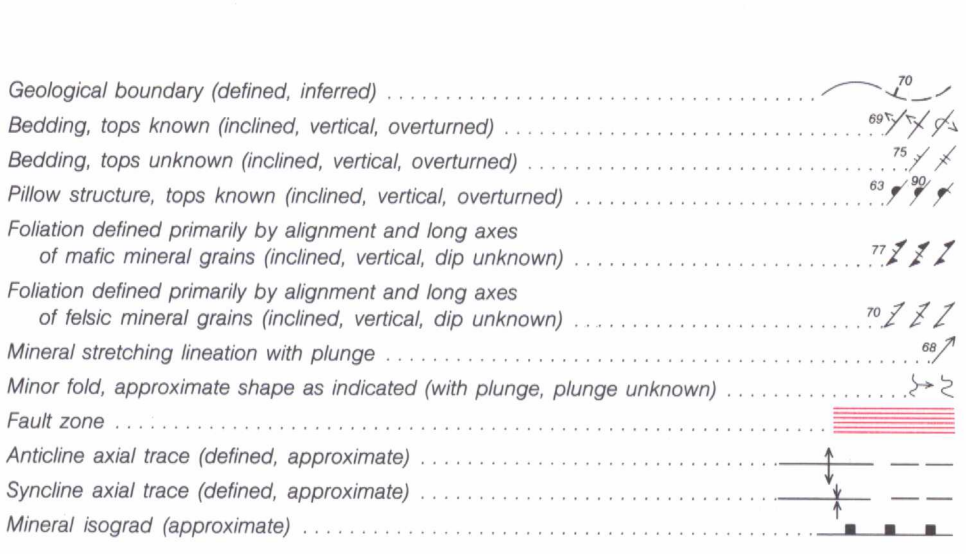


- LEGEND**
- PROTEROZOIC**
- 1. 1.6 Ga, K-Ar; generally 1.3 m wide, vertical, rusty brown weathered surface, polklike with well developed foliation, predominantly augite and plagioclase.
 - 2. 1.6 Ga, K-Ar; generally 1.3 m wide, vertical, rusty brown weathered surface, polklike with well developed foliation, predominantly augite and plagioclase.
- SYN-POSTVOLCANIC INTRUSIVES**
- 8c. Granite (2.674 Ga, U-Pb); grey, but becomes pink when altered at surface or near fractures; porphyritic; megacrysts (1-2 cm) composed of feldspar (microcline and oligoclase); 5-10% biotite, hornblende and sphene; feldspar megacrysts define a weak foliation.
 - 8b. Granodiorite (locally variable in composition from tonalite to granite); grey to pink, inequigranular with megacrysts of quartz and feldspar; 5-20% hornblende, biotite, epidote and sphene; weak foliation defined by alignment of feldspar megacrysts and matrix minerals.
 - 8a. Quartz monzonite/diorite monzonite; pink to grey, coarse grained, inequigranular with megacrysts of feldspar and hornblende; 20-40% hornblende, biotite, epidote and sphene; alignment of mafic minerals defines a weak foliation.
 - 7. Diorite, hornblende grey to black, coarse grained, inequigranular, with megacrysts of hornblende; hornblende varies inversely with plagioclase from 30-75% up to 10% biotite and epidote; diorite is well foliated but hornblende is massive and cut by granodiorite dikes.
 - 6. "Young" tonalite (locally granodiorite); grey to pinkish white, medium to coarse grained, with feldspar megacrysts; composed mainly of quartz and plagioclase (An₅₀₋₆₀); microcline varies from 0-20% to 2-25% biotite with minor hornblende; moderately foliated and intruded by mafic dykes.
 - 5. Metagabbro; dark green, medium to coarse grained, may contain augite and plagioclase but altered to actinolite, epidote, and chlorite at many localities; gabbro within metagabbro belts is distinguished from mafic flows (unit 3b) on the basis of massive to weakly foliated appearance and a grain size generally greater than 1 mm; gabbro is variable in age as some dykes in the tonalite basement (unit 1b) appear to predate the erosional unconformity and deposition of the metagabbro (unit 3b), whereas the youngest dykes transect granodiorite (unit 8b) and postdate volcanism.
- SUPRACRUSTAL SEQUENCES**
- 4a. Metagranite, coarse metasediments (Serp Group); pale green to brown, contains well sorted clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4b. Metagranite, metasediments; light brown, metagranite is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4c. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4d. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4e. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4f. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4g. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4h. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4i. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4j. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4k. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4l. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4m. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4n. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4o. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4p. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4q. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4r. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4s. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4t. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4u. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4v. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4w. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4x. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4y. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
 - 4z. Metagabbro, metasediments; light brown, metagabbro is composed of variably rounded and sized clasts of tonalite, mafic to felsic metagabbro, chert, jasper, and other clastic metasediments; matrix is composed mainly of chlorite, sericite, quartz, carbonate, and feldspar; well foliated with mafic clasts tending to be more deformed than tonalite and chert clasts; characteristic of alluvial fan and fluvial facies association.
- PRE-SYNVOLCANIC INTRUSIVES**
- 1d. Mafic tonalite gneiss; grey to brown and black, characterized by pronounced, continuous gneissic banding; may contain tonalite, diorite, biotite-rich amphibolite bands of variable grain size but generally more than 20% combined mafic minerals; typically composed about 30% diorite and irregular masses of gabbro (unit 5), tonalite (unit 6), and granodiorite (unit 8b); well foliated and locally folded; age relation to Steep Rock Group is unknown.
 - 1c. Tonalite gneiss; grey, composed of two or three phases of tonalite varying slightly in grain size and mineralogy; may contain tonalite, diorite, biotite-rich amphibolite bands of variable grain size but generally more than 20% combined mafic minerals; typically composed about 30% diorite and irregular masses of gabbro (unit 5), tonalite (unit 6), and granodiorite (unit 8b); well foliated and locally folded; age relation to Steep Rock Group is unknown.
 - 1b. "Old" tonalite; grey to pale brown, medium grained and inequigranular; composed of quartz, plagioclase, and biotite variably altered to sericite, epidote, and chlorite; weakly foliated, highly fractured and contains up to 30% gabbro dykes (unit 5), basement for the Steep Rock Group.
 - 1a. Mafic tonalite, quartz diorite (ca. 3 Ga, U-Pb); grey, medium to coarse-grained, foliated to weakly gneissic; generally more than 5% hornblende and biotite that can be completely altered to chlorite and epidote; composed of 6-20% quartz and 20-40% plagioclase; microcline is rare but locally can reach 18%; occurs as xenoliths in "old" tonalite (unit 1b); highly fractured and can contain up to 30% gabbro dykes (unit 5); basement for the Steep Rock Group.
- Geological boundary (defined, inferred)**
- Bedding, tops known (inclined, vertical, overturned)**
- Bedding, tops unknown (inclined, vertical, overturned)**
- Pillow structure, tops known (inclined, vertical, overturned)**
- Foliation defined primarily by alignment and long axes of mafic mineral grains (inclined, vertical, dip unknown)**
- Foliation defined primarily by alignment and long axes of felsic mineral grains (inclined, vertical, dip unknown)**
- Mineral stretching lineation with plunge**
- Minor fault, approximate shape as indicated (with plunge, plunge unknown)**
- Fault zone**
- Anticline axial trace (defined, approximate)**
- Syncline axial trace (defined, approximate)**
- Mineral draped (approximate)**
- Geological compilation and interpretation by D. Stone, 1986, based on mapping by D. Stone, D.C. Kamenetzky, M.C. Jackson, B. Shanks, and B. Zuydam (1979-1986). The project was supported by Atomic Energy of Canada Limited as part of geoscience research for the Canadian Nuclear Fuel Waste Management Program.**
- Geology in the vicinity of the abandoned Steep Rock Iron Mine is compiled, in part, from an unpublished map by A.W. Joffe, W.J. Huston, A.R. King, and G.J. Gawn (1961), provided courtesy of the Resident Geologist, Ontario Geological Survey, Thunder Bay.**
- Geology in the vicinity of the abandoned Caland Iron Mine is compiled, in part, from McIntosh (1972).**
- Geology beneath the former southeast arm of Steep Rock Lake is compiled, in part, from drill reports by H.S. Hicks for Steep Rock Iron Mines; courtesy of the Alkalin Museum, Ray, Saskatchewan; consulting geologist, Alkalin; and the Assessment Files Research Office, Ontario Geological Survey, Toronto.**
- Geology beneath Steep Rock Lake is compiled, in part, from Figure 8 of Shinkovsk (1972) based on drill reports by the Quebec Carter Mining Company.**
- Section A-A' of the Steep Rock Lake belt is based on structural interpretations of the authors. Vertical positions are not to scale. Depth and subsurface shape of the Little Eye Stock, Eye-Dasha Pluton and Finlayson Lake belt as shown in Section B-B' are derived from the gravity survey of Gobe et al. (in press).**
- Geological cartography by J.A.Y. Pratt, Geological Survey of Canada.**
- Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada.**
- Base map assembled by the Geological Survey of Canada from maps published at the same scale by the Surveys and Mapping Branch in 1977, 1978, 1979.**
- Copies of the topographical editions covering this map area may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, Ontario, K1A 0G3.**
- Approximate magnetic declination 1987, 12°17' West decreasing 56' annually.**
- Elevations in feet above mean sea level.**
- References**
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Elevations in feet above mean sea level.

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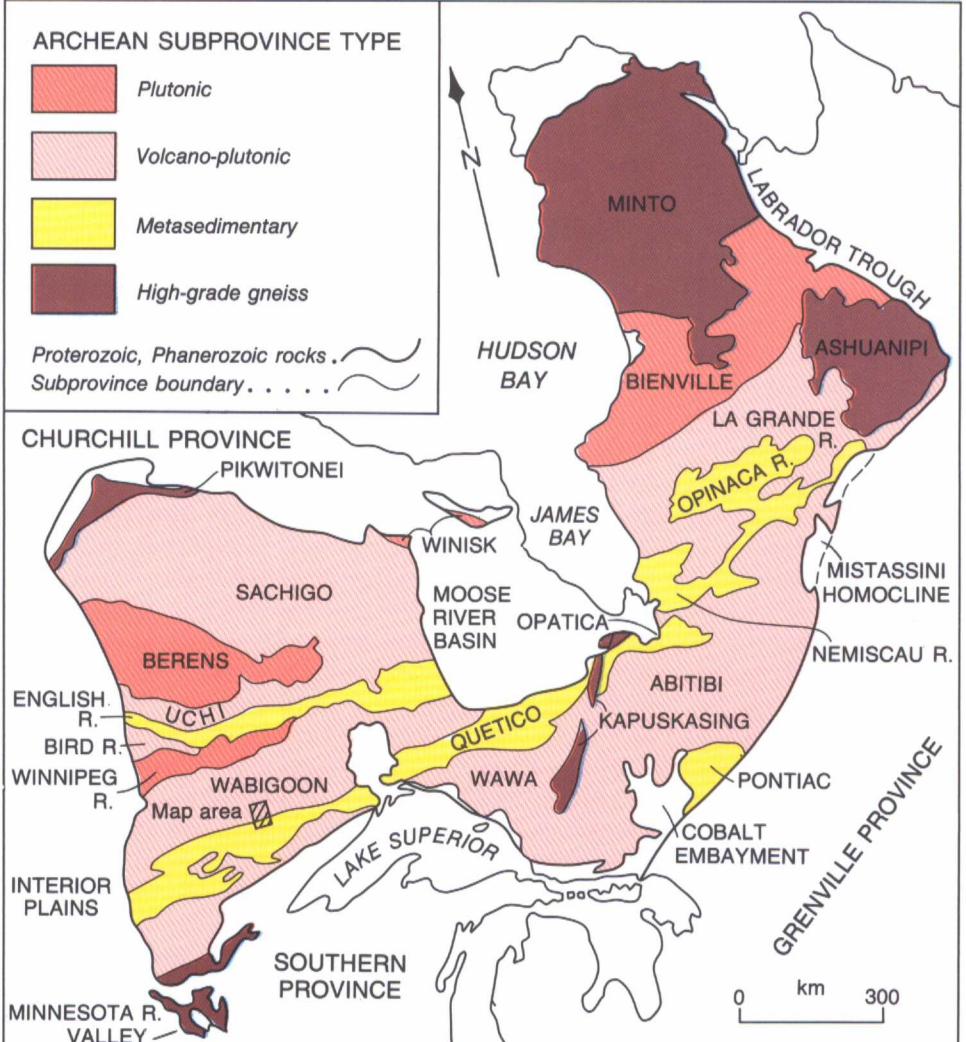
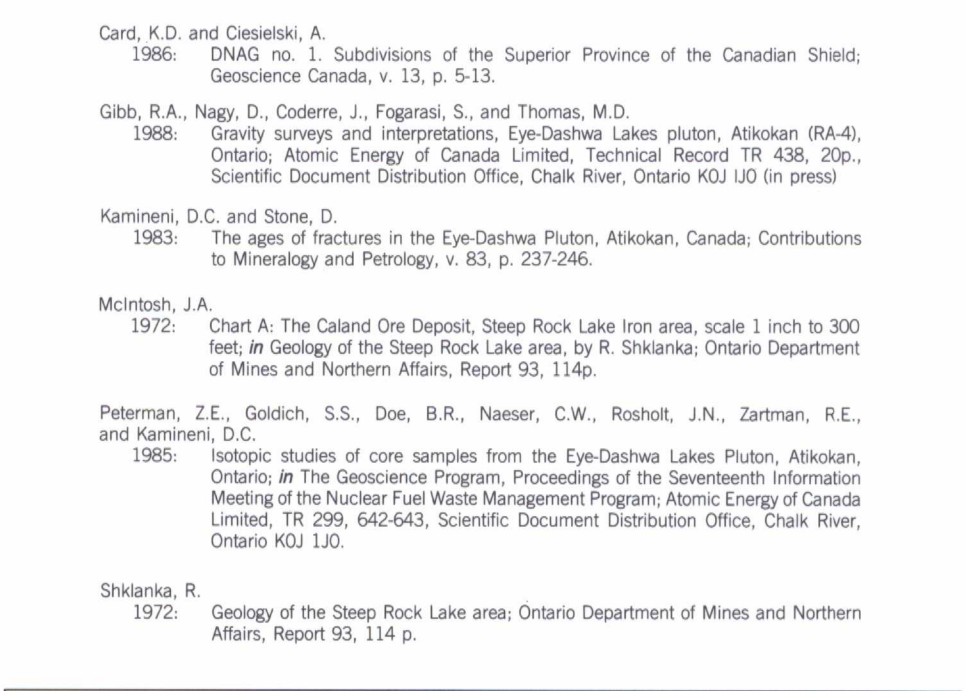
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Recommended citation:
Stone, D. and Kamenetzky, D.C.
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