

FIGURE III-1. Location of SRP Relative to Surrounding Population Centers

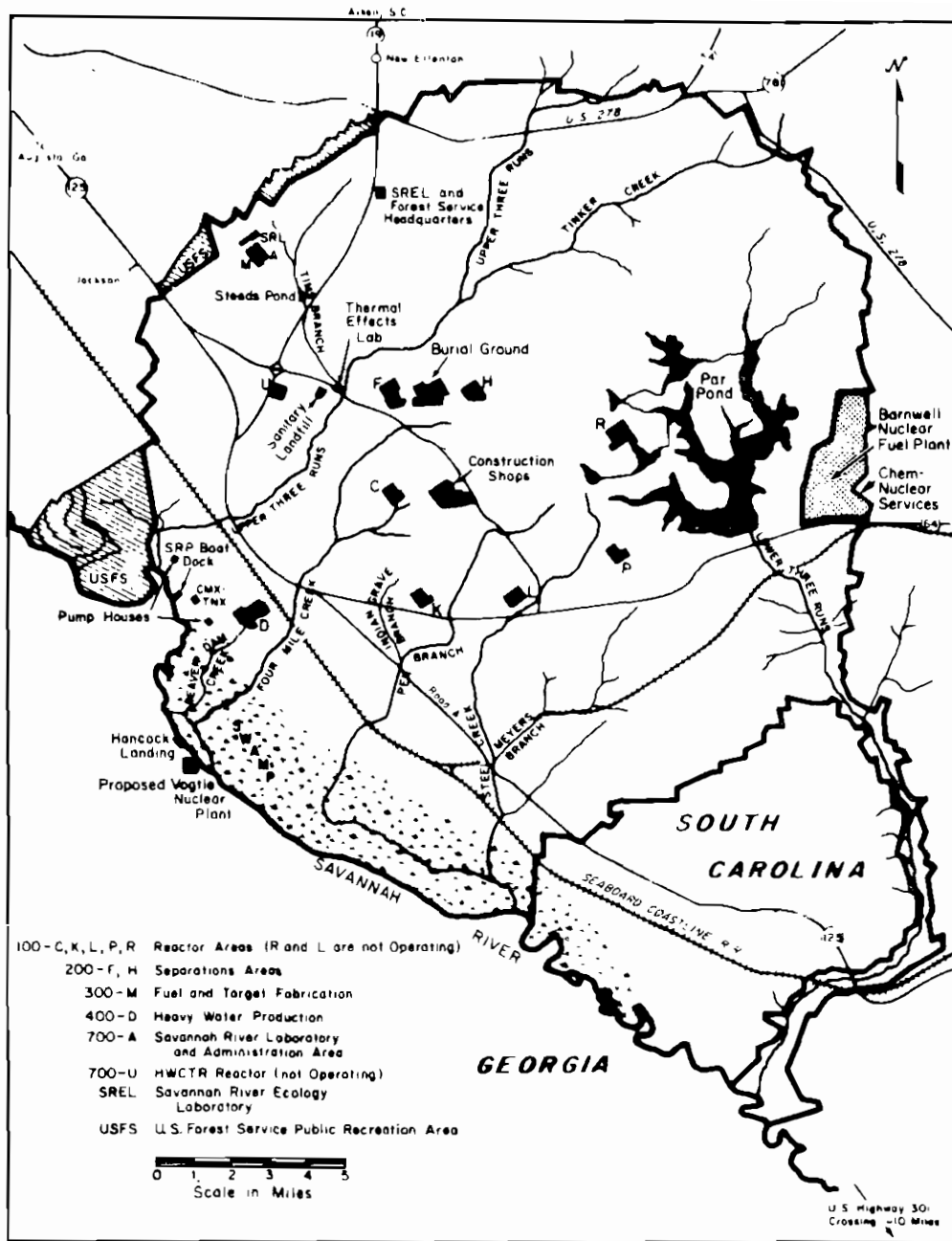


FIGURE III-2. The Savannah River Plant

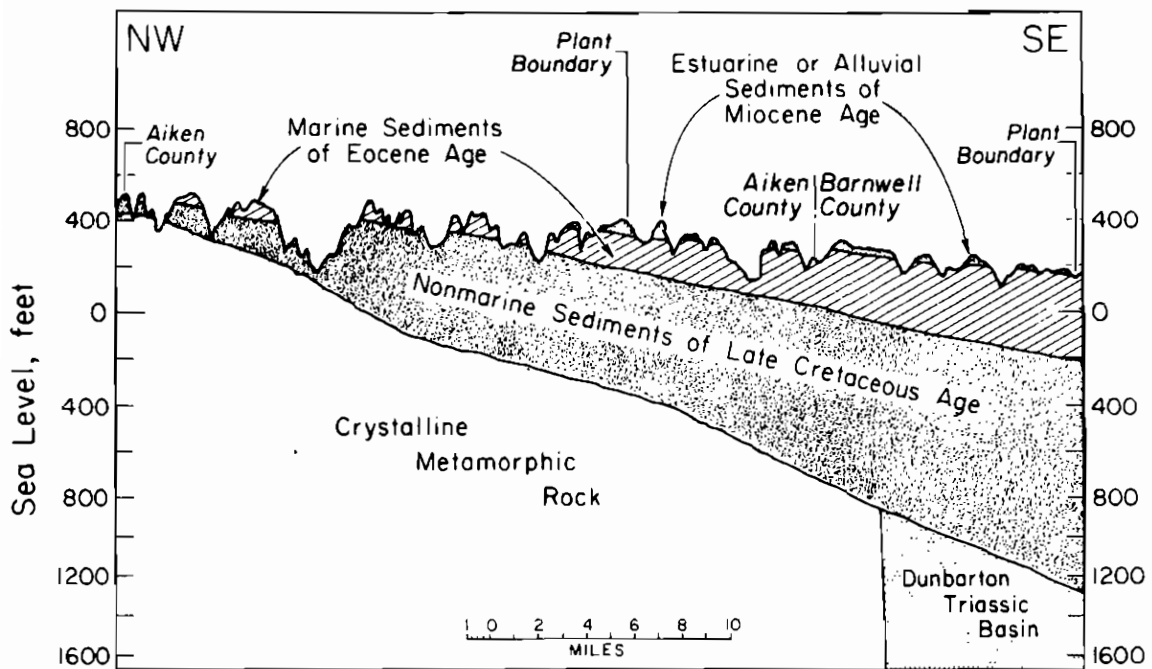


FIGURE III-3. Profile of Geologic Formation Beneath the Savannah River Plant

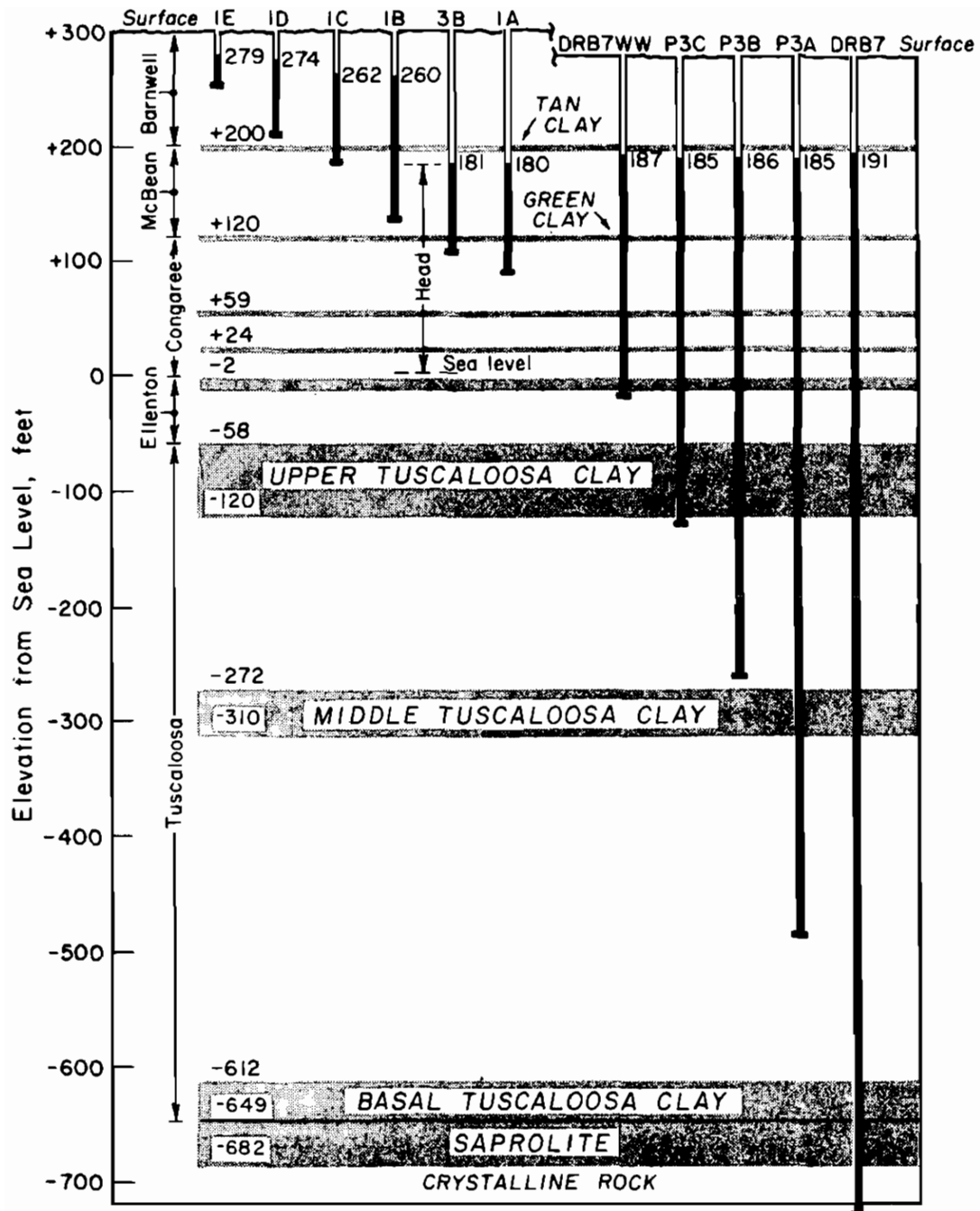


FIGURE III-4. Hydrostatic Head in Ground Water Near H Area

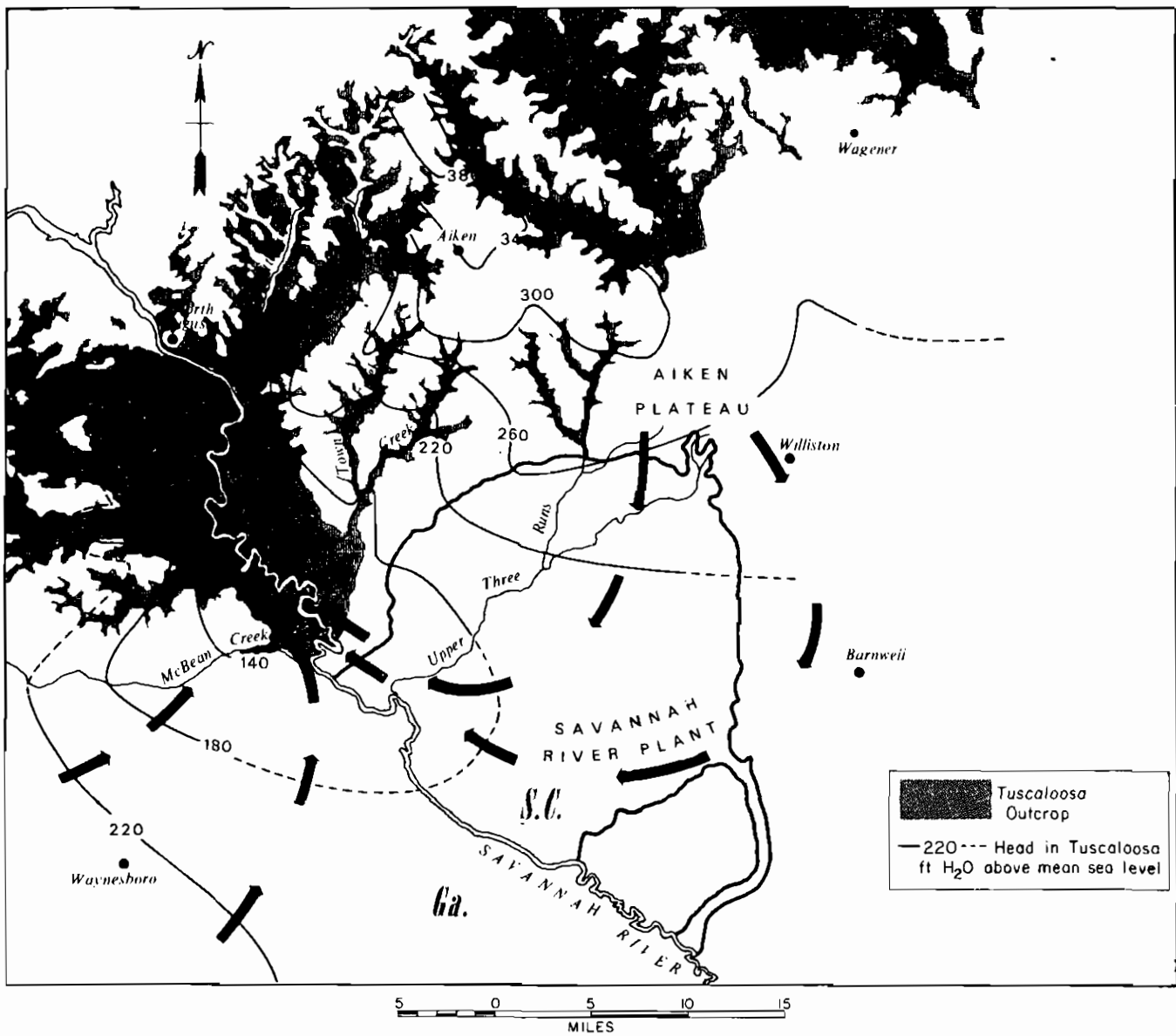


FIGURE III-5. Flow in Tuscaloosa Aquifer

(Ongoing hydrographic measurements indicate that this flow pattern has remained the same under the SRP site since the early 1950's.)

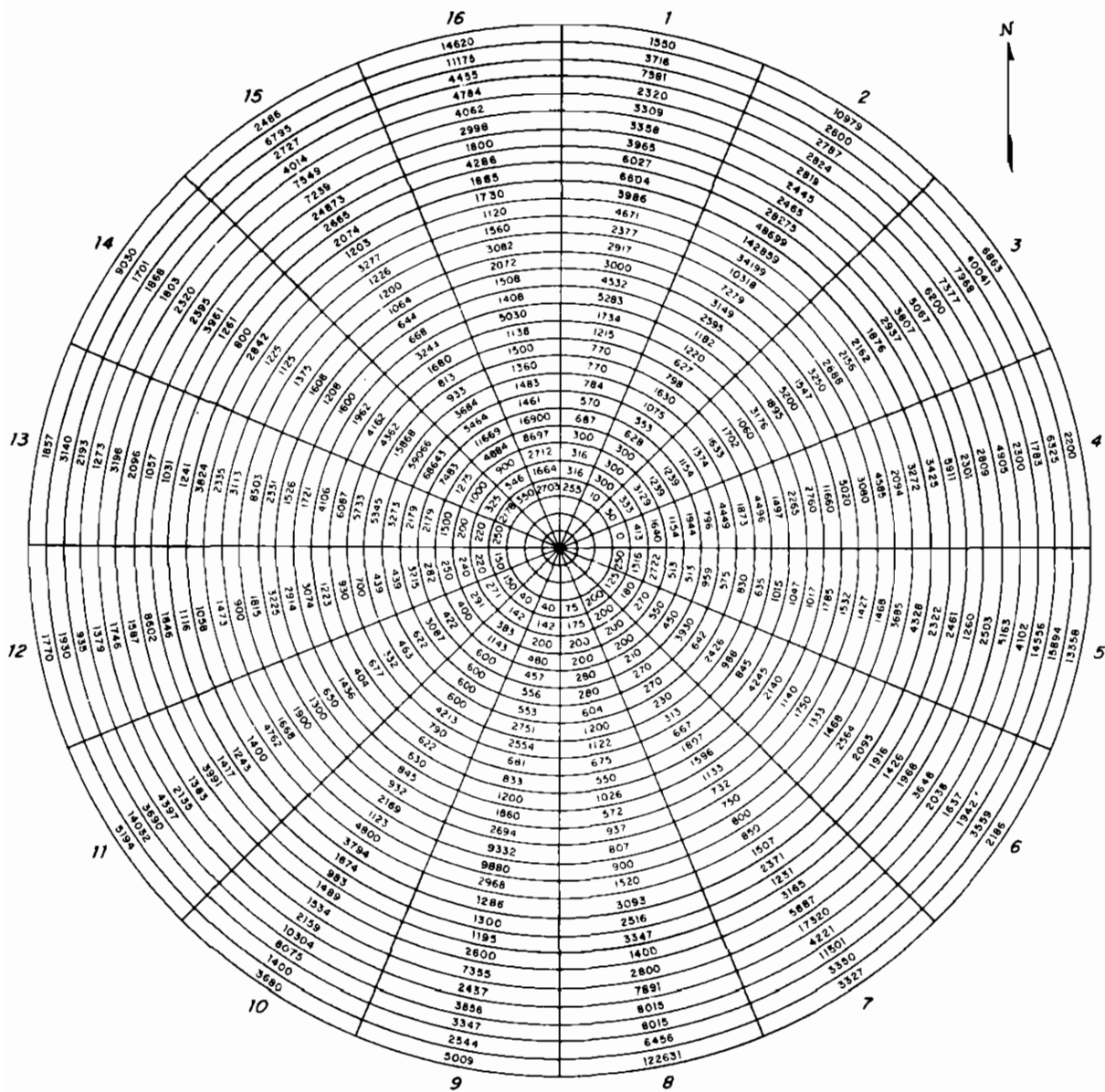


FIGURE III-6. Distribution of Population in Region Surrounding the Savannah River Plant (Radial Increments = 5 km, 22.5° Sectors) 1970 Census

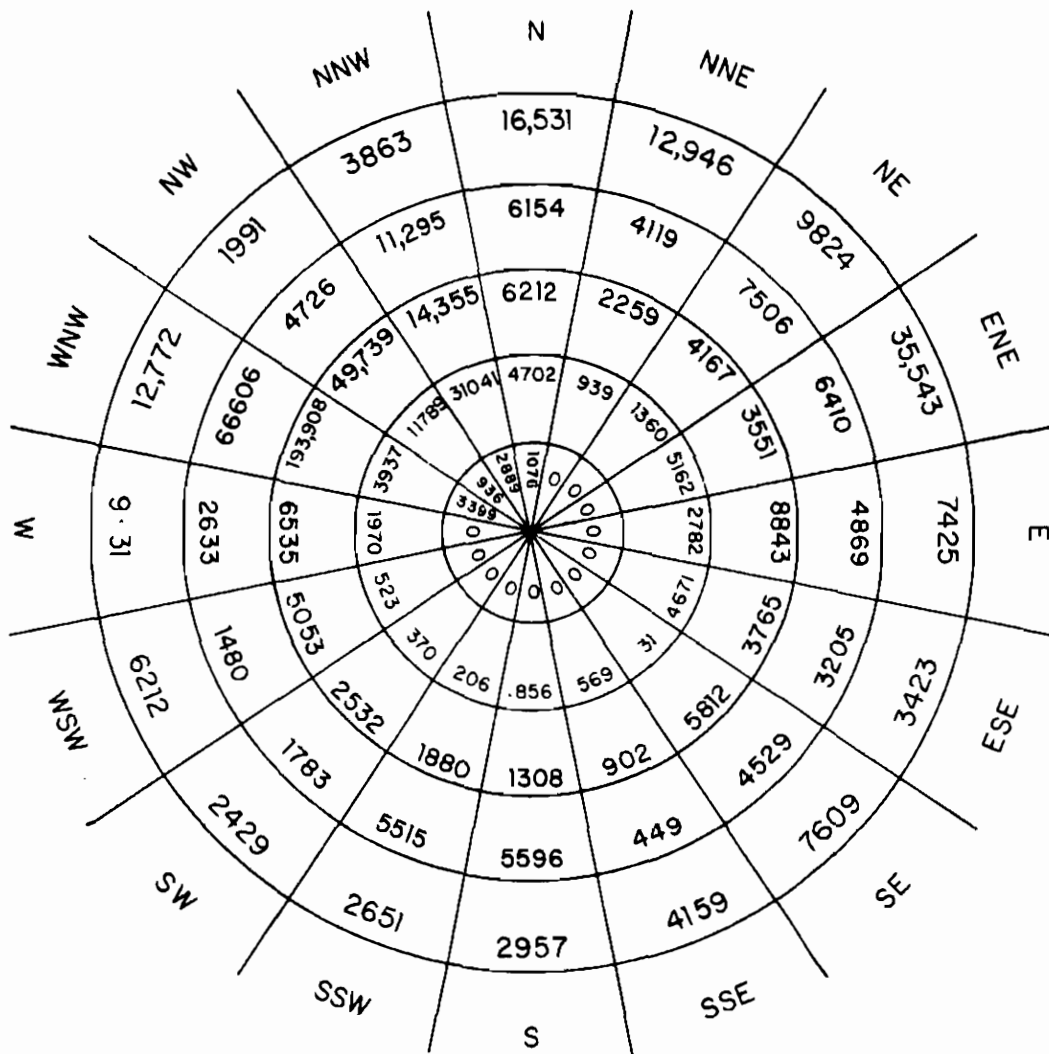


FIGURE III-7. Projection of Population in Region Surrounding the Savannah River Plant for the Year 2000 (Radial Increments - 16 km, 22.5° Sectors)

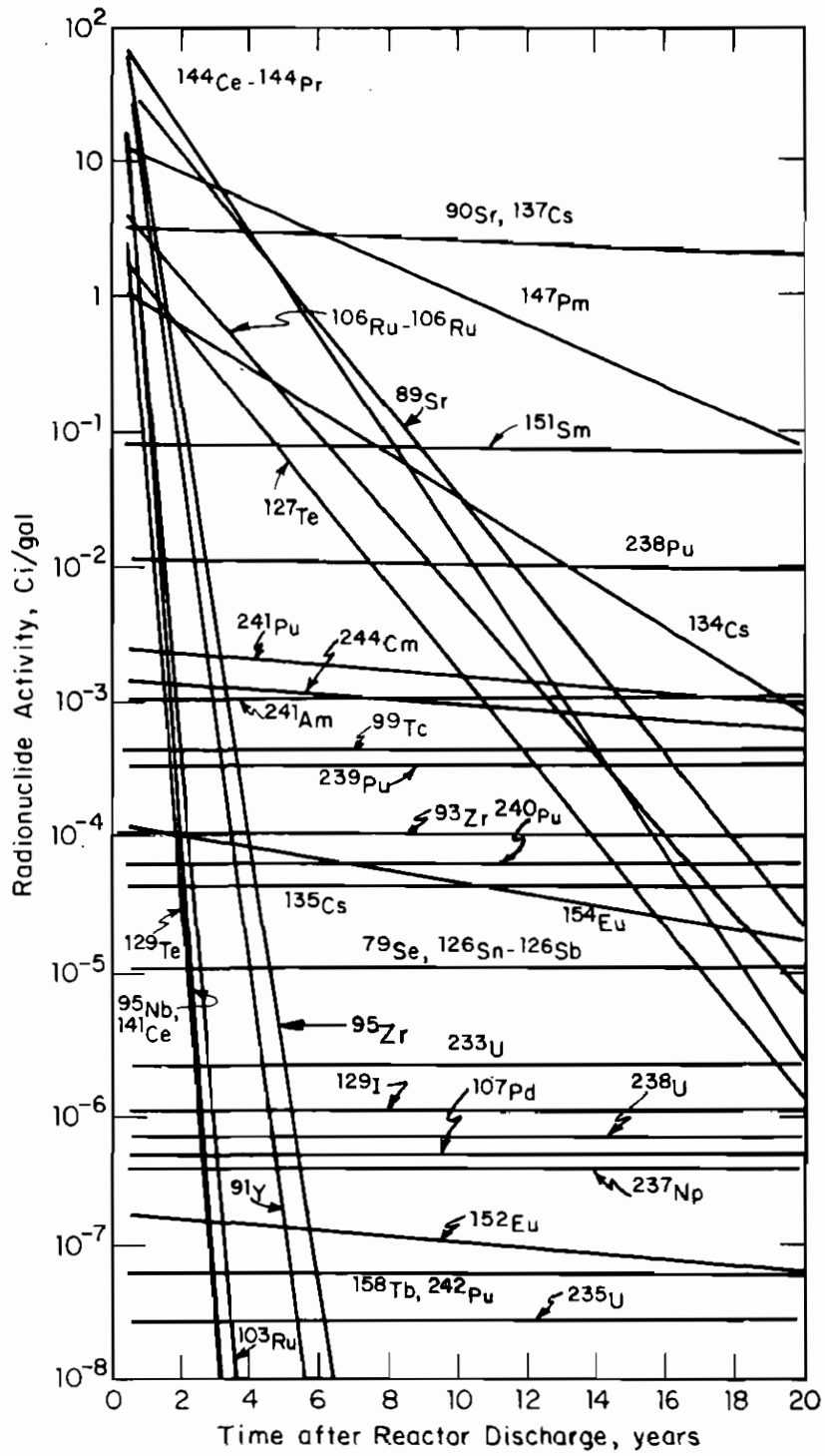


FIGURE IV-1. Radionuclide Composition of SRP Waste (0 to 20 years after irradiation)

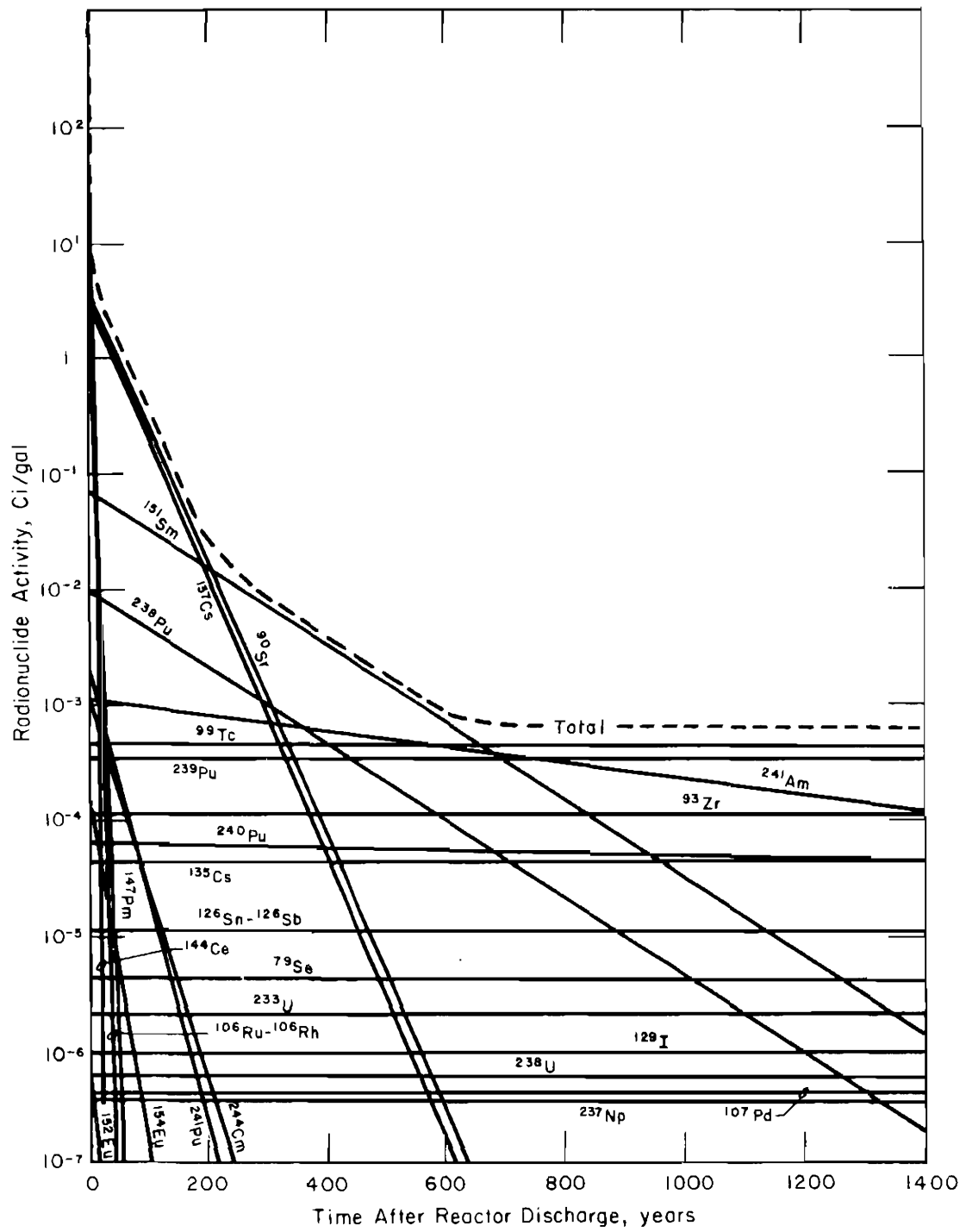


FIGURE IV-2. Radionuclide Composition of SRP Waste (0 to 1400 years after irradiation)

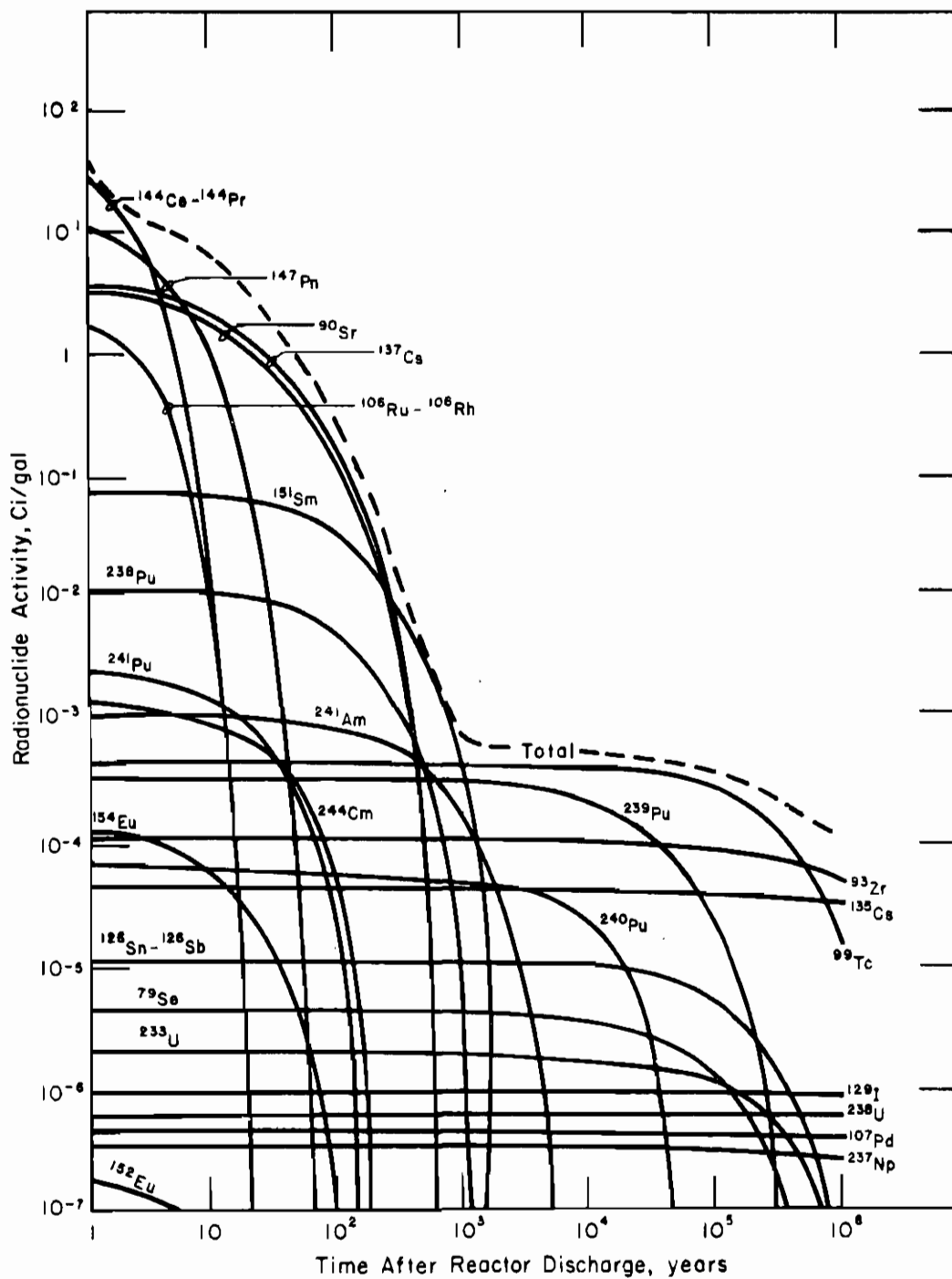


FIGURE IV-3. Radionuclide Composition of SRP Waste (1 to 10⁶ years after irradiation)

In the solidification plant, the sludge is washed and centrifuged free of residual salt. The salt solution is likewise filtered free of residual sludge and then passed through ion exchange columns to remove cesium and strontium, re-evaporated, and handled as described in Section IV.C. The sludge and ion exchange product are combined with SiO_2 , B_2O_3 , and other glass-making materials to form a matrix containing about 35% waste (25% on a waste oxide basis). The glass product is sealed in steel containers and shipped for offsite geologic disposal. For current reference purposes, the geologic disposal formation is assumed to be salt beds, but other geologic formations are also being considered.

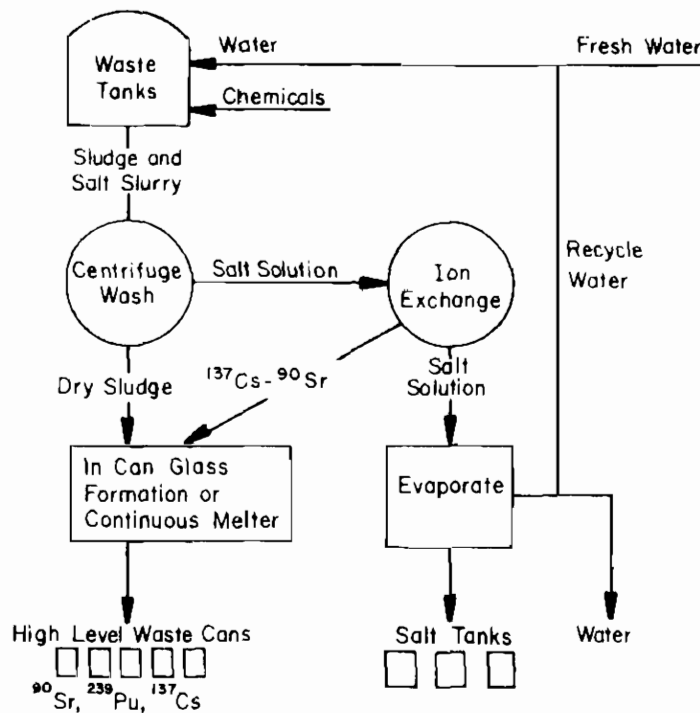
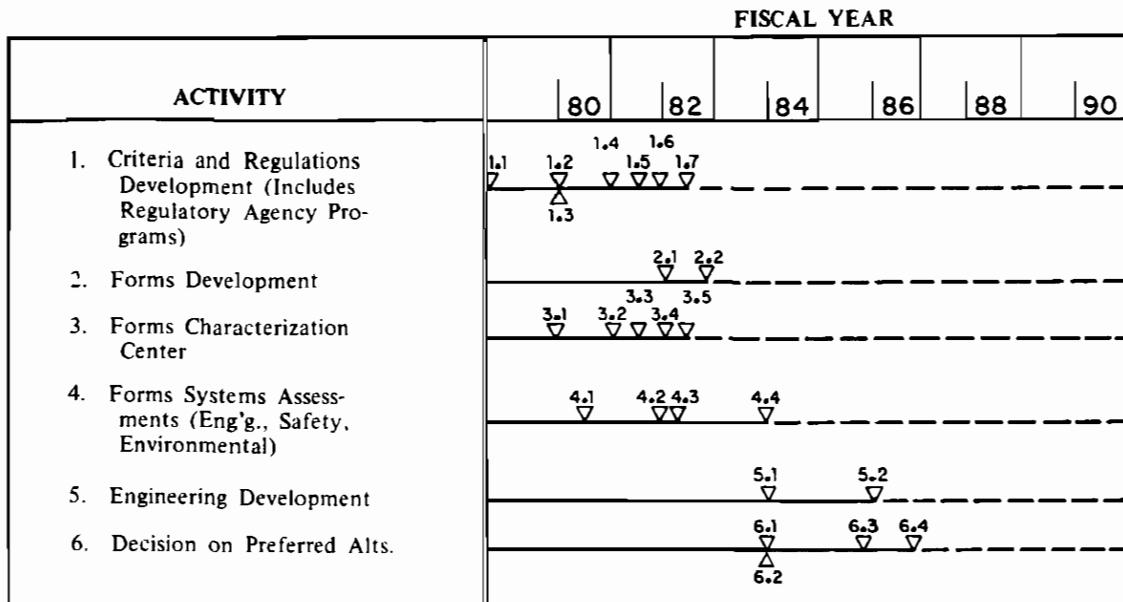


FIGURE IV-4. Conceptual Waste Solidification Process



- | | | |
|---|---|-----------------------------|
| 1.1 EPA Draft Gen. Criteria | 3.1 Established | 5.1 Glass Forms |
| 1.2 Initiate NRC Staff Tech Position Papers | 3.2 Fully Operational | 5.2 Alternatives |
| 1.3 Preliminary ONWI Criteria | 3.3 Testing Methods for Waste Forms Developed | 6.1 DWPF Final Form |
| 1.4 EPA Draft Tech Criteria | 3.4 Mat'ls Handbook Initiated | 6.2 Second Generation Forms |
| 1.5 NRC Draft Regulations (10CFR-60) | 3.5 Methods for Barrier Mat'ls | 6.3 Alts. for ICPP, Hanford |
| 1.6 Final ONWI Criteria | 4.1 Preliminary Glass | 6.4 Form for Comm. Waste |
| 1.7 NRC Final Regulations | 4.2 Preliminary Alts. | |
| 2.1 Glass Formulations Selected | 4.3 Final Glass | |
| 2.2 Alternatives Selected | 4.4 Final Alternatives | |

FIGURE IV-5. National HLW Long-Term Management Program Waste Form Selection