

Geology of the Goldfields Area (Part of NTS74N/7, 8, 9, and 10) at 1:20 000 scale Preliminary Geological Map (2000) by R. Hartlaub, K.E. Ashton, J. Kraus, and R. Morelli

Catalogue Number 2000-4.2 (3.6)

ATHABASCA GROUP

Amf Manitou Falls Formation - fluviatile sandstone: commonly iron-stained

D Diabase (possibly coeval with Martin basalt of Rgv)

MARTIN GROUP

Rm Melville Lake Formation - allstones, arkoses and conglomerates: chocolate red to merion

Ra Seaplains Base Formation - interbedded conglomerates, reddish sandstone, and mudstone

Rg Gillies Channel Formation

Rq Sandstone with locally amygdaloidal basaltic flows

Rr Sandstone and conglomerate

Rt Charlet Point and Gravel Island Formations - arkosic sandstone with conglomerate

Ru Jug Bay Formation - siliceous sandstone/arkoses: fine grained; probable stratigraphic equivalent to Rr

Rv Beaverlodge Formation - basal conglomerate and arkose: variable thickness

Ps Granite: pink to white, medium grained to pegmatitic, biotite bearing

Pg Granite: white, medium grained to pegmatitic, muscovite ? biotite bearing

Dr Undifferentiated quartzofeldspathic rock: grey, white to buff, pink, fine to medium grained, Cl 0-10, foliated to anastomosing, of G, Gu, and Gu, minor Gc and Dg (plagioclase-quartz + K-feldspar + biotite + chlorite)

Gu Granite of uncertain age and affinity: fine to medium grained, massive to mylonitic, Cl 0-10 (orthoclase-K-feldspar-plagioclase-quartz)

G Leucogranite: pink, fine to medium grained, Cl 0-3 (orthoclase-K-feldspar-quartz-plagioclase), occurs as small plutons and areas a few metres or tens of metres thick, age relative to Gc, Dr, and Gu uncertain

Di Diorite: grey, medium grained, Cl 30-40 (hornblende-plagioclase)

Ga Gabbro: black, medium to coarse grained, multi-phase, Cl 40-70, (hornblende-plagioclase); hornblende assemblage replacing primary pyroxene; generally massive, under upper amphibolite facies conditions

Gc Granite: pink, coarse grained, homogeneous, Cl 0-10 (K-feldspar-plagioclase-quartz + biotite/clinopyroxene + hornblende)

Gd Inclusion-rich to mylonitic leucocratic granite to tonalite: white to pink-grey, medium grained, Cl 0-3 (orthoclase-quartz-plagioclase) + hornblende + K-feldspar; includes and contains inclusions of Murmac Bay Group, preliminary ca. 2.84 Ga age; formerly part of Donelson Lake Complex

Gf Deformation, M1 metamorphism, unconformity

MURMAC BAY GROUP (Archean)

Mq Psammite; minor felspathic quartzite, grey, fine to medium grained, generally layered (cm to m scale), Cl 0-15 (plagioclase-quartz + K-feldspar + biotite + sericite)

Ma Ferruginous siltstone and argillite: red, fine to medium grained

Ms Psammopelite to pelite: grey-brown, fine to medium grained (biotite-white mica-feldspar-quartz + glauconite foliate)

Mt Psammopelite to pelitic gneiss and migmatite: grey-brown with approximately 50% white medium-grained (metre-scale) and well-defined metachert, gneiss up to 1.5 m (biotite-feldspar-quartz + garnet + sillimanite + graphite)

Mv Calcic psammopelite to pelite: grey, fine to medium grained (hornblende-bearing), commonly intruded by leucogranite, may be meso- or ortho- or an- or per-

Mw Gabbro: dark green to black, fine to medium grained, homogeneous, locally coeval with ultramafic intrusions

S Serpentine: buff to dark green, fine to coarse grained, homogeneous except for spinifer; saused chilled margin, probably derived from shallow komatiitic ultramafic intrusion

Mc Dolomite: buff to white or pale green, fine to medium grained (oolomite + oolomite + actinolite), locally interbedded with quartzite

Fe Felsite: white, fine grained, homogeneous (plagioclase-quartz), possibly syn-tectonic

Am Amphibolite: black, fine to medium grained, variably layered (hornblende-plagioclase), mainly derived from mafic and minor intermediate volcanic rocks

Ms Basalt: black, fine grained, exhibiting primary flow layering, cooling cracks, and local amygdalites

Q Quartzite, minor felspathic quartzite: white, fine to medium grained

Qc Interlayered quartzite and psammite

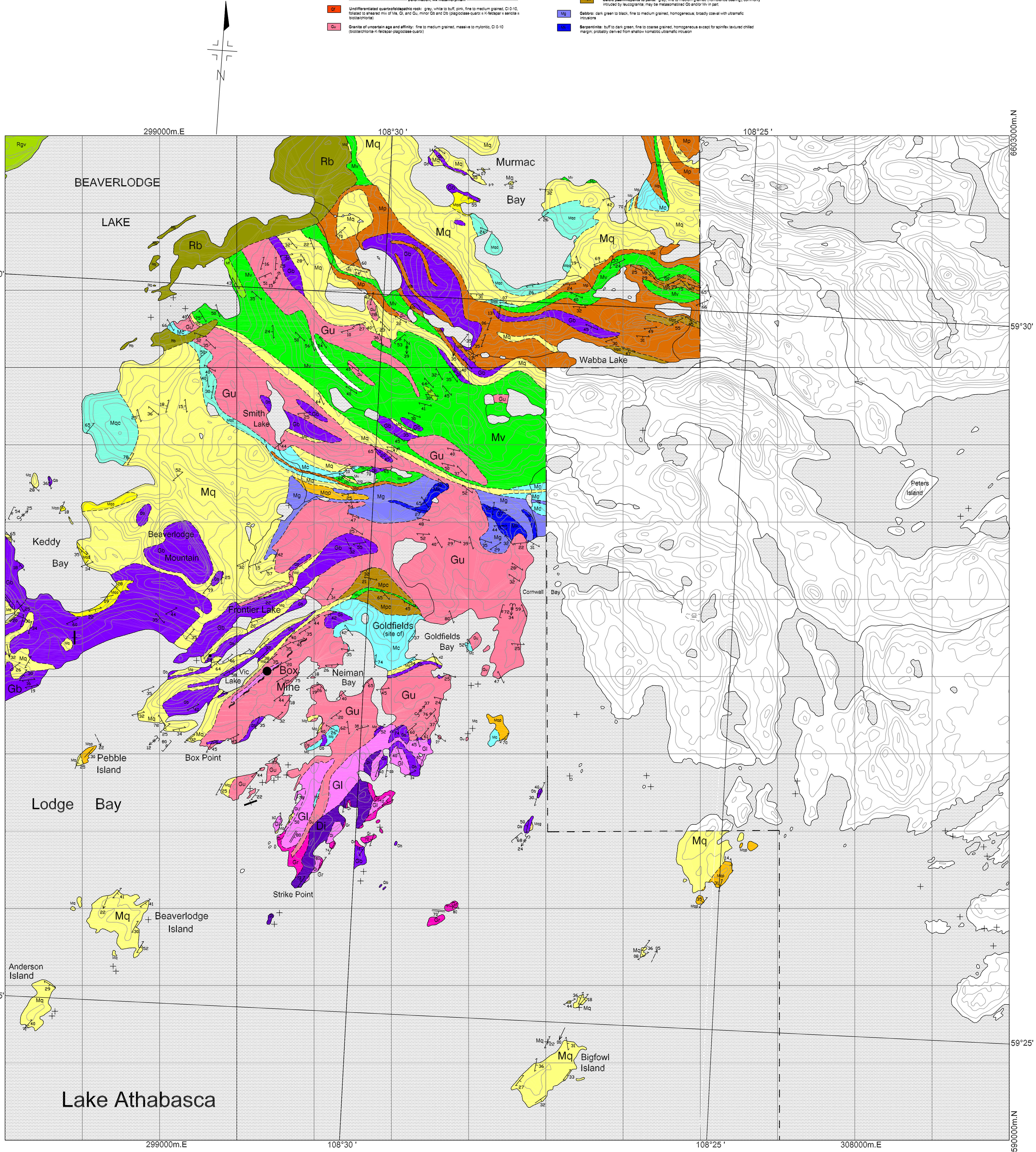
Qd Interlayered quartzite and carbonate, derived calc-silicates: includes pegmatitic dolomite

Qe Quartzite gneiss: white to red (ferruginous), medium grained

Qf Interlayered quartzite, gneiss, and oligoclase conglomerate: quartzite (pelite) pebbles and rare cobbles in a quartzite matrix

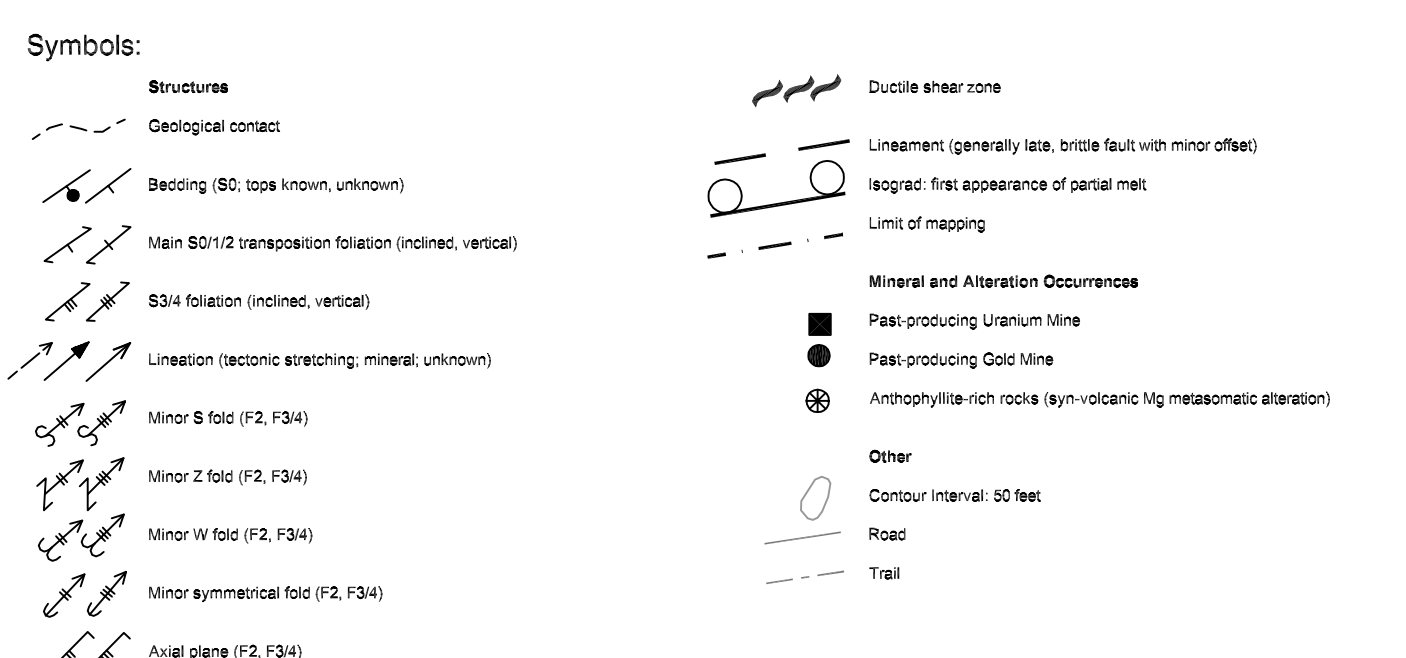
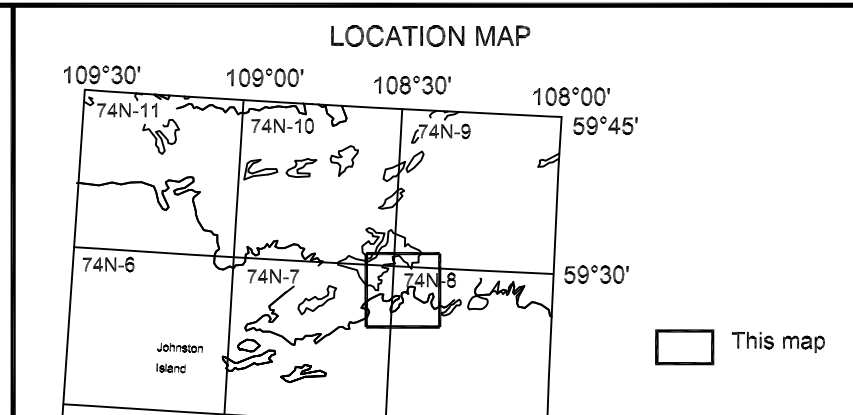
U Unconformity

R Granitoid rock: pink to white, medium grained, massive to well foliated; rare mafic inclusions (ca. 3.00 Ga age)



Although the Department of Energy and Mines has exercised all reasonable care in the compilation, integration and production of this map, it is not possible to ensure total accuracy, and all persons who rely on the information contained herein do so at their own risk. The Department of Energy and Mines and the Government of Saskatchewan do not accept liability for any errors, omissions or inaccuracies that may be included in or derived from, this map.

Project M.123 of 2000, Database No. 0047
The area was mapped by K.E. Ashton (project leader), J. Kraus, R. Morelli, and R.P. Hartlaub, in the summer of 2000, with the assistance of S. Croomey, S. Elmer, D. Savin, and A. Varico.
This map was printed from the geologist's digital file. Geological data were processed using Fieldlog version 3.0 provided by the Geological Survey of Canada. Base maps were compiled from 1:50 000 scale digital topographic maps licensed from Saskatchewan Land Information Services Corporation. The map was processed overall using AutoCAD Release 14 software.
This map is issued in a package with the Summary of Investigations 2000 Volume 2, Saskatchewan Geological Survey, and is available separately.
This map may be referenced as part of the following publication:
Ashton, K.E., Kraus, J., Hartlaub, R.P., and Morelli, R. (2000). Uranium City revisited: a new look at the rocks of the Beaverlodge Mining Camp. In Summary of Investigations 2000 Volume 2, Saskatchewan Geological Survey, Sask. Energy Mines, Misc. Rep. 2000-4.2.



Other major sources used in the compilation of this map:
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