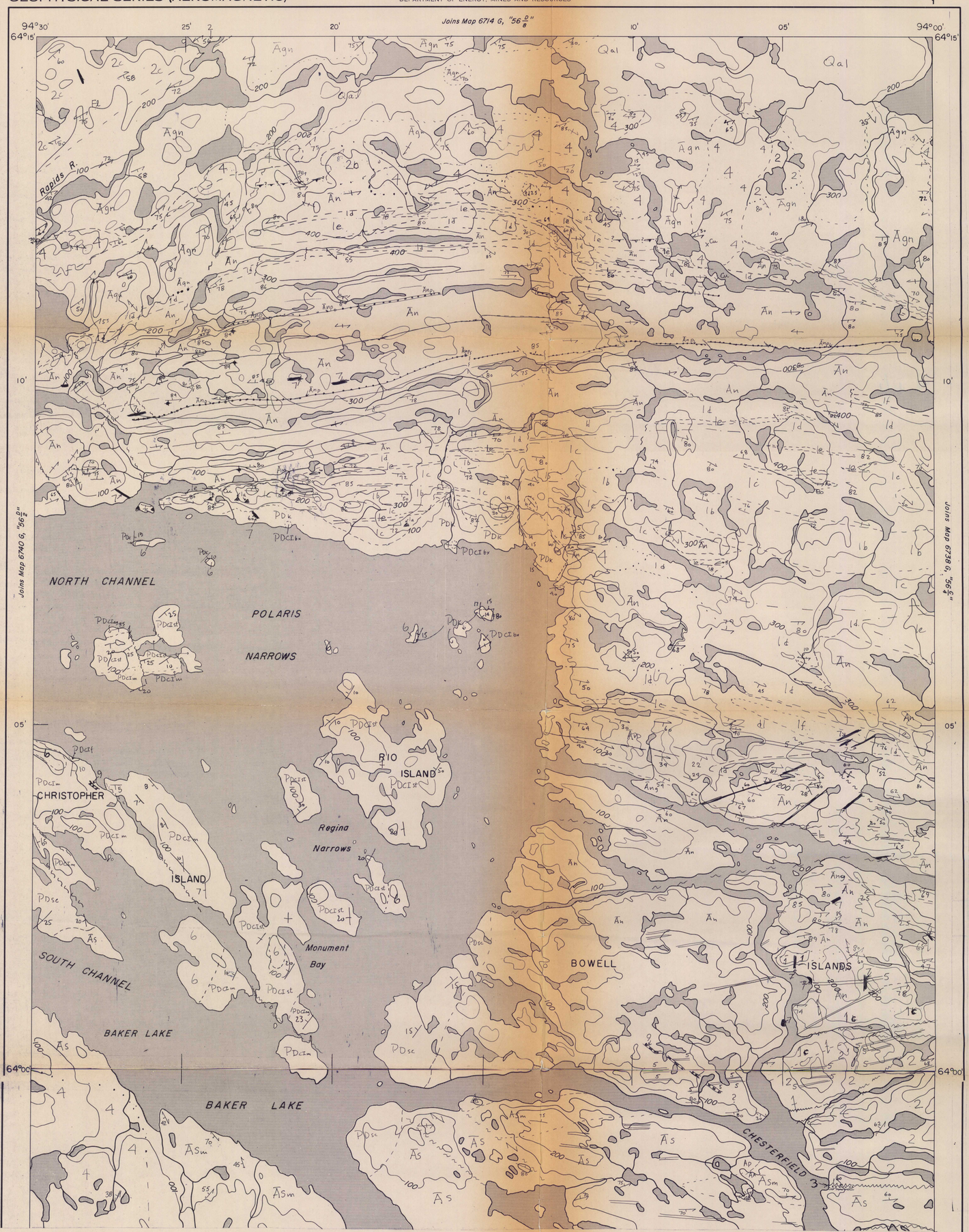
GEOPHYSICAL SERIES (AEROMAGNETIC)

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

SHEET 56 D/1



OPEN FILE 712 - Mikkel Schau and K. Ashton

LEGEND

DYKES — DIABASE (1.4 GA K/Ar)

INTRUSIVE

8 GRANITE — LATE GRANITE TO GRANODIORITE (1.8 GA Rb/Sr)

INTRUSIVE (INTO 2.1, $\bar{A}gn$)

NW FAULTING (NORTHEAST SIDE DOWN AND/OR DEXTRAL MOVEMNT)

Pd DUBAWNT GROUP (1.9 GA U/Pb)

7 — BIOTITE PYROXENE PORPHYRY DYKES AND STOCK

6 — MARTELL SYENITE: TRACHYTE AND/OR SYENITE ILLS AND LACCOLITHS

PDcI — CHRISTOPHER ISLAND VOLCANICS: F, TRACHYTE LOW, M. RED MUDSTONE, ST, SANDSTONE AND/OR TUFF, A AGGLOMERATE, BX, INTRUSIVE BRECCIA

PDK — KAZAN ARKOSE: CROSSBEDDED, RIPPLED, RED TO BLEACHED ARKOSE

PDsc — SOUTH CHANNEL CONGLOMERATE: CONGLOMERATE, BRECCIA

UNCONFORMITY

NE FAULTING — CUT $\bar{A}N$ AND $\bar{A}GN$, MAY OFFSET GABBRO, PRECEDE AND COEVAL WITH Pd

PEGMATITES — (NOT SHOWN ON MAP) BIOTITE-BEARING SIMPLE PEGMATITES COMMONLY SEEN IN AG AND 4 WITH WEST OF NORTH TREND IN W AND EAST OF NORTH TREND IN E

NS FAULTING (WEST SIDE DOWN?)

5 DYKE SWARM — EAST-WEST TRENDING FINE GRAINED DIABASE SWARM EMPLACED ALONG CHESTERFIELD FAULT ZONE

INTRUSIVE

4 GABBRO — URALITIZED, OFTEN GARNETIFEROUS, LOCALLY SHEARED WITH BIOTITE FOLIATION, MAY LOCALLY INCLUDE 5 AND 1 AND $\bar{A}GN$. INCLUDES XENOLITHIC FRAGMENTS OF $\bar{A}N$ AND $\bar{A}GN$.

INTRUSIVE

3 GRANITE — WITH BLUE APATITE AND TOURMALINE EMPLACED AND SHEARED BY, CHESTERFIELD FAULT ZONE

INTRUSIVE

CHESTERFIELD FAULT ZONE

EAST-WEST TRENDING REVERSE FAULT, LOCALLY, D PROBABLY GENERALLY, STEEPLY NORTH DIPPING, BRINGS HIGHER GRADE ROCKS OF THE NORTH OVER LOWER GRADE ROCKOF THE SOUTH.

PLUTONIC COMPLEX (2.4-2.5 GA Rb-Sr wr)

2 — A) SHEARED TO GNEISSIC, CHLORITIZED, SERICITIZED, AUGENED, GRANITIC TO GRANODIORITIC, PLUTONIC ROCK; GRANODIORITE COMPLEX WITH LOCALLY PORPHYRITIC PHASES AND MAGNETITE AND SPHENE-BEARING PORTIONS EXTENSIVELY DEVELOP TO NORTH AND EAST; C) FLUORITE-BEARING, SHEARED GRANITE GRANODIORITE IN NORTHWEST CORNER

INTRUSIVE

ANORTHOSITE COMPLEX

1 — A) ANORTHOSITE BLOCKS; B) COARSE GRAINED HYPERSTHENE AND CLINOPYROXENE-BEARING LABRADORITE, ANORTHOSITE TO LEUCO-GABBRO (STREAKY OR LINEATED); C) FINE GRAIN, RECRYSTALLIZED B; D) LAYERED WITH FELDSPAR-RICH AND PYROXENE-RICH LAYERS INTERCALATED AT CENTIMETER TO DECAMETER SCALE E) FERRO-GABBRO TO FERRODIORITE DYKES AND LAYERS; F) ANORTHOCKITIC-MANGERITIC GRANOPHYRE

INTRUSIVE

GRANULITE COMPLEX (2.6 GA+U/Pb on Zircon)

$\bar{A}n$ — UNDIFFERENTIATED GRANULITE COMPOSED OF VARIABLE PROPORTIONS OF PLAGIOCLASE, PYROXENES, ± GARNET ± QUARTZ PERTHITE; MAY CONTAIN PARTS OF 1

P) PLAGIOCLASITE (BYTOWNITE) LAYERS

G) GARNET-PLAGIOCLASE-QUARTZ GNEISS

S) KYANITE-BEARING QUARTZ-PERTHITE-GARNET-ORTHITE-BIOTITE ROCK; LOCAL PODS OF ORTHOPYROXENITE; MAY CONTAIN PARTS OF 1, ESPECIALLY 1b

CONTACT — WITH AGN TO NORTH IS OF TWO TYPES: A) A NW-STEEPLY DIPPING SHEAR ZONE WITH BRECCIA; AND B) A SURFACE S PARALLEL TO NEARBY LAYERING IN WHICH MAY BE A THRUST, AMOUGH ALTERNATE EXPLANATIONS ARE NOT PRECLUDED.

GNEISS COMPLEX (2.7 GA+U/Pb on Zircon)

$\bar{A}gn$ — GRANITIC GNEISSES RICH IN BIOTITE, INTERCALED WITH AMPHIBOLITES AND LOCALLY CONTAINING INCLUSIS OF TALC SCHISTS

NOT IN CONTACT

METASEDIMENTARY COMPLEX

$\bar{A}s$ — MIDDLE GRADE METAMORPHIC ROCKS, S, INCLUDINGARNETITES, EPIDOTE BIOTITE SCHISTS, MARBLE,TREMOLITE SCISTS AND QUARTZOFELDSPATHIC GNEISSES AND, M, AMPHIBOLES LOCALLY GARNETIFEROUS

GEOLOGICAL BOUNDARY (DEFINED, UNCERTAIN, GRADATIONAL, ASMED)

BEDDING, TOPS KNOWN, UNKNOWN

METAMORPHIC LAYERING, GNEISSOSITY AND LAYERING IN HIGH GSE ROCKS WHERE QUARTZ, FELDSPARS AND MAFIC MINERALS LAYERED ON MILLIMETER TO CENTIMETER SCALE

MARKER BEDS IN GRANULITE

FOLIATION, SCHISTOSITY, OFTEN ALIGNMENT OF MAFIC MINERALBUT MAY GRADE INTO GNEISSIC GRANITIC ROCK IN 2

MINOR FOLDS ARE ABUNDANT AND OF MANY GENERATIONS AND ORIENTATIONS IN THE GNEISSES, BUT ARE RELATIVELY RARE AND GENERAL SHALLOWLY WEST PLUNGING IN THE GRANULITES

MINOR FAULTS ARE VERY COMMON ALONG CHESTERFIELD INLET AND ATTEMPT HAS BEEN MADE TO PUT THEM ON MAP

FAULTS, HIGH ANGLE FAULTS (DEFINED, ASSUMED), THICK ON NDROPPED SIDE, ARROWS SHOW APPARENT MOVEMENT, POSSIBLE THT? DIRECTION OF FAULT

× MINERALS, Cu - MALACHITE AND LOCAL CHALCOPYRITE, FL, PUE FLUORITE, Se, SERPENTINE, SA, SAPPHIRINE, S, SILLIMANITE, KYANITE (BASEMENT ROCKS NEAR UNCONFORMITY AND FAULCONTAIN PREHNITE, PUMPELLYITE, CHLORITE AND/OR EPIE.

SUBJECT TO REVISION. NOTICE OF ANY REVISIONS OR ADDITIL GEOLOGICAL INFORMATION KNOWN TO USERS OF THIS OPEN FILE MAP WOULD GRATEFULLY RECEIVED BY THE AUTHORS.

The region within 5 km of the coastline of Baker Lake and all islands in these map sheets has been designated as within a caribou crossing area. Land use regulations prohibiting geological mapping in caribou crossing areas first started in 1977 and as a result the geology on the easternmost Bowell Islands and Rio Island and the south coast of Baker Lake has not been studied by the authors. Persons entering the area must obey the Caribou Protection Regulations and notify the Land Use Section, Northern Environment Branch, Indian and Northern Affairs Department.

Geology by Wright, 1967; Donaldson, 1965; Reinhardt and Skippen, 1973; (Reinhardt, Chandler and Skippen, Open File 703, 1980); Schau and Hulbert, 1976; Schau and Ashton, 1978; Blake, 1980; compiled by Schau and Ashton, 1980.

The topography for this map was reproduced from 1:250 000 topographical map sheets, published by the Department of Energy, Mines and Resources (56D in 1956 and 56C in 1959). Users are warned that modern 1:50 000 maps, from the same source, position the 94°00W latitude ~200 m to the east so that using maps of different ages will lead to mislocations.

Air photographs covering these map areas may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario.

Scale 1:50 000 Échelle

Miles 1 — 0 — 1 — 2 — 3 Milles

Metres 1000 — 0 — 1000 — 2000 — 3000 — 4000 Mètres

Yards 1000 — 0 — 1000 — 2000 — 3000 — 4000 Verges