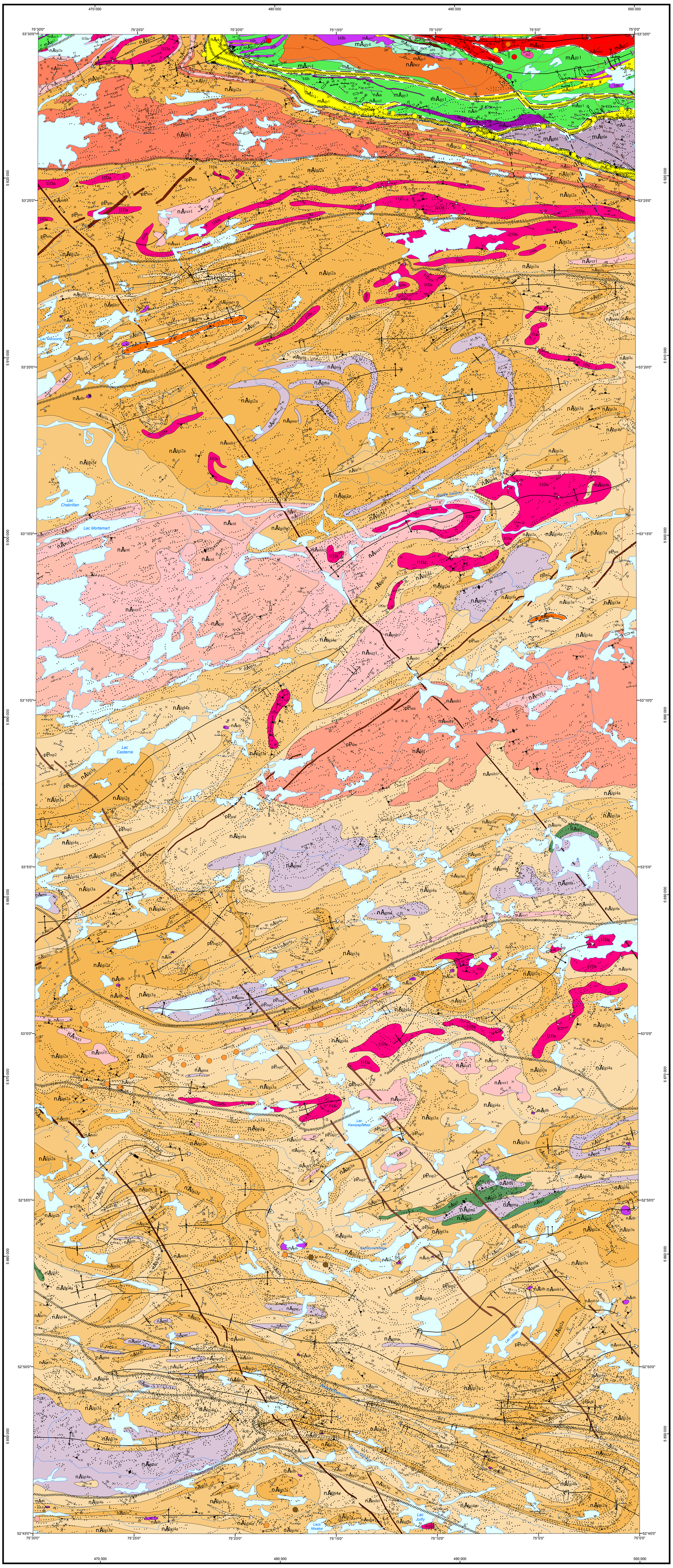
Geology of the Casterne Lake Area, La Grande and Opinaca Subprovinces, Eeyou Istchee James Bay, Quebec, Canada



STRATIGRAPHIC LEGEND

SUPERIOR PROVINCE

PALEOPROTEROZOIC

Lac Esprit Dykes (pPesp2, 2090 Ma, preliminary age, Hamilton, personal communication, 2016)

- pPesp2 — Diabase of gabbronoritic composition, oriented NW-SE

Senneterre Dykes (2221 ±4 Ma and 2216 +8/-4 Ma, Buchan *et al.*, 1996; Davis *et al.*, 2018)

- pPsen — Diabase of gabbronoritic composition

NEOARCHEAN

Mistassini Dyke Swarm (2515-2503 Ma, Hamilton, 2009; Davis *et al.*, 2018)

- nAmib1 — Aphyric diabase
- nAmib1a — Plagioclase porphyritic diabase

Vieux Comptoir Granitic Suite (2683-2613 Ma, David, 2018a; Bogatu and Huot, 2016)

- nAvcr2 — Biotite-muscovite ± garnet ± tourmaline alkali feldspar granite, pegmatitic
- nAvcr1 — Biotite-magnetite ± hornblende ± epidote granite, massive to slightly foliated

Lablois Suite (>2619.6 +1.9/-1.4 Ma, David *et al.*, 2011)

- nAslb — Olivine ± phlogopite metawebsterite, commonly orthopyroxene porphyroblastic

Bezier Suite (2712.3 ±5.8 Ma and 2674 ±12 Ma, David, 2019; St. Seymour *et al.*, 1989)

- nAbez — K-feldspar porphyritic quartz monzodiorite and granodiorite

OPINACA SUBPROVINCE

Marjoulet Gneiss (2689 ±4 Ma, David, 2018b)

- nAgma — Biotite ± hornblende ± magnetite tonalitic gneiss, foliated to banded

Féron Suite

- nAfer1 — K-feldspar porphyritic hornblende-biotite-magnetite quartz monzodiorite

Casterne Pluton (2701.5 ±2.4 Ma, David, personal communication, 2019)

- nAcst — K-feldspar porphyritic hornblende-biotite-magnetite quartz monzodiorite

Frégate Pluton (2710.4 ±2.4 Ma, Augland *et al.*, 2016)

- nAplf — Package of K-feldspar porphyritic quartz monzodiorite, quartz monzonite and granodiorite, granite intrusion

Laguiche Complex (>2712-2640 Ma, Morfin *et al.*, 2013; David, 2019)

- nAlgi5 — Amphibolite, locally of gabbroic and dioritic origin, partly migmatized
- nAlgi4a — Biotite ± garnet ± orthopyroxene ± cordierite diatexite derived from paragneiss, containing >50% mobilisate
- nAlgi3a — Biotite ± garnet ± orthopyroxene ± cordierite metatexite derived from paragneiss, containing 10-50% mobilisate
- nAlgi2a — Biotite ± garnet ± orthopyroxene ± cordierite paragneiss derived from wacke, containing <10% mobilisate

LA GRANDE SUBPROVINCE

Marbot Formation (<2702 ±2 Ma, David *et al.*, 2011)

- nAmab1 — Wacke

Ekomiak Formation (<2735 Ma, Davis *et al.*, 2014)

- nAck — Wacke and polymictic conglomerate

MESOARCHEAN

Guyer Group (2820-2806 Ma, Goutier *et al.*, 2002; David *et al.*, 2011, 2012)

- mAgy5 — Turbiditic ultramafic wacke
- mAgy4 — Magnesian basalt and komatiite
- mAgy3 — Iron formation, wacke and graphitic mudrock
- mAgy2 — Felsic tuff, local rhyolite, intermediate tuff and sericite schist
- mAgy1 — Amphibolite derived from basalt

Poste Le Moyne Pluton (2881 ±2 Ma, Goutier *et al.*, 2002)

- mApln — Hornblende-biotite tonalite and quartz diorite, foliated

LITHOLOGIC LEGEND

ARCHEAN

- I1C — Hornblende granodiorite
- I1Da — Undifferentiated tonalite, granodiorite and granite
- I2J — Diorite
- I3Aa — Metagabbro
- I4 — Ultramafic intrusion
- I4Ia — Metaperidotite
- I4Ib — Package of metaperidotite, metapyroxenite and metagabbro

PROSPECTIVE ZONE FOR MINERAL EXPLORATION

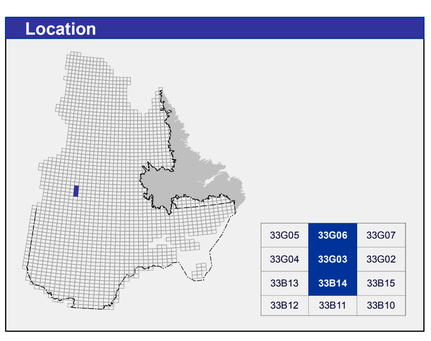
- Copper
- Gold
- Zinc

SHOWING AND DEPOSIT

- Silver, chromium, copper
- Gold, rare earth elements, thorium
- Uranium, zinc, yttrium

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°15'
Original latitude :	0°

0 2 4 6 8 km

1/80 000

Sources

Data	Organization
Base de données topographiques et administratives (BDTA 250k)	Ministère de l'Énergie et des Ressources naturelles

Realization

Geology :	Myriam Côté-Roberge et Jean Goutier (2018)
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Map of the Bulletin géologiQUE : http://gq.mines.gouv.qc.ca/bulletins-geologiques_en/lac-casterne_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