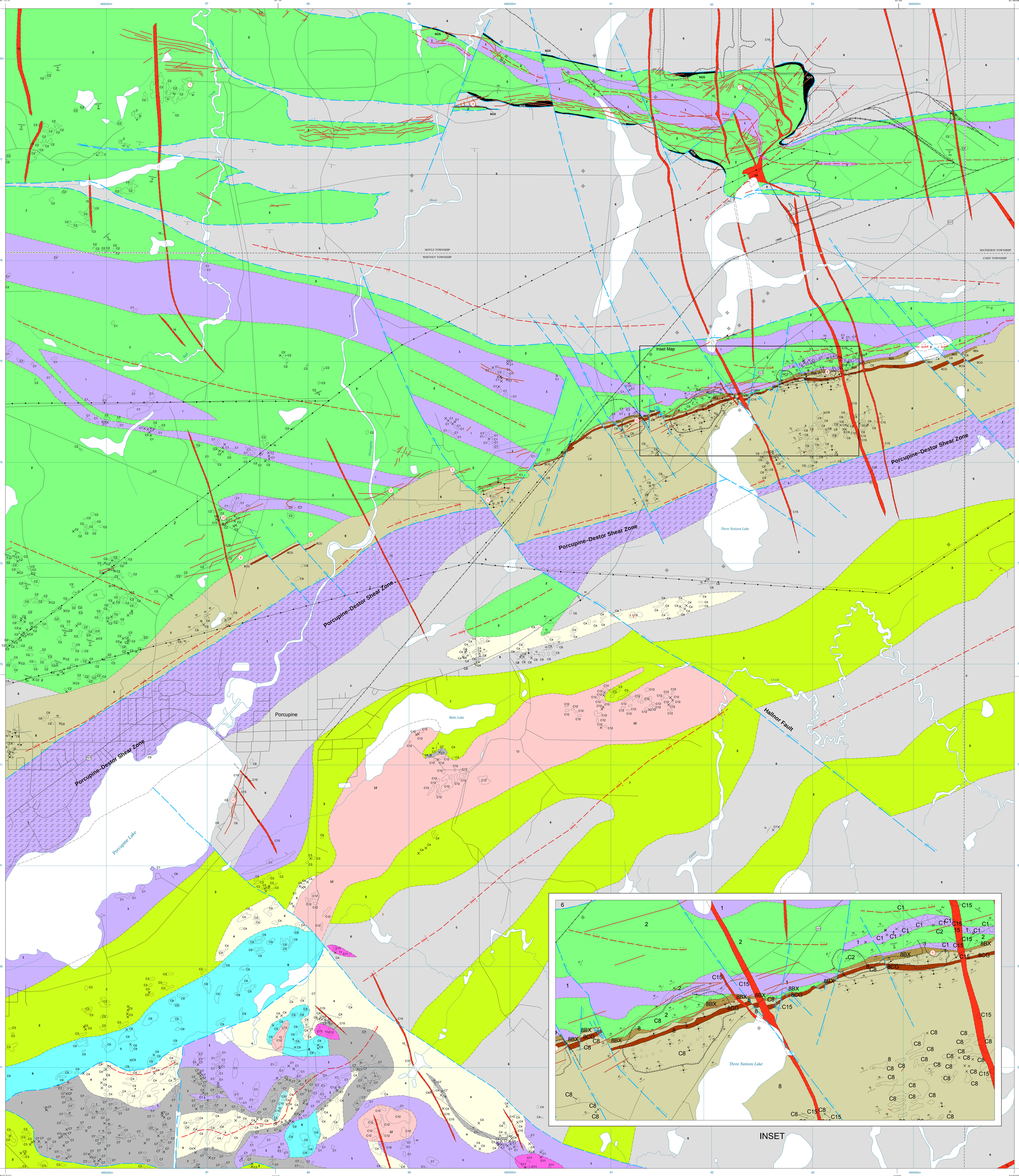

Ontario

Ontario Geological Survey

MAP P.3547—REVISED

PRECAMBRIAN GEOLOGY

PARTS OF WHITNEY AND HOYLE TOWNSHIPS

Scale 1:10 000

250 m 0 0.25 500 m

NTS Reference: 42 A/6, 11

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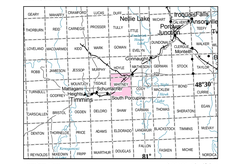

Location Map 1 cm equals 10 km

This geologic map represents one of the products of the Greenstone Architecture Project of the Discover Abitibi Initiative, which was designed to stimulate mineral exploration in the Ontario portion of the Abitibi greenstone belt and has components that range from geophysical surveying to deposit-scale mapping (see Ayer et al. 2003). This map presents results from the first year of the Gold Subproject 1 study, as summarized in Bateman et al. 2004.

Cette carte géologique représente un des produits découlant du projet relatif à la ceinture de roches vertes architecturale, lequel s'inscrit dans le cadre de l'initiative *Découvrons l'Abitibi*, conçue pour stimuler l'exploration minérale dans la section ontarienne de la ceinture de roches vertes de l'Abitibi et constituée de diverses composantes, depuis les levés géophysiques jusqu'aux cartes à l'échelle du gisement (voir Ayer et al. 2003). Cette carte présente les résultats de la deuxième année de l'étude portant sur le sous-projet 1 relatif à l'or, résumée dans Bateman et al. 2004.

Ayer, J.A., Thurston, P.C., Dubé, B., Fowler, A.D., Gibson, H.L., Hudak, G., Lafrance, B., Lesher, C.M., Piercey, S.J., Reed, L.E. and Thompson, P.H. 2003. Overview of the Discover Abitibi Greenstone Architecture project: subprojects, goals and results; *in* Summary of Field Work and Other Activities 2003, Ontario Geological Survey, Open File Report 6120, p.32-1 to 32-12.

Bateman, R., Ayer, J.A. and Dubé, B. 2003. Discover Abitibi. Gold Subproject 1. Structures and gold mineralization in the Pamour–Hoyle Pond portion of the eastern Timmins gold camp; *in* Summary of Field Work and Other Activities 2003, Ontario Geological Survey, Open File Report 6120, p.34-1 to 34-6.

LEGEND[a,b,c,d]

PHANEROZOIC

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

UNCONFORMITY

PRECAMBRIAN

REGIONAL METAMORPHISM

PROTEROZOIC

- **15** — **Diabase Dike (Matachewan Swarm)**

ARCHEAN

- **12** — **Felsic to Intermediate Intrusive Rocks**
- **11** — **Porphyry Intrusive Rocks**
- **10** — **Mafic Intrusive Rocks**
- **9** — **Ultramafic Intrusive Rocks**
- **8** — **Timiskaming–Type Clastic Metasedimentary Rocks**
  - **BX** — Basal breccia
  - **CG** — Conglomerate
- **7** — **Chemical Sedimentary Rocks**
- **6** — **Clastic Sedimentary Rocks (Porcupine Assemblage)**
  - **GS** — Graphitic shale
- **4** — **Felsic Volcaniclastic and Sedimentary Rocks**
- **3** — **Intermediate Volcanic Rocks:** flows
- **2** — **Mafic Volcanic Rocks:** flows
- **1** — **Ultramafic Volcanic Rocks:** flows

[a] The rock unit codes for this legend were designed for use with a database of geoscience information related to the Discover Abitibi Initiative. Not all codes used in the database are shown in this legend.
[b] The letter "C" preceding a rock code denotes information compiled from previously published maps and reports.
[c] Lithology codes associated with diamond-drill holes were derived from the author's logging of these drill cores.
[d] The placement of some contacts was based on interpretation of drill hole, surface and underground level plans made available by Porcupine Joint Venture.

SYMBOLS

- Geological contact, interpreted
- Area of bedrock outcrop
- Small bedrock outcrop
- Open pit mine
- Tailings pond
- Crossbedding, with facing, inclined
- Graded bedding, with facing, (inclined, overturned)
- Pillows, with facing, (inclined, trend, magnitude of dip uncertain)
- Sedimentary bedding, facing known from other than grading or crossbedding (inclined, magnitude of dip uncertain)
- Overturned sedimentary bedding, facing known from other than grading or crossbedding (inclined, magnitude of dip uncertain)
- Bedding, no facing (inclined, dip uncertain)
- Foliation, 3rd generation, (inclined, magnitude of dip uncertain)
- Foliation, 4th generation, inclined)
- Foliation, 5th generation, inclined
- Mine location, keyed to list
- Mapping location
- Logged diamond-drill hole
- Syncline, D2
- Anticline, inclined, D2
- Anticline, upright, D4
- Syncline, upright, D4
- Fault, thrust, D3 ball on downthrown side
- Fault, extensional, D1, ball on downthrown side
- Fault, right lateral, D4
- Fault, left lateral, D4
- Fault, reverse, D2
- Fault, right lateral, inferred
- Fault
- Shear zone
- Quartz vein

MINE LOCATIONS

Map No.	Name	Status	Commodity
1.	Bell Creek Mine	past producer	Au
2.	Bonetal Mine	past producer	Au
3.	Bonwhit	past producer	Au
4.	Broulan Mine	past producer	Au
5.	Hallnor (Pamour No.2) Mine	past producer	Au
6.	Hoyle Mine	past producer	Au
7.	Hoyle Pond Mine	producing mine, Porcupine Joint Venture	Au
8.	Hugh-Pam mine	past producer	Au
9.	Owl Creek Mine	past producer	Au
10.	Pamour No.1 Mine	past producer	Au
11.	Porcupine Lake/Hunter Mine	past producer	Au
12.	Reef Mine	past producer	Au

SOURCES OF INFORMATION

Base map information data derived from the Ontario Land Information Warehouse, Land Information Ontario, Ontario Ministry of Natural Resources, scale 1:20 000. Universal Transverse Mercator (UTM) coordinates are in North American Datum 1983 (NAD 83), Zone 17.

Mineral deposit information derived from the Mineral Deposit Inventory (MDI2), maintained by the Ontario Geological Survey, Resident Geologist Program.

Berger, B.R. 1998. Precambrian geology, Hoyle township; Ontario Geological Survey, Map 2532, scale 1:20 000.

Ferguson, S.A. 1968. Geology and ore deposits of Tisdale Township, District of Cochrane; Ontario Department of Mines, Geological Report 58. Accompanied by Map 2075, scale 1:12 000.

Piroshco, D.W. and Kettles, K. 1990. Structural geology, Whitney Township; Ontario Geological Survey, Map 3172, scale 1:10 000.

Placer Dome (Porcupine Joint Venture) 2003. Helicopter magnetic survey, line spacing 100 m., sensor at 30 m., Whitney and Hoyle townships. Unpublished data.

Discover Abitibi 2003. Timmins GEOTEM electromagnetic survey (Abitibi Supergrid), line spacing 200 m., sensor altitude 120 m., Whitney and Hoyle townships. Unpublished data.

Magnetic declination approximately 11°7' at the centre of the map area in 2003.

CREDITS

Geology and digital map preparation by R. Bateman, 2003.

Cartographic production by S. MacLean.

Geologic mapping and research supported by the Discover Abitibi Initiative under contract awarded to the Mineral Exploration Research Centre (MERC), Laurentian University, Sudbury, Ontario.

Contract management, project management by Robert Calhoun, Project Manager, Discover Abitibi Initiative.

Overall project management by Timmins Economic Development Corporation.

Porcupine Joint Venture made available their geological, geophysical, geochemical and drillhole databases.

L. Reed (consulting geophysicist) integrated data and generated custom plots of total magnetic field and first vertical derivatives of total magnetic field for Discover Abitibi.

FedNor Canada

Ontario Northern Ontario Heritage Fund — Fonds du patrimoine du Nord de l'Ontario

Discover Abitibi — A project of innovation, cooperation and revitalization

Découvrons l'Abitibi — Un projet d'innovation, de coopération et de renouvellement

Discover Abitibi Initiative
The Discover Abitibi Initiative is a regional, cluster economic development project based on geoscientific investigations of the western Abitibi greenstone belt. The initiative, centred on the Kirkland Lake and Timmins mining camps, will complete 19 projects developed and directed by the local stakeholders. FedNor, Northern Ontario Heritage Fund Corporation, municipalities and private sector investors have provided the funding for the initiative.

Initiative Découvrons l'Abitibi
L'Initiative *Découvrons l'Abitibi* est un projet de développement économique régional dans une grappe d'industries, projet fondé sur des études géoscientifiques de la ceinture de roches vertes de l'Abitibi occidental. Cette initiative, centrée sur les zones minières de Kirkland Lake et de Timmins, mènera à bien 19 projets élaborés et dirigés par des intervenants locaux. FedNor, la Société de gestion du Fonds du patrimoine du Nord de l'Ontario, municipalités et des investisseurs du secteur privé ont fourni les fonds de cette initiative.

Timmins — KIRKLAND LAKE

To enable the rapid dissemination of information, this map has not received a technical edit. Discrepancies may occur for which the Ontario Ministry of Northern Development and Mines does not assume liability. Users should verify critical information.

Information from this publication may be quoted if credit is given. It is recommended that reference to this map be made in the following form:

Bateman, R. 2004. Precambrian geology, parts of Whitney and Hoyle townships; Ontario Geological Survey, Preliminary Map P.3547—Revised, scale 1:10 000.