

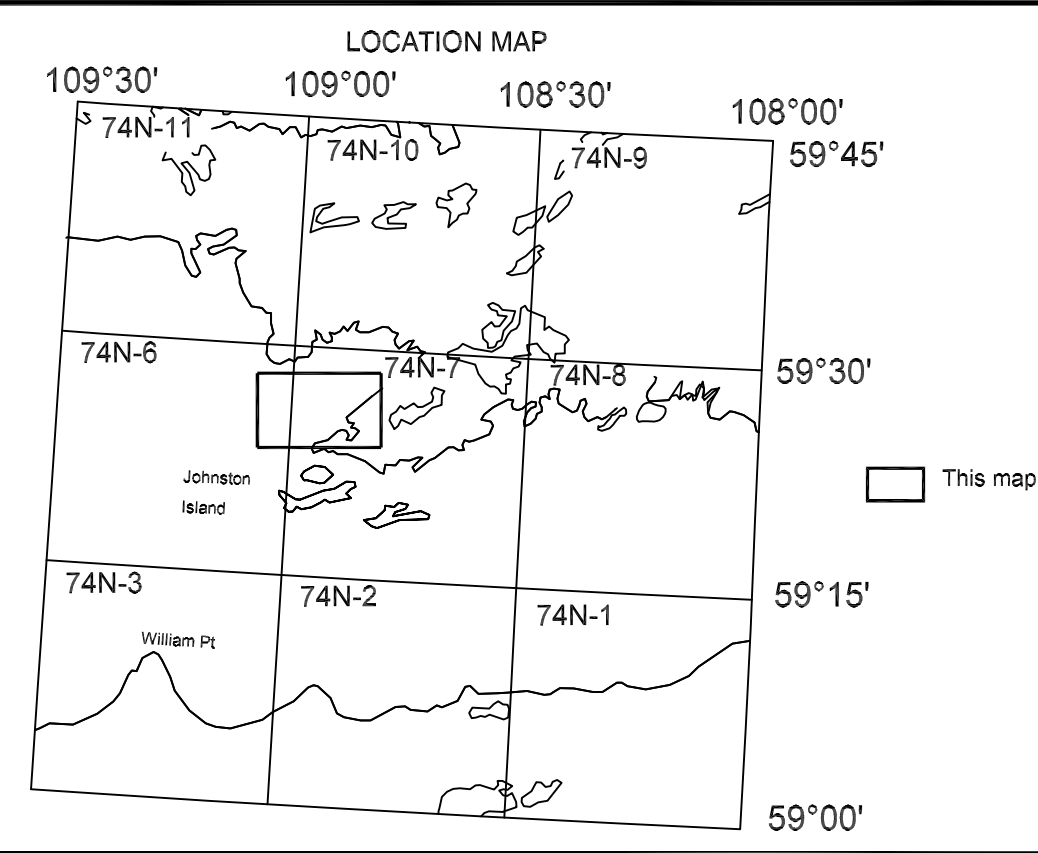
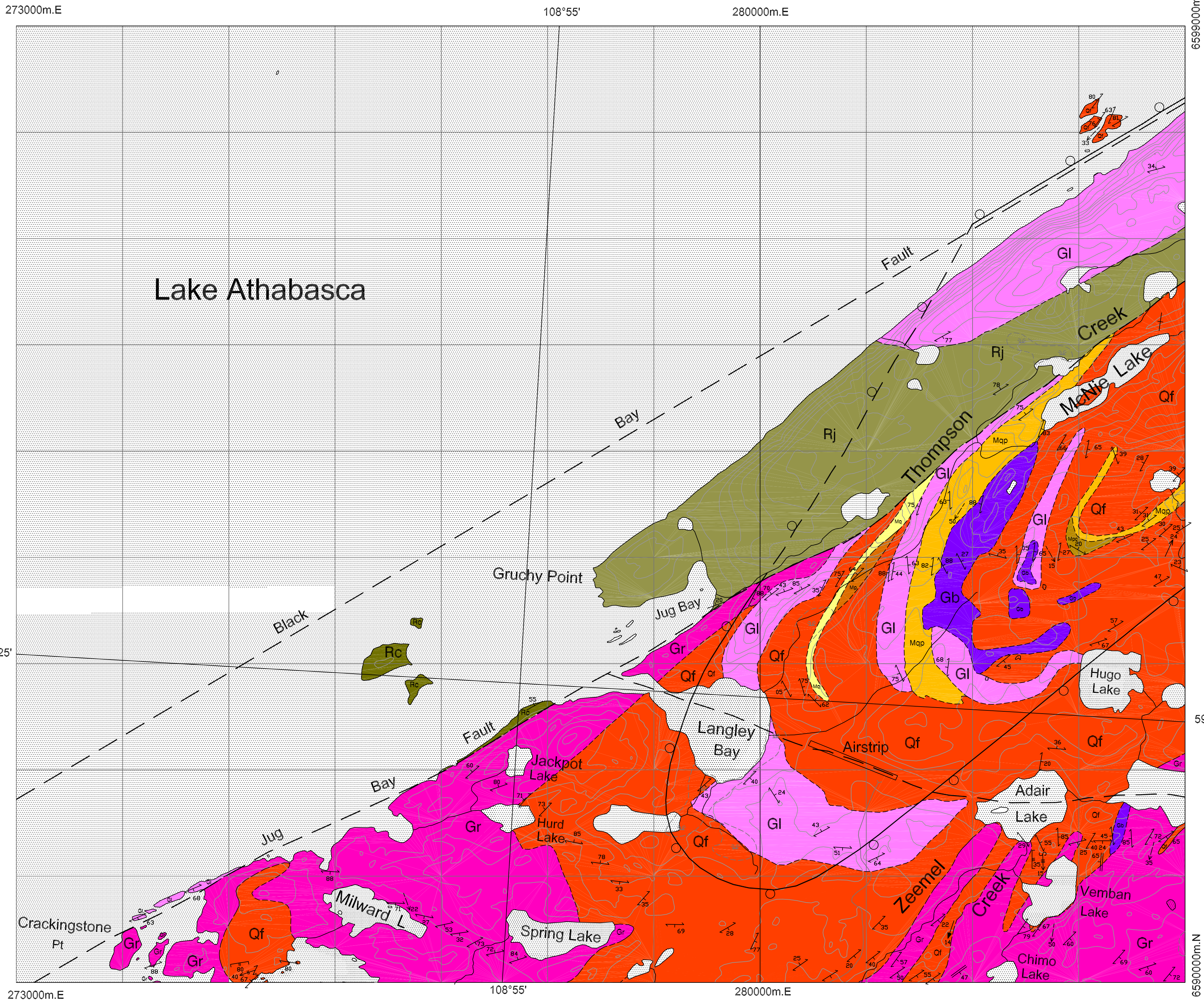
Geology of the Langley Bay Area (Part of NTS 74N/6 and 7) at 1:20 000 scale Preliminary Geological Map (2000) by K.E. Ashton, J. Kraus, and R. Morelli

Catalogue Number 2000-4-2 (3.1)

- Symbols:**
- Structures**
 - Ductile shear zone
 - Geological contact
 - Bedding (S0; top known, unknown)
 - Main S0/N2 transposition foliation (inclined, vertical)
 - S3/4 foliation (inclined, vertical)
 - Lineation (tectonic stretching; mineral unknown)
 - Minor S fold (F2, F3/4)
 - Minor Z fold (F2, F3/4)
 - Minor W fold (F2, F3/4)
 - Minor symmetrical fold (F2, F3/4)
 - Axial plane (F2, F3/4)
 - Mineral and Alteration Occurrences**
 - Peak-producing Uranium Mine
 - Peak-producing Gold Mine
 - Anthophyllite-rich rocks (Kyn-volcanic Mg metamorphic alteration)
 - Other**
 - Contour interval: 50 feet
 - Road
 - Trial

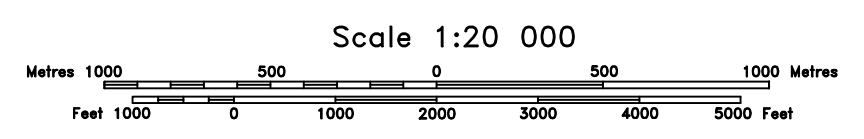
- ATHABASCA GROUP**
- Rm** Manitou Falls Formation - fluviatile sandstones; commonly micaceous
 - Rj** Diabase (possibly corral with thin basals of Rg)
 - Rm** Manitou Falls Formation - alluvial, arkose and conglomerate; chocolate red to maroon
 - Rj** Seaplane Base Formation - interbedded conglomerate, red sandstone, and mudstone
 - Rj** Cliflee Channel Formation - Sandstone with locally amygdaloidal basaltic flows
 - Rj** Sandstone and conglomerate
 - Rj** Charlot Point and Gravel Island Formations - arkosic sandstone with conglomerate
 - Rj** Jug Bay Formation - siliceous sandstone/arkose; fine grained; probable stratigraphic equivalent to Rb
 - Rj** Beaverledge Formation - basal conglomerate and arkose; variable thickness
 - Rj** Deformation, M2 metamorphism, unconformity
 - Rj** Granite: pink to white, medium grained to pegmatitic, biotite bearing
 - Rj** Granite: white, medium grained to pegmatitic dykes, muscovite? tourmaline bearing
 - Rj** Deformation, M2 metamorphism
 - Rj** Undifferentiated quartz/feldspathic rock: grey, white to buff, pink, fine to medium grained; Cl 0-10; related to sheeted mts of Ma, Qf, and Qm; minor Qa and Qb (plagioclase quartz + feldspar + sericite + biotite/chlorite)
 - Rj** Granite of uncertain age and affinity: fine to medium grained, massive to mylonitic; Cl 0-10 (biotite-chlorite-K-feldspar-plagioclase-quartz)
- MURMAC BAY GROUP (Archean)**
- Ma** Psammite: minor feldspathic quartzite, gnt: grey, fine to medium grained; generally layered (cm to m scale); Cl 0-10 (plagioclase quartz + K-feldspar + biotite + sericite)
 - Ma** Ferruginous siltstone and argillite: red, fine to medium grained
 - Ma** Psammite to pelite: grey-brown, fine to medium grained (biotite-white mica-feldspar-quartz + garnet + titanite)
 - Ma** Psammite to pelitic gneiss and migmatite: grey-brown with approximately 50% white medium grained melt leucosome and well defined melanosome; garnet up to 1.0 cm (biotite-feldspar-quartz + garnet + sillimanite + graphite)
 - Ma** Calcic psammite to pelite: grey, fine to medium grained (hornblende bearing); commonly intruded by leucogranite; may be metamorphosed Qa and/or W in part
 - Ma** Gabbro: dark green to black, fine to medium grained, homogeneous, broadly coeval with ultramafic intrusions
 - Ma** Serpentine: buff to dark green, fine to coarse grained, homogeneous except for spinifex fractured chilled margin; probably derived from shallow tonalitic ultramafic intrusion
- Other**
- Qf** Leucogranite: pink, fine to medium grained; Cl 0-9 (biotite-chlorite-K-feldspar-quartz-plagioclase); occurs as small plutons and sheets a few metres or tens of metres thick; age relative to Qa, Qb, and Qc uncertain
 - Qa** Diabase: grey, medium grained; Cl 30-40 (hornblende-plagioclase)
 - Qb** Gabbro: black, medium to coarse grained; multi-phase; Cl 40-70 (hornblende-plagioclase); hornblende aggregates replacing primary pyroxene?; partially melted under upper amphibolite facies conditions
 - Qc** Granite: pink, coarse grained, homogeneous; Cl 5-10 (K-feldspar-plagioclase-quartz + biotite/chlorite + hornblende)
 - Qd** Inclusion-rich to migmatitic leucocratic granite to tonalite: white to pink-grey, medium grained; Cl 0-5 (biotite-chlorite-quartz-plagioclase); hornblende + K-feldspar; inclusions and coarse inclusions of Murmac Bay Group; preliminary ca. 2.84 Ga age; formerly part of Donaldson Lake Gneiss
 - Qe** Deformation, M1 metamorphism, unconformity
 - Qf** Dolomite: buff to white or pale green, fine to medium grained (dolomite + calcite + actinolite); locally interlayered with quartzite
 - Qg** Oxide facies iron formation: (magnetite-quartz)
 - Qh** Felts: white, fine grained, homogeneous (plagioclase-quartz) possibly syn-volcanic
 - Qi** Amphibolite: black, fine to medium grained, variably layered (hornblende-plagioclase); mainly derived from mafic and minor intermediate volcanic rocks
 - Qj** Basalt: black, fine grained, exhibiting primary flow layering, cooling cracks, and local amygdaloids
 - Qk** Quartzite, minor feldspathic quartzite: white, fine to medium grained
 - Ql** Interlayered quartzite and psammite
 - Qm** Interlayered quartzite and carbonate, derived calc-silicates: includes pegmatitic dolomite
 - Qn** Quartzite gnt: white to red (feruginous), medium grained
 - Qo** Interlayered quartzite, gnt, and oligomictic conglomerate: quartzite pebbles and rare cobbles in a quartzite matrix
 - Qp** Deformation, M1 metamorphism, unconformity
 - Qq** Granitoid rocks: pink to white, medium grained, massive to well foliated, rare mafic inclusions (ca. 3.0 Ga age)

- Other**
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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 E. Chorney, S. Ehman, D. Bolvin, and A. Yanko.
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.
The 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 Beaverledge 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:
Hartlaub, R.P. (1999). New insights into the geology of the Murmac Bay Group, Rae Province, northwest Saskatchewan. In Summary of Investigations 1999, Saskatchewan Geological Survey, Sask. Energy Mines, Misc. Rep. 99-4.2, p.17-28.
Macdonald, R. and Simmon, W.L. (1983). Bedrock geology of the Greater Beaverledge Area, NTS 74N-8 to -11; Saskatchewan Energy and Mines, Map 241A, scale 1:100 000.
Sibbel, T.J. (1982). Uranium metallogenic studies, Nicholson Bay area, in Summary of Investigations 1982, Saskatchewan Geological Survey, Sask. Energy Mines, Misc. Rep. 82-4, p.43-45.
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Sibbel, T.J. and Leary, J.F. (1980). Uranium metallogenic studies, Lodge Bay area, Lake Athabasca, in Summary of Investigations 1980, Saskatchewan Geological Survey, Sask. Energy Mines, Misc. Rep. 80-4, p.44-48.
Houas, C.J. (1982). Uranium metallogenic studies, Mickey Lake area, in Summary of Investigations 1982, Saskatchewan Geological Survey, Sask. Energy Mines, Misc. Rep. 82-4, p.51-55.

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