

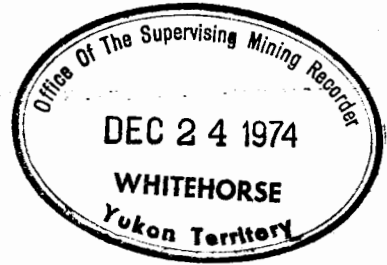
COMINCO LTD.

EXPLORATION

NTS 106 C/10



WESTERN DISTRICT



GEOLOGICAL ASSESSMENT

REPORT

ON THE DF CLAIM GROUP

NOVEMBER 28, 1974

STEPHEN B. BUTRENCHUK

PERIOD OF WORK

JULY 20, 1974 TO AUGUST 31, 1974



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 13,900.00

AB Craig

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Phillips

Commissioner of Yukon Territory

ADMINISTRATOR OF THE YUKON TERRITORY

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ATTACHMENTS

Affidavit

Exhibit "A" - Statement of Expenditures

Statement of Qualifications

Location Map

Claim Location Map (1 inch = 1 mile)

Geology Map (1 inch = 1000 feet)

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EXPLORATION

WESTERN DISTRICT

INTRODUCTION

In recent years exploration has been proceeding northward along the eastern border of the Yukon. In 1973 Barrier Reef Resources discovered significant zinc mineralization in the Bonnet Plume River area. The DF group of mineral claims, located in the Corn Creek area, were staked in January 1974 to cover potentially favourable lithology. Seventy mineral claims were staked and an additional eleven claims were subsequently added to this claim group.

SUMMARY

During 1974 the DF group was mapped and prospected. This work was done during the period July 20, 1974 to August 31, 1974.

Geological mapping revealed that the property is underlain by clastic and carbonate strata of the Rapitan Group, carbonate strata of the Keele Formation and clastic strata of the Sheepbed Formation. Sphalerite and galena occur sporadically in the Keele Formation. No mineralization was observed in the Rapitan Group strata nor in the Sheepbed Formation strata.

LOCATION AND ACCESS

The DF group of mineral claims is located in the Corn Creek area of the Yukon, approximately 120 miles north-northeast of Mayo at Latitude $64^{\circ} 40'$ and Longitude $133^{\circ} 00'$. Access to the property is via fixed-wing aircraft from Mayo to Pinguicula Lake and then by helicopter, a distance of 12 miles to the property.

TOPOGRAPHY

The DF group is located in fairly rugged alpine terrain. Elevations range from 3500 feet to 6500 feet. Corn Creek, on which the claim group borders, occupies a broad, glaciated valley. Most of the property is located above tree-line.

GEOLOGY

General Statement

Within the Bonnet Plume area Upper Proterozoic to Devonian carbonate and clastic strata are present. The principle formations within this sequence include the Rapitan Group, Keele Formation, Sheepbed Formation, Backbone Ranges Formation, Sekwi Formation and Mt. Kindle Formation. In general this sequence is conformable although unconformities occur throughout the area and one or more stratigraphic unit may be absent at any given locality. Also complicating the stratigraphy are a number of thrust faults. Normal and reverse faults of various orientations and displacements are present throughout the region.

Specifically, in the Corn Creek area, the stratigraphic units that are present include the Rapitan Group, Keele Formation and Sheepbed Formation. The general trend of the sedimentary strata is north-south with gentle to moderate dips to the east. Numerous large scale faults are present along the west side of Corn Creek. Folding of any significance is rare.

Local Geology

On the DF group of mineral claims the stratigraphic units that are present are the Rapitan Group, Keele Formation, and Sheepbed Formation. These sedimentary strata are interpreted to have been deposited in shallow-water under moderate to turbulent conditions. In general this stratigraphic sequence is conformable. Small scale disconformities are interpreted to occur at the base of the Keele Formation, in the upper section of the Keele Formation and at the base of the Sheepbed Formation. The total stratigraphic thickness exposed on the property is approximately 2500 feet.

Numerous normal and reverse faults of varying orientation and displacement are present on the property. At the south end of the property a syncline-anticline pair of folds is present.

Stratigraphic Sequence

The oldest exposed strata on the DF group are correlated with the Rapitan Group. This strata is only exposed in the Corn Creek valley. Four lithologic units, with an exposed stratigraphic thickness of approximately 500 feet, are present.

The oldest unit exposed on the property is a quartzite boulder conglomerate. This conglomerate is rusty weathering and consists of quartzite boulders in an arenaceous matrix. Where it is exposed, this unit attains thicknesses up to 100 feet.

Overlying this conglomerate is an orange weathering stromatolitic dolomite. This unit is approximately 50 feet thick. This unit pinches out along strike to the south and may in part be coeval with the conglomerate.

This unit is overlain by a buff to orange weathering greenish-grey calcareous shale. Interbedded with the shale are thin beds of argillaceous limestone. Pyrite nodules are a common constituent in the limestone. This unit is lensoid and may be coeval with the overlying and underlying units.

A second shale unit occurs at the top of the Rapitan Group. This shale is black, finely laminated and has an exposed stratigraphic thickness of approximately 50 feet.

The most prevalent formation on the DF group is the Keele Formation. Eleven lithologic units with a stratigraphic thickness of approximately 1600 feet have been recognized. Although the contact between Rapitan Group strata and Keele Formation strata is not well exposed it is believed that there may be a disconformity between these two stratigraphic units in order to account for the distinct change from clastic sedimentation to carbonate sedimentation.

The base of the Keele Formation is placed at the bottom of a grey weathering, grey to dark-grey dolomite. This dolomite is generally thin to medium-bedded, locally banded and attains thicknesses up to 700 feet. Locally, this unit contains pisolites. Near the base of this unit is a 4 to 10 foot section which contains abundant colloform dolospar and concretionary silica.

Overlying the above dolomite is a buff-orange weathering dolomite. This unit is brown to grey, argillaceous, thin bedded and commonly contains euhedral pyrite crystals. Thin shale interbeds are also common within this unit.

A thin lense of white to light-grey weathering, light grey limestone occurs at the top of the above dolomite and may in part be coeval with the dolomite. This limestone was only observed at one locality near the center of the property.

Overlying the orange-weathering dolomite and light-grey limestone is a grey-weathering, grey dolomite. This dolomite unit is generally massive, medium-crystalline and has an approximate stratigraphic thickness of 500 feet. In places it has a weak banded appearance. Locally, it contains a few vugs which may or may not be filled with secondary dolomite and/or quartz.

Within the above grey dolomite unit two lenses of grey-weathering, grey, medium-grained, sugary textured dolomite have been recognized. Each of these lenses is approximately 2000 feet long and are generally less than 100 feet thick.

A thin, black to dark-grey, finely-laminated dolomite is in sharp contact with the underlying grey dolomite. This unit seldom exceeds 75 feet in thickness and is continuous throughout the length of the property except near the northern end where it pinches out.

Overlying the finely-laminated dolomite is a grey to dark-grey, siliceous dolomite. This unit is commonly brecciated and locally contains abundant vugs. It varies in thickness from 20 feet to greater than 500 feet.

A grey dolomite with an approximate thickness of 200 feet overlies the siliceous dolomite. This unit is characterized by the presence of abundant stromatolites. These stromatolites are generally cylindrical in appearance. Also present are a few algal structures.

At or near the base of the stromatolitic dolomite is a thin band of pisolitic dolomite. The pisolites are generally 5 millimeters or less in diameter and are generally dolomitic in composition.

A relatively thin dolomite unit (approximately 100 feet thick) overlies the stromatolitic dolomite. This dolomite is black to cream, flaggy and coarsely-crystalline. Very often this unit contains lensoid breccia zones.

Overlying this unit, probably with a slight disconformity is a buff-weathering, buff, cryptocrystalline dolomite. In part this unit is stromatolitic at the base. The exposed thickness of this unit varies between 35 and 150 feet. Vuggy sections within this unit are common.

Locally, along the base of the above unit, lenses of chert-pebble intraclastic dolomite, grit, quartz-pebble conglomerate and thinly laminated dolomite are present. The clastic units may represent channel fillings. The thinly laminated dolomite may represent deposition in an intertidal or lagoonal environment.

STRUCTURAL GEOLOGY

Sedimentary strata on the DF group have a general north-south trend with shallow to moderate dips to the east. Individual units are generally void of any significant structural features.

Numerous normal and reverse faults are present on the property. These faults are predominantly orientated east-west or north-south and have varying displacements. No thrust faults were recognized.

At the south end of the property a southerly plunging anticline-syncline pair of folds is present. A satellite anticline-syncline pair of folds is also present. These folds are concentric, broad-open structures. Intraformational folds occur sporadically throughout the strata.

MINERALIZATION

Galena and sphalerite were observed at a number of localities on the DF group. This mineralization is generally sporadic and occurs in vugs or as fracture fillings. The mineralization observed is generally low grade.

CONCLUSIONS

Mapping on the DF group was successful in locating lead-zinc mineralization. This mineralization appears to be low grade and sporadic.

Report by: Stephen B. Butrenchuk
Stephen B. Butrenchuk

Under the Supervision of: D. W. Heddle
D. W. Heddle,
Chief Geologist

Approved for Release by: W. T. Irvine
W. T. Irvine,
Manager Exploration
Western District

SBB/pm
28 November 1974

IN THE MATTER OF THE
YUKON QUARTZ MINING ACT

AND

IN THE MATTER OF A GEOCHEMICAL AND GEOLOGICAL SURVEY
CARRIED OUT ON MINERAL CLAIMS
DF 1-23, 25, 27, 31-44, 47-70, 78-81

Located in the Mayo Mining District of the
Yukon Territory
More Particularly, NTS 106C/10

A F F I D A V I T

I. S. B. BUTRECHUK OF THE CITY OF VANCOUVER, IN THE PROVINCE OF
BRITISH COLUMBIA, GEOLOGIST, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A GEOLOGIST BY COMINCO LTD. AND, AS SUCH,
HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER
DEPOSE:
2. THAT ANNEXED HERETO AND MARKED AS "EXHIBIT A" TO THIS MY AFFIDAVIT
IS A TRUE COPY OF EXPENDITURES ON A GEOLOGICAL SURVEY CARRIED OUT
ON MINERAL CLAIMS DF 1-23, 25, 27, 31-44, 47-70, 78-81;
3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE 20TH DAY OF
JULY, 1974, AND THE 31ST DAY OF AUGUST, 1974, FOR THE PURPOSES
OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIM GROUP.

Sworn Before Me at the City)
of Vancouver in the Province)
of British Columbia this)
4th day)
of December 1974.)

Margaret Brown)
A NOTARY PUBLIC IN AND FOR THE)
PROVINCE OF BRITISH COLUMBIA)

Stephen B. Butrenchuk.
Stephen B. Butrenchuk

EXHIBIT "A"

GEOLOGICAL REPORT ON THE DF GROUP OF MINERAL CLAIMS

Situated At:

64° 40' Latitude
133° 00' Longitude
N.T.S. 106 C/10

Salaries:

S.B. Butrenchuk	32 days	\$ 1,632.00
M.S. Travis	35 days	1,170.00
B. Wong	35 days	980.00
G. Popp	35 days	980.00
C.V. Robertson	21 days	560.00

Transportation:

Helicopter and fixed-wing aircraft	6,092.51
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Camp Costs:

Food, Camp Equipment	3,480.93
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TOTAL: \$ 14,013.44

Signed: Stephen B. Butrenchuk
S. B. Butrenchuk

THIS IS EXHIBIT "A" TO THE STATUTORY DECLARATION OF EXPENDITURES
RELATING TO THE GEOLOGICAL SURVEY DECLARED BEFORE ME THIS 4th
DAY OF DECEMBER 1974, A.D.

Maupaid Brown
A NOTARY PUBLIC IN AND FOR THE
PROVINCE OF BRITISH COLUMBIA

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

I, Stephen B. Butrenchuk with business address 2200-200 Granville Square, Vancouver, British Columbia, do hereby certify that I have supervised the field work and have assessed and interpreted the data resulting from this geological survey on the DF mineral claims.

I also certify that:

1. I am a graduate of the University of Manitoba, B.Sc. (1966) and M.Sc. (1970).
2. I have engaged in mineral exploration since graduation.

Respectfully submitted: Stephen B. Butrenchuk
Stephen B. Butrenchuk

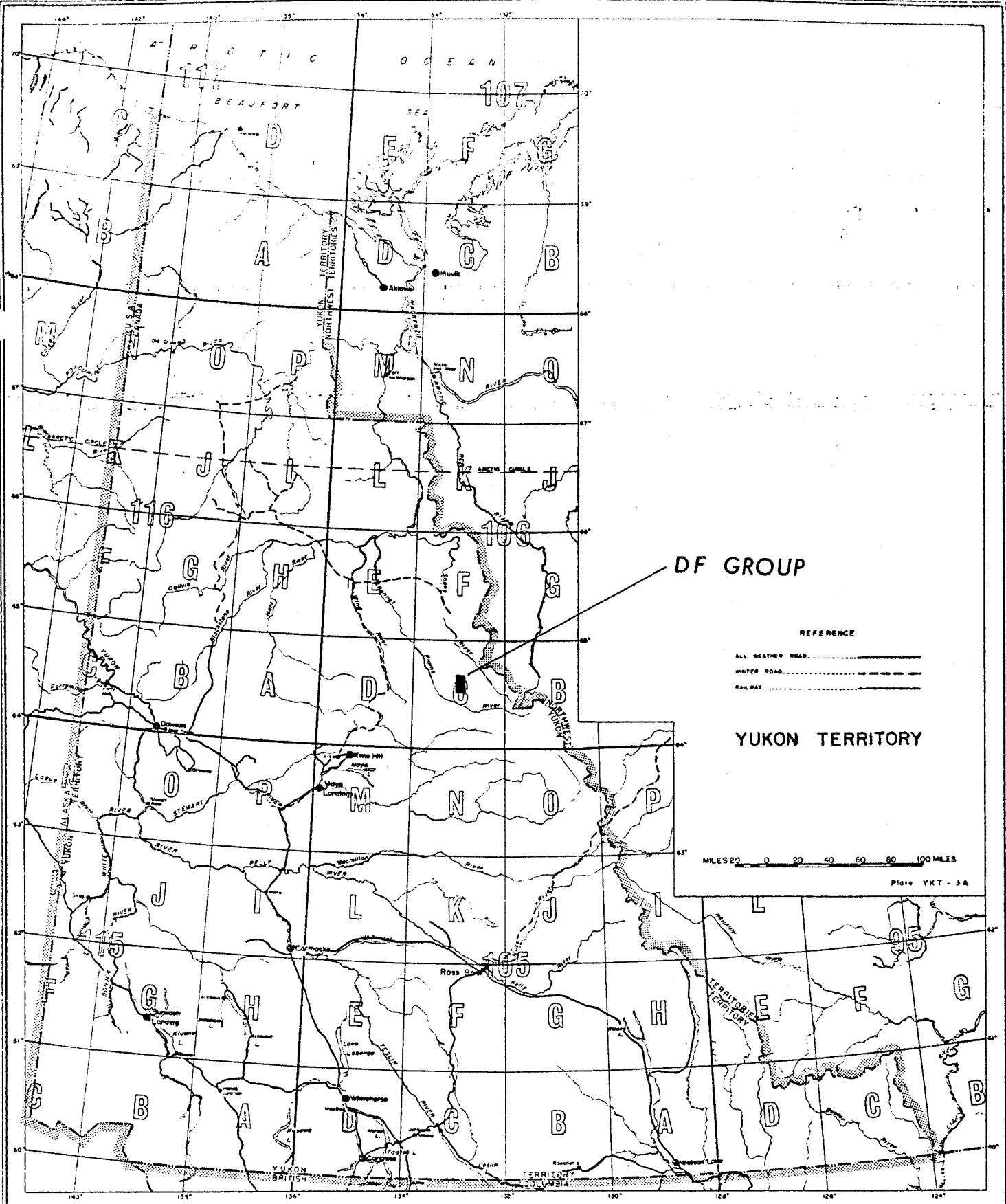
Vancouver, B.C.

Stephen B. Butrenchuk was responsible for supervising the geological survey described herein. Mr. Butrenchuk received his B.Sc. in 1966 from the University of Manitoba and his M.Sc. in 1970 from the University of Manitoba. He has been a permanent employee with Cominco since January 1970. I consider him a competent geologist.

Signed by:

W. T. Irvine
W. T. Irvine, P.Eng.,
Manager, Exploration
Western District

27 November 1974



DF GROUP

REFERENCE

- ALL WEATHER ROAD: —————
- WINTER ROAD: - - - - -
- RAILWAY: ······

YUKON TERRITORY

MILES 20 0 20 40 60 80 100 MILES

Plate YKT - 3A



Drawn by:		Traced by:	
Revised by:	Date:	Revised by:	Date:

LOCATION MAP

DF GROUP

Scale: 1" = 80 miles

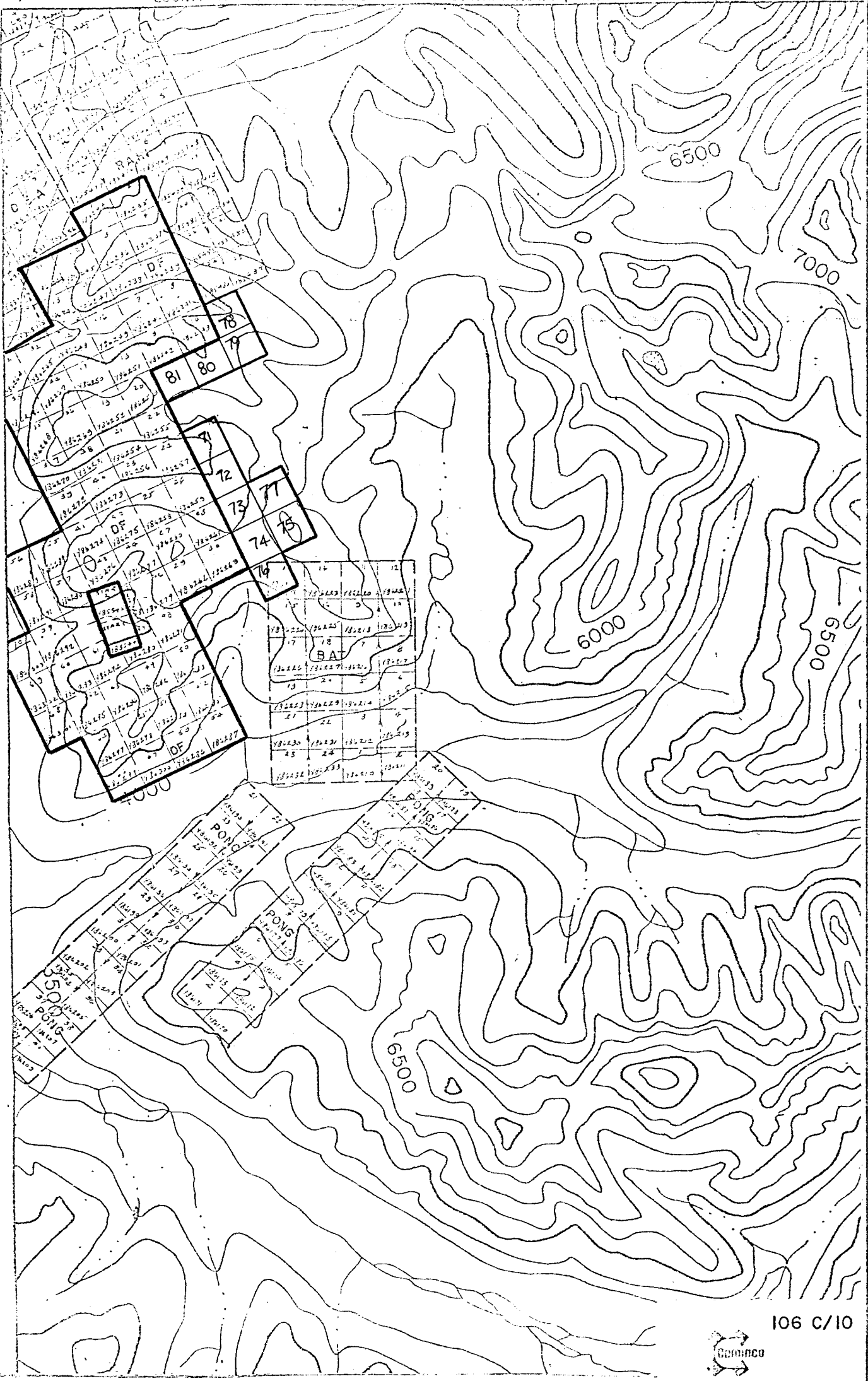
Date:

Plate: DF 1

FOR THE DEPARTMENT OF INDIAN AFFAIRS AND NORTHWEST DEVELOPMENT THE AGENTS TO DESIGN MAPS FOR ANY PURPOSE, INCLUDING OR EXCLUDING WHATSOEVER

LOCATIONS SHOWN ARE APPROXIMATE OTTAWA AUG. 10, 1962

34° 35'



106 C/10



Drawn by:		Traced by:	
Date		Revised by	Date

LOCATION MAP
DF GROUP

1" = 1 MILE

SEPTEMBER, 1974

DF - 2

