



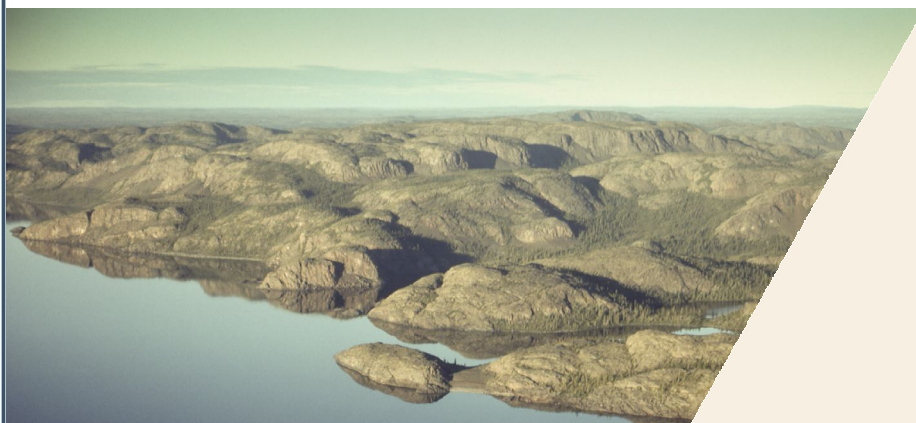
Natural Resources
Canada

Ressources naturelles
Canada

**GEOLOGICAL SURVEY OF CANADA
CANADIAN GEOSCIENCE MAP 154
NORTHWEST TERRITORIES
GEOSCIENCE OFFICE
NWT OPEN REPORT 2013-003
GEOLOGY**

CALDER RIVER

Northwest Territories, NTS 86-F



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Cover Illustration

Oblique aerial photograph of east shoreline of Great Bear Lake showing typical outcrop. Most of the visible outcrops are andesite of the LaBine Group, Great Bear Lake, Northwest Territories. Photograph by R. S. Hildebrand. 204112A

ABSTRACT

The area includes Archean rocks of Slave craton and Paleoproterozoic rocks of Wopmay orogen. Both groups of rocks were deformed at 1.882 Ga during the Calderian orogeny (Hildebrand et al., 2010a). Rocks of Slave craton and its cover occur in the eastern part of the map area within and east of the medial zone (Hildebrand et al., 1990), where they form a crustal duplex structurally beneath rocks of Hottah terrane, which comprises metasedimentary rocks of Akaitcho group (Easton, 1982) sitting unconformably upon Bent gneiss (Hildebrand et al., 1991), and intruded by plutons of Hepburn batholith (Lalonde, 1986). Sitting unconformably atop, and intruding, the collapsed collision zone, are magmatic and sedimentary rocks of the 1.875-1.843 Ga Great Bear magmatic zone (Hoffman and McGlynn, 1977; Hildebrand et al., 1987b,

2010b). Rocks of the area were folded about northwest to northerly trending axes and cut by a swarm of strike-slip faults.

RÉSUMÉ

La région de Calder River comprend les roches archéennes du craton des Esclaves et les roches paléoprotérozoïques de l'orogène Wopmay. Ces deux assemblages ont été déformés par l'orogénèse Calderian, à 1,882 Ga (Hildebrand et al., 2010a). Ces roches cratoniques et celles de la couverture affleurent dans la partie orientale de la carte, à l'intérieur et à l'est de la zone médiane (Hildebrand et al., 1990). Elles forment un duplex crustal, localisé structuralement sous les roches du terrane de Hottah et comprennent les roches métasédimentaires du Groupe d'Akaiicho (Easton, 1982) reposant en discordance sur les gneiss Bent (Hildebrand et al., 1991), et recoupées par des plutons du batholite d'Hepburn (Lalonde, 1986). Cette zone de collision effondrée est surmontée en discordance, et recoupée par les roches intrusives et sédimentaires de la zone magmatique de Great Bear, qui varient en âge de 1.875 à 1.843 Ga (Hoffman et McGlynn, 1977; Hildebrand et al., 1987b, 2010b). Les roches de la région ont été plissées selon des axes orientés nord, nord-ouest et recoupées par un essaim de failles décrochantes.

ABOUT THE MAP

General Information

Authors: R.S. Hildebrand, S.A. Bowring, and K.S. Pelletier

Geological compilation by R.S Hildebrand, 2012

Cartography by R. Boivin, Collections Management & GeoInformation (CMG), A. Morin, P. Brouillette, J. Poupert, and K. Lauzière, GSC-Québec

Scientific editing by L. Corriveau, Geological Survey of Canada. Technical editing by V. Jackson, Northwest Territories Geoscience Office

Joint initiative of the Geological Survey of Canada and the Northwest Territories Geoscience Office, conducted under the auspices of the GEM's – IOCG Great Bear project as part of Natural Resources Canada's Geo-mapping for Energy and Minerals (GEM) program.

Map projection Universal Transverse Mercator, zone 11. North American Datum 1983
Base map at the scale of 1:250 000 from Natural Resources Canada, with modifications.

Elevations in meters above mean sea level

Mean magnetic declination 2014, 19°53'E, decreasing 33' annually. Readings vary from 19°11'E in the SE corner to 20°33'E in the NW corner of the map

The Geological Survey of Canada welcomes corrections or additional information from users.

Data may include additional observations not portrayed on this map.
See documentation accompanying the data.

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Preliminary publications in this series have not been scientifically edited.

Map Viewing Files

The published map is distributed as a Portable Document File (PDF), and may contain a subset of the overall geological data for legibility reasons at the publication scale.

ABOUT THE GEOLOGY

Descriptive Notes

INTRODUCTION

This map compiles 1:16,000 scale geological mapping by the senior author and co-workers during the 1979–80 field seasons supported by the Department of Indian and Northern Affairs (DIAND) and both 1:16,000 and 1:50,000 scale during the 1986–87 and 1989–90 field seasons by the Geological Survey of Canada. K.S. Pelletier (DIAND) and co-workers mapped the Ellington Lake area at 1:16,000 scale during the 1983–84 field seasons with additional work during August, 1987. S.A. Bowring and students, also supported by DIAND, mapped the northern part of the Dumas Group and associated plutonic rocks at 1:16,000 scale during 1983–85. Within areas of supracrustal rocks most, if not all, of the existing outcrops were visited, whereas within areas of plutonic rocks irregularly spaced traverses were made and contacts between mappable units were walked. Mapping was plotted on enlargements of black and white aerial photographs, except in the Clut Lake area where detailed coloured aerial photographs were available. The results of fieldwork were described by Hildebrand (1982, 1984b, 1985); Hildebrand et al. (1987a, 1988, 1990, 1991); and Pelletier (1988). Digitalization and publication of the map were supported by the Geo-mapping for Energy and Minerals (GEM) Program, Multiple Metals: Great Bear Magmatic Zone project led by Louise Corriveau and Kathleen Lauzière, GSC Quebec, and Valerie Jackson, NTGO.

Outcrop throughout the area is good to excellent with few areas of extensive overburden. The western parts of the area are regionally at lower elevation, contain greater relief and are more heavily treed than the northeastern part of the area, which is dominantly higher elevation with subdued relief and sparse trees. The Calder River and Wopmay River drainages provide easy access by boat to large area of the west-central and southeastern parts of the map area, respectively. Elsewhere, abundant lakes provide more localized access by floatplane.

REGIONAL SETTING

The Calder River map area sits astride several tectonic divisions of the Paleoproterozoic Wopmay orogen, formed initially during the Calderian orogeny. The orogen is divided into five major zones, from east to west: Coronation margin, Turmoil klippe, the Medial zone, Great Bear magmatic zone, and Hottah terrane (Figure 1). Coronation margin contains basement rocks of the Archean (4.0–2.5 Ga) Slave craton overlain by a tripartite sedimentary succession representing three distinct tectonic regimes: 2014.32±0.95 Ma rift, passive margin, and foredeep (Hoffman, 1973, 1980, 1984, 1989; Hoffman et al., 2011). The supracrustal rocks of the margin were detached from their basement, folded, and transported eastward during the Calderian orogeny. The passive margin to foredeep transition, marking the onset of collision, is dated at 1882.50±0.95 Ma (Bowring and Grotzinger, 1992; Hoffman et al., 2011). The westernmost zone, Hottah terrane, developed remotely from, but in part contemporaneously with, Coronation margin. It consists of sedimentary and 1.90 Ga calc-alkaline volcanic and plutonic rocks erupted on and intruded into Paleoproterozoic continental crust (Hildebrand et al., 1983, 1984; Hildebrand and Roots, 1985). Turmoil klippe structurally overlies the westernmost parts of Coronation margin and is interpreted to be a large erosional remnant of Hottah Terrane (Hildebrand et al., 1990, 1991, 2010). The klippe contains Neoproterozoic to Paleoproterozoic gneissic and granitic basement unconformably overlain by metamorphosed 1.90–1.89 Ga sedimentary and volcanic rocks, all of which are intruded by the composite Hepburn Batholith (Lalonde, 1986). Great Bear magmatic zone is dominated by calc-alkaline volcanic and plutonic rocks. It is a typical magmatic arc built on continental crust and is younger than the Calderian orogeny and constitutes an overlap assemblage on the eroded and collapsed collision zone (Hoffman and McGlynn, 1977; Hildebrand et al., 1987, 1990, 2010a, b).

The Medial zone of the orogen occurs near the eastern margin of Great Bear magmatic zone and includes rocks of all the other zones—as well as their structural complexities—now tightly folded about northerly trending axes (Hildebrand et al., 1990). Normal faults, unconformably overlain by rocks of the Great Bear magmatic zone, occur within the zone where they placed little metamorphosed pillow basalts of Turmoil klippe over high-grade rocks of the collisional core, and they attest to the gravitational collapse of the orogen (Hildebrand et al., 1990). Based on isotopic and field data, the western edge of Slave craton lies within the Medial zone (Housh et al., 1989; Bowring and Podosek, 1989; Hildebrand et al., 1990). All of the rocks in the map area except for some younger dykes and the Hottah gabbro sheet are folded. The folds postdate magmatism in the Great Bear magmatic zone, where they mostly trend northwesterly. Where the folds affect rocks of Slave craton and its cover, such as in the Medial zone and eastward, they trend northerly. The orogen is permeated by a through-going system of conjugate transcurrent faults, forming northeast-striking right-lateral and northwest-striking left-lateral domains.

ARCHEAN ROCKS OF SLAVE CRATON

Within the map area rocks of the Slave craton occur within the Medial zone and to the east around Bishop Lake where they are dominated by 3 Ga orthogneiss that sits structurally beneath rocks of Turmoil klippe (Hildebrand et al. 1990, 1991, 2010b). Archean granite occupies the core of an anticline in the northeastern part of the sheet

and Archean orthogneiss occupies another anticline in the southeast where it lies unconformably beneath amphibolite facies metasedimentary rocks interpreted to represent Odjick Formation and the structurally overlying Turmoil klippe.

HOTTAH TERRANE

Hottah terrane outcrops mostly along the western margin of the Great Bear magmatic zone where it comprises a wide variety of Paleoproterozoic metasedimentary and metavolcanic rocks cut by plutonic rocks. A substantial area of 1.9 Ga granite of Hottah terrane occurs in a narrow N-S band extending the length of the map area where it occupies the core of an eastwardly-overturned anticline and lies unconformably beneath rocks of the Dumas Group to the east (Hildebrand et al., 1987). Smaller outcrop areas of Hottah terrane occur in the Longtom and Zebulon lakes area, where granitoid rocks sit unconformably beneath rocks correlated with the Bell Island Bay group, which is a 1.90 Ga succession of sedimentary and basaltic to rhyolitic volcanic rocks (Reichenbach, 1991). Small areas of undated schist and mylonite occur near Smokey and Greenrock lakes and probably belong to Hottah terrane.

TURMOIL KLIPPE

Turmoil klippe is a dominantly Neoarchean-Paleoproterozoic composite thrust sheet interpreted to represent a fragment of the exotic Hottah terrane. Orthogneiss, with lesser quantities of paragneiss dominate the basement and are unconformably overlain by rocks of the Akaitcho Group, a 1.9–1.88 sequence comprising terrigenous clastics overlain by carbonate and bimodal volcanic rocks (Easton, 1982; Bowring, 1985). In the eastern part of the map area, stacked thin thrust slices of well-bedded Akaitcho Group metasedimentary rocks with cordierite porphyroblasts sitting unconformably atop Bent gneiss are folded in the conspicuous Robb River syncline.

GREAT BEAR MAGMATIC ZONE

Within the Great Bear magmatic zone, sedimentary and volcanic rocks of the McTavish supergroup are widely exposed in the map area. The oldest and broadly correlative groups are LaBine, Ellington, and Dumas, all of which are stratigraphically overlain by thick ignimbrites of the Sloan group. Rocks of the LaBine Group (Hildebrand, 1984a) are exposed from Conjuror Bay to Grouard Lake and include andesitic lavas of the Camsell River formation, which accumulated within the Black Bear caldera prior to the intrusion of the Balachey pluton, which strongly altered its wall rocks (Hildebrand, 1984a, b, 1986). Both the pluton and its wall rock alteration predated eruption of the dacitic White Eagle tuff as documented by interfingering meso- and megabreccia containing both angular and rounded fragments of those lithologies. A buttress unconformity is exposed at Uranium Point in Balachey Lake, but the unconformity is also exposed, although less spectacularly, in many places farther south towards Clut Lake. The large patch of tuff shown on the peninsula between Clut and Grouard lakes is intracaldera megabreccia with blocks of andesitic lithologies up to a km across and smaller fragments of Balachey pluton encased in White Eagle tuff. The tuff and mesobreccia are overlain by sedimentary and tuffaceous rocks of the Uranium Point formation, which are interpreted to represent post-collapse lacustrine and fluvial fill of the caldera. In turn, they are overlain by lavas of Animal Andesite, also apparently deposited within the caldera. In the extreme NW of the map area andesitic rocks of the Surprise Lake member of the Echo Bay Formation (Hildebrand, 1983), probably

correlative with Camsell River andesite, are intruded and altered by plutons of the early intermediate intrusive suite.

In the east, within the Medial zone, sedimentary and volcanic rocks of the Dumas Group crop out in a major syncline, dominantly overturned on the west limb where it unconformably overlies a 1.9 Ga granitoid, and extending the length of the map area. Sandstone and conglomerate sit unconformably upon older rocks all along both limbs of the syncline and locally such as near basaltic basement are dominantly monomictic. Numerous tight to isoclinal folds, incipient transposition of bedding, and greenschist grade metamorphism affect these rocks. A 1.5 m thick unit of stromatolitic ferroan dolomite outcrops in the NE and is overlain by mudstone and conglomerate. Local conglomerate wedges containing clasts of granite to 1 m across also occur near the northeastern contact and are interpreted to have been deposited along west-side down fault scarps. Tuff units within the Dumas Group are simple cooling units mostly less than 20 m thick containing 10–25% broken phenocrysts. One was dated to be 1.87 Ga (Bowring, 1985). Rocks of the group were intruded in the north by a distinctive 1.87 Ga sill containing quartz, plagioclase, and golfball-size potassium feldspar phenocrysts (Bowring, 1985). Lithic sandstone and golfball conglomerate of the upper member sit unconformably on the sill and its wall rocks but also predate folding.

In the central part of the zone, rocks of the Ellington Lake group comprise a varied sequence of ignimbrites and lavas intercalated with a variety of epiclastic rocks and intruded by a variety of subvolcanic intrusions, including monzonites, a conspicuous fine-grained sill of diorite, and the rhyolitic Angle porphyry, which has both intrusive and extrusive phases (Pelletier, 1988). Sedimentary rocks SE of Nadin Lake are tightly folded, and although local facing directions are common, the overall younging direction of the sequence is unknown; however, because the bouldery conglomerate at the sedimentary-Sloan group contact doesn't contain tuff clasts of the Sloan group, the sedimentary sequence likely sits beneath rocks of the Sloan group.

Within the map area rocks of the Sloan group overlie the LaBine, Ellington Lake and Dumas groups; are dominantly intermediate composition densely-welded ignimbrites containing 25–40% broken phenocrysts intercalated with local beds of sedimentary rocks. The thickness, dense welding and sparseness of intercalated epiclastic units make it difficult to define stratigraphic units and suggest that they represent tuff ponded within calderas.

Plutonic rocks of the northern Great Bear magmatic zone are divided into 4 different suites: the early intermediate intrusive suite, with zoned alteration haloes and associated with Camsell River and Echo Bay andesites; the granodiorite-monzogranite suite, presumed to be intrusive equivalents of ignimbrites of the LaBine and Sloan groups; the biotite granite suite, with no apparent volcanic equivalents; and the Bishop suite, which are plutons of Great Bear age emplaced just east of the medial zone into basement of Slave craton. Virtually all of the plutonic contacts are regionally concordant to bedding of sedimentary and volcanic rocks, trend dominantly parallel to regional fold axes, and so many of the plutons are interpreted to have been emplaced as sills prior to regional folding (Hildebrand et al., 1987b, 2010).

Several porphyritic dyke swarms occur in the area and are older than the transcurrent faults but are not shown on the map. One swarm occurs to the east of a small lake located at 117°1'2"W, 65°49'18"N, another occurs in the Clut-Balachey Lake area, and the other occurs east of Hansen Lake. The first two series of dykes contain variable amounts of biotite-hornblende-plagioclase-quartz and K-feldspar phenocrysts in a dominantly brick red aphanitic groundmass whereas the Hansen Lake Group is a bimodal suite, with siliceous bodies similar to those of the other swarms but with intermediate-mafic dykes that weather dark-brown to black and contain hornblende and plagioclase phenocrysts. The dykes of all swarms trend N to NE (Hildebrand, 1984b, 1985; Hildebrand et al., 1987a). Two swarms of diabase dykes also occur in the area: Cleaver dykes, which are 1740 Ma (Irving et al., 2004), and trend just north of due west and northerly trending Mackenzie dykes, dated as 1267 Ma (LeCheminant and Heaman, 1989).

All of the volcanic rocks and all of the plutons of the Great Bear magmatic zone are folded. Throughout most of the zone, the folds trend northwest but as the axial traces approach the eastern margin of the zone, they bend progressively N-S, parallel to the edge of the Slave craton (Hildebrand et al., 1987b, 1990; Hildebrand and Bowring, 1988). The folds plunge gently everywhere. The map shows that many plutonic contacts parallel the northwest-trending or northerly striking axial traces of the younger folds and are exposed in cross section. Stratigraphic sections, several km thick, are exposed on single fold limbs and throughout most of the zone there is no megascopically recognizable planar fabric related to folding with the exception of strong axial planar cleavage within mudstones and poorly-welded tuffs, located mostly in the Dumas Group. There the folds are tighter than elsewhere due to the buttressing effect along the edge of the Slave craton (Hoffman, 1984; Hildebrand and Bowring, 1988).

The east-west shortening that created the northeasterly-trending, dextral transcurrent faults distorted the original trends of fold axes and contacts because the individual fault blocks and their bounding faults rotated in a counter-clockwise fashion during shortening of the entire orogen (Freund, 1970; Tirrul, 1992). The overall effect is to cause originally northerly-trending contacts to trend more northwesterly today.

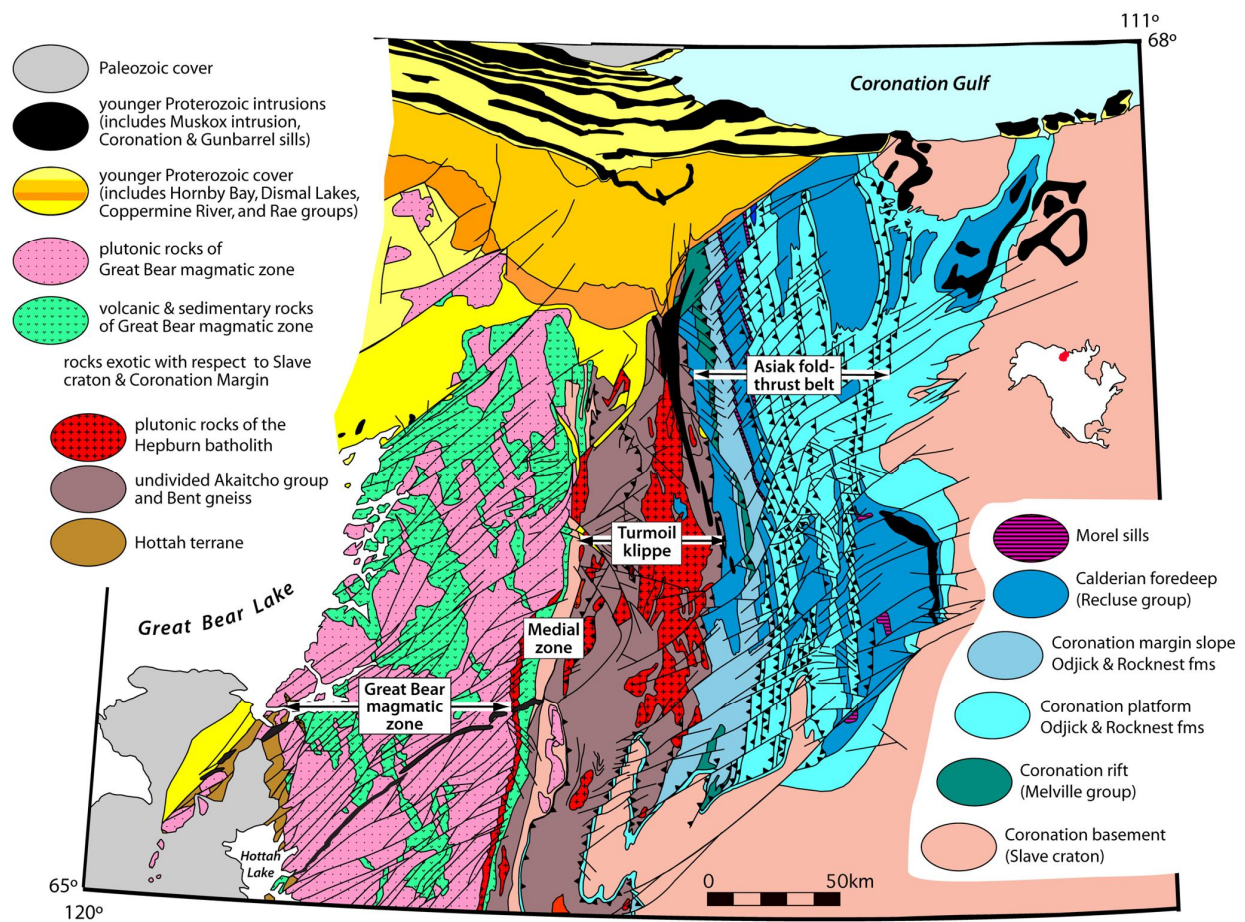


Figure 1. Generalized geological map of northern Wopmay orogen showing its major tectonic divisions (*modified from* Hildebrand et al., 2010a; Hildebrand, 2011).

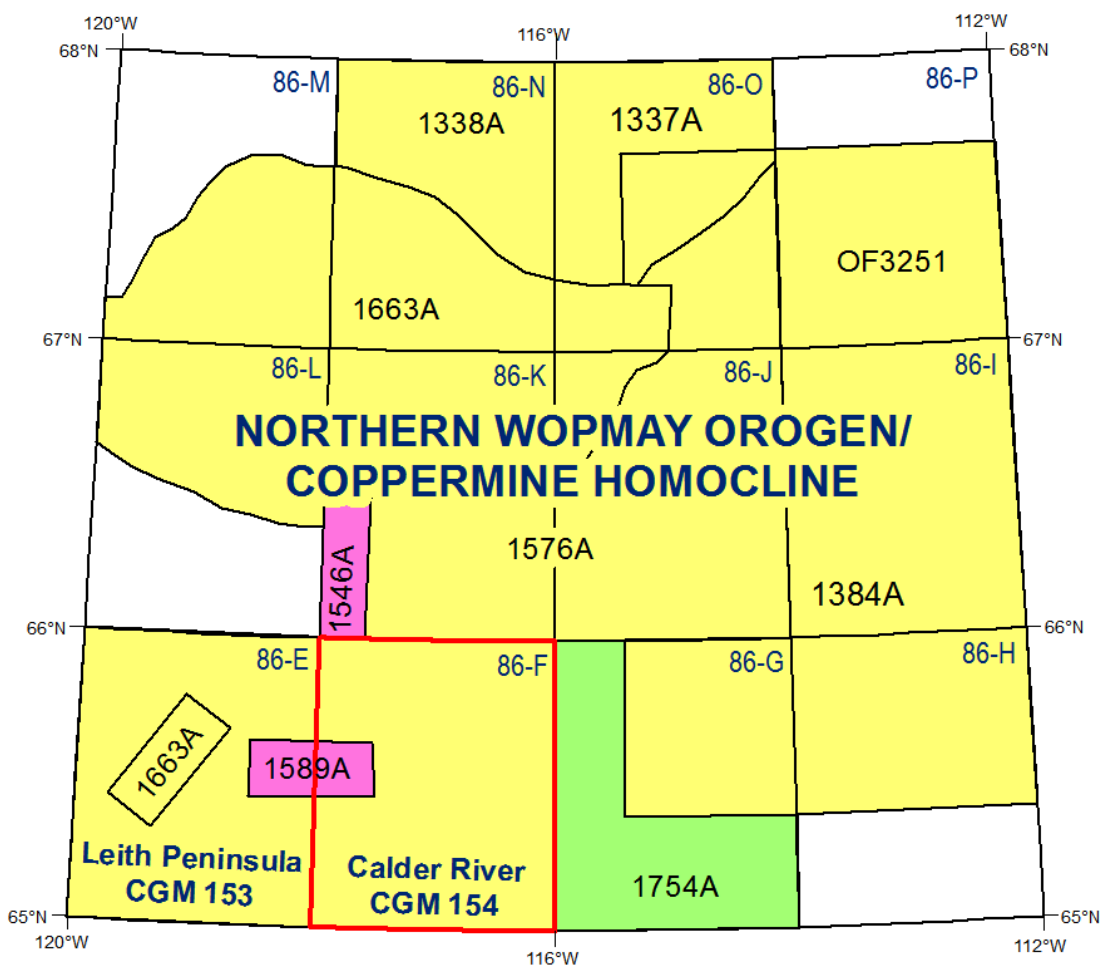


Figure 2. Sources of geological data :

1337A: Baragar, W.R.A. and Donaldson, J.A., 1969. GSC "A" Series Map 1337A.
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 1384A: Fraser, J.A., 1973. GSC "A" Series Map 1384A.
 1546A: Hildebrand, R.S., 1983. GSC "A" Series Map 1546A.
 1576A: Hoffman, P.F., 1984. GSC "A" Series Map 1576A.
 1589A: Hildebrand, R.S., 1985. GSC "A" Series Map 1589A.
 1663A: Ross, G.M., and Kerans, C., 1984. GSC "A" Series Map 1663A.
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Scale: 1:50 000
 Scale: 1:125 000
 Scale: 1:250 000

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Author Contact

Questions, suggestions, and comments regarding the geological information contained in the data sets should be addressed to:

L. Corriveau
Geological Survey of Canada
490, rue de la Couronne, Québec
(Quebec) G1K 9A9
Louise.Corriveau@RNCAN-NRCAN.gc.ca

Coordinate System

Projection: Universal Transverse Mercator
Units: metres
Zone: 11
Horizontal Datum: NAD83
Vertical Datum: mean sea level

Bounding Coordinates

Western longitude: 118°00'00" W
Eastern longitude: 116°00'00" W
Northern latitude: 65°00'00" N
Southern latitude: 66°00'00" N

LICENSE AGREEMENT

GEOGRATIS LICENCE AGREEMENT FOR UNRESTRICTED USE OF DIGITAL DATA

This is a legal agreement between you ("Licensee") and Her Majesty the Queen in Right of Canada ("Canada"), as represented by the Minister of Natural Resources Canada. **BY ACCESSING, DOWNLOADING, PRINTING OR USING THE DATA, INFORMATION AND MATERIALS BEING PROVIDED WITH, OR ACCESSIBLE PURSUANT TO THIS AGREEMENT, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, YOU MUST IMMEDIATELY DISPOSE OF ANY SUCH DATA, INFORMATION, MATERIALS AND ANY DERIVED PRODUCTS.**

I. **WHEREAS** Canada is the owner of the data (the "Data") accessible pursuant to the terms and conditions of this Agreement;

II. **AND WHEREAS** the Licensee wishes to obtain certain rights to the Data, on terms and conditions herein contained;

III. **AND WHEREAS** Canada represents that it has full authority to grant the rights desired by the Licensee on the terms and conditions herein contained;

IV. **AND WHEREAS** the parties hereto are desirous of entering into a licence agreement on the basis herein set forth.

NOW, THEREFORE, in consideration of the covenants contained in this Agreement, the parties agree as follows:

1.0 DEFINITIONS

1. Canada's Data means any and all Data, the Intellectual Property Rights of which vest with Canada.
2. Data means any digital data, meta-data, or documentation subject to the terms and conditions of this Agreement.
3. Derivative Products means any product, system, sub-system, device, component, material or software that incorporates or uses any part of the Data.
4. Intellectual Property Rights means any intellectual property right recognised by law, including any intellectual property right protected through legislation, such as that governing, but not limited to, copyright and patents.

2.0 LICENCE GRANT

1. Subject to this Agreement, Canada hereby grants to the Licensee a non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products.
2. The Intellectual Property Rights arising from any modification, improvement, development or translation of the Data, or from the manufacture of Derivative Products, effected by or for the Licensee, shall vest in the Licensee or in such person as the Licensee shall decide.

3.0 PROTECTION AND ACKNOWLEDGEMENT OF SOURCE

1. Use of the Data shall not be construed as an endorsement by Canada of any Derivative Products. The Licensee shall identify the source of the Data, in the following manner, where any of the Data are redistributed, or contained within Derivative Products:

"© Department of Natural Resources Canada. All rights reserved."

4.0 WARRANTY, LIABILITY, INDEMNITY

1. Canada makes no representation or warranty of any kind with respect to the accuracy, usefulness, novelty, validity, scope, completeness or currency of the Data and expressly disclaims any implied warranty of merchantability or fitness for a particular purpose of the Data. Canada does not ensure or warrant compatibility with past, current or future versions of any browser to access the site's Data.
2. The Licensee shall have no recourse against Canada, whether by way of any suit or action, for any loss, liability, damage or cost that the Licensee may suffer or incur at any time, by reason of the Licensee's possession or use of the Data.
3. The Licensee shall indemnify Canada and its officers, employees, agents and contractors from all claims alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of the Licensee's possession or use of the Data.
4. The Licensee shall license all persons or parties who obtain Data or Derivative Products from the Licensee the right to use the Data or Derivative Products by way of a license agreement, and that agreement shall impose upon these persons or parties the same terms and conditions as those contained in section 4.0 of this Agreement.
5. The Licensee's liability to indemnify Canada under this Agreement shall not affect or prejudice Canada from exercising any other rights under law.

5.0 TERM

1. This Agreement is effective as of the date and time of acceptance (Eastern Time) and shall remain in effect for a period of one (1) year, subject to subsection 5.2 and section 6.0 below.
2. At the end of the first term, this Agreement shall automatically be extended for successive one (1) year terms, subject to section 6.0 below.

6.0 TERMINATION

1. Notwithstanding section 5.0, this Agreement shall terminate:
 - i automatically and without notice, if the Licensee commits or permits a breach of any of its covenants or obligations under this Agreement;
 - ii upon written notice of termination by the Licensee at any time, and such termination shall take effect thirty (30) days after the receipt by Canada of such notice; or
 - iii upon mutual agreement of the parties.
2. Upon the termination for whatever reason of this Agreement, the Licensee's obligations under section 4.0 shall survive; and the Licensee's rights under section 2.0 shall immediately cease.
3. Upon the termination for whatever reason of this Agreement, the Licensee shall delete or destroy all Data acquired under this Agreement immediately or within a reasonable timeframe where the

Data is required to complete orders of Derivative Products made before the termination date of this Agreement.

7.0 GENERAL

1. Applicable Law

This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of Ontario and Canada as applicable. The parties hereto attorn to the jurisdiction of the Superior Court of the Province of Ontario.

2. Entire Agreement

This Agreement constitutes the entire agreement between the parties with respect to its subject matter. This Agreement may only be amended in writing, signed by both parties, which expressly states the intention to amend this Agreement.

3. Dispute Resolution

If a dispute arises concerning this Agreement, the parties shall attempt to resolve the matter by negotiation.

ACCORD DE LICENCE

ACCORD DE LICENCE D'UTILISATION SANS RESTRICTION DE DONNÉES NUMÉRIQUES DE GÉOGRATIS

CE DOCUMENT constitue une entente légale entre vous (ci-après le " Détenteur de licence ") et SA MAJESTÉ LA REINE DU CHEF DU CANADA (ci-après le " Canada "), représentée par le Ministre des Ressources naturelles du Canada. **EN ATTEIGNANT, TÉLÉCHARGEANT, IMPRIMANT OU UTILISANT LES DONNÉES, L'INFORMATION OU LE MATÉRIEL FOURNIS OU ACCESSIBLES SELON CETTE ENTENTE, VOUS VOUS ENGAGEZ À RESPECTER LES MODALITÉS DE CET ACCORD. SI VOUS ÊTES EN DÉSACCORD AVEC CES MODALITÉS, VOUS DEVEZ IMMÉDIATEMENT ÉLIMINER TOUTE COPIE DE CES DONNÉES, INFORMATION, MATÉRIEL ET PRODUITS DÉRIVÉS.**

- I. **ATTENDU QUE** le Canada détient les droits de propriété sur les données (les " Données ") accessibles aux termes des modalités de cet Accord;
- II. **ATTENDU QUE** le Détenteur de licence désire obtenir certains droits sur les Données, sous réserve des modalités énoncées ci-après;
- III. **ATTENDU QUE** le Canada déclare avoir la pleine autorité pour accorder les droits demandés par le Détenteur de licence, sous réserve des modalités énoncées ci-après;
- IV. **ET ATTENDU QUE** les parties veulent en venir à une entente d'utilisation à partir de ce qui suit.
- V. **À CES CAUSES**, en considérant les conventions contenues dans cet Accord, les parties conviennent de ce qui suit :

1.0 DÉFINITIONS

1. Données du Canada signifie toute Donnée dont le Canada détient le droit de propriété.
2. Données signifie toute donnée numérique, métadonnée ou documentation visée par les modalités de cet Accord.
3. Produits dérivés signifie tout produit, système, sous-système, appareil, composant, matériel ou logiciel qui comprend ou utilise toute partie des Données.
4. Droits de propriété intellectuelle signifie tout droit de propriété intellectuelle reconnu par la loi, y compris tout droit de propriété intellectuelle protégé par une législation telle que celle qui régit, sans être limitée à, les droits d'auteur et les brevets.

2.0 CESSION D'UNE LICENCE

1. 2.1 Sous réserve des modalités du présent Accord, le Canada octroie au Détenteur de licence une licence non exclusive, sans frais ni redevances exigibles, et le droit d'exercer tous les Droits de propriété intellectuelle sur les Données. Ceci comprend le droit d'utiliser, incorporer, accorder des licences d'utilisation (avec droit subséquent d'accorder des licences d'utilisation), modifier, améliorer, développer et distribuer les Données; et de fabriquer ou distribuer des Produits dérivés.
2. Les Droits de propriété intellectuelle découlant de toute modification, amélioration, développement ou traduction des Données, ou de la fabrication de Produits dérivés, effectués par ou pour le Détenteur de licence seront détenus par le Détenteur de licence ou tout substitut identifié par le Détenteur de licence.

3.0 PROTECTION ET IDENTIFICATION DE LA SOURCE

1. L'utilisation des Données ne constitue en aucune façon une reconnaissance par le Canada d'un Produit dérivé. Le Détenteur doit identifier la source de données, de la façon suivante, lorsque toute partie des Données est redistribuée ou comprise dans un Produit dérivé :
© Le ministère des Ressources naturelles Canada. Tous droits réservés.

4.0 GARANTIE, EXCLUSION ET INDEMNISATION

1. Le Canada ne fait aucune représentation ou garantie, expresse ou tacite, découlant de la loi ou d'autres sources, en ce qui concerne entre autres l'exactitude, l'utilité, la nouveauté, la validité, l'étendue, l'intégralité ou l'actualité des Données et rejette expressément toute garantie implicite de qualité loyale et marchande ou l'à propos à une fin particulière des Données. Le Canada n'assure ni ne garantit la compatibilité du site qui contient les Données avec les versions antérieures, actuelles et futures de n'importe quel fureteur.
2. Le Canada ne peut être tenu responsable par le Détenteur de licence en ce qui a trait à toute réclamation, revendication ou action en justice, quelle qu'en soit la cause, concernant toute perte ou tout préjudice ou dommage ou frais, direct ou indirect, qui pourrait résulter de la possession ou de l'utilisation des Données par le Détenteur de licence.
3. Le Détenteur de licence tiendra le Canada et ses représentants, employés, agents et exécutants, indemnes et à couvert à l'égard de toute réclamation, revendication ou action en justice, quelle qu'en soit la cause, alléguant toute perte, tout frais, toute dépense, tout dommage ou toute blessure (y compris toute blessure mortelle) qui pourrait résulter de la possession ou de l'utilisation des Données par le Détenteur de licence.
4. Le Détenteur de licence devra accorder des licences d'utilisation à toute personne ou partie qui obtient les Données ou des Produits dérivés au moyen d'un accord de licence, et cet accord devra imposer à ces personnes ou parties les mêmes modalités que celles qui sont énoncées dans la section 4.0 de cet Accord.
5. L'obligation du Détenteur de licence d'indemniser le Canada selon cet Accord ne peut affecter ni empêcher le Canada d'exercer tout autre droit selon la loi.

5.0 DURÉE

1. Cet Accord entre en vigueur à partir de la date et de l'heure d'acceptation des modalités de l'Accord (Heure de l'Est) et restera en vigueur pour une période d'un (1) an, en vertu de la sous-section 5.2 et de la section 6.0 qui suivent.
2. À la fin du premier terme, cet Accord sera automatiquement renouvelé pour des termes successifs d'un (1) an, en vertu de la section 6.0 qui suit.

6.0 RÉSILIATION

1. 6.1 Nonobstant la section 5.0, cet Accord peut être résilié :
 - i. automatiquement et sans préavis, si le Détenteur de licence manque à ses engagements ou obligations selon cet Accord;
 - ii. par un préavis écrit de résiliation émis par le Détenteur de licence, en tout temps, et cette résiliation prendra effet trente (30) jours suivant la réception d'un tel préavis par le Canada; ou
 - iii. par consentement mutuel des parties.

2. Lors de la résiliation de cet Accord, pour quelque raison que ce soit, les obligations qui incombent au Détenteur de licence en vertu de la section 4.0 continueront de s'appliquer et les droits du Détenteur de licence en vertu de la section 2.0 cesseront immédiatement.
3. Lors de la résiliation de cet Accord, pour quelque raison que ce soit, le Détenteur de licence devra immédiatement effacer ou détruire toutes les Données obtenues en vertu de cet Accord, ou à l'intérieur d'un délai raisonnable lorsque les Données sont nécessaires pour terminer la livraison de Produits dérivés commandés avant la résiliation de cet Accord.

7.0 GÉNÉRAL

1. **Lois d'application**

Le présent Accord est régi et interprété en vertu des lois en vigueur dans la province de l'Ontario. Les parties acceptent de tomber sous la juridiction de la Cour supérieure de la Province de l'Ontario.

2. **Totalité de l'Accord**

Le présent Accord constitue l'intégralité de l'entente conclue entre les parties relativement à l'objet du présent Accord. Toute modification à cet Accord ne peut être que par écrit, doit porter la signature de chaque partie et exprimer clairement l'intention de modifier cet Accord.

3. **Solution des litiges**

Si un litige survient à propos de cet Accord, les parties tenteront de le résoudre par des négociations de bonne foi.