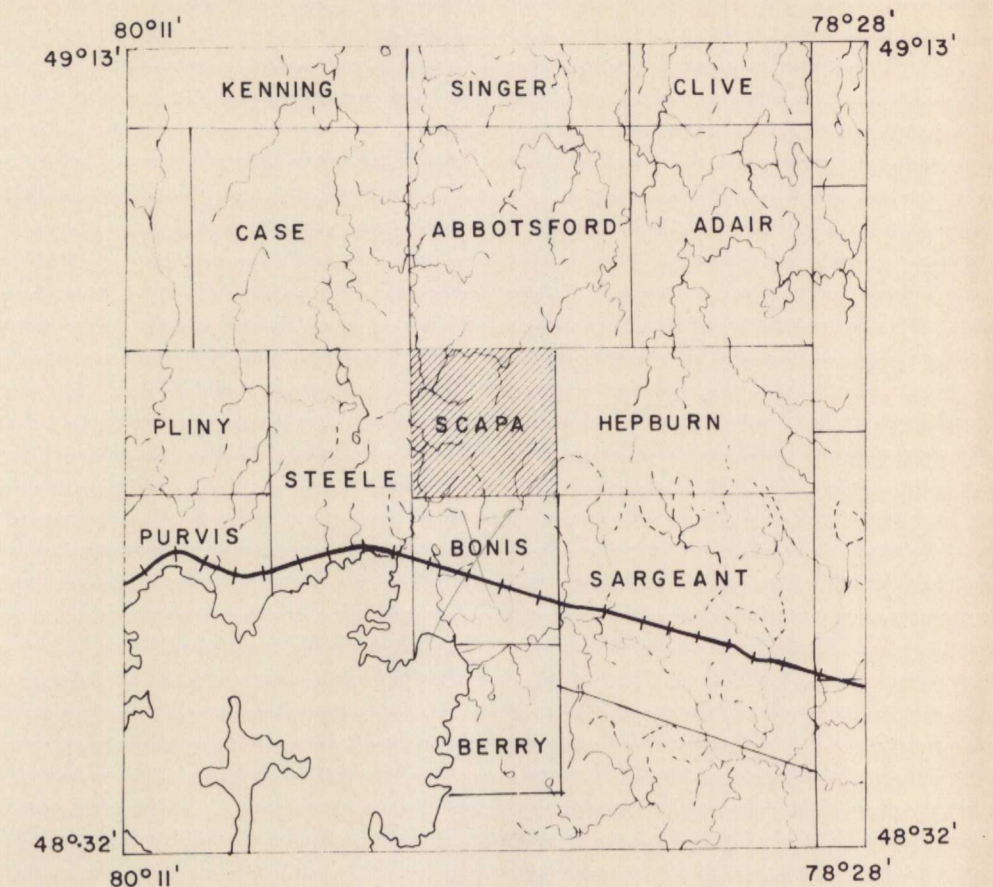




SCAPA TOWNSHIP

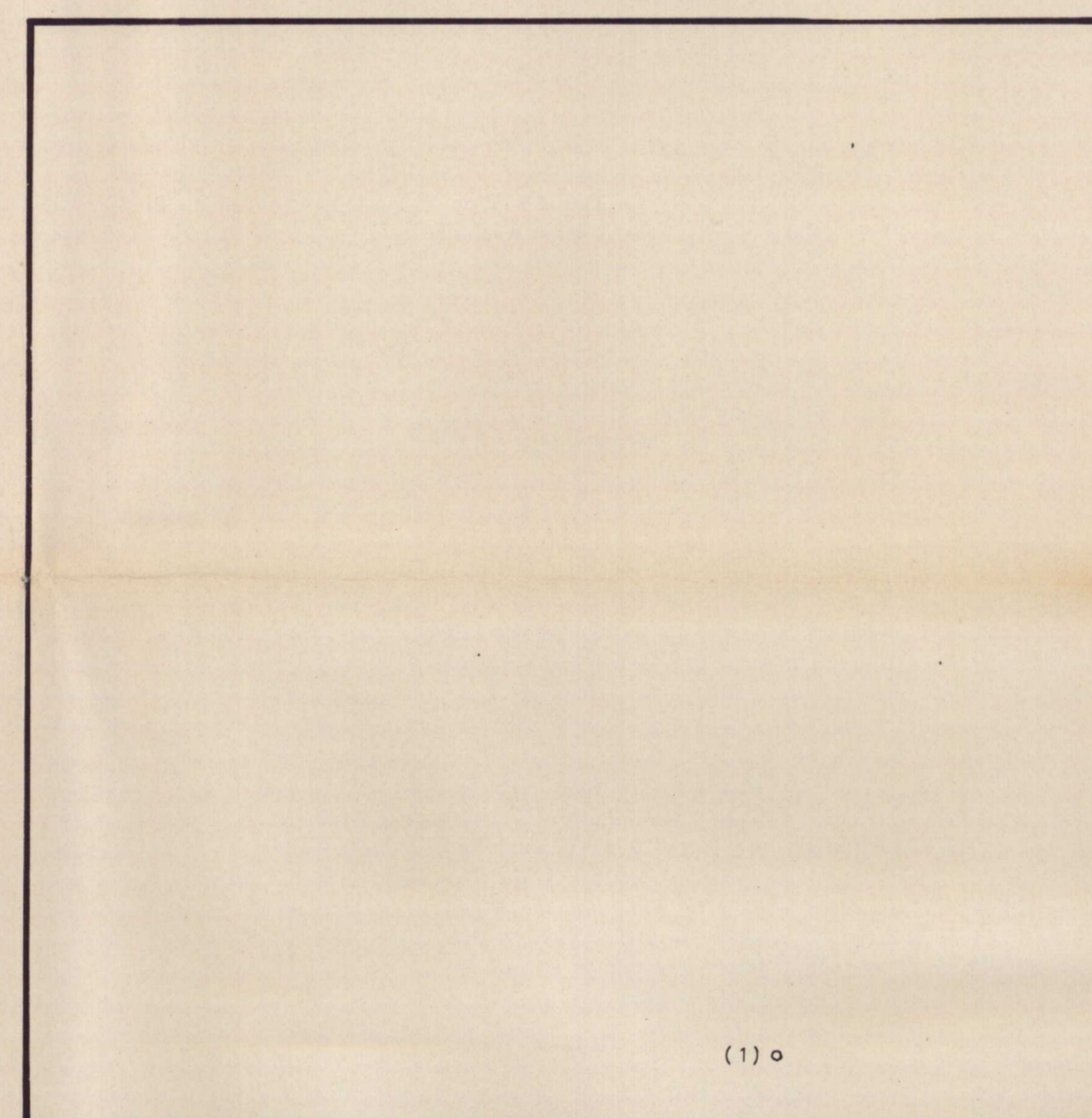
DISTRICT OF COCHRANE, ONTARIO



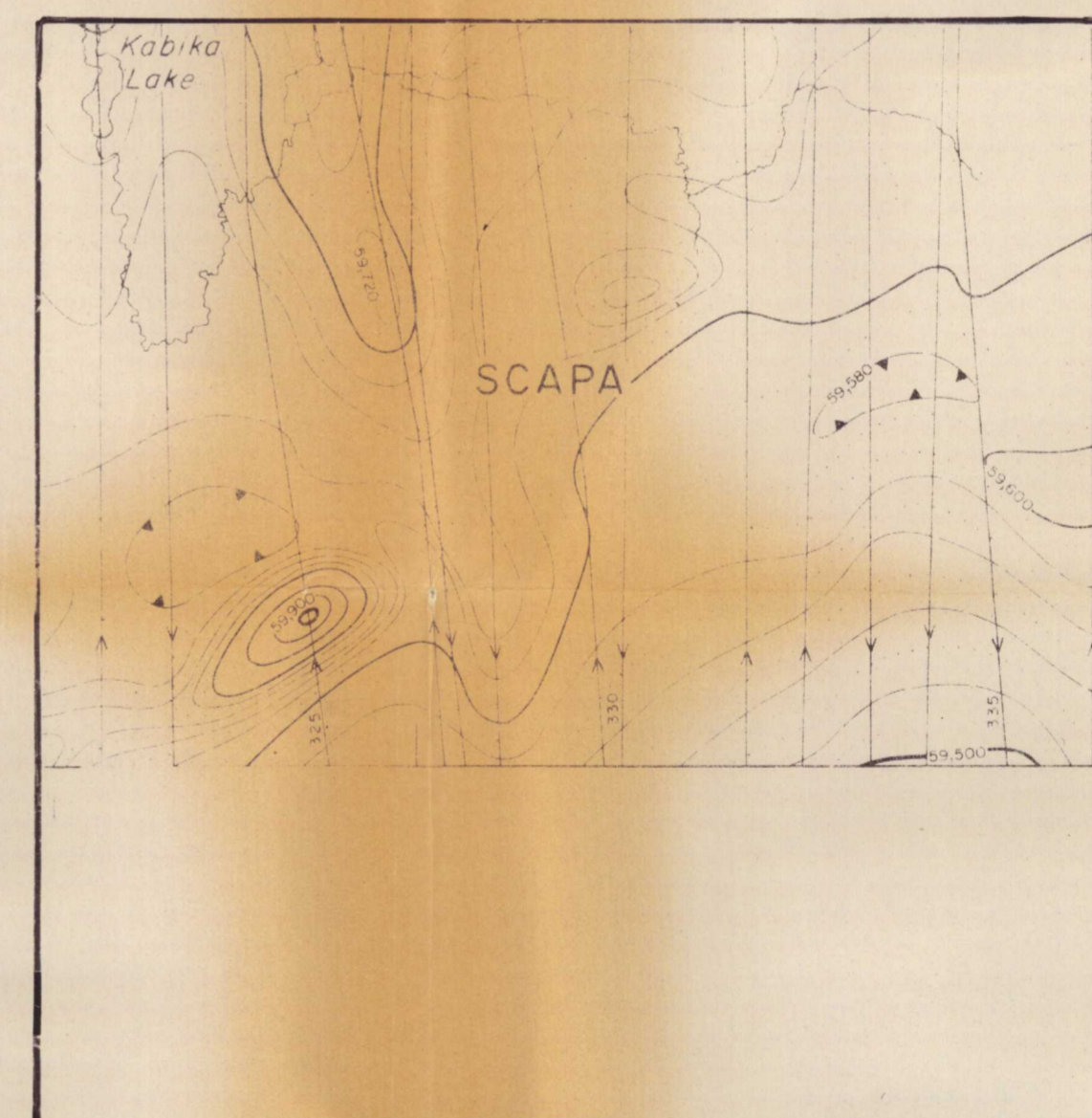
- TYPE OF LITHOLOGICAL UNITS
KIRKLAND LAKE DATA SERIES
- CENOZOIC**
- PLEISTOCENE AND RECENT**
- 18a ORGANIC DEPOSITS
 - 18a Open and semi-open bogs
 - 18b COCHRANE DEPOSITS
 - 18b Clay till
 - 18c BARLOW-GIBWAY DEPOSITS
 - 18c Varved sediments
 - 18c Sand and gravel deposits
 - 18c Esker complexes; associated outwash sand and gravel deposits
 - 18c GROUND MORaine DEPOSITS
 - 18c Sandy grey boulder till, with minor contained stratified drift, resting on bedrock.
- MESOZOIC**
- 17 Kimerlyite
- INTRUSIVE CONTACT**
- PALEOZOIC**
- LOWER AND MIDDLE SILURIAN**
- 16a Clifton (Thebes) Formation: limestone, dolomite, sandstone
 - 16b Rabi Formation: limestone, shale
- MIDDLE AND UPPER ORDOVICIAN**
- 15a Dawson Point Formation: shale
 - 15b Farr Formation: limestone
 - 15c Rucke Formation: limestone, shale
 - 15d Gullique Formation: sandstone
- UNCONFORMITY**
- PRECAMBRIAN**
- LATE PRECAMBRIAN (PROTEROZOIC)**
- MAFIC INTRUSIVE ROCKS^a**
- 14 Diabase dikes
- INTRUSIVE CONTACT**
- MIDDLE PRECAMBRIAN (PROTEROZOIC)**
- ALKALIC INTRUSIVE ROCKS^b**
- 13 Syenite, nepheline syenite, lamprophyre
- MAFIC INTRUSIVE ROCKS^c**
- 12 Diabase, transition rock, and granophyre dykes and dikes
- INTRUSIVE CONTACT**
- CORDILL GROUP**
- 11 Lorrain Formation: quartzite, arkose
 - 10 Rossdale Formation: arkose
 - 10a Firstbrook Member: argillite, siltstone, conglomerate, arkose
 - 10b Coleman Member: conglomerate, greywacke, quartzite, arkose, argillite
- UNCONFORMITY**
- EARLY PRECAMBRIAN (ARCHAIC)**
- MAFIC INTRUSIVE ROCKS^d**
- 9 Diabase dikes
- INTRUSIVE CONTACT**
- ALKALIC INTRUSIVE ROCKS^e**
- 8 Syenite, monzonite, lamprophyre^f
- INTRUSIVE CONTACT**
- ALKALIC METAVOLCANICS^g**
- 7 Trachyte, leucitic trachyte: flows, tuff, breccia
- METASEDIMENTS^h**
- 6 Conglomerate, greywacke, siltstone, slate, argillite, iron formationⁱ
- FELSIC INTRUSIVE ROCKS^j**
- 4a Granite intrusives
 - 4b Quartz porphyry, quartz-feldspar porphyry, felsic porphyry, granophyre, felsite^k
 - 4c Trondhjemite, granodiorite, quartz monzonite: simple batholiths and stocks^l
 - 4d Trondhjemite, granodiorite, quartz monzonite, quartz diorite, aplite, pegmatite, kimberlite complex, amphibolite
- INTRUSIVE CONTACT**
- FELSIC METAVOLCANICS AND VOLCANICS^m**
- 3 Undifferentiated, rhyolite
 - 3a Iron formation and ferruginous chert
 - 3b Flows
 - 3c Pyroclastic rocks
- INTRUSIVE CONTACT**
- METAMORPHOSED MAFIC AND ULTRAMAFIC INTRUSIVE ROCKSⁿ**
- 2 Undifferentiated
 - 2a Gabbro, diorite
 - 2b Peridotite, dunite, pyroxenite, serpentinite
- INTRUSIVE CONTACT**
- INTERMEDIATE AND MAFIC METAVOLCANICS^o**
- 1 Undifferentiated dacite, andesite, and basalt
 - 1a Intermediate flows
 - 1b Intermediate pyroclastic rocks
 - 1c Mafic flows
 - 1d Mafic pyroclastic rocks
- a Formerly classified as Keweenaw
b Formerly classified as Vinsnes
c Formerly classified as Hallsport
d Formerly classified as Algonquin
e Includes north-trending dikes of Matachewan swarm
f Includes Highgate and Sutherland
g Includes Keweenaw
h Several ages; some units appear to be intrusive equivalents of volcanic formations whereas others postdate volcanism
i Rocks in these groups are subdivided lithologically; the order does not necessarily imply age relationship within or among groups

DATA FILED WITH THE ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS RESIDENT GEOLOGIST AT KIRKLAND LAKE Through February 1972		LOGICAL	DIAMOND DRILLING	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETOMETER	GROUND MAGNETOMETER	VERTICAL LOOP ELECTROMAGNETOMETER	HORIZONTAL LOOP ELECTROMAGNETOMETER	TURBID ELECTROMAGNETOMETER	JFM	INDUCED POLARIZATION	VLF	RESISTIVITY	GRAVITY	GEOCHEMICAL	OTHER
1.	Zevely Hanson		53													

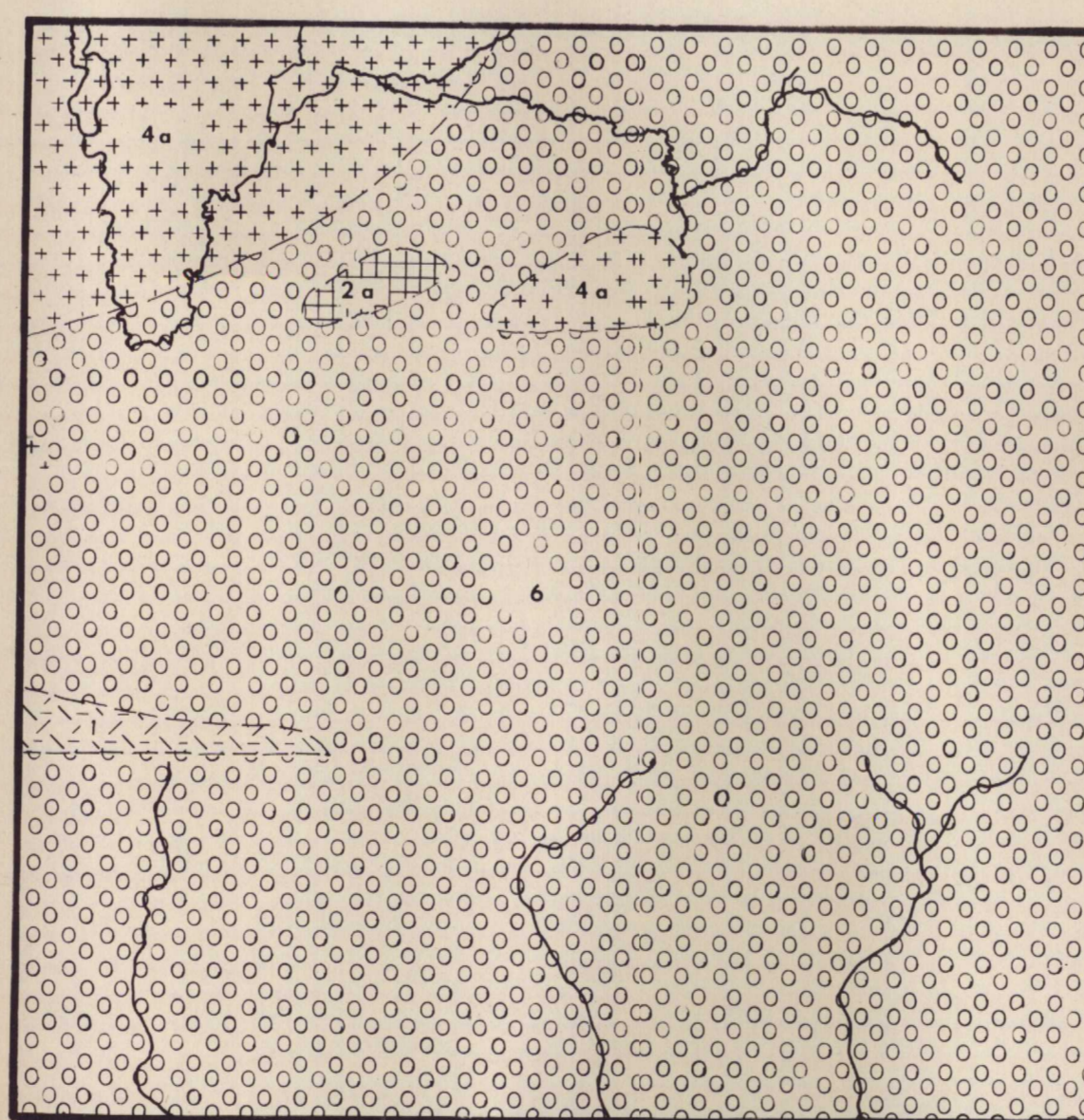
Note: The numbers on the above list stand for the year when the work was done, e.g., 56 for 1956. On the accompanying DATA LOCATION MAP, only areas for which work was submitted to the Department are outlined, and thus a company may hold more ground than indicated here. The numbers on the DATA LOCATION MAP and any circled numbers refer to the company list above.



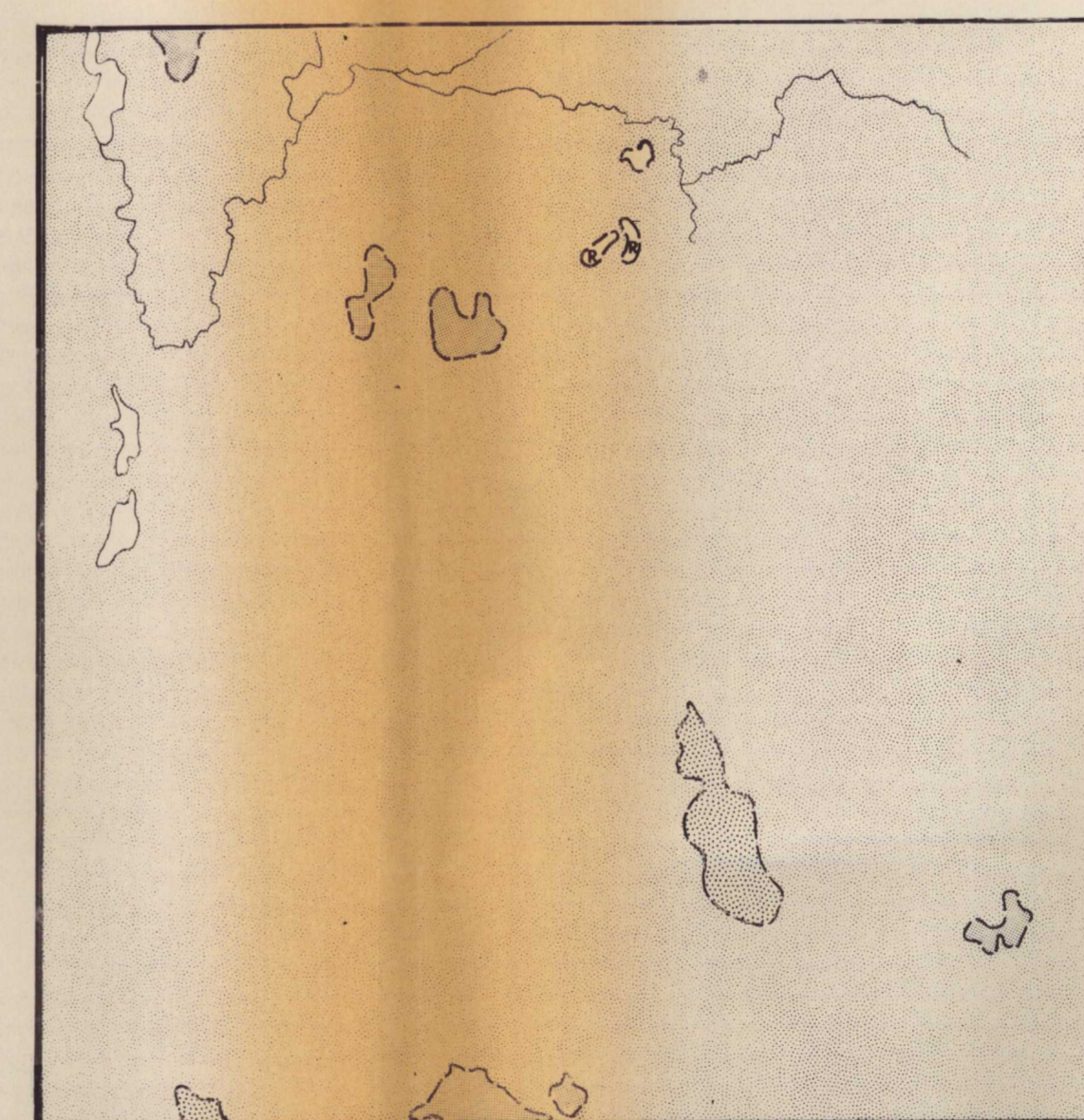
DATA LOCATION MAP Scale: 1 inch to 1 mile



AEROMAGNETIC MAP Scale: 1 inch to 1 mile



PROVISIONAL GEOLOGICAL INTERPRETATION Scale: 1 inch to 1 mile



SURFICIAL GEOLOGY Scale: 1 inch to 1 mile

- GEOLOGICAL AND MINING SYMBOLS FOR KIRKLAND LAKE DATA SERIES**
- Glacial striae
 - Esker, medial ridge
 - Small bedrock outcrop
 - Bedding, top (arrow) from grain gradation: (inclined, vertical)
 - Bedding, top (arrow) from cross bedding: (inclined, vertical, overturned)
 - Lava flow: top (arrow) from pillow shape and packing
 - Schistosity: (horizontal, inclined, vertical)
 - Quasistosity: (horizontal, inclined, vertical)
 - Layering: (horizontal, inclined, vertical)
 - Lineation with plunge
 - Geological boundary, observed
 - Geological boundary, position interpreted
 - 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 one burden only, (vertical or collar, inclined), Overburden shown
 - Shaft: depth in feet
 - Mineral occurrence at surface
 - Airborne electromagnetic anomaly (Canadian Aero System)
 - Airborne electromagnetic anomaly (Quester 6 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 (EM-vert-loop)
 - EM-Horizontal loop; VLF-Horizontal loop; VLF-High low freq.; Turan; JEM-Crow (EM-16)
 - Induced Polarization anomaly
 - Spontaneous Polarization anomaly
 - Gravity anomaly
 - Radiometric anomaly
 - Resistivity anomaly

METAL AND MINERAL REFERENCE
For Kirkland Lake Data Series

Ag Silver	Mo Molybdenite
asb Asbestos	Ni Nickel
Au Gold	Pb Lead
Cd Cadmium	Pd Palladium
Co Cobalt	pent Pentlandite
cp Chalcopyrite	py Pyrite
Cr Chromium	Pl Platinum
Cu Copper	py Pyrite
ep Epidote	qcv Quartz-carbonate vein
Fe Iron	qv Quartz vein
Fl Fluorite	serp Serpentine
gt Graphite	sp Sphalerite
Gal Galena	spc Sphalerite
mag Magnetite	taic Taic
ma Malachite	Tn Tin
ml Millerite	Zn Zinc

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OTTAWA