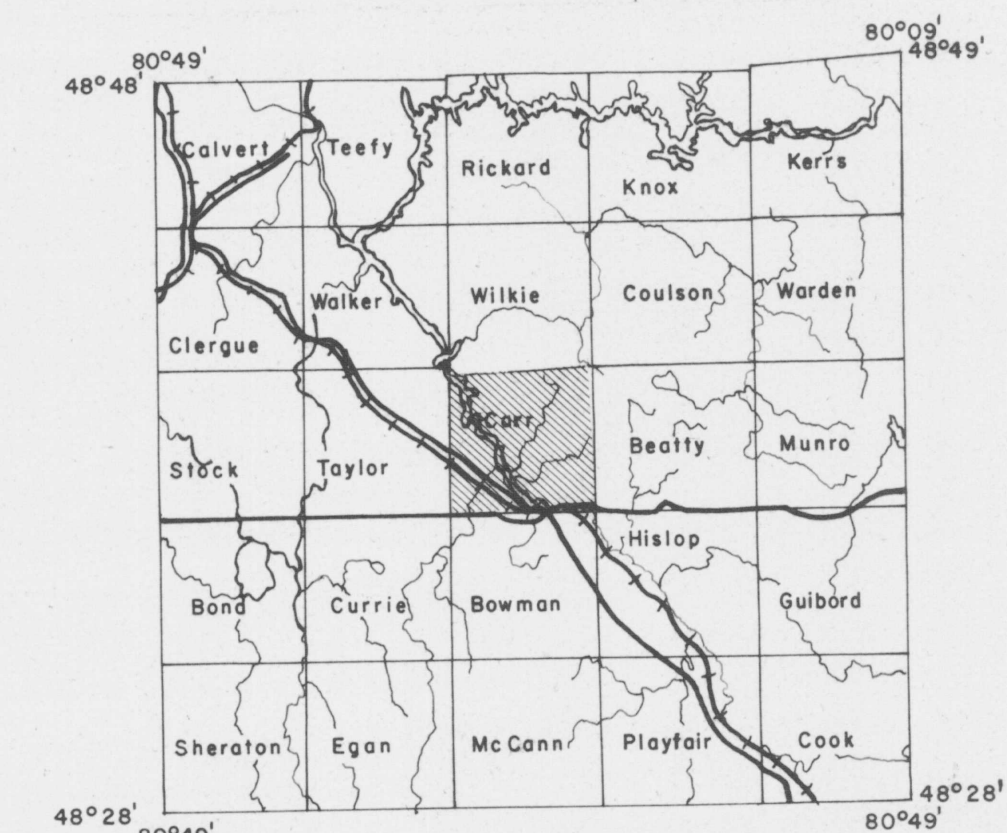


**CARR TOWNSHIP**  
DISTRICT OF COCHRANE, ONTARIO



TITLE OF LITHOLOGICAL UNITS  
KIRKLAND LAKE DATA SERIES

- CEANOZOIC**
- PLEISTOCENE AND RECENT**
- 18a ORGANIC DEPOSITS  
Open and semi-open bogs
- 18b COCHRANE DEPOSITS  
Clay fill
- 18c BARLOW - QUIBWAY DEPOSITS  
Varved sediments  
Sand and gravel deposits
- 18d GLACIAL - FLUVIAL DEPOSITS  
Esker complexes associated outwash  
sand and gravel deposits
- 18e GRADING MORANE DEPOSITS  
Sandy gravel fill, with minor  
contained stratified drift, resting on  
bedrock.
- UNCONFORMITY**
- MESOZOIC**
- 17 Kimberlite
- INTRUSIVE CONTACT**
- PALEOZOIC**
- LOWER AND MIDDLE SILURIAN**
- 16a Clinton (Thornloe) Formation: limestone,  
sandstone, shale
- 16b Wall Formation: limestone, shale
- MIDDLE AND UPPER ORDOVICIAN**
- 15a Dawson Point Formation: shale
- 15b Carr Formation: limestone
- 15c Rucke Formation: limestone, shale
- 15d Sulgus Formation: sandstone
- UNCONFORMITY**
- PRECAMBRIAN**
- LATE PRECAMBRIAN (PROTEROZOIC)**
- 14 Mafic intrusives rocks<sup>a</sup>  
Diatase dikes
- INTRUSIVE CONTACT**
- MIDDLE PRECAMBRIAN (PROTEROZOIC)**
- 13 Alkaline intrusives rocks<sup>a</sup>  
13 Syenite, monzonite, lamprophyre
- 12 Mafic intrusives rocks<sup>a</sup>  
12 Diabase, transition rock, and granophyre  
sheets and dikes
- INTRUSIVE CONTACT**
- COBALT GROUP**
- 11 Lorrain Formation: quartzite, arkose
- 10 Un differentiated
- 10a Firstbrook Member: argillite, siltstone,  
greywacke, arkose
- 10b Colman Member: conglomerate, greywacke,  
quartzite, arkose, argillite
- UNCONFORMITY**
- EARLY PRECAMBRIAN (ARCHEAN)**
- 9 Mafic intrusives rocks<sup>a</sup>  
9 Diabase dikes
- INTRUSIVE CONTACT**
- ALKALINE INTRUSIVE ROCKS<sup>a</sup>**
- 8 Syenite, monzonite, lamprophyre<sup>a</sup>
- INTRUSIVE CONTACT**
- ALKALINE METAVOLCANICS<sup>a</sup>**
- 7 Trachyte, leucitic trachyte; flows, tuff,  
breccia
- METASEDIMENTS<sup>a</sup>**
- 6 Conglomerate, greywacke, siltstone, slate,  
argillite, iron formation<sup>a</sup>
- 5 Greywacke, siltstone, slate, iron formation<sup>a</sup>
- FELSIC INTRUSIVE ROCKS<sup>a</sup>**
- 4 Granitic intrusives rocks<sup>a</sup>  
4a Quartz porphyry, quartz-feldspar porphyry,  
feldspar porphyry, granophyre, felsitic  
4b Trondjemite, granodiorite, quartz monzonite;  
simple batholiths and stocks<sup>a</sup>
- 4c Trondjemite, granodiorite, quartz monzonite,  
quartz diorite, aplite, pegmatite, migmatite;  
complex batholiths
- INTRUSIVE CONTACT**
- FELSIC METAVOLCANICS AND VOLCANICS<sup>a</sup>**
- 3a Undifferentiated, rhyolite
- 3b Iron formation and ferruginous chert
- 3c Flows
- 3c Pyroclastic rocks
- INTRUSIVE CONTACT**
- METAMORPHIC MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS<sup>a</sup>**
- 2 Undifferentiated
- 2a Gabbro, diorite
- 2b Peridotite, omphacite, pyroxenite, serpentinite
- INTRUSIVE CONTACT**
- INTERMEDIATE AND MAFIC METAVOLCANICS<sup>a</sup>**
- 1a Undifferentiated dacite, andesite, and basalt
- 1b Intermediate pyroclastic rocks
- 1c Mafic flows
- 1d Mafic pyroclastic rocks

<sup>a</sup> Formerly classified as Keewatin  
<sup>b</sup> Formerly classified as Timiskaming  
<sup>c</sup> Formerly classified as Haliburton  
<sup>d</sup> Formerly classified as Algonquin  
<sup>e</sup> Includes north-trending dikes of Metachewan swarm  
<sup>f</sup> Includes Nipissing and Sudbury-type  
<sup>g</sup> Includes Keewatin  
<sup>h</sup> Several ages; some units appear to be intrusive equivalents  
of volcanic formations whereas others postdate volcanic  
<sup>i</sup> Rocks in these groups are subdivided lithologically; the  
order does not necessarily imply any relationship within  
or among groups

**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 orientation; (inclined, vertical, overturned).
- Bedding, top (arrow) from cross bedding; (inclined, vertical, overturned).
- Lava flow, top (arrow) from pillow shape and packing.
- Schistosity; (horizontal, inclined, vertical).
- Gneissosity; (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, arrow indicates 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 (Quarter & 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-Vert-loop; 100-Hz horizontal loop; VEM- Very low freq.; Turam; JEM-Cross 40-10).
- Induced Polarization anomaly.
- Spontaneous Polarization anomaly.
- Gravity anomaly.
- Radiometric anomaly.
- Resistivity anomaly.

**METAL AND MINERAL REFERENCE**  
For Kirkland Lake Data Series

Ag ..... Silver	no ..... Nolybdenite
As ..... Arsenic	Ni ..... Nickel
Au ..... Gold	Pb ..... Lead
Cd ..... Cadmium	Pt ..... Palladium
Co ..... Cobalt	pent ..... Pentlandite
Cu ..... Chalcocite	py ..... Pyrrhotite
Cr ..... Chromian	Pl ..... Platinite
C ..... Copper	py ..... Pyrite
ep ..... Epidote	qcz ..... Quartz-carbonate vein
Fe ..... Iron	qw ..... Quartz vein
fl ..... Fluavite	serp ..... Serpentine
gl ..... Graphite	sp ..... Spinelite
gn ..... Galena	spc ..... Specularite
mag ..... Magnetite	tal ..... Talc
mar ..... Marcasite	tl ..... Tin
ml ..... Millesterite	Zn ..... Zinc

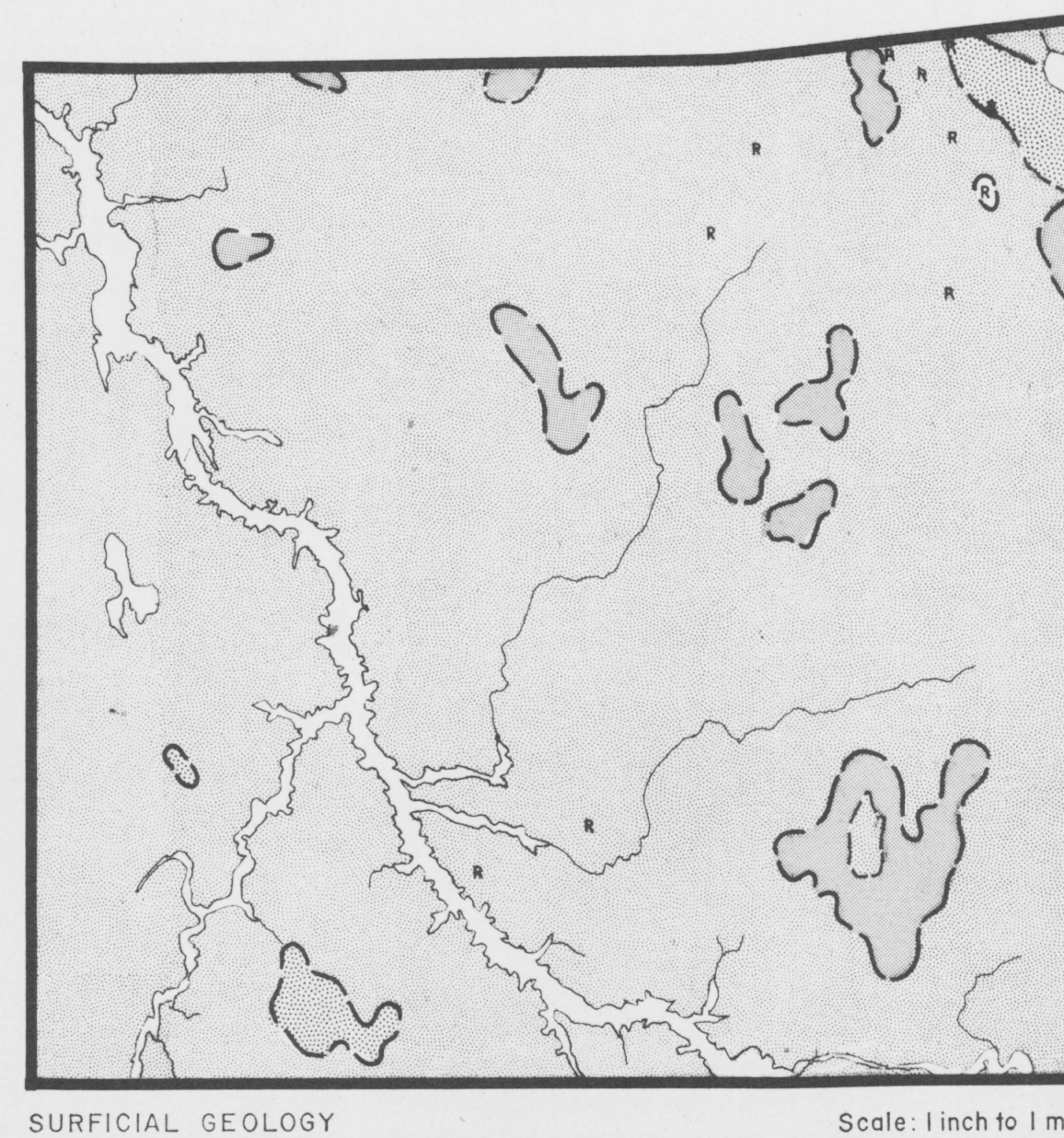
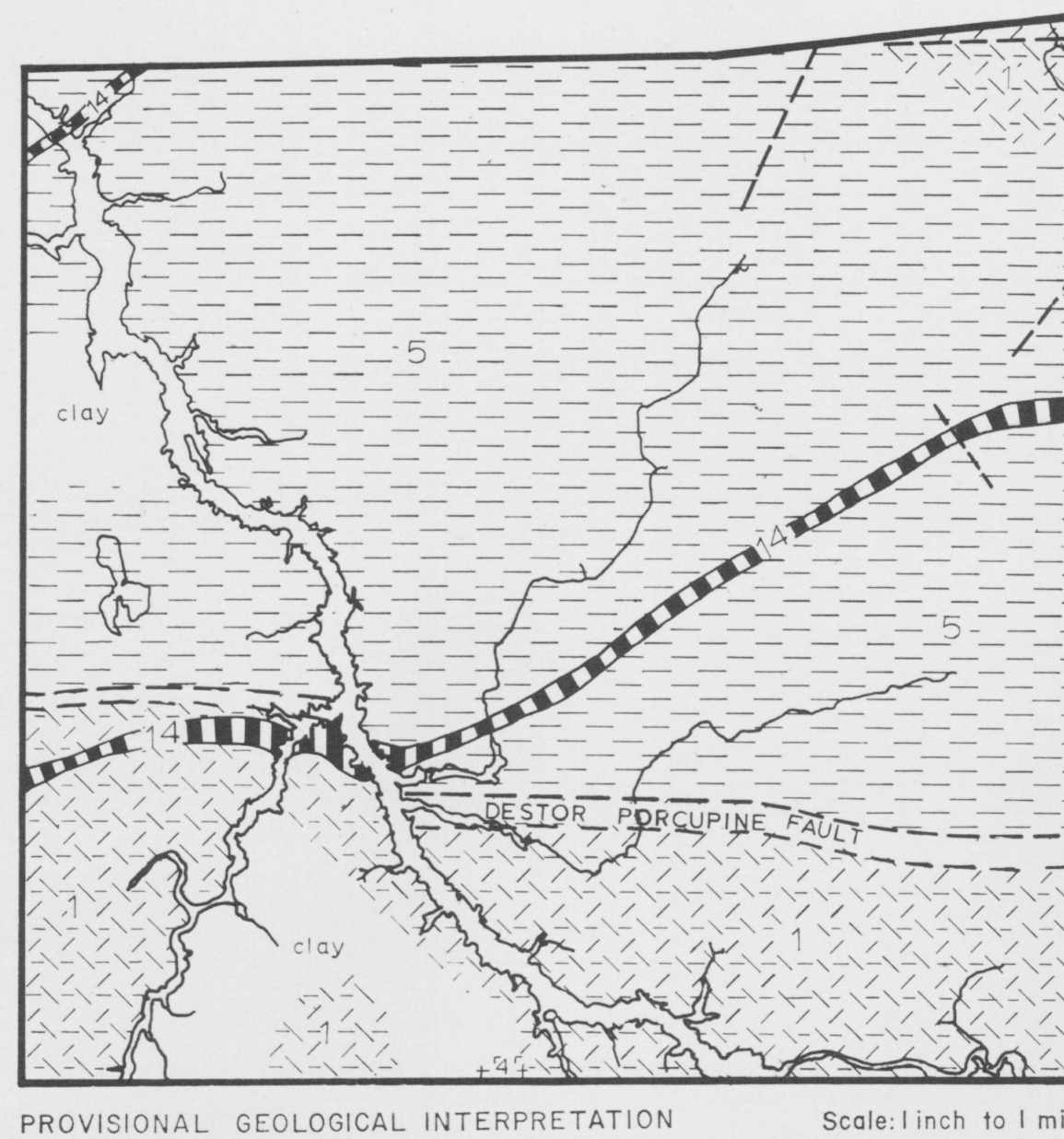
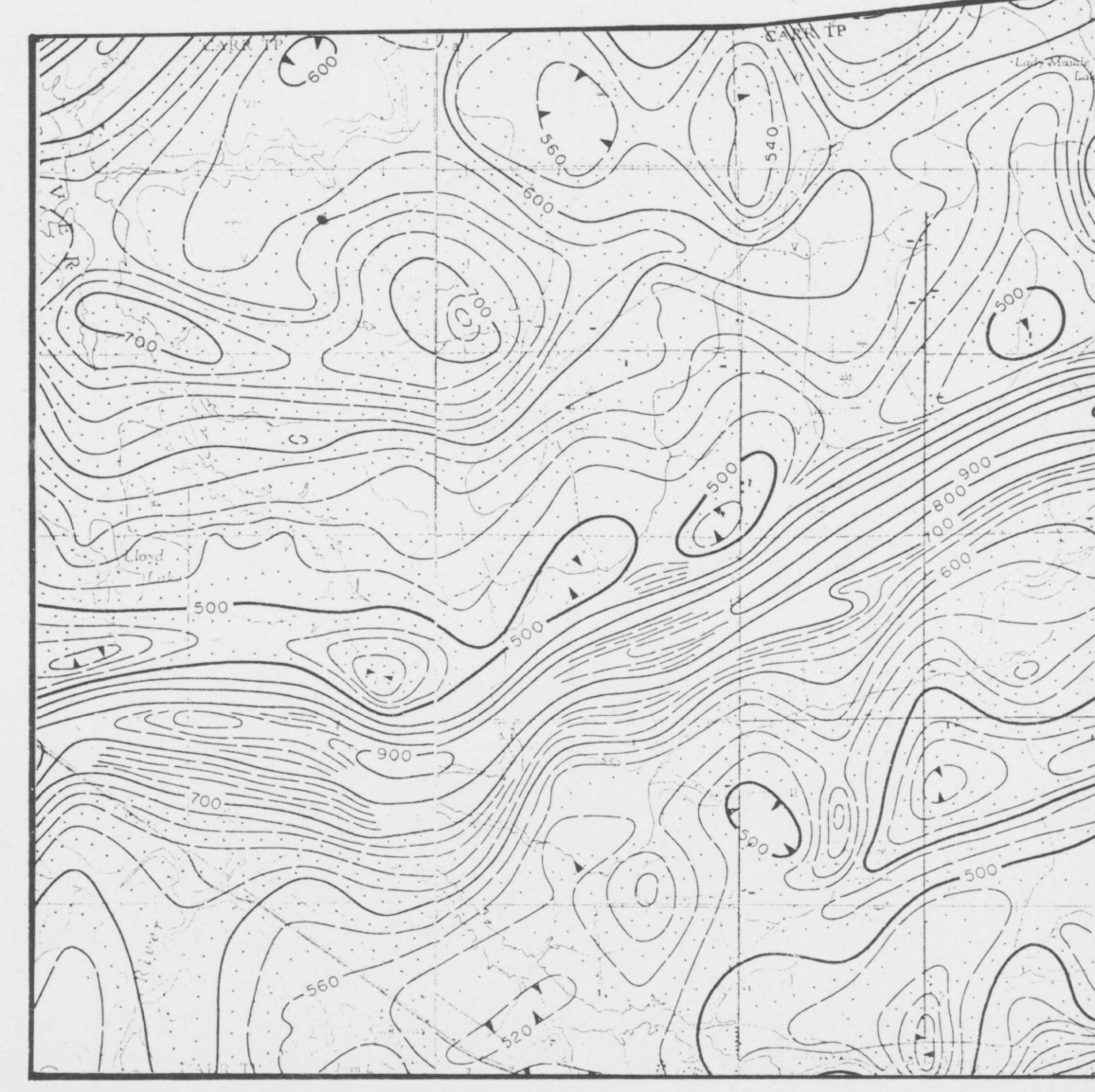
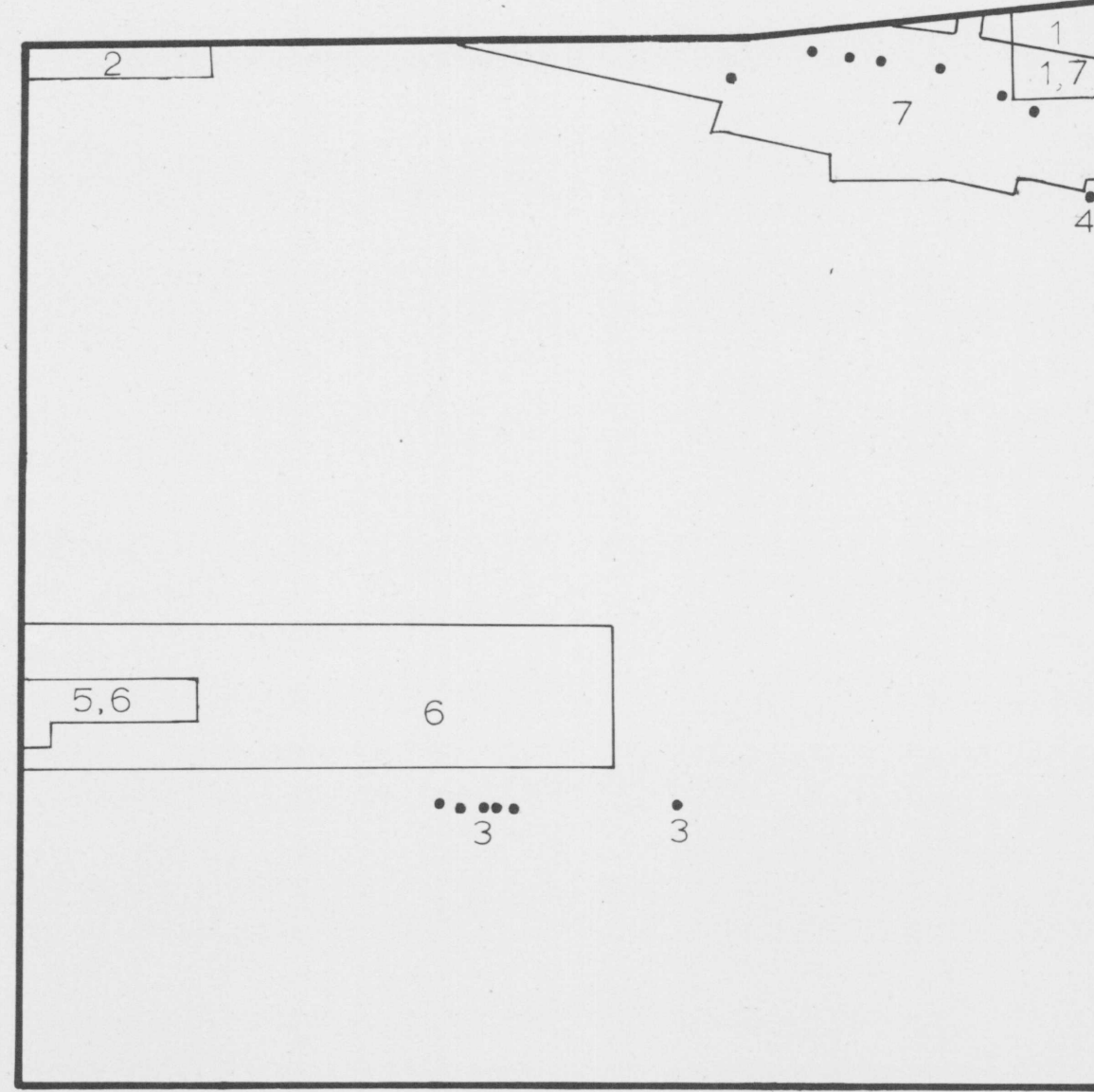
Sources of Information  
Compiled by the Geological Survey of Canada in co-operation with the Ontario Department of Mines and Northern Affairs from data on file with the Resident Geologist (Ontario Department of Mines and Northern Affairs), Kirkland Lake.

1975 Reference: L2 4/7, L2 4/10  
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GSC Geological Compilation Series Map 2046  
GSC Geological Map 1923-1  
GSC Annual Report vol. 50 (1951), Part 4  
GSC Surficial Geology Map 46-1959

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	TURAM ELECTROMAGNETOMETER	JEM	INDUCED POLARIZATION	VLF	RESISTIVITY	GRAVITY	GEOCHEMICAL	OTHERS
1.	Carr Hiltop Gold Syndicate	39														39*
2.	Dominion Gulf Company	54				54										
3.	Hollinger Consolidated Gold Mines Ltd.	64														
4.	Hollinger Consolidated Gold Mines Ltd. "Monteith Block E"	88														
5.	Hollinger Consolidated Gold Mines Ltd. "Taylor-Carr option"	88														
6.	Jeffris Prop. "Hollinger option"	88														
7.	Willicarr Mines Ltd.	46				46										

① 7 Dh; avg. 30' ov., 1c, 14, 4a, py & low Au assay  
② 6 Dh; avg. 90' ov., 5, 14, 1, py & low Au assay  
\* Assay  
88 No date recorded

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.



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104  
JUN 1972  
GEOLOGICAL SURVEY  
OTTAWA