LEGEND

Note: This legend is common to sheet 1 and sheet 2 of Open File 3777. Coloured legend blocks indicate map units that appear on this map. Not all symbols shown in the legend necessarely appear on this map.

QUATERNARY

Quaternary cover; predominantly tills and glacio-fluvial sediments.

PROTEROZOIC

POST- TO LATE-TECTONIC PLUTONIC ROCKS

PMd — *MacKenzie diabasic gabbro dykes. Strike continuity is variable and is defined primarily by distinctive, northwest-trending, positive linear aeromagnetic anomalies.*

Pgr — *Salmon-coloured, variably foliated to lineated, medium grained to pegmatitic, Hudson biotite, ± magnetite monzogranite and syenogranite. At locality 12, a Hudson monzogranite dyke cuts S_2, and has a preliminary U/Pb zircon age of 1815 Ma (Table 1). In the Laughland Lake area, a Hudson monzogranite dyke cuts S_2 and has a U/Pb zircon age of 1821 ± 5 Ma.*

ARCHEAN AND/OR PALEOPROTEROZOIC

APgb — *Massive to weakly foliated, coarse grained phlogopite gabbro diorite, and phlogopite ± olivine, ± clinopyroxene lamprophyre dykes.*

ARCHEAN

PRE- TO SYNTECTONIC PLUTONIC ROCKS

Agr — *Pinkish red, variably foliated to lineated biotite monzogranite, syenogranite, medium grained to pegmatitic. In the Laughland Lake area a sample of lineated monzogranite has an age of 2578 ± 11 Ma.*

Amt — *Biotite + magnetite tonalite and pinkish red biotite ± hornblende + magnetite + K-feldspar megacrystic granodiorite. A sample of the latter granodiorite (map location 11) has a zircon U/Pb age of 2580 ± 8 Ma (Table 1). Plutons cut high-grade metasedimentary rocks (unit Adm) and near contacts, pink K-feldspar + magnetite granodiorite is transitional with white K-feldspar augen + garnet monzogranite.*

Ack — *Medium grained, foliated biotite + orthopyroxene + hornblende +magnetite + K-feldspar megacrystic granodiorite. Contains pale green-grey plagioclase. Orthopyroxene is partly retrogressed to biotite. Occurs in the northeast as a small plug cutting high-grade metasedimentary rocks (unit Adm), and is in turn, cut by biotite monzogranite (unit Agr).*

Agg — *White to pale pink weathering, coarse grained to pegmatitic, variably foliated biotite ± muscovite + K-feldspar (white) ± garnet ± sillimanite peraluminous granite. Commonly contains inclusions of inhomogeneous diatexite. Crosscuts high-grade metasedimentary rocks in the Arrowsmith River area. Locally cut by northeast-trending granodiorite dykes.*

Abg — *Equigranular, medium- to coarse-grained biotite ± magnetite ± epidote granodiorite with abundant inclusions of tonalite and supracrustal rocks. A sample of biotite granodiorite at locality 10 (Table 1) has a zircon U/Pb age of 2583 ± 4 Ma.*

Akg — *Pinkish red biotite + K-feldspar megacrystic granodiorite, medium to coarse grained and foliated to lineated. A K-feldspar granodiorite at locality 9 has a zircon U/Pb age of 2604 ± 6 Ma (Table 1).*

Aht — *Medium to coarse grained, foliated hornblende+ biotite tonalite and quartz diorite; occurs as small mafic plugs and larger intermediate massifs that cuts biotite tonalite (unit Abt). A sample of quartz diorite (map locality 7, Table 1) has a zircon U/Pb age of 2609 ± 5 Ma.*

Adt — *Massive to weakly foliated, medium grained hornblende + biotite ± clinopyroxene monzodiorite and diorite; occurs as small plugs.*

Afp — *Feldspar porphyry dykes and thin sills.*

Abt — *Granular, foliated, fine grained biotite, ± epidote, ± magnetite tonalite. Cuts supracrustal rocks of the Prince Albert group. A biotite tonalite at locality 6 (Table 1) has a zircon U/Pb age of 2606 ± 4 Ma. A sample of older tonalite at locality 1 yielded a zircon U/Pb age estimate of 2720 Ma.*

Akm — *Pinkish red biotite + K-feldspar megacrystic + magnetite, ± hornblende granodiorite/monzogranite and associated granite pegmatite of the Walker Lake intrusive complex. In the Laughland Lake area, a sample of granodiorite from the Walker Lake intrusive complex has a U/Pb zircon age of 2610 ± 4 Ma.*

Agb — *Gabbro, (locally anorthositic) may be co-magmatic with mafic volcanic rocks (unit Am).*

Apr — *Serpentinized, peridotite, locally with magmatic layering; may be co-magmatic with komatiite (unit Ak).*

SUPRACRUSTAL ROCKS

PRINCE ALBERT GROUP (units Am - Adm)

Adm — *Metatexite, diatexite (biotite ± garnet ± sillimanite ± K-feldspar ± cordierite ± melt). Inhomogeneous diatexite contains 70-95% medium grained to pegmatitic mobilizate, typically garnet-bearing, commonly contains inclusions and rafts of metatexite. Metatexite differs by containing 10-40% interbanded granitoid mobilizate. A sample of metawacke protolith from locality 5 (Table 1) has a maximum U/Pb age (detrital zircon) of 2691 ± 16 Ma. A minimum age of deposition is provided by 2580 ± 8 Ma biotite + magnetite granodiorite (locality 11, Table 1) that cuts diatexite.*

Aku — *Upper komatiite unit comprises 0.5 to 2 m flows with green and brown layering. Overlies 2711 Ma intermediate lapilli tuff, and is overlain by semipelite and locally thin mafic volcanic rocks.*

Aiv — *Andesite tuff and lapilli tuff (dominant) and massive dacite (minor) mainly overlying quartzite (unit Aq). Occurs as aphyric or plagioclase (± quartz) phyric volcanic rocks. A sample of lapilli tuff (map location 3, Table 1) has a zircon U/Pb age of 2711 ± 3 Ma, and dacite (map location 4, Table 1) has a zircon U/Pb age of 2706 +5/-3 Ma.*

Aq — *Quartzite, massive to weakly bedded, locally with planar cross-bedding (foresets >50 cm), and normal grading. Occurs as an up to 80 m wide, ridge-forming unit. A sample of quartzite from locality 2 (Table 1) yields a maximum U/Pb age of deposition of 2722 ± 11 Ma (detrital zircon). A minimum age of quartzite deposition is provided by an overlying dacite lapilli tuff at locality 3 (Table 1) with a U/Pb zircon age of 2711 ± 3 Ma.*

Aps — *Pelite, semipelite and psammite, rusty red and brown, rare grading in psammite, medium to coarse bedded. Mineralogy is variable but includes biotite ± garnet ± sillimanite ± cordierite ± muscovite.*

Ai — *Banded iron-formation, includes oxide facies magnetite-recrystallized chert (quartz) iron-formation and silicate facies iron-formation (garnet, ± grunerite, ferroactinolite). Commonly associated with rusty weathering gossan zones.*

Ak — *Komatiite, komatiitic basalt and undifferentiated ultramafic schists Komatiite flows have dark green and brown layers corresponding to spinifex (rare, up to 10 cm long) and cumulate zones, respectively. Individual flows are <1 m to 10 m thick. Occurs primarily in the lower sequence, and rarely, in the upper sequence of the Prince Albert group (e.g, northeastern part of the Arrowsmith River area 56-O(S)).*

Am — *Tholeiitic mafic volcanic rocks; typically amphibolitic (rare clinopyroxene) with rare massive and pillowed basalt flows. Pillows are variably flattened, up to 1 m wide, with 5 cm dark chill margins. In the Laughland Lake area, basalt in the lower sequence of the Prince Albert group is locally associated with 2732 Ma rhyolite lapilli tuff. Northeast of the Arrowsmith River mafic gneiss and metabasalt occur in the upper sequence of the Prince Albert group.*

Lithological contact (approximate)

Bedding, with tops (northwest), and overturned (northwest younging) — 55, 34, 75

Lava flow, (top, overturned) — 83, 45

Igneous layering — 75

First foliation (S_1) or sole foliation where only one planar fabric observed, and gneissic mineral banding — 27, 68

Second foliation and gneissosity S_2 — 59

Third foliation S_3 — 71

Cleavage (1st generation, 2nd generation, 3rd generation) — 62, 92, 48

Outcrop-scale ductile shear zone — 88

Ductile shear zone (apparent dextral displacement) — 45

Ductile shear zone (apparent extensional displacement) — 75

Ductile shear zone (apparent sinistral displacement) — 74

Mineral Lineation (unknown, 1st generation, 1st generation stretching, 2nd generation, 2nd generation stretching, 3rd generation) — 81, 59, 97, 27, 75, 65

M fold hinge (unknown, 1st generation, 2nd generation, 3rd generation) — 49, 73, 40, 67

S fold hinge (unknown, 1st generation, 2nd generation) — 58, 72, 93

Z fold hinge (unknown, 1st generation, 2nd generation, 3rd generation) — 58, 72, 45, 45

Axial plane — 51

Axial trace of second generation antiform (F_2)

Axial trace of second generation synform (F_2)

Axial trace of second generation synform (F_2) (overturned, north vergent)

Dyke

Regional-scale shear zone undefined, strike-slip and normal-slip (circle side down) components

Outcrop where observations were made ×

Positive linear aeromagnetic anomaly

U/Pb geochronology sample site (Table 1) — 3

Mineralized sample site (Table 2) — 2