

**STIMSON TOWNSHIP**  
DISTRICT OF COCHRANE, ONTARIO

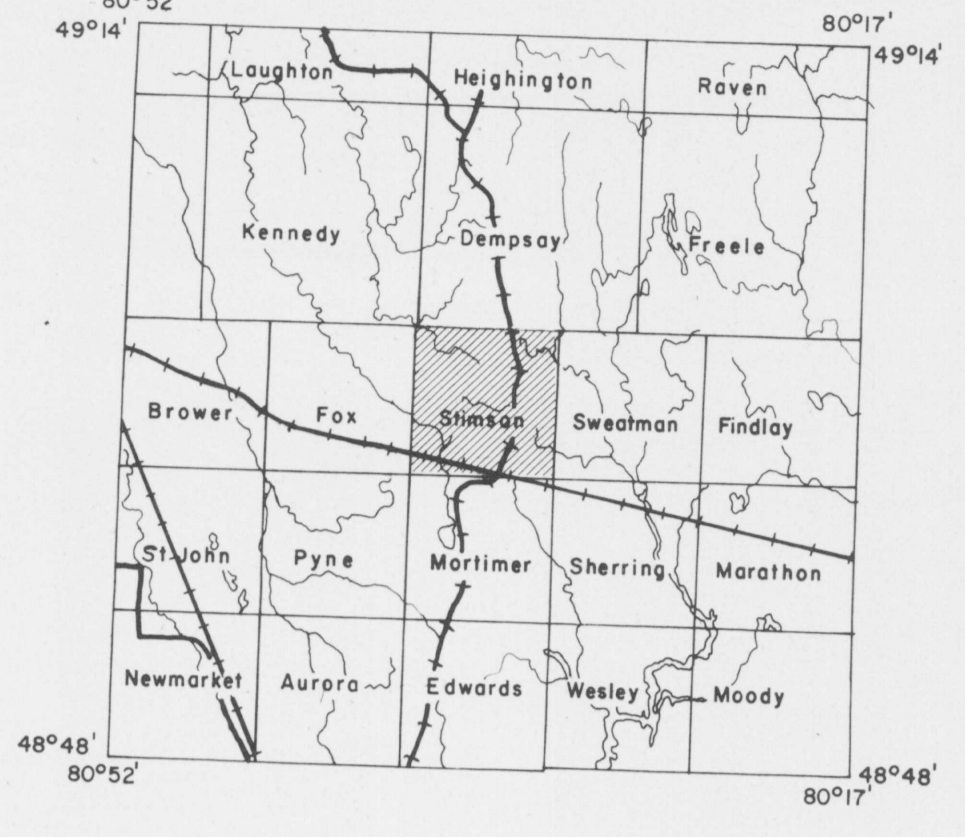


TABLE OF LITHOLOGICAL UNITS  
KIRKLAND LAKE DATA SERIES

- CENOZOIC**
- 18a ORGANIC DEPOSITS
    - 18a1 Open and semi-open bays
    - 18a2 COCHRANE DEPOSITS
      - 18a2.1 Clay
      - 18a2.2 Silt
    - 18a3 BARLOW-GUIBWAY DEPOSITS
      - 18a3.1 Varved sediments
      - 18a3.2 Sand and gravel deposits
    - 18a4 GLACIO-FLUVIAL DEPOSITS
      - 18a4.1 Sand and gravel deposits associated with outwash
      - 18a4.2 Sand and gravel deposits
    - 18a5 GROUND MORaine DEPOSITS
      - 18a5.1 Sandy grey siltstone with minor contained stratified drift, resting on bedrock
  - 17 MESOZOIC
    - 17.1 Kilmearlie

**INTRUSIVE CONTACT**

**PALEOZOIC**

**LOWER AND MIDDLE SILURIAN**

    - 15a Clinton (Thestral) Formation: limestone, dolomite, sandstone
    - 15b Well Formation: limestone, shale

**MIDDLE AND UPPER DEVONIAN**

    - 15c Sarsora Formation: shale
    - 15d Barr Formation: limestone
    - 15e Buckle Formation: limestone, shale
    - 15f Gullies Formation: sandstone

**PRECAMBRIAN**

**LATE PRECAMBRIAN (PROTEROZOIC)**

    - 14 Mafic intrusive rocks

**INTRUSIVE CONTACT**

**MIDDLE PRECAMBRIAN (PROTEROZOIC)**

    - 13 Spentley, monzonite, lamprophyre

**MAFIC INTRUSIVE ROCKS<sup>1</sup>**

    - 12 Diabase, transition rock, and granophyre

**INTRUSIVE CONTACT**

**COBALT GROUP**

    - 11 Lorrain Formation: quartzite, arkose
    - 10 Rossana Formation
    - 10a Un differentiated
    - 10a1 Freshbrook Member: argillite, siltstone
    - 10a2 Arkose, arkose
    - 10b Colman Member: conglomerate, gneiss, quartzite, arkose, argillite

**INTRUSIVE CONTACT**

**EARLY PRECAMBRIAN (ARCHEAN)**

    - 9 Mafic intrusive rocks
    - 9 Diabase dikes

**INTRUSIVE CONTACT**

**ALKALIC INTRUSIVE ROCKS<sup>2</sup>**

    - 8 Syenite, monzonite, lamprophyre<sup>3</sup>

**INTRUSIVE CONTACT**

**ALKALIC METAVOLCANICS<sup>4</sup>**

    - 7 Trachyte, trachytic trachyte flows, tuff, breccia

**METASEDIMENT<sup>5</sup>**

    - 6 Conglomerate, gneiss, siltstone, slate, argillite, iron formation<sup>6</sup>
    - 5 Gneiss, siltstone, slate, iron formation<sup>6</sup>

**FELSIC INTRUSIVE ROCKS<sup>7</sup>**

    - 4 Granitic intrusive rocks
    - 4a Quartz porphyry, quartz-feldspar porphyry, felsic porphyry, granophyre, felsite
    - 4b Trondhjemite, granodiorite, quartz monzonite, granite batholith and stockwork
    - 4c Trondhjemite, granodiorite, quartz monzonite, quartz diorite, gabbro, pegmatite, nephelinitic complex batholiths

**INTRUSIVE CONTACT**

**FELSIC METAVOLCANICS AND VOLCANICS<sup>8</sup>**

    - 3 Un differentiated, rhyolite
    - 3a Iron formation and ferruginous chert
    - 3b Flow
    - 3c Pyroclastic rocks

**INTRUSIVE CONTACT**

**METAMORPHIC MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS<sup>9</sup>**

    - 2 Un differentiated
    - 2a Gabbro, diorite
    - 2b Peridotite, omphacite, pyroxenite, serpentinite

**INTRUSIVE CONTACT**

**INTERMEDIATE AND MAFIC METAVOLCANICS<sup>10</sup>**

    - 1 Un differentiated diorite, andesite, and basalt
    - 1a Intermediate flow
    - 1b Intermediate pyroclastic rocks
    - 1c Mafic flow
    - 1d Mafic pyroclastic rocks

**Footnotes:**

    - <sup>1</sup> Formerly classified as Keweenaw
    - <sup>2</sup> Formerly classified as Thelonian
    - <sup>3</sup> Formerly classified as Halleyburian
    - <sup>4</sup> Formerly classified as Algonquin
    - <sup>5</sup> Includes north-trending dikes of Metacowan swarm
    - <sup>6</sup> Includes Nipissing and Sudbury-type
    - <sup>7</sup> Includes Keweenaw
    - <sup>8</sup> Several names some units appear to be intrusive equivalents of volcanic formations whereas others indicate extrusive
    - <sup>9</sup> Names in these groups are subdivided lithologically; the order does not necessarily imply age relationships within or among groups

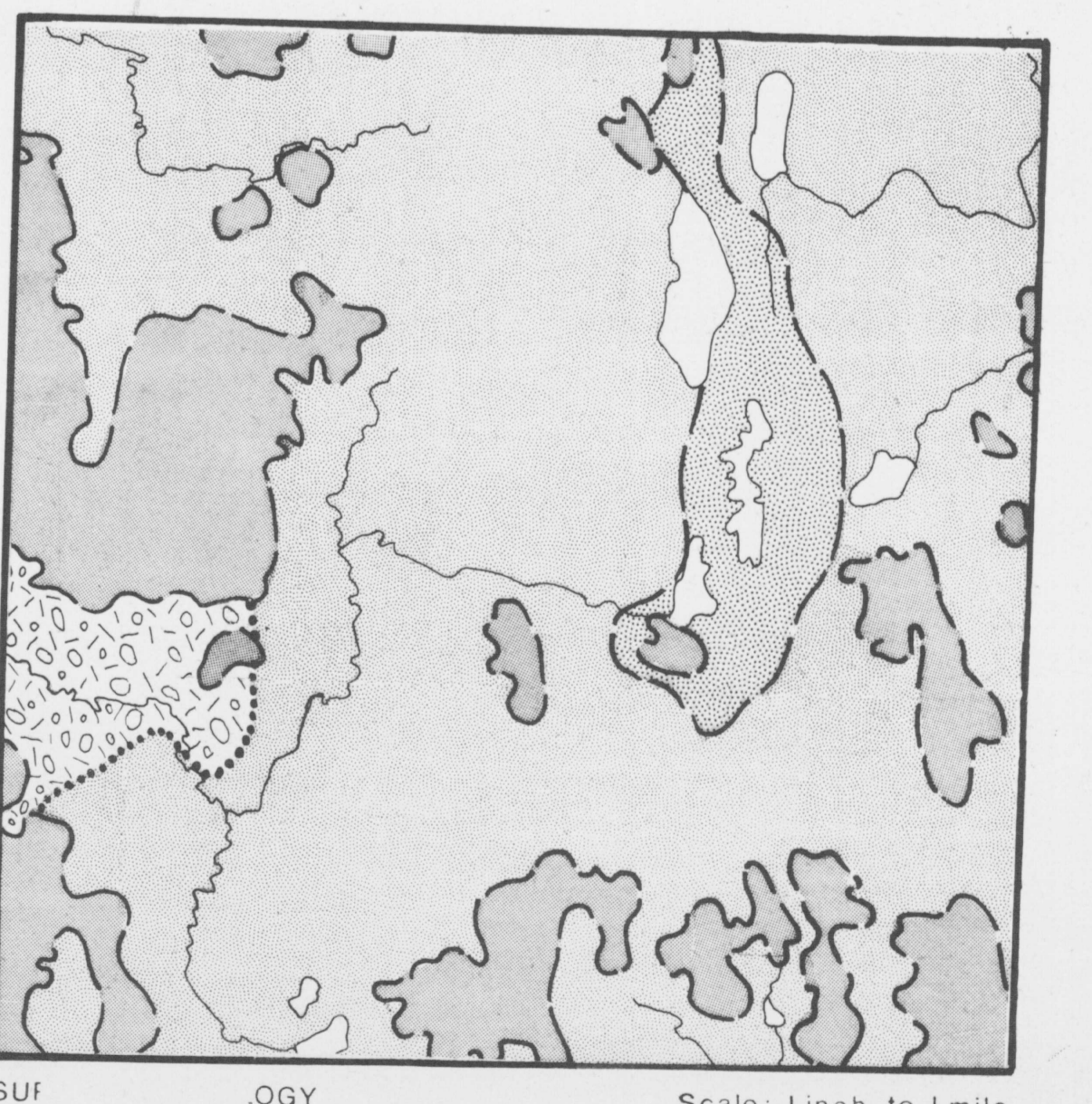
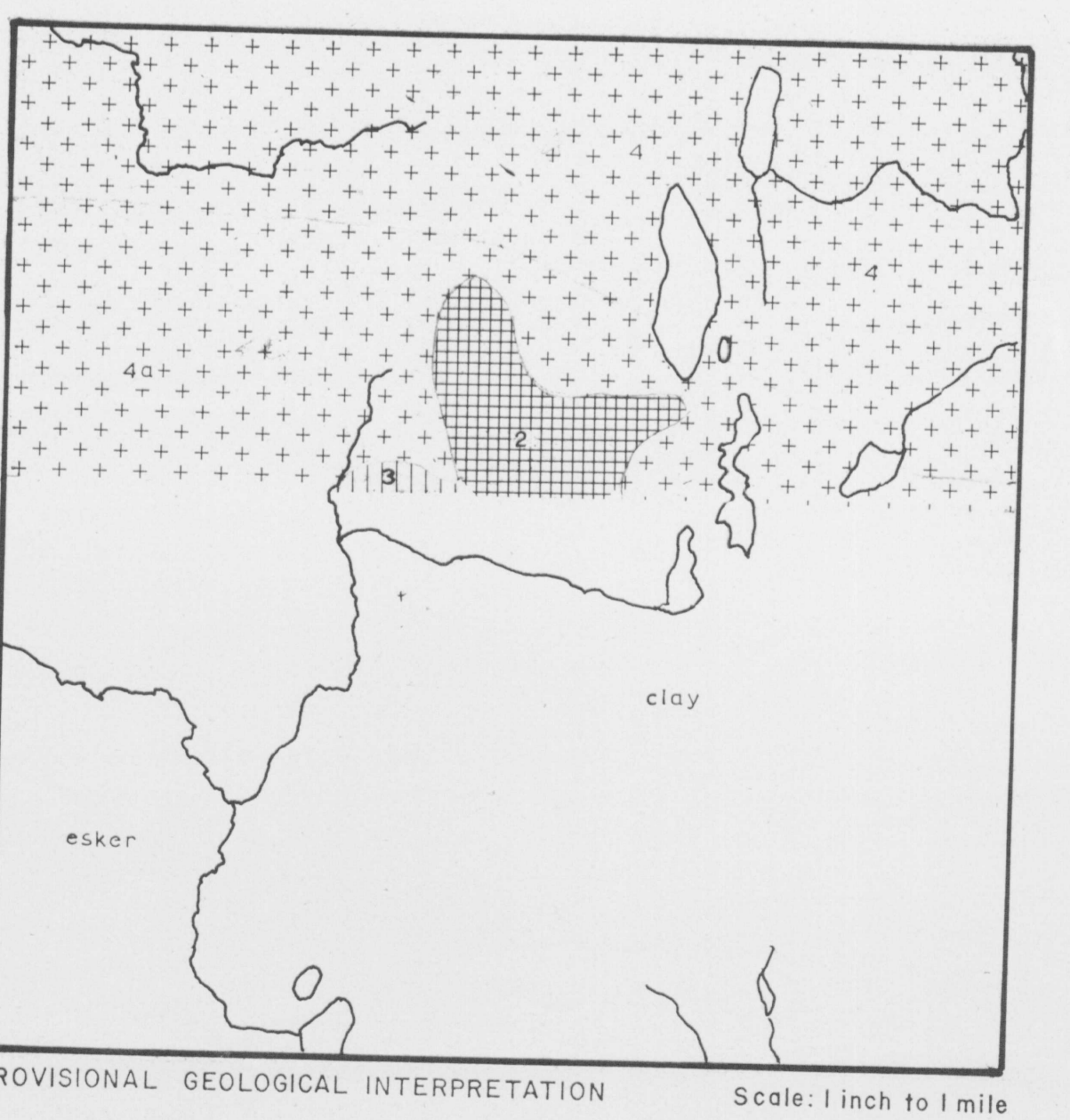
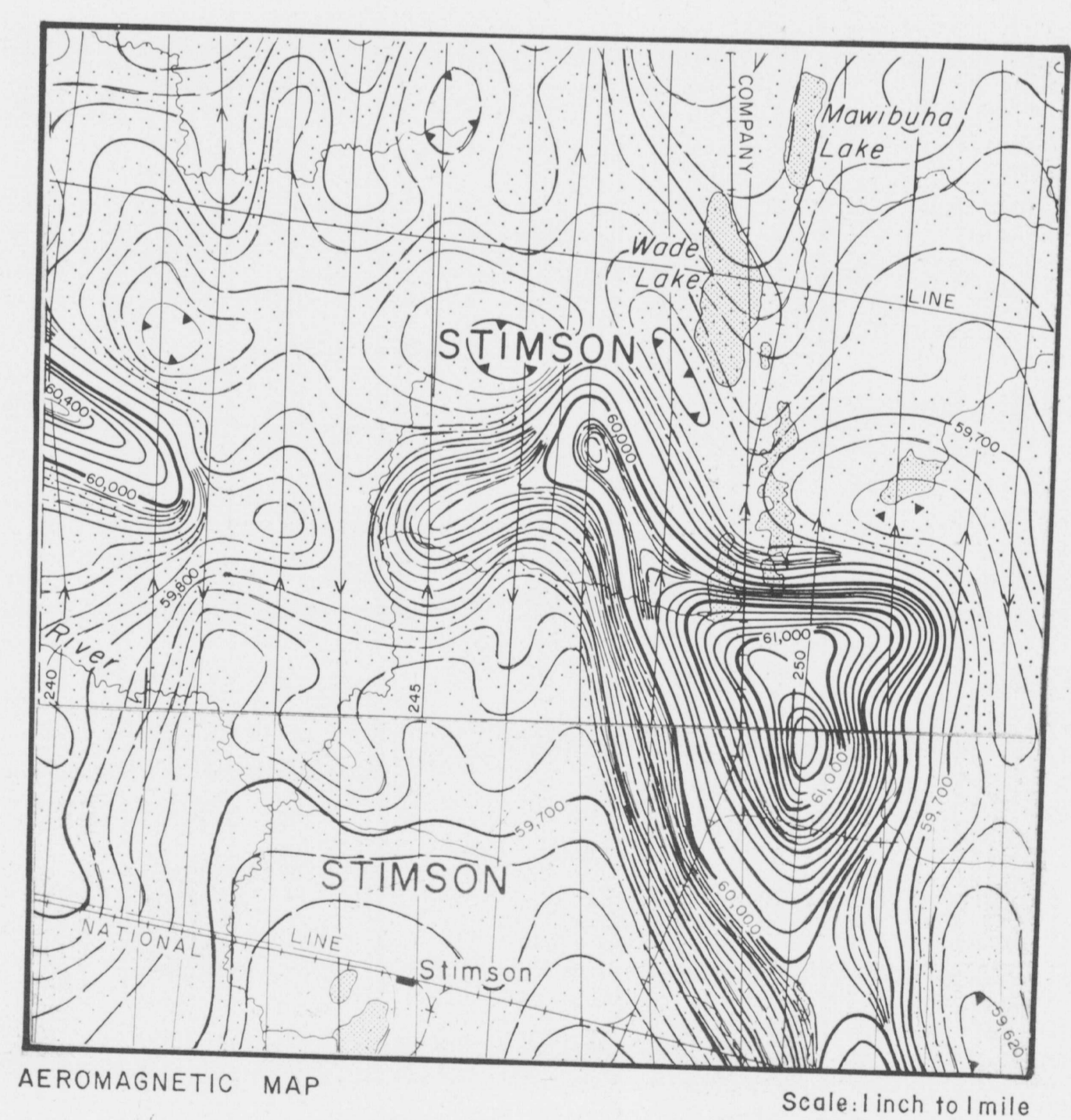
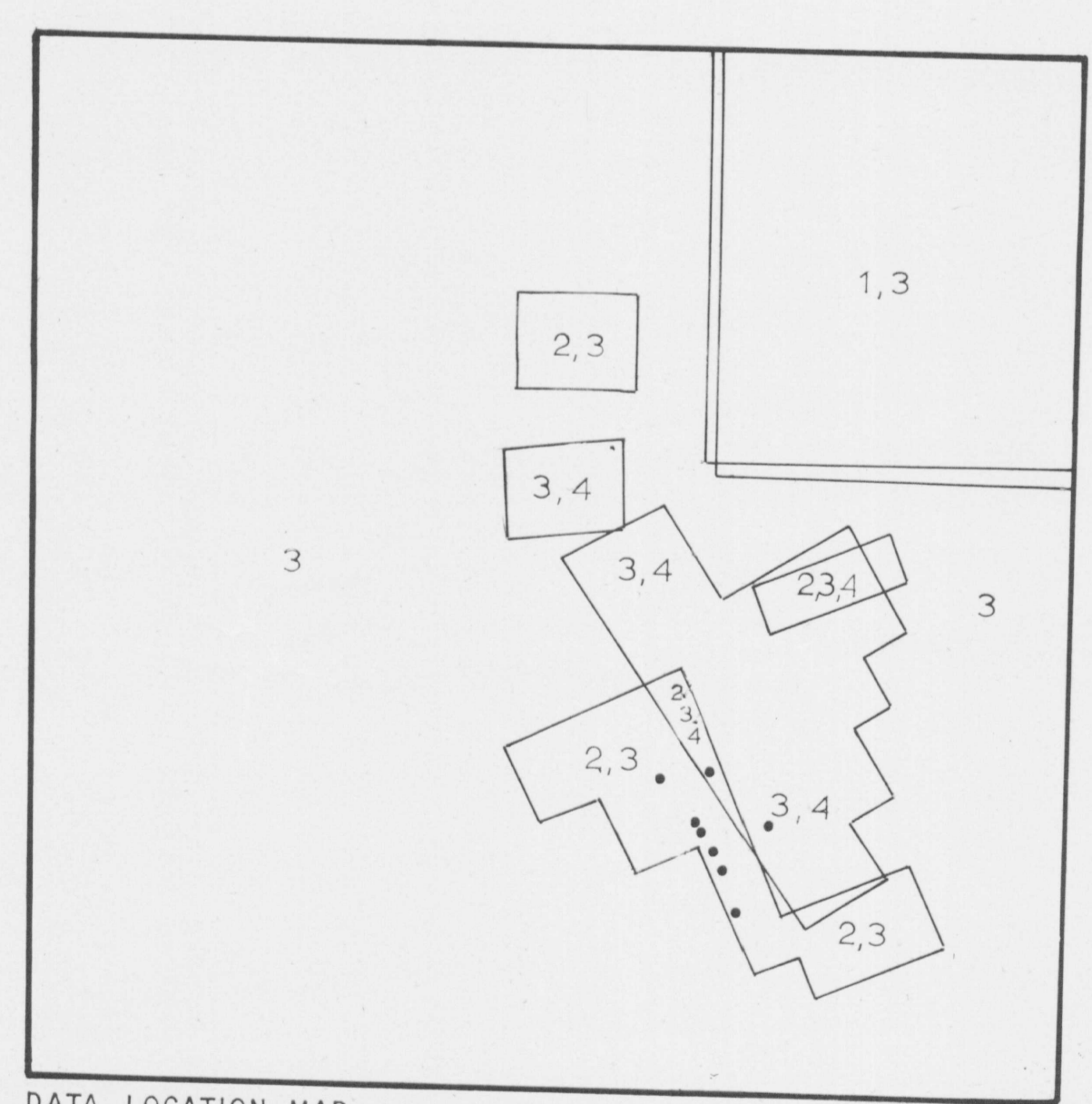
Scale: 1 inch to 1/4 mile

DATA FILED WITH THE ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS RESIDENT GEOLOGIST AT KIRKLAND LAKE Through March 1972		GEOLOGICAL																											
		DIAMOND DRILLING		AIRBORNE MAGNETOMETER		AIRBORNE ELECTROMAGNETOMETER		GROUND MAGNETOMETER		VERTICAL LOOP ELECTROMAGNETOMETER		HORIZONTAL LOOP ELECTROMAGNETOMETER		TORSION ELECTROMAGNETOMETER		JEM		INDUCED POLARIZATION		VLF		RESISTIVITY		GRAVITY		GEOCHEMICAL		OTHERS	
1.	Glen Lake Silver Mines Ltd.			64 <sup>a</sup>	63		64																						
2.	Misfano "Stimson"																												
3.	North American Rare Metals			62	62 <sup>b</sup>																								
4.	Stimson Syndicate			63			65																						

*Note:* The numbers on the above list stand for the year when the work was done, e.g., 66 for 1966. On the accompanying DATA LOCATION MAP only areas for which work was done are shown. The numbers on the DATA LOCATION MAP and any circled numbers refer to the company list above.

*Note:* \* Composite DH geology mapped where multiple DH are indicated

*Note:* \*\* The EM survey indicates an unusually large number of anomalies. No attempt has been made to classify the EM anomalies. No map available.



- GEOLOGICAL AND MINING SYMBOLS FOR KIRKLAND LAKE DATA SERIES**
- Glacial striae
  - Esker, medial ridge
  - Small bedrock outcrop
  - Bedding, top unknown; (inclined, vertical)
  - Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned)
  - Bedding, top (arrow) from cross bedding; (inclined, vertical, overturned)
  - Line flow, top (arrow) from pillow shape and packing
  - Schistosity; (horizontal, inclined, vertical)
  - Quasinessity; (horizontal, inclined, vertical)
  - Layering; (horizontal, inclined, vertical)
  - Lineation with plunge
  - Geological boundary, observed
  - Geological boundary, deduced from geophysics
  - Fault; (observed, assumed)
  - Spot indicates down throw side, arrows indicate horizontal movement
  - Lineament
  - Jointing; (horizontal, inclined, vertical)
  - Drag folds with plunge
  - Anticline, syncline, with plunge
  - Drill hole; (projected vertically), Overburden shown
  - Drill hole in overburden only; (vertical or collar, inclined), Overburden shown
  - Shaft; depth in feet
  - Mineral occurrence at surface
  - Airborne electromagnetic anomaly (Canadian Aero System)
  - Airborne electromagnetic anomaly (Geoscan 8 Channel Input System)
  - 2 channel response
  - 3 channel response
  - 4 channel response
  - 5 channel response
  - 6 channel response and coincident magnetic anomaly
  - Airborne magnetometer anomaly
  - Ground magnetometer anomaly
  - Ground electromagnetic conductor (VEM-Vertical loop; 100m horizontal loop; VLF-Very low freq; Turam; JEM-Crone EM-16)
  - Bedrock Tranching
  - Induced Polarization anomaly
  - Spontaneous Polarization anomaly
  - Gravity anomaly
  - Radiometric anomaly
  - Resistivity anomaly

- METAL AND MINERAL REFERENCE**
- For Kirkland Lake Data Series
- |                       |                                 |
|-----------------------|---------------------------------|
| Ag ..... Silver       | no ..... Niobylene              |
| As ..... Arsenic      | ni ..... Nickel                 |
| Au ..... Gold         | Pb ..... Lead                   |
| Cd ..... Cadmium      | Zn ..... Zinc                   |
| Co ..... Cobalt       | Pa ..... Palladium              |
| Cu ..... Chalcopyrite | pent ..... Pentlandite          |
| Cr ..... Chromium     | py ..... Pyrite                 |
| Cy ..... Copper       | plat ..... Platinite            |
| Ep ..... Epidote      | py ..... Pyrite                 |
| Fl ..... Fluorite     | qcw ..... Quartz-carbonate vein |
| Gp ..... Graphite     | qv ..... Quartz vein            |
| Gal ..... Galena      | serp ..... Serpentine           |
| Ma ..... Magnetite    | sp ..... Sphalerite             |
| Mar ..... Marcasite   | spe ..... Spinelite             |
| Me ..... Mellerite    | talc ..... Talc                 |
|                       | tin ..... Tin                   |
|                       | zn ..... Zinc                   |
- Sources of Information**
- Compiled by the Geological Survey of Canada in cooperation with the Ontario Department of Mines and Northern Affairs from data on file with the Resident Geologist (Ontario Department of Mines and Northern Affairs), Kirkland Lake.
- 1973 Reference 12 A/25, 1/2  
 OM-200 Aeromagnetic Maps 2370 (rev.), 2380 (rev.)  
 Geological Compilation Series Maps 2056, 2161  
 Geological Preliminary Map F-200

OPEN FILE  
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JUN 1972  
GEOLOGICAL SURVEY  
OTTAWA