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GEOLOGY · GEOPHYSICS
MINING ENGINEERING

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PROPERTY FILE

Ass Rpt
17040

GEOLOGICAL REPORT

on the

O.B. 1 and 2 CLAIMS

(JUSKATLA INLET PROPERTY)

QUEEN CHARLOTTE ISLANDS

Skeena Mining Division - British Columbia

Lat. $53^{\circ} 34'$ N.

Long. $132^{\circ} 29'$ W.

PROPERTY FILES \Rightarrow N.T.S. 103 F/9W and 10E 103F037

for

SKYGOLD RESOURCES LTD.

by

D. G. Allen, P. Eng. (B.C.)

December 30, 1987

Vancouver, B.C.

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SUMMARY

Skygold Resources Ltd. holds the O.B. 1 and 2 claims comprising 36 claim units in the Juskatla Inlet area of the Northern Queen Charlotte Islands. The property is situated 24 kilometres southwest of Port Clements and is accessible by logging roads. The property is 17 kilometres northwest of the Cinola gold deposit (44 million tons - 0.058 ounces per ton gold) currently being developed by City Resources.

The property is underlain by Tertiary volcanic rocks of the Masset Formation. These volcanic rocks are locally clay-altered, silicified, brecciated and veined. Such features are characteristic of hydrothermally altered volcanic rocks found in a hot springs environment, i.e., an environment that has potential to host epithermal precious metal mineralization.

In 1981, work on the claims had identified scattered anomalous gold values (up to 0.02 ounces per ton) in variably altered volcanic rocks. The property was acquired by the company in 1987 and an exploration program including line cutting, soil geochemical sampling, geological mapping, and geophysical surveys was carried out.

Preliminary geochemical sampling of rock and poorly developed soils has not confirmed the presence of gold values; however, anomalous mercury (a pathfinder element for gold) values occur over an area of at least 100 by 800 metres on the O.B. 1 claim and over an undefined area on the O.B. 2 claim. Scattered anomalous values of zinc, lead, arsenic, antimony and gold, and cadmium were also identified. VLF-electromagnetic data reveal the presence of conductive structures which parallel the trend of the geochemical anomalies. Induced polarization surveys, although incomplete, also indicate the presence of anomalous chargeabilities and high resistivities in the survey area. An exploration program is proposed to fully delineate the area of interest followed by drilling of target areas.

ESTIMATED COST OF RECOMMENDATION

PHASE I Geochemical mapping, geophysical surveys.

Personnel		
Geologist	30 man-days @ \$250	\$ 7,500
Soil Sampler, Mag-VLF Operators	60 man-days @ \$180	10,800
Equipment Rental, field supplies		
Backhoe	100 hours @ \$80 (all incl.)	8,000
Room and board	60 man-days @ \$50	3,000
Vehicle rental		1,000
Travel, freight		2,000
Geochemical analyses		8,000
Report		
Preparation, drafting		<u>5,000</u>
	Subtotal	46,300
	Contingencies	<u>3,700</u>
	TOTAL PHASE I	\$ 50,000

PHASE II Diamond Drilling.

Drilling	1000 metres @ \$100 (all incl.)	\$100,000
Geochemical analyses, assay		12,000
Bulldozer: road and drill site construction	100 hours @ \$100 (all incl.)	10,000
Supervision, engineering, report, consulting		<u>12,000</u>
	Subtotal	\$134,000
	Contingencies	<u>13,000</u>
	TOTAL PHASE II	\$147,000
	GRAND TOTAL	\$197,000

INTRODUCTION

Skygold Resources Ltd. holds the O.B. claims in the Juskatla Inlet area of the Northern Queen Charlotte Islands. The property is situated 17 kilometres west-northwest of the Cinola gold deposit (44 million tons grading 0.058 ounces per ton gold) currently being developed by City Resources Ltd.

The O.B. claims were staked to cover a potential epithermal gold deposit in pyritized, veined and altered volcanic rocks of subaerial origin. Previous work by Evergreen Exploration Ltd. (Wolverton, 1981) had revealed scattered anomalous amounts of gold (up to 0.02 ounces per ton), arsenic (up to 2100 ppm), mercury (up to 1160 ppb) and antimony (up to 24 ppm).

The property was acquired by Skygold Resources in September, 1987 who subsequently conducted the following work:

- 1) 12 kilometres of grid established over the area of interest defined by Evergreen Exploration;
- 2) geological mapping;
- 3) rock and soil geochemical sampling;
- 4) 4.35 kilometres of induced polarization, 12 kilometres of VLF-electromagnetic, and 3.85 kilometres of magnetic surveys.

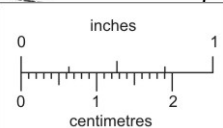
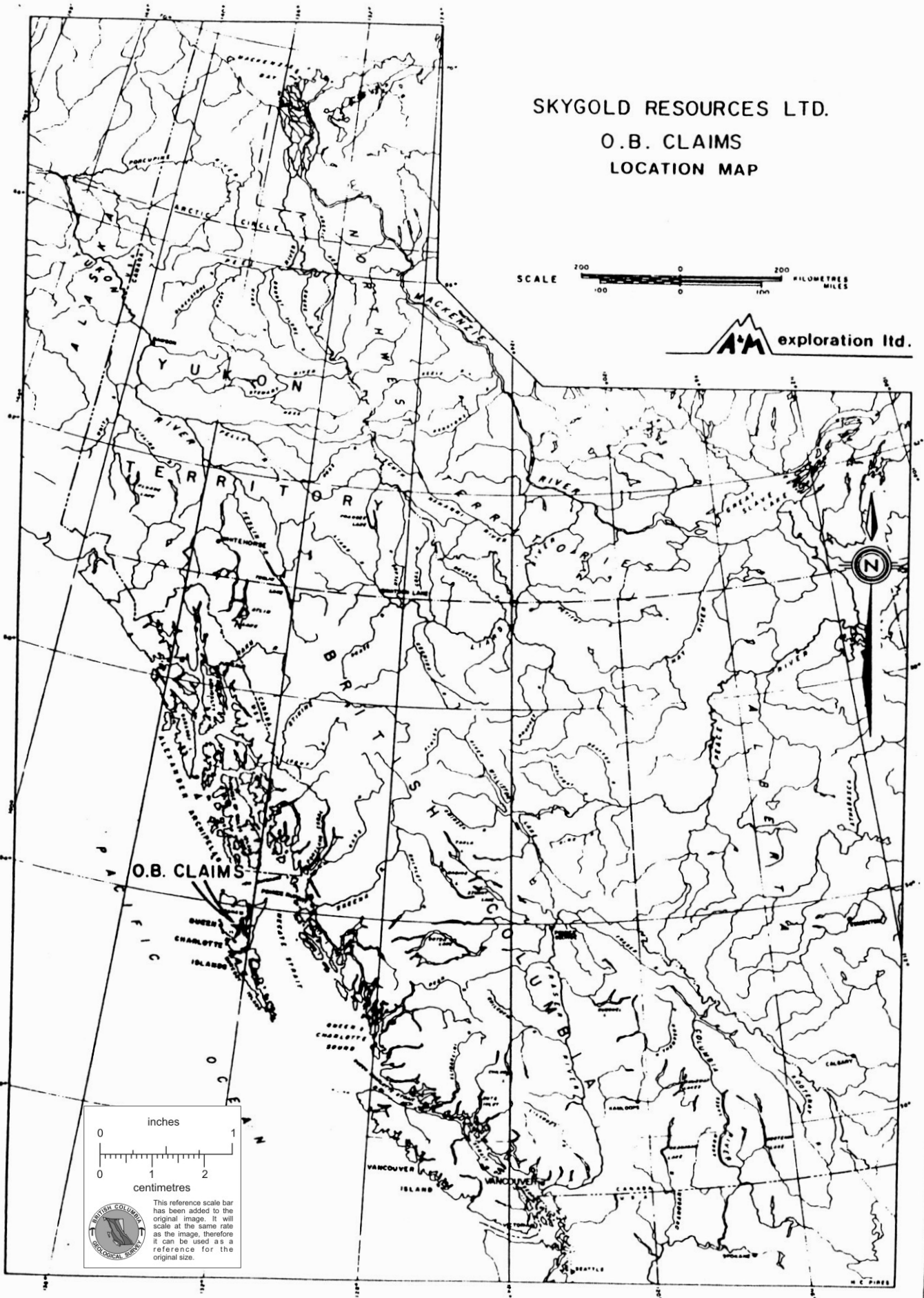
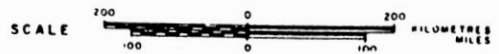
The results of this work are described in detail in separate reports by Sayer and Stephen (1987) and Thornton (1987). This report is prepared at the request of Mr. Balbir Johal to summarize results of work completed to date.

LOCATION, PHYSIOGRAPHY, ACCESS

The O.B. claims are situated 24 kilometres southwest of Port Clements on Graham Island of the Northern Queen Charlotte Islands (Figure 1). The claims straddle the southern end of Juskatla Inlet, a bay off Masset Inlet (Figure 2). Logging roads provide easy access to the eastern part of the claim group. A boat was used to provide access to the western part.

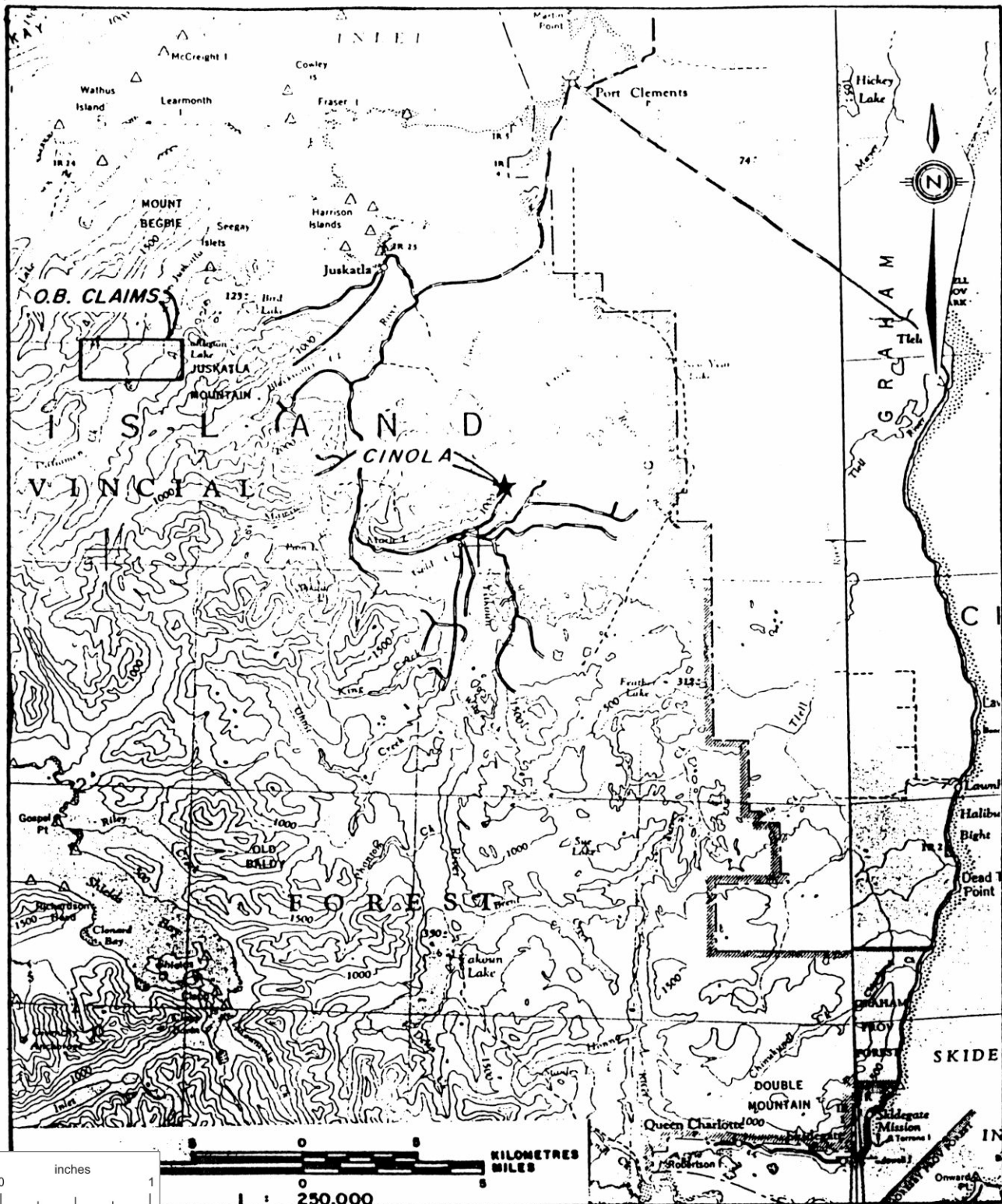
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O.B. CLAIMS
LOCATION MAP



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FIGURE - I



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N.T.S. 103 F

ACCESS MAP

O.B. CLAIMS

SKEENA MINING DIVISION - BRITISH COLUMBIA

inches
0 1

centimetres
0 1 2

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

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Figure 2

Low rolling hills and boggy plateaus, separated by numerous deeply cut stream beds, are the principal physiographic features in the area. Elevations range from 0 to 450 metres (0 to 1,500 feet). Slopes are covered with a dense mature forest of hemlock, cedar and spruce with a thick undergrowth of salal. The eastern part of the claim group has been logged, making traversing between logging roads difficult and time consuming.

CLAIM DATA

The property comprises 36 claim units (see Figure 3) as follows:

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
O.B. 1	20	1061	February 15, 1991
O.B. 2	16	1062	February 14, 1988

HISTORY

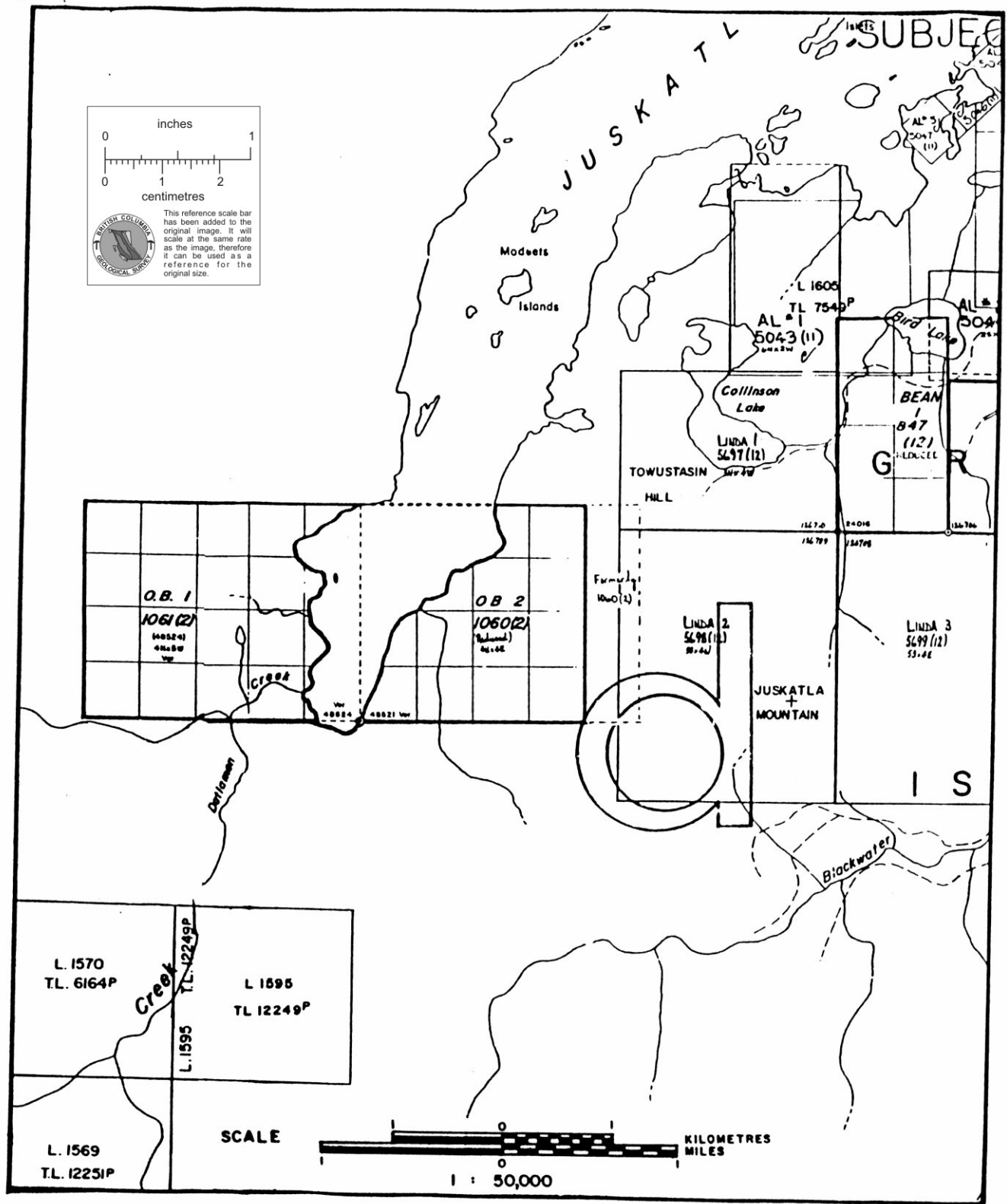
Little gold exploration has been carried out in the Masset Inlet area prior to the discovery of the Cinola deposit in 1970. From that time to about 1982, the area around the deposit was extensively staked and explored by a number of junior and major exploration companies. The Cinola deposit itself was held successively by at least six companies, the most recent being City Resources (Canada) Ltd. who have announced a proposed development program.

The O.B. claims were staked in 1979 and a program of bulldozer road construction and backhoe pitting was carried out. Scattered anomalous gold values of up to 0.02 ounces per ton were obtained along with anomalous values of mercury, arsenic and antimony.

GEOLOGY

Regional Geology

The geology of the Queen Charlotte Islands has been described by



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N.T.S. 103 F/9W, 10E

CLAIM MAP

O.B. CLAIMS

SKEENA MINING DIVISION - BRITISH COLUMBIA

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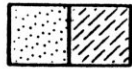
Sutherland Brown (1968). Yorath and Chase (1981), and Sutherland Brown et al (1983) have proposed a model of the tectonic history of the Islands that incorporates the observed geology with current theories of sea floor spreading, continental drift and allochthonous terranes.

The Islands are constructed from two allochthonous assemblages, the Alexander and Wrangellia terranes (Jones et al, 1977), which are comprised of Upper Triassic to Jurassic volcanic and sedimentary rocks and Paleozoic basement metamorphic rocks (Figure 4). These assemblages were accreted to the North American continental margin during late Mesozoic time.

The two terranes probably amalgamated somewhere to the west of their present position in Late Jurassic to earliest Cretaceous time. The locus of the suture between the two is probably represented by the Sandspit Fault. Cretaceous plutons were intruded along this suture and clastic wedges such as the Longarm Formation were deposited at the time of suturing (suture assemblage). As the amalgamated terrane approached and collided with the North American continent during the Late Cretaceous time, plutonic uplift began in the region of the Coast Mountains where Wrangellian and Alexander Terrane rocks were eroded and transported westward in the form of alluvial fans and debris flow conglomerates (post suture assemblage). These rocks are represented by the Haida, Honnan, and Skidegate Formations.

In late Tertiary time disruption of the western Wrangellia occurred, resulting in rift basins in Queen Charlotte Sound and Hecate Strait. Concurrent with rifting, the Masset Formation volcanic rocks and Skonun Formation clastic rocks (Rift assemblage) were developed along rift faults and adjacent to the Louscoome and Sandspit faults. A series of epizonal plutons were intruded along these structures. Rifting is believed to have occurred above a mantle plume (where the North American continent drifted over a hot spot in the mantle). Subsequent to this rifting, northward movement of the Queen Charlottes along the Louscoome Inlet-Sandspit fault zone continued, and subsidence of Queen Charlotte Sound occurred along with continued rifting. Finally, rotation of the Islands to their modern position occurred through left lateral motion along the Beresford Bay and Langara faults.

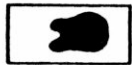
TERTIARY-NEOGENE



Skonun Fm: nonmarine and marine clastics



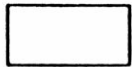
Masset Fm: nonmarine basalt and rhyolite;
Anahim volcanic belt: peralkaline volcanics



Intermediate epizonal plutons

**RIFT
ASSEMBLAGE**

CRETACEOUS-TERTIARY



Coast Plutonic Complex: intermediate plutons
and metamorphic rocks

MESOZOIC



Wrangellia: Volcanic and sedimentary rocks; includes suture
and post suture assemblages (see: Yorath and Chase, 1981)

PALEOZOIC



Alexander Terrane: Volcanic, sedimentary,
metamorphic and plutonic rocks

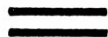


Faults, suture, convergence zone;

Q.C.F. = Queen Charlotte Fault; S.F. = Sandspit Fault;

L.I.F. = Louscoone Inlet Fault; R.S.F. = Rennell Sound Fault

B.B.F. = Beresford Bay Fault; L.F. = Langara Fault



Spreading ridges



Direction (relative to North America) and rate
of plate motion, cm/yr

5.5

O Exploratory wells

- | | |
|--------------|-----------------|
| 1 Tow Hill | 8 Tyee |
| 2 Masset | 9 Sockeye B-10 |
| 3 Nadu River | 10 Sockeye E-66 |
| 4 Cape Ball | 11 Murrelet |
| 5 Gold Creek | 12 Auklet |
| 6 Tiell | 13 Harlequin |
| 7 South Coho | 14 Osprey |

G.I. = Graham Island

M.I. = Moresby Island

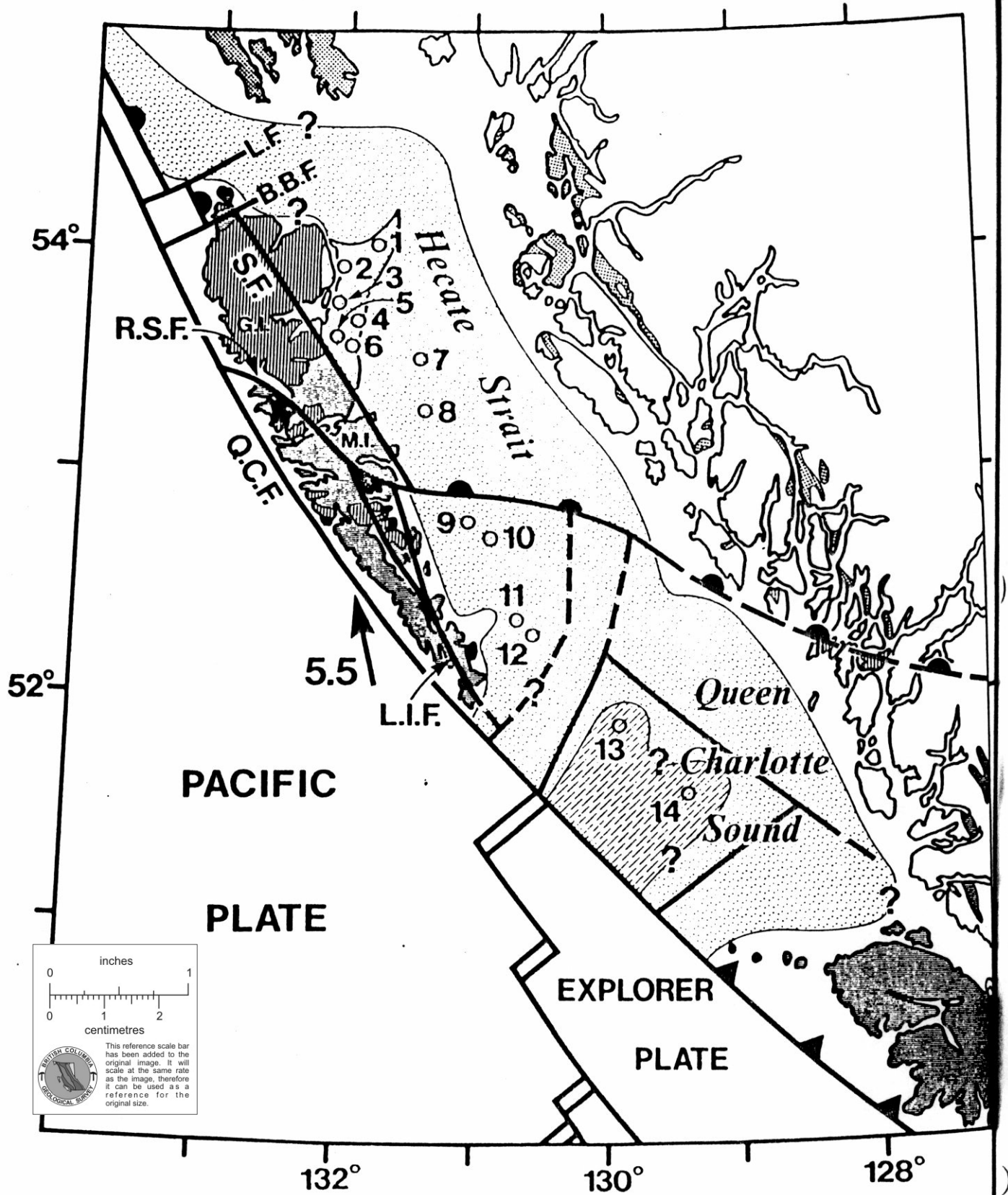


Figure 4. Simplified Regional Geology (From Yorath and Hlyndman, 1983).

Property Geology

Details of the geology of the O.B. property are presented in the report by Sayer and Stephen (1987). For the purpose of this report the geology is summarized on Figure 6.

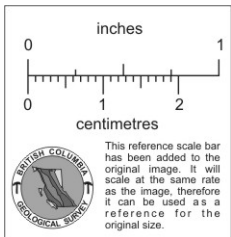
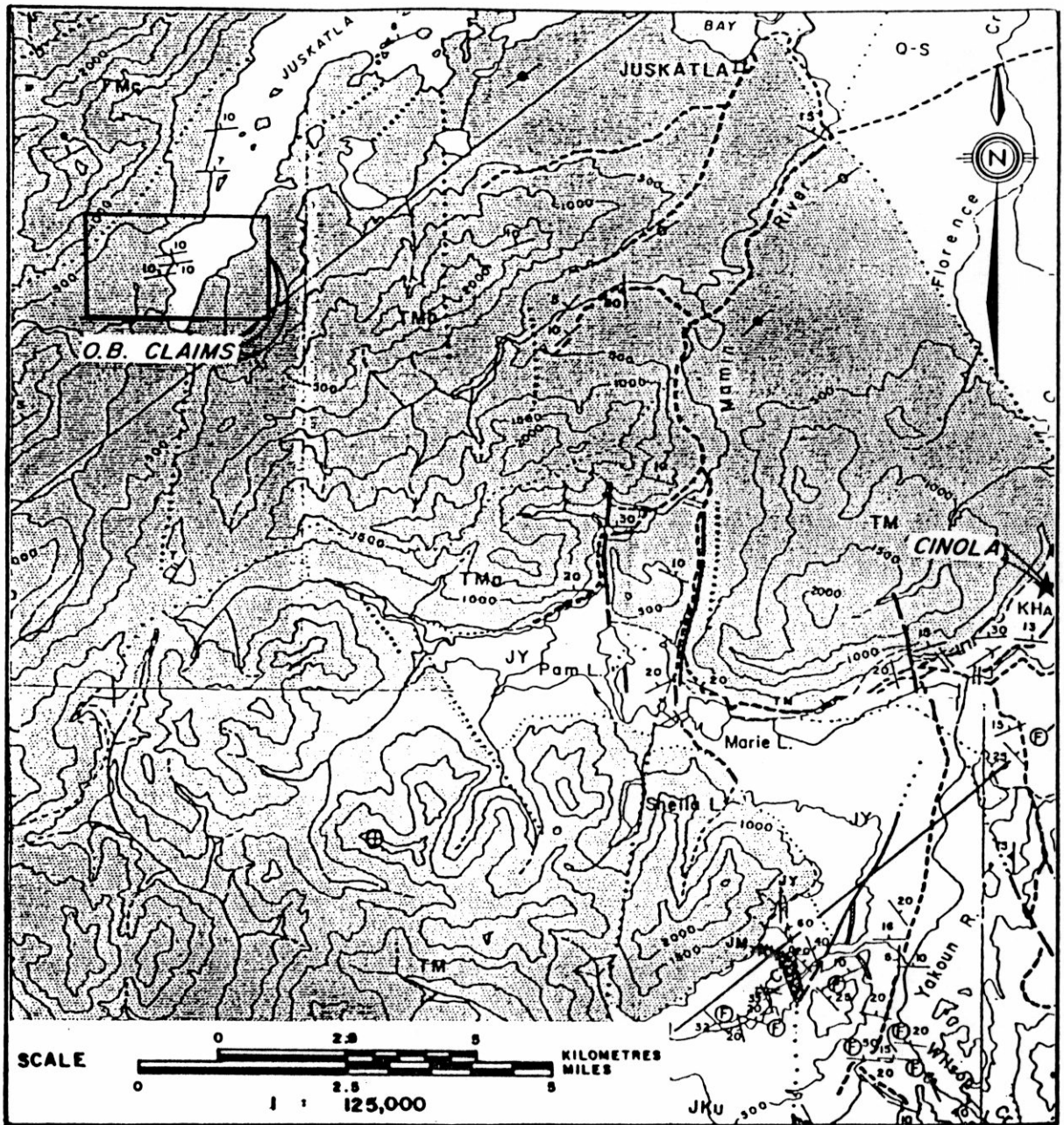
The immediate claim area is underlain entirely by rhyolitic flows and tuffs, and minor basalt flows of the Tertiary Masset Formation (Figure 5). As mentioned above, the Masset Formation is the lowermost component of the Rift Assemblage. Rifting is suggested by Yorath and Chase to have occurred in Queen Charlotte Sound as a consequence of the westward drift of North America over the Anahim hot spot. The formation is 1200 to 5500 metres thick and covers much of the northwestern part of Graham Island. The age of the formation is variable within broad units, ranging from 11 to 62 Ma (million years) with a mean age of 27 Ma (14 samples).

In the immediate vicinity of the property, the most common rock type is a rhyolite of variable appearance.

On the east side of the inlet, the rhyolites are pale buff, white to medium gray in colour. The tuffaceous units are generally lighter coloured and are locally thinly laminated. Darker units tend to be flows, 1 to 500 centimetres thick. Commonly the flows are porphyritic with up to 50% phenocrysts of pyroxene, amphibole, feldspar and quartz. Coarse pyroclastic phases outcrop on the logging roads immediately to the south of the claims.

On the west side of the inlet, the rhyolite is pale gray in colour, weathering to whitish buff to purple. The rocks often appear streaky, banded or finely laminated and in one area contain abundant small orbicular structures. Amphibole and feldspar phenocrysts form up to 10% of the rock.

A phase with larger grain size on the east side of the inlet has been tentatively identified as an intrusive phase. Basalt occurs in minor amounts as thin flows and dykes throughout the eastern part of the claim area.

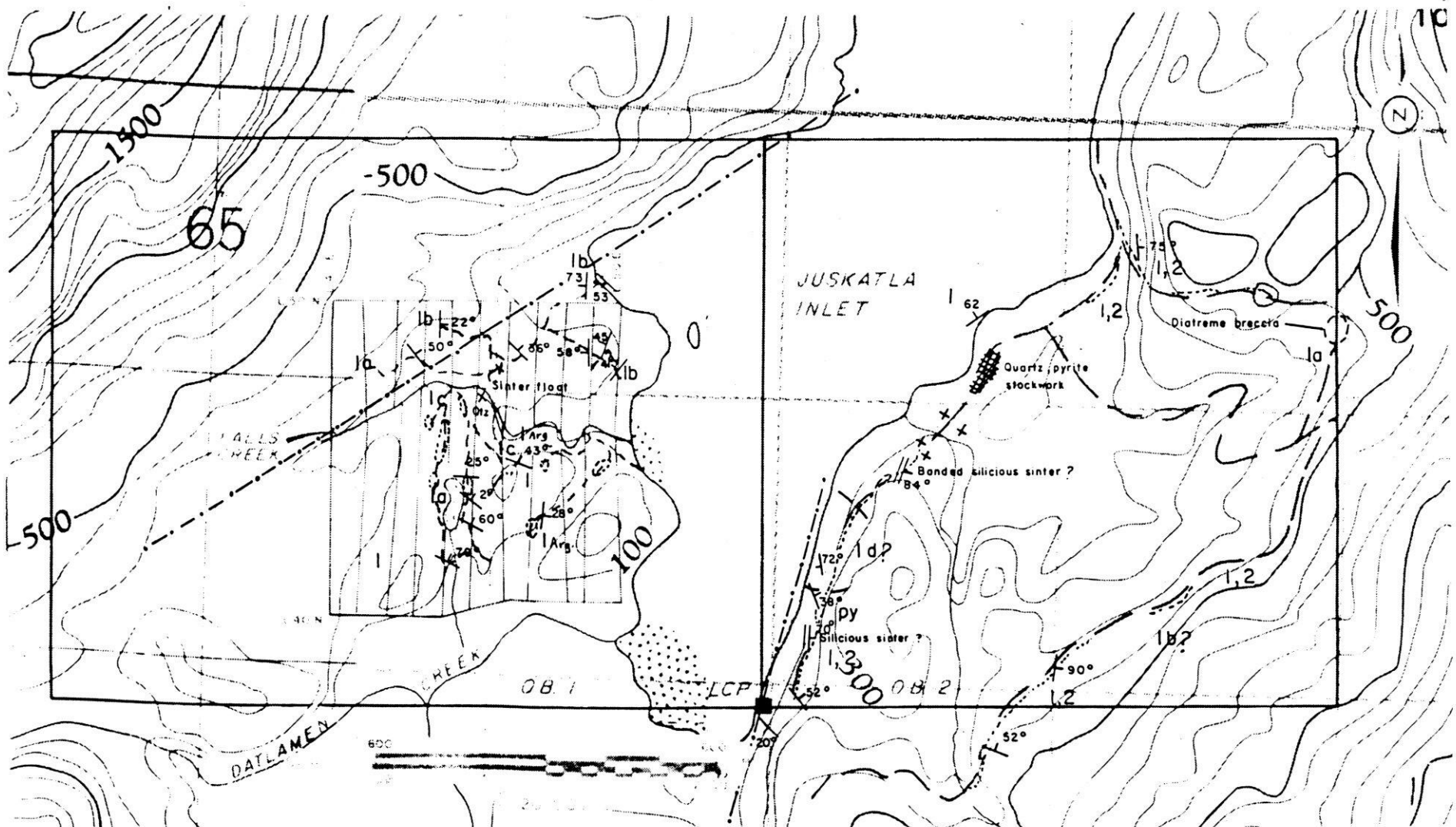


- LEGEND**
- QUATERNARY**
 - Q Alluvium
 - TERTIARY**
 - HASSET FORMATION**
 - THa,b Basalt flows and breccia, rhyolite ash flows
THa, mixed member; Tmb, rhyolite member.
 - CRETACEOUS**
 - QUEEN CHARLOTTE GROUP**
 - KH_Q HONNA FORMATION
Conglomerate, arkosic grits, minor shale
 - KH_A HAIDA FORMATION
Sandstone, shale, siltstone
 - JURASSIC**
 - JY YAKOUN FORMATION
Andesite flows, lapilli tuff, volcanic sandstone
 - Bedding
 - Fault
 - Lineament

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GEOLOGIC MAP
YAKOUN RIVER-JUSKATLA INLET AREA

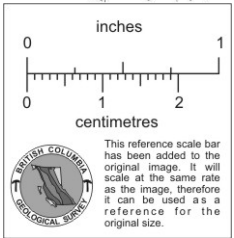
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FIGURE 5



LEGEND

- Bedding attitude
- Lineament
- Quartz-pyrite stockwork; strong, weak
- Arg, Sil Argillic alteration, silicification
- Outcrop
- Basalt
- Rhyolite : la, breccia ; lb, laminated tuff; lc, flow; ld granite ?



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O.B. CLAIMS

SKENA MINING DIVISION BRITISH COLUMBIA

**GEOLOGICAL
COMPILATION MAP**

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NT S103F / 9W, 10E

FIGURE 6

Alteration

The volcanic rocks throughout the claim area are weakly silicified. All open spaces, vesicles and fractures are lined or filled with chalcadonic quartz and, less commonly, calcite. In one outcrop on the eastern part of the claims, a 5 to 25 centimetre wide zone of banded silica has the appearance of a siliceous sinter, which may have developed near to surface, or possibly replaced a porous laminated rhyolite tuff.

Argillization to some degree also occurs throughout the rhyolite in the claim area. In a few localities, especially adjacent to the silica "sinter", the rocks are completely converted to clay minerals. Dark cryptocrystalline quartz forms the matrix of a breccia on the eastern part of the claims.

Mineralization

Pyrite in minor amounts occurs throughout the claim area. Pyrite is fairly abundant as veinlets up to 1 centimetre wide and as fracture coatings with quartz along the eastern side of the Juskatla Inlet and in the north central part of the survey grid. In one outcrop, blebs of botryoidal pyrite up to 1.5 centimetres in diameter were noted.

A breccia, apparently of intrusive origin, outcrops in a quarry on the eastern edge of the O.B. 2 claim. The breccia is comprised of tightly packed angular fragments of argillized rhyolite and basalt up to 30 centimetres in diameter. The breccia is cemented with dark gray cryptocrystalline quartz containing finely disseminated pyrite. Anomalous mercury values, and in one sample, highly anomalous lead, zinc, silver and cadmium values were obtained.

Structure

A study of air photos and topographic maps reveals a number of prominent linear features, of which Juskatla Inlet is one.

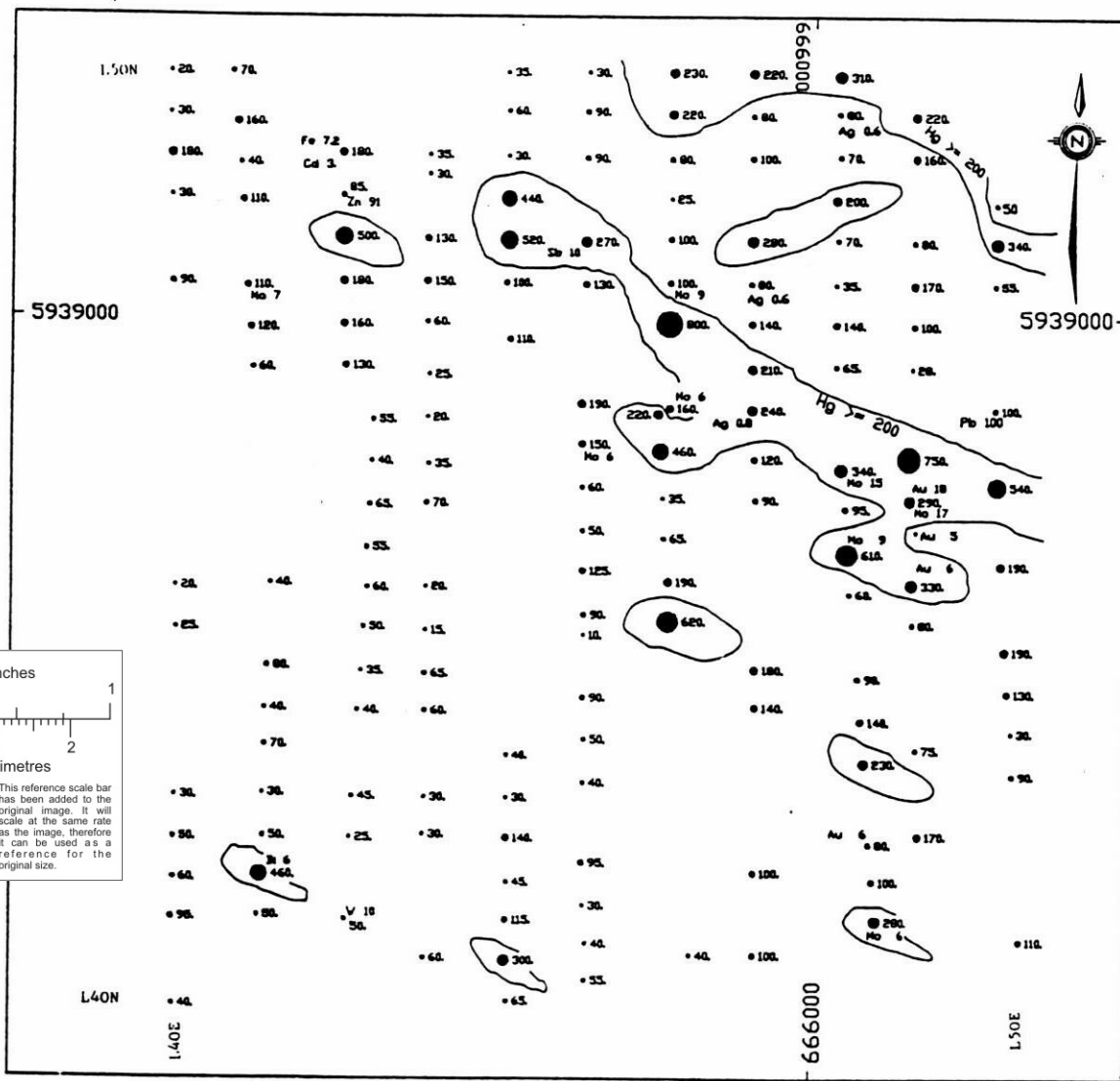
Bedding attitudes in the rhyolite tuff range from north to northwesterly in general but swing to an east-west direction in the grid area. Dips range from flat to vertical with most in the range of 40 to

70° and some evidence of overturning has been noted. This is in contrast to the uniformly flat bedding attitudes observed by Sutherland Brown (1968). Some significant local structural disruption, as yet unidentified, therefore may have occurred.

GEOCHEMICAL SURVEYS

In 1987 a total of 160 soil samples were collected from grid lines which covered the area of interest defined in trenching by Evergreen Explorations (Wolverton, 1981). Soils appear to be poorly developed on the property because humus rich soils ("A" horizon) and boggy areas are widespread and plant roots commonly lie directly on fresh unaltered glacial till or bedrock ("C" horizon). B horizon soils, developed from the weathering of till or bedrock are generally accepted as the best medium to sample for multielement geochemical analysis. As outlined by Sayer and Stephen (1987), most of the sample material collected was from "A" and "C" soil horizons and only a small percentage was from the "B" horizon. Most elements except for mercury occur in uniformly low amounts, suggesting that soil geochemistry may not be a good exploration tool in this area. Mercury values are plotted on Figure 7 along with anomalous values of molybdenum (≥ 4 parts per million), lead (≥ 20 parts per million), zinc (≥ 150 parts per million), silver (≥ 0.5 parts per million), arsenic (≥ 20 parts per million), cadmium (≥ 5 parts per million) and gold (≥ 10 parts per billion).

Results of rock geochemical sampling are summarized on the geochemical compilation map (Figure 8). Moderately to strongly anomalous mercury values (200 to 9400 parts per billion) occur in 19 out of 26 rock samples collected on the property.



LEGEND

● Au 18
● Fe 7.2
● Mo 17

soil sample site;
Hg values in ppb
(Mo, Ag, Zn, Cd, Bi values,
ppm Fe, % and Au ppb
plotted where anomalous)

5938200 -- UTM grid coordinates



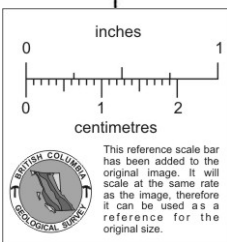
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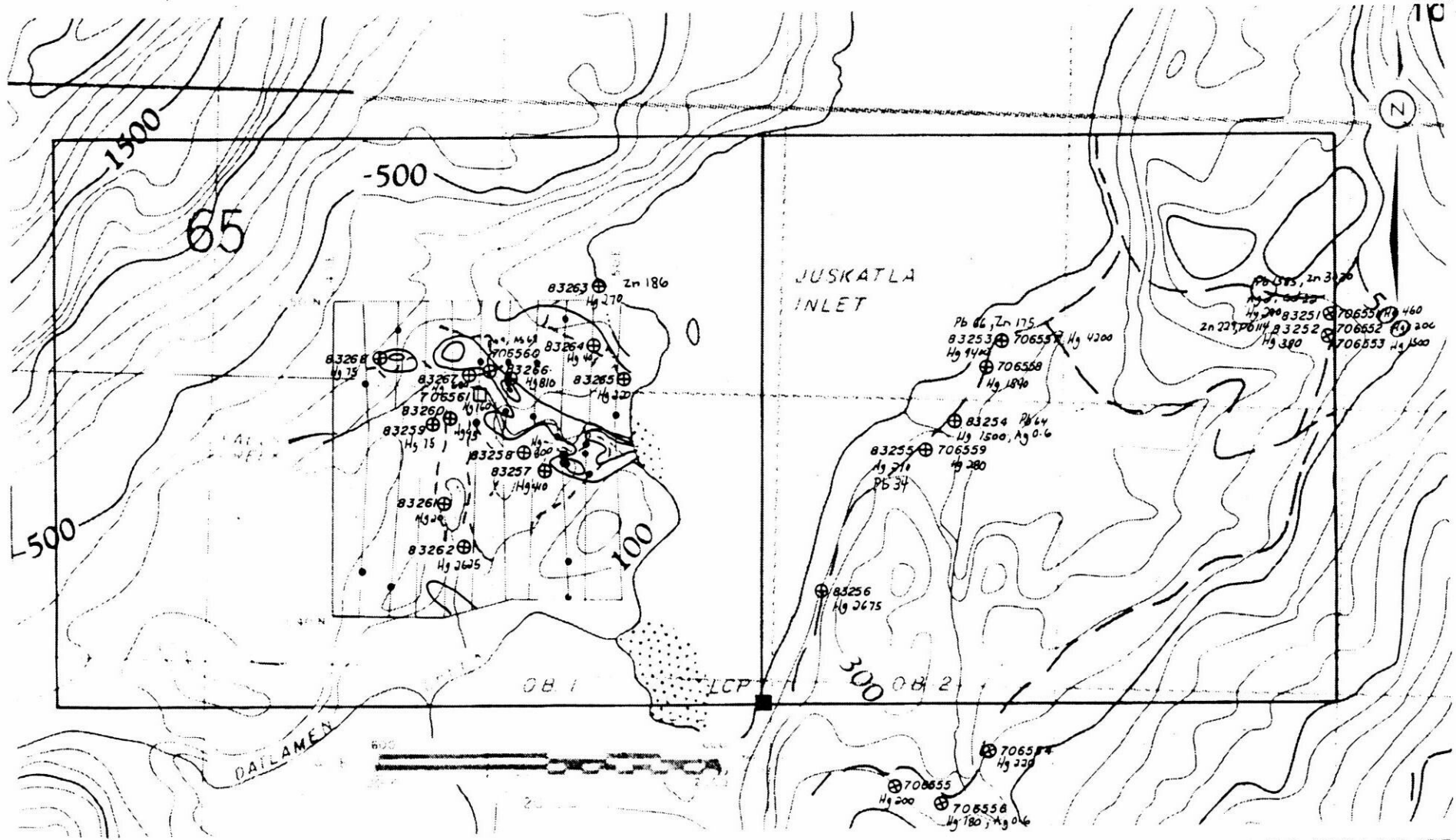
O. B. CLAIMS

GEOCHEMICAL MAP

SKEENA MINING DIVISION BRITISH COLUMBIA
N.T.S. 102F/9W,10E

FIGURE 7





NT S103F/9W,10E

LEGEND



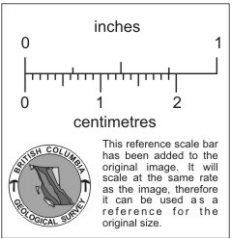
Mercury values in soils;
contours at 200, 400, and 600 ppb



Rock sample site, sample number;
mercury values in ppb, other
element values plotted where anomalous



Anomalous soil sample site
(Mo, Zn, Ag, Cd, Au, and Sb; see figure 8)



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O.B. CLAIMS

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GEOCHEMICAL
COMPILATION MAP

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A summary of more important elements of interest is as follows:

<u>Material</u>	Range of Values					
	<u>Mo</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>As</u>	<u>Hg</u>
Soil	1- 15	2-24	3-913	0.2-2.0	5-15	30-620
Rock	1-127	6-1585	18-3030	0.2-3.0	5-45	20-9400

Mo, Pb, Zn, Ag, As values in ppm, Hg values in ppb.

Inspection of the above data and a statistical comparison of range of mercury values in rock versus soil (Appendix I) reveals that metal values are significantly higher in rock than in soil, also suggesting that soils poorly reflect the geochemistry of the underlying rock.

Mercury is a characteristic indicator (or pathfinder) element for economic mineral deposits and, in the case of the O.B. property, a well-defined anomalous area (Figures 7 and 8) is evident. Mercury values of 200 parts per billion or greater in soil are selected as possibly anomalous.

GEOPHYSICAL SURVEYS

VLF-electromagnetic Survey

A VLF-electromagnetic survey was conducted over the grid area.

The VLF-electromagnetic method utilizes an electromagnetic field transmitted from radio stations in the 12 to 24 kilohertz range (long range submarine communication signals). The signals are propagated with the magnetic component of the field being horizontal in undisturbed areas.

Conductivity contrasts (such as the presence of massive sulphides or fault structures) in the earth's crust produce a local vertical component to the electromagnetic field and changes in field strength or amplitude. These conductive areas may be located, and to a degree, evaluated by measuring the various parameters of this electromagnetic field. A Sabre Model 27 VLF-electromagnetic receiver, tuned to Seattle, Washington, was used for all observations. This instrument measures the dip angle of the resultant field (in degrees) and the normalized horizontal component of the field strength (in relative percent).

Conductive zones are interpreted to underlie the point on a traverse line where changes in dip angle of the resultant field (from negative to positive - operator facing transmitter station) are associated with increased field strength.

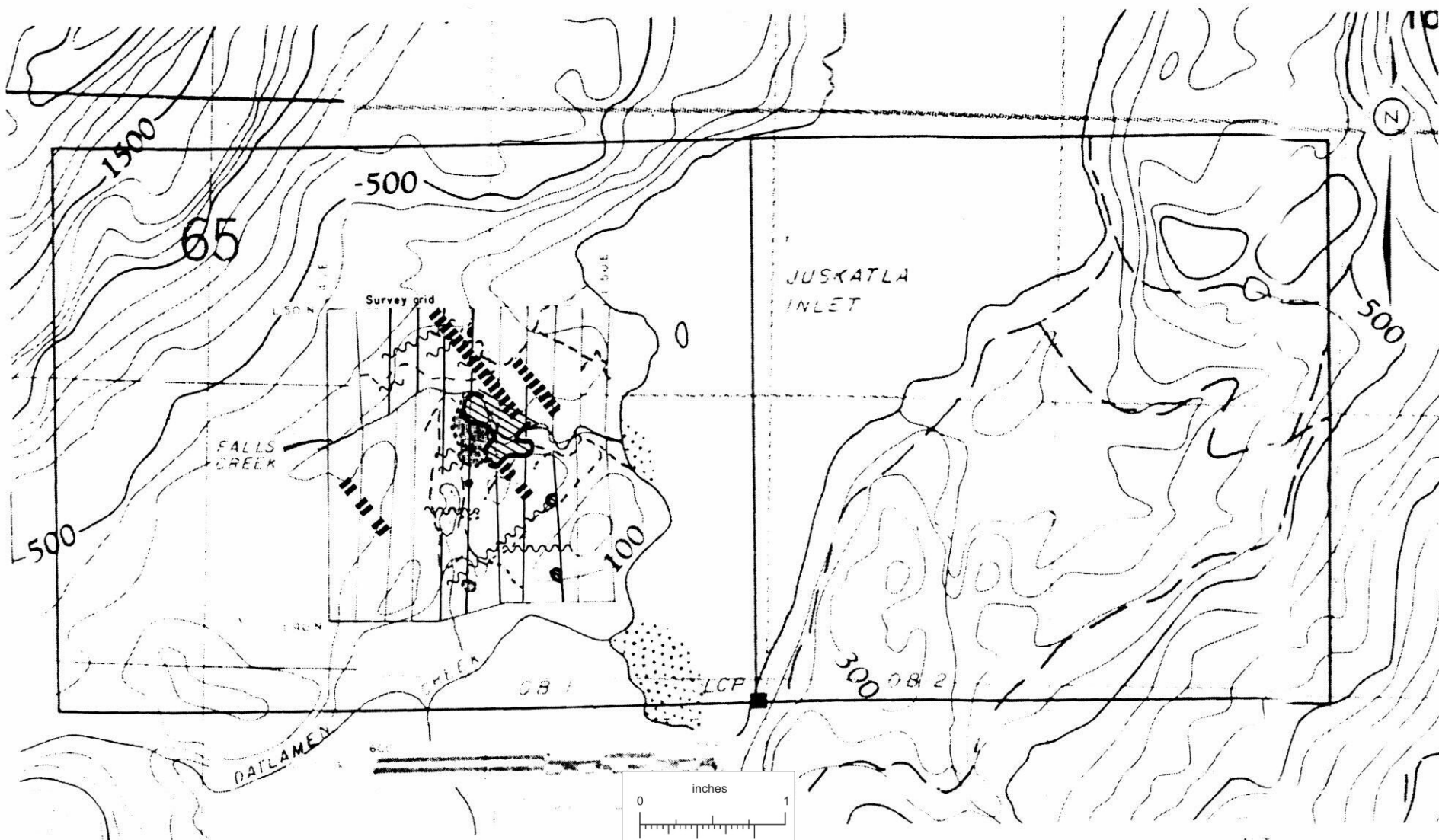
Data can be "filtered" by a technique described by Fraser (1969 - Geophysics, Vol. 34, No. 6, pp. 958-967) and data is presented in profile form or contoured plan. Fraser filtered values, which are derived from dip angle measurements, show high positive values at this point. Data is presented in a separate report by Sayer and Stephen (1987). Two distinct northwesterly trending anomalies and one weaker anomaly were outlined. Anomalies are plotted on the geophysical summary map (Figure 9).

Magnetic Survey

Several lines of magnetic surveys (3.85 kilometres) were run. Wet weather precluded completion of the survey over the entire grid area. Results are summarized by Thornton (1987) in a separate report (see Appendix II). Thornton noted variations in corrected magnetic readings about 500 gammas, some of which are associated with I.P. resistivity breaks.

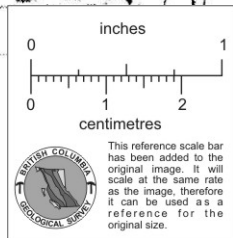
Induced Polarization Survey

A total of 4.35 kilometres of induced polarization surveys were conducted over the central part of the claim area. Results are also summarized by Thornton (see Appendix II). Weak chargeability anomalies were obtained in areas of higher resistivity. Results do not indicate the presence of significant sulfide concentrations, but chargeabilities do increase to more than twice the background (Figure 9) indicating that some sulphides are present in the survey area. Resistivities vary significantly possibly indicating increased argillic alteration and/or silicification. Data suggests that stronger responses will be obtained to the north and northeast of the grid area.



LEGEND

- || I.P. survey grid
- ~ Interpretated fault
- |||| VLF-electromagnetic anomaly; strong, weak
- ⊙ Chargeability contour - 6 milliseconds
- ⊙ Boundary of magnetic high



SKYGOLD RESOURCES LTD.

O.B. CLAIMS

SKEENA MINING DIVISION BRITISH COLUMBIA

GEOPHYSICAL

COMPILATION MAP

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FIGURE 9

NT 103F/9W,10E

DISCUSSION OF RESULTS

Despite the apparent difficulty in obtaining good "B" horizon soils as an optimum sampling medium, a well definable geochemical anomaly was delineated. Moderately anomalous amounts of mercury occur in a northwesterly trending belt through the grid area. Within this belt are a number of scattered molybdenum anomalies along with isolated zinc, antimony, silver and lead anomalies.

Also paralleling this trend are two distinct VLF-electromagnetic anomalies. Induced polarization surveys also reveal anomalous resistivities, possibly indicative of argillization and silicification, and weakly anomalous chargeabilities indicative of the presence of sulfides.

Although the gold values obtained by Wolverton (1981) on the western side of Juskatla were not confirmed (except for a few samples which ran 11 to 15 parts per billion gold), two large areas of interest have been defined: an 800 metre long geochemical anomaly in the grid area and a widespread zone of quartz-pyrite veining and intrusive breccias on the east side of the inlet. The alteration features and enhanced mercury suggest that the current level of erosion is exposing the upper part of a "fossil" hot spring system. Such an environment has been well documented as a host for epithermal type precious metal deposits.

Donald G. Allen

COMPILATION MAP

Donald G. Allen

Boundary of magnetic high

REFERENCES

- Jones, D. L., Silberling, N. J., and Hillhouse, J. (1977). Wrangellia - A Displaced Terrane in Northwestern North America. Canadian Journal of Earth Sciences, Vol. 18, pp. 2565-2577.
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- Yorath, C. J. and Chase, R. L. (1981). Tectonic History of the Queen Charlotte Islands and Adjacent Areas - A Model. Canadian Journal of Earth Sciences, Vol. 18, pp. 1717-1739.
- Woolverton, R. (1981). Geochemical maps dated January 20, 1981.

CERTIFICATE

I, Donald G. Allen, certify that:

1. I am a Consulting Geological Engineer, at A & M Exploration Ltd., with offices at #704 - 850 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia with degrees in Geological Engineering (B.A.Sc., 1964; M.A.Sc., 1966).
3. I have been practising my profession since 1964 in British Columbia, the Yukon, Alaska and various parts of the Western United States.
4. I am a member in good standing of the Association of Professional Engineers of British Columbia.
5. This report is based on fieldwork carried out C. Sayer and J. Thornton. I personally visited the property on November 16, 1987.
6. I hold no interest, nor do I expect to receive any, in the O.B. claims or in Skygold Resources Ltd.
7. I consent to the use of this report in a Statement of Material Facts or in a Prospectus in connection with the raising of funds for the project covered by this report.

December 30, 1987
Vancouver, B.C.

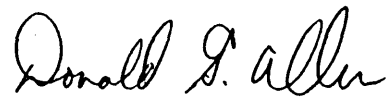

Donald G. Allen,
P. Eng. (B.C.)

TABLE I

O.B. PROPERTY

SAMPLE DESCRIPTIONS

<u>Sample No.</u>	<u>Description</u>	<u>Hg ppb</u>
706551	Argillized intrusive breccia - black chalcedony with disseminated pyrite in matrix.	460
706552	Rusty weathering equivalent of above.	1200
706553	Black pyritic chalcedony from matrix of above.	500
706554	Bedded rhyolite tuff and clay-altered rhyolite - minor chalcedonic veining.	220
706555	Rusty weathering weakly argillized rhyolite - minor amounts of pyrite.	200
706556	Rhyolite volcanic breccia - locally rusty weathering and weakly clay altered.	180
706557	Rhyolite-veined and brecciated - cemented with silica, pyrite and minor calcite.	4200
706558	As above.	1540
706559	Silicified tuff.	280
706560	Rhyolite welded tuff - fractured and cemented with chalcedony and pyrite.	1160
706561	Silt sample.	160
83251	Tuff, argillic alteration, rusty weathering.	290
83252	Tuff, argillic alteration, gray.	380
83253	Basaltic tuff, botryoidal pyrite, veins.	9400

TABLE I (Cont'd.)

O.B. PROPERTY

SAMPLE DESCRIPTIONS

<u>Sample No.</u>	<u>Description</u>	<u>Hg ppb</u>
83254	Tuff, argillic alteration, rusty weathering.	1500
83255	Siliceous sinter, banded and botryoidal, trace pyrite.	210
83256	Siliceous sinter, argillic alteration adjacent to sinter.	2675
83257	Rhyolite.	410
83258	Rhyolite tuff, silicified, pyrite veins(?).	800
83259	Rhyolite flow, silicified, rusty weathering.	75
83260	Rhyolite, silicified, argillic alteration.	95
83261	Brecciated rhyolite, argillic alteration.	20
83262	Rhyolite, brecciated.	2625
83263	Rhyolite float brecciated with 50-70% pyrite in fractures.	270
83264	Purple and white rhyolite, trace pyrite.	40
83265	Purple and white rhyolite, trace pyrite.	220
83266	Rhyolite, silicified, 10-20% in pyrite veins.	810
83267	Rhyolite, breccia and silicified.	680
83268	Rhyolite, brecciated with silica filling.	75
83269	Rhyolite, brecciated and silicified, rusty weathering.	

Note: 706 series were collected by D. G. Allen.

83 series were collected by C. Sayer.

All Samples are grab samples or chip samples collected over an outcrop.

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: SOLUTION

DATE RECEIVED: NOV 25 1987

DATE REPORT MAILED: Nov 26/87

ASSAYER: *D. Toye* DEAN TOYE, CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT-CERT # 87819 File # 87-5887 #422

SAMPLE#	MO	CU	PB	ZN	AG	NI	CO	MN	FE	AS	U	AU	TH	SR	CD	SO	BI	V	CA	P	LA	CR	MG	BA	TI	B	AL	NA	K	W
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	I	I	PPM	PPM	I	PPM	I	PPM	I	I	I	PPM
AP 706551	4	33	6	76	.2	25	13	777	3.78	6	5	ND	2	84	1	2	2	33	2.06	.089	12	38	1.05	30	.01	2	.86	.06	.05	1
AP 706552	2	38	3	77	.2	23	11	1027	5.82	2	5	ND	2	34	1	2	2	39	.98	.097	15	22	.47	39	.01	2	1.55	.05	.03	1
AP 706553	2	23	4	56	.3	18	13	998	3.21	4	5	ND	2	58	1	2	2	33	3.11	.060	11	47	.74	24	.01	2	.40	.04	.04	1
AP 706554	1	17	2	68	.6	4	3	341	1.53	2	5	ND	6	17	1	2	2	11	.23	.033	20	57	.17	69	.01	2	.71	.05	.10	1
AP 706555	1	1	6	47	.5	1	2	365	2.17	2	5	ND	9	4	1	2	2	10	.05	.030	25	37	.22	33	.01	2	1.12	.06	.12	2
AP 706556	1	2	5	67	.6	5	7	470	3.13	2	5	ND	6	38	1	2	2	22	.99	.037	23	21	.62	178	.01	2	1.68	.07	.21	1
AP 706557	2	3	13	50	.4	1	2	187	6.15	7	5	ND	5	18	1	2	2	6	1.11	.016	13	27	.17	11	.01	2	.43	.05	.11	1
AP 706558	3	4	8	49	.3	1	2	206	3.57	7	5	ND	5	44	1	2	2	7	1.58	.020	16	13	.22	18	.01	2	.42	.08	.09	1
AP 706559	3	5	12	42	.2	2	1	46	1.53	8	5	ND	3	9	1	2	2	1	.04	.006	11	89	.03	51	.01	2	.21	.07	.11	1
AP 706560	9	1	4	20	.1	1	1	20	1.03	89	5	ND	6	3	1	2	2	1	.02	.009	14	42	.02	49	.01	2	.27	.06	.05	1
SILT 706561	2	19	8	103	.7	19	15	2999	4.45	7	5	ND	4	43	1	2	2	59	.34	.033	10	21	.70	127	.12	3	2.59	.08	.06	1
STD C	18	57	37	130	7.2	67	27	1025	4.01	42	16	7	38	50	18	17	19	56	.48	.086	37	57	.86	177	.08	31	1.87	.08	.13	11

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3M1
TEL : (604) 299 - 6910

() CERTIFICATE OF ANALYSIS

TO : A&M EXPLORATION LTD.
614-850 W. HASTINGS STREET
VANCOUVER B.C.

CERTIFICATE#: 87819
INVOICE#: 80233
DATE ENTERED: 87-11-25
FILE NAME: A&M87819
PAGE # : 1

PROJECT: 422
TYPE OF ANALYSIS: GEOCHEMICAL

PRE FIX	SAMPLE NAME	PPB	PPB
		Au	Hg
A	706551	5	460
A	706552	5	1200
A	706553	5	500
A	706554	5	220
A	706555	5	200
A	706556	5	180
A	706557	5	4200
A	706558	5	1540
A	706559	5	280
A	706560	5	1160
A	706561	5	160

CERTIFIED BY :

J. Rossbach

STATISTICAL REPORT

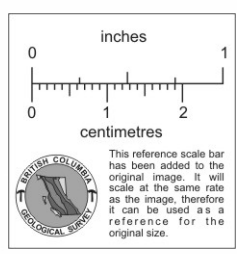
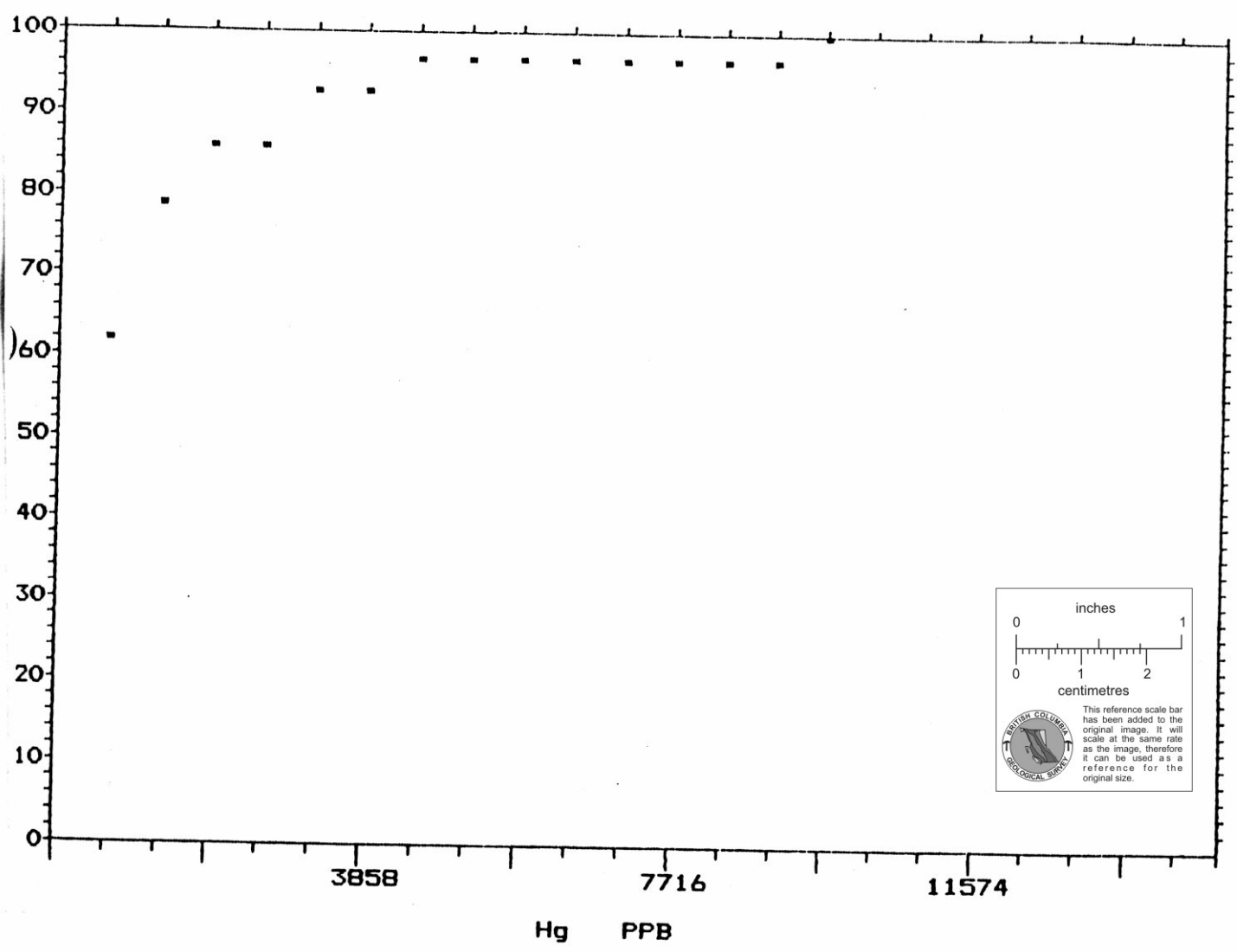
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714-850 WEST HASTINGS STREET
VANCOUVER, B.C.

Project: **422**
Date: **87-12-22**

Element: **Hg**

Sample Type: **Rock**

Cumulative Frequency Histogram



ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3M1
TEL : (604) 299-6910

STATISTICAL REPORT

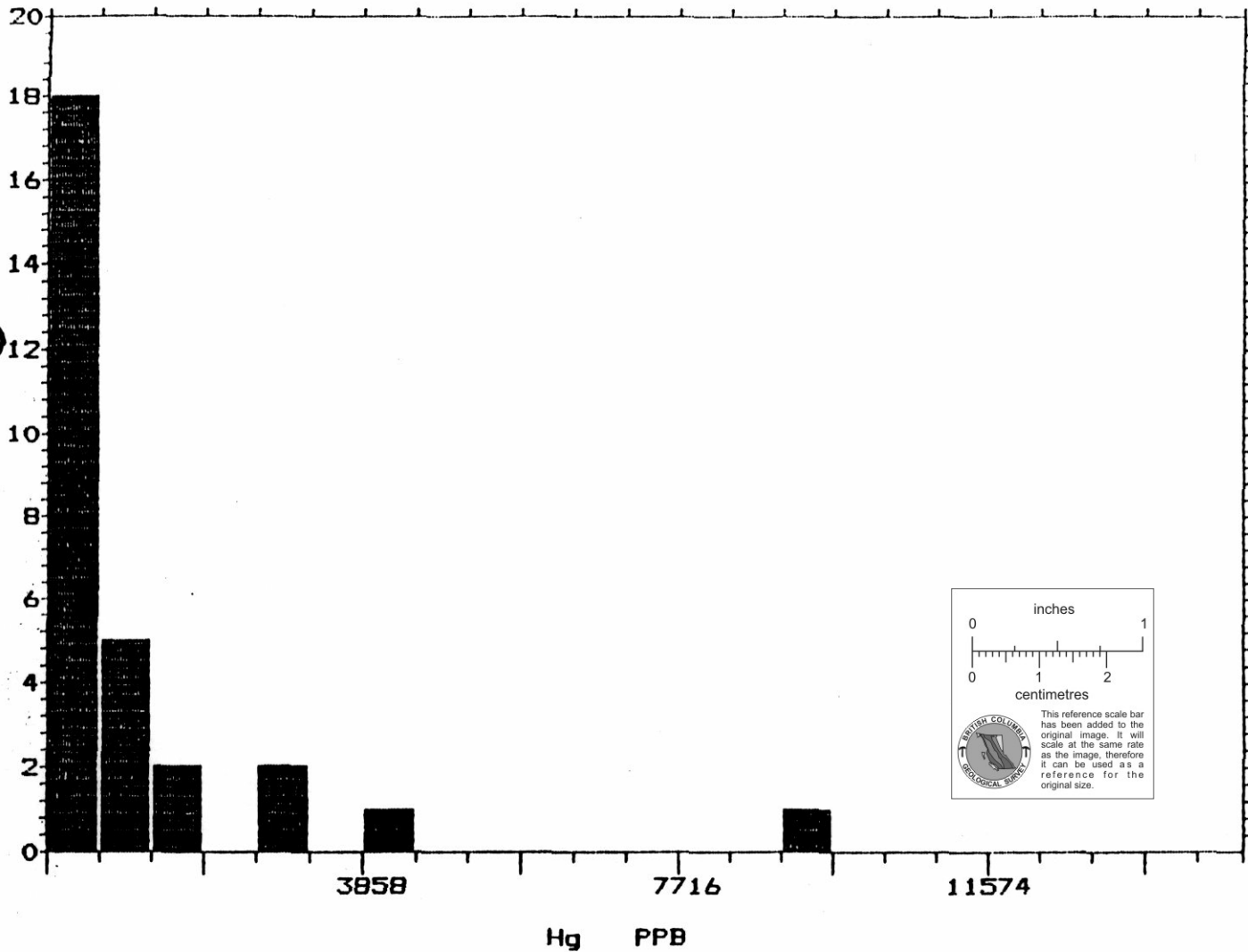
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714-850 WEST HASTINGS STREET
VANCOUVER, B.C.

Project: 422
Date: 87-12-22

Element: Hg

Sample Type: Rock

Frequency Histogram



STATISTICAL REPORT

Client: **A&M EXPLORATION LTD.**
714-850 WEST HASTINGS STREET
VANCOUVER, B.C.

Project: 422
Date: 87-12-22

Element: Hg Sample Type: Rock

CLASS INTERVAL	CLASS FREQUENCY	RELATIVE FREQUENCY%	CUMULATIVE FREQUENCY%	CLASS MEAN
0 - 643	18	62.07	62.07	226.94
644 - 1286	5	17.24	79.31	930.00
1287 - 1929	2	6.90	86.21	1520.00
1930 - 2572	0	0.00	86.21	0.00
2573 - 3215	2	6.90	93.11	2650.00
3216 - 3858	0	0.00	93.11	0.00
3859 - 4501	1	3.45	96.56	4200.00
4502 - 5144	0	0.00	96.56	0.00
5145 - 5787	0	0.00	96.56	0.00
5788 - 6430	0	0.00	96.56	0.00
6431 - 7073	0	0.00	96.56	0.00
7074 - 7716	0	0.00	96.56	0.00
7717 - 8359	0	0.00	96.56	0.00
8360 - 9002	0	0.00	96.56	0.00
9003 - 9645	1	3.45	100.00	9400.00

For Statistics

For All Data

Number of Samples:	29	29
Arithmetic Mean :	1057.76	N.A.
Standard Deviation :	1871.17	N.A.
Minimum Value :	20	11
Maximum Value :	9400	9400
Range :	5 -- 99999 PPB	11 -- 9400 PPB

File(s) used for Statistics:

CS87833

ROSSBACHER LABORATORY LTD.

STATISTICAL REPORT

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6911

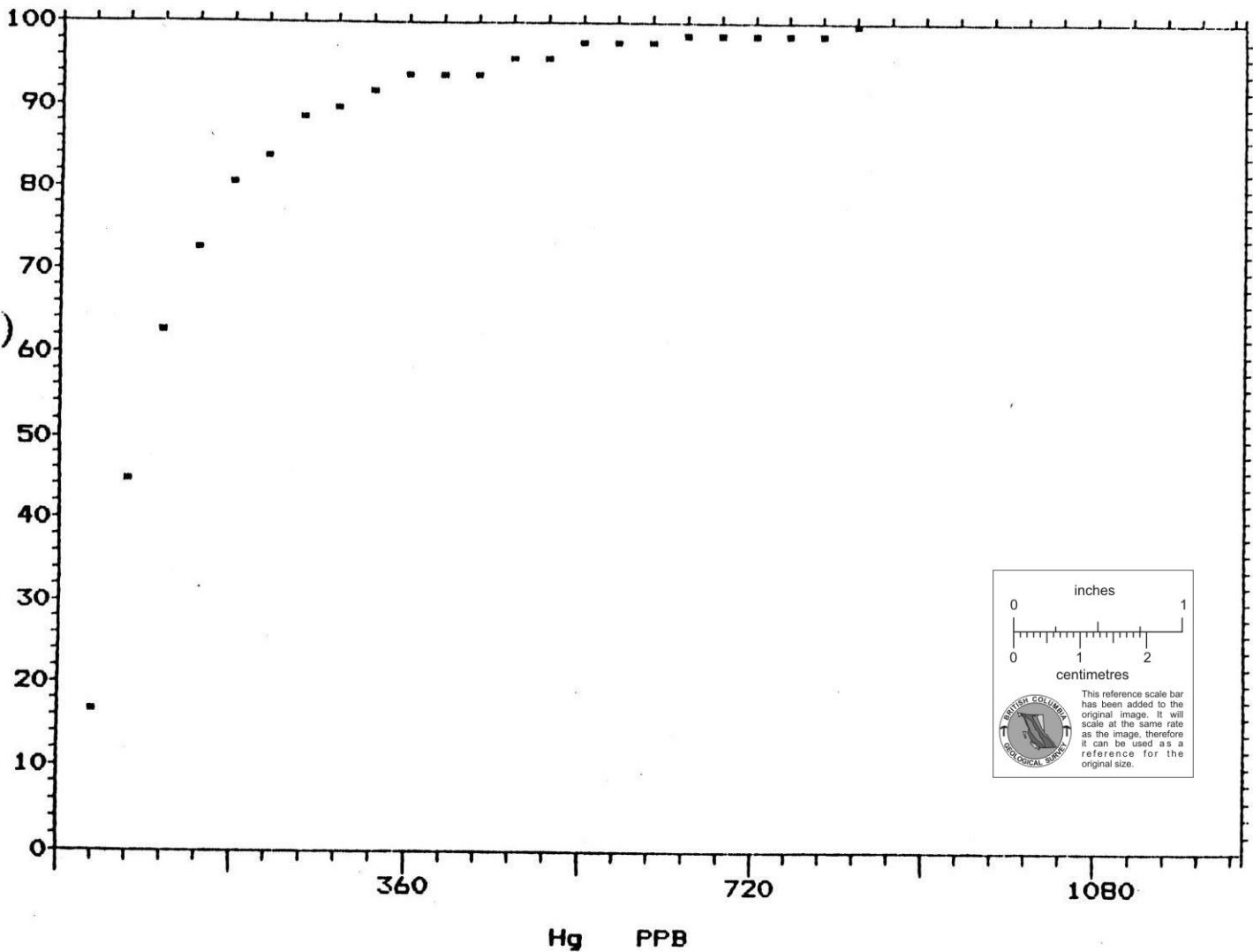
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714-850 WEST HASTINGS STREET
VANCOUVER, B.C.

Project: 422
Date: 87-12-22

Element: Hg

Sample Type: Soil

Cumulative Frequency Histogram



STATISTICAL REPORT

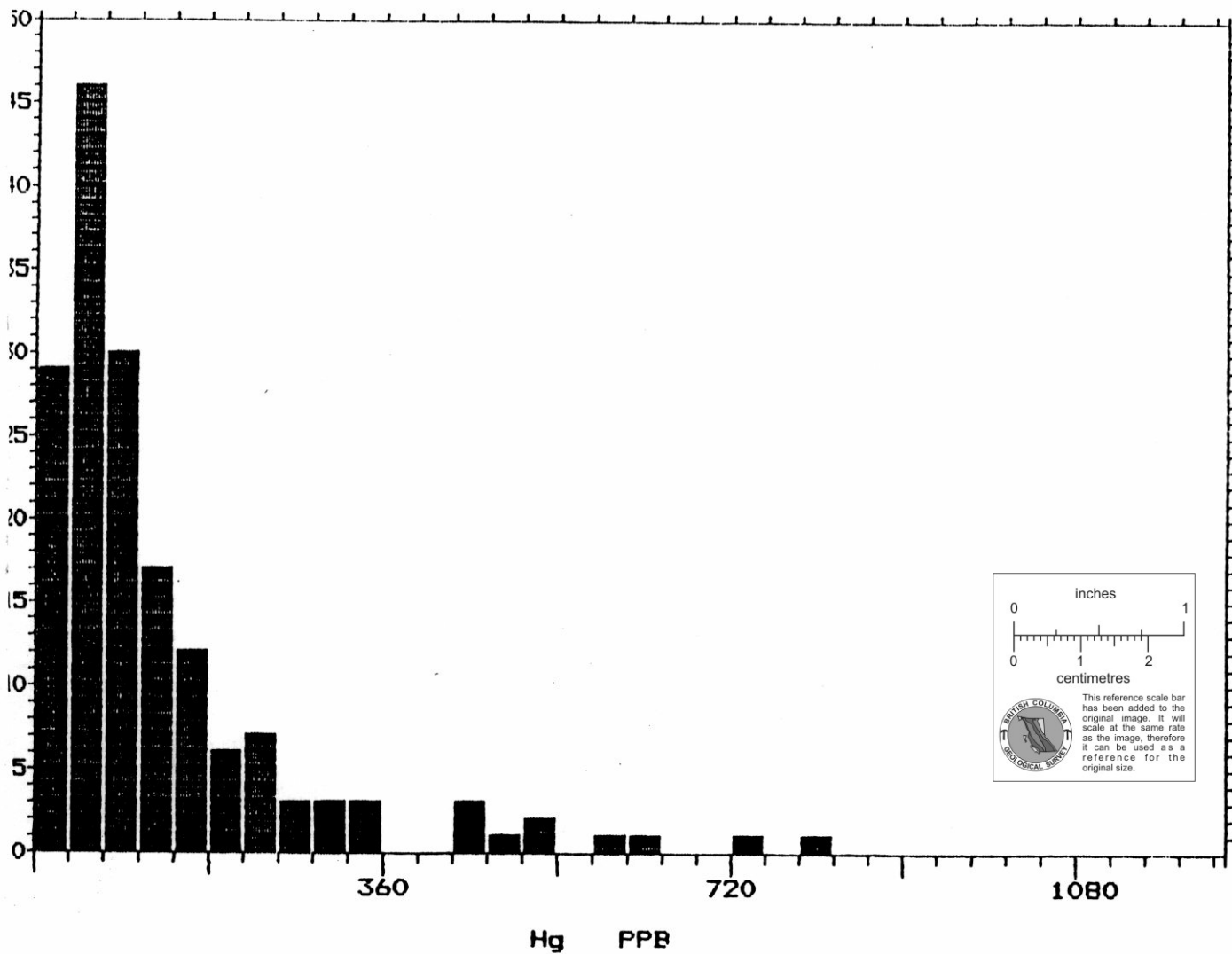
A&M EXPLORATION LTD.
714-850 WEST HASTINGS STREET
VANCOUVER, B.C.

Project: 422
Date: 87-12-22

ment: Hg

Sample Type: Soil

Frequency Histogram



ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
 BURNABY, B.C. V5B 3N
 TEL : (604) 299 - 691

STATISTICAL REPORT

To: A&M EXPLORATION LTD.
 714-850 WEST HASTINGS STREET
 VANCOUVER, B.C.

Project: 422
 Date: 87-12-22

Element: Hg

Sample Type: Soil

CLASS INTERVAL	CLASS FREQUENCY	RELATIVE FREQUENCY%	CUMULATIVE FREQUENCY%	CLASS MEAN
0 - 36	29	17.47	17.47	27.72
37 - 72	46	27.71	45.18	53.70
73 - 108	30	18.07	63.25	90.17
109 - 144	17	10.24	73.49	125.88
145 - 180	12	7.23	80.72	165.83
181 - 216	6	3.61	84.33	195.00
217 - 252	7	4.22	88.55	225.71
253 - 288	3	1.81	90.36	276.67
289 - 324	3	1.81	92.17	300.00
325 - 360	3	1.81	93.98	336.67
361 - 396	0	0.00	93.98	0.00
397 - 432	0	0.00	93.98	0.00
433 - 468	3	1.81	95.79	453.33
469 - 504	1	0.60	96.39	500.00
505 - 540	2	1.20	97.59	530.00
541 - 576	0	0.00	97.59	0.00
577 - 612	1	0.60	98.19	610.00
613 - 648	1	0.60	98.79	620.00
649 - 684	0	0.00	98.79	0.00
685 - 720	0	0.00	98.79	0.00
721 - 756	1	0.60	99.39	750.00
757 - 792	0	0.00	99.39	0.00
793 - 828	1	0.60	100.00	800.00

For Statistics

For All Data

Number of Samples:	166	166
Arithmetic Mean :	128.31	N.A.
Standard Deviation :	136.85	N.A.
Minimum Value :	11	11
Maximum Value :	800	800
Range :	5 -- 99999 FPB	11 -- 800 PPB

File(s) used for Statistics:

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APPENDIX II

Geophysical Survey Report by J. B. Thornton

Geophysical Surveys
on the
Juskatla Inlet Property
Queen Charlotte Islands, B.C.

on behalf of

JC STEPHEN EXPLORATIONS LTD.
704 - 850 W. Hastings Street
Vancouver, B.C. V6C 1E1

Scott Geophysics Ltd.

J.M. Thornton

December 1987

Table of Contents

- 1.0 Summary
- 2.0 Introduction
- 3.0 Work Performed
- 4.0 Instrumentation
- 5.0 Discussion of Results
- 6.0 Conclusions
- 7.0 Recommendations

List of Illustrations

Induced Polarization Pseudo-sections 1:2500
(Lines 4200E to 4800E incl)

Maps

Induced Polarization	Chargeability N=1	1:2500
	" N=2	1:2500
	Resistivity N=2	1:2500
Ground Magnetometer	Stacked Profiles	1:2500
	Contour Map	1:2500

Geophysics

1.0 Summary

Induced Polarization surveys reveal a weak IP target with indications that better results might be attained by continuing the surveys to the north and east. Magnetometer data shows several weak linear features and that the more magnetic areas correspond to the better IP response. VLF would be useful for mapping the structure in the area.

2.0 Introduction

During the period October 27 to November 2, 1987, Induced Polarization and magnetometer surveys were carried out over portions of the Juskatla Inlet Property. Work was performed by Scott Geophysics Ltd. Final data processing and presentation was done by J.M. Thornton.

3.0 Work Performed

3.1 Induced Polarization

A total of 4.35 kilometers of IP data (chargeability and resistivity) was gathered on seven lines spaced 100 meters apart. For this survey, a pole-dipole electrode configuration was used with an array "a" spacing of 25 meters and "n" separations of 1 to 5. The current electrode was to the north on all survey lines.

Data was transferred to a micro-computer for storage and further processing. Pseudo-sections of chargeability and resistivity were produced at a scale of 1:1250. The spectral parameters were calculated and listed.

Final maps of chargeability (M7) and resistivity were produced at a scale of 1:2500 for n=1. M7 is the window that most closely approximates the Newmont standard.

3.2 Magnetometer

A total of 3.85 km. of magnetic data was gathered on six lines using a station interval of 12.5 meters. The data was transferred to a portable computer for further processing and storage.

A diurnal variation graph was generated from the several repeats taken throughout the day, the magnetic data was then corrected, to an accuracy of approximately 10 nT (gammas).

Stacked profile and contour maps of the magnetic data were produced at a scale of 1:2500.

4.0 Instrumentation

A Scintrex IPR-11 time-domain receiver and a 2.5 kw. Scintrex IPC-7 transmitter/generator were used to perform the IP survey.

The receiver is capable of measuring up to 6 dipoles simultaneously, storing the results internally. The unit measures the

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waveform during 10 time intervals or windows. By so doing, the calculation of Cole-Cole parameters can be achieved, by comparing the decay curve to a set of pre-calculated responses. This comparison also gives a "goodness-of-fit" estimate and can be used to assess the overall data quality.

The magnetometer survey was performed using a Scintrex IGS-2. This instrument is a micro-computer based unit containing three modules; the main processor unit, a magnetometer (MP-4 module) and a VLF unit (VLF-4 module). The magnetometer module is a proton precession instrument which measures the earth's total magnetic field to an accuracy of 0.1 nT. The VLF module measures In-phase, Quadrature and the Horizontal Field Strength of the VLF signal from up to 3 VLF transmitting stations.

For this survey, VLF data was not gathered.

Data is stored internally in the system's memory along with the grid location (line and station) and the time. Up to 16 km. of magnetic and VLF data can be held in the system.

5.0 Discussion of Results

5.1 Induced Polarization

Within the surveyed area, weak chargeabilities (5 to 7 msec) are noted in the higher resistivity rocks, against a background of 2 to 4 msec.

Several faults can be inferred from the sharp contrasts in the resistivity data, especially from the pseudo-sections. Most of these faults/contacts have been marked on the Resistivity Plan map. There is enough complexity in the data that it is difficult to make line-to-line correlations.

5.2 Magnetics

Magnetic data indicates that the rocks in the survey area contain low concentrations of magnetite. The data range is approximately 600 nT. No strong lineations are evident in the data.

Rocks in the central to north-east part of the survey area appear to be slightly more magnetic. There appears to be a general correspondence between the magnetics and the IP data. Higher chargeabilities and resistivities often occur with the higher magnetic response. These more magnetic rocks may be more competent and contain up to 1% sulphides.

Some of the resistivity breaks noted above have an associated magnetic expression. One such break on the northern survey area marks a contact with more magnetic rocks to the south. On lines 4500E to 4700E, a magnetic anomaly accompanies the resistivity break, with the more magnetic rocks evident just to the north of the fault.

There appears to be some sort of a contact feature at or just west of line 4400E.

A weakly magnetized dyke-like feature traverses lines 4200E to 4500E at approximately 4850N at a depth of less than 15 meters.

6.0 Conclusions

Induced polarization data suggests that stronger responses will be attained north and north-east of lines 4600E to 4800E. Present IP results do not show the existence of significant sulphide concentrations. The strong resistivity contrasts noted in the data suggests that VLF would probably be useful.

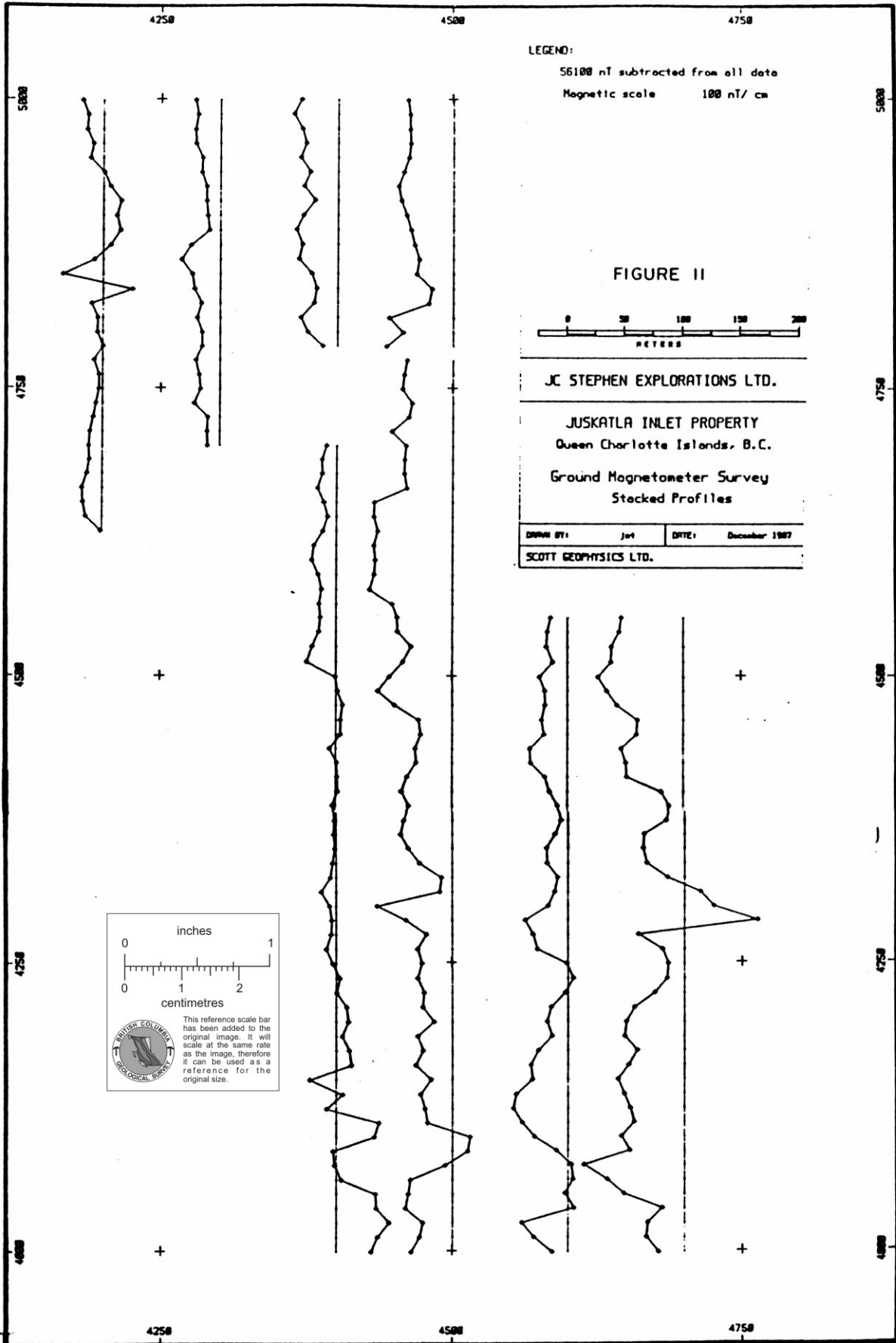
Ground magnetometer data has not been especially helpful. Magnetics has not helped unravel the complex geological structure. The higher IP responses, both in resistivity and chargeability, do appear to be associated with the more highly magnetized rocks.

7.0 Recommendations

Ground VLF surveys using two orthogonal VLF stations might prove quite useful to map the distribution of the bedrock conductors. Many will be due to faulting.

Depending on the encouragement given by geological, and geochemical surveys, further work to the east and north of the present survey area would be warranted.


J.M. Thornton



LEGEND:

56100 nT subtracted from all data

Magnetic scale 100 nT/cm

FIGURE II



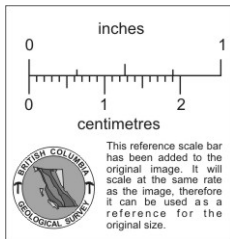
JC STEPHEN EXPLORATIONS LTD.

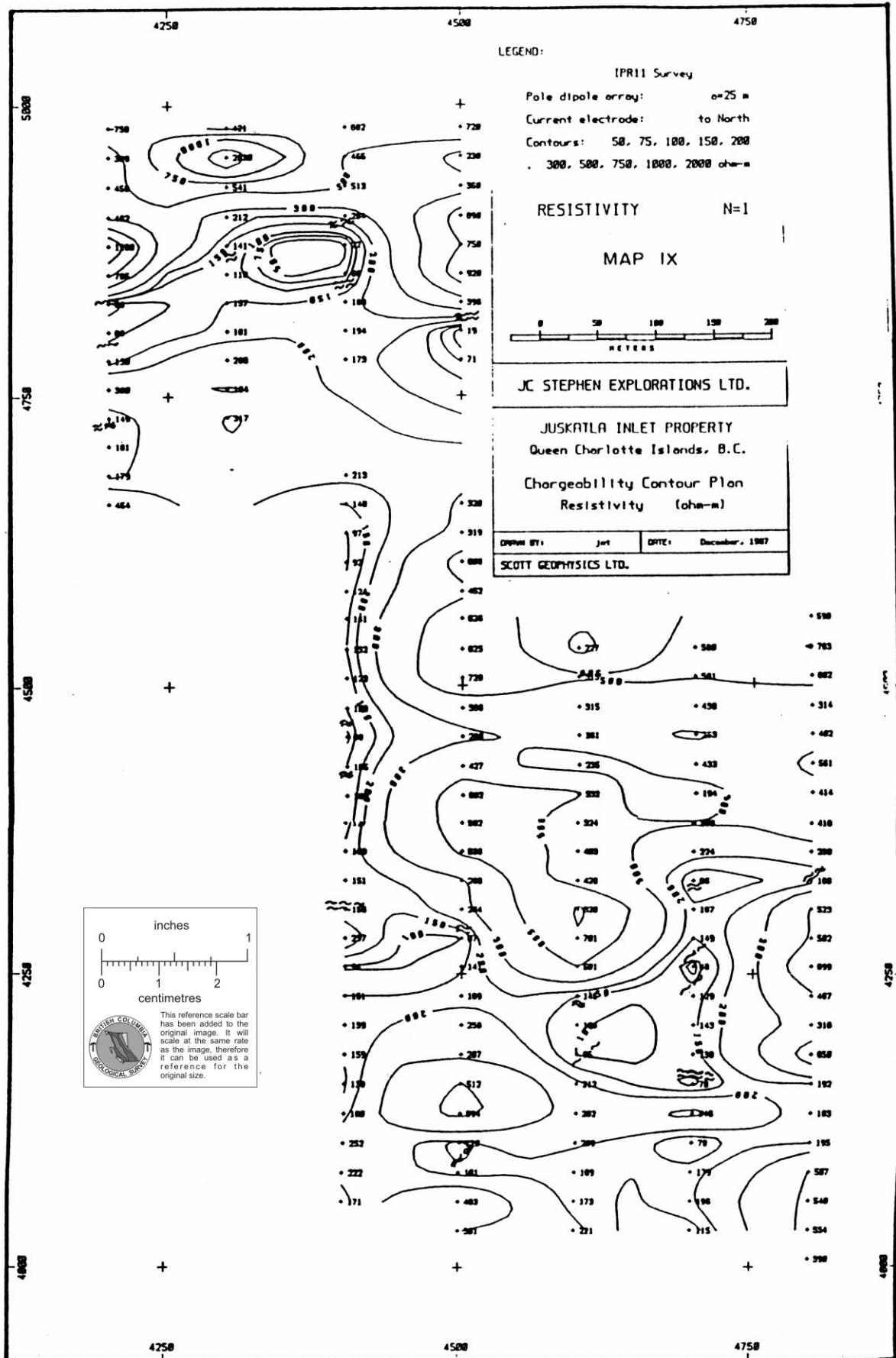
JUSKATLA INLET PROPERTY
Queen Charlotte Islands, B.C.

Ground Magnetometer Survey
Stacked Profiles

DRAWN BY: Jst DATE: December 1987

SCOTT GEOPHYSICS LTD.



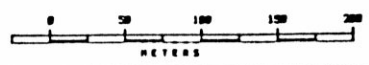


LEGEND:

IPRII Survey
 Pole dipole array: $a=25\text{ m}$
 Current electrode: to North
 Contours: 50, 75, 100, 150, 200, 300, 500, 750, 1000, 2000 ohm-m

RESISTIVITY N=1

MAP IX

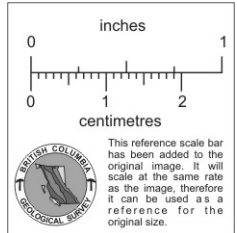


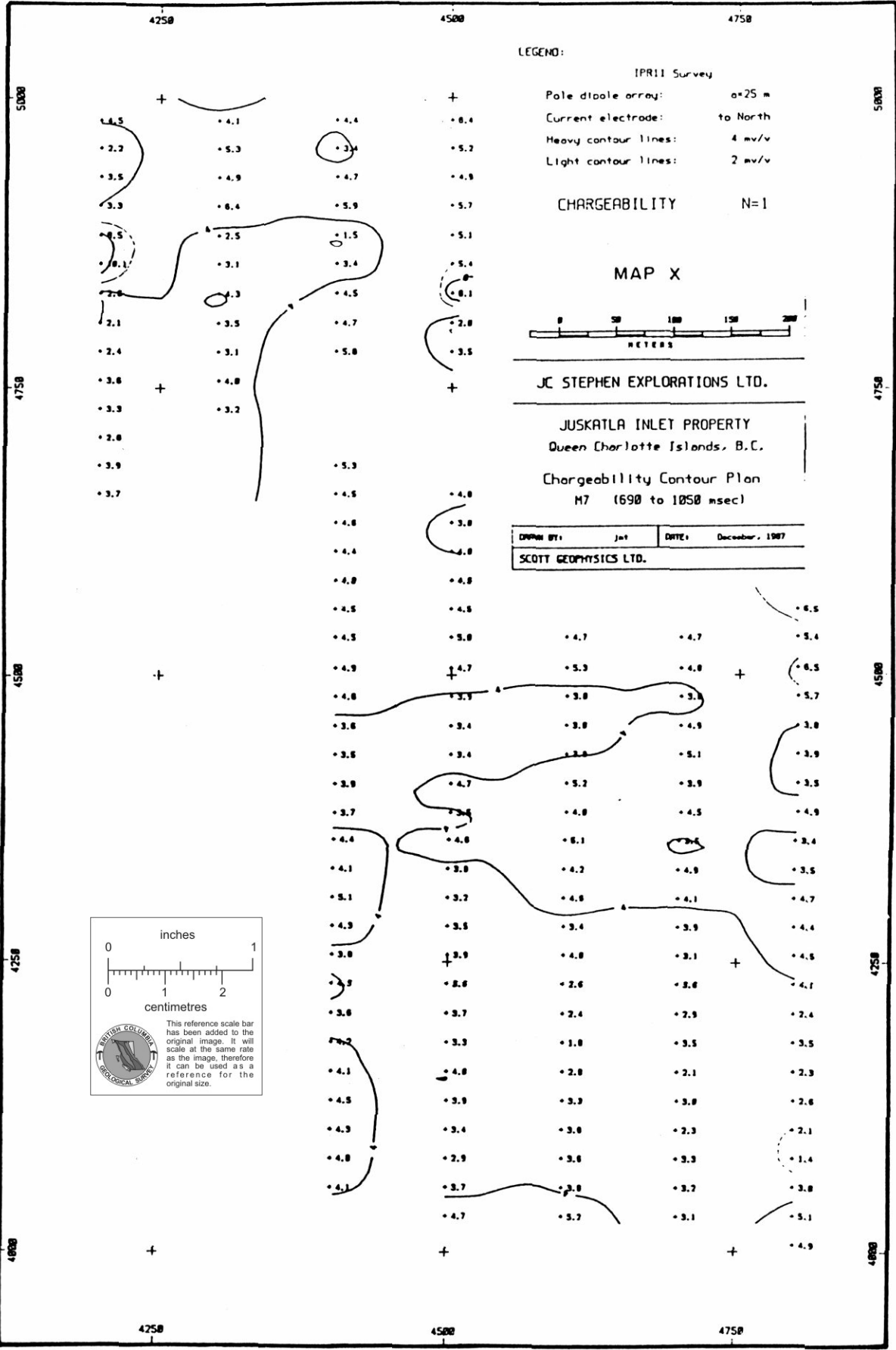
JC STEPHEN EXPLORATIONS LTD.

JUSKATLA INLET PROPERTY
 Queen Charlotte Islands, B.C.

Chargeability Contour Plan
 Resistivity (ohm-m)

DATE BY:	Jan	DATE:	December, 1967
SCOTT GEOPHYSICS LTD.			





LEGEND:

IPR11 Survey
 Pole dipole array: $a=25$ m
 Current electrode: to North
 Heavy contour lines: 4 mv/v
 Light contour lines: 2 mv/v

CHARGEABILITY N=1

MAP X

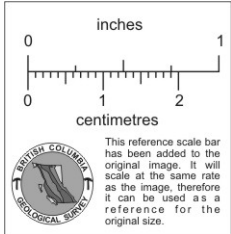


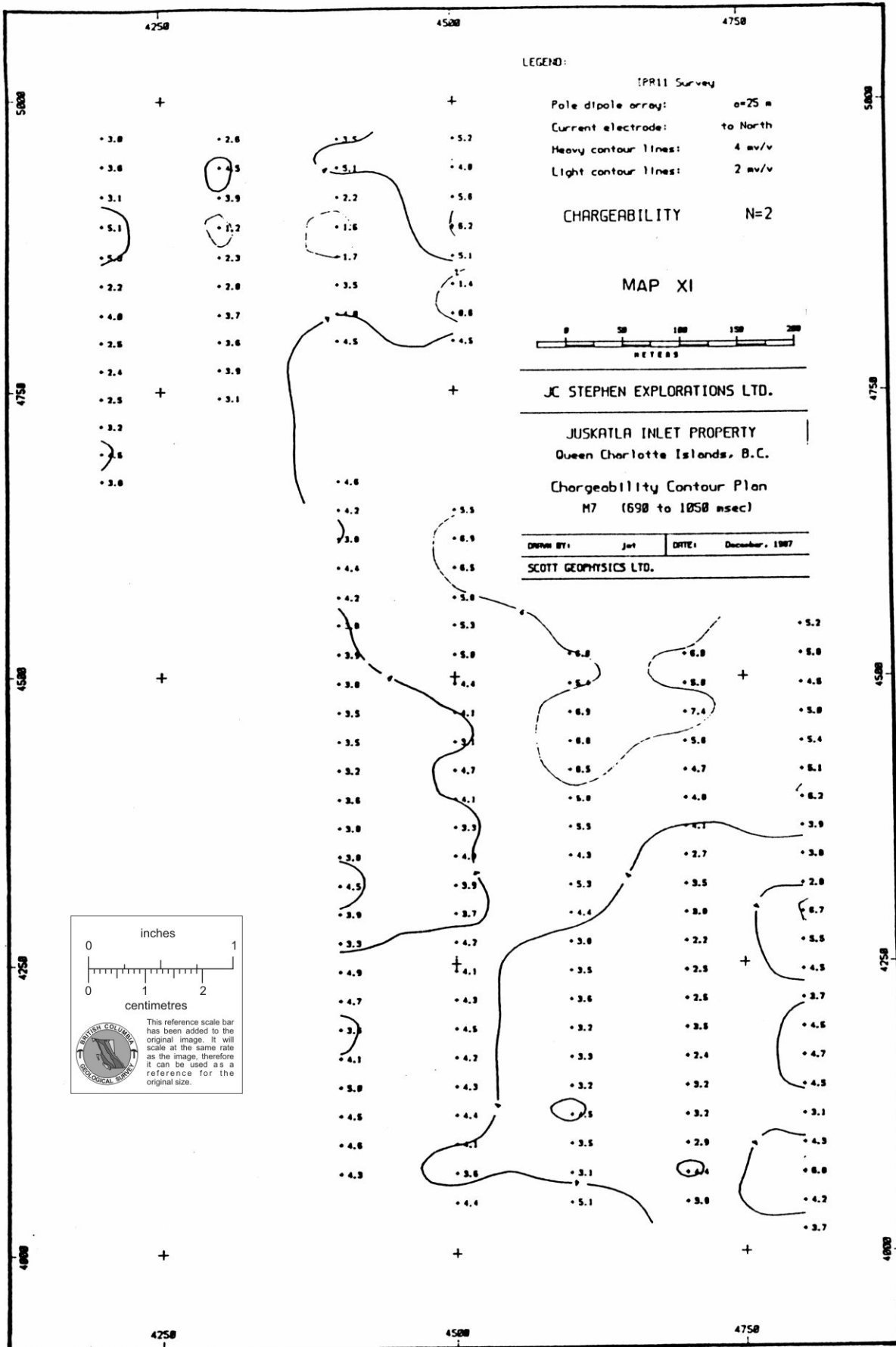
JC STEPHEN EXPLORATIONS LTD.

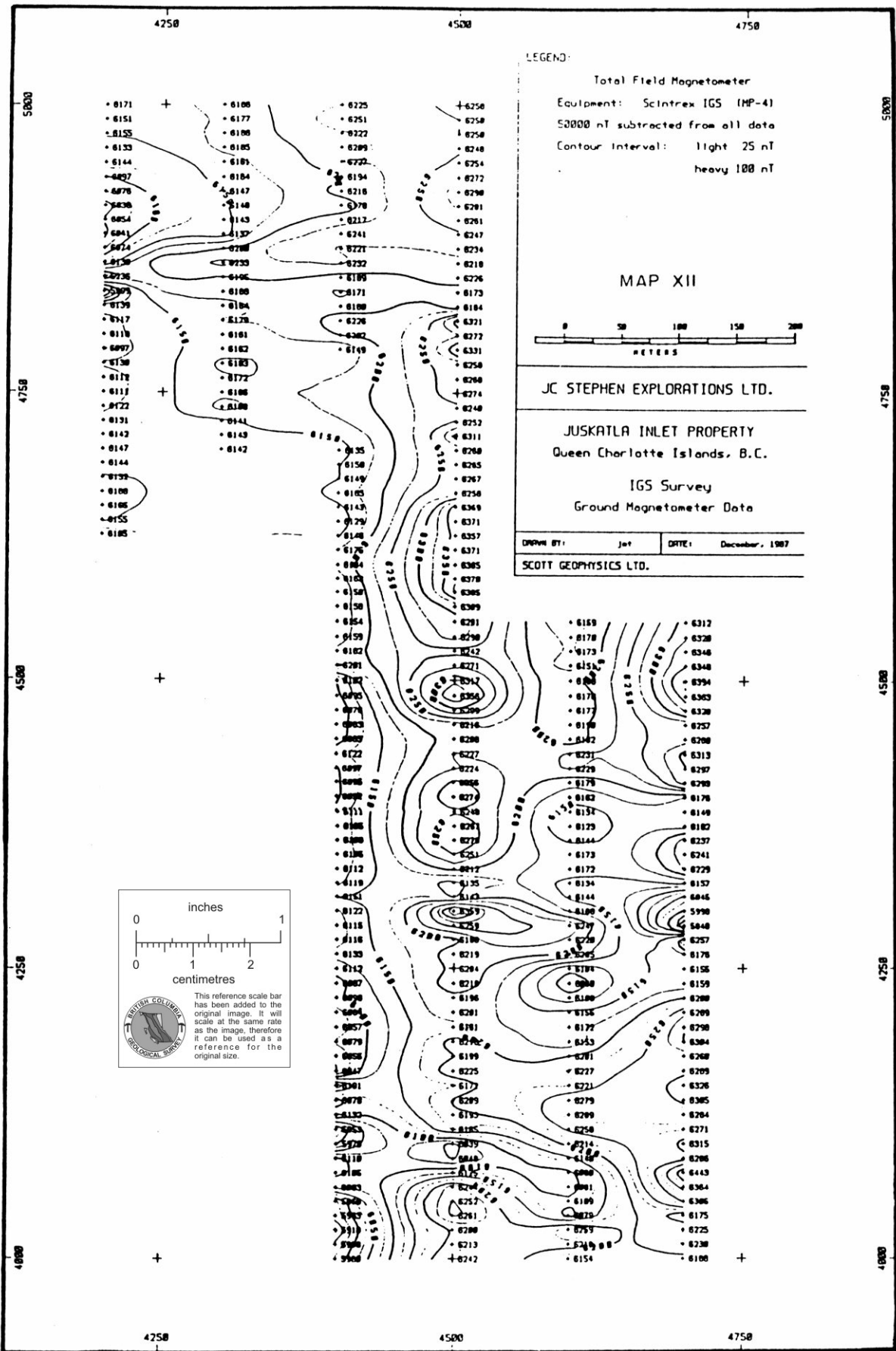
JUSKATLA INLET PROPERTY
 Queen Charlotte Islands, B.C.

Chargeability Contour Plan
 M7 (690 to 1050 msec)

DRAWN BY:	Jan	DATE:	December, 1987
SCOTT GEOPHYSICS LTD.			



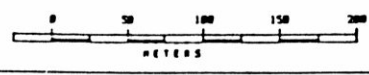




LEGEND:

Total Field Magnetometer
 Equipment: Scintrex IGS (MP-4)
 50000 nT subtracted from all data
 Contour Interval: light 25 nT
 heavy 100 nT

MAP XII



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IGS Survey
 Ground Magnetometer Data

DRAWN BY:	Jst	DATE:	December, 1987
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