

THACKERAY TOWNSHIP

DISTRICT OF COCHRANE, ONTARIO

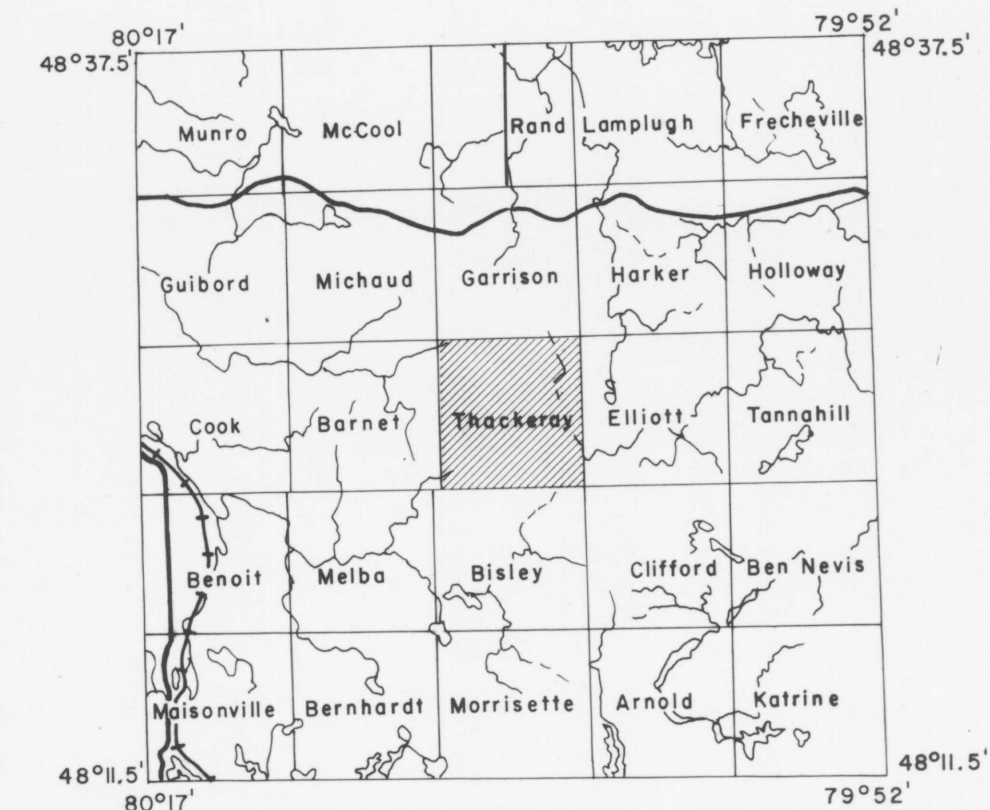


TABLE OF LITHOLOGICAL UNITS
KIRKLAND LAKE DATA SERIES

UNIT NUMBER	DESCRIPTION
CENOZOIC	
PLEISTOCENE AND RECENT	
18a	ORGANIC DEPOSITS
18b	Open and semi-open bog
18c	COCHRANE DEPOSITS
18c1	Clay till
18c2	BARLOW-DUNBAR DEPOSITS
18c2a	Varved sediments
18c2b	Sand and gravel deposits
18d	GLACIO-FLUVIAL DEPOSITS
18d1	Esker complexes associated with outwash fans and gravel deposits
18e	GROUND MORaine DEPOSITS
18e1	Sandy gray siltstone till, with minor contained stratified drift, resting on bedrock
UNCONFORMITY	
MESOZOIC	
17	Kimberlite
INTRUSIVE CONTACT	
PALEOZOIC	
LOWER AND MIDDLE SILURIAN	
16a	Clinton (Thebes) Formation: limestone, dolomite, sandstone
16b	Mall Formation: limestone, shale
MIDDLE AND UPPER ONDOWICIAN	
15a	Dawson Point Formation: shale
15b	Gary Formation: limestone
15c	Rucke Formation: limestone, shale
15d	Gulpe Formation: sandstone
UNCONFORMITY	
PRECAMBRIAN	
LATE PRECAMBRIAN (PROTEROZOIC)	
MAFIC INTRUSIVE ROCKS¹	
14	Diabase dikes
INTRUSIVE CONTACT	
MIDDLE PRECAMBRIAN (PROTEROZOIC)	
ALKALIC INTRUSIVE ROCKS²	
13	Syenite, pegmatite, amphibole
MAFIC INTRUSIVE ROCKS¹	
12	Diabase, transition rock, and granophyre sheets and dikes
INTRUSIVE CONTACT	
CORALIT GROUP	
11	Lorrain Formation: quartzite, arkose
10	Dawson Formation
10a	Undifferentiated
10b	Firstbrook Member: argillite, siltstone, greywacke, arkose
10c	Coleman Member: conglomerate, greywacke, quartzite, arkose, argillite
UNCONFORMITY	
EARLY PRECAMBRIAN (ARCHEAN)	
MAFIC INTRUSIVE ROCKS³	
9	Diabase dikes
INTRUSIVE CONTACT	
ALKALIC INTRUSIVE ROCKS²	
8	Syenite, monzonite, lamprophyre ⁴
INTRUSIVE CONTACT	
ALKALIC METAVOLCANICS⁵	
7	Trachyte, leucitic trachyte; flows, tuff, breccia
METASEDIMENT⁶	
6	Conglomerate, greywacke, siltstone, slate, argillite, iron formation ⁷
5	Greywacke, siltstone, slate, iron formation ⁸
FELSIC INTRUSIVE ROCKS⁹	
4	Granitic intrusive rocks
4a	Quartz porphyry, quartz-feldspar porphyry, feldspar porphyry, granophyre, felsite ¹⁰
4b	Trondhjemite, granodiorite, quartz monzonite, simple batholiths and stocks ¹¹
4c	Trondhjemite, granodiorite, quartz monzonite, quartz diorite, apfite, pegmatite, migmatite complex batholiths
INTRUSIVE CONTACT	
FELSIC METAVOLCANICS AND VOLCANICS¹²	
3	Undifferentiated, rhyolite
3a	Iron formation and terrigenous chert
3b	Flows
3c	Pyroclastic rocks
INTRUSIVE CONTACT	
METAMORPHIC MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS¹³	
2	Undifferentiated
2a	Gabbro, diorite
2b	Peridotite, dunite, pyroxenite, serpentinite
INTRUSIVE CONTACT	
INTERMEDIATE AND MAFIC METAVOLCANICS¹⁴	
1	Undifferentiated dacite, andesite, and basalt
1a	Intermediate flows
1b	Intermediate pyroclastic rocks
1c	Mafic flows
1d	Mafic pyroclastic rocks

GEOLOGICAL AND MINING SYMBOLS FOR KIRKLAND LAKE DATA SERIES

	Glacial striae		Drill hole; (projected vertically). Overburden shown.
	Esker, medial ridge		Drill hole in overburden only (vertical or collared, inclined). Overburden shown.
	Small bedrock outcrop		Shaft; depth in feet.
	Bedding, top unknown; (inclined, vertical).		Mineral occurrence at surface.
	Bedding, top (arrow) from grain orientation (inclined, vertical, overturned).		Airborne electromagnetic anomaly (Canadian Aero System).
	Bedding, top (arrow) from cross bedding (inclined, vertical, overturned).		2 channel response.
	Lava flow; top (arrow) from pillow shape and packing.		3 channel response.
	Schistosity; (horizontal, inclined, vertical).		4 channel response.
	Onenessity; (horizontal, inclined, vertical).		5 channel response.
	Layering; (horizontal, inclined, vertical).		6 channel response and coincident magnetic anomaly.
	Lineation with plunge.		Airborne magnetometer anomaly.
	Geological boundary, observed.		Ground magnetometer anomaly.
	Geological boundary, position interpreted.		Ground electromagnetic conductor (VEM-Vert-Loop); 100m-Vertical Loop; VLF-VLF Very Low Freq.; Turm; JDM-Cross (20-1).
	Fault; (observed, assumed). Spot indicates down throw side, arrows indicate horizontal movement.		Induced Polarization anomaly.
	Lineament.		Spontaneous Polarization anomaly.
	Jointing; (horizontal, inclined, vertical).		Gravity anomaly.
	Drag folds with plunge.		Radiometric anomaly.
	Anticline, syncline, with plunge.		Resistivity anomaly.

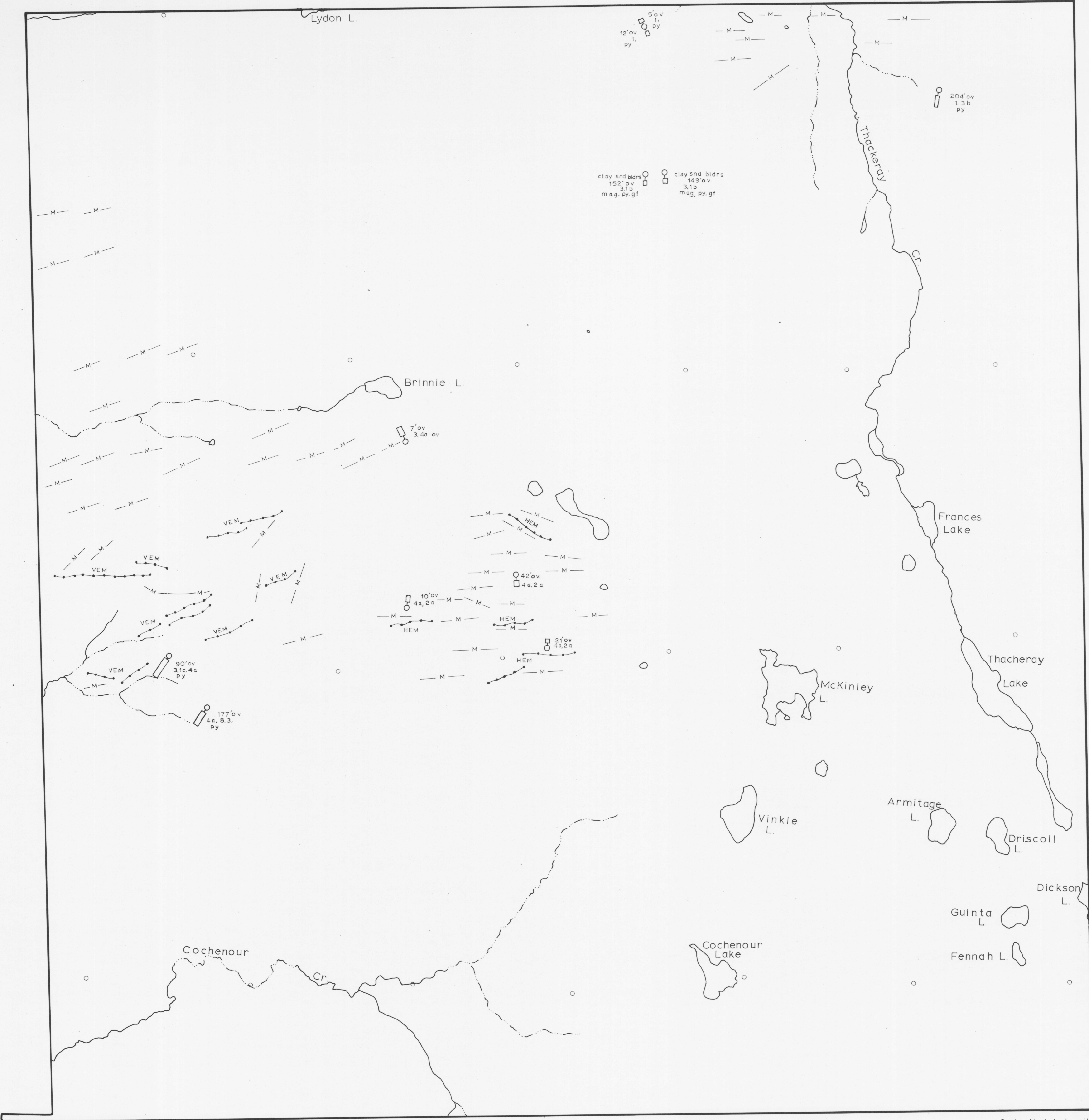
METAL AND MINERAL REFERENCE
For Kirkland Lake Data Series

Ag	Silver	Mo	Molybdenite
Au	Gold	Ni	Nickel
Cd	Cadmium	Pb	Lead
Co	Cobalt	Pd	Palladium
Cu	Copper	Pent	Pentlandite
Cr	Chromite	Py	Pyrite
Fe	Iron	Pyx	Pyroxene
Fl	Fluorite	Qc	Quartz-carbonate vein
Ga	Galenite	Qz	Quartz vein
Gr	Graphite	Serp	Serpentine
Il	Ilmenite	Sp	Spinel
Mag	Magnetite	Spec	Spinelite
Mar	Marcasite	Talc	Talc
Ml	Millerite	Tin	Tin
		Zn	Zinc

Sources of Information
Compiled by the Geological Survey of Canada in co-operation 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.

BTS Reference 32 5/5, 42 4/5
OM-200 Aeromagnetic Map 405, 2995 (rev.)
OM Geological Compilation Series Map 2046

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GEOLOGICAL SURVEY
CANADA



DATA FILED WITH THE ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS RESIDENT GEOLOGIST AT KIRKLAND LAKE Through February 1972		SEISMOLOGICAL	DIAMOND DRILLING	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETIC	GROUND MAGNETOMETER	VERTICAL LOOP ELECTROMAGNETIC	HORIZONTAL LOOP ELECTROMAGNETIC	TURM ELECTROMAGNETIC	JEM	INDUCED POLARIZATION	VLF	RESISTIVITY	GRAVITY	GEOCHEMICAL	OTHERS
1.	Browls and White		47													
2.	Cortex Explorations Ltd.		47													
3.	Dominion Gulf Company "Group I"		50		50											50*
4.	Dominion Gulf Company "Group II"		50		47											
5.	Garthack Mining Co. Ltd.															
6.	International Nickel Co. of Can. Ltd.		69													
7.	International Bilibis Tin Mines Ltd.		65		65		65									
8.	Seeley Mining Corporation Ltd.				66	66										
9.	Wallingford, C.		49													49**

* Trenching
** Assay

Note: The numbers on the above list stand for the year when the work was done, e.g., 69 for 1969. 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.

