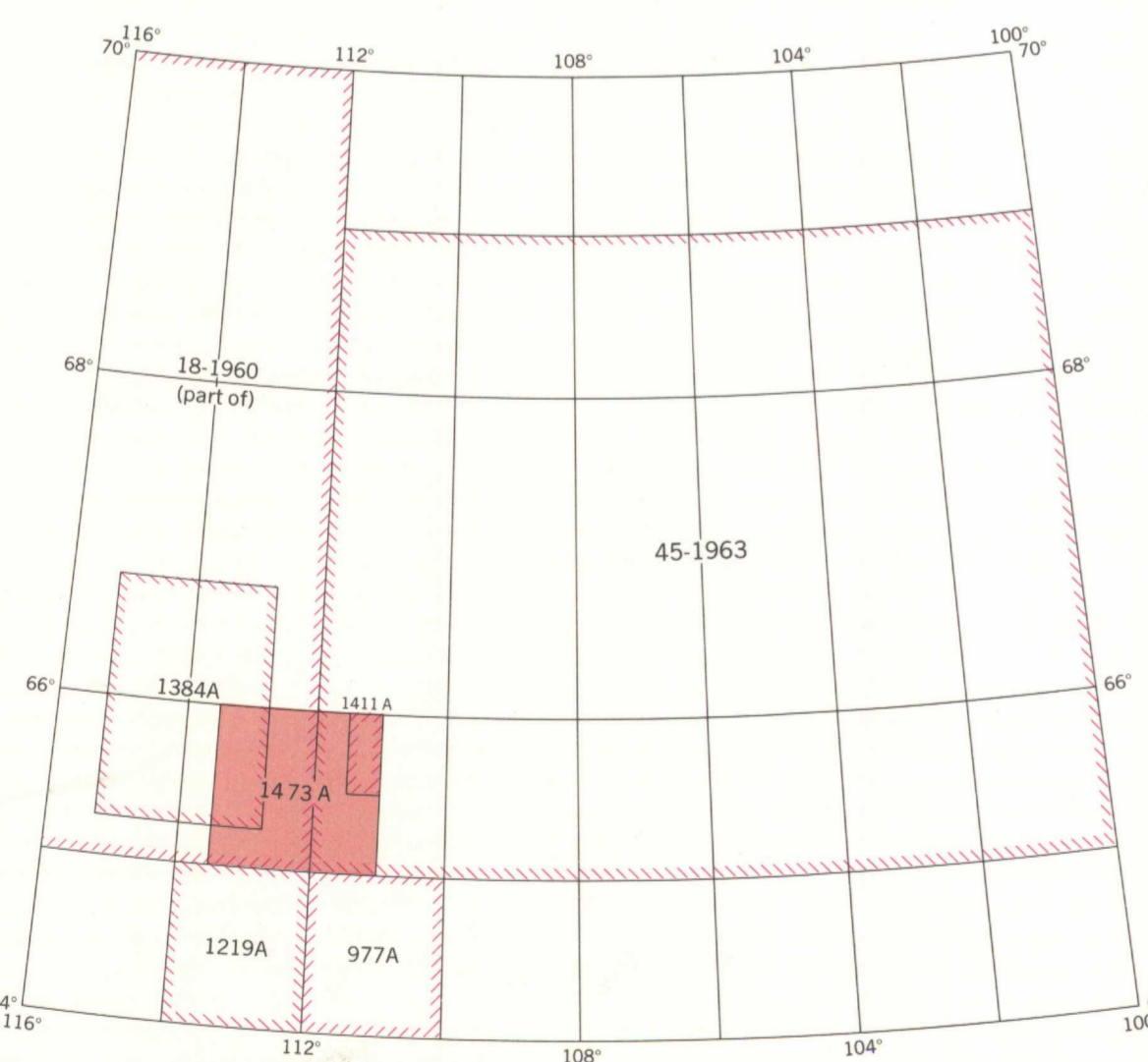


LEGEND

- HELIKIAN AND APHEBIAN**
- d Diabase, gabbro, dykes and sills; dp, porphyritic dykes likely of age equivalent to the Rocknest Formation
- APHEBIAN**
- EPWORTH GROUP**
- eAt TAKIYUAK FORMATION: reddish brown sandstone grading locally to siltstone
 - eAcL COWLES LAKE FORMATION: limestone and argillite, interbedded and interbedded
 - eAr RECLUSE FORMATION: argillite, concretionary argillite and siltstone, quartzite, greywacke; minor carbonate
 - eArN ROCKNEST FORMATION: dolomite, laminated to massive, detrital in part, commonly stromatolitic; minor argillite, chert, limestone
 - eAo ODJICK FORMATION: argillite, quartzite, minor quartz-pebble conglomerate; minor dolomite and limestone
- PROTEROZOIC**
- GOULBURN GROUP**
- GAbS BROWN SOUND FORMATION: (not present in the Ithen Lake map-area)
 - GAr KUVIK FORMATION: limy and dolomitic rocks; minor siliceous and argillaceous material
 - GArH PEACOCK HILLS FORMATION: red, grey, green and black argillites, pink quartzite
 - GAb BURNSIDE RIVER FORMATION: pink quartzite; minor quartz-pebble conglomerate and white quartzite
 - GArW WESTERN RIVER FORMATION:
 - GArWp: Upper Argillite member; grey argillite, greywacke, some quartzite, red argillite
 - GArWq: Quartzite member; white and pink quartzites, siltstone; some grey argillite, (includes Upper Argillite member at Rockinghorse Lake)
 - GArWs: Red Siltstone member; concretionary red argillite; some grey and red argillite, greywacke, (includes the upper part of the Lower Argillite member at Rockinghorse Lake)
 - GArWl: Lower Argillite member; white quartzite, red grey and green argillite; some greywacke, thin carbonate beds, local conglomerate near base, (includes the Conglomerate member)

- LATE KENORAN PLUTONIC ROCKS**
- Aqm Quartz-monzonite, granodiorite; some granite; Ar-h, hornblende syenite, (probably includes some granitic rocks equivalent to map-unit Agd)
 - Adi Diorite, granodiorite; some medium grained amphibolite; minor banded amphibolite
- YELLOWKNIFE SUPERGROUP**
- ITCHEN FORMATION:** (metaturbidites lacking iron-formation lenses)
Aip, argillite, siltstone, slate, greywacke; some impure quartzite, phyllite
Ais, nodular quartz-plagioclase-biotite schist and gneiss, greywacke; minor concretionary greywacke
- KESKARRAH FORMATION:** (metavolcanic tephromerite)
Akcq, boulder, cobble and pebble conglomerate, subgreywacke lenses; some calcareous greenschist
Akw, subgreywacke, sandy calcareous
- CONTWYTO FORMATION:** (metaturbidites containing iron-formation lenses)
argillite siltstone, slate, greywacke; some impure quartzite, calcareous argillite
Acp1, with grunerite-sulphide iron-formation lenses
Acp2, with grunerite-magnetite iron-formation lenses
Nodular quartz-plagioclase-biotite schist and gneiss, greywacke; minor graphite schist
Acs1, with grunerite-sulphide iron-formation lenses
Acs2, with grunerite-magnetite iron-formation lenses

- EARLY KENORAN (?) PLUTONIC ROCKS**
- A Agd, granodiorite, quartz diorite, quartz-monzonite; Aap, quartz porphyry
- META-ULTRAMAFIC ROCKS**
- Aub, serpentinite
 - Abn, amphibolite, metagabbro
- POINT LAKE FORMATION:** (metavolcanic and related metasedimentary rocks)
Dark green to yellow-green mafic flows, partly pillowed; some green-schist, mafic tuffs, black slate; minor felsic volcanic rocks; fl, grey (mugearitic) flows
- Avb Dark green mafic tuffs, amphibolite; some pillowed flows
 - Avt Dark green mafic tuffs, amphibolite; some pillowed flows
 - Av Mixed felsic to mafic tuffs; some amphibolite, hornblende gneiss, and calc-silicate rocks; minor cordierite-anthophyllite gneiss within the granitic rocks
 - Anc Calc-silicate rocks, marble
 - Ava Felsic flows with variable proportions of tuffs and mafic flows; Avas, schist derived from Ava
 - Aval Felsic (quartz-sodic plagioclase) tuffs; some felsic flows; includes mylonitized felsic rocks, possible felsic tuffs, west of the Western volcanic belt



- 977A Lac de Gras, 4 miles; A. Follinsbee, 1949
- 1219A Winter Lake, 4 miles; J.A. Fraser, 1969
- 1384A Epworth Group - Rocknest Lake, 1:250,000; J.A. Fraser, 1974 (Paper 73-39)
- 1411A Contwoyto Lake, 1:50,000; L.P. Tremblay, 1976 (Memoir 381)
- 18-1960 North-central District of Mackenzie; 8 miles; B.G. Craig et al 1960
- 45-1963 Northeastern District of Mackenzie; 8 miles; J.A. Fraser, 1964 (Paper 63-40)

- HYBRID ROCKS:**
(rocks of the Yellowknife Supergroup and unit Adi intruded by widely variable proportions of granitic rocks)
- An-hb Banded to foliated biotite and hornblende gneisses
 - Ang-b Lit-par-lit gneiss and schist mostly biotite-rich; some hornblende-biotite gneiss, some granitic rocks containing scattered inclusions of the foregoing, some augen gneiss
 - Angv Felsic and/or mafic volcanic and hypabyssal rocks, some granitic gneiss intruded by Aqm
 - Ang-h Diorite agmatitic, mafic volcanic rocks; some hornblende gneiss, some hornblende-biotite gneiss intruded by Aqm
 - Anm Hornblende gneiss, amphibolite intruded by Aqm
 - Anqt Quartz-feldspar gneiss, some calc-silicate gneiss, some anthophyllite-cordierite gneiss

- Geological boundary (defined, approximate, assumed)
- Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)
- Bedding, tops unknown (inclined, vertical, dip unknown)
- Schistosity, cleavage (horizontal, inclined, vertical, dip unknown)
- Gneissosity (horizontal, inclined, vertical, dip unknown)
- Lineation, inclined, with plunge
- Drag fold (arrow indicates direction of plunge)
- Minor fold axis (arrow indicates direction of plunge)
- Fault (defined, approximate or assumed)
- Dykes (exposed, traced by aeromagnetic anomaly)
- Anticline (defined, approximate)
- Syncline (defined, approximate)

- Mineral isograds**
- Approximate upper limit of greenschist facies (first appearance of cordierite)
 - Approximate upper limit of lower amphibolite facies (first appearance of sillimanite)
 - Approximate upper limit of middle amphibolite facies (first appearance of sillimanite or andalusite with microcline)
- Calcareous concretions in greywacke
- Pillows
- Locality where age determined radiometrically (age in millions of years)
- bK: K/Ar biotite wK: K/Ar whole rock
mK: K/Ar muscovite zU: U/Pb zircon
sU: U/Pb sphene
- Mineral occurrence**
- Iron sulphide gossan G Chalcocopyrite cp
Gold Au Sphalerite sp
Arenopyrite or loellingite asp Galena gn
Niccolite ni

Geology between 65°30' and 66°00' North, and between 111°00' and 112°00' West adapted from L.P. Tremblay (1966) and L.P. Tremblay (1967)
Geology of the Epworth Group after J.A. Fraser (1974). Geology of the remaining area by H.H. Bostock 1964, 1965, and 1966

To accompany Memoir 391 By H.H. Bostock

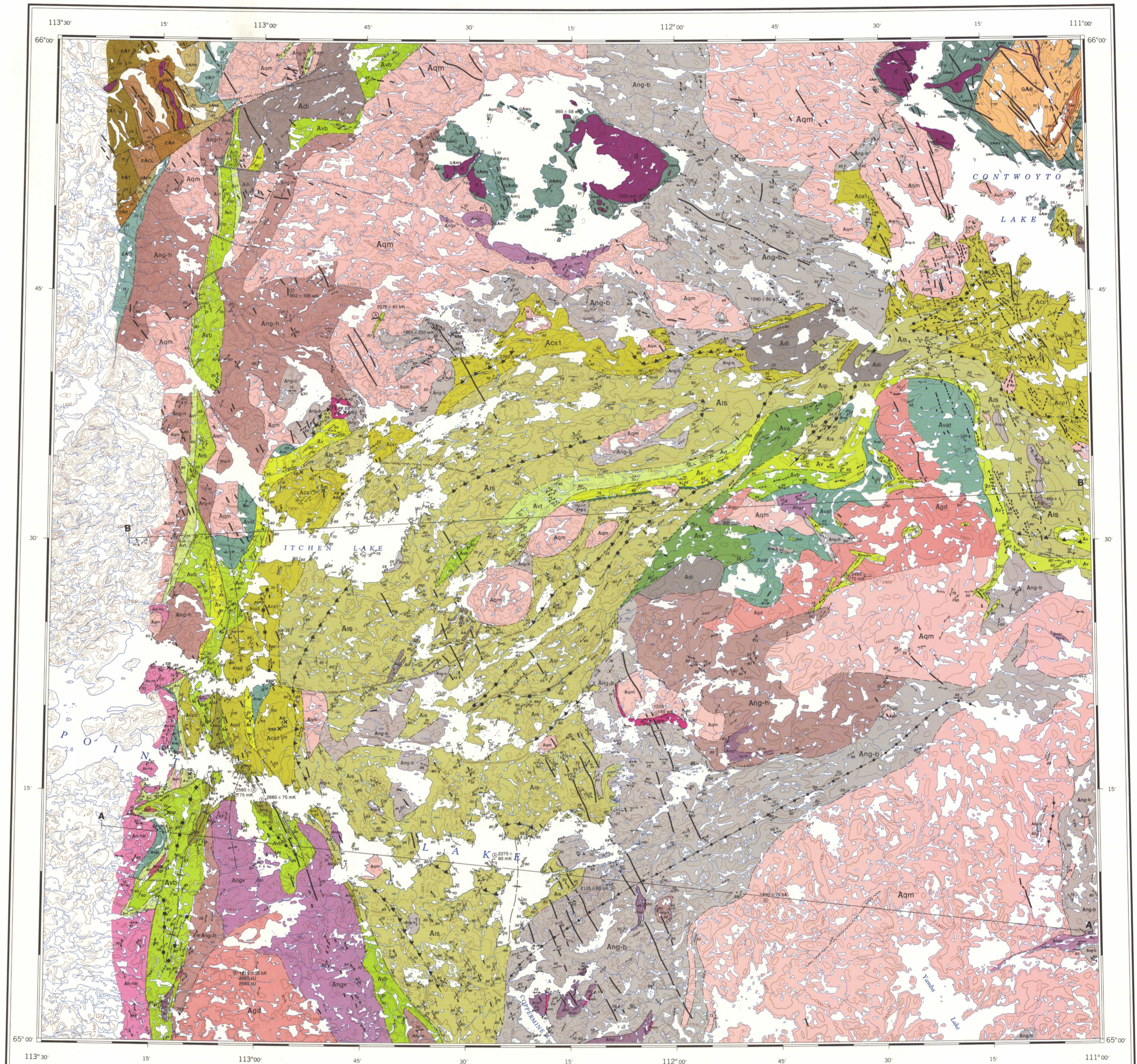
Geological cartography by J.-P. Corriveau, Geological Survey of Canada

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

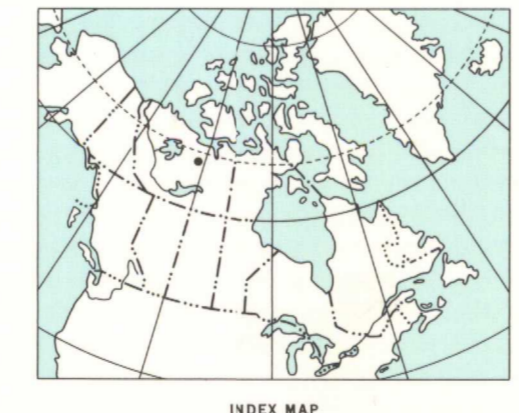
Base-map at the same scale published by the Army Survey Establishment, R.C.E. in 1962, 1964

Copies of the topographical edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa

Magnetic declination 1979 varies from 36°38' 7" easterly at the centre of west edge to 34°32' 1" easterly at the centre of east edge.
Mean annual change decreasing 9.1"



Copies of this map may be obtained from the Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0G8, 3303 - 33rd Street, N.W., Calgary, Alberta T2 2A7



MAP 1473A
GEOLOGY
ITCHEN LAKE AREA
DISTRICT OF MACKENZIE

Scale 1:250,000

Kilometres 6 0 6 12 18 Kilometres
Miles 4 0 4 8 Miles

Universal Transverse Mercator Projection
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1473A

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MAP 1473A
ITCHEN LAKE AREA
DISTRICT OF MACKENZIE