

4493

GEOPHYSICAL AND GEOCHEMICAL REPORT

ON THE

GRO GROUP - BANKS ISLAND

Lat. $53^{\circ}22'30''\text{N.}$, Long. $130^{\circ}12'00''\text{W.}$

Wesfrob Mines Limited

June 6 to 15, 1973

D. H. Brown, P.Eng.(B.C.)

I. L. Elliott, Ph.D.
S. Presunka

Vancouver, B.C.

July 12, 1973

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 4493 MAP.....

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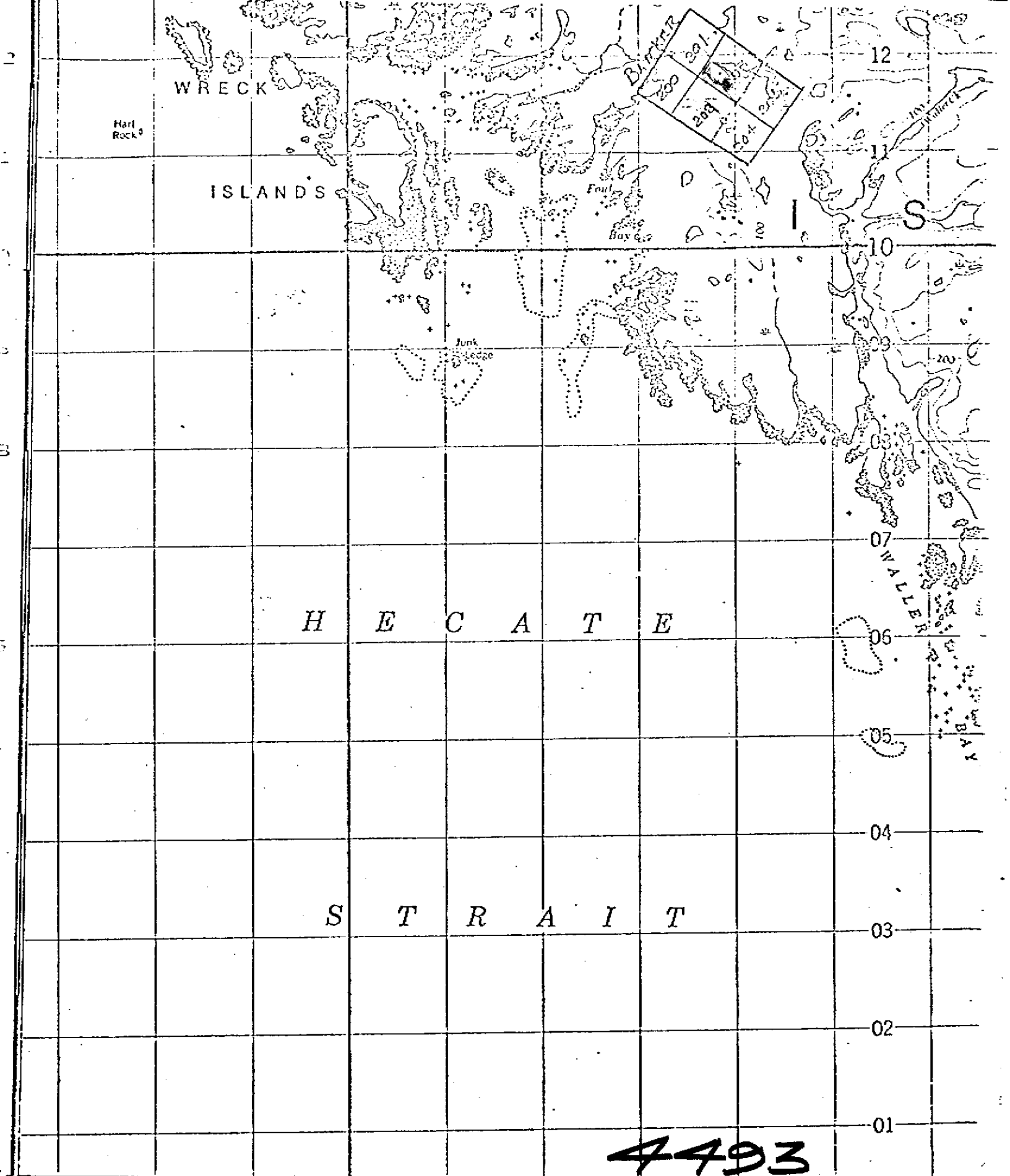
APPENDICES

- A. Statement of Work
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ILLUSTRATIONS

#1 Location Map - opposite p. 1

#2	Map No. 110-1-73)	E.M.16 Survey - ST.18.6	In Pocket
#3	110-2-73)		
#4	Map No. 110-3-73)	E.M.16 Survey - ST.17.8	" "
#5	110-4-73)		
#6	Map No. 110-5-73	Magnetometer Survey	" "
#7	Map No. 110-6-73	Geophysical Composite Map	" "
	Map No. 110-7-73)	Geochemical Survey	" "
	110-8-73)		
#8	Geochemical Survey	Pb in p.p.m	
#9	"	Zn "	"
#10	"	Ag "	"
#11	"	As "	"



Hart Rock

WRECK

ISLANDS

Junk Ledge

H E C A T E

S T R A I T

4493

130°15' 17 418000m. E. 19 20 21 22 23 24 MI 25 26

Compiled by the SURVEYS AND MAPPING BRANCH, COLUMBIA. Produced by the MAPPING AND CHARTING BRANCH, DEPARTMENT OF NATIONAL DEFENCE.

Scale 1:50,000

BANKS ISLAND

GEOPHYSICAL AND GEOCHEMICAL REPORT

ON THE

GRO GROUP - BANKS ISLAND

INTRODUCTION

In June 1973 a geophysical magnetometer and E.M. survey and a geochemical soils survey were carried out on the Gro Group of Banker claims on Banks Island. The geophysical field work was carried out by S. Presunka during the period June 6-15, 1973 with part-time help from R. Samuelson who was carrying out a geochemical soils survey over the same controlled grid during this period.

LOCATION AND ACCESS

The Gro Group (Banker 200-205) claims are located on the west side of Banks Island at approximately $54^{\circ}22'30''N$, $130^{\circ}12'00''W$. The property lies 65 miles due south of Prince Rupert and is accessible by sea-going boat or by seaplane.

The topography of Banks Island is relatively flat with numerous lakes, ponds and swamps making traversing difficult. The climate is normally wet which adds to the difficulties of carrying out geophysical work. Overburden is light to mossy or nonexistent.

SURVEY PROCEDURES AND EQUIPMENT USED

A base line 2300 feet long bearing $100^{\circ}T$ ($10^{\circ}S.$ of E.) was established by chain and compass. This baseline was cut and heavily flagged. Grid lines were turned off at 90° to the base line at 200-foot intervals and located by pace and compass. The lines were well flagged and 100-foot stations marked.

Soil sampling was carried out by R. Samuelson using conventional methods of collecting samples through the use of a grub hoe from "B" horizons usually 8 inches or deeper where possible. Generally, sampling conditions were poor resulting in many organic samples being taken from the thin soil cover. Over 200 samples were collected at

approximately 100-foot intervals along grid lines. Standard laboratory techniques were used. The samples were dried in a gas-fired hot air drier and hand screened through 80 mesh nylon screens. The minus 80 mesh portion of the dried samples was analysed for As., Ag., Pb., and Zn., these elements being the associates of gold, known from previous work in the area.

The geophysical instruments used were the magnetometer and Ronka E.M.16. The magnetometer used is a Coni-mag. Ser. #00107, sensitivity - 16 gammas per scale division. The E.M.16 readings were taken using two stations: ST18.6 in the Seattle area and ST17.8 in the Culter area, State of Main, U.S.A.

DATA COMPILATION AND PRESENTATION

Geochemical Survey Map Ref. No. 110-7-73 and No.110-8-73.

Geochemical concentrations of Pb and Zn were determined by hot HNO_3 extraction and the results plotted on plan No. 110-7-73 and contoured at 10 ppm intervals. Concentrations of Ag obtained by hot HNO_3 extraction and As by hot $\text{K}_2\text{S}_2\text{O}_7$ extraction were plotted on plan No. 110-8-73 and contoured at 5 ppm intervals.

Magnetometer Survey - Map Ref. No. 110-5-73

The magnetometer control stations were established along the base line. Two permanent base stations were established on the base line: one at B.L.0+00 and the other at B.L.10+00E. Readings were taken at 50-foot intervals along the lines. The readings were corrected for diurnal change and the results plotted and contoured. The contours are plotted at 200 gamma intervals. Time did not allow completion of the total area covered by E.M.16.

E.M.16 Survey: ST.18.6 Map Ref. No. 110-1-73 and No. 110-2-73.
ST.17.8 Map Ref. No. 110-3-73 and No. 110-4-73.

Two plans have been prepared for E.M.16 using station 18.6; one plan is contoured and the other is profiled. Similarly, contour and profile plans have been prepared from readings using ST.17.8.

INTERPRETATION AND RECOMMENDATIONS

Magnetometer Survey - Map Ref. No.110-5-73.

The magnetic contours show a patchy configuration of weak highs which have an east-west trend close to the base line. When magnetic highs greater than 900 gammas are joined the magnetic trend tends to be south-east which lines up with the west half of the "A" conductor of plan No. 110-1-73.

E.M.16 Survey - ST.18.6, Map Ref. No.110-1-73 and No.110-2-73.

The contoured plan No.110-1-73 indicates south-east trending conductors. "A" conductor which starts on line 2E some 300 feet south of the base line extends to L-8E at 1200 feet south for a length of 1100 feet. This conductor has a strike of approximately 150° . There is also good magnetic correlation with this anomaly. From L-18E at 1200 feet south to line 18E at 1450 feet south, the strike changes to approximately 110° . This portion of the "A" conductor shows considerable folding with very weak magnetic correlation. This conductor very likely is due to disseminated sulphides. The overburden here is very shallow and consists mostly of moss cover.

"B" anomaly, located on L-18E at 1050 feet north to L-20E, some 850 feet north, indicates a strike of approximately 145° . There was no magnetometer survey on this portion of the grid. More work should be done on this anomaly to obtain the extent of this conductor. The overburden is suspected to be light here.

"C" anomaly, located on L-18E at 400 feet south to L-22E at 850 feet south, has a strike of 150° . This weak conductor is likely due to a shear or a fault. E.M.16 (ST.17.8) of plan No.110-4-73 did not pick this conductor up. This is typical of weak conductive zones only being picked up through transmissions from one ST.

"D" anomaly located on L-18E at 550 feet north and L-20E at 425 feet north has a south-east strike. This conductor suggests it is due to sulphides. There are numerous rock outcrops in the vicinity


showing enough sulphides to be conductive. Sulphides are primarily pyrrhotite.

E.M.16 Survey - ST.17.8, Plan No.110-3-73 and Plan No.110-4-73.

"A" conductor starts on L-8E at 1150 feet and striking in a south-easterly direction crossing L-18E at 1450 feet south for a length of approximately 1300 feet. This conductor correlates well with conductor "A" of ST.18.6 (Plan 110-1-73). There is very little overburden on this zone suggesting it could be readily prospected and trenched.

"D" conductor, located on L-18E and L-20E approximately 500 feet south, is due to sulphides as seen in outcroppings. Other weak conductors are probably due to shears, faults and/or rock contacts.

The three conductors "A", "B" and "D" are selected as conductors of prime importance. These could readily be followed up by trenching because of the light overburden.



Steve Presunka Geophysicist

July 12, 1973



D. H. Brown, P.Eng.

APPENDICES

INTERPRETATION AND RECOMMENDATIONS

Geochemical Survey

Scattered anomalous values for As, Ag, Pb and Zn are found over the area sampled. Zinc tends to reflect topography which in turn reflects the general east-west geological trend. Lead and silver commonly give restricted coincident anomalies while arsenic occurs widespread in low concentrations. The main areas of geochemical interest are:

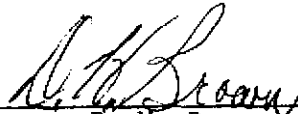
(a) The southern half of Banker 203, where strong arsenic and extensive silver values are found. Sampling should be extended along strike into Banker 205 to the east and Banker 203 to the west.

201?
2000

(b) A strong arsenic anomaly with silver and zinc support running through the middle of Banker 202 in a direction slightly north of west.



I. L. Elliott, Geochemist



D. H. Brown, P. Eng.

July 18, 1973
Vancouver, B.C.



WESFROB MINES LIMITED

(A wholly owned subsidiary of Falconbridge Nickel Mines Limited)

1112 West Pender Street

Vancouver 1, B.C., Canada

Tel. (604) 682-6242

Telex 04-53245

July 19, 1973

The Chief Mining Recorder
Skeena Mining Division
Prince Rupert, B.C.

Dear Sir:

Re: Statement of Qualifications

This is to certify that the Geochemical and Geophysical surveys done on the McI Group (Banker 200-205 m.c.'s) of claims and presented in these reports were done under my direction.

The geochemical sampling was carried out on a controlled grid by R. Samuelson who is an experienced geochemical field technician trained by Dr. I. L. Elliott within the Falconbridge Nickel organization during the past eight years.

The geophysical magnetometer and E.M.16 surveys were carried out by S. Presunka of Presunka Geophysical Exploration Ltd., a practical geophysicist with 20 years' experience.

The geochemical analysis and evaluation of the results were done under the direction of Dr. I. L. Elliott, Chief Geochemist, who received his Doctorate from the Royal School of Mines, Imperial College, London, England.

I am a graduate in geological engineering from the University of British Columbia and a member of the Associations of Professional Engineers of Ontario and British Columbia.

Yours very truly,

WESFROB MINES LIMITED

D. H. Brown, P. Eng.

DHB:jr

DOMINION OF CANADA:
 PROVINCE OF BRITISH COLUMBIA:
 To Wit:

In the Matter of a Geochemical Survey and a Geophysical Survey conducted over parts of Banker 200-205 Mineral Claims, Lat. 53°22'30"N., Long. 130°12'00"W., Skeena M.D.

I, David H. Brown

of #504 - 1112 West Pender Street, Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that the following expenses were incurred in connection with a Geochemical Survey and dual Geophysical Surveys (Magnetometer and Electromagnetic) on parts of Banker 200-205 m.c.'s. on Banks Island, Skeena M.D.:

PERSONNEL

S. Presunka, President, Presunka Geophysical Exploration Ltd. - Geophysicist
 R. Samuelson, geochemical sampler and geophysical assistant.

STATEMENT OF COSTS

<u>Geochemical Survey - June 6-15, 1973 - R. Samuelson</u>		
Sample gathering, 200 samples @ \$3.00 ea.	\$600.00	
Sample analysis, 200 samples @ \$3.50 ea.	<u>700.00</u>	\$1,300.00
<u>Geophysical Survey - June 6-15, 1973 - S. Presunka</u>		
<u>Magnetometer Survey</u>		
2.15 line miles @ \$150/line mile	\$322.50	
<u>E.M.16 Survey</u>		
3.95 line miles @ \$150/line mile	<u>592.50</u>	915.00
Transportation - Vancouver-Pr.Rupert-Banks Island & return		413.27
Food and Lodging		232.84
Plan Printing		41.63
D. H. Brown, P.Eng. - Preliminary organization and Report writing		
2 days - June 1 and July 11, 1973 @ \$50 a day		<u>100.00</u>
		\$3,002.74
		=====

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City
 of Vancouver, in the
 Province of British Columbia, this 27th
 day of July, 1973, A.D.

D. H. Brown

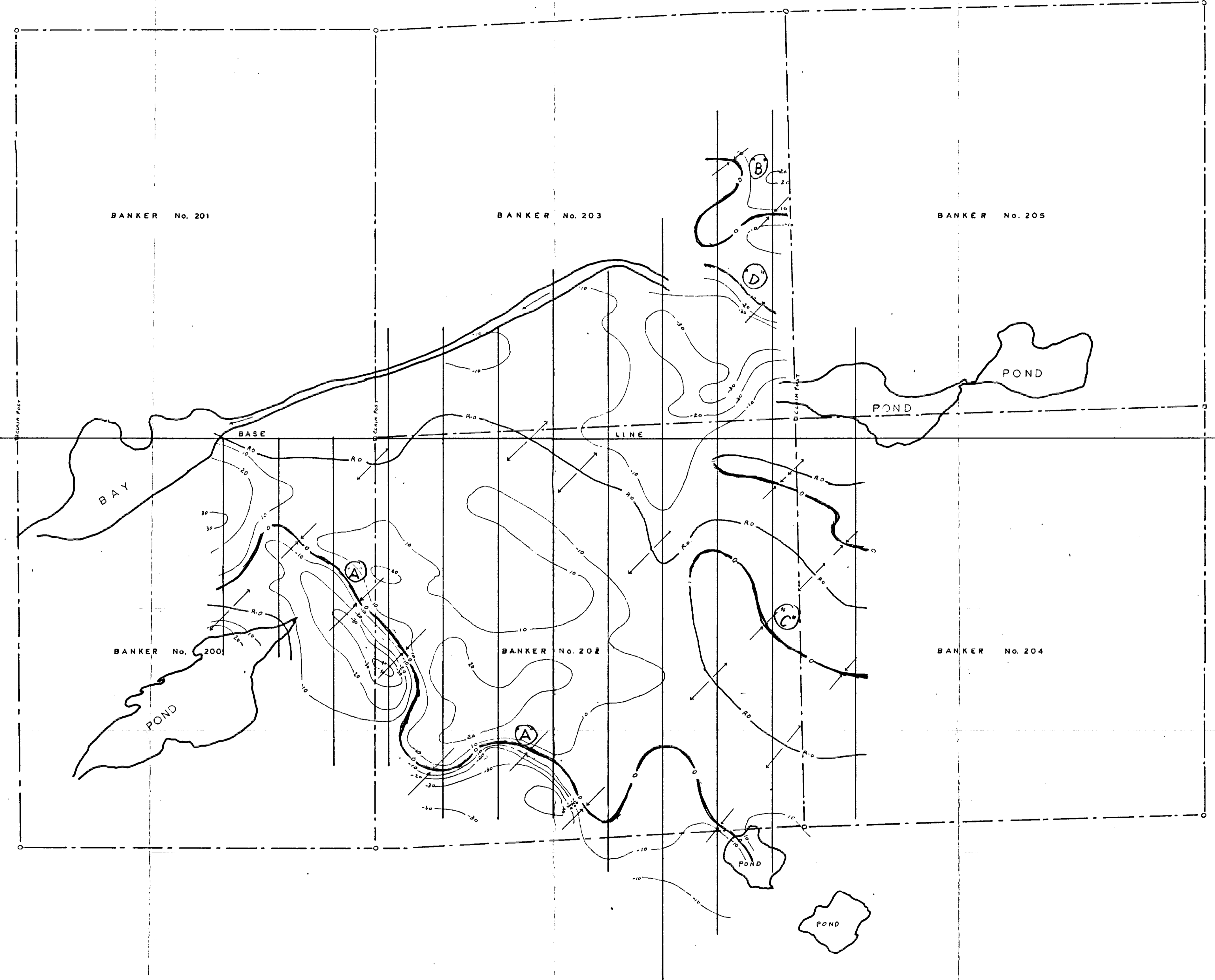
J.P. Phillips

A Commissioner for taking Affidavits within British Columbia or
 A Notary Public in and for the Province of British Columbia.

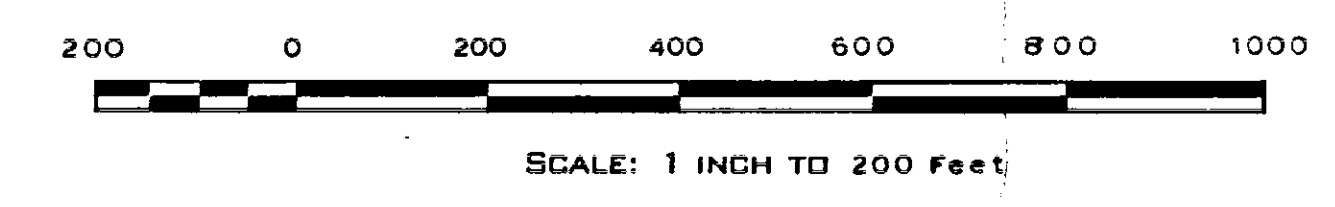
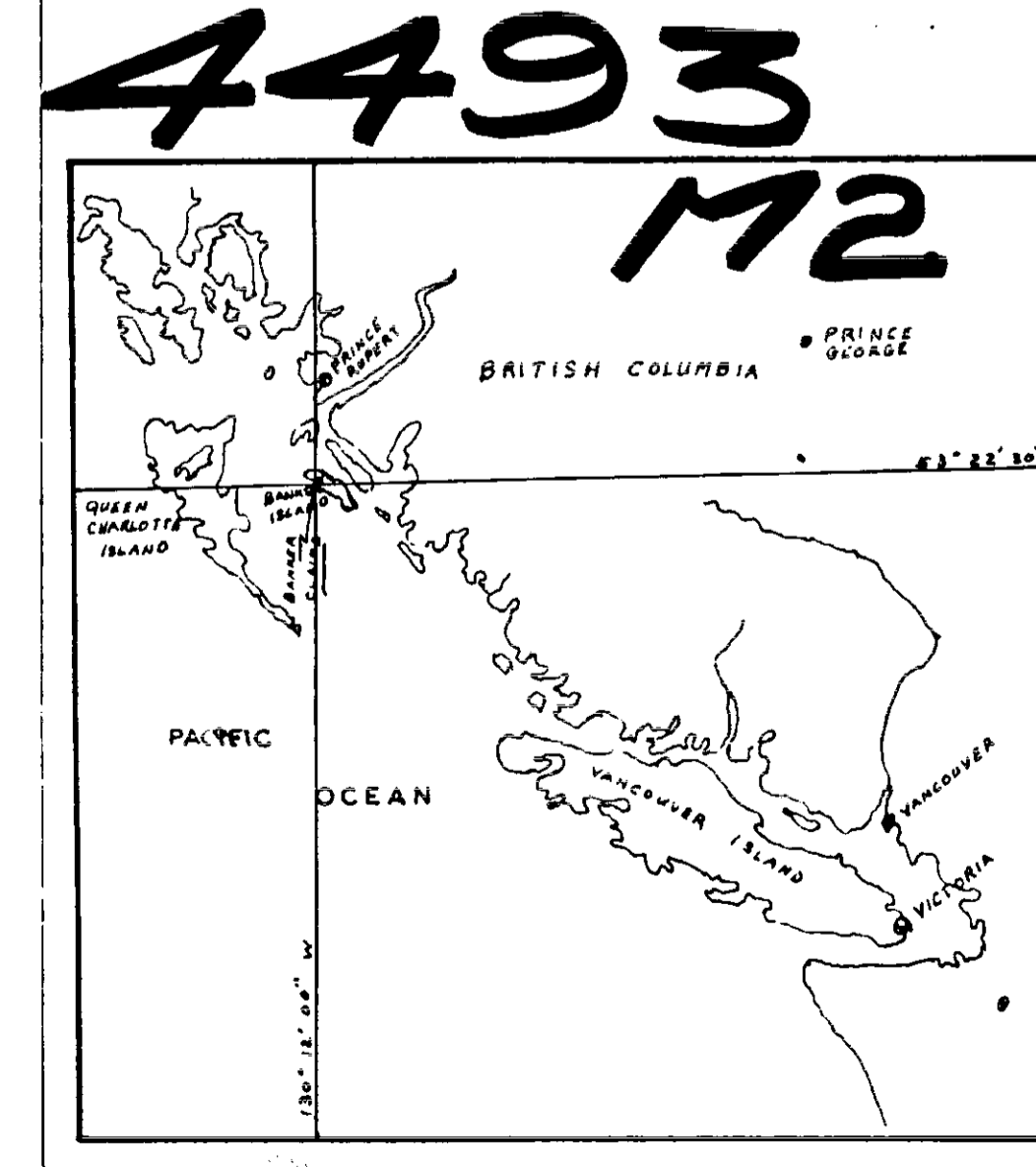
Sub-mining Recorder

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4493 MAP #2

L'0 L'2E L'4E L'6E L'8E L'10E L'12E L'14E L'16E L'18E L'20E L'22E



INSTRUMENT USED: RONKA E.M.16 (V.L.F.)
 0 100 200 300 400 500 600 700 800 900 1000
 CHISEL - SWIFT
 AD Reverse CHISEL SWIFT



COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.
 PROPERTY . . . BANKER CLAIM GRO GROUP
 LOCATION . . . BANKS ISLAND B.C.

WORKING PLACE . . . FOUL BAY
 TYPE OF MAP . . . E.M.16 SURVEY - St. 18.6
 BASED ON . . . inphase contours (10%)

DATE . . . JUNE 1973
 DRAWN BY . . . S. PRESUNKA
 DATE OF WORK . . .

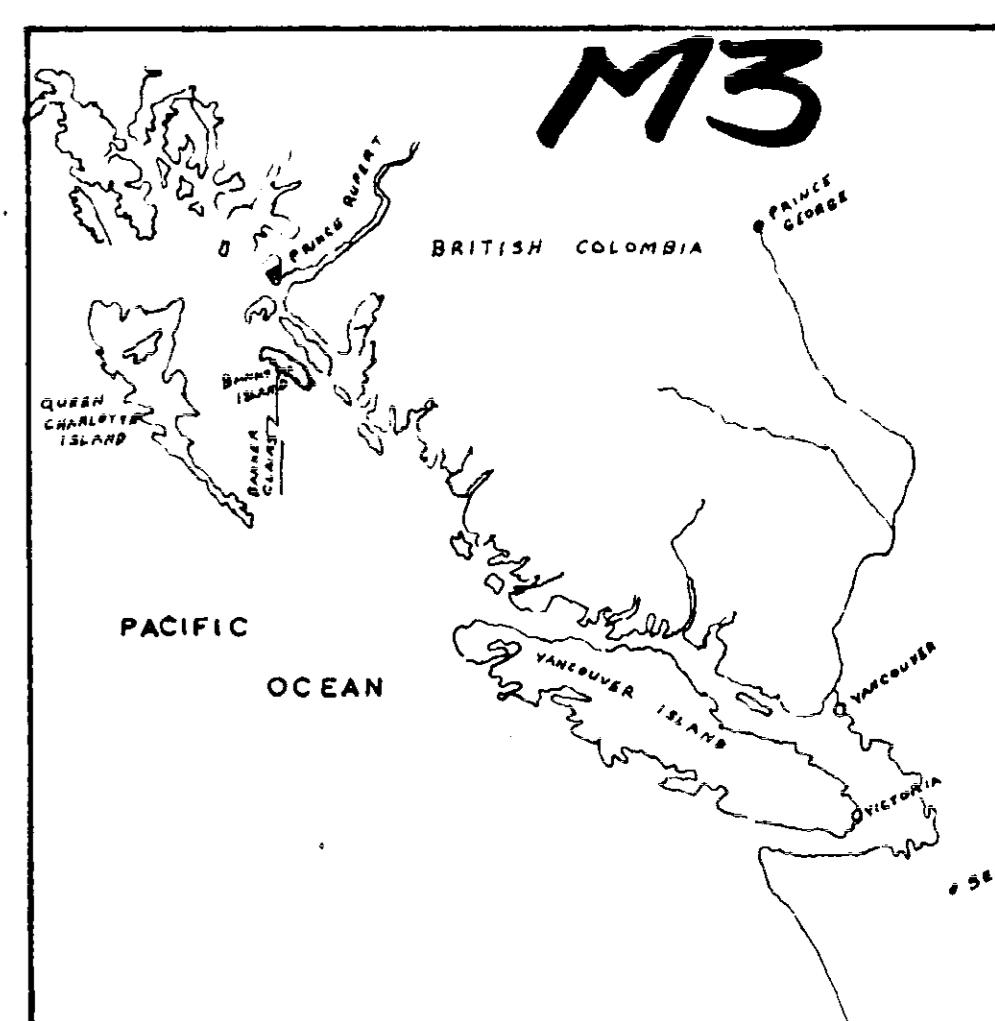
PRESUNKA GEOPHYSICAL EXPLORATION LTD.
 TORONTO-DOMINION BANK TOWER
 VANCOUVER 1, B.C.
S. Presunka
 To accompany Geophys. & Geochen. Report on Gro Group - Banks Island, by D.H. Brown, P.Eng. (B.C.), I.L. Elliott & S. Presunka, dated July 12, 1973.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **4493** MAP #3



INSTRUMENT USED: RONKA E.M.16 (V.L.F.)

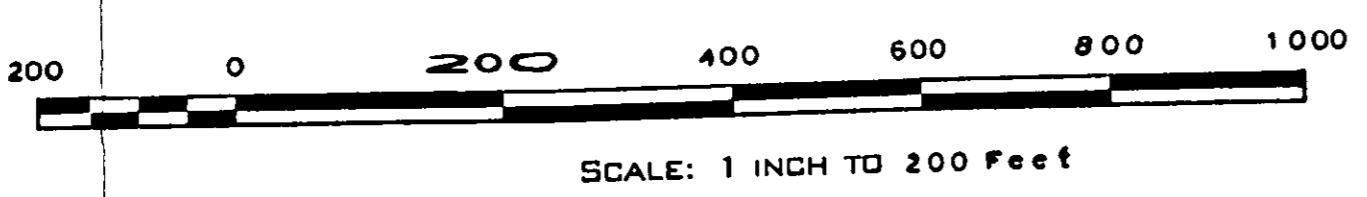
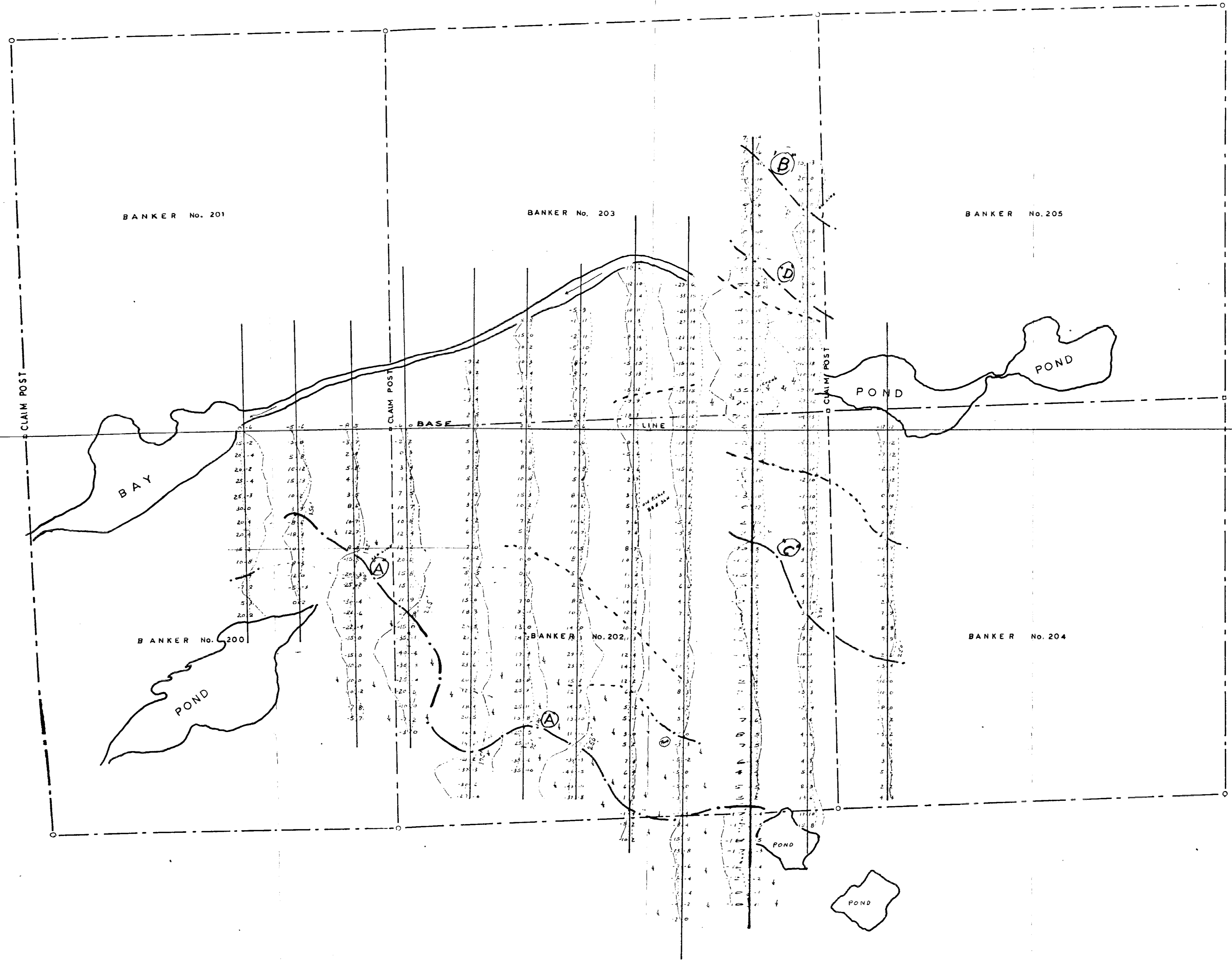
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M3



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TORONTO-DOMINION BANK TOWER
VANCOUVER 1, B.C.
S. Presunka

To accompany Geophys. & Geochen. Report
on Gro Group - Banks Island, by
D.H. Brown, P.Eng. (B.C.), I.L. Elliott,
& S. Presunka, dated July 12, 1973.

L-0 L-2E L-4E L-6E L-8E L-10E L-12E L-14E L-16E L-18E L-20E L-22E



COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.
PROPERTY . . . BANKER CLAIM GRO GROUP
LOCATION . . . BANKS ISLAND B.C.

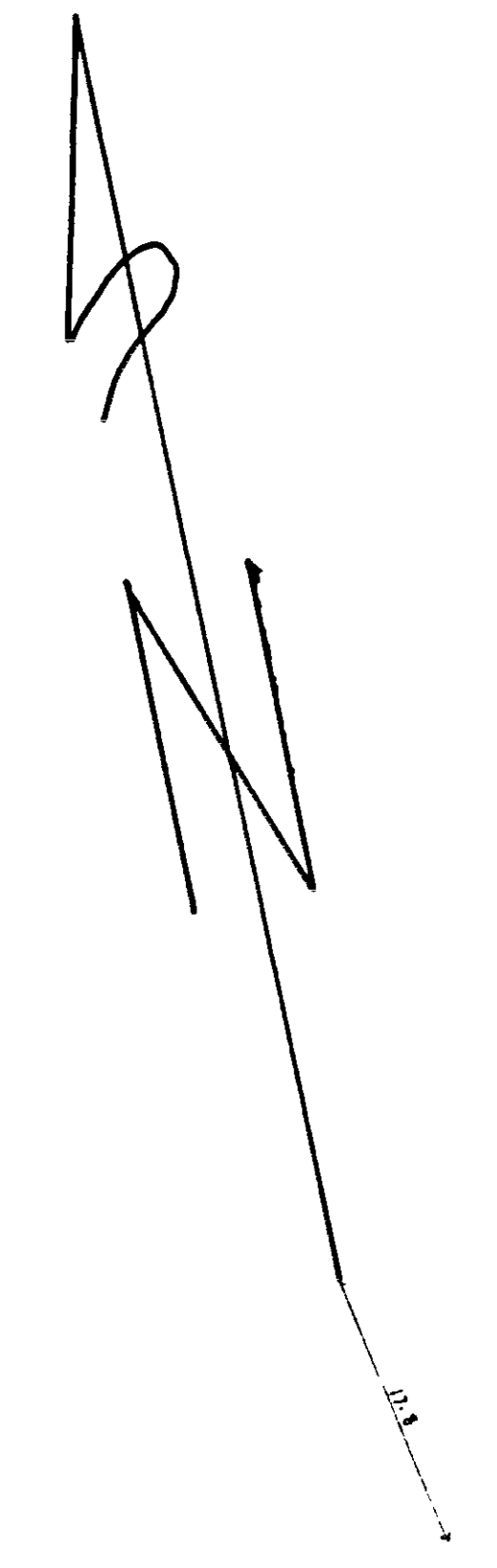
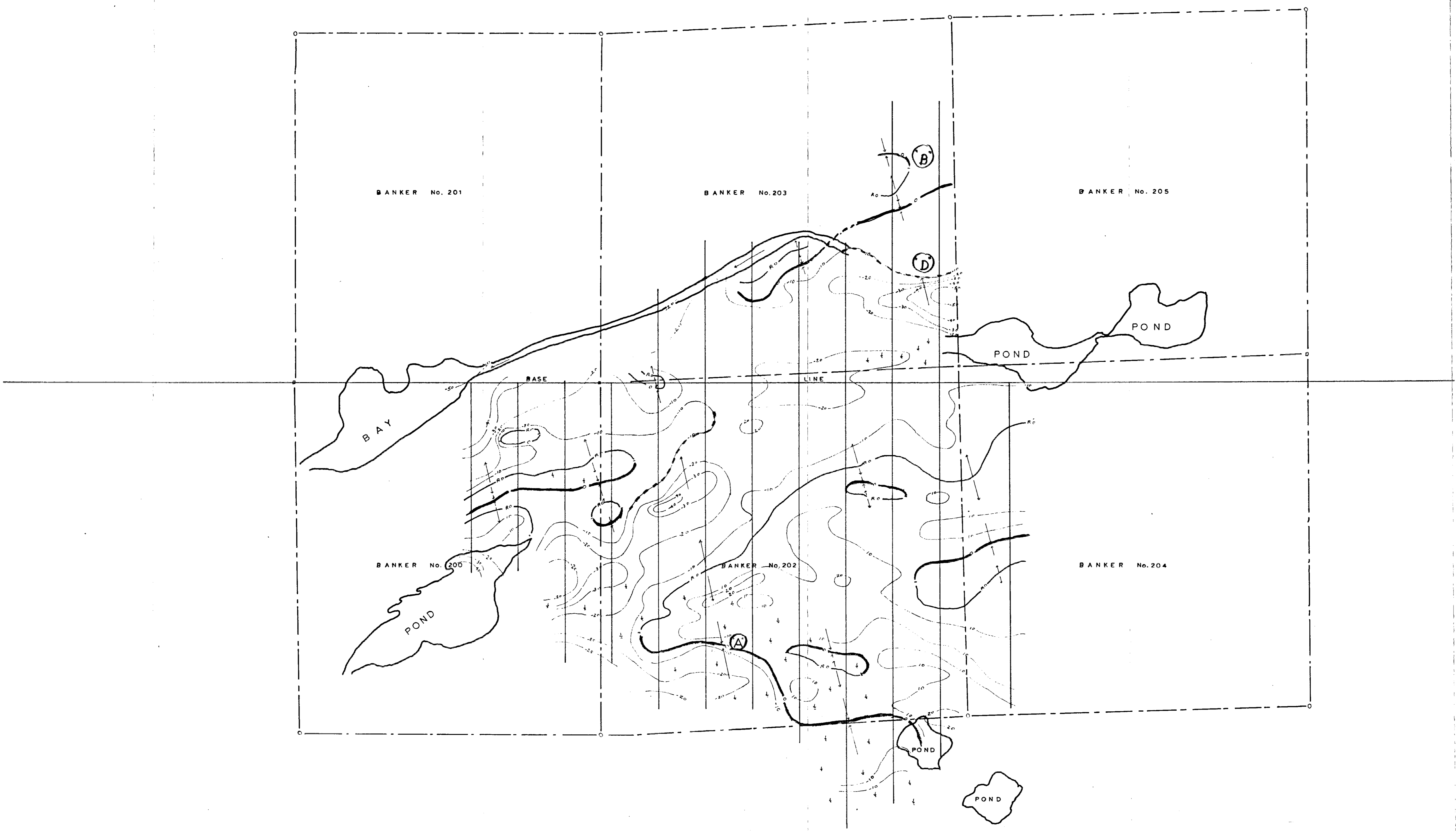
WORKING PLACE . . . FOUL BAY
TYPE OF MAP . . . E.M. 16 SURVEY - St.18.6
BASED ON . . . Profiles Inphase Quadrature 1:60%

DATE . . . JUNE 1973
DRAWN BY . . . S. PRESUNKA
DATE OF WORK . . .

L-0 L-2E L-4E L-6E L-8E L-10E L-12E L-14E L-16E L-18E L-20E L-22E

MAP REF. NO.: 110-3-73
 N. T. S.: 103-G-8

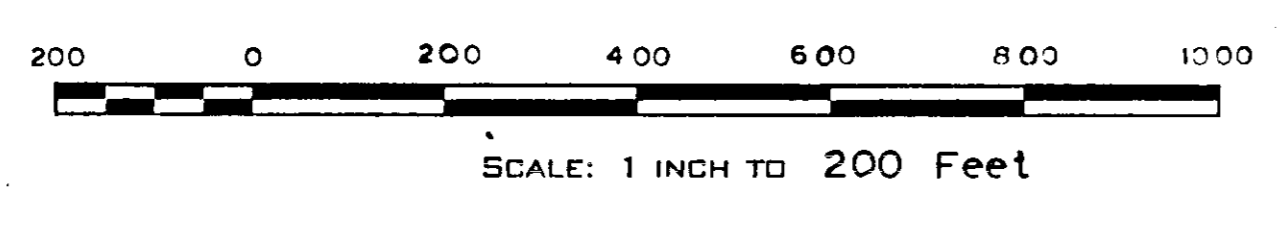
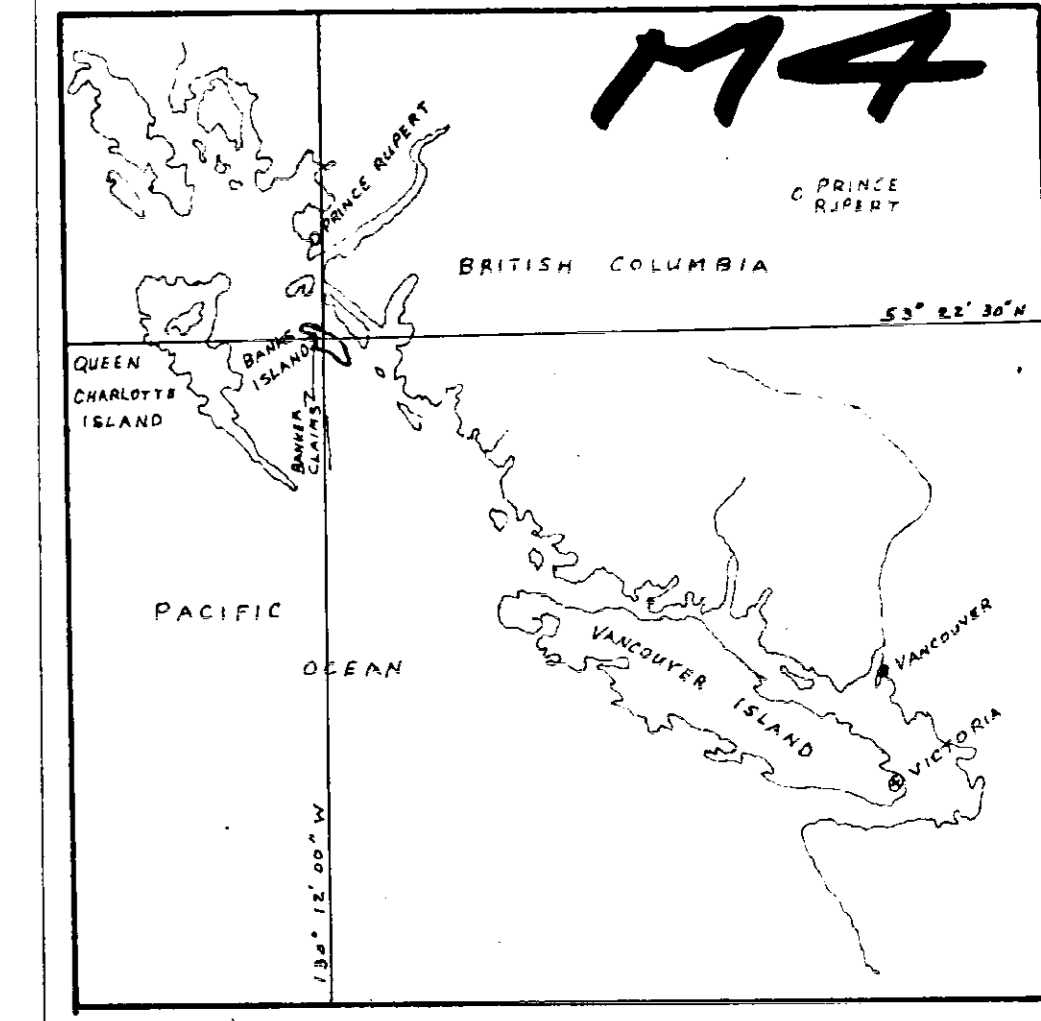
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4493 MAP #4



INSTRUMENT USED: RONKA E.M.16 (V.L.F.)
 ———— CROSS-OVER
 ———— RESISTIVITY CROSS-OVER

4493

M4



COMPANY .. FALCONBRIDGE NICKEL MINES LTD.
 PROPERTY .. BANKER CLAIM GRO GROUP
 LOCATION .. BANKS ISLAND B.C.

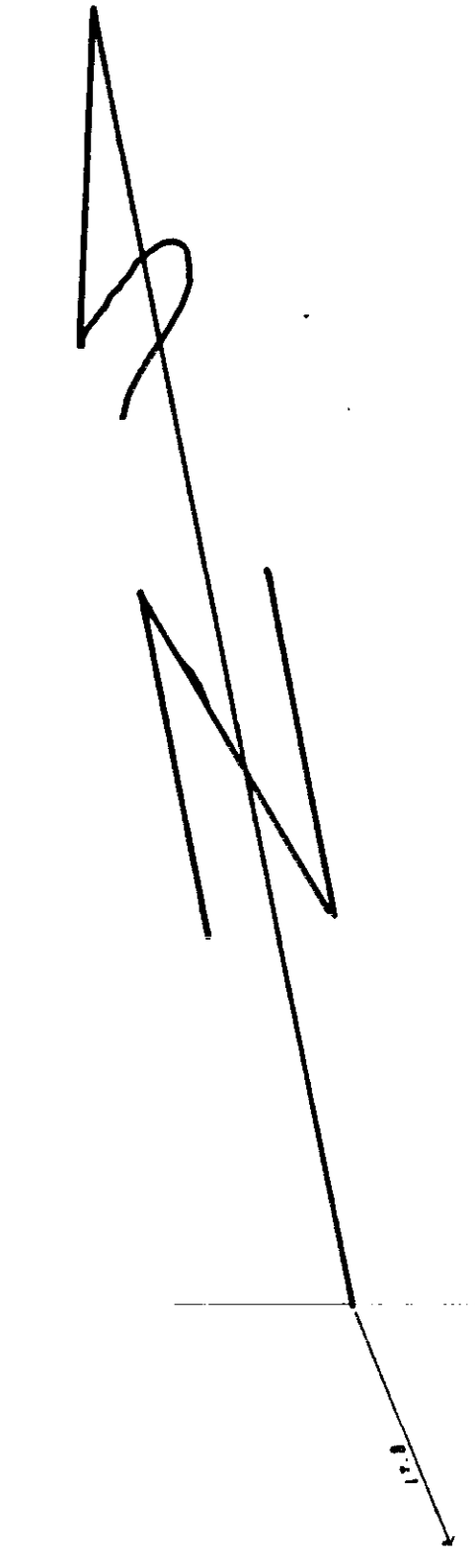
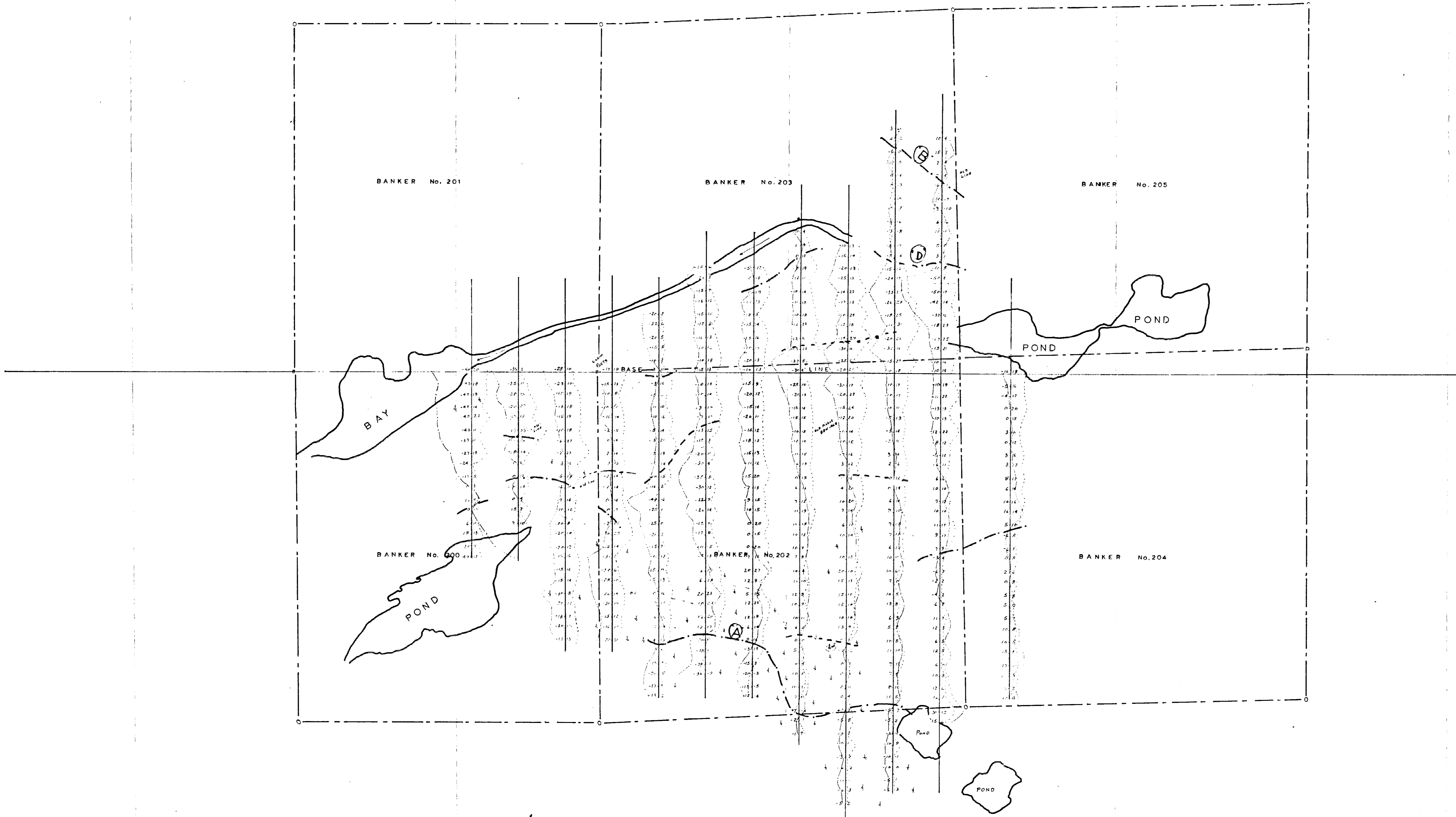
WORKING PLACE .. FOUL BAY
 TYPE OF MAP .. E.M.16 SURVEY - St 17.8
 BASED ON .. Inphase contours (10%)

DATE .. JUNE 1973
 DRAWN BY .. S. PRESUNKA
 DATE OF WORK ..

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 TORONTO-DOMINION BANK TOWER
 VANCOUVER 1, B.C.
 To accompany Geophys. & Geochem. Report
 on Gro Group - Banks Island, by
 D.H. Brown, P.Eng. (B.C.), I.L. Elliott,
 & S. Presunka, dated July 12, 1973.

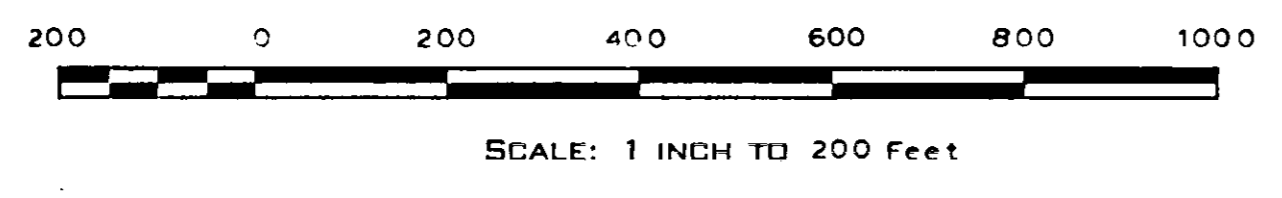
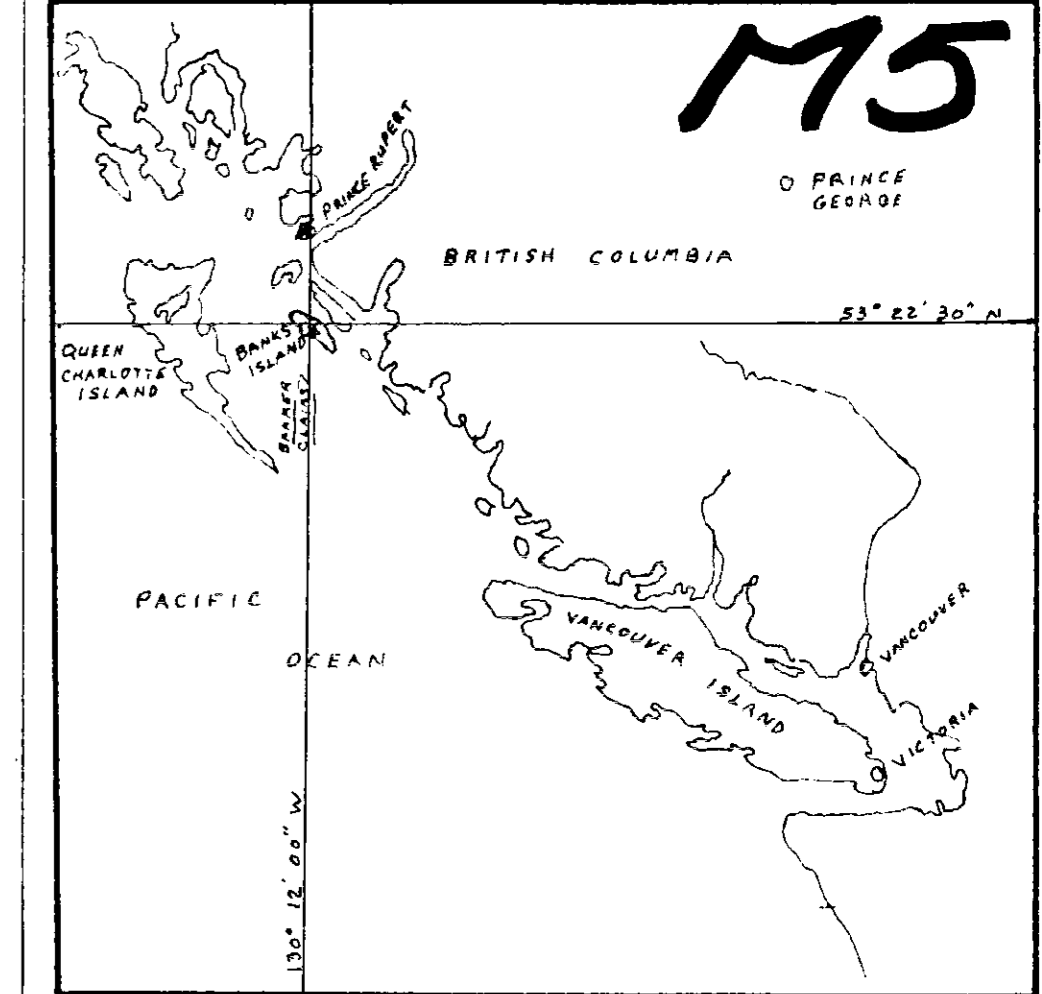
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4493 MAP #5

L-0 L-2E L-4E L-6E L-8E L-10E L-12E L-14E L-16E L-18E L-20E L-22E



INSTRUMENT USED: RONKA E.M.16 (VLF)

4493
M5



SCALE: 1 INCH TO 200 FEET

COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.
PROPERTY . . . BANKER CLAIM GRO GROUP
LOCATION . . . BANKS ISLAND B.C.

WORKING PLACE . . . FOUL BAY
TYPE OF MAP . . . E.M.16 SURVEY - St.17.8
BASED ON . . . Profiles
Inphase
Quadrature } 1" = 60%

DATE . . . JUNE 1973
DRAWN BY . . . S. PRESUNKA
DATE OF WORK . . .

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S. Presunka
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1 2 3 4 5 6 7 8 9 10 11 12

1:50,000 Scale
1:50,000 Scale

Department of
Water and Fisheries Research
LONDON
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PROVISIONAL MAP OF THE
WATER RESOURCES OF THE
WATER RESOURCES OF THE



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WATER RESOURCES OF THE
WATER RESOURCES OF THE

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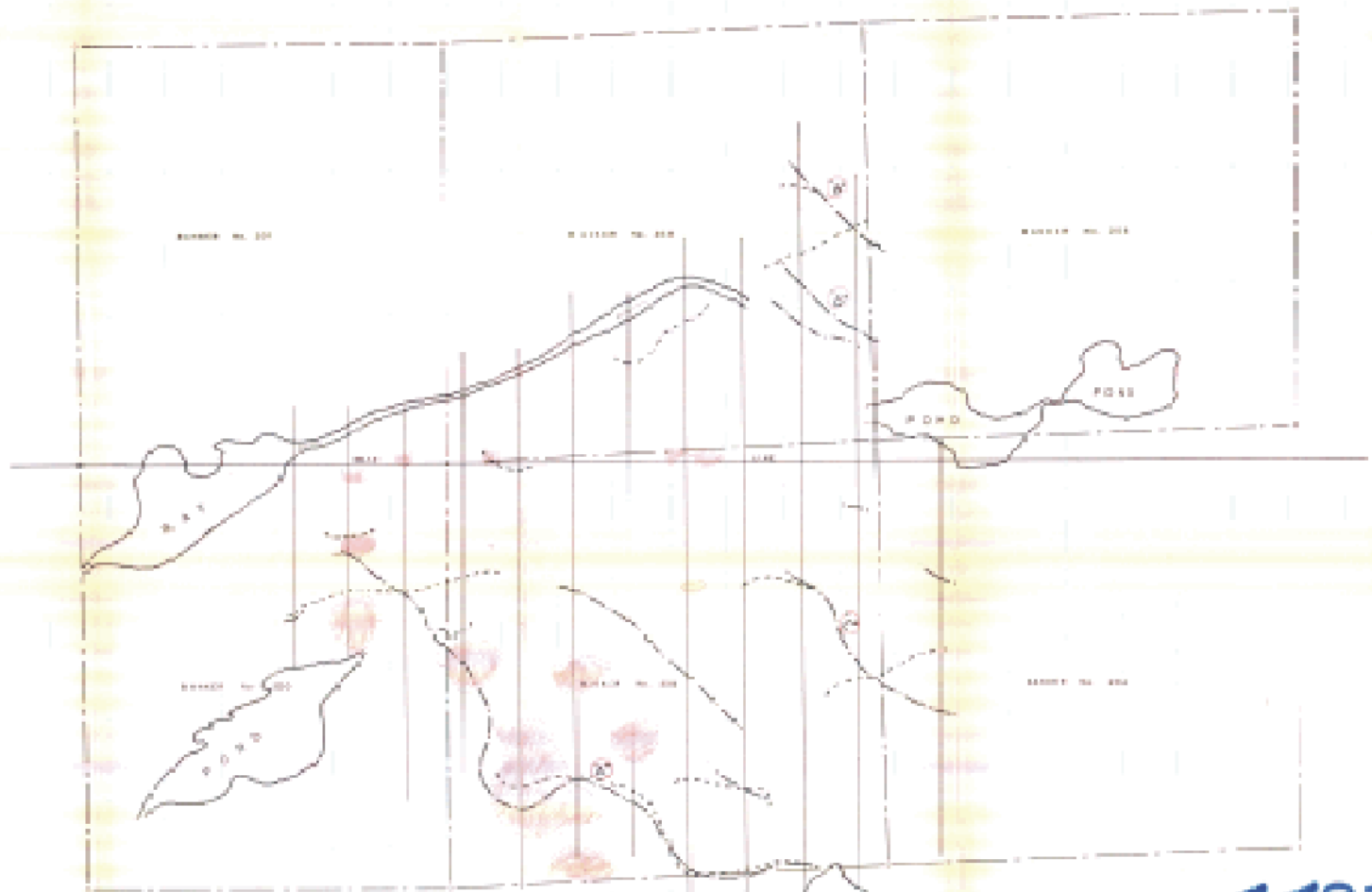


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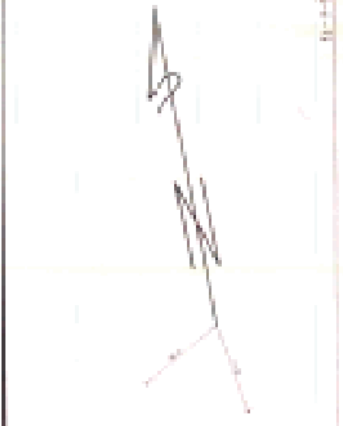
CLAY SANDSTONE ST. 17-188
 SAND SANDSTONE ST. 178
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M7**

FEDERAL SERVICE, DIVISION OF
 GEOLOGICAL SURVEY
 WASHINGTON, D.C. 20508

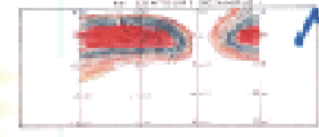
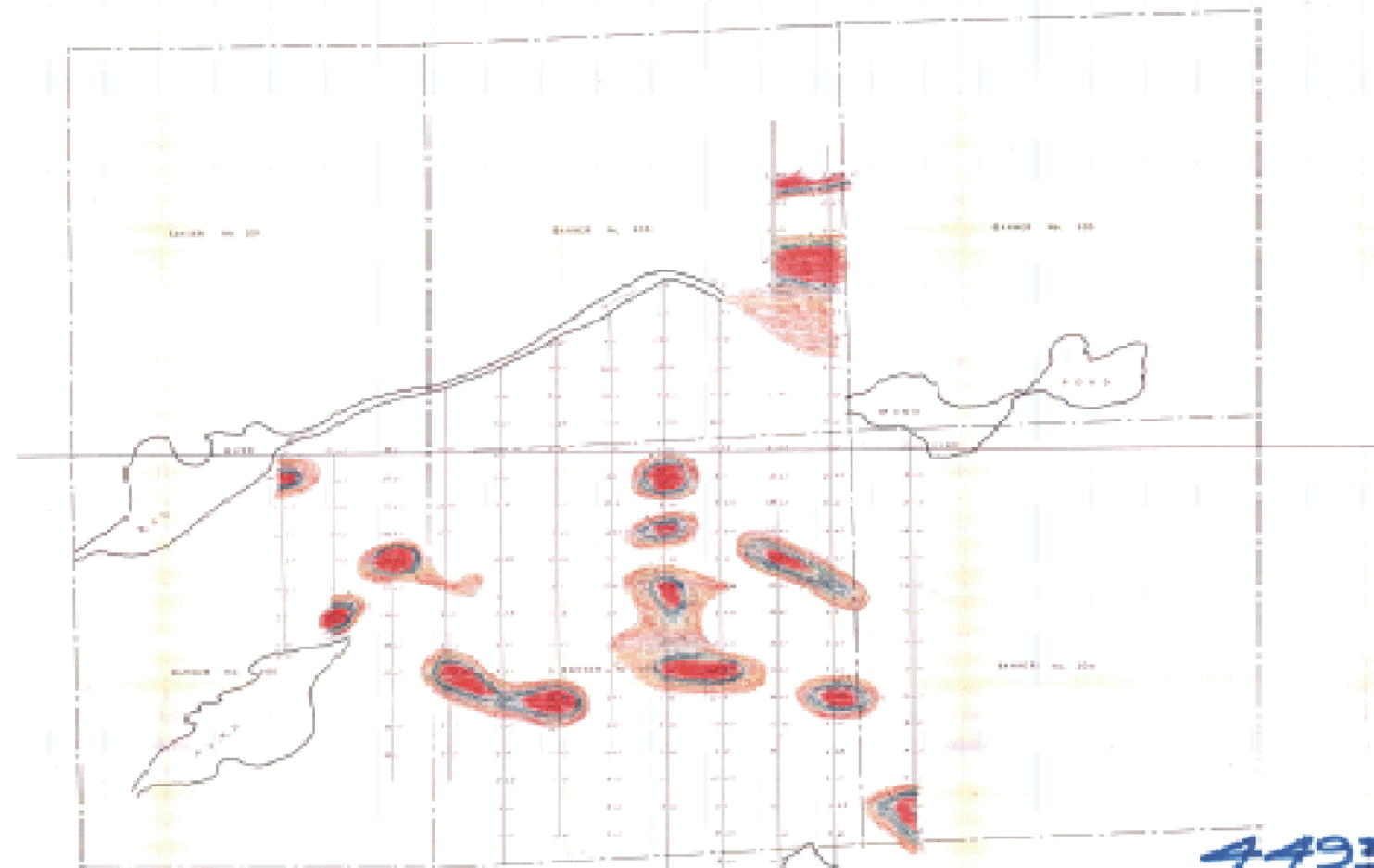
Edwin *A. Smith*



Summary of
 Area and Section Numbers
 Abbreviated
 No. 4493, M7
 SCALE: 1 INCH = 100 FEET

PALMSPRING MINE, WHITE MOUNTAIN		
BANKS CLAIM GRO GROUP		
BANKS ISLAND B. C.		
GEOLOGICAL COMPOSITE MAP		
SECTION NAME: POSS, B.C.		
DATE OF ISSUE:	DATE OF REV.:	PG. NO.
ISSUED BY:	REVISED BY:	
ISSUED BY:	REVISED BY:	

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M11

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Department of
Mines and Geotechnical Services
4483

1:10000
Scale 1 inch = 1000 feet

MILDERBROOK MINEFIELD MINES LIMITED		
BLOCK CLAIM 3RD GROUP		
BLAKE ISLAND B.C.		
GEOCHEMICAL SURVEY		
BLOCK NO. 100 TO 104		
FORMS DATE: 1964		
DATE OF SURVEY	NO. OF SHEETS	NO. OF
DATE OF SURVEY	NO. OF SHEETS	NO. OF
DATE OF SURVEY	NO. OF SHEETS	NO. OF