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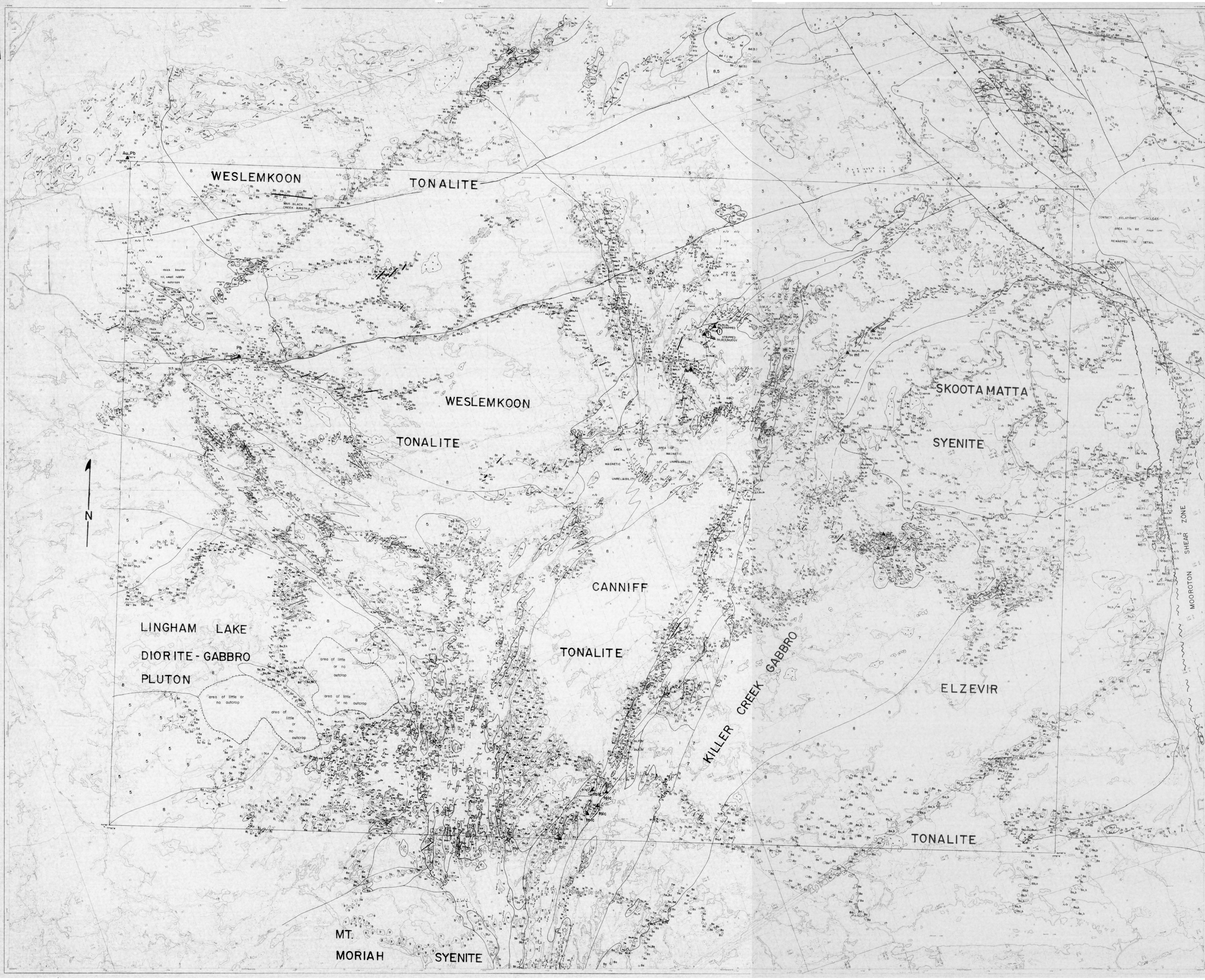
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LEGEND
PHANEROZOIC
QUATERNARY
 PLEISTOCENE AND RECENT
 Sand, gravel, till, ground moraine, and organic deposits
 UNCONFORMITY
PALEOZOIC
ORDOVICIAN
 11 Sandstone, gritstone, commonly hematite-stained, poorly sorted
PRECAMBRIAN
LATE PROTEROZOIC
 Late Tectonic to Post-tectonic Intrusive Rocks
 10 Mafic Intrusive Rocks
 10a Fine-grained, weakly metamorphosed, diabase dikes (ca. 1200 Ma)
 10b Intermediate to felsic Intrusive Rocks (ca. 1200-1270 Ma)
 10b1 Syenite, unfoliated
 10b2 Medium-grained biotite syenite (horizontal)
 10b3 Fine-grained biotite syenite
 10b4 Coarse-grained biotite syenite
 10b5 Lamprophyre
 10b6 Medium-grained, gray, biotite-hornblende monzonite
 10b7 Sheared syenite
 10c Intermediate to felsic Intrusive Rocks (ca. 1200-1270 Ma), Elzevir and Methuen Suites
 10c1 Tonalite to tonalitic gabbro
 10c2 Gabbro/diorite
 10c3 Migmatite formed by tonalite veins and screens of country rock
 10c4 Intrusion breccia
 10c5 Melanocratic
 10c6 Fine-grained, foliated, sugary-textured tonalite dikes
 10c7 Monzonite to syenogabbro (Abinger Granite, Methuen Suite, in Iron John Provincial Park only)
 10c8 Hematite-stained tonalite to gabbro/diorite
 10c9 Quartz diorite
 10c10 Aplitic
 10c11 Mylonitic gabbro
 10c12 Tonalite to gabbro/diorite dikes
 10d Mafic Intrusive Rocks (ca. 1270-1280 Ma)
 10d1 Dioritic to Gabbroic Rocks (Killer Creek Gabbro Suite)
 10d1a Medium-grained gabbro
 10d1b Melanocratic, medium-grained gabbro
 10d1c Anorthositic, anorthositic gabbro, gabbroic anorthosite
 10d1d Coarse-grained gabbro
 10d1e Fine-grained gabbro, commonly leucoporphyritic
 10d1f Medium-grained gabbro, leucoporphyritic
 10d1g Hornblende, commonly magnetite-bearing
 10d1h Mylonitic gabbro
 10d1i Medium-grained gabbro, leucoporphyritic bearing secondary alteration?
 10d2 Gabbroic intrusion breccia
 10e Felsic to Intermediate Gneisses
 10e1 Finely laminated, pink, buff, or grey weathering, quartziferous gneiss (felsic), locally containing garnet, pyroxene or magnetite porphyroblasts
 10e2 Finely laminated, green to dark green, biotite-hornblende-pyroxene mafic gneiss
 10e3 Sa and Sd, finely faceted
 10e4 One to dark grey, massive, biotite-hornblende-quartz-pyroxene gneiss, commonly with magnetite porphyroblasts (possible metawacke)
 10e5 Magnetite porphyroblasts (possible metawacke)
 10f Acidic Intrusions
 10f1 Mafic Intrusive Rocks (ca. 1270-1280 Ma)
 10f2 Dioritic to Gabbroic Rocks
 10f2a Medium-grained gabbro
 10f2b Melanocratic, medium-grained gabbro
 10f2c Anorthositic, anorthositic gabbro, gabbroic anorthosite
 10f2d Coarse-grained gabbro
 10f2e Fine-grained gabbro, commonly leucoporphyritic
 10f2f Medium-grained gabbro, leucoporphyritic
 10f2g Hornblende, commonly magnetite-bearing
 10f2h Mylonitic gabbro
 10f2i Medium-grained gabbro, leucoporphyritic bearing secondary alteration?
 10f3 Gabbroic intrusion breccia
 10g Siliceous Classic Metasedimentary Rocks
 10g1 Metasediments, metagranite
 10g2 Metasediments, polymictic, matrix-supported
 10g3 Metaconglomerate, polymictic, clast-supported
 10g4 Calcarenite
 10g5 Mylonite derived from unit 4 lithologies
 10g6 Rusty schist
 10h Siliceous Classic Metasedimentary Rocks, may include Felsic and Intermediate Metasulfate and Metasedimentary Rocks of Mainly Volcanic Provenance
 10h1 Hornblende-pyroxene gneiss (Para-arcobolite?)
 10h2 Biotite-hornblende-quartz-pyroxene gneiss, black to dark grey weathering (mafic metasediments, mafic metawacke)
 10h3 Hornblende-pyroxene schist and gneiss (metasilt)
 10h4 Volcanic wackes, anoxic (intermediate to felsic metasediments)
 10h5 Fine to medium-grained, thinly layered amphibole-epidote gneiss, brown to black weathering (mafic calc-arenite, possibly tectonic in origin)
 10h6 Polymictic, matrix-supported conglomerate, with mafic matrix similar to Sa, Sd
 10h7 Dark green, heterolithic, matrix-supported conglomerate with mafic matrix and abundant gabbro (mainly unit 2a) and mafic metasedimentary clasts (possible gabbro flow, basal conglomerate)
 10h8 Calc-arenite rocks
 10h9 Mylonitic rocks of unit 3
 10h10 Conglomerate-bearing
 10h11 Rusty schist derived from unit 3 rocks
 10i Mafic Intrusive Rocks (ca. 1290 Ma)
 10i1 Gabbroic and Felsic Rocks
 10i2 Protonymylonitic, medium-grained gabbro
 10i3 Massive to schistose, brown-red talcose rocks, with varied amounts of hematite, magnetite, carbonates, chlorite, serpentine derived from mafic intrusives
 10i4 Massive to schistose, soft, pitted weathered surface, green-grey to white talcose rocks, with minor carbonates, chlorite, serpentine derived from mafic intrusives
 10j Intrusive Contact
 10j1 Felsic to Intermediate Metavolcanic Rocks
 10j2 Mafic Metavolcanic Rocks
 10j2a Massive, fine-grained, dark green to black weathering amphibolite (massive flow?)
 10j2b Foliated, fine-grained, dark green to black weathering amphibolite (foliated flow?)
 10j2c Microfractured to microbrecciated, fine-grained, dark green to black weathering amphibolite (brecciated flow?)
 10j2d Massive, fine to medium-grained, dark green amphibolite, diabasic textured (thick flows gabbroic flow?)
 10j2e Fine-grained, dark green to black, chlorite-amphibole schist
 10j2f Layered to bedded, fine-grained, dark green to black amphibolite (tuff, locally lapilli tuff)
 10j2g Breccia, soft taceous
 10j2h Hyaloclastite
 10j2i Fine-grained, dark green to black, amphibolite with well developed leathery amphibolite texture
 10j2j Mylonitic amphibolite
 10j2k Massive, fine-grained, dark green to black weathering amphibolite, leucoporphyritic
 10j2l Glassy zones, rusty schist textures
 10j2m Unit 1 rocks with pervasive carbonates
 10j2n Altered and silicified rocks derived mainly from unit 1

SYMBOLS
 Bedding top known (indicated, overturned)
 Geological boundary (observed, inferred)
 Bedding top unknown (indicated, overturned)
 Fault (observed, inferred, overturned)
 Pillow top (indicated, overturned)
 S. Foliation (horizontal, vertical)
 S. Fracture (horizontal, vertical)
 Greenschist (horizontal, vertical)
 Limestone, with plunge
 Geological boundary (observed, inferred)
 Fault (observed, inferred, overturned)
 Mineral occurrence, tumour mine, 80% quartz
 Intrusives (horizontal, vertical)
 Alteration (silicification, chloritization)

ABBREVIATIONS
 Au gold
 Mt lead
 Pb silver
 Zn zinc
 Cu copper
 Fe iron
 Ni nickel
 Co cobalt
 Mn manganese
 K potassium
 Na sodium
 Ca calcium
 Mg magnesium
 Al aluminum
 Si silicon
 Ti titanium
 Cr chromium
 Ni nickel
 Cu copper
 Zn zinc
 Pb lead
 Ag silver
 Au gold
 Pt platinum
 U uranium
 Th thorium
 Pa protactinium
 Rn radon
 Fr francium
 Ra radium
 Ac actinium
 Th thorium
 Pa protactinium
 U uranium
 Np neptunium
 Pu plutonium
 Am americium
 Cm curium
 Bk berkelium
 Cf californium
 Es einsteinium
 Fm fermium
 Md mendelevium
 No nobelium
 Lr lawrencium

SOURCES OF INFORMATION
 Base map derived from Ontario Basic Mapping maps, Survey and Mapping Branch, Ontario Ministry of Natural Resources.
 Geology of the Grimsthorpe area, Ontario Department of Mines, Annual Report, v.51 (1942), p. 4, p. 1-50, by V.B. Meen, 1944.
 Geology of the Killar Creek area, Ontario Department of Mines, Geological Report 67, 71pp, by B.B. Lambert, 1968.
 Geology of the Maple Lake area, Ontario Department of Mines, Report 238, 53p, by J.M. Moore and R. Morton, 1965.
 Unpublished data, J.L. Barron, Southeastern Resident Geologist's office, Ontario Geological Survey, Texas.
 Geology not tied to survey lines.
 Magnetic declination approximately 11°14'W in 1993.
 Mercator conversion factor: 1:625,000.

CREDITS
 Geology by R.M. Eaton and F.D. Ford, 1990.
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NOTES
 1 This is a preliminary map and may be changed as a result of subsequent laboratory investigation.
 2 Unpublished data were used where necessary where a laboratory was responsible and a published report was not available or where the data were not available for the same purpose.
 3 The lithological legend is a lithologic one, and stratigraphic order is only as far as is indicated by numerical order.
 4 If the lithological legend has been subjected to regional metamorphism, many non-metamorphic terms are used for the sake of brevity and where the context is unambiguous.

Ministry of Northern Development and Mines
 Ontario Geological Survey
 Map P.3267
PRECAMBRIAN GEOLOGY
GRIMSTHORPE AREA
 HASTINGS AND LENOX AND ADDINGTON COUNTIES
 NTS Reference: 31 C1-437W
 ODM-GSC Aeromagnetic Map 970
 OGS Geological Compilation Maps: 2544 and 2576
 Scale 1:250,000
 0 0.5 1 km

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