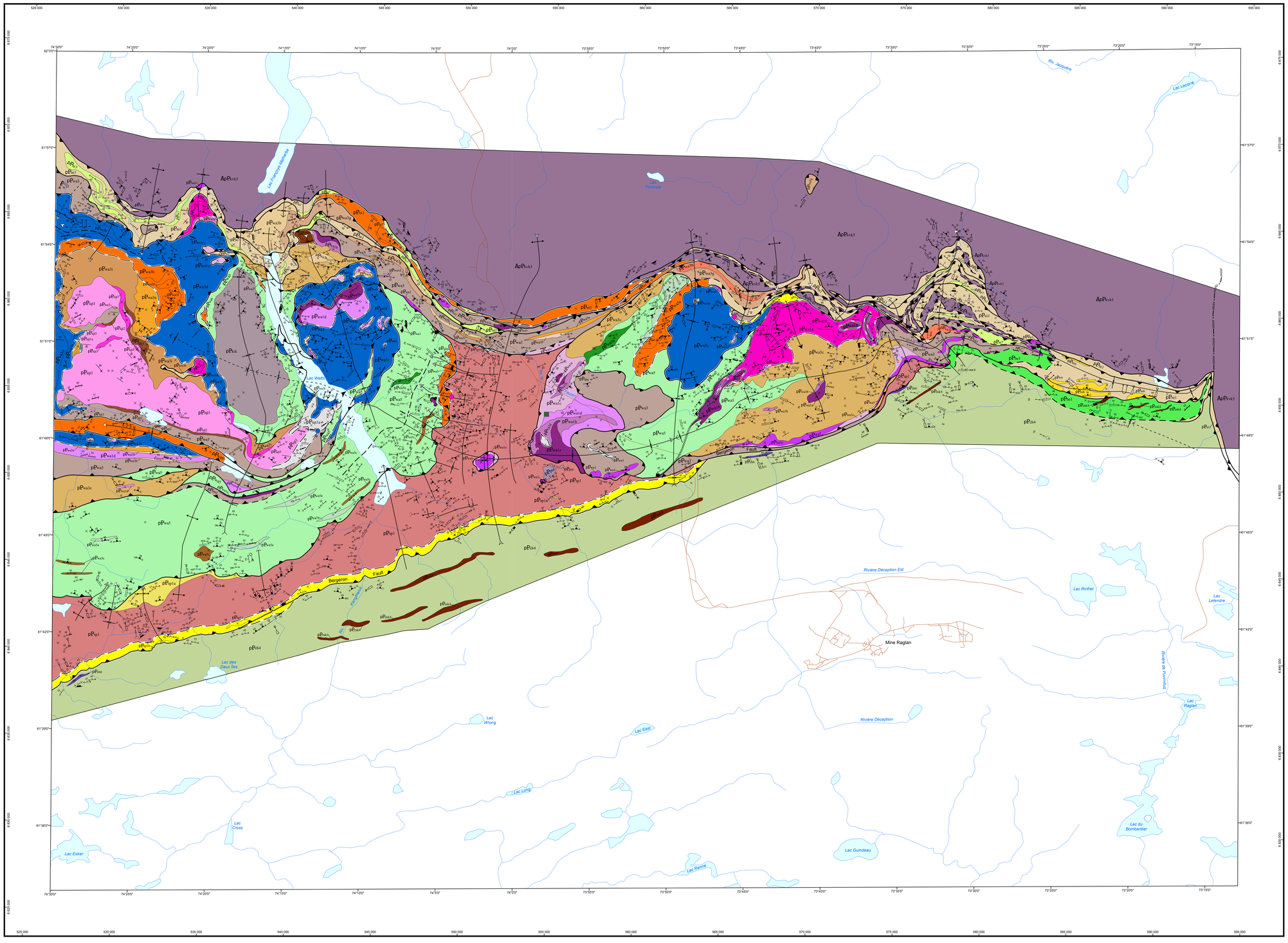
Geology of the Watts Lake Area, Northern Domain, Ungava Trough, Nunavik, Quebec, Canada



STRATIGRAPHIC LEGEND

CHURCHILL PROVINCE
UNGAVA TROUGH
PALEOPROTEROZOIC

Cape Smith Suite (1898 +12/-9 Ma - 1836 ±3 Ma, Parrish, 1989; Machado *et al.*, 1993)

Illuinaqtuut Pluton

- pPuu3 — Massive peridotite
- pPuu2 — Very coarse-grained to pegmatitic gabbro
- pPuu1 — Homogeneous and massive grey pyroxenite
  - pPuu1a — Altered pyroxenite

Purtuniq Pluton (1876.1 +/-1.5 Ma, Parrish, 1989)

- pPpu — Tonalite, quartz diorite

Kingurpak Pluton (1888 +6/-4 Ma, Dunphy and Ludden, 1998)

- pPku — Tonalite, diorite, garnet-chlorite gabbro

Qimmiq Pluton

- pPqq — Tonalite, trondhjemite

NORTH DOMAIN

Spartan Group

- pPsp1 — Siltstone, phyllite, sandstone locally conglomeratic
  - pPsp1b — Pyrite-bearing graphitic mudstone
  - pPsp1a — Dolomitic arenite, dolomite

Watts Group (1998 ±2 Ma, 1997 ±2.5 Ma, Parrish, 1989)

- pPwa6 — Exhalite, chert, carbonate-facies iron formation, semi-massive sulphides
- pPwa5 — Basalt, synvolcanic gabbro
  - pPwa5c — Synvolcanic gabbro sill
  - pPwa5b — Mafic volcaniclastic rock
  - pPwa5a — Pillow basalt
- pPwa3 — Gabbro
  - pPwa3i — Anorthosite
  - pPwa3h — Diorite, porphyritic gabbro
  - pPwa3g — Melanocratic garnet gabbro
  - pPwa3f — Altered gabbro
  - pPwa3d — Fine to medium-grained mesocratic gabbro
  - pPwa3c — Layered gabbro
  - pPwa3b — Corase-grained speckled gabbro
  - pPwa3a — Leucocratic gabbro, anorthosite
- pPwa1 — Peridotite, dunite; minor amount of pyroxenite
  - pPwa1d — Pyroxenite
  - pPwa1c — Aletered ultramafic rock, serpentinite
  - pPwa1b — Dunite
  - pPwa1a — Peridotite

SOUTH DOMAIN

Lac Esker Suite (1870 ± 4 Ma, St-Onge *et al.*, 1992; 1881.5 ±0.9 Ma, Bleeker and Kamo, 2018)

- pPle — Gabbro; may also contain volcaniclastic rocks and iron formations

Chukotat Group

- pPch2 — Dolomie
- pPch1 — Plagioclase basalt

Povungnituk Group

Beauparlant Formation

- pPbe1 — Basalt, amphibolite

Nituk Formation (2038 ±2 Ma, Machado *et al.*, 1993)

- pPni7 — Amphibolite, quartz-garnet amphibolite
- pPni6 — Arenite, subarkose
- pPni1 — Paragneiss, quartzite, quartz-feldspar-biotite ± muscovite ± garnet ± amphibole schist

KOVIK ANTIFORM
ARCHEAN TO PALEOPROTEROZOIC

Kovik Complex (2882 +44/-28 Ma, Parrish, 1989; 2737 ±2 Ma, Scott and St-Onge, 1995)

- ApPvk5 — Tonalite and biotite ± hornblende ± epidote ± titanite ± allanite granodiorite; sparse enclaves of mafic rocks; biotite monzogranite veins; tonalitic gneiss, granodioritic gneiss

PROSPECTIVE ZONE FOR MINERAL EXPLORATION

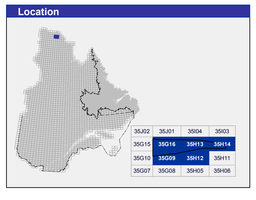
- Chromium
- Copper
- Platinum group elements
- Nickel
- Gold
- Vanadium

SHOWING AND DEPOSIT

- Silver, chromium
- Copper, nickel
- Lead, vanadium
- Chrysotile (asbestos)

Symbols and abbreviations used on this map are described in the DV 2014-06 publication of the Ministère de l'Énergie et des Ressources naturelles.

Location



Metadata

Geodetic reference frame :	GRS 80 ellipsoid
Geodetic reference system :	NAD 83 compatible with the world geodetic system WGS 84
Cartographic projection :	Universal Transverse Mercator (UTM), zone 18
Original longitude :	74°00'
Original latitude :	0°

0 2 4 6 8km

1/75 000

Sources

Data

Base de données topographiques et administratives (BDTA 250k)

Organization

Ministère de l'Énergie et des Ressources naturelles

Realization

Geology :	Guillaume Mathieu, Mélanie Beaudette (2018)
References :	Gélinas, L. (1961) - RP 471 Lamothe, D., Picard, C., Moorhead, J. (1984) - DP-84-39 Lamothe, D., Simard, S. (2010) - RP 2010-05 St-Onge, M.R.; Lucas, S.B. (1989) - CGC, Carte 1721A St-Onge, M.R.; Lucas, S.B. (1989) - CGC, Carte 1722A Taylor, F.C. (1982) - CGC, Mémoire 399
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Map of the Bulletin géologiQUE : http://gq.mines.gouv.qc.ca/bulletins-geologiques_en/lac-watts_en/

To obtain the most recent data for this region, we suggest that you consult the geomatics products of Quebec's Geomining Information System (SIGEOM)

Bulletin géologiQUE

SIGÉOM
Système d'information géominière du Québec

Énergie et Ressources naturelles
Québec