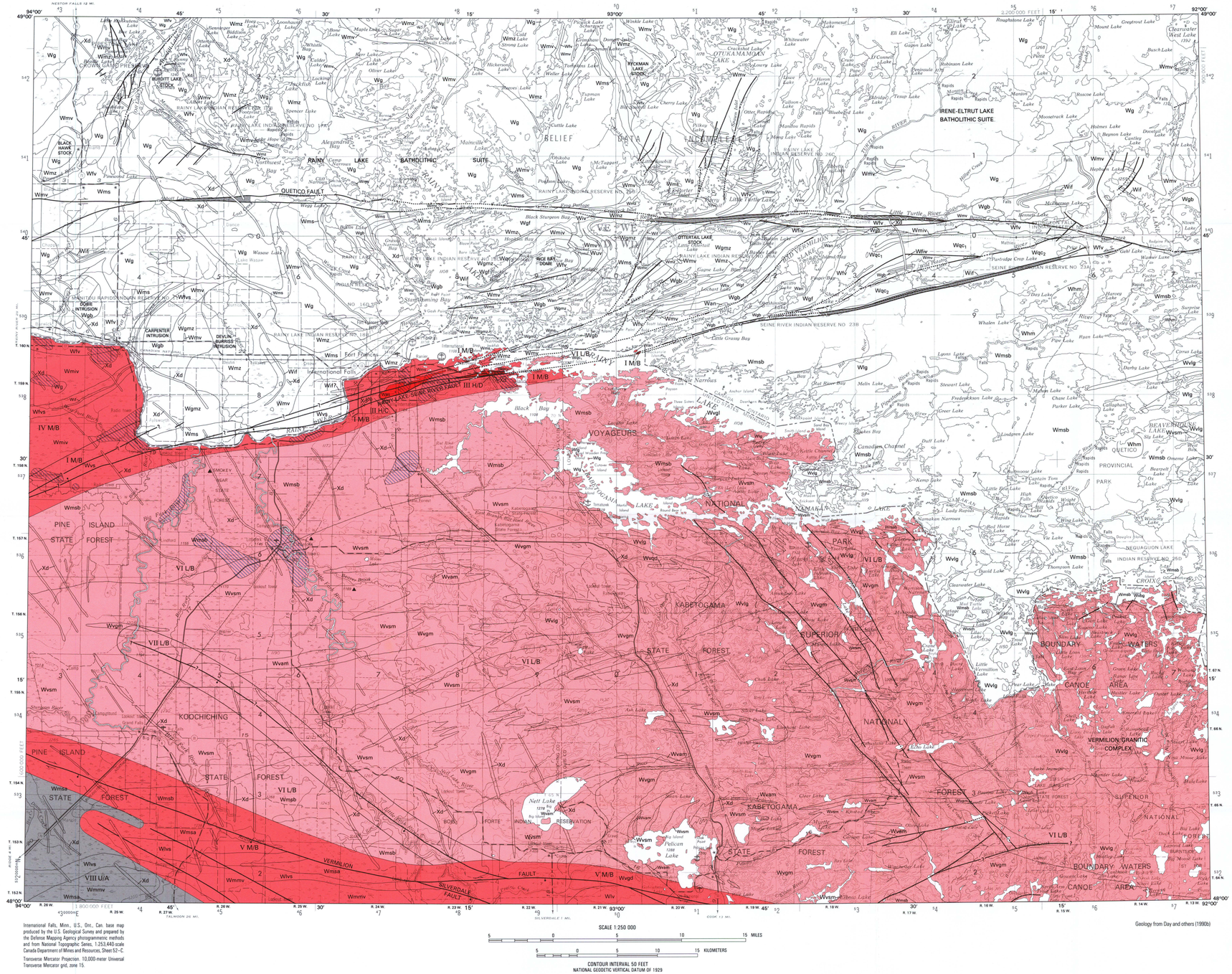
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

BULLETIN 2044
PLATE 3

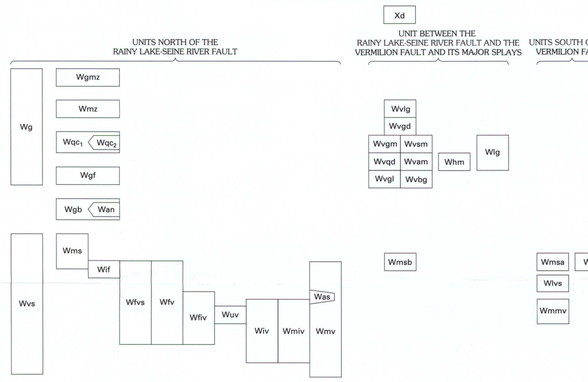


Geology from Day and others (1990b)

International Falls, Minn., U.S., Ont., Can. base map produced by the U.S. Geological Survey and prepared by the Defense Mapping Agency photogrammetric methods and from National Topographic Series, 1:253,440 scale Canada Department of Mines and Resources, Sheet 52–C.

Transverse Mercator Projection. 10,000-meter Universal Transverse Mercator grid, zone 15.

CORRELATION OF MAP UNITS



EXPLANATION OF MINERAL RESOURCE POTENTIAL

Area showing potential for lode gold deposits—Diagnostic and permissive criteria outline in table 11. Potential for numbered tracts shown in table 12. Definitions of levels of mineral resource potential and certainty of assessment defined in appendix 1

- **High potential**
- **Moderate potential**
- **Low potential**
- **Unknown potential**
- ▲ **Multiple gold grains in glacial till**
- **Area of soil geochemical anomalies for elements interpreted to be related to epigenetic gold and base-metal mineralization**

LIST OF MAP UNITS

EARLY PROTEROZOIC ROCKS

Xd **Diabase, gabbro, and diorite**

LATE ARCHEAN ROCKS

Wgmz **Granodiorite,quartz monzonite, and granite**
Wmz **Hornblende monzonite**
Quartzite and conglomerate
Wqc_1 **Quartzite**
Wqc_2 **Conglomerate**
Wgf **Foliated granitoid rocks**
Wg **Foliated and unfoliated granitoid rocks, undivided**
Wan **Anorthosite**
Wgb **Mafic intrusive rock**
Wms **Metasedimentary rocks, undivided**
Wif **Iron-formation**
Wfvs **Felsic metavolcanic and volcaniclastic metasedimentary rocks**
Wfv **Felsic metavolcanic rock**
Wfiv **Felsic to intermediate metavolcanic rocks, undivided**
Wuv **Ultramafic metavolcanic rocks**
Wiv **Intermediate metavolcanic rocks**
Wmiv **Mafic to intermediate metavolcanic rocks, undivided**
Was **Amphibolitic schist**
Wmv **Mafic metavolcanic rocks**
Wvs **Metavolcanic and metasedimentary rocks, undivided**
Wvlg **Lac La Croix Granite**
Wvgd **Biotite–hornblende granodiorite and granite**
Wvgm **Granite–rich migmatite**
Wvsm **Schist–rich migmatite**
Wvqd **Biotite–hornblende quartz diorite**
Wvam **Ampibolitic migmatite**
Wvgl **Granitic leucogneiss**
Wvbg **Biotite–rich gneiss**
Whm **Hornblende monzonite**
Wlg **Leucogranite**
Wmsb **Metasedimentary rocks, undivided**
Wlv **Lake Vermilion Formation**
Wmsa **Metasedimentary rocks, undivided**
Wlvs **Layered volcanic–sedimentary rocks**
Wmmv **Metavolcanic rocks, undivided**

Approximate contact
Fault
Fault rock

MAP SHOWING MINERAL RESOURCE POTENTIAL FOR LODE GOLD DEPOSITS IN THE U.S. PART OF THE INTERNATIONAL FALLS 1° × 2° QUADRANGLE, NORTHERN MINNESOTA

1997