81-1083-9843

GEOLOGICAL AND GEOCHEMICAL REPORT

MARIE LAKE PROPERTY

DUST #1 and #2, and MANY YEARS #1 and #2 MINERAL CLAIMS

SKEENA MINING DIVISION

GRAHAM ISLAND, B.C.

53°30'N 132°20'W

N.T.S. 103F/8W/9W

Owners: G. Richards
Chevron Canada Limited

Operator: Chevron Standard Limited

Authors: S. McAllister
D. Arscott

December, 1981

M485

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INTRODUCTION

From August 20th to 30th, 1981 a field program of geological mapping and Au-As geochemistry was conducted at the northern end of the DUST 1 and 2 claims and on MANY YEARS 1 and 2 claims as an extension of earlier (1980) coverage of the same type.

Follow-up on anomalous zones and areas of alteration as well as work in previously unmapped and sampled areas was conducted. The intention of this work was to continue to evaluate the potential of the property for low grade gold mineralization.

The Consolidated Cinola deposit located 8 km to the NE, in a similar geological setting was taken as a tentative general model for this work. The results of exploration work to date has established open pit reserves of 50,000,000 tons grading from 0.05 to 0.06 oz gold per ton.

LOCATION AND ACCESS (Figs. 1 and 2)

The property is 790 km NW of Vancouver, B. C. and 32 km NW of Queen Charlotte City in the Queen Charlotte Islands. It is situated on the MacMillan Bloedel Ltd. mainline between Queen Charlotte City and Juskatla, its position being easily identified by the presence of Marie Lake which is visible from the road.

Access to the MANY YEARS claims is possible by road on the Sheila Mainline A locked gate crosses a branch of this road into Sheila Lake, however a key can be obtained through the MacMillan Bloedel office in Juskatla. A large helicopter landing pad cut in the 1981 season on the ridge to the west of Sheila Lake also facilitates access to this part of the claim group.

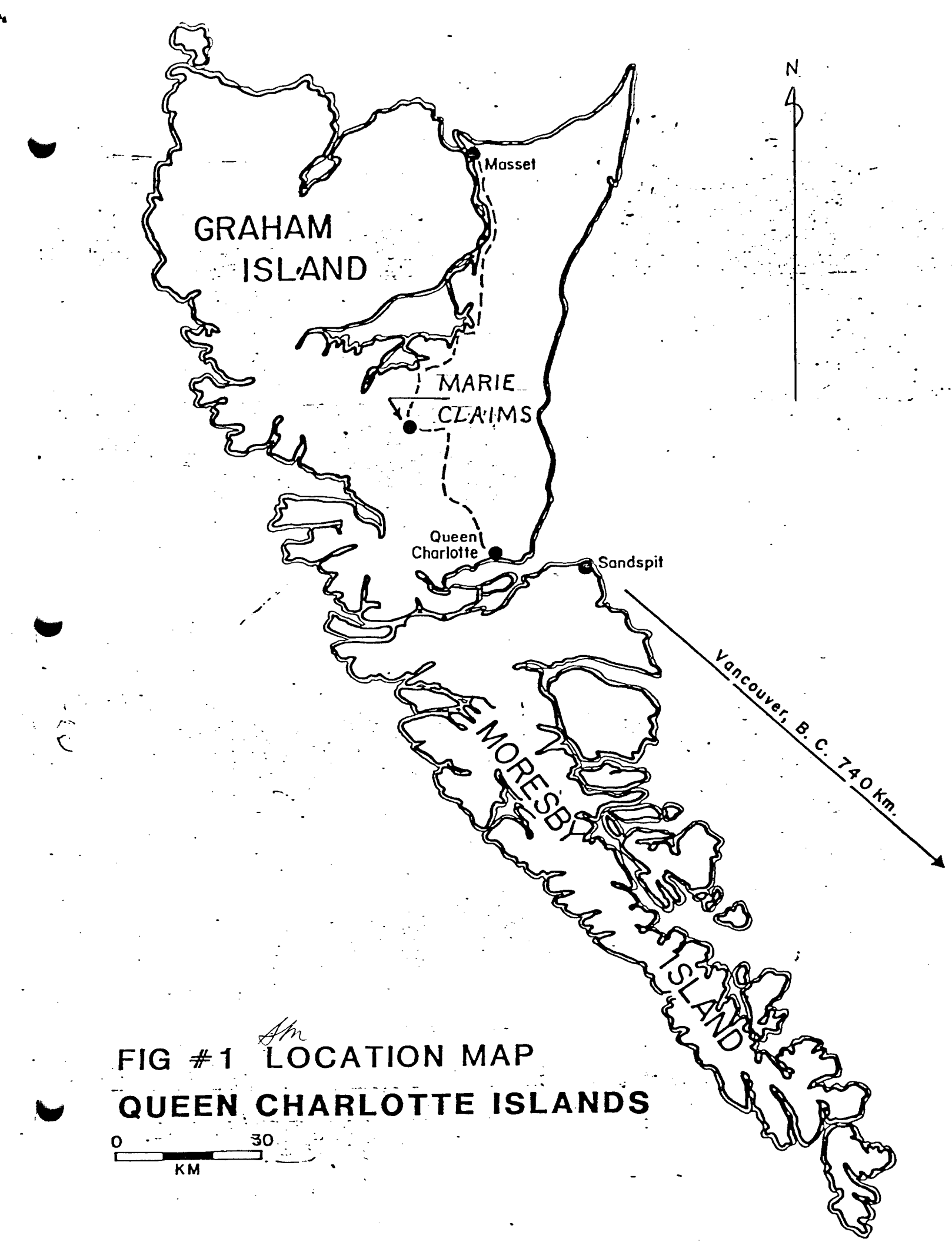
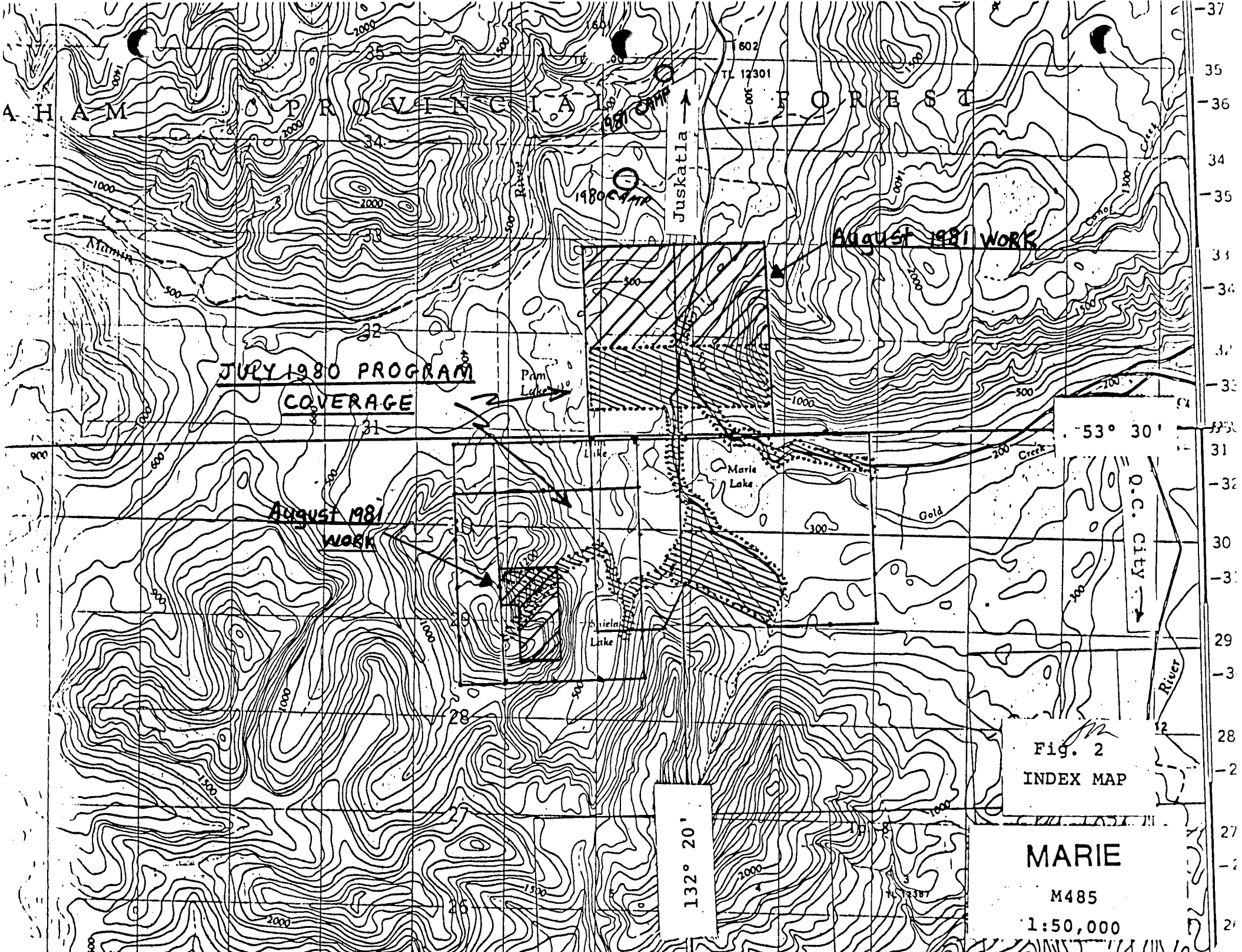


FIG #1 LOCATION MAP

QUEEN CHARLOTTE ISLANDS


A H A M P R O V I N C I A L P A R K
F O R E S T
Juskatla
1980 CAMP
1981 CAMP
August 1981 WORK
JULY 1980 PROGRAM
COVERAGE
August 1981
WORK
Pam Lake
Marie Lake
Shiela Lake
Gold
Creek
River
Mountain
53° 30'
132° 20'
Q.C. City
Fig. 2
INDEX MAP
MARIE
M485
1:50,000

The PROSPECTOR and DUST 1 and 2 claims are easily accessible by MacMillan Bloedel's Juskatala - Queen Charlotte City mainline cutting through their centre. In places, the baseline parallels the road. Other minor logging roads, to the east and west of the mainline provide suitable access to many areas of the property.

An excellent campsite was established on the Marvin River off of branch 7. This location would not be suitable for a camp during the spring with higher water levels.

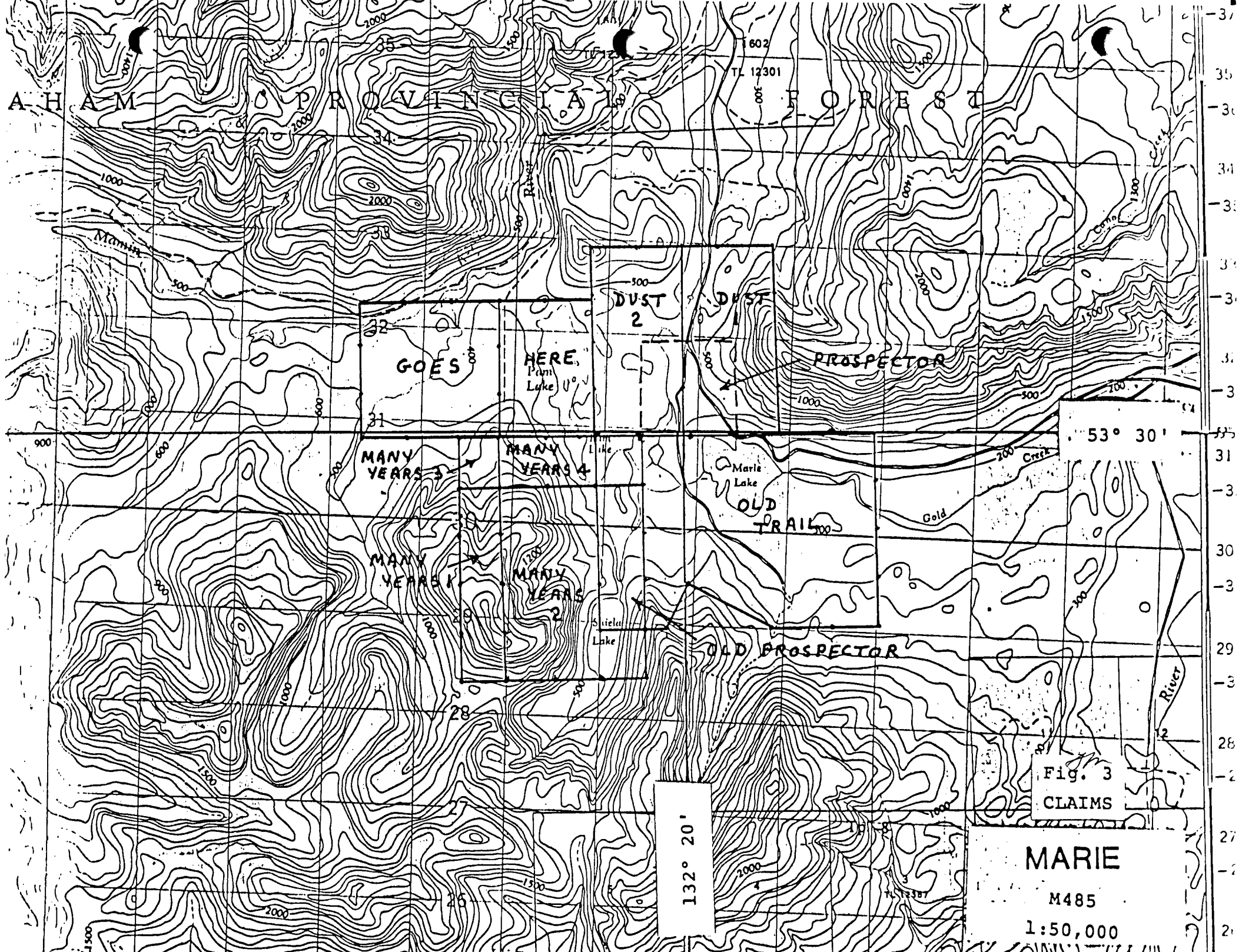
CLAIMS (FIg. 3)

At the time the work was done the property as a whole comprised the following claims:

Name	No. of Units	Record No.	Record Date
Many Years #1	4	620	June 5, 1978
Many Years #2	12	650	July 17, 1978
Many Years #3	1	765	Sep. 8, 1978
Many Years #4	3	766	Sep. 8, 1978
Old Trail	20	618	June 5, 1978
Old Prospector	4	828	Nov. 7, 1978
Dust #1	8	1712	Sep. 17, 1979
Dust #2	8	1713	Sep. 17, 1979
Goes	9	1296	Apr. 9, 1979
Here	6	1297	Apr. 9, 1979
Prospector	4	2557	Sep. 3, 1980

HISTORY

There is no known record of old work in the immediate claims area. The initial staking in May 1978 was by personnel associated with JMT Services Corp. and was a result of the recognition of a number of factors including:


A H A M P R O V I N C I A L F O R E S T
TL 12602
TL 12301
TL 12387
DUST 2
DUST 1
GOES
HERE
Pam Lake
PROSPECTOR
MANY YEARS 3
MANY YEARS 4
MANY YEARS 1
MANY YEARS 2
Marie Lake
OLD TRAIL
OLD PROSPECTOR
Shiela Lake
Gold Creek
Manitou River
53° 30'
132° 20'
Fig. 3
CLAIMS
MARIE
M485
1:50,000

a) The relative closeness to the Consolidated Cinola gold deposit (previously known as the Babe or Specogna property).
b) A small known gold showing in the area.
c) Geochemical highs, strong alteration, and Tertiary rhyolites, encountered during regional traverses.

In June 1978 the property was optioned by Chevron Canada Limited. In 1979 preliminary surface work, both geological and geochemical, was carried out under contract by JMT Services Corp., and a 6-hole 485 m percussion drilling program by Tonto Drilling Ltd.

The results of these programs were moderately encouraging. The best drill hole yielded a geochemical assay equivalent to 0.016 oz/ton Au over 18.3 m. In June 1980 a field program involving geological mapping and Au-As geochemistry was carried out as an expansion of the 1979 work.

GEOGRAPHY

The claims cover a land area with an unusual density of lakes. These constitute the source area for a tributary (with the encouraging name of Gold Creek) of the Yakoun River (see Figs. 2 and 3).

The adjacent high ground attains a relief of 500 m, with slopes that are not, for the most part, excessively steep. An equal or greater inhibition to foot travel than these slopes is the relatively abundant patches of thick second growth from early logging, broad slash from current logging, and local areas of heavy dead fall. The second growth is particularly thick at the northeastern end of the claim group.

Precipitation, though heavy in the winter months, is probably moderated by the relatively low elevation and central island location. The availability of water for exploration purposes is generally good most of the year, except high on the hill bordering the W side of the claims. As elsewhere in the Queen Charlotte Islands, a 9 month field season is possible, though not always desirable.

GEOLOGY

General

The DUST and MARIE south grids were mapped on a scale of 1:5,000 during August of 1981. Both areas are underlain primarily by rocks of the Masset Formation - Tertiary in age. The mapping on the Marie south grid covers a major drainage with good outcrop exposure that was previously mapped in detail, so although little of significance was learned in this area there is an agreement on rock units with previous workers.

The general stratigraphy of the areas mapped is as follows:

Dacite porphyry plug and dykes

Mainly rhyolitic pyroclastics: tuffs, lapilli tuffs and tuff breccias

Mixed basalt breccias, columnar flows and rhyolite (ash) flows

Additional information on the geology of the Marie property can be found in previous assessment reports.

Dacite Porphyry

The dacite porphyry plug found at the southeastern end of the Marie south grid is fine grained, pale green, siliceous and contains subhedral plagioclase phenocrysts. The dacite dyke occurring at the northern end of this grid is probably an apophysis of this plug.

Rhyolite Pyroclastics

The felsic, mainly rhyolitic, pyroclastics occurring on the southwestern side of the DUST grid and throughout the MARIE south grid are probably the youngest rocks of the Masset Formation on the property. These are predominantly coarse grained - lapilli tuffs, tuff breccias and agglomerates varying from rhyolite to dacite in composition. Rocks of this unit are seen in one location to overlie a basalt and dip to the south west at 55°. The contact with other units was only observed in this one outcrop.

Basaltic Breccia and Flows
Interbedded with Rhyolite Ash Flow

The unit of basaltic to rhyolitic pyroclasts with interbedded flows occurs on the northeastern two thirds of the DUST grid. The basic flow rocks range in composition from basalt to andesite and in places exhibit columnar jointing. The rocks appear fine grained, black to green grey, and are often porphyritic containing subhedral plagioclase laths. In one locality the andesite has a vitreous to glassy texture and thin section studies show the matrix to be predominantly volcanic glass. Locally the basalt is brecciated.

The rhyolite flows exhibit a wide range of textures from weakly porphyritic, thinly flow banded to glassy and in places intensely brecciated. The rhyolites generally weather a light buff colour and range from cream to grey to purple to green in colour.

In outcrops along the road the rhyolites and andesite flows are interbedded and dip to the west at 42°.

Mineralization

The only mineralization seen was on the DUST grid in the form of fine grained disseminated pyrite and pyrrhotite within andesite flows.

Structure

An airphoto lineament study revealed numerous NNW and NNE trending structures cutting the DUST grid which have been plotted on the geology map (Figure 4). Few faults were seen in the field although many outcrops were highly fractured and brecciated.

GEOCHEMISTRY

General

A total of 29 person days were spent mapping and soil sampling on the Marie property in August 1981. The samples were collected on a 50 m x 200 m grid on the DUST claims and on a 50 m x 100 m grid on the MANY YEARS claims (Marie south grid). The sample distribution is as follows:

	Dust Grid	Marie South Grid
Soils ('B' Horizon)	205	103
Rocks	17	3
Soils (Organic Horizon)	-	103

On the Marie south grid the gold values of the organic samples correspond closely with the 'B' Horizon gold values. It is clear for the area sampled that gold is not being concentrated in the organic horizon.

Rock Geochemistry

Of the 17 rocks samples on the Dust grid none are anomalous for gold or arsenic. The rock geochemistry is extremely low in this area with maximum values of 3 ppb Au and 40 ppm As in two separate samples.

On the Marie south grid the response is somewhat higher. The maximum arsenic value is 40 ppm. The three rocks analysed yielded 34 ppb Au. The rhyolite breccia, rhyolite tuff and dacite porphyry sampled contained quartz veins although no visible sulphides were present.

Soil Geochemistry

The response of the DUST grid is rather poor. The maximum values obtained were one value of 40 ppm As and one value of 30 ppb Au. There is little outcrop on the western side of the grid and the poor geochemical response may be due, in part, to the amount of overburden.

On the Marie south grid the arsenic content of the soil is somewhat more encouraging. The northern half of the grid exhibits northward trending zones of arsenic highs alternating with areas of lows. The maximum value obtained was 150 ppm As. The gold response is low and uniformly expressionless with a maximum value of 18 ppb Au.

The geochemical response of the area is generally low and there is little to no correlation between Au and As content of rocks and soils or between soil and rock 'highs'.

CONCLUSIONS

The area of the Marie south grid and Dust grid is underlain primarily by rocks of the Masset Formation - Tertiary in age. The rocks range both in composition and texture from basalt flows and breccias to rhyolite lapilli tuffs and ash flows.

A small zone of anomalous arsenic in soils was delineated on the northern half of the Marie south grid but generally gold and arsenic values are low. The rock geochemistry was equally disappointing.

RECOMMENDATIONS

1. Extension of the Marie south grid to the north, west and east where terrain permits.
2. Soil pitting at a few locations on the Dust grid to check the low soil values.

J. McAllister

APPENDIX

MARIE LAKE PROPERTY
ASSESSMENT COST
16 - 30 AUGUST 1981

LABOUR

NAME	FUNCTION	NO. OF DAYS			
		Field	Travel	Office	Total
D. Arscott	Supervisor	1	1	2	4
S. McAllister	Party chief	14	2	6 *	22
P. Fagerlund	Geolog. asst.	14	2	-	16
D. Hodge	Geolog. asst.	14	2	-	16
S. Monger	Geolog. asst.	9	2	-	11
J. Mill	Geolog. asst.	9	2	-	11
		61	11	8	80

Total Labour cost (90./Person average day) $7200.00

EXPENSES

Helicopter	1.3 hrs @ 538.(crew dropoff)	699.40	
	1.0 hrs @ 538.(pad preparation)	538.00	
Analyses**	250 soils @ 7.90 (Au+As, by A.A.)	1975.00	
	50 soils @ 7.75 (Au,by N.A.A.)	387.50	
	50 rocks @ 9.55 (Au+As, by A.A.)	477.50	
Food	66 days @ 15.	990.00	
Truck	15 days @ 45.	675.00	
Field supplies, est. 55 days @ 11.00		550.00	
Camp cost, est.55 days @ 5.00		275.00	
Hotels, 3 room X 2 nights @ 40.		240.00	
Drafting, est.		300.00	
Helicopter pad logging		240.00	
		7347.40	7347.40

TOTAL PROGRAM COST $ 14,547.40

* Predicted
** Minimum figures

D. Arscott

D. ARSCOTT
1 Sept. 1981

CERTIFICATE

I, David Philip Arscott am a Professional Engineer, registered in British Columbia with office address at 901 - 355 Burrard Street, Vancouver, B. C. V6C 2G8.

I have practiced Mineral Exploration almost continuously since 1961, and hold degrees in Mining Engineering (1963) and Mineral Exploration (1966).

The 1981 program on the Marie property was carried out under my direction.

David Arscott

DAVID ARSCOTT, P.Eng.
September 1981

STATEMENT OF QUALIFICATIONS

I, Sandra Gael McAllister, am a professional geologist with office at 901 - 355 Burrard Street, Vancouver, B. C. V6C 2G8.

I am a graduate of Queen's University, B.Sc. (Hon), 1981, and have worked in mineral exploration, mainly seasonally since 1978.

S. McAllister

SANDRA McALLISTER

December, 1981

FIELD TECHNIQUES

Grid Control

All control was by hip chain and compass with slope corrected stations at 50 m intervals. The stations were marked on double flags (orange and blue survey tape) with the lines marked in single orange flags.

Road and line intersections were carefully noted and a road traverse served to check on the 200 m line spacing on the northern grid. The Marie south grid was tied in to the cut chopper pad on the ridge west of Sheila Lake.

Soil Sampling

The soil samples were collected by prospecting pick from depths of 15 to 20 cm and where possible from the 'B' Horizon. The 'B' Horizon soils were placed in high wet strength paper sample bags and shipped to Vangeochem Lab Ltd. of North Vancouver for analysis.

On the Marie south grid soil samples were also collected from the organic horizon at a depth of 0 to 10 cm. These samples were placed in small plastic bags (20 cm x 32 cm) and shipped to Chemex Labs Ltd. in North Vancouver for Au analysis by neutron activation.

GOLD F. A. AND A. A. METHOD

A 10 gram crushed rock sample was concentrated by the Fire Assay method and the beads dissolved in nitric acid. This was followed by detection of gold using atomic absorption.

GOLD N.A.A. METHOD

October 20, 1980

A 10 gm sample is fused in litharge, carbonate and silicious flux. The resulting lead button containing any gold in the sample is cupelled in a muffle furnace to produce a precious metals bead.

Sample beads, plus standard and blank beads are irradiated in a thermal neutron flux. The gamma emissions of the irradiated beads are counted utilizing a Ge (Li) detector and quantified for gold. The detection limit for a 10 gm sample is 1 µg/kg (ppb).

VGC

986-52

VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-988-2000

V7P 2S3

To: Chevron Standard Ltd.
Mineral Staff
#901 - 355 Burrard St.
Vancouve, B.C. V6L 2G8

From: Vangeochem Lab Ltd.
1521 Pemberton Avenue
North Vancouver, B.C. V7P 2S3

Subject: Analytical procedure used to determine Aqua Regia soluble gold in geochemical samples.

1. Method of Sample Preparation

(a) Geochemical soil, silt or rock samples were received in the labroatory in wet-strength 4 x 6 Kraft paper bags or rock samples sometimes in 8" x 12" plastic bags.

(b) The dried soil and silt samples were sifted by hands using a 8" diameter 80-mesh stainless steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.

(c) The dried rock samples were crushed by using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

2. Method of Digestion

(a) 5.00 grams of the minus 80-mesh samples were used. Samples were weighed out by using a top-loading balance into beakers.

(b) 20 ml of Aqua Regia (3:1 $HCl:HNO_3$) were used to digest the samples over a hot plate vigorously.

(c) The digested samples were filtered and the washed pulps were discarded and the filtrate was reduced to about 5 ml.

(d) The Au comples ions were extracted into diisobutyl ketone and thiourea medium. (Anion exchange liquids "Aliquot 336").

.....2

(e) Separate Funnels were used to separate the organic layer.

3. Method of Detection

The gold analyses were detected by using a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode Lamp. The results were read out on a strip chart recorder. A hydrogen lamp was used to correct any background interferences. The gold values in parts per billion were calculated by comparing them with a set of gold standards.

4. The analyses were supervised or determined by Mr. Conway Chun or Mr. Eddie Tang and his laboratory staff.

Eddie Tang
VANGEOCHEM LAB LTD.

ET: jl

VGC

986-5211

GEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-988-XXXX
V7P 2S3

TO: Chevron Standard Ltd.
Mineral Staff
#901 - 355 Burrard St.
Vancouver, B.C. V6L 2G8

FROM: Vangeochem Lab Ltd.
1521 Pemberton Ave.
North Vancouver, B.C. V7P 2S3

SUBJECT: Analytical procedure used to determine hot acid soluble arsenic in geochemical silt, soil, lake sediments and rock samples.

1. Sample Preparation

(a) Geochemical soil, silt, lake sediments or rock samples were received in the laboratory in wet-strength 3½ x 6½ Kraft paper bags and rock samples in 4" x 6" Kraft paper bags.

(b) The wet samples were dried in a ventilated oven.

(c) The dried soil and silt samples were sifted by hands using a 8" diameter 80-mesh stainless steel sieves. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a nwq bag for analysis later.

(d) The dried rock samples were crushed by using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

2. Method of Digestion

(a) 0.25 gram of the minus 80-mesh sample was used. Samples were weighed out by using a top-loading balance.

(b) Samples were heated in a sand bath with concentrated perchloric acid (70 - 72% $HCLO_4$ by weight) at a medium heat for four hours.

(c) The digested samples were diluted with demineralized water.

...2

3. Method of Analysis

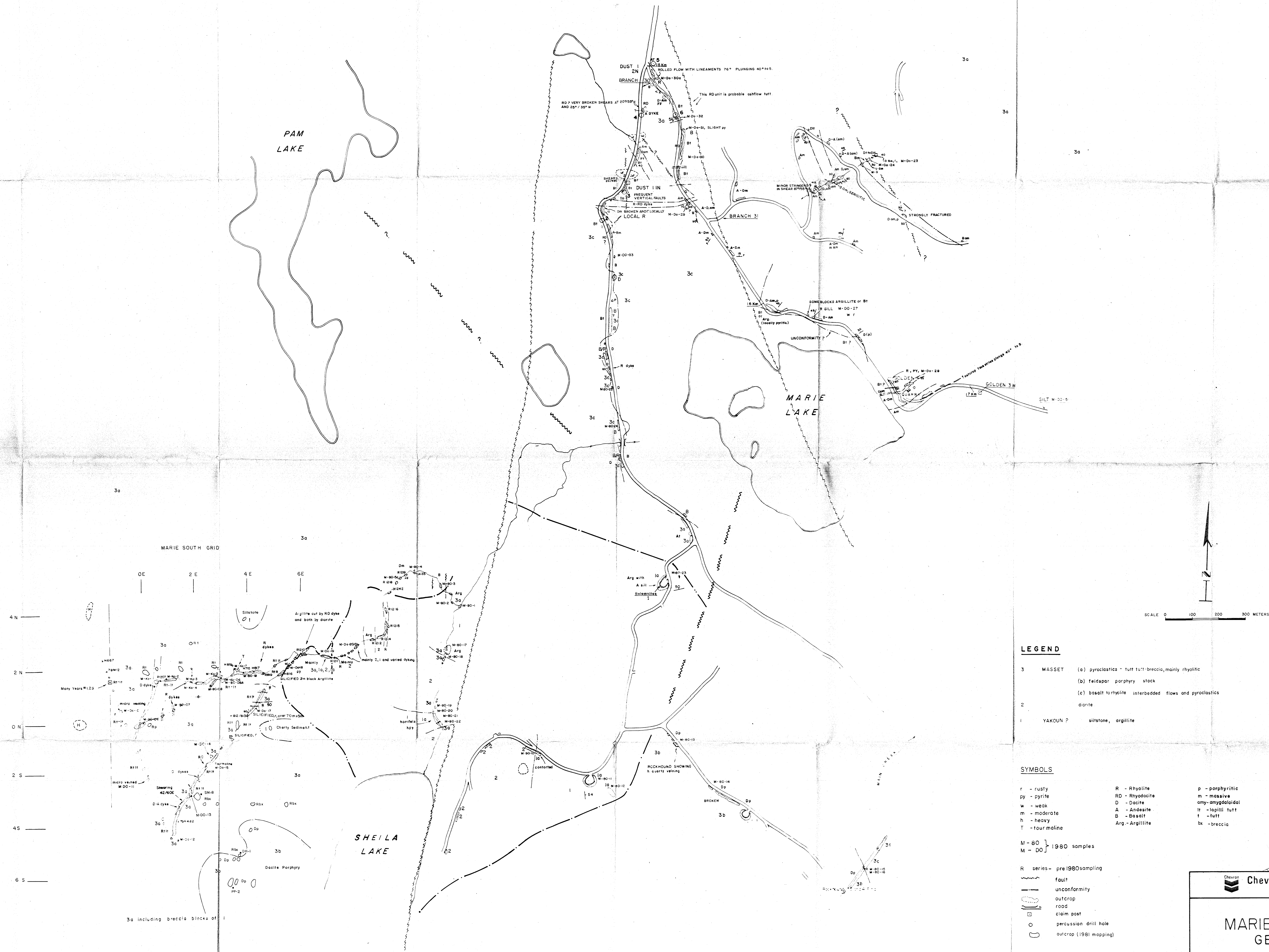
(a) Potassium iodide and stannous chloride in HCL were added to the digested samples.

(b) Zinc metal was introduced and the arsenic in solution was gassed off as arsene through a glass wool scrubber plug saturated with lead acetate and into a solution of silver diethyldithiocarbamate in chloroform with l-ephedrine, forming a red complex with the silver diethyldithiocarbamate.

(c) The concentration of the arsenic was determined colorimetrically by comparing the intensity of the color of the red complex with a set of known standards prepared in a similar fashion as the samples.

4. The analyses were supervised or determined by Mr. Eddie Tang or Mr. Conway Chun and their laboratory staff.

for Eddie Tang
VANGEOCHEM LAB LTD.



LEGEND

3	MASSET	(a) pyroclastics - tuff tuff-breccia, mainly rhyolitic
		(b) feldspar porphyry stock
		(c) basalt to rhyolite interbedded flows and pyroclastics
2		diorite
1	YAKOUN ?	siltstone, argillite

SYMBOLS

r - rusty	R - Rhyolite	p - porphyritic	agg agglomerate
py - pyrite	RD - Rhyodacite	m - massive	s silicification
w - weak	D - Dacite	amy- amygdaloidal	l local
m - moderate	A - Andesite	lt - lapilli tuff	py pyrite
h - heavy	B - Basalt	t - tuff	ca calcite
T - tourmaline	Arg.- Argillite	bx - breccia	v veining

M - 80, M - DO } 1980 samples

R series - pre 1980 sampling

fault

unconformity

outcrop

road

claim post

percussion drill hole

outcrop (1981 mapping)

Chevron Standard Limited
Minerals Staff

MARIE PROPERTY
GEOLOGY

FIGURE No 4 . Sheet 1		PROJECT No. M 485	
DATE SEPT 80 .	REVISIONS		SCALE 1:5000
NTS No 103F8W/9W	DECEMBER 1981		FILE No
COMPILED BY G.W.	COMPILED BY S.M.		

1981 DATA

Soil Sample — ppb Au (by NA of organic soils) / ppm As

Rock Sample — ppb Au / ppm As

SOILS

Au-As
ppb ppm

ROCKS

Au △ As
ppb ppm

As-60ppm contour

As-30ppm contour

Note: Contours reflect 1979 as well as 1980 and 1981 work. (on new grids only)

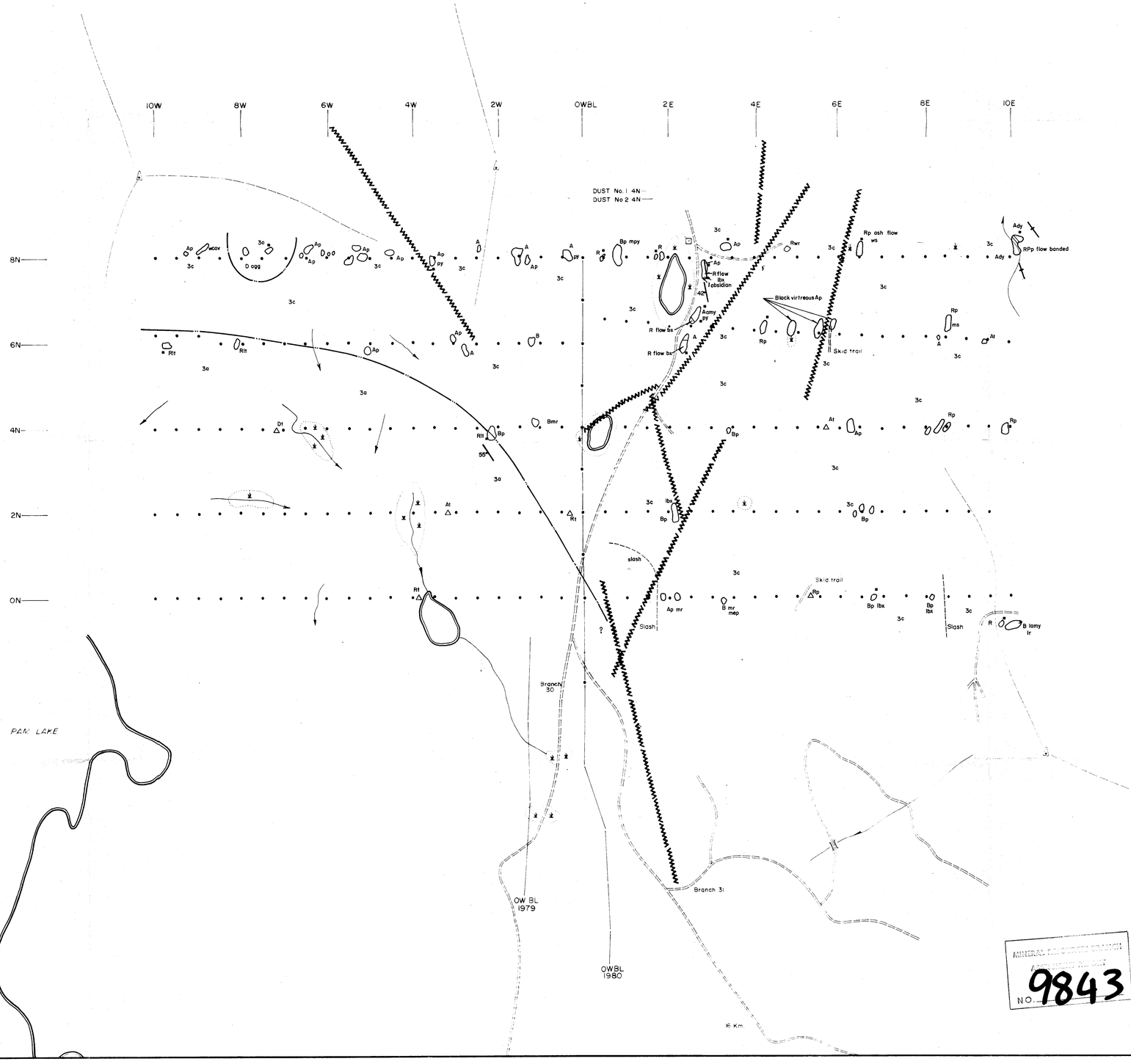
Chevron Standard Limited
Minerals Staff

MARIE PROPERTY

GEOCHEMISTRY

Scale 0 100 200 300 meters

FIGURE No 5. Sheet 1		PROJECT No M485	
DATE SEPT 80	REVISIONS:		SCALE 1:5000
NTS No 103F8W/0W	DECEMBER 1981		FILE No
COMPILED BY G.W.	COMPILED BY S.M.		



LEGEND, see sheet 1

- Creek
- Ridge
- Soil sample
- Rock sample
- Peak
- Swamp
- Claim post
- Slash border
- Float

MINERAL EXPLORATION RESERVE
NO. 9843

Chevron Standard Limited
Minerals Staff

MARIE PROPERTY
QUEEN CHARLOTTE ISLAND
GEOLOGY

FIGURE No. 4 SHEET 2		PROJECT No. M485	
DATE DEC 81	REVISIONS		SCALE 1:5000
NTS N. 103 F/8W	9W		FILE No.
COMPILED BY S.M.			

LEGEND, see sheet 1

Creek
Ridge
Soil sample
Rock sample
Peak
Swamp
Claim post

Au, ppb.
As. ppm.

As contour 30ppm.
Au contour 25ppb.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9843

Chevron Standard Limited
Minerals Staff

MARIE PROPERTY
QUEEN CHARLOTTE ISLAND
GEOCHEMISTRY: Au & As

FIGURE No 5	SHEET 2	PROJECT No M 485	
DATE DEC 81	REVISIONS		SCALE 1:5000
NTS No 103 F/8W	9W		FILE No
COMPILED BY SM			