

BEATTY TOWNSHIP
DISTRICT OF COCHRANE, ONTARIO

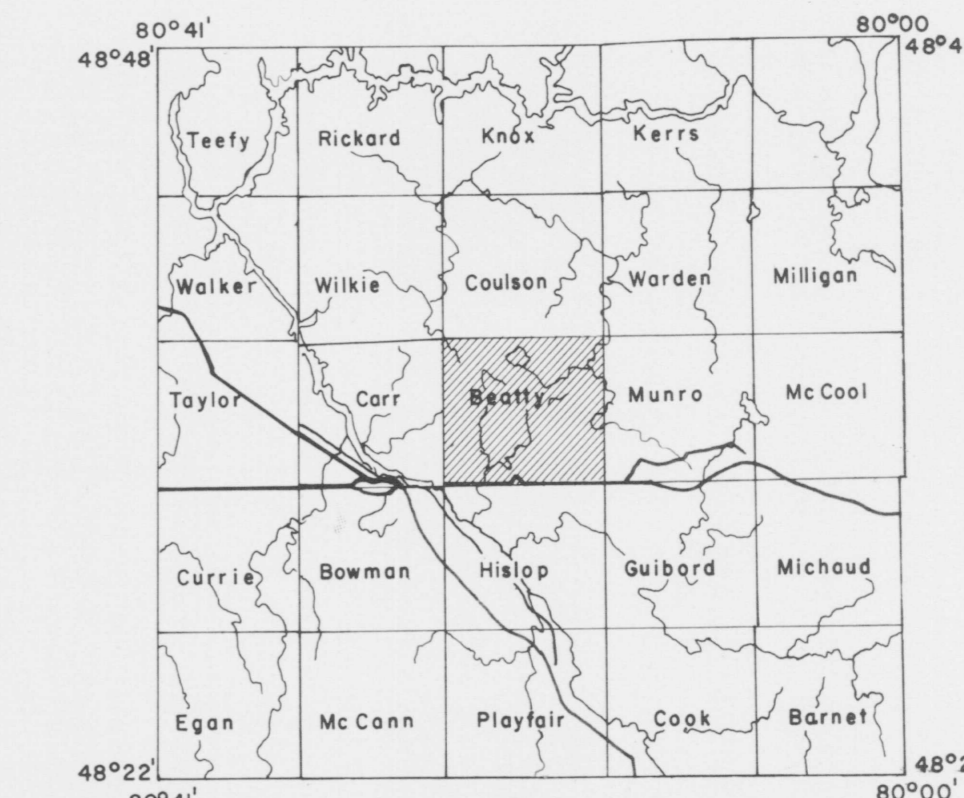


TABLE OF LITHOLOGICAL UNITS
KIRKLAND LAKE DATA SERIES

CENOZOIC	
PLEISTOCENE AND RECENT	
18a	ORGANIC DEPOSITS Clay and semi-peat bogs
18b	COCHRANE DEPOSITS Clay
18c	BARLOW-QUJIBWAY DEPOSITS Sand and gravel deposits
18d	GLACIAL FLUVIAL DEPOSITS Esker complexes associated outwash sand and gravel deposits
18e	GROUND MORaine DEPOSITS Sand, gravel, silt, with minor contained stratified drift, resting on bedrock
UNCONFORMITY	
MESOZOIC	
17	Kimberlite
INTRUSIVE CONTACT	
PALEOZOIC	
LOWER AND MIDDLE SILURIAN	
16a	Clinton (Thebes) Formation: limestone, quartzite, sandstone
16b	Wab Formation: limestone, shale
MIDDLE AND UPPER ONDOWICIAN	
15a	Osborne Falls Formation: shale
15b	Farr Formation: limestone
15c	Rupe Formation: limestone, shale
15d	Gulques Formation: sandstone
UNCONFORMITY	
PRECAMBRIAN	
LATE PRECAMBRIAN (PROTEROZOIC)	
14	Mafic intrusive rocks Diorase dikes
INTRUSIVE CONTACT	
MIDDLE PRECAMBRIAN (PROTEROZOIC)	
13	Alkalic intrusive rocks ^a Syenite, monzonite, lamprophyre
12	Mafic intrusive rocks ^b Diorase, transition rock, and granophyre sheets and dikes
INTRUSIVE CONTACT	
COBALT GROUP	
11	Lorraine Formation: quartzite, arkose
10	Osborne Formation Undifferentiated
9a	Firebrake Member: aryllite, sillstone, graywacke, arkose
9b	Osborne Member: conglomerate, graywacke, quartzite, arkose, aryllite
UNCONFORMITY	
EARLY PRECAMBRIAN (ARCHEAN)	
8	Mafic intrusive rocks ^c Diorase dikes
INTRUSIVE CONTACT	
ALKALIC INTRUSIVE ROCKS ^d	
7	Syenite, monzonite, lamprophyre ^e
INTRUSIVE CONTACT	
ALKALIC METAVOLCANICS ^f	
6	Trachyte, leucitic trachyte; flows, tuff, breccia
METASEDIMENTS	
5	Comglomerate, graywacke, sillstone, slate, aryllite, iron formation ^g
4	Quartzite, siltstone, slate, iron formation ^h
FELSIC INTRUSIVE ROCKS ⁱ	
3	Granite, intrusive rocks
2	Quartz porphyry, quartz-sillite porphyry, rhyolite porphyry, granophyre, sillite, trondhjemite, granodiorite, quartz monzonite, quartz diorite, apfite, pegmatite, migmatite, complex batholiths
INTRUSIVE CONTACT	
FELSIC METAVOLCANICS AND VOLCANICS ^j	
1	Undifferentiated dacite, andesite, and basalt
1b	Intermediate pyroclastic rocks
1c	Mafic flows
1d	Mafic pyroclastic rocks
INTRUSIVE CONTACT	
METAMORPHOSIS MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS ^k	
1	Undifferentiated Sillite, diorite Peridotite, dunite, pyroxenite, serpentinite
INTRUSIVE CONTACT	
INTERMEDIATE AND MAFIC METAVOLCANICS ^l	
1	Undifferentiated dacite, andesite, and basalt
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.
Saker, medial ridge.	Drill hole in overburden only; (vertical or collar, inclined). Overburden shown.
Shall bedrock outcrop.	Drill hole in overburden only; (vertical or collar, inclined). Overburden shown.
Bedding, top unknown; (inclined, vertical).	Shaft; depth in feet.
Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned).	Mineral occurrence at surface.
Bedding, top (arrow) from rock bedding; (inclined, vertical, overturned).	Airborne electromagnetic anomaly (Quaternary Channel Input System).
Lava flow; top (arrow) from pillow shape and packing.	Airborne electromagnetic anomaly (Quaternary Channel Input System).
Schistosity; (horizontal, inclined, vertical).	2 channel response.
Heliosity; (horizontal, inclined, vertical).	3 channel response.
Layering; (horizontal, inclined, vertical).	4 channel response.
Lamination with plunge.	5 channel response.
Geological boundary, observed.	6 channel response and coincident magnetic anomaly.
Geological boundary, position interpreted.	Airborne magnetometer anomaly.
Geological boundary, deduced from geophysics.	Ground magnetometer anomaly.
Fault; (observed, assumed). Spot indicates down throw side, arrow indicate horizontal movement.	Ground electromagnetic anomaly (VEM-WET-loop); HD-Horizontal loop; VLF-Very Low Frequency; JEM-Crone EM-16).
Lireament.	Induced Polarisation anomaly.
Jointing; (horizontal, inclined, vertical).	Spontaneous Polarisation anomaly.
Drag folds with plunge.	Gravity anomaly.
Articline, syncline.	Hydrostatic anomaly.
with plunge.	Resistivity anomaly.

METAL AND MINERAL REFERENCE

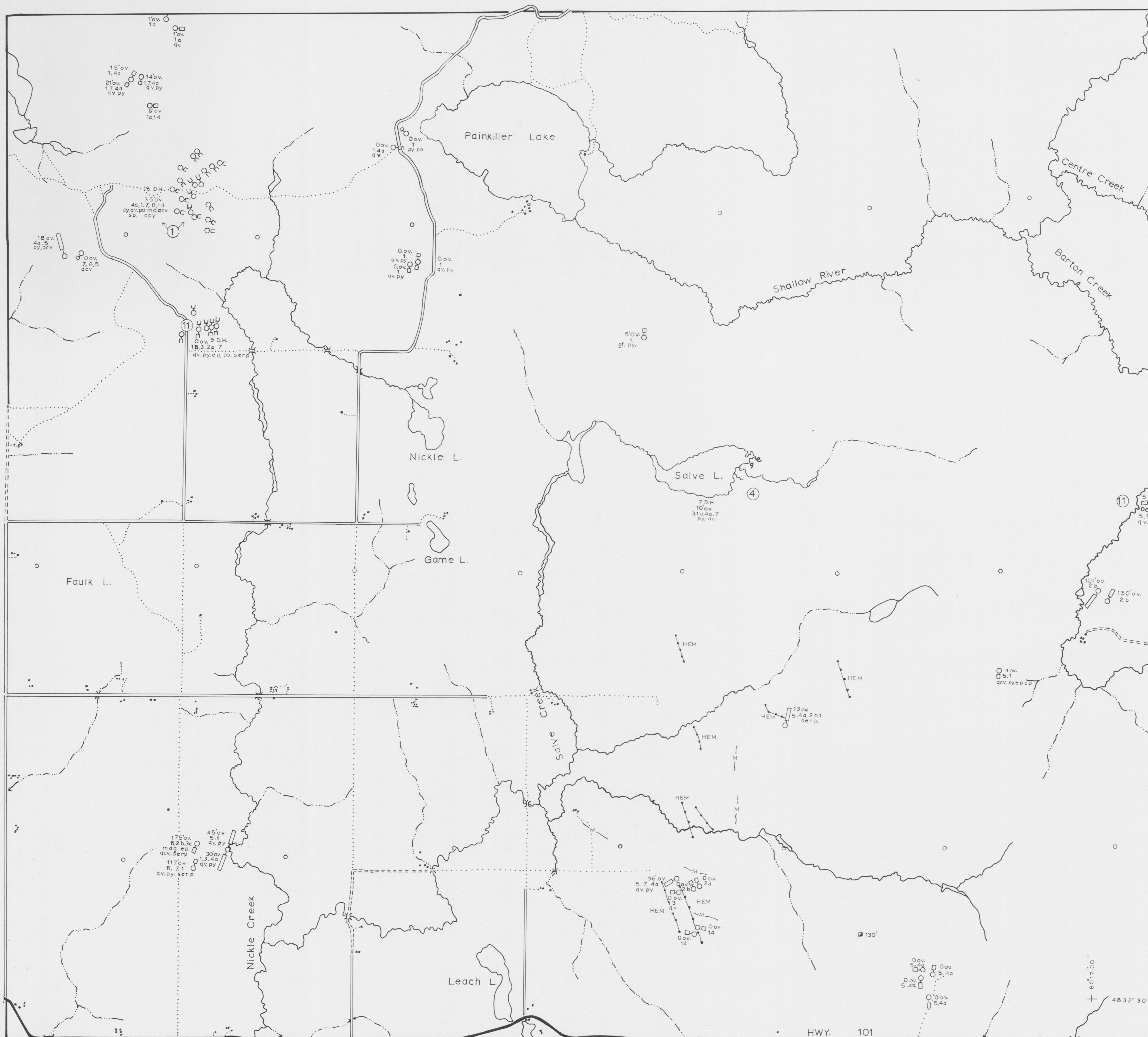
For Kirkland Lake Data Series

Ag	Silver	mo	Molybdenite
amb	Amibolite	ni	Nickel
au	Gold	pb	Lead
cd	Cadmium	pn	Pentlandite
co	Cobalt	py	Pyrite
ep	Chalcopyrite	ps	Pyrrhotite
cr	Chromite	pl	Platino
cu	Copper	py	Pyrite
ep	Epithermal	qv	Quartz-carbonate vein
fe	Iron	qv	Quartz vein
fl	Fluorite	serp	Serpentine
gf	Graphite	sp	Sphalerite
gn	Gahnite	spc	Spinel
mag	Magnetite	tal	Talc
mar	Marcasite	zn	Zinc
ni	Nickel		

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.

NTS Reference 42 A/9
GSC Aeromagnetic Map 2966 (rev.)
GSC Geological Compilation Series Map 2046
GSC Annual Report, vol. 56, Pt. 7, 1967
GSC Surficial Geology Map 46-1999

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OTTAWA



DATA FILED WITH THE ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS
RESIDENT GEOLOGIST
AT KIRKLAND LAKE
Through April 30, 1972

	GEOLOGICAL	DIAMOND DRILLING	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETOMETER	GROUND MAGNETOMETER	VERTICAL LOOP ELECTROMAGNETOMETER	HORIZONTAL LOOP ELECTROMAGNETOMETER	TERRAIN ELECTROMAGNETOMETER	IPM	INDUCED POLARIZATION	VLF	RESISTIVITY	GRAVITY	GEOCHEMICAL	OTHERS
1. Argyll Gold Mines Ltd.	46*														46**
2. Bird, S.J.	47														
3. Canadian Johns-Manville Co. Ltd.	51	50A51		51											
4. Cluden Gold Mines Ltd.	45***														
5. Headwater Mines Ltd.															55***
6. Hollinger Consolidated Gold Mines Ltd. "Group 2"	62														
7. Hollinger Consolidated Gold Mines Ltd. "Monteith Block E"	66			66		66									
8. Hollinger Consolidated Gold Mines Ltd. "Monteith Block E"	30														
9. Kruk, T.	61														
10. Lynch, H.R.	47														47***
11. Ornum Copper Mines Ltd.	56*														
12. Stewart-Abate Gold Mines Ltd.	58	58													
13. Texas Gulf Sulphur (Beatty 54)	60	60													

* Composite DI geology mapped where multiple DI are indicated
** Underground assays
*** 7 MI south of Salve Lake, locations not available
**** Prospectus
***** Trenching

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 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.

