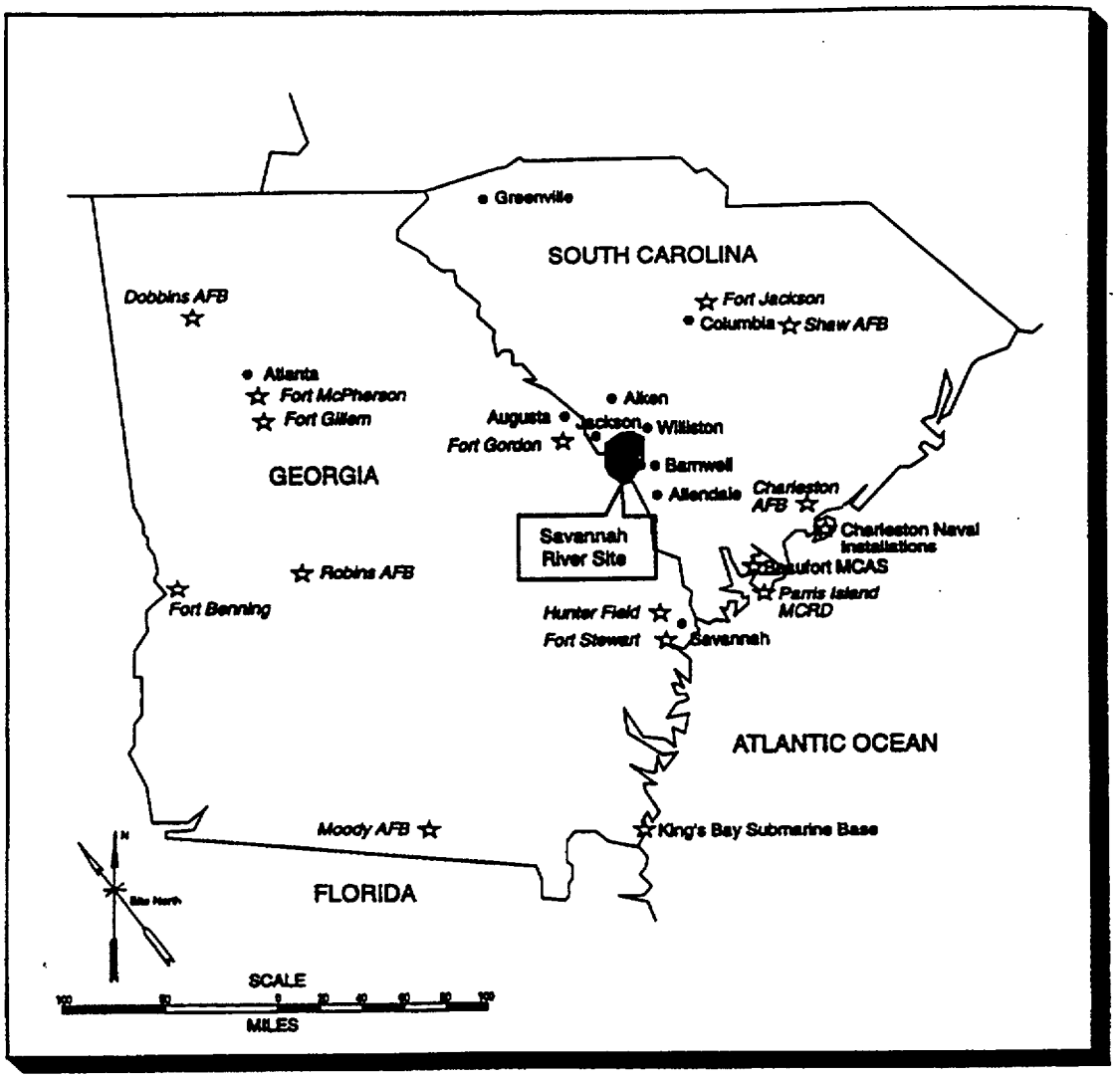


Figure 1.7-1 Nuclear Facilities Within 50 Miles of SRS



FG 94343208

Source: U.S. Department of Defense. Atlas/Data Abstract for the United States and Selected Areas. Fiscal Year 1987. Washington Headquarters Services, Directorate for Information, Washington, DC, 1987.

Figure 1.7-2 Military Bases in South Carolina and Georgia