

### COOK TOWNSHIP

DISTRICT OF COCHRANE, ONTARIO

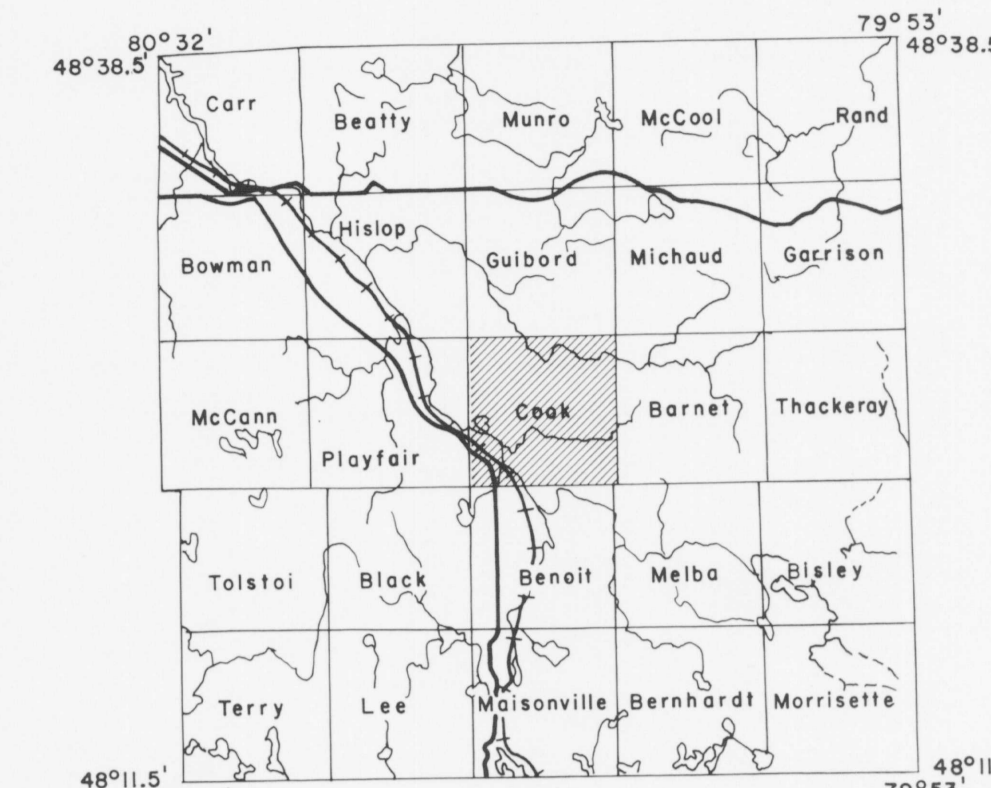


TABLE OF LITHOLOGICAL UNITS  
KIRKLAND LAKE DATA SERIES

- CENOZOIC**
- PLEISTOCENE AND RECENT**
- 1B6 ORGANIC DEPOSITS  
Open and semi-open bogs
- 1B6 COCHRANE DEPOSITS  
Clay fill
- 1Bc BARLOW-DUBWAY DEPOSITS  
Varied sediments  
Sand and gravel deposits
- 1B6GLACIO-FLUVIAL DEPOSITS  
Esker complex associated outwash  
sand and gravel deposits
- 1B6 GROUND MORAIN DEPOSITS  
Sandy grey siltstone, with minor  
concentrated stratified drift, resting on  
bedrock.
- UNCONFORMITY
- MESOZOIC**
- 17 Kimberlite
- INTRUSIVE CONTACT**
- PALEOZOIC**
- LOWER AND MIDDLE SILURIAN**
- 15a Clinton (Thebes) Formation: limestone,  
dolomite, sandstone
- 15b Wolf Formation: limestone, shale
- MIDDLE AND UPPER COONAWAN**
- 15a Dawson Point Formation: shale
- 15b Farr Formation: limestone
- 15c Buce Formation: limestone, shale
- 15d Gouges Formation: sandstone
- UNCONFORMITY
- PRECAMBRIAN (PROTEROZOIC)**
- LATE PRECAMBRIAN (PROTEROZOIC)**
- 14 Mafic intrusive rocks<sup>a</sup>  
14 Diabase dikes
- INTRUSIVE CONTACT
- MIDDLE PRECAMBRIAN (PROTEROZOIC)**
- 12 Alkaline intrusive rocks<sup>b</sup>  
12 Syenite, nepheline syenite, lamprophyre
- 12 Mafic intrusive rocks<sup>c</sup>  
12 Diabase, transition rock, and granophyre  
sheets and dikes
- INTRUSIVE CONTACT
- COBALT GROUP**
- 11 Laramie Formation: quartzite, arkose
- 10 Gowanda Formation
- 10a Firstbrook Member: argillite, siltstone,  
greysack, arkose
- 10b Coleman Member: conglomerate, greysack,  
quartzite, arkose, argillite
- UNCONFORMITY
- EARLY PRECAMBRIAN (ARCHAIC)**
- 9 Mafic intrusive rocks<sup>d</sup>  
9 Diabase dikes
- INTRUSIVE CONTACT
- ALKALINE INTRUSIVE ROCKS<sup>e</sup>**
- 8 Syenite, nepheline, lamprophyre<sup>h</sup>
- INTRUSIVE CONTACT
- ALKALINE METAVOLCANICS<sup>f</sup>**
- 7 Trachyte, leucitic trachyte; flows, tuff,  
breccia
- METASEDIMENTS<sup>g</sup>**
- 6 Conglomerate, greysack, siltstone, slate,  
argillite, iron formation<sup>i</sup>
- 5 Greysack, siltstone, slate, iron formation<sup>i</sup>
- FELSIC INTRUSIVE ROCKS<sup>j</sup>**
- 4 Granitic intrusive rocks
- 4a Quartz porphyry, quartz-feldspar porphyry,  
felsic porphyry, granophyre, felsite<sup>k</sup>
- 4b Trochilite, granodiorite, quartz monzonite,  
simple batholiths and stocks<sup>l</sup>
- 4c Trochilite, granodiorite, quartz monzonite,  
quartz diorite, gabbro, diorite, gabbro,  
complex batholiths
- INTRUSIVE CONTACT
- FELSIC METAVOLCANICS AND VOLCANICS<sup>m</sup>**
- 3 Undifferentiated andesite, rhyolite
- 3a Iron formation and ferruginous chert
- 3b Flow
- 3c Pyroclastic rocks
- INTRUSIVE CONTACT
- METAMORPHISED MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS<sup>n</sup>**
- 2 Undifferentiated
- 2a Gabbro, diorite
- 2b Peridotite, dunite, pyroxenite, serpentinite
- INTRUSIVE CONTACT
- INTERMEDIATE AND MAFIC METAVOLCANICS<sup>o</sup>**
- 1 Undifferentiated andesite, 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.
- Esker, medial ridge.
- Small bedrock outcrop.
- Bedding, top unknown; (inclined, vertical).
- Bedding, top (arrow) from  
rain gradient; (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, arrows indicate  
horizontal movement.
- Lineament.
- Jointing; (horizontal,  
inclined, vertical).
- Drag folds with plunge.
- Anticline, syncline,  
with plunge.
- Drill hole; (corrected  
vertically). Overburden  
shown.
- Drill hole in overburden  
only, vertical or other,  
inclined). Overburden shown.
- Shaft; depth in feet.
- Mineral occurrence at  
surface.
- Airborne electromagnetic  
anomaly (Canadian Aero  
System).
- Airborne electromagnetic  
anomaly (Quadrant 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 (VEM-vert-loop;  
NEM-horizontal loop; VLF-  
Very Low Freq.; Turan;  
JEM-geom. EM).
- 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	Pt ..... Palladium
Co ..... Cobalt	PtC ..... Pentacite
Cp ..... Chalcopyrite	PtS ..... Pyrrhotite
Cr ..... Chromite	Pl ..... Platinum
Cu ..... Copper	Px ..... Pyrite
Ep ..... Epidote	QCV ..... Quartz-carbonate vein
Fe ..... Iron	QV ..... Quartz vein
Fl ..... Fluorite	SERP ..... Serpentine
Gr ..... Graphite	Sp ..... Sphalerite
Gn ..... Galena	Spec ..... Spicularite
Mg ..... Magnetite	Talc ..... Talc
Mn ..... Marcasite	Tn ..... Tin
Ni ..... Nickel	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.

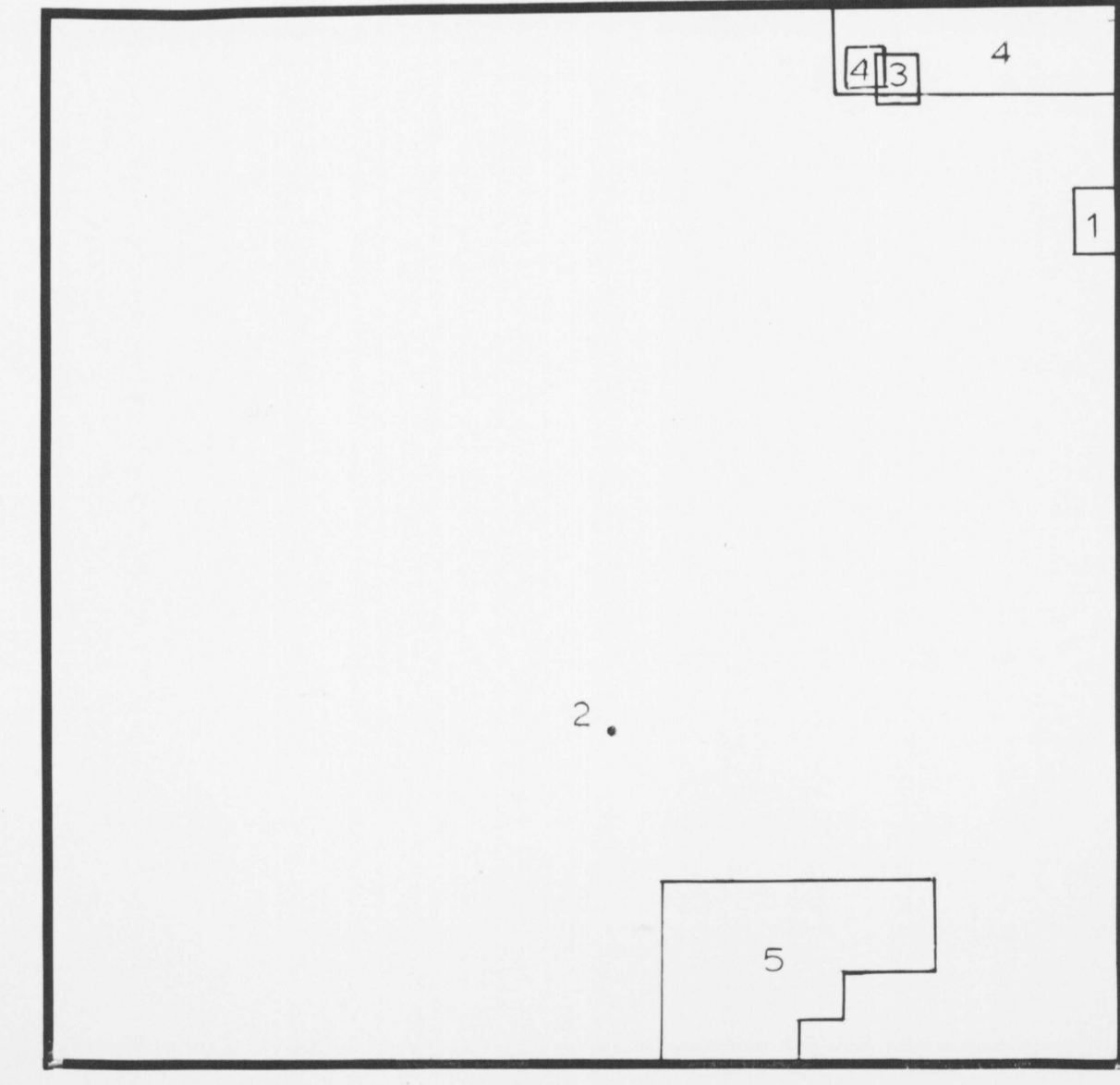
NTS Reference A2 A/9  
GSM-55C Aeronautical Map 2950 (rev.)  
GSI Geological Compilation Series Map 2046  
GSC Surficial Geology Map 1-1960

OPEN FILE  
104  
JUN 1972  
GEOLOGICAL SURVEY  
OTTAWA

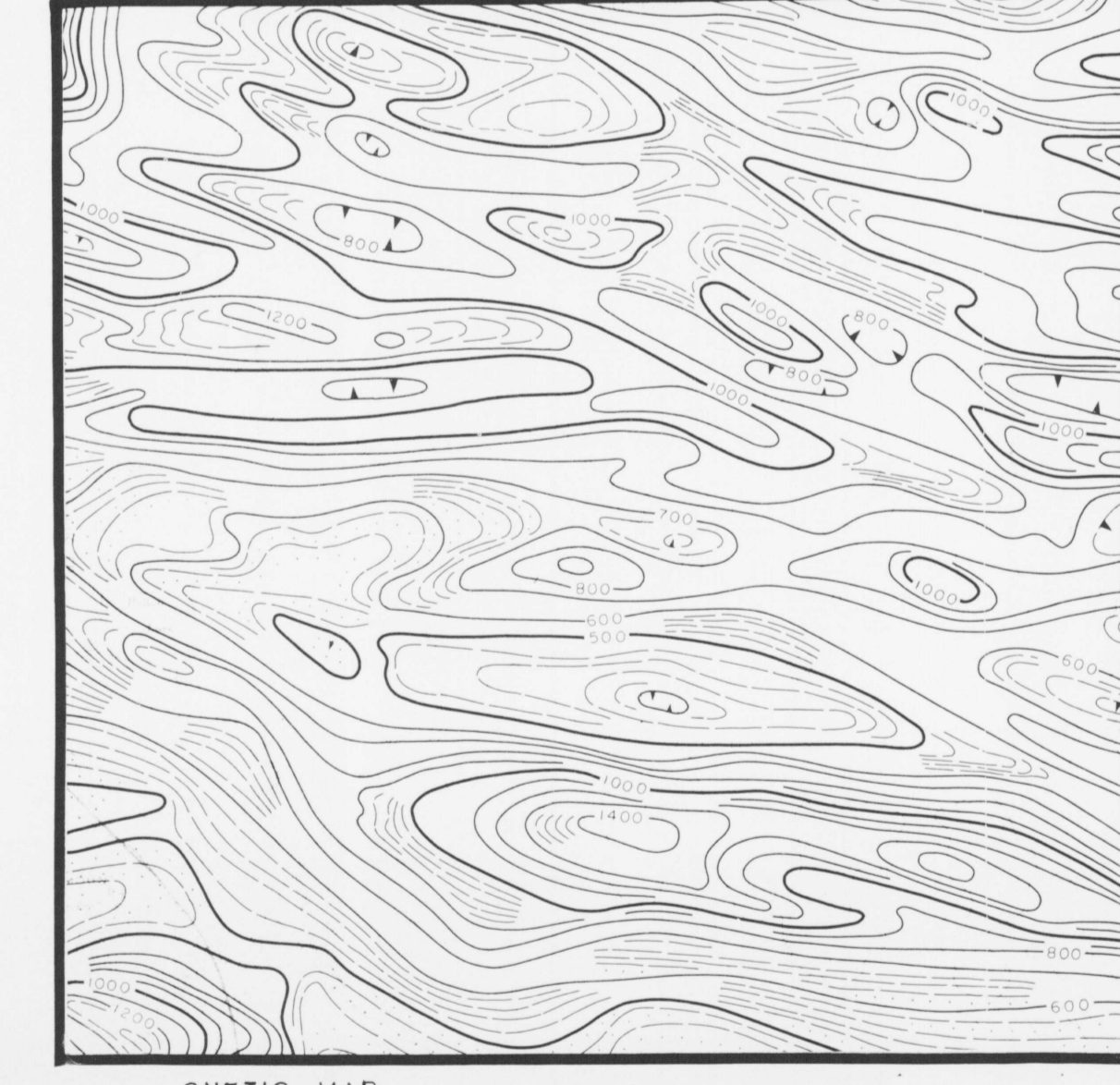
DATA FILED WITH THE ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS RESIDENT GEOLOGIST AT KIRKLAND LAKE Through February 1972		METHODS														
		GEOLOGICAL	DIAMOND DRILLING	AIRBORNE MAGNETOMETER	AIRBORNE ELECTROMAGNETOMETER	GROUND MAGNETOMETER	VERTICAL LOOP ELECTROMAGNETOMETER	HORIZONTAL LOOP ELECTROMAGNETOMETER	TURAN ELECTROMAGNETOMETER	SEM	INDUCED POLARIZATION	VLF	RESISTIVITY	GRAVITY	GEOCHEMICAL	OTHERS
1.	D'Aragon Mines Ltd.															
2.	International Nickel Co. of Canada Ltd., The		65		66*											37**
3.	Lambroff Lucky Strike Gold Syndicate															56***
4.	Pilon															
5.	Peterson Ramore Syndicate		46													

\* Anomaly "A-N" No maps available  
\*\* Channel sampling in pit  
\*\*\* Samples taken

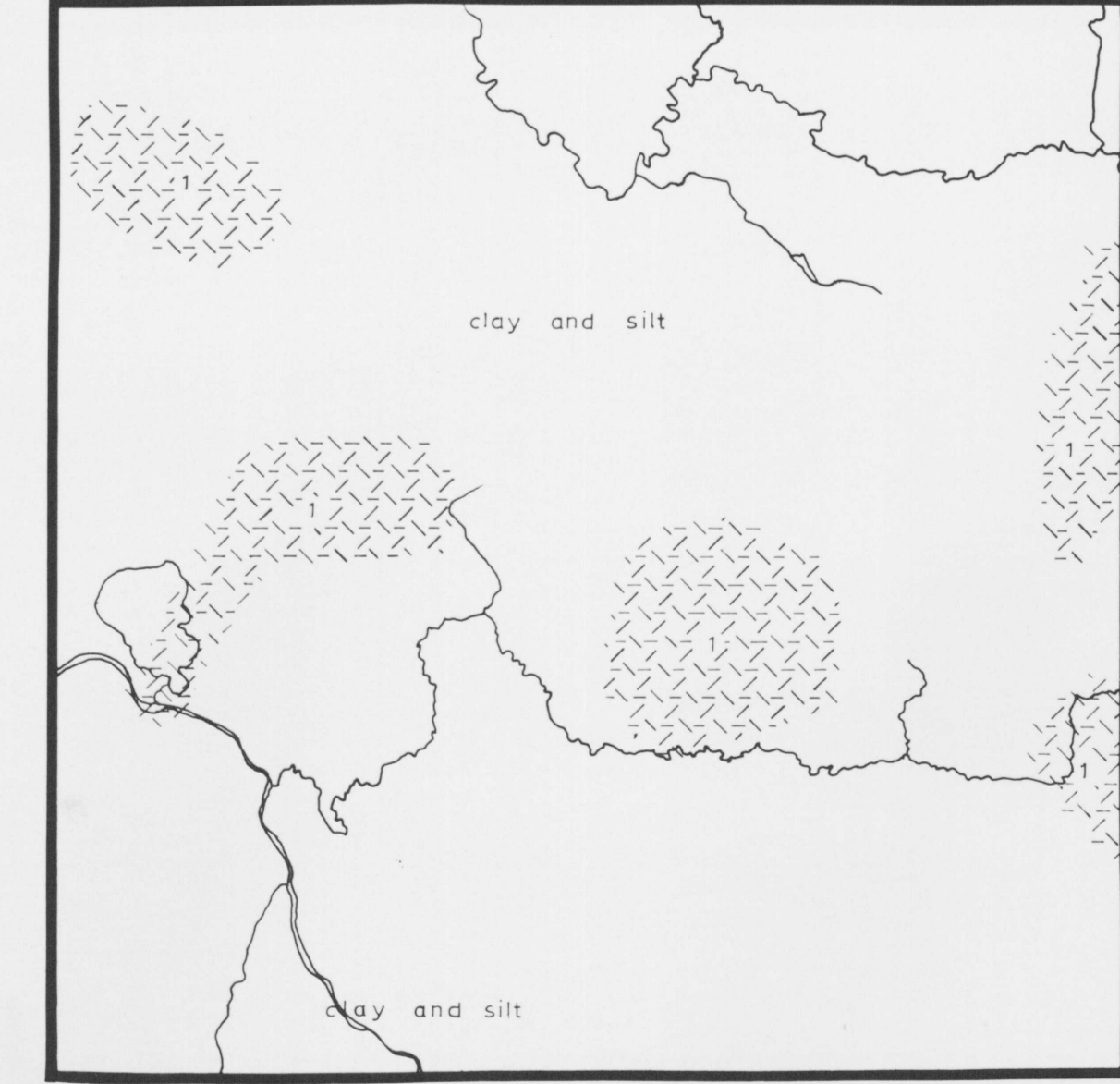
Note: The numbers on the above list stand for the year when the work was done, e.g., 66 for 1966. On the accompanying DATA LOCATION MAP only areas for which work was submitted to the Department are outlined, and thus a company may hold more ground than indicated here. The numbers on the DATA LOCATION MAP and any circled numbers refer to the company list above.



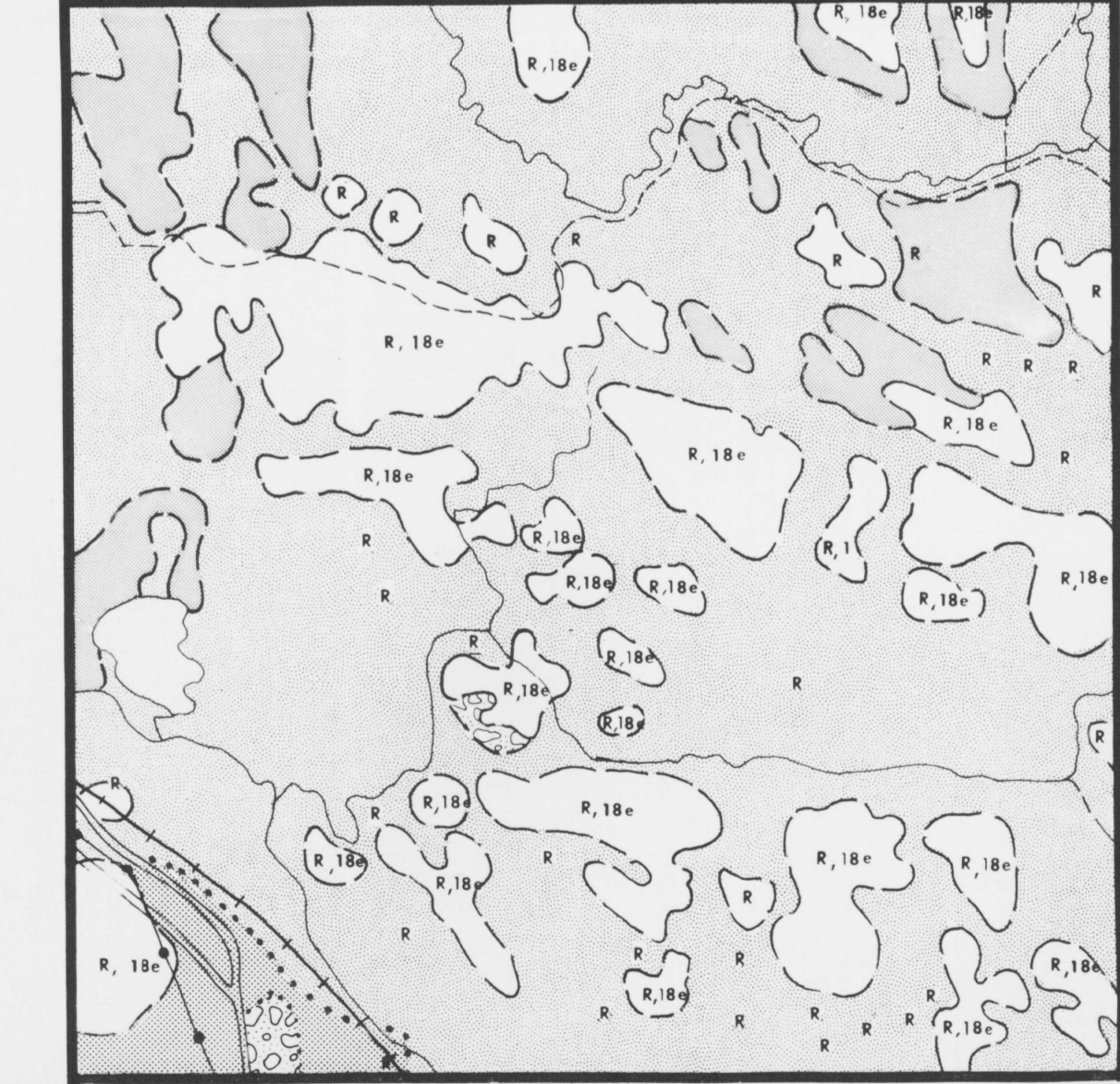
DATA LOCATION MAP Scale: 1 inch to 1 mile



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