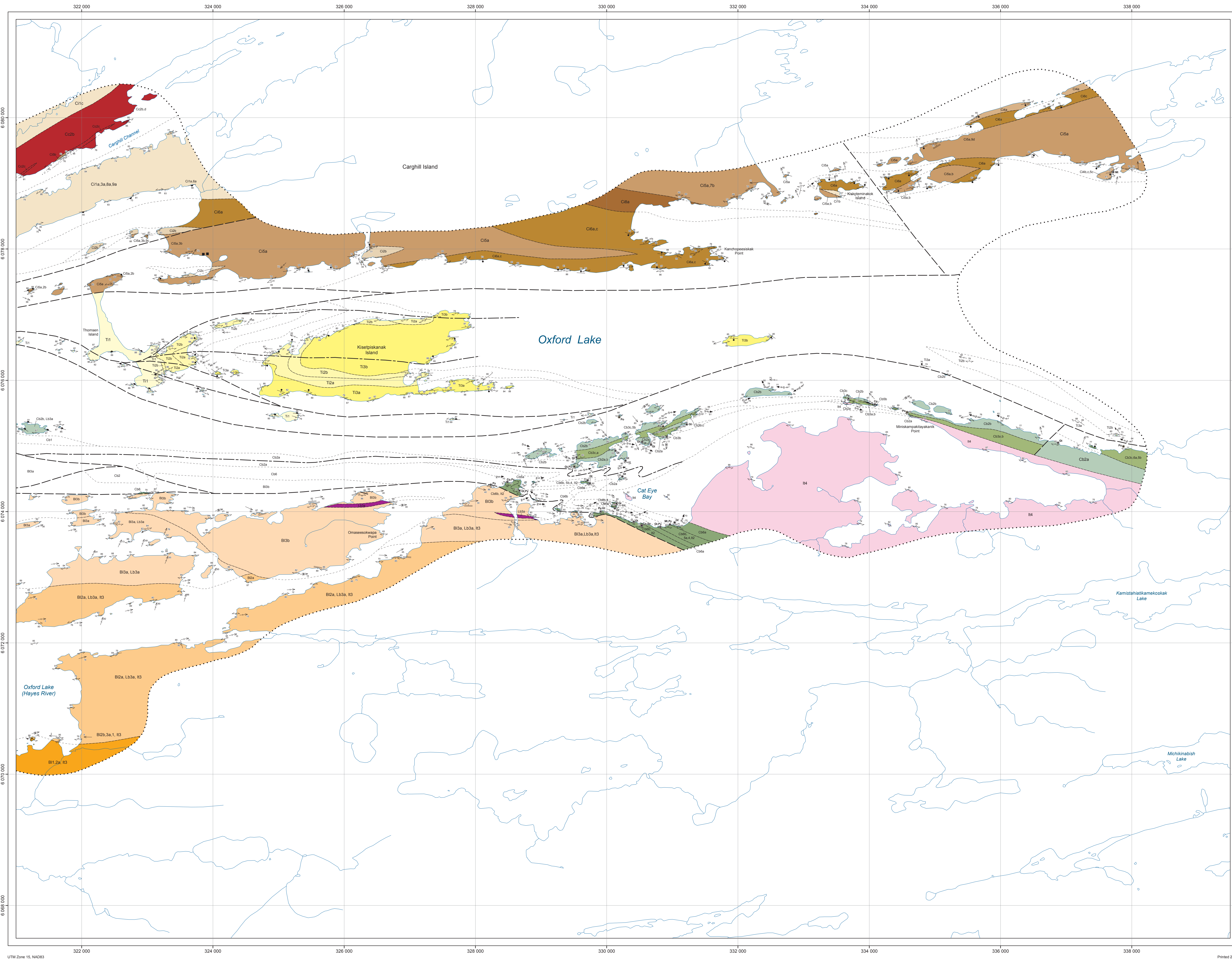




Geology and structure of southwest Oxford Lake (east part), Manitoba (parts of NTS 53L12, 13)



Legend*

Post-tectonic dikes (Pt)

- Pt2 Diabase (MacKenzie swarm)
- Pt1 Diabase (Molson swarm)

Central panel

Thomsen assemblage (Tt)

- Tt4 Quartz arenite; locally trough crossbedded
 - a) Includes arenitic mudstone
 - b) Includes quartz-pebble conglomerate
- Tt3 Greywacke, mudstone; feldspathic; planar bedded
 - a) Monotonous
 - b) Includes pebble conglomerate
- Tt2 Polymictic conglomerate
 - a) Intrabasinal clasts (volcanic and sedimentary)
 - b) Includes high-sphericity granitoid clasts
- Tt1 Aphyric basalt and basaltic andesite flows; pillowed

North panel

Carghill Channel layered intrusion (Cc)

- Cc2 Gabbro
 - a) Melanocratic, equigranular
 - b) Mesocratic, equigranular
 - c) Porphyritic; locally megacrystic
 - d) Includes minor pegmatite
- Cc1 Peridotite (serpentinized)

Carghill assemblage (Ci)

- Ci9 Subvolcanic intrusions; aphanitic groundmass; local amygdulose
 - a) Plagioclase-phyric basalt or andesite
 - b) Mesocratic, equigranular
 - c) Aphyric basalt or andesite
 - d) Aphyric dacite
 - e) Plagioclase-quartz-phyric rhyolite
- Ci8 Gabbro; fine to medium grained
 - a) Homogeneous
 - b) Abundant pyroxene and anorthite inclusions
- Ci7 Iron formation
 - a) Oxide facies
 - b) Silicate facies
- Ci6 Greywacke, mudstone; feldspathic
 - a) Monotonous, planar bedded
 - b) Includes sulphidic mudstone or iron formation
 - c) Includes conglomerate
- Ci5 Volcanic conglomerate
 - a) Polymictic
 - b) Mostly plagioclase-phyric andesite clasts
 - c) Mostly pyroxene-phyric andesite clasts
- Ci4 Intermediate to felsic volcanoclastic rocks
 - a) Andesitic breccia, tuff breccia and lapilli tuff
 - b) Derived volcanic conglomerate and sandstone
- Ci3 Mafic volcanoclastic rocks
 - a) Mafic tuff-breccia, lapilli tuff
 - b) Pillow-fragment breccia; local peperite
- Ci2 Basaltic andesite and andesite flows; massive to brecciated, locally pillowed
 - a) Plagioclase-phyric
 - b) Plagioclase- and pyroxene-phyric
 - c) Pyroxene-phyric
- Ci1 Basalt and basaltic andesite flows; pillowed, locally massive or brecciated
 - a) Aphyric
 - b) Plagioclase-phyric
 - c) Garnet amphibolite; basalt precursor

South panel

Intratectonic intrusive rocks (It)

- It4 Biotite tonalite; equigranular (Cat Eye Bay pluton; intrudes Cb)
- It3 Syenogranite; aplitic to pegmatitic; dikes cut B1, Lb
- It2 Biotite tonalite; plagioclase porphyritic; dikes cut Cb
- It1 Diabase; dikes cut H1, B1, Lb

Lynx Bay intrusive suite (Lb)

- Lb3 Gabbro
 - a) Equigranular
 - b) Plagioclase-phyritic
- Lb2 Pyroxenite
- Lb1 Peridotite (serpentinized); minor serpentine veins
 - a) Cumulate texture; locally layered
 - b) Brecciated; talc-schist matrix

Bayly Lake intrusive complex (Bl)

- Bt3 Biotite tonalite, granodiorite
 - a) Equigranular
 - b) Perphyritic quartz-plagioclase
- Bt2 Biotite-hornblende tonalite
 - a) Equigranular
 - b) Porphyritic
- Bt1 Orthogneiss; gabbroic to tonalitic

Hyers assemblage (Hi)

- Hi5 Phylonite; sulphidic; uncertain precursor
 - a) Sericite-chlorite
 - b) Chlorite-sericite
- Hi4 Subvolcanic porphyry intrusions
 - a) Plagioclase-quartz porphyry
 - b) Quartz porphyry
- Hi3 Volcanogenic alteration and mineralization; massive to stringer
 - a) Ankerite; local ankerite-sericite phylonite
 - b) Pyrite + chalcopyrite
- Hi2 Volcanic conglomerate; minor volcanic sandstone
 - a) Diagenetic, feldspar-phyric dacite clasts
 - b) Polymictic; intermediate to felsic volcanic clasts
- Hi1 Intermediate to felsic volcanoclastic rocks
 - a) Crystal tuff
 - b) Lapilli tuff, tuff breccia, breccia

Cat Eye Bay assemblage (Cb)

- Cb6 Tectonite, phylonite; sulphidic
 - a) Amphibole-chlorite + biotite, garnet
 - b) Biotite-muscovite + garnet, cordierite; minor quartz-sericite schist
- Cb5 Iron formation
 - a) Oxide facies
 - b) Sulphide facies
- Cb4 Quartzite; fuchsite
- Cb3 Volcanoclastic rocks
 - a) Felsic tuff, lapilli tuff; locally bedded
 - b) Heterolithic tuff breccia
 - c) Mafic tuff, chert, bedded
- Cb2 Aphyric basalt; pillowed, with minor massive or brecciated flows
 - a) Garnetiferous (Fe-Mg alteration)
 - b) Non-garnetiferous
- Cb1 Komatiite; massive
 - a) Spinifex
 - b) Cumulate

* units without assigned colours do not define unique polygons on this map

Symbols

Planar structure

- Foliation: generation unknown, 1, 2
- Bedding: tops unknown, known, overturned
- Flow contact: tops unknown, known
- C-fabric (dextral sense): generation unknown, 1, 2, 3
- Pillows: tops known, overturned
- Crenulation cleavage: generation 2
- Gneissosity: generation unknown
- Fault: sense unknown, dextral
- Shear zone: sense unknown, dextral, sinistral
- Shear band (sinistral): generation 1
- Shear band (dextral): generation 3

Linear structure

- Stretching lineation: generation unknown, 1, 2
- Mineral lineation
- Fold axis (S asymmetry): generation unknown, 2
- Fold axis (Z asymmetry): generation unknown, 2, 3
- Fold axis (symmetric): generation 1
- Fold axial plane: generation unknown, 1, 2, 3

Geological contacts

- Contact: defined
- Contact: approximate
- Contact: underwater
- Fault or shear zone
- Fold axial trace
- Iron formation
- Limit of mapping

Mineral occurrences

- Cp - chalcopyrite
- Py - pyrite
- Gt - garnet
- Po - pyrrhotite
- M - magnetite
- Sp - sphalerite

Geology by: S.D. Anderson, P.D. Kremer and T. Martins

Cartography by: M.E. McFarlane

Published by: Manitoba Innovation, Energy and Mines
Manitoba Geological Survey, 2012

This map is available to download free of charge at www.manitoba.ca/minerals; to purchase a print copy, contact Publication Sales at 1-800-223-5215 or (204) 945-4154 or minsinfo@gov.mb.ca

This map is a provisional summary of work carried out during the summer field season and is produced directly from the geologist's manuscript. It is not to be regarded as a final interpretation of the geology of the area.

SUGGESTED REFERENCE:
Anderson, S.D., Kremer, P.D. and Martins, T. 2012. Geology and structure of southwest Oxford Lake (east part), Manitoba (parts of NTS 53L12, 13); Manitoba Innovation, Energy and Mines, Preliminary Map PMAP2012-2; scale 1:20 000.

Location map

