

LEGEND

- PHANEROZOIC**
- 300 DEVONIAN CARBONATES: a basal regolith grades upwards through poorly sorted conglomerates, arkosic and pebbly sandstone, to sandy dolostone. Overlying strata successively include: rubby to massive bedded, vuggy, sandy and argillaceous dolostone and dolomitic limestone, gypsumiferous, argillaceous, biotitic, fossiliferous limestone with shale laminations.
- HELIKIAN**
- 240 ATHABASCA GROUP: hematite-stained, flaggy to rubby bedded waxes with pebble bands. Locally includes rubble. South of Lake Athabasca, well indurated, medium-grained subharenite, locally pebbly, planar crossbedded and quartz overgrowth cemented.
 - 210 Underlain in part by a saprolite on the crystalline basement; intense hematization, fractures and quartz veinlets.
- APHEBIAN**
- 210 WAUGH LAKE GROUP (low-grade metavolcanic rocks): greenstone and amphibolite derived from basalt, gabbro and possibly tuff.
 - 205 WAUGH LAKE GROUP (low-grade metasedimentary rocks): quartzite with subordinate biotite-chlorite schist, phyllite, phyllonite; locally ferruginous, garnetiferous, graphitic, with quartz-tourmaline veins.
 - 200 BURNTWOOD GROUP (low-grade metasedimentary rocks): arkosic sandstone with pebble bands interbedded with subordinate phyllonitic chloritic argillite.
- RECRYSTALLIZED MYLONITIC ROCKS:** zones of regional shearing and recrystallization have produced: ultramylonite, mylonite, blastomylonite, and flaser gneiss; locally contains rounded or augen rock clasts or feldspar porphyroclasts. Matrix may be foliated to gneissose, or massive.
- 160 ARCH LAKE GRANITOIDS*: granite, typically with subhedral to augen, tabular feldspar megacrysts (10 to 30 mm long) in a medium-grained, well-foliated, crushed matrix that includes blue quartz. Locally gradational to Slave Granitoids.
 - 161 ARCH LAKE GRANITOIDS: FRANCIS GRANITE PHASE: pink tabular feldspar megacrysts (25 to 35 mm long) in a medium-grained typically massive matrix.
 - 162 CHIPEWYAN RED GRANITE: equigranular, medium-grained, massive to poorly foliated, locally gneissic; minor pegmatites and quartz veins.
 - 140 LA BUTTE GRANODIORITE: generally medium gray, with feldspar megacrysts (8 to 20 mm long) in a medium-grained matrix.
 - 130 WYLLIE LAKE GRANITOIDS: dominated by granodiorite and quartz diorite. Granodiorite is typically equigranular with a medium-grained, poorly foliated to massive matrix. Quartz diorite is light gray, typically with megacrystic feldspars (5 to 10 mm long) in a medium-grained matrix; poorly foliated locally massive or gneissic. Schlieren of biotite concentrations or metasedimentary rocks are present locally.
 - 120 COLIN LAKE GRANITOIDS: lithologies in this group range from granite to quartz diorite and are gradational in character. Feldspar megacryst (ranging from 3 to 10 to 15 to 40 mm long) are in a biotite-rich, well-foliated, quartz-feldspar matrix. Minor aplopegmatite masses accompany all of the lithologies.
 - 129 COLIN LAKE GRANITOIDS: ANDREW LAKE GRANITE PHASE: white to gray feldspar megacrysts (10 to 15 mm long) in a foliated matrix. Subordinate aplopegmatite patches and dykes are characteristic.
 - 110 THESIS LAKE GRANITE: typically dark with up to 10 percent red to pink megacrystic augen feldspars (8 to 13 mm long) in a medium-grained matrix that includes blue quartz; subordinate quartz-feldspathic aplopegmatite pods, patches and dykes.
 - 100 SLAVE GRANITOIDS: typically whitish gray granite, with feldspar megacrysts (10 to 50 mm long) and abundant mafic knots of garnet in a biotite envelope 5-8 mm across within a medium-grained, massive to poorly foliated matrix. Minor inclusions, patches and lenses of metasedimentary rock, aplopegmatite dykes, and quartz veins.
 - 101 SLAVE GRANITOIDS: RAISIN GRANITE PHASE: mottled appearance with abundant white to pink to red rounded to sub-rounded augen feldspars (2 to 6 mm long) in a sheared foliated matrix of lenticular quartz, feldspar, (chloritic) biotite, sericite, and minor epidote.
- ARCHEAN**
- 170 CHARLES LAKE GRANITOIDS: a wide range of lithologies is represented in this group. Megacrystic granite has subhedral feldspars (25 to 100 mm long) in a coarse-grained, massive to poorly foliated matrix, with local minor aplopegmatite masses. Gray Hornblende Granite is buff to gray with dark specks of hornblende and local feldspar megacrysts (5 to 12 mm long) in a fine- to medium-grained, massive to slightly foliated matrix. Locally well-foliated and equigranular. Leucocratic Granite is equigranular, medium- to coarse-grained, massive to locally foliated, with up to 3 percent mafic minerals.
 - 70 HIGH-GRADE METASEDIMENTARY ROCKS: rock types in this unit are lithologically and texturally gradational. Typically dark, greenish-gray quartzite is interfolded with subordinate biotite-chlorite-sericite schist and has ferruginous, garnetiferous and graphitic zones, locally scattered pyrite, gossans, and milky quartz pods. Cordierite, sillimanite and andalusite are present locally. Common variations are: (1) metamorphic quartz-feldspathic phases; (2) retrograde phyllite and schist (biotite, chlorite, sericite, and uncommonly hornblende) and phyllonites; (3) minor amphibolite.
 - 20 AMPHIBOLITE: typically medium-grained, biotite common; composition ranges from hornblende pure or rich to a feldspathic-biotite amphibolite; commonly foliated or gneissic; minor pyrite common. Note: Some younger amphibolites are included.
 - 10 GRANITE GNEISS: typically pink to reddish, fine- to medium-grained, equigranular, feldspar, quartz, biotite, hornblende composition. Magmatic where associated with metasedimentary rocks, pegmatite, or amphibolite.

- *Nomenclature of granitoids follows Streckeisen (1967). Classification and nomenclature of igneous rocks: Neues Jahrbuch für Mineralogie, Abhandlungen, 107, No. 2, pp. 144-240.
- Map unit boundary
 - Erosional limit of Athabasca Group
 - Inferred edge of Phanerozoic rocks
 - General foliation and gneissosity, with dip
 - Fault
 - Glacial stria
 - Wind-cut groove
 - Sand
 - Muskeg
 - Drainage
 - Township boundary
 - National Park boundary
 - Road
- Approximate magnetic declination 25°25' East in 1986 decreasing approximately 4.2" annually for the centre of the map area.

REFERENCES

PRECAMBRIAN SHIELD DISTRICT MAPS AND REPORTS

Godfrey, J.D. (1961): Geology of the Andrew Lake, north district, Alberta; Research Council of Alberta Preliminary Report 58-3, 32 pages (Map 1).

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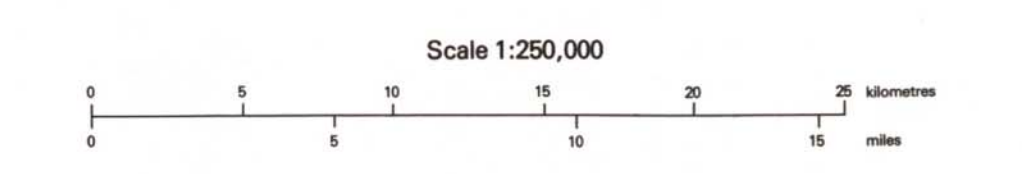
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Geology of the Precambrian Shield in northeastern Alberta

NTS 74M and 74L N½

Compilation by John D. Godfrey
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Base map compiled from planimetric sheets published by Alberta Energy and Natural Resources, Edmonton.
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 Copies of this map and references are available from Publications and Sales, Alberta Research Council.

ALBERTA RESEARCH COUNCIL
 Natural Resources Division
 Geological Survey Department

CORRELATION OF ROCK UNITS BETWEEN THIS MAP AND DISTRICT MAPS

MAP DESIGNATIONS (THIS MAP)	DISTRICT MAP DESIGNATIONS (SEE REFERENCES)	MAP DESIGNATIONS (THIS MAP)	DISTRICT MAP DESIGNATIONS (SEE REFERENCES)
300 Devonian Carbonates	254 La Butte Fm. 252 Fitzgerald Fm. 253 Hay Camp Fm. 251 La Loche Fm.	120 Colin Lake Granitoids	128 Granite Pegmatite 125 Biotite Granite 127 Sheared Leucocratic Granite 124 Biotite Granite D 126 Leucocratic Granite 123 Quartz Diorite; Biotite Granite C; Biotite Microgranite
240 Athabasca Group	240 Athabasca Group	129 Colin Lake Granitoids; Andrew Lake Granite Phase	121 Biotite Granite A 122 Biotite Granite B
210 Waugh Lake Group: low-grade metavolcanic rocks	210 Basic rocks	110 Thesis Lake Granite	110 Thesis Lake Granite
205 Waugh Lake Group: low-grade metasedimentary rocks	202 Quartzite, Biotite Schist, Sericitic 203 porphyroclastic phyllonite	100 Slave Granitoids	105 Slave PG Granite Phase 102 Mafic Slave Granite Phase 104 Speckled Slave Granite Phase 101 Slave Granite Phase 103 Red Slave Granite Phase
200 Burntwood Group: low-grade metasedimentary rocks	201 Arkosic sandstone, argillite	106 Slave Granitoids; Raisin Granite Phase	106 Slave Raisin Granite Phase
220 Recrystallized Mylonitic Rocks	224 Hornblende Granite parent 222 Metasedimentary parent 223 Granitoid parent 221 Granite gneiss parent	170 Charles Lake Granitoids	175 Foliated Hornblende Granite 172 Biotite 'q' Granite 174 Leucocratic Granite 171 Biotite Granite F 173 Gray Hornblende Granite
160 Arch Lake Granitoids	162 Arch Lake Transitional Granite Phase 161 Arch Lake Granite Phase	30 High-Grade Metasedimentary Rocks	31 Quartzite 32 Biotite Schist
164 Arch Lake Granitoids; Francis Granite Phase	164 Francis Granite	20 Amphibolite	20 Amphibolite
150 Chipewyan Red Granite	150 Chipewyan Red Granite	10 Granite Gneiss	11 Biotite Granite Gneiss 12 Hornblende Granite Gneiss
140 La Butte Granodiorite	140 La Butte Granodiorite		
130 Wylye Lake Granitoids	137 Granodiorite D 133 Fishing Creek Quartz Diorite 136 Undifferentiated 132 Granodiorite E 135 Leucocratic Granite 131 Wylye Lake Granodiorite Phase 134 Biotite 'p' Granite		

