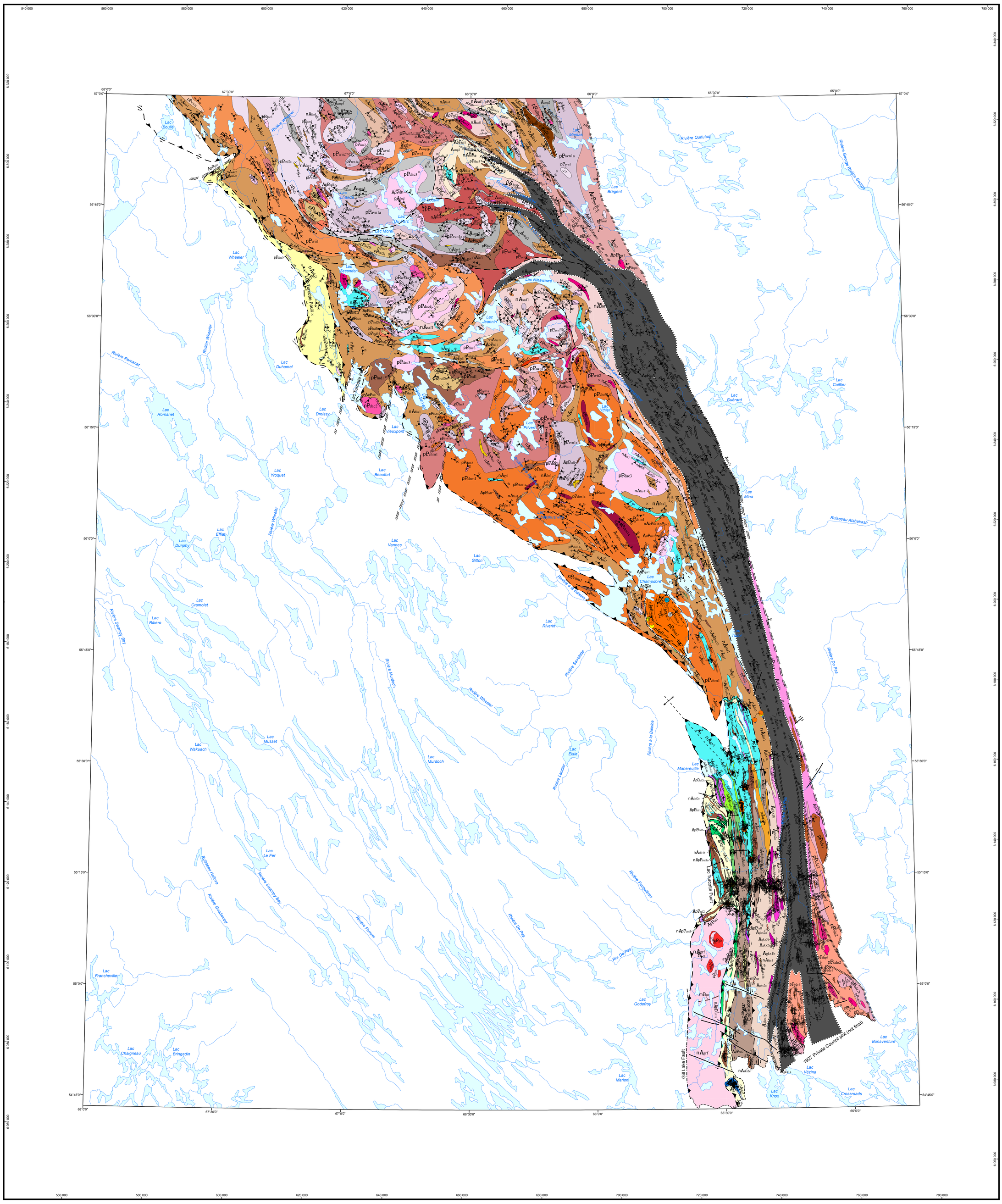
Baleine Lithotectonic Domain, Southeastern Churchill Province, Nunavik, Quebec, Canada: Geological Synthesis



STRATIGRAPHIC LEGEND

CHURCHILL PROVINCE

BALEINE LITHOTECTONIC DOMAIN

MESOPROTEROZOIC

Harp Dykes (1273 ±1 Ma; Cadman *et al.*, 1993)

- mPhar — Massive and very fine to medium-grained ophitic olivine gabbro

Soisson Suite (1312 ±1 Ma; Corrigan *et al.*, 2019)

- mPsoi — Subophitic troctolite, olivine gabbro, gabbro and gabbronorite; some subophitic monzodiorite

PALEOPROTEROZOIC

Dancelou Suite (1793-1748 Ma)

- pPdac3 — Massive biotite-muscovite pegmatitic granite
- pPdac2 — Massive, pink biotite-muscovite granite

Potel Gabbro

- pPpot — Massive, medium-grained and even-grained gabbro and gabbronorite

Aveneau Suite (1817-1811 Ma; Davis *et al.*, 2014, 2015)

- pPavn1 — Massive to foliated, white biotite tonalite and granite
- pPavn1a — Heterogeneous, white tonalite and granite containing biotite schlierens and various enclaves

Gamelin Enderbite

- pPgin — Massive, medium to coarse-grained biotite-orthopyroxene enderbite

Lhande Suite (1834 ±5 Ma; Rayner *et al.*, 2017)

- pPlnd3 — Deformed and altered opdalite, charnockite and quartz monzodiorite
- pPlnd2b — Massive and medium-grained pyroxenite and melanocratic gabbronorite
- pPlnd2a — Massive to slightly foliated hornblende-pyroxene-magnetite-biotite leucogabbronorite and quartz monzogabbro
- pPlnd1 — Foliated, homogeneous, speckled hornblende-biotite quartz diorite; some diorite, monzodiorite and tonalite

Champdoré Suite (1859-1837 Ma; Rayner *et al.*, 2017; Corrigan *et al.*, 2018)

- pPchm2 — Massive to slightly foliated, fine-grained, even-grained, pink biotite-hornblende granite
- pPchm1 — Variably recrystallized biotite-hornblende granodiorite, quartz monzodiorite and monzogranite
- pPchm1a — K-feldspar porphyritic biotite-hornblende granodiorite, quartz monzodiorite and monzogranite

Winnie Suite (1839-1838 Ma; Corrigan, personal communication, 2018; Davis *et al.*, 2015)

- pPwii2 — Biotite ± hornblende diatexite and stromatic metatexite
- pPwii2a — Biotite-garnet ± sillimanite ± kyanite diatexite and stromatic metatexite
- pPwii1 — Homogeneous, porphyraceous biotite ± hornblende diatexite
- pPwii1a — Homogeneous, heterogranular biotite ± hornblende diatexite

De Pas Supersuite

De Pas Charnockitic Suite (1840-1811 Ma)

- pPcde3 — Leucogabbro, leucobaggronorite, anorthosite and quartz anorthosite
- pPcde2 — Medium to coarse-grained opdalite, enderbite and jotunite
- pPcde2b — Highly magnetic opdalite, jotunite and mangerite
- pPcde2a — Porphyraceous opdalite and jotunite
- pPcde1 — Medium to coarse-grained hypersthene diorite, jotunite and mangerite

De Pas Granitic Suite (1862-1805 Ma)

- pPdep4 — Biotite ± hornblende monzogranite; biotite granite; massive, medium to coarse-grained leucogranite
- pPdep2 — Porphyraceous biotite ± hornblende granodiorite and quartz monzodiorite
- pPdep1a — Homogeneous biotite ± hornblende quartz diorite, tonalite and diorite

NEOARCHEAN TO PALEOPROTEROZOIC

Curot Suite

- nApPcut1 — Foliated, banded, fine to medium-grained hornblende ± garnet amphibolite
- nApPcut1d — Melanocratic sphene-biotite-chlorite amphibolite
- nApPcut1c — Massive or pillow metabasalt; metavolcaniclastic rocks containing fragments of vesicular volcanic rock
- nApPcut1b — Banded hornblende-clinopyroxene-carbonate ± garnet amphibolite; banded epidote-biotite-hornblende felsic to intermediate metapyroclastic rocks
- nApPcut1a — Very fine-grained to aphanitic, schistose hornblende-actinolite ± cummingtonite amphibolite

Qurlutuq Complex (2834-2668 Ma; Augland *et al.*, 2015; Corrigan, personal communication, 2018)

- ApPqur1 — Migmatitic rock of tonalitic composition displaying stromatic, raft or biotite schlieren structure

Ralleau Suite

- ApPral2 — Amphibolitized pyroxenite and peridotite
- ApPral2c — Amphibole-serpentine-talc ultramafic schist
- ApPral2b — Massive tremolite-carbonate-chlorite ultramafic rock
- ApPral2a — Altered and sheared tremolite-augite-fuchsite-plagioclase schist
- ApPral1 — Homogeneous, granoblastic, amphibolitized hornblende-clinopyroxene-biotite gabbro and diorite
- ApPral1a — Homogeneous, granoblastic, amphibolitized hornblende-garnet-clinopyroxene-biotite gabbro and diorite

Grand Rosoy Suite (<2618 Ma; Davis and Sutcliffe, 2018)

- nApPgy2 — Banded muscovite-biotite paraschist and paragneiss
- nApPgy1 — Muscovite-biotite-hematite-specularite homogeneous meta-arkose, laminated meta-arenite and banded conglomeratic meta-arkose

False Suite (<2678 ±12 Ma; Godet *et al.*, in preparation)

- nAfas4 — Massive, fine-grained, granoblastic quartzite
- nAfas2 — Banded and granoblastic calcosilicate rocks
- nAfas1 — Banded, granoblastic, biotite ± hornblende migmatized paragneiss
- nAfas1a — Banded, granoblastic, biotite-garnet migmatized paragneiss

Akiasirviup Suite

- nAaki4c — Banded actinolite calcosilicate rock
- nAaki4b — Dolomitic marble, calcitic marble and tremolite marble
- nAaki4a — Banded diopside calcosilicate rock; some marble
- nAaki3 — Silicate-oxide facies iron formation; some sulphide facies iron formation
- nAaki2 — Banded, fine-grained, granoblastic biotite-muscovite paragneiss and paraschist
- nAaki2c — Biotite-garnet ± kyanite ± sillimanite ± staurolite paraschist
- nAaki2b — Banded, fine-grained, granoblastic biotite-muscovite-sillimanite paragneiss and paraschist
- nAaki2a — Banded, fine-grained, granoblastic biotite-muscovite-garnet paragneiss and paraschist
- nAaki1 — Homogeneous, granoblastic biotite-muscovite migmatized paragneiss

Saffray Suite (2696-2683 Ma; Davis *et al.*, 2015; Rayner *et al.*, 2017; Corrigan, personal communication, 2017)

- nAsaf3 — Massive to slightly foliated magnetite-epidote ± biotite ± hornblende syenite
- nAsaf2 — Massive to slightly foliated, homogeneous, pink biotite-magnetite granite
- nAsaf1 — Foliated, granoblastic biotite-magnetite-hornblende ± clinopyroxene quartz monzonite; some granodiorite, quartz monzodiorite and monzogranite

Griffis Complex (2789 Ma; David *et al.*, 2011)

- nAgrf — Tonalite, tonalitic gneiss, paragneiss, gabbro and gabbronorite

Knox Complex (2823-2619 Ma)

- Agkx3b — Foliated tonalite and granodiorite; some granite and quartz monzodiorite
- Agkx3a — Foliated enderbite and opdalite; some charnockite and mangerite
- Agkx2b — Amphibolitized gabbro and diorite
- Agkx2a — Granoblastic hypersthene diorite, granoblastic gabbronorite
- Agkx1b — Tonalitic gneiss to quartz diorite; some granitic gneiss
- Agkx1a — Enderbitic gneiss to quartz diorite; some opdalitic and mangeritic gneiss

Ungava Complex (2950-2656 Ma)

- Aung4 — Biotite ± hornblende granitic gneiss
- Aung2 — Foliated biotite ± amphibole tonalitic gneiss containing whitish bands
- Aung2a — Hornblende-biotite ± clinopyroxene dioritic gneiss

PROSPECTIVE ZONE FOR MINERAL EXPLORATION

- Copper
- Nickel
- Vanadium

STRUCTURAL DOMAIN

- Shear zone

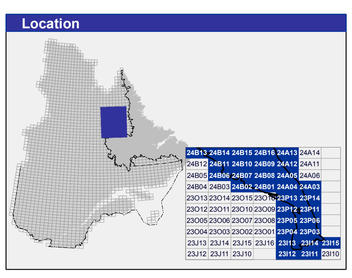
SHOWING AND DEPOSIT

- Silver, copper, molybdenum
- Nickel, gold, vanadium

This geological map in PDF format contains layers that group the various elements of the document (geological zones, hydrography, geoficie outcrops, etc.). These layers can be displayed or hidden in the "Layers" section of the "Browser Pane" in Adobe Acrobat Reader©.

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 19
Original longitude :	66°22'30"
Original latitude :	0°

Border

- - - - - - - Quebec - Newfoundland and Labrador border (this boundary is not final)

0 5 10 15 20 25km

1/325 000

Sources

Data	Organization
Base de données géographiques et administratives (BDGA 1M)	Ministère de l'Énergie et des Ressources naturelles

Realization

Geology :	Isabelle Lafrance, Marc-Antoine Vanier, Benoit Charrette (2017)
References :	Girard, R. (1995) - MB 95-20 Hammouche, H. *et al.* (2011) - RG 2011-03 Lafrance, I. *et al.* (2014) - RG 2014-02 Lafrance, I., Charette, B. (2015) - BG 2015-01 Lafrance, I. *et al.* (2015) - RG 2015-01 Lafrance, I. *et al.* (2016) - RG 2015-05 Simard, M. *et al.* (2013) - RG 2013-04
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Map of the Bulletin géologiQUE : http://gq.mines.gouv.qc.ca/bulletins-geologiques_en/churchill_en/baleine_en/

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

Bulletin géologiQUE

SIGÉOM Système d'information géominière du Québec

Énergie et Ressources naturelles Québec