

FIGURE 1.—INDEX MAP OF VIRGINIA, SHOWING LOCATION OF LYNDBURST-VESUVIUS DISTRICT

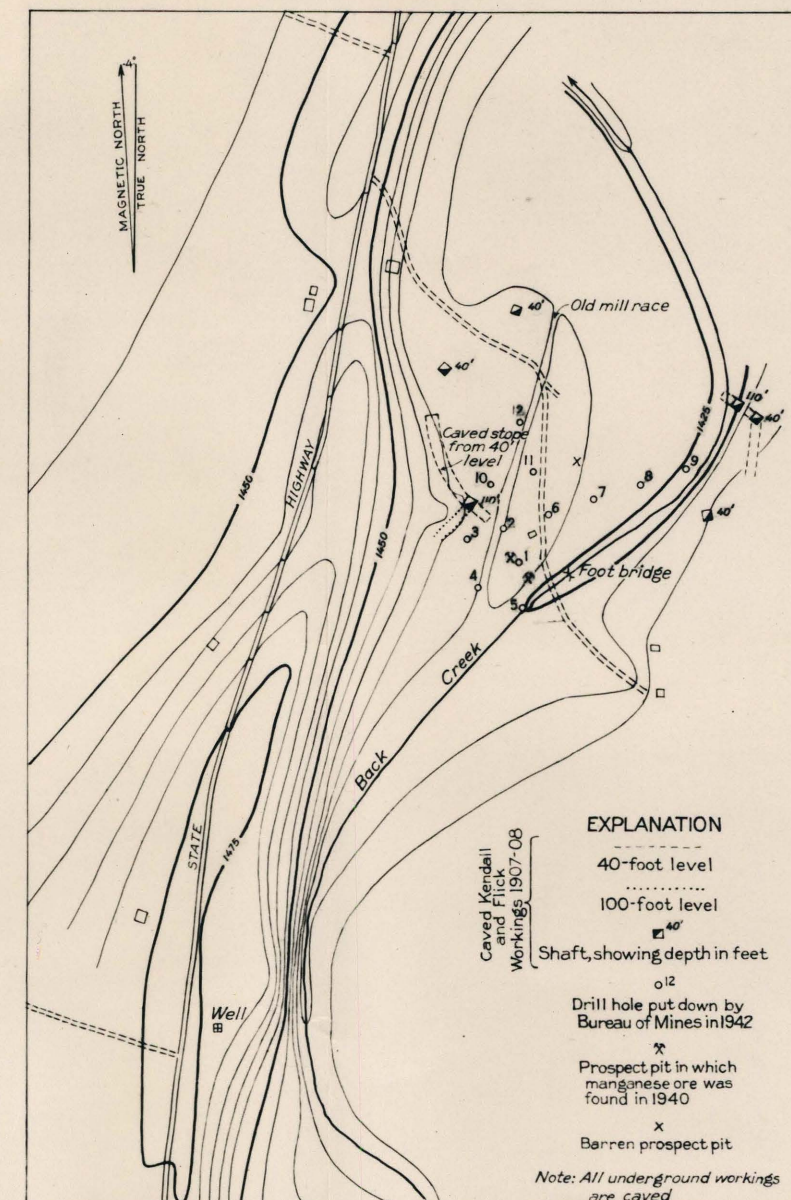


FIG. 2.—MAP OF LYNDBURST MINE AND VICINITY, AUGUSTA COUNTY, VIRGINIA

MANGANESE DEPOSITS OF THE LYNDBURST-VESUVIUS DISTRICT,
AUGUSTA AND ROCKBRIDGE COUNTIES, VIRGINIA

By Maxwell M. Knechtel

Deposits of manganese ore and mangiferous iron ore occur in the Lyndhurst-Vesuvius district, Augusta and Rockbridge Counties, Va., at scattered localities in a belt extending from Lyndhurst southwest through Vesuvius, along the northwest foot of the Blue Ridge Mountains. The principal mines that have produced manganese are the Lyndhurst, Mount Torry, Kennedy, Red Mountain, Mine Bank, and Vesuvius mines. The manganese oxide minerals psilomelane, pyrolusite, and wad are intermixed in several of the deposits with variable proportions of limonite, from which at present they cannot be separated economically. More than 36,000 long tons of mangiferous iron ore concentrates, averaging approximately 20 percent in metallic manganese, has been marketed for use in manufacturing high-manganese pig iron, and probably at least 50,000 long tons of concentrates of this grade remain in reserve. The recorded production of manganese ore that contained 35 percent or more of metallic manganese, thus being suitable for use in making ferro-manganese, is less than 10,000 long tons, and the proved reserves of such material probably amount to less than 2,000 long tons.

The ore deposits are for the most part irregular bodies in residual clay of the Tomstown dolomite—formerly called the Shady dolomite—of Lower Cambrian age. Most of the deposits occur in synclines and on monoclinial flexures, where the iron and manganese oxides have been concentrated through weathering of dolomite, limestone, and shale beneath the valley-floor peneplain. The most productive deposit, however, that at the Lyndhurst mine, occurs along a thrust fault, and a few small vein deposits fill fractures in older quartzites of Lower Cambrian age. Manganese carbonate, supposed to have been the source of the manganese, may have been disseminated through many formations, but it must have been particularly abundant in certain layers of the Tomstown dolomite. The manganese probably was dissolved as bicarbonate by surface and underground water and transported in this form to the localities at which it was deposited as oxide.

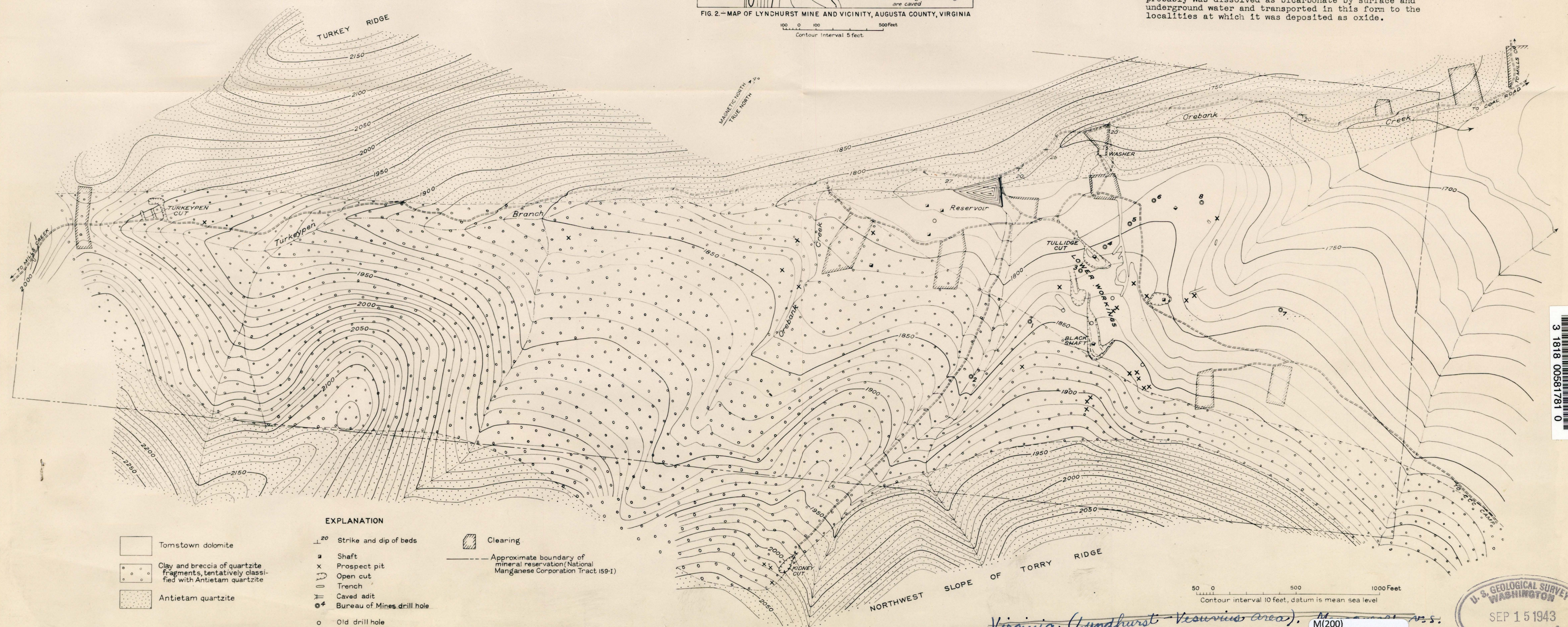
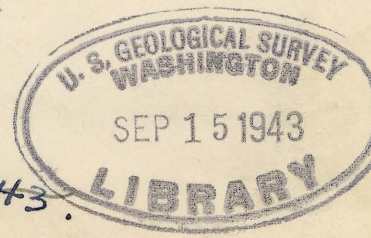


FIGURE 3.—MAP OF MT. TORRY TRACT, AUGUSTA COUNTY, VIRGINIA

Virginia (Lyndhurst-Vesuvius Area), Sheet P
Cp. 1.

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