Adjoining Sheet No. 34

111°15′ R8 10′ R7 05′ R6W4M 111°00′

59°45′

TP 124

TP 123

40′

TP 122

35′

TP 121

59°30′

Adjoining Sheet No. 28

Adjoining Sheet No. 30

Adjoining Sheet No. 25

LELAND LAKES

MYERS LAKE

COCKSCOMB LAKE

449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521

MYERS LAKE LEGEND

DEVONIAN

254 LA BUTTE FORMATION: light to medium, brownish gray, thin- to thick-bedded to massive, fossiliferous, bioclastic argillaceous fine-grained limestone, with laminations of brownish gray shale.

253 HAY CAMP FORMATION: light brown to orange brown, generally (collapse brecciated limestones and dolomitic limestones, containing laminated, lithographic dolostone, partly gypsiferous, and light gray fossiliferous, argillaceous limestone, with light gray, calcareous shale laminations.

252 FITZGERALD FORMATION: pale brown, weathering light orange brown, thin to rubbly bedded to massive, fine grained, vuggy, dolostone and dolomitic limestone. Carbonaceous dolostone locally; transitional through sandy and argillaceous dolostone to underlying La Loche Formation. Locally bitumen impregnated.

251 LA LOCHE FORMATION: basal regolith developed on crystalline shield rocks, grades upwards through poorly sorted, poorly consolidated, conglomerate, arkosic and pebbly sandstone, to sandy dolostone. The finer-grained matrix includes clay, iron oxide, and secondary copper mineralization.

(Subdivision based on Norris, A.W. (1963), G.S.C., Bulletin 313)

PRECAMBRIAN**

REGIONAL SHEAR ZONES

Zones of regional shearing and recrystallization have principally affected granite gneisses and metasedimentary rocks to produce: ultramylonite, mylonite, cataclasite, blastomylonite, and flaser gneiss; megastructure is typically streaky; may contain rounded or augen rock clasts or feldspar porphyroclasts (*0*).

223 RECRYSTALLIZED MYLONITIC ROCK: dark colored, with white to gray anhedral feldspar porphyroclasts and euhedral feldspar porphyroblasts 10 to 50 mm long; foliated, locally gneissose; aphanitic matrix, locally medium-grained; minor aplite and pegmatite. Parent material largely Slave Granitoids and Arch Lake Granitoids.

222 RECRYSTALLIZED MYLONITIC ROCK: green to black; granulose (siliceous) to schistose, with biotite, chlorite, sericite; feldspar and minor quartz porphyroclasts in a massive to foliated, finely banded, aphanitic matrix. Parent material largely metasedimentary rock.

GRANITOID ROCKS

ARCH LAKE GRANITOIDS

161 ARCH LAKE GRANITE PHASE: typically reddish overall; 20 to 40 percent red, subhedral, elongate to tabular feldspar megacrysts, from 15 to 30 mm long, aligned subparallel in a medium-grained (locally coarse-grained) usually well-foliated matrix of feldspar, blue quartz and biotite. Locally reduced amounts of feldspar megacrysts. Mafic mineral content 6 to 14 percent. Commonly mildly mylonitic, with crushed matrix and augen megacrysts.

162 ARCH LAKE TRANSITIONAL GRANITE PHASE: (transitional to Slave Granitoids); typically reddish overall; up to 10 percent white to pink subhedral, elongate to tabular feldspar megacrysts, from 10 to 15 mm long, aligned subparallel in a medium-grained (locally coarse-grained) usually well-foliated matrix of feldspar, blue quartz, and biotite. Quartz content locally reduced from 25 to 10 percent. Commonly mildly mylonitic.

LA BUTTE GRANODIORITE

140 Generally light gray to brownish gray to mauve (bluish quartz combined with pink-gray feldspar), of uniform color and texture; in hand specimen specks and aggregates of dark mafic mineral in a lighter gray background. Medium grained but ranging to fine- and coarse-grained, with 8 to 20 mm long feldspar megacrysts from rare to 5 percent abundance in a quartz, feldspar, biotite matrix. Typically massive to uncommonly poorly foliated or locally gneissic. Rock types range from granite to granodiorite, quartz diorite, and quartz monzodiorite, with a mean composition of granodiorite.

SLAVE GRANITOIDS

101 SLAVE GRANITE PHASE: typically whitish gray (locally white to greenish gray to pink feldspar mottled on a darker background); medium- to coarse-grained (locally fine-grained); up to 5 percent white feldspar megacrysts, 7 to 15 mm long, in a matrix of white feldspars, quartz and biotite (< 1 to 5 percent); massive to more commonly foliated (increase in biotite content tends to better define foliation); typically garnetiferous, in knots 5 ± mm across with a biotite envelope; may be locally gneissic; includes minor small-scale mafelsic lenses of metasedimentary appearance; minor gray white, fine- to medium-grained felsic dykes and quartz veins.

102 MAFIC SLAVE GRANITE PHASE: similar to Slave Granite but with a notably higher biotite content (up to 10 percent); distinctly foliated.

MEGACRYSTIC COMPONENT: up to 15 percent white feldspar megacrysts 15 to 50 mm long, either randomly oriented or aligned with the foliation of map units 101 and 102 (*0*).

103 RED SLAVE GRANITE PHASE: similar to Slave Granite Phase but with a distinct pinkish red color.

104 SPECKLED SLAVE GRANITE PHASE: similar to Slave Granite Phase, but reddish to mottled overall; red and white feldspars in a medium-grained matrix of feldspar, quartz, chloritic biotite, and sericite; midly crushed and foliated matrix.

METASEDIMENTARY ROCKS

31 METASEDIMENTARY ROCKS: the high-grade metasedimentary rock types included in this map unit are lithologically and texturally gradational, and in part intermixed on outcrop scale. Typically impure quartzite; dark greenish (bluish) gray (fresh surface); fine-grained; layered, with ferruginous and garnetiferous zones, locally scattered pyrite, gossans, and milky to bluish gray quartz pods and veins. Minor amphibolite may be present. Common local lithologic gradational variations to: (1) fine- to medium-grained, metamorphic quartzo-feldspathic (granitic and minor pegmatitic) phase ranging from individual white feldspar porphyroblasts 5 to 15 mm long, to nebulous or distinct aggregations and masses; commonly foliated to locally gneissic (*0*); (2) fine-grained, retrograde phyllite and schist (biotite, chlorite, sericite, and uncommonly hornblende), and phyllonite.

AMPHIBOLITE

20 Dark brownish green (fresh surface) to grayish green; typically medium grained; biotite may be common; composition ranges from essentially amphibole pure or amphibole rich to a feldspathic biotite amphibolite; commonly foliated but may be banded where feldspar rich; minor pyrite common.

**NOTE: Rock groups are arranged in approximate chronological sequence. Nomenclature follows Strekeisen (1967): Classification and nomenclature of igneous rocks; Neues Jahrbuch für Mineralogie, Abhandlungen, 107, No. 2, p. 144-240.

Geological boundary (defined, approximate)
Foliation (defined: dip known, dip vertical; foliation assumed) 69
Foliation trend* 76 73
Lineation (combined with foliation)
Extreme contortion (structural trend shown)
Tight folds (structural trend shown)
Local gneissosity in generally massive to foliated rock
Joint (dip-known, vertical, unknown) 76
Fault (defined: dip known; fault assumed) 79
Shear (dip known) 79
Breccia
Mylonite (local)
Crystalline standard sample ○455
Metasedimentary rock band standard sample ⊙62
Mineral occurrence — copper ×Cu
Yellow mineral stain Y
Garnet G
Epidote E
Isotopic age (million years); biotite (b); K-Ar (k); University of Alberta △bk 1789
Glacial stria (direction of ice movement shown)
Drumlin* (outline to scale)
Esker* (flow direction known, unknown)
Kettle*
Dune
Raised beach* (downslope indicated)
Wind-cut groove (wind direction shown)
Sand-covered area*
Small outcrop (map unit shown) ×31
Muskeg
Drainage (permanent, intermittent)
Township boundary
National Park boundary
Road
Trail

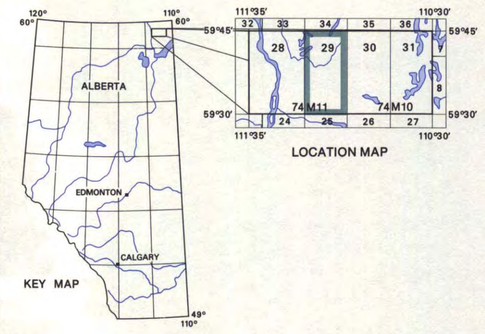
*Aerial photographic interpretation

Approximate magnetic declination 26°12′ East in 1984 decreasing approximately 4.4′ annually for the Myers Lake map area.

SCALE 1:31,680

Miles 1 0 1 Miles

Kilometres 1 0 1 Kilometres



Geology of Myers Lake District, Alberta

Sheet No. 29

John D. Godfrey, C. Willem Langenberg, Thomas J. Donaghy, and Mervyn N. Rogan, 1974, 1975.

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Any revisions or additional geological information would be welcomed by the Alberta Research Council.

Base maps compiled from planimetric sheets published by Alberta Energy and Natural Resources, Edmonton.
Aerial photographs covering this area are obtainable from the Alberta Energy and Natural Resources, Edmonton; or the Mapping and Surveys Branch of Energy, Mines and Resources, Ottawa.
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