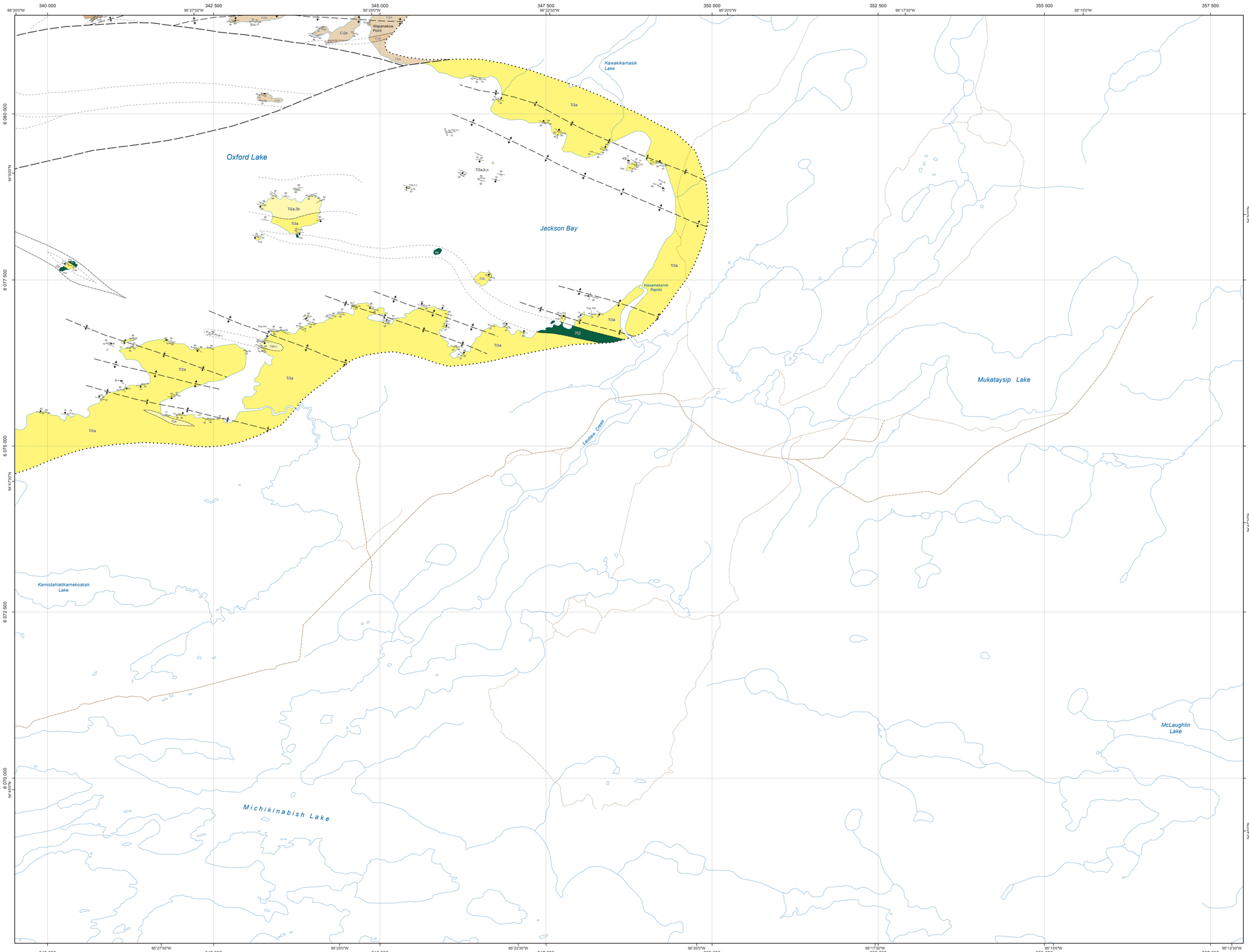
Geology and structure of northeastern Oxford Lake, Manitoba (parts of NTS 53L13, 14): sheet 3



Legend*

Post-tectonic dikes (Pt)

- **Pt4** Lamprophyre (?)
- **Pt3** Gabbro (unknown swarm)
- **Pt2** Diabase (MacKenzie swarm)
- **Pt1** Diabase (Molson swarm)

Semple River pluton (Sr)

- **Sr1** Granodiorite, granite
  - a) Homogeneous
  - b) Quartz-phyric
  - c) Feldspar-phyric
  - d) Associated porphyry dikes

Central panel

Thomsen assemblage (Ti)

- **Ti4** Quartz arenite; locally trough crossbedded
  - a) Includes sericitic mudstone
  - b) Includes quartz-pebble conglomerate
- **Ti3** Greywacke, mudstone; feldspathic; planar bedded
  - a) Monotonous
  - b) Includes pebble conglomerate
  - c) Includes minor sulphidic mudstone or iron formation
- **Ti2** Polymictic conglomerate
  - a) Intrabasinal clasts (volcanic and sedimentary)
  - b) Includes high-sphericity granitoid clasts
  - c) Includes interbeds of greywacke and mudstone
- **Ti1** 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
  - e) Pyroxene-phyric ('spotted') gabbro
- **Cc1** Peridotite (serpentinized)

Carghill assemblage (Ci)

- **Ci9** Subvolcanic intrusions; aphanitic groundmass; local amygdules
  - a) Plagioclase-phyric basalt or andesite
  - b) Plagioclase-pyroxene–phyric basalt or andesite
  - c) Aphyric basalt or andesite
  - d) Aphyric to sparsely plagioclase-phyric dacite
  - e) Plagioclase-quartz–phyric rhyolite
- **Ci8** Gabbro; fine to medium grained
  - a) Homogeneous
  - b) Abundant pyroxenite and anorthosite inclusions
  - c) Leucogabbro to quartz diorite
  - d) Layered leucogabbro; local spinifex and amygdules
  - e) Pyroxenite
- **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 volcaniclastic rocks
  - a) Dacitic or rhyolitic; lapilli tuff, tuff breccia; may include coherent flows
  - b) Andesitic; breccia, tuff breccia, lapilli tuff
  - c) Derived volcanic conglomerate and sandstone
- **Ci3** Mafic volcaniclastic 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- and pyroxene-phyric
  - b) Pyroxene-phyric
  - c) Aphyric
  - d) Variolitic
  - e) Plagioclase-phyric
  - f) Densely plagioclase-phyric shoshonite flows (>50% phenocrysts)
- **Ci1** Basalt and basaltic andesite flows; pillowed, locally massive or brecciated
  - a) Aphyric
  - b) Plagioclase-phyric
  - c) Garnet amphibolite; basalt precursor

South panel

Intra-tectonic intrusive rocks (It)

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

Lynx Bay intrusive suite (Lb)

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

Bayly Lake intrusive complex (Bl)

- **Bl3** Biotite tonalite, granodiorite
  - a) Equigranular
  - b) Porphyritic (quartz±plagioclase)
- **Bl2** Biotite-hornblende tonalite
  - a) Equigranular
  - b) Porphyritic
- **Bl1** Orthogneiss; gabbroic to tonalitic

Hyers assemblage (Hi)

- **Hi5** Phyllonite; 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 phyllonite
  - b) Pyrite±chalcopyrite
- **Hi2** Volcanic conglomerate; minor volcanic sandstone
  - a) Oligomictic; feldspar-phyric dacite clasts
  - b) Polymictic; intermediate to felsic volcanic clasts
- **Hi1** Intermediate to felsic volcaniclastic rocks
  - a) Crystal tuff
  - b) Lapilli tuff, tuff breccia, breccia

Cat Eye Bay assemblage (Cb)

- **Cb6** Tectonite, phyllonite; 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; fuchsitic
- **Cb3** Volcaniclastic 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

*This legend is revised and expanded from PMAP2012-1 and PMAP2012-2, and is applicable to all Preliminary Maps listed below. Uncoloured units in this legend do not define unique polygons on the 2013 map set.

PMAP2012-1: Geology and structure of southwest Oxford Lake (west part), Manitoba (parts of NTS 53L12, 13, 63I9, 16)
PMAP2012-2: Geology and structure of southwest Oxford Lake (east part), Manitoba (parts of NTS 53L12, 13)
PMAP2013-1: Geology and structure of northeastern Oxford Lake, Manitoba (parts of 53L13, 14): sheet 1
PMAP2013-2: Geology and structure of northeastern Oxford Lake, Manitoba (parts of 53L13, 14): sheet 2
PMAP2013-3: Geology and structure of northeastern Oxford Lake, Manitoba (parts of 53L13, 14): sheet 3

Symbols

Planar structure

- Foliation: generation unknown, 1, 2
- Bedding: tops unknown, known, overturned
- Flow contact: tops unknown, known, overturned
- Igneous layering: tops unknown, known, overturned
- Pillows: tops unknown, known, overturned
- Crenulation cleavage: generation unknown, 2
- Spaced cleavage: generation unknown
- Gneissocity: generation unknown, 1
- Fault: sense unknown, dextral, sinistral
- Shear zone: sense unknown, dextral, sinistral
- Shear band (sinistral): generation unknown
- Shear band (dextral): generation 3
- Shear: generation and sense unknown
- Joint
- Dike
- Vein

Linear structure

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

Geological contacts

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

Mineral occurrences

- **Cp** - chalcopyrite
- **Po** - pyrrhotite
- **Gt** - garnet
- **Tl** - tourmaline

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

Cartography by: M.E. McFarlane

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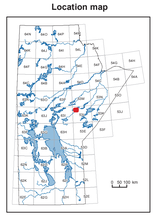
This map is a provisional summary of work carried out during the summer field season and is produced directly from the geologist's manuscript. It is not to be regarded as a final interpretation of the geology of the area.

SUGGESTED REFERENCE:
Anderson, S.D., Kremer, P.D. and Martins, T. 2013: Geology and structure of northeastern Oxford Lake, Manitoba (parts of NTS 53L13, 14): sheet 3; Manitoba Mineral Resources, Manitoba Geological Survey, Preliminary Map PMAP2013-3, scale 1:20 000.

Location map



Manitoba