

Part IV:

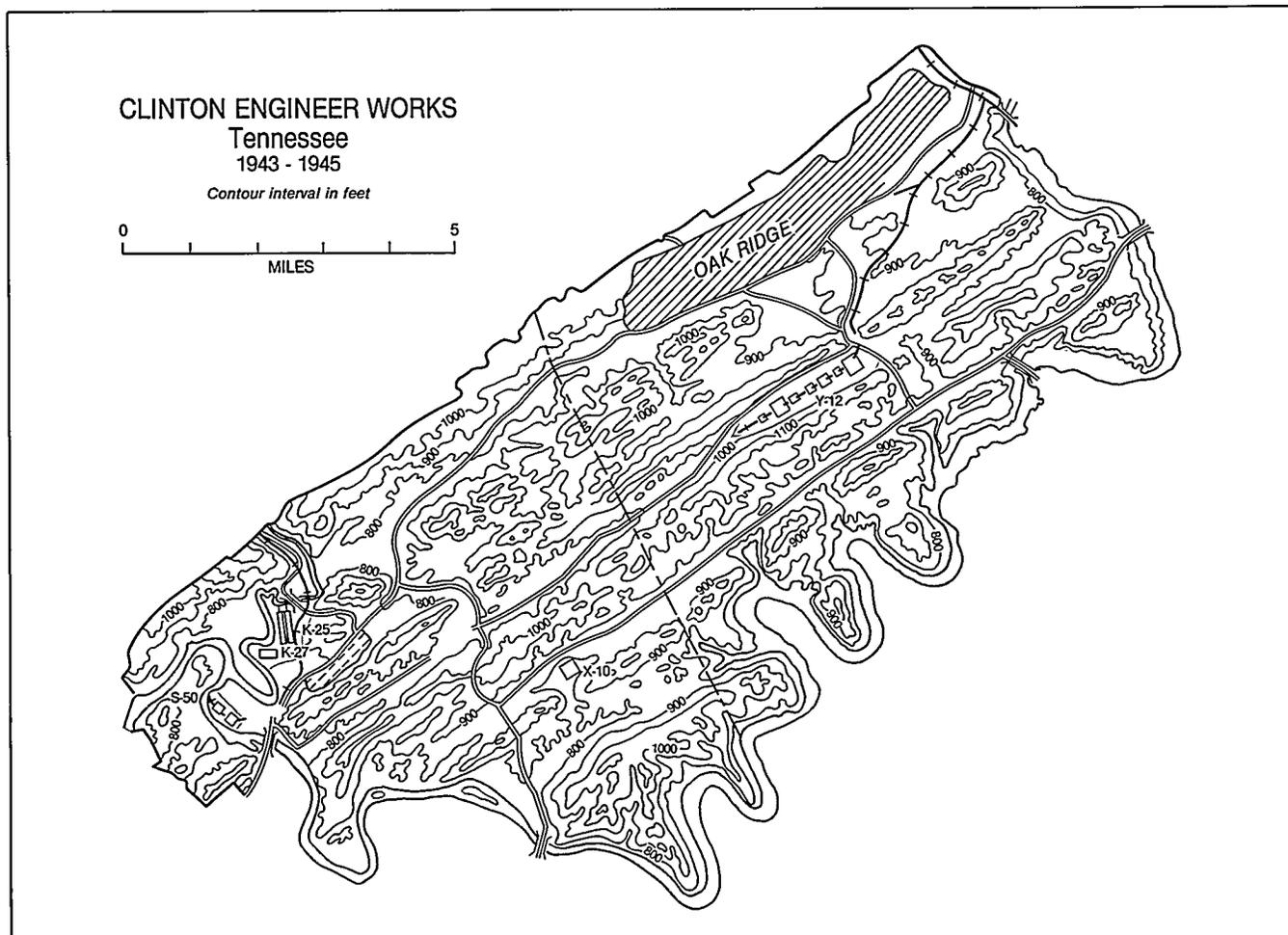
moved from Washington to Tennessee in the summer of 1943 (Groves kept the Manhattan Project's office in Washington and placed Nichols in command in Tennessee), estimates for the town of Oak Ridge had been revised upward to 40-45,000 people. (The name Oak Ridge did not come into usage until after World War II but will be used here to avoid confusion). At the end of the war, Oak Ridge was the fifth largest town in Tennessee, and the Clinton Engineer Works was consuming one-seventh of all the power being produced in the nation.²⁹ While the Army and its contractors tried to keep up with the rapid influx of workers and their families, services always lagged behind demand, though morale remained high in the atomic boomtown.

The three production facility sites were located in valleys away from the town. This provided security and containment in case of explosions. The Y-12 area, home of the electromagnetic plant, was closest to Oak Ridge, being but one ridge away to the south. Farther to the south and west lay both the

X-10 area, which contained the experimental plutonium pile and separation facilities, and K-25, site of the gaseous diffusion plant and later the S-50 thermal diffusion plant. Y-12 and X-10 were begun slightly earlier in 1943 than was K-25, but all three were well along by the end of the year.

The Y-12 Electromagnetic Plant: Final Decisions

Although the Lewis report had placed gaseous diffusion ahead of the electromagnetic approach, many were still betting in early 1943 that Lawrence and his mass spectrograph would eventually predominate. Lawrence and his laboratory of mechanics at Berkeley continued to experiment with the giant 184-inch magnet, trying to reach a consensus on which shims, sources, and collectors to incorporate into Y-12 design for the Oak Ridge plant. Research on magnet size and placement and beam resolution eventually led to a racetrack configuration



Clinton Engineer Works. Reprinted from Vincent C. Jones, *Manhattan: The Army and the Atomic Bomb* (Washington, D.C.: U.S. Government Printing Office, 1985).