



Base from U.S. Geological Survey,
1:20,000, Franklin, 1954

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C.—1970—G69188
Geology mapped by D. R. Baker and A. F. Buddington, 1951-53

EXPLANATION

All units are Precambrian in age, but age relationships among units are unknown. Chronologic order is not implied

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| <p>IGNEOUS ROCKS</p> <p>Hypersthene granite Greenish-buff fine- to medium-grained gneissoid granite. Composed of quartz, microperthite, and microantiperthite with accessory hypersthene, biotite, and magnetite. Biotite-quartz-feldspar gneiss and pegmatite layers are common</p> <p>Pyroxene granite Green medium-grained gneissoid granite and alaskite. Composed of quartz, microperthite, and microantiperthite with accessory ferrohedenbergite, ilmenomagnetite, ilmenite, and hornblende</p> <p>Alaskite Pink medium- to coarse-grained gneissoid to massive granite of uniform composition. Composed of perthitic microcline and quartz with accessory oligoclase, biotite, magnetite, and hornblende. Amphibolite layers are common</p> <p>Hornblende granite Pink to buff medium- to coarse-grained gneissoid granite. Composed of quartz and microperthite with accessory oligoclase, hornblende, biotite, and magnetite. Amphibolite and pegmatite layers are abundant</p> | <p>ORTHOGNEISS</p> <p>Syenite gneiss Medium-grained uniform syenite gneiss. Composed of oligoclase, perthitic microcline, and ferroaugite with accessory ilmenomagnetite, ilmenite, hornblende, quartz, and relic microperthite</p> <p>Pyroxenic gneiss Dark-green to dark-gray medium-grained hornblende pyroxene-feldspar gneiss; mafic pyroxenic facies of ghc adjacent to Edison pond</p> <p>Epidote-scapolite-quartz gneiss and associated rocks (calcium-rich gneiss) Medium-grained well-layered gneiss. The gneiss is composed of variable proportions of the following minerals: quartz, microcline, plagioclase, epidote, scapolite, pyroxene, hornblende, biotite, garnet, calcite, zoisite, sphene, and ores. Typical facies include epidote-scapolite-quartz gneiss, hornblende and pyroxene-quartz-feldspar gneiss, and biotite-hornblende-quartz-feldspar gneiss</p> | <p>GNEISS OF UNCERTAIN ORIGIN</p> <p>Quartz-microcline gneiss Pink to buff, fine grained, even grained and equigranular; gneissose owing to streaks and porphyroblastic aggregates of garnet; otherwise massive. Composed of microcline and quartz with garnet, ilmenomagnetite, and biotite. Locally interlayered with biotite-quartz-feldspar gneiss, alaskite, and pegmatite</p> <p>Quartz-oligoclase gneiss White, medium to coarse grained and very gneissic. Composed of quartz and oligoclase with biotite, chlorite, microcline, epidote, garnet, and ores. Amphibolite and pegmatite layers are common</p> | <p>CONTACT Dashed where approximately located; dotted where concealed</p> <p>PROBABLE FAULT Dotted where concealed</p> <p>SYNCLINE Showing plunge of axis</p> |
| <p>Contaminated hornblende granite Medium-grained gneissoid granite. Composed of quartz and microperthite with accessory hornblende and magnetite. Contaminated with hornblende-pyroxene gneisses, amphibolites, and local lenses of pyroxene skarn</p> <p>Quartz-potassium-feldspar and associated gneiss A complex group of gneisses composed mostly of quartz, potassium feldspar and magnetite with hematite, ilmenite, rutile, biotite, garnet, sillimanite, plagioclase, apatite, spinel, monazite, and corundum. Generally medium grained, gneissic, and extremely heterogeneous. Magnetite-quartz-potassium-feldspar gneiss is the predominant facies, whereas magnetite-quartz gneiss, magnetite-rich layers, and much pegmatite are present</p> <p>Biotite-quartz-feldspar gneiss Grayish medium-grained gneiss with local potassium feldspar porphyroblasts. Composed of oligoclase, perthitic microcline and quartz with biotite, garnet, and magnetite. Granite, pegmatite, and quartz-microcline gneiss are intimately interlayered</p> <p>Garnet-biotite-quartz-feldspar gneiss and related facies Medium- to coarse-grained gneiss. Composed of quartz, oligoclase and perthitic microcline with garnet, biotite, hypersthene, hornblende, and magnetite. Somewhat heterogeneous with layers of amphibolite, granite, pegmatite, and rare scapolite-pyroxene gneiss. Shown as biotite-quartz-feldspar and associated gneisses on plate 1</p> | <p>METASEDIMENTARY, METASOMATIC, AND MIXED GNEISSES</p> | <p>Magnetic contour Dip needle survey</p> <p>Mine shaft</p> <p>Open-cut or prospect pit</p> <p>Dump</p> <p>Diamond-drill hole B.S. Co.—Bethlehem Steel Company, 1920 P.C. and I. Co.—Pittsburgh Coke and Iron Company, 1943</p> | <p>Strike and dip of foliation</p> <p>Strike of vertical foliation</p> <p>Strike and dip of foliation and plunge of lineation</p> <p>Outline of inferred magnetite ore layers</p> |

GEOLOGIC MAP OF THE EDISON MAGNETITE DEPOSITS, SUSSEX COUNTY, NEW JERSEY

