

ARCHIE

REPORT ON GEOLOGY, GEOCHEMISTRY AND ECONOMIC POTENTIAL

ARCHIE #1 - #4 MINERAL CLAIMS

Moresby Island, Queen Charlotte Islands, B.C.

NTS 103 B/6E

Latitude  $52^{\circ}18'N$ , Longitude  $131^{\circ}11'W$

Dates of Work: Aug. 24 - Dec. 31, 1979

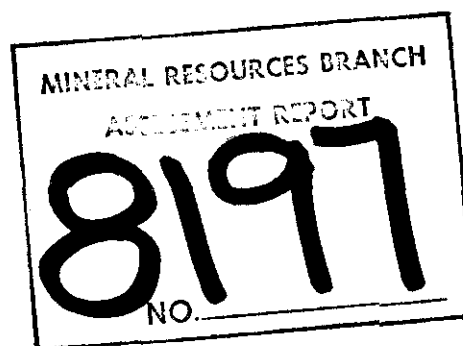
FOR: Placer Development

BY: J.S. Christie, Ph.D.  
G.G. Richards, P. Eng.

OWNER: Gordon G. Richards

OPERATOR: Placer Development

CONTRACTOR: JMT Services Corp.



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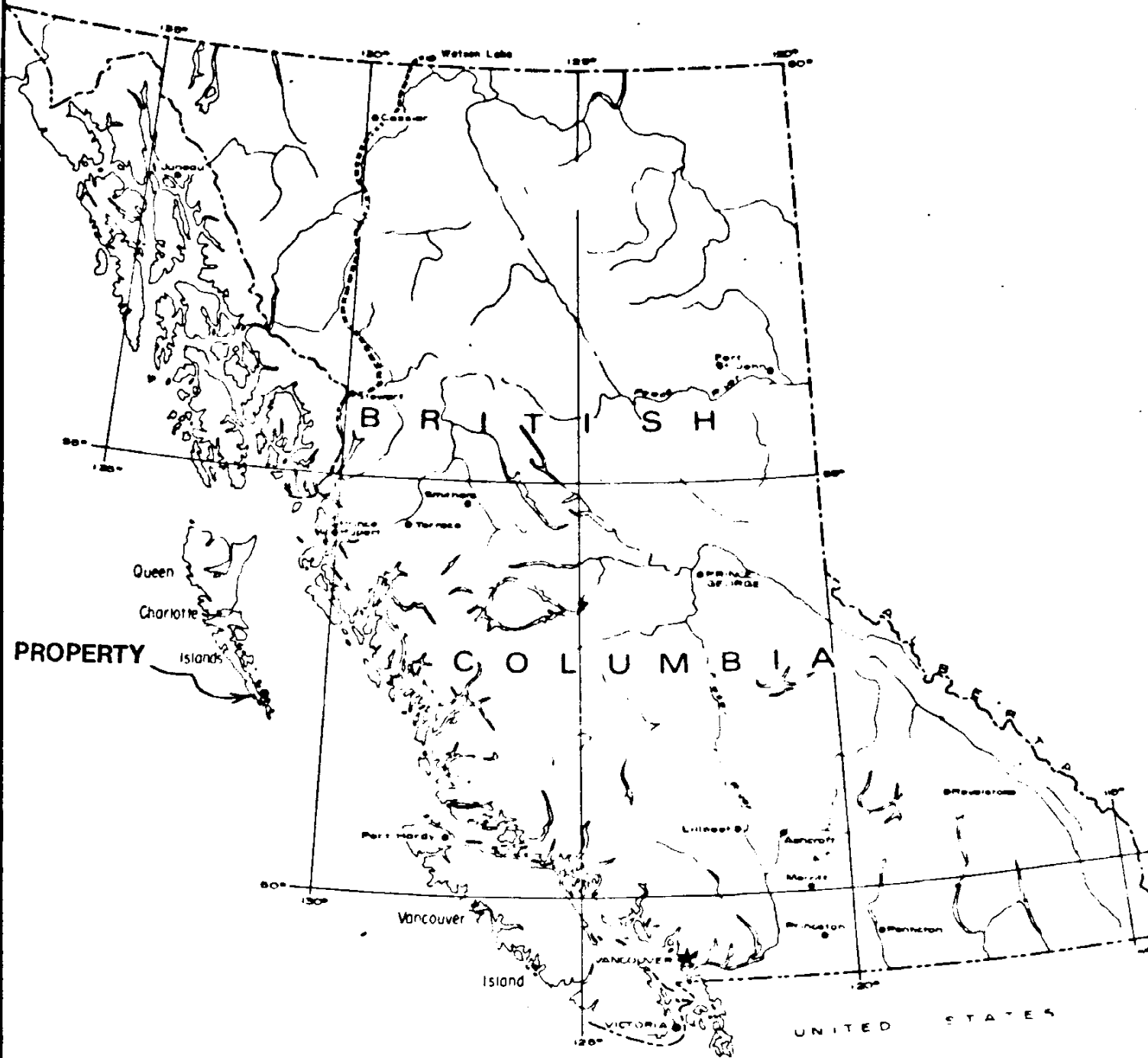


FIGURE 5

ARCHIE #1-#4

PROPERTY LOCATION MAP

Mile 1136		SCALE		136 Mile	
Prepared by	Date	NTS MAP AREA		DRAWING No	
Drawn by	Revised				

## INTRODUCTION

In April 1979 stream sediment and rock chip samples were collected on traverses made by boat. In May 1979 the ground was staked, Archie #1 - #4, by Gordon Richards. In August, detailed follow-up sampling and mapping was done, which is the basis of this report.

The Archie #1 - 4 mineral claims lie west of Ikeda Cove, south Moresby Island, some 120 km SSE of Sandspit, Queen Charlotte Islands. Rocks of Kunga Formation and to a lesser extent, Karmutsen Formation, are exposed on the property. These rocks are intruded by an acidic pluton of Cretaceous age and numerous acidic to intermediate dykes of Tertiary (?) age.

Geochem results indicate that favourable zones, principally within calcareous argillaceous rocks, occur immediately west of Ikeda Cove. Other lesser geochem anomalies occur over the entire area sampled.

## LOCATION AND ACCESS

The property lies towards the southern end of Moresby Island on the south side of Skincuttle Inlet and is bounded to the west by Harriet Harbour and to the east by Ikeda Cove. It is accessible by float plane from Sandspit, some 120 km north. Local roads from old mining operations, Jedway 1961 - 1965, exist on the extreme south west corner and extreme south areas of the property.

TOPOGRAPHY AND VEGETATION

Elevations on the property range from sea level to 1800 ft. A prominent ENE trending ridge transects the property with steep slopes falling away to the south and more moderate slopes to the north. Slopes are covered in hemlock-spruce forests with a few small areas of cedar-hemlock-spruce forest.

MINERAL CLAIMS - ARCHIE PROPERTY

<u>CLAIM NAME</u>	<u>UNITS</u>	<u>RECORD NO.</u>	<u>RECORD DATE</u>
ARCHIE 1	20	1322	June 14, 1979
ARCHIE 2	20	1323	June 14, 1979
ARCHIE 3	10	1324	June 14, 1979
ARCHIE 4	6	1325	June 14, 1979

GEOLOGYGeneral

The general geology is very much as described by Athol Sutherland-Brown in the B.C. Dept. of Mines and Petroleum Resources Bulletin #54. The peninsula covering most of the claims is underlain by undifferentiated Kunga argillaceous sediments and minor limestone. These sediments overlie Karmutsen greenstones that outcrop at the head of Ikeda Cove. A diorite outcrops on the western portion of the claims on the hill east of the abandoned Jedway millsite. Numerous acidic to intermediate Tertiary (?) dykes intrude the Karmutsen-Kunga Formations.

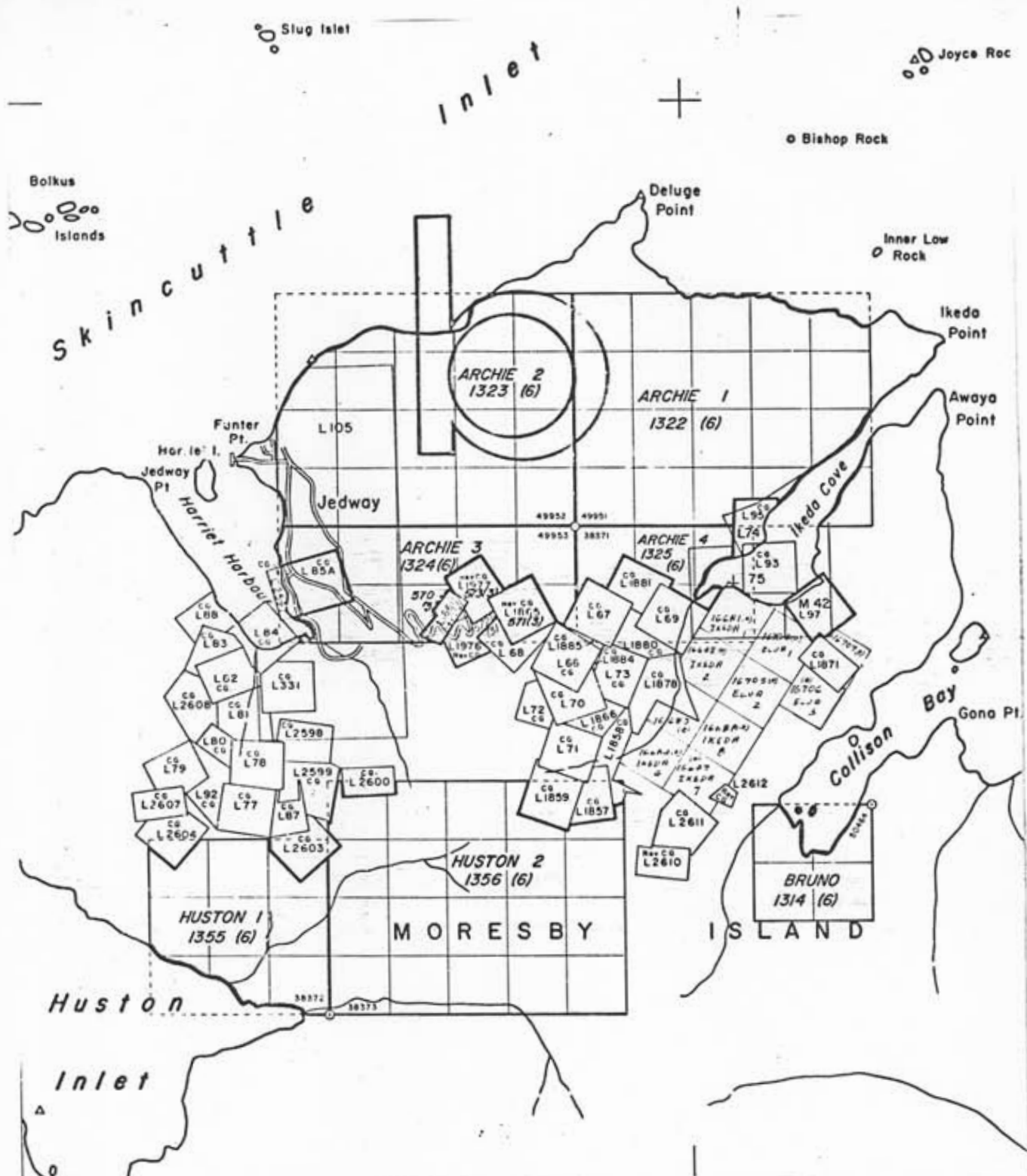


FIGURE 6 - CLAIM MAP

### Mineralization

One to two per cent disseminated pyrite occurs in many of the Tertiary (?) dykes (many not mapped). Much of the Kunga argillite also contains 1 - 3% disseminated and "bedded" pyrite although some if not all may be primary. Iron skarn mineralization occurs 700 metres north of the cabin shown on figures 1 - 4 in a creek adjacent to felsic dykes occurring near the Karmutsen-Kunga contact. The skarn is a pod of massive magnetite five to ten feet wide and thirty feet long with a selvage one to two feet wide of mixed pyrite-magnetite <sup>±</sup> chalcopyrite mineralization. An adit was found on the north side of the main hill in a large creek. Argillites intruded by a few andesite dykes contain minor amounts of chalcopyrite. The argillite is not particularly altered.

### GEOCHEMISTRY

Reconnaissance geochem sampling in April 1979 produced several stream sediments with strongly anomalous gold and arsenic results. The current programme was planned to follow up these anomalies. In total 567 soil, rock-chip and stream sediment samples were collected and analysed for gold, arsenic, silver and copper.

Rock chip samples were made from three to ten rock chips, were small enough to fit into standard kraft sample bags and are therefore only preliminary in nature. Soil samples were collected from the B horizon where possible from a depth of 1 cm to 1/2 m.

Gold and arsenic geochemical analyses were done on -80 mesh fraction by Bondar-Clegg and Company Ltd., 1500 Pemberton Ave., North Vancouver, using the following standard procedures:-

Arsenic: Perchloric-Nitric acid extraction and Colormetric determination.

Gold: Fire assay and hot aqua regia with atomic absorption spectrophotometer determination.



Silver and copper geochemical analyses were done by the Placer Development Limited Laboratory in Vancouver using the following standard procedure:-

Silver and Copper: Perchloric acid extraction and atomic absorption spectrophotometer determination.

Gold:

The accompanying figure showing Gold geochemistry results (Fig.2) is contoured for soil samples at 15 ppb, the assumed anomalous value. An extensive, NE trending anomaly lies west of the south end of Ikeda Cove and measures 2500 X more than 500 m. Another anomaly lies west of this last and measures about 1000 m X 700 m and is open to the southwest. Contiguous anomalous soil samples were collected near the shoreline around Ikeda Point on both the north-facing shore and Ikeda Cove shoreline. A group of less extensive anomalies are indicated toward the centre and northwest of the area sampled.

The highest value returned for a soil sample was 1320 ppb. Many samples within the largest anomaly have results which exceed 100 ppb.

Arsenic:

The accompanying figure showing arsenic geochemistry results (Fig.3) is contoured at 30 ppm (the assumed anomalous value), 80 ppm, and 200 ppm. The anomalous areas indicated are broader than indicated by the results for gold. The 80 ppm contour belt approximates the gold anomalies.

The area of 30 ppm As is a broadly arcuate zone from Ikeda Point sweeping along the west side of Ikeda Cove, across the main ridge and north to Skincuttle Inlet. This zone is open to the west.

Silver:

A moderate anomalous silver pattern of .8 to about 2.0 ppm Ag occurs almost coincidentally with the Au-As patterns described above. Individual high results are:

- 31.0 ppm: a soil collected from the dump of the shaft in the creek at the northwest side of the property.
- 18.0 ppm: a soil at the base of a sea cliff of Kunga argillites at the northeast end of the property in an area of several other high silver soil samples.
- 11,12,12 ppm: rock chips from in and near the skarn 700 m north of the cabin.
- 61 ppm: rock chip float 2-5% leached sulphide in silicified very porous sediment. 200 m west of above stream.

CONCLUSIONS AND RECOMMENDATIONS

The widespaced geochemical sampling programme described in this report has served to indicate three areas worthy of detailed sampling and mapping. These areas are: 2000 metres west northwest of the cabin near the ridge but on the south side of the hill over an area 800 metres square; on the hillside immediately north west of the cabin to an elevation of about 1000 feet and extending 700 metres to the northeast and southwest; and about 1600 metres northeast of the cabin from sea level to the ridge.

Two other areas require more reconnaissance sampling before detailed sampling can be done. These two areas occur at the extreme east and west ends of the sampled area on the north side of the ridge in areas of anomalous Au-As-Ag geochemistry.



James S. Christie, Ph.D.



Gordon G. Richards, P.Eng.

STATEMENT OF COSTSWAGES: Aug. 23 - Sept. 1

G.G. Richards	- Geologist	- 10 days @ \$150/day	\$ 1,500.00
J.S. Christie	- Geologist	- 10 days @ \$150/day	1,500.00
M. Carr	- Geologist	- 10 days @ \$100/day	1,000.00
G. Skjelbred	- Helper	- 10 days @ \$ 65/day	650.00

FOOD	40 man days @ \$20/day	800.00
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AIRFARES	4 men - Vancouver-Sandspit return 4 fares @\$150/fare	600.00
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AIRCRAFT CHARTER		1,110.00
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CAMP RENTAL		75.00
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SUPPLIES		250.00
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GEOCHEM	Bondar Clegg Au-As	3,909.60
	Placer Development Ag-Cu	1,134.00

SHIPPING		45.00
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MOTEL		160.00
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RADIO TELEPHONE		90.00
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REPORT WRITING, TYPING DRAFTING		<u>1,500.00</u>
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		<u><u>\$14,323.60</u></u>
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STATEMENT OF QUALIFICATIONS.

I, James S. Christie of Vancouver, British Columbia do hereby certify that,

1. I am a Professional Geologist residing at 3921 W. 31st Ave., Vancouver, B.C. V6S 1Y4.
2. I am a graduate of the University of British Columbia B.Sc. Honours Geology - 1965, Ph.D. Geology - 1973.
3. I have practiced my profession as a mining exploration geologist, continuously since 1965.
4. I am a Fellow of the Geological Association of Canada.
5. This report is based on my personal knowledge of the district, and mapping of the geology at the property.

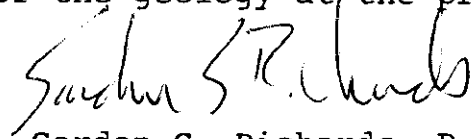


James S. Christie, Ph.D.

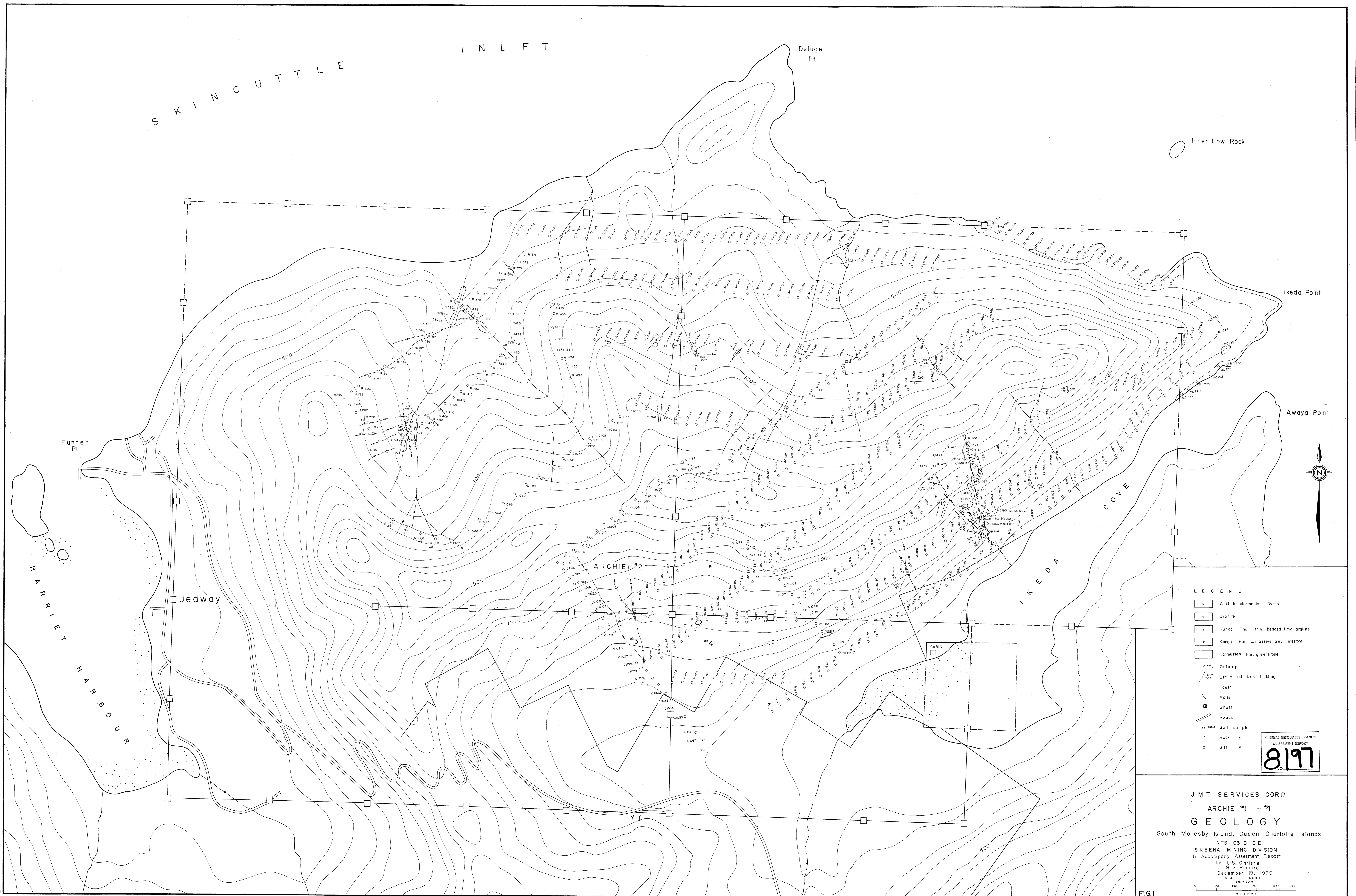
STATEMENT OF QUALIFICATIONS

I, Gordon G. Richards of Vancouver, British Columbia do hereby certify that,

1. I am a Professional Engineer of the Province of British Columbia, residing at 818 West 68th Ave., Vancouver, B.C., V6P 2V2.
2. I am a graduate of the University of British Columbia B.A.Sc. 1968, M.A.Sc. 1974.
3. I have practised my profession as a mining exploration geologist, continuously since 1968.
4. This report is based on my personal knowledge of the district, and mapping of the geology at the property.



Gordon G. Richards, P.Eng.



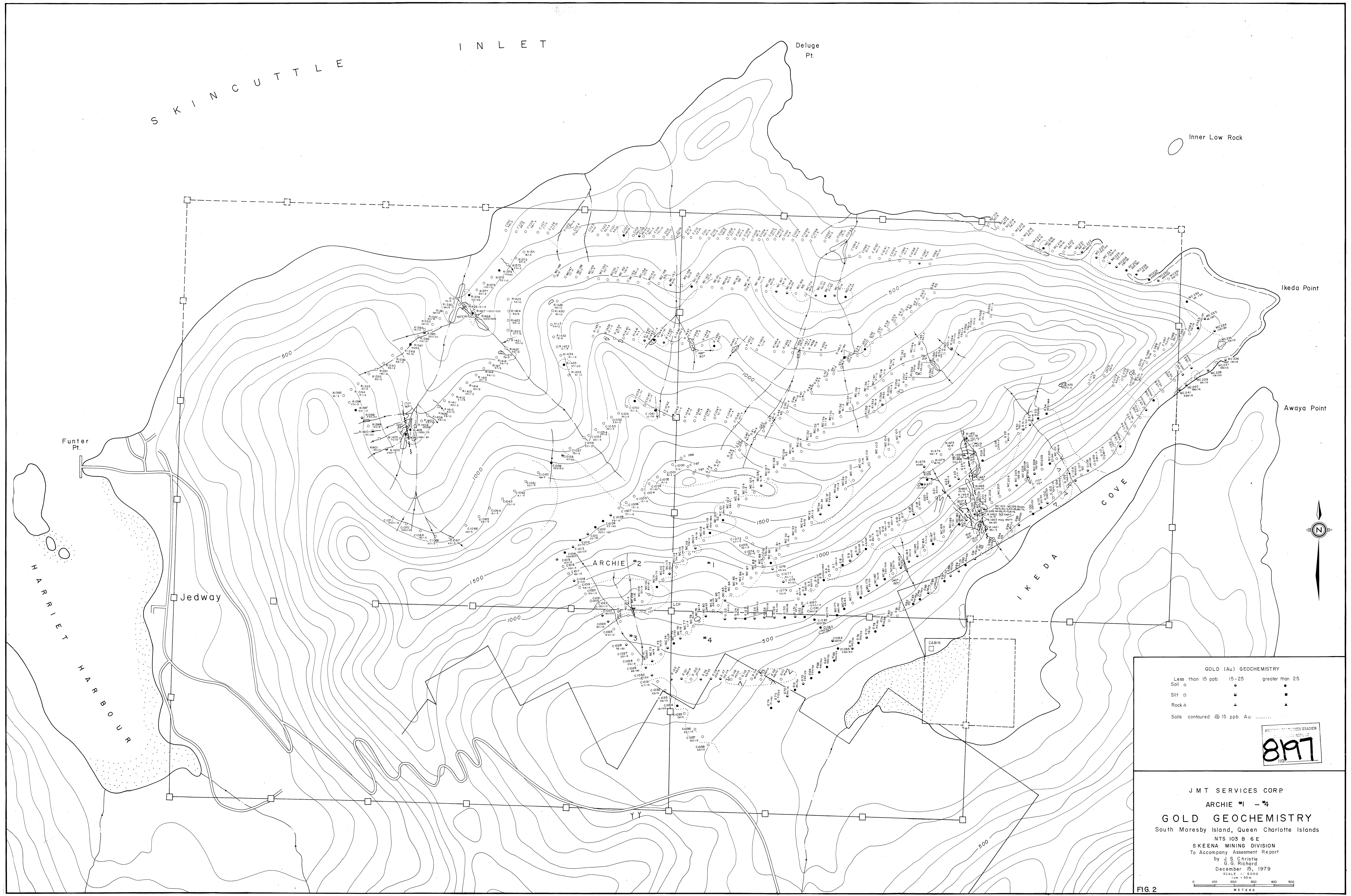
**LEGEND**

- 1 Acid to intermediate Dykes
- 4 Diorite
- 3 Kunga Fm. - thin bedded limy argillite
- 2 Kunga Fm. - massive grey limestone
- 7 Karnatzen Fm. - greenstone
- Outcrop
- Strike and dip of bedding
- Fault
- Adits
- Shaft
- Roads
- 1000 Soil sample
- △ Rock "
- Silt "

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8197**

**JMT SERVICES CORP**  
**ARCHIE #1 - 4**  
**GEOLOGY**  
 South Moresby Island, Queen Charlotte Islands  
 NTS 103 B 6 E  
 SKEENA MINING DIVISION  
 To Accompany Assessment Report  
 by J. S. Christie  
 G. G. Richard  
 December 15, 1979  
 Scale 1:5000  
 0 100 200 300 400 500  
 METERS

FIG.1



GOLD (Au) GEOCHEMISTRY

Less than 15 ppb	15-25	greater than 25
Soil ○	●	●
Silt □	■	■
Rock ▲	▲	▲

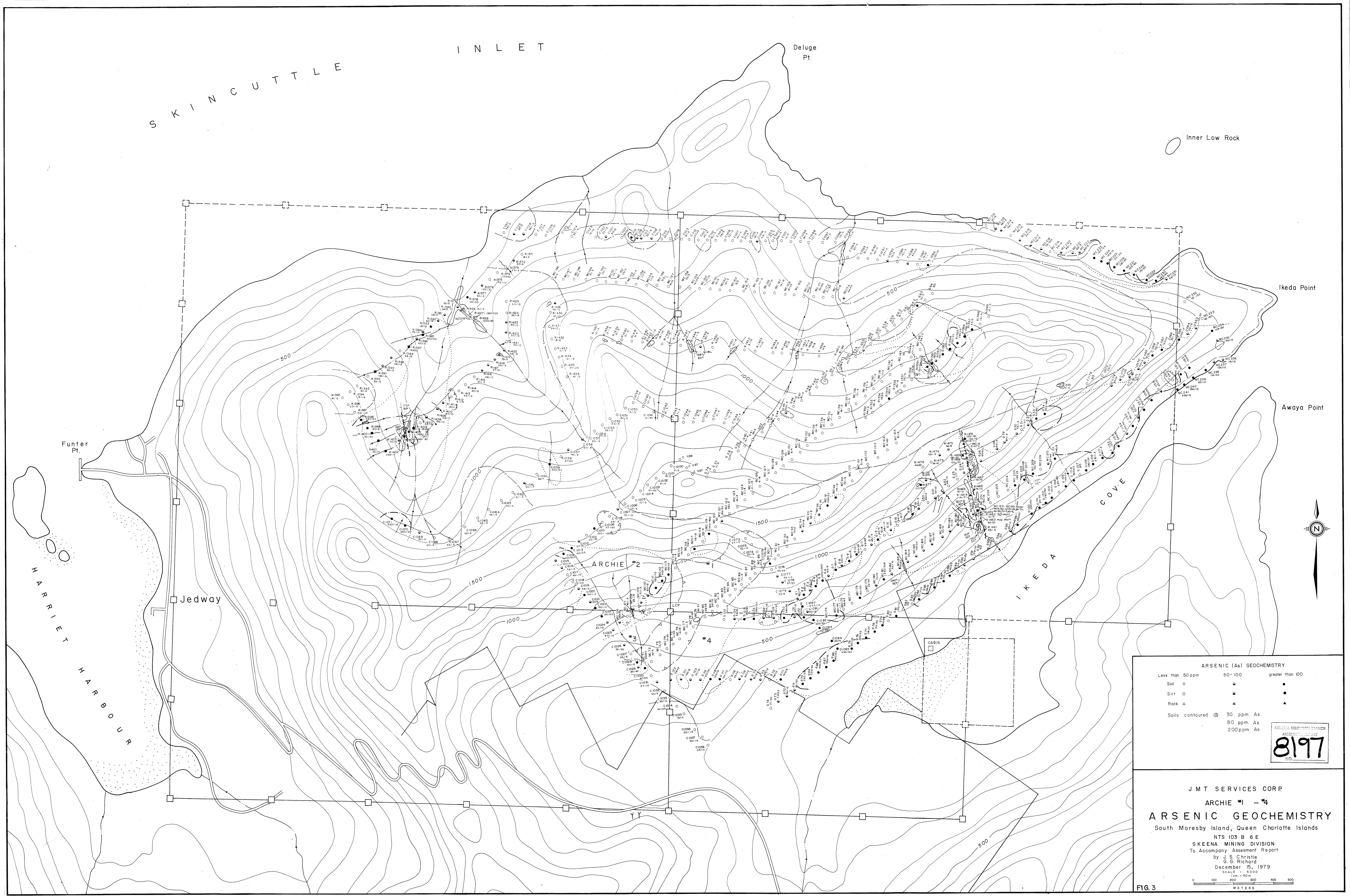
Soils contoured @ 15 ppb Au

MINING SERVICES DIVISION  
**897**  
 100

JMT SERVICES CORP  
 ARCHIE #1 - 4  
**GOLD GEOCHEMISTRY**  
 South Moresby Island, Queen Charlotte Islands  
 NTS 103 B 6 E  
 SKEENA MINING DIVISION  
 To Accompany Assessment Report  
 by J. S. Christie  
 G. G. Richard  
 December 15, 1979  
 SCALE 1:5000  
 0 100 200 300 400 500  
 METERS

FIG. 2



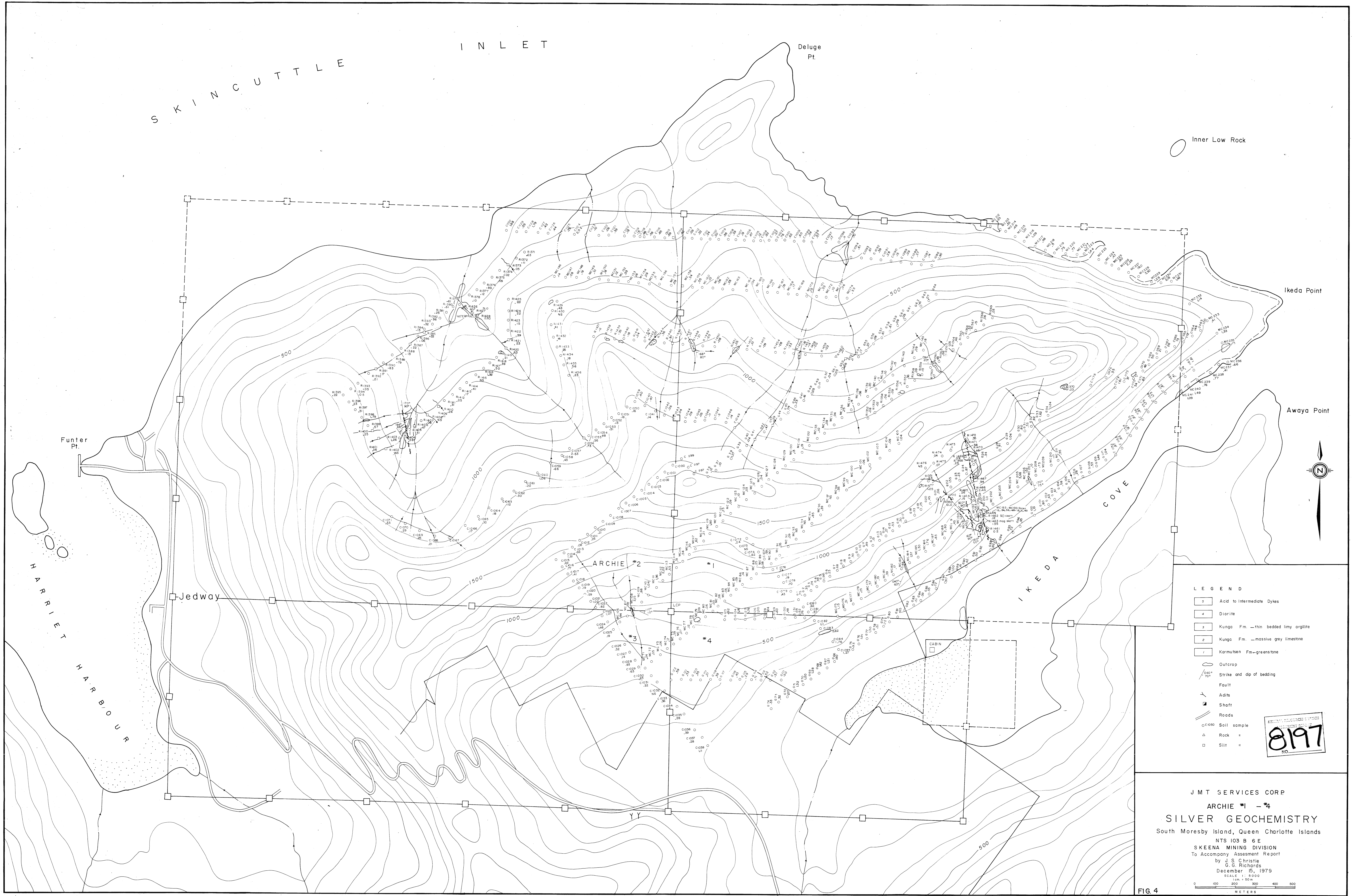


ARSENIC (As) GEOCHEMISTRY		
Less than 50 ppm	50-100	greater than 100
Soil ○	●	•
Silt □	◻	◼
Rock △	▲	▴
Soils contoured @ 30 ppm As 80 ppm As 200 ppm As		

ARSENIC (As) GEOCHEMISTRY  
 8197  
 NO.

JMT SERVICES CORP  
 ARCHIE #1 - 4  
**ARSENIC GEOCHEMISTRY**  
 South Moresby Island, Queen Charlotte Islands  
 NTS 103 B 6 E  
 SKEENA MINING DIVISION  
 To Accompany Assessment Report  
 by J. S. Christie  
 G.G. Richard  
 December 15, 1979  
 SCALE 1:5000  
 0 100 200 300 400 500  
 METERS

FIG. 3



**LEGEND**

- 5 Acid to Intermediate Dykes
- 4 Diorite
- 3 Kunga Fm. — thin bedded limy argillite
- 2 Kunga Fm. — massive grey limestone
- 1 Karmutsen Fm.—greens tone
- Outcrop
- Strike and dip of bedding
- Fault
- Adits
- Shaft
- Roads
- Soil sample
- Rock
- Silt

8197

JMT SERVICES CORP  
 ARCHIE #1 - 4  
**SILVER GEOCHEMISTRY**  
 South Moresby Island, Queen Charlotte Islands  
 NTS 103 B 6 E  
 SKEENA MINING DIVISION  
 To Accompany Assessment Report  
 by J. S. Christie  
 G. G. Richards  
 December 15, 1975  
 SCALE 1:5000  
 0 100 200 300 400 500  
 METERS

FIG. 4