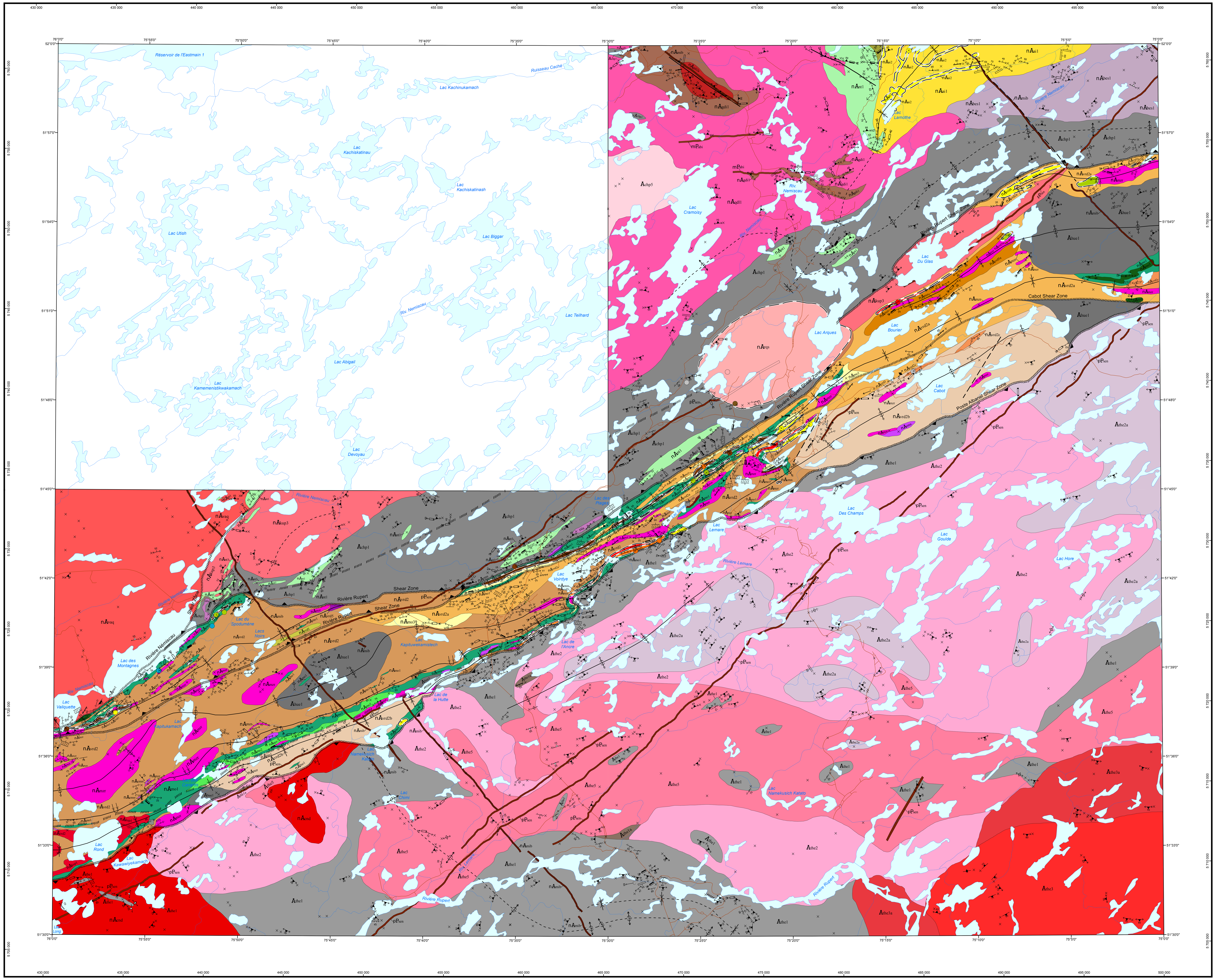
Geology of the Montagnes Lake Area, La Grande, Nemiscau and Opatica Subprovinces, Eeyou Istchee James Bay, Quebec, Canada



STRATIGRAPHIC LEGEND

SUPERIOR PROVINCE

MESOPROTEROZOIC

Abitibi Dykes (1141 ±2 Ma, Krogh *et al.*, 1987)

- mPabi — Diabase dyke (E-W): olivine gabbro

PALEOPROTEROZOIC

Senneterre Dykes (2221 ±4 Ma and 2216 +8/-4 Ma, Buchan *et al.*, 2007; Davis *et al.*, 2016)

- pPsen — Diabase dyke (NE-SW): gabbronorite

NEOARCHEAN

Mistassini Dyke Swarm (2515 ±3 Ma, Hamilton, 2009)

- nAmib — Diabase dyke (NW-SE): olivine gabbronorite, locally plagioclase porphyritic

Kaupanaukau Suite

- nAkup3 — Pink granitic pegmatite
- nAkup2 — Pink granitic pegmatite and granite
- nAkup1 — Pink biotite ± magnetite granite

NEMISCAU SUBPROVINCE

NEOARCHEAN

Spodumène Suite

- nAspd — White spodumene-tourmaline-garnet-apatite granitic pegmatite

Mezières Suite

- nAmzr — White biotite ± garnet ± muscovite ± tourmaline granitic pegmatite

Caumont Mafic-Ultramafic Suite

- nAcmn — Peridotite, pyroxenite and gabbro

Lac des Montagnes Ultramafic Intrusion

- nAmot3 — Gabbro
- nAmot2 — Pyroxenite
- nAmot1 — Peridotite
  - nAmot1a — Chromitite zone

Voirdye Formation

- nAvrd5 — Garnet-cordierite ± sillimanite ± anthophyllite metasomatic rock
  - nAvrd5a — Biotite-garnet-cordierite ± sillimanite paragneiss and garnetite horizons
- nAvrd4 — Oxide-silicate facies iron formation
- nAvrd3 — Quartzite
- nAvrd2 — Biotite-hornblende-garnet ± sillimanite ± cordierite paragneiss
  - nAvrd2c — Metatexite derived from paragneiss and migmatized paragneiss
  - nAvrd2b — Arkosic and subarkosic paragneiss
  - nAvrd2a — Cordierite ± sillimanite porphyroblastic biotite-garnet paragneiss derived from wacke ± arenite
- nAvrd1 — Conglomerate

Lac des Montagnes Group

- nAmo5 — Amphibolite derived from komatiitic basalt
- nAmo3 — Felsic and intermediate volcaniclastics
- nAmo2 — Intermediate volcanics
- nAmo1 — Amphibolitized basalt; ultramafic lava horizons

ARCHEAN

Hutte Complex

- Ahue1 — Tonalitic gneiss, locally granitic

LA GRANDE SUBPROVINCE

NEOARCHEAN

Arques Intrusion

- nArqs — Diorite, monzonite, syenite, gabbro; amazonite granitic pegmatite and pyroxenite intrusions

Valiquette Pluton

- nAvaq — Biotite granite

Middle Eastmain Gabbro and Diorite

- nAgdi2a — Diorite
- nAgdi1 — Gabbro and diorite

Quindèle Pluton

- nAqdl1 — Granodiorite and tonalite; diorite and gabbro intrusions; paragneiss enclaves

Béryl Sud Pluton

- nAbes1 — Tonalite containing biotite-andalusite paragneiss; pegmatite pockets

Eastmain Group

Auclair Formation

- nAai4 — Polymictic conglomerate
- nAai2 — Oxide facies iron formation
- nAai1 — Paragneiss composed of metamorphic mineral assemblages such as biotite-sillimanite-cordierite, biotite-garnet-staurolite-kyanite-fibrous sillimanite, biotite-staurolite-kyanite and biotite-andalousite-garnet

Natel Formation

- nAnt1 — Amphibolitized tholeiitic basalt

ARCHEAN

Champion Complex

- Achp5 — Porphyritic granodiorite
- Achp1 — Tonalitic gneiss, locally granitic

OPATICA SUBPROVINCE

NEOARCHEAN

Canards Suite

- nAcnd — Foliated biotite granite

ARCHEAN

Théodat Complex

- Athe5 — Granitic pegmatite
- Athe3 — Porphyritic granodiorite
  - Athe3a — Quartz monzodiorite and quartz monzonite, locally porphyraceous
- Athe2 — Foliated ganodiorite; tonalite enclaves
  - Athe2a — Foliated biotite ± hornblende tonalite
- Athe1 — Tonalitic gneiss and gneissic tonalite
  - Athe1a — Dioritic gneiss

LITHOLOGIC LEGEND

NEOARCHEAN

- I4Ia — Peridotite and pyroxenite

PROSPECTIVE ZONE FOR MINERAL EXPLORATION

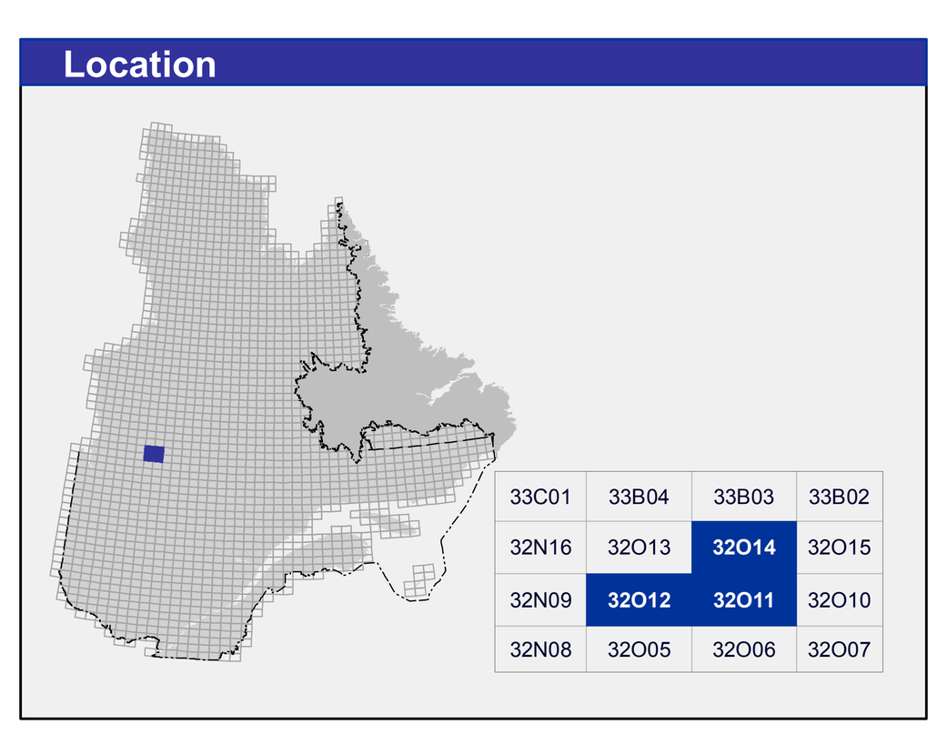
- Chromium
- Copper
- Rare earth elements
- Lithium
- Nickel
- Gold
- Zinc

SHOWING AND DEPOSIT

- Silver, beryllium, chromium, copper
- Rare earth elements, lithium, molybdene, nickel
- Gold, thorium, zinc
- Sillimanite

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 :	75°30'
Original latitude :	0°

0 2 4 6 8 km

1/85 000

Sources

Data

Base de données topographiques et administratives (BDTA 250k)

Organization

Ministère de l'Énergie et des Ressources naturelles

Realization

Geology : Daniel Bandyayera et Emmanuel Caron-Côté (2018)

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Map of the Bulletin géologiQUE : http://gq.mines.gouv.qc.ca/bulletins-geologiques_en/lac-des-montagnes_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

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