

PERCUSSION DRILLING REPORT
MARIE GROUP
Queen Charlotte Islands, B.C.

OLD TRAIL, PROSPECTOR, DUST #1 and
DUST #2 Mineral Claims
NTS 103 F/8W and 103 F/9W

Latitude $53^{\circ}30'N$, Longitude $132^{\circ}20'W$

OWNER: Chevron Canada Limited
OPERATOR Chevron Standard Limited
CONTRACTORS JMT Services Corporation
Tonto Drilling
WRITTEN BY Gordon G. Richards, P.Eng.
James S. Christie, Ph.D.

December 18, 1979

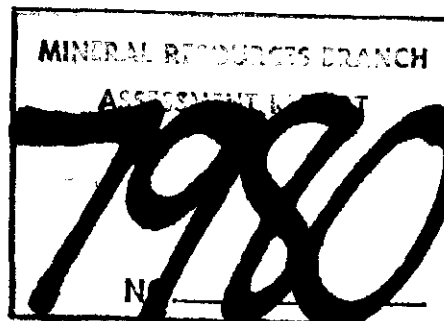


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INTRODUCTION

The Marie Group of mineral claims is underlain by mineralized Tertiary volcanics of the Masset Formation that lie unconformably on poorly exposed calcareous argillites - sandstones of probable Cretaceous age. A preliminary geological-geochemical survey carried out throughout 1978 and 1979 outlined a zone of silicified volcanics with anomalous arsenic - gold geochemistry some 200 metres wide by over 1000 metres long. The percussion drilling programme described in this report was designed to test the volcanics and underlying sediments within this alteration zone in areas of easy access - along the roads that cut through the alteration system.

LOCATION AND ACCESS

The claim group is located on the upper drainage of Gold Creek including the rolling terrain between Sheila, Pam and Marie Lakes. It is accessible by road by driving south from Juskatla along MacMillan Bloedel's main haulage road 20 kilometres to Branch 30 which cuts through the centre of the property to the east side of Sheila Lake.

TOPOGRAPHY AND VEGETATION

Gold Creek Valley is 1500 metres wide east of Marie Lake but widens to an area of flat terrain between Marie, Pam and Sheila Lakes. This low lying land is variably covered in hemlock-spruce forests and cedar-cypress swamps. A minor amount of second growth, about fifteen years old, covers the southeast portion of the claims.

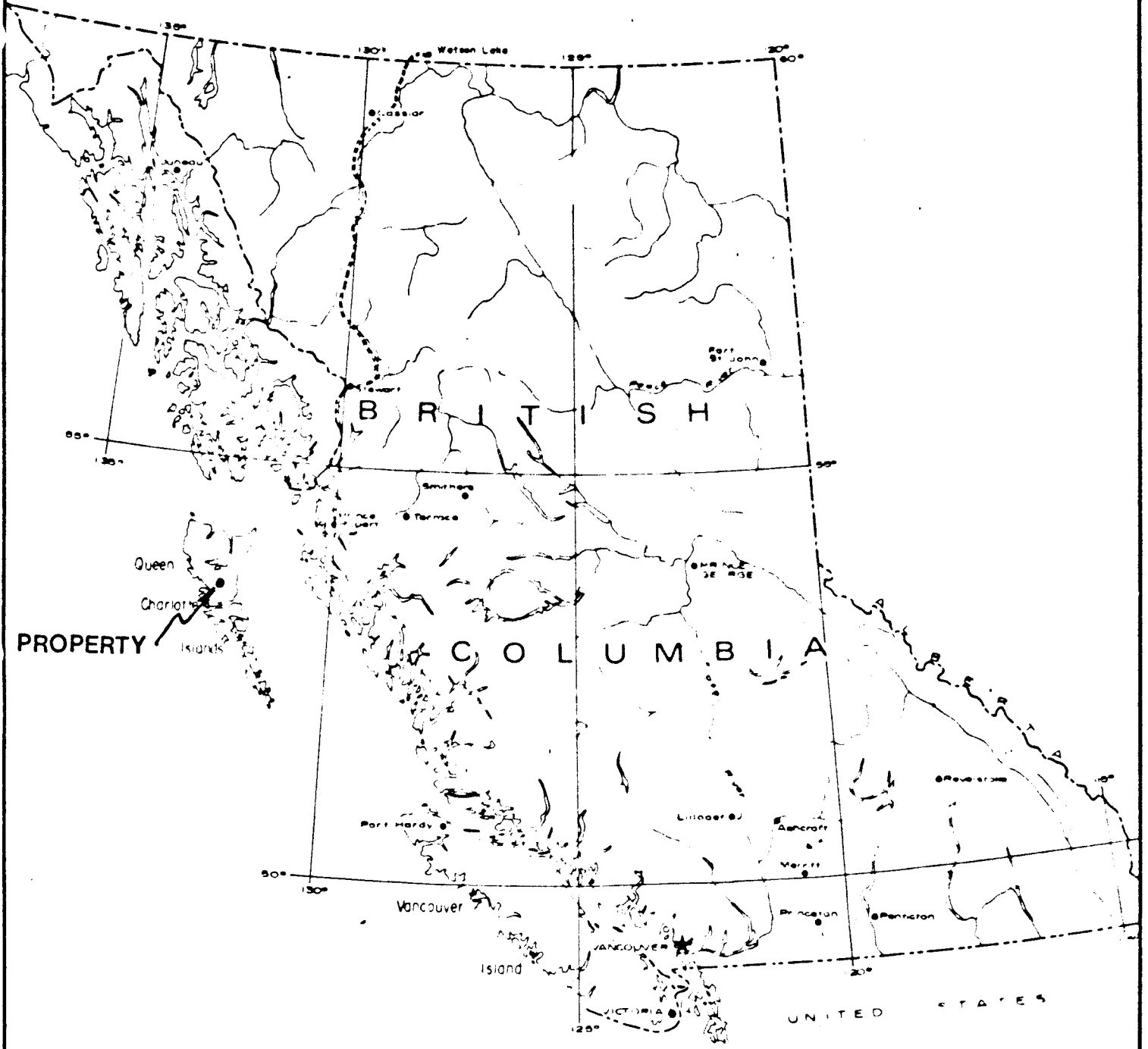


FIGURE 1

Marie Group
 PROPERTY LOCATION MAP

SCALE			
0	136 Mile		
Prepared by	Date	NTS MAP AREA	DRAWING No.
Drawn by	Revised		

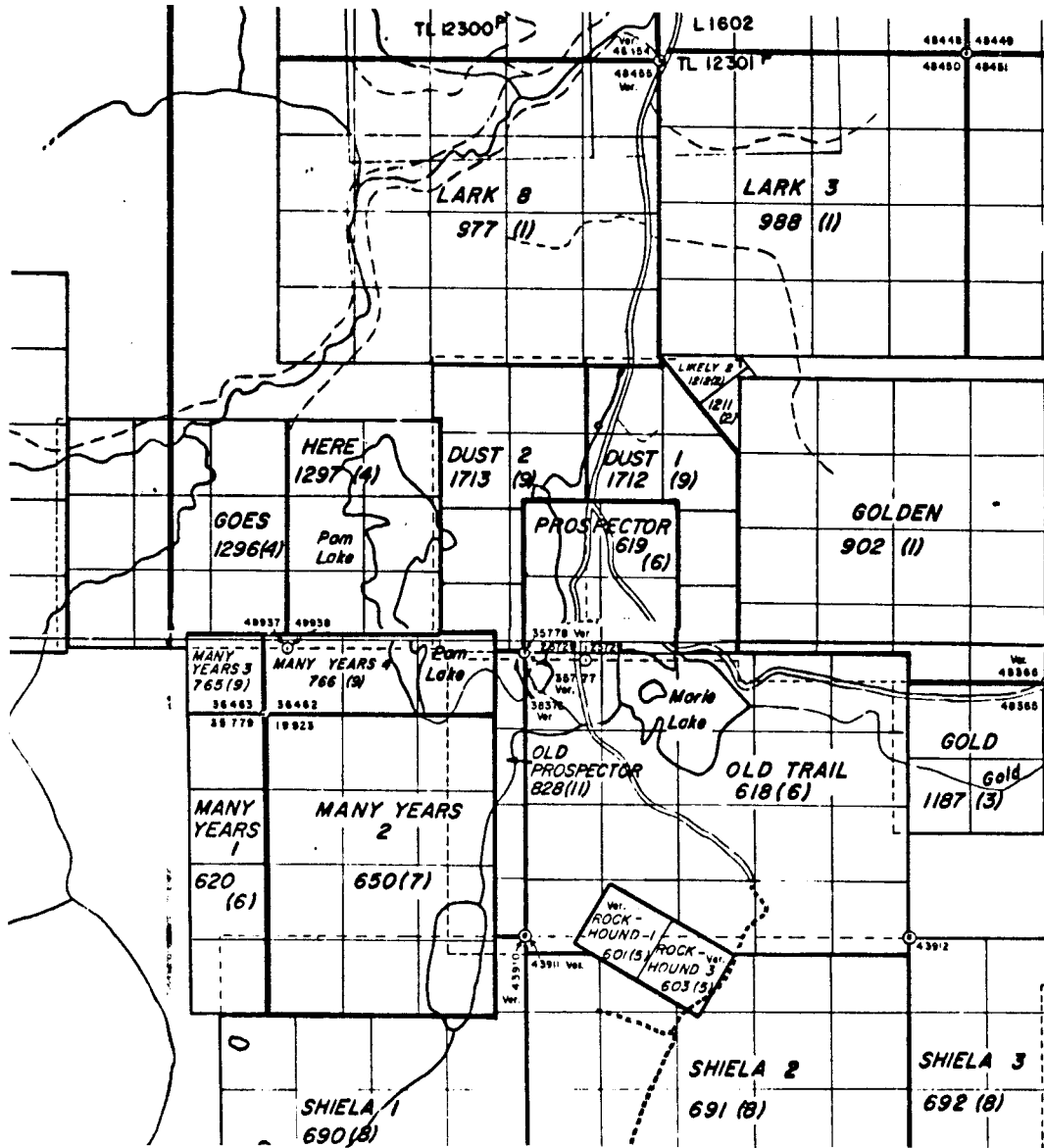


FIGURE 2 CLAIM MAP - MARIE GROUP

CLAIMS

The Marie Group consists of the OLD TRAIL, PROSPECTOR, DUST #1 and DUST #2 mineral claims described below and shown on the accompanying claim map.

<u>NAME</u>	<u>UNITS</u>	<u>RECORD NO</u>	<u>RECORD DATE</u>	<u>LOCATOR</u>
OLD TRAIL	20	618(6)	June 5,1978	J.S. Christie
PROSPECTOR	4	619(6)	June 5,1978	J.S. Christie
DUST #1	8	1712(9)	Sept.17,1979	G.G. Richards
DUST #2	8	1713(9)	Sept.17,1979	G.G. Richards

GEOLOGY AND ALTERATION

The oldest rocks on the property are carbonaceous, locally calcareous, argillites, siltstones and minor sandstones. Belemnites and rare ammonites have been found in a few outcrops. The age of these rocks is uncertain. They are intruded by a diorite intrusion of unknown size with hornfels developed up to fifty metres from the intrusive contact. The sediments and diorite occur in windows within the more extensively outcropping Tertiary volcanics. The Tertiary volcanics, Masset Formation are represented by andesite, dacite and rarer basalt and rhyolite, flows, breccias and tuffs.

The area tested by the percussion drilling, see figure 3, is underlain by Tertiary volcanics. A small window of pre-Tertiary sediments lies immediately south of drill hole M 1. The outcrops in this drilled area are variably silicified, pyrite mineralized and veined with chalcedonic veinlets. Such alteration is apparently related to more porous tuff units and sediments. More massive basalt-andesite flows(?) are virtually unaltered. Drill holes were spotted in the general area of coincident hydrothermal alteration, described above, and anomalous geochemistry, described below. The holes were drilled along the road because of easy

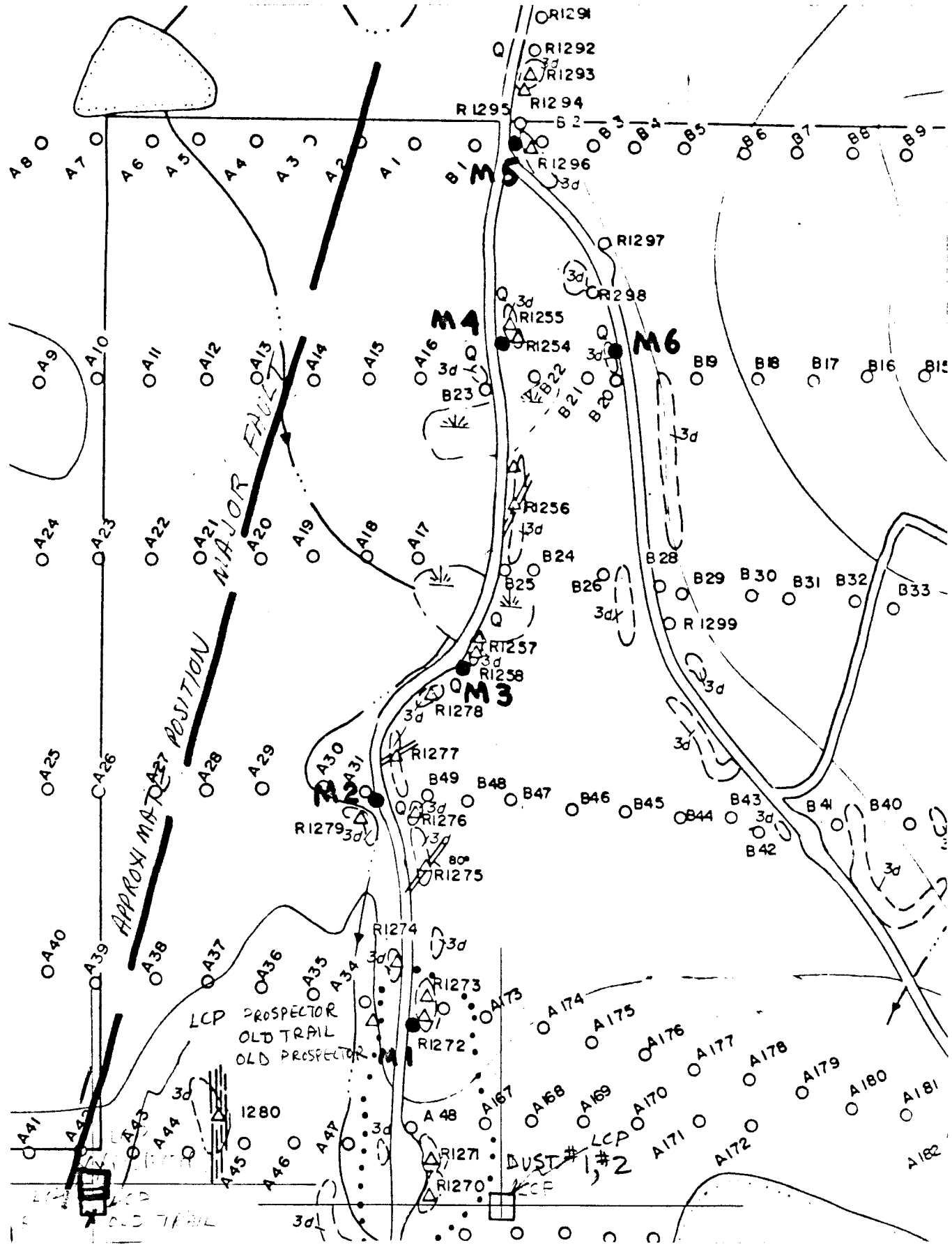


FIGURE 3 PERCUSSION DRILL HOLE LOCATION MAP

access. The drill targets were possible permeable units within the volcanics as well as the underlying sediments which were considered favorable hosts for replacement type bulk gold deposits.

A major northerly trending fault is believed to cross the general area, figure 3. This fault is another exploration target untested by the drill programme.

DRILL EQUIPMENT AND TECHNIQUE

The drill rig used by Tonto consisted of an Atlas Copco type 51 hammer mounted on a Gardener Denver unit and powered by a 750 c.f.m. compressor. Hole diameter in bedrock was 2". Cuttings were removed from the holes by flushing with water during drilling and after each 10 foot run. The sludge was directed into an electric splitter which diverted a 1/8th cut into a garbage can. Excess water was poured off and the sample for analysis was then transferred to a 12" X 18" canvas bag where the remaining water was squeezed off through the bag.

GEOLOGY OF PERCUSSION DRILL HOLES

All six holes, M 1 to M 6, reached bedrock within 30'. A sample was collected during each 10 foot run and a cut of the chips was examined under a binocular microscope. Logs of observations are attached.

Rocks penetrated in all holes are variably pale creamy, pale grey, medium grey and dark grey volcanics or sediments. It was difficult to determine whether or not the holes penetrated the Tertiary volcanics and reached the pre Tertiary sediments, that outcrop nearby. However, disseminated and fracture calcite occurs throughout all the holes and may indicate the holes penetrated the

Tertiary volcanics near surface as fracture calcite was noted only in volcanic outcrops whereas both disseminated and fracture calcite was observed in sediment outcrops. Disseminated and fracture-controlled pyrite occurs throughout each of the holes and chalcedonic quartz veinlets were common in M#3.

GEOCHEMISTRY

Rock chip samples obtained for each 10 foot run were analysed for gold, arsenic and some for mercury by Bondar Clegg and Company using the following standard procedures:

Arsenic: Perchloric Nitric-Colorimetric
Mercury: Controlled Aqua Regia - Closed Cell Atomic Absorption
Gold: Fire Assay and Hot Aqua Regia - Atomic Absorption

Results are attached with drill hole logs.

A geochemical survey on the claims, see References, has indicated values of 30 ppm As and 5 ppb Au are anomalous. Holes M#3 and M#6 contain anomalous Au-As values throughout their 300' lengths. In particular there is an anomalous zone 60 feet thick at the bottom of M#3 that averages 105 ppb Au and 71 ppm As. This anomaly is open to depth and is probably contaminated from caving higher in the hole. A similar anomaly in hole M#6, also 60 feet thick, occurs near surface from 20' to 80'. This interval averages 463 ppb Au and 780 ppm As. Hole M#4 is also weakly anomalous for Au and As to a depth of about 250 feet.

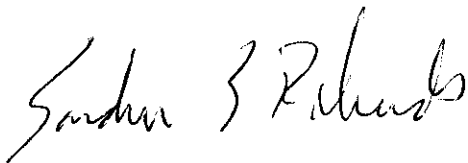
CONCLUSIONS AND RECOMMENDATIONS

Interpretation of the results is difficult because of the uncertainty of the geology based on percussion chips - it is not clear if the holes penetrated the Tertiary volcanics and reached pre-Tertiary sediments. The two 60 foot sections in holes M#3 and M#6 with the highest Au-As anomalies could be related to penetration of near vertical structures or alternatively to penetration of stratabound replacement type mineralization within volcanics of per Tertiary sediments. Both of these styles of alteration - mineralization features have been recognized in outcrops in the immediate area of the drill holes.

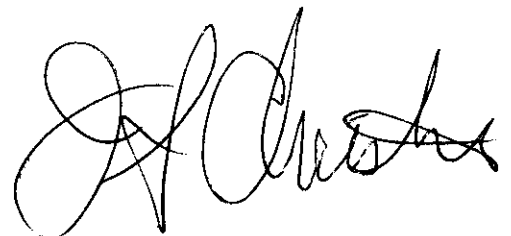
In any event, holes M#3, M#4 and M#6 define an area worthy of further exploration. The cutoff to the north, hole M#5, penetrated only 85 feet and should not be used too rigorously to limit the area of anomalous geochem. The supposed major fault lying west of the road should be explored.

The following program is proposed:

1. Locate the major structure by use of geophysics using the four northerly geochem lines lying west of the road, Figure 3.
2. Diamond drill one or two angle holes to test depth of Tertiary volcanics and the major fault if it has been located.
3. Tighten up percussion drilling between and near holes M#3, M#4 and M#6 and expand percussion drilling to the north, east and west.



G.G. Richards, P.Eng.



J.S. Christie, Ph.D.

STATEMENT OF COSTS

J.S. Christie, Geologist	Oct. 8-15 8 days @ \$150/day	\$ 1,200.00
G.G. Richards, Geologist	Oct. 13-15, 22, 28 5 days @ \$150/day	750.00
S. Courte, Assistant	Oct. 8-15 8 days @ \$ 80/day	640.00
W. Lillies, Assistant	Oct. 8-15 8 days @ \$ 75/day	600.00
Meals	29 man days @ \$20/day	580.00
Truck rental	8 days @ \$50/day	400.00
Motel		630.75
Airfares	4 men 1/2 fare Vancouver - Sandspit	320.00
Geochem	Bondar Clegg	1,296.35
Field Supplies	Sample bags, vials, misc.	400.00
Freight		500.00
Report	Writing, typing, drafting	500.00
Drill Contract	Tonto Drilling Limited 1560 ft.	<u>17,724.57</u>
		<u>\$ 25,076.67</u>

TEK

Omitted from a previous report 12.
on the property (AR 7563)

STATEMENT OF COSTS - Continued

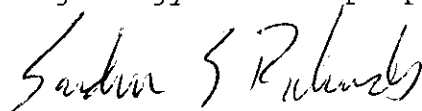
Aug. 2 - 22, 1979:

G.G. Richards	18 days @ \$150/day	\$ 2,700.00
W. Lillies	9 days @ \$ 75/day	675.00
S. Orlitzky	9 days @ \$65/day	585.00
Truck rental	7 days @ \$50/day	350.00
1/2 Airfare	3 men	225.00
Food	36 man days @ \$20/man day	720.00
Supplies		200.00
Miscellaneous expense - including motel		340.41
Freight		39.00
Geochem		<u>2,997.22</u>
		\$ 8,831.63

STATEMENT OF QUALIFICATIONS

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

1. I am a Professional Engineer of British Columbia
residing at 818 West 68th Avenue, 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 practiced 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.



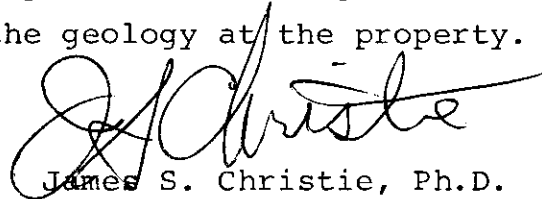
Gordon G. Richards, P.Eng.

January 24, 1980

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. I am a Member of the Geological Society of America.
6. This report is based on my personal knowledge of the
district, and mapping of the geology at the property.



James S. Christie, Ph.D.

January 24, 1980

REFERENCES

Richards, G.G., Christie, J.S. - Geology and Geochemistry
MARIE AREA, Assessment Report dated
November 1, 1979.

APPENDIX

PERCUSSION DRILL LOGS
WITH GEOCHEM RESULTS

PERCUSSION DRILL HOLE M1

		Au ppb	As ppm	Hg ppb
HOLE M# /				
20-30	M-1	< 5	12	45
30-40	M-2	< 5	21	55
40-50	M-3	< 5	23	70
50-60	M-4	< 5	20	105
60-70	M-5	< 5	8	60
70-80	M-6	< 5	10	100
80-90	M-7	5	21	75
90-100	M-8	< 5	23	65
100-110	M-9	< 5	13	65
110-120	M-10	< 5	12	90
120-130	M-11	< 5	24	95
130-140	M-12	< 5	16	85
140-150	M-13	< 5	11	45
150-160	M-14	< 5	23	70
160-170	M-15	< 5	11	80
170-180	M-16	< 5	7	210
180-190	M-17	< 5	3	90
190-200	M-18	< 5	6	65
200-210	M-19	< 5	7	55
210-220	M-20	< 5	7	30
220-230	M-21	< 5	8	25
230-240	M-22	< 5	7	30
240-250	M-23	< 5	7	30
250-260	M-24	< 5	6	60
260-270	M-25	< 5	3	85
270-280	M-26	< 5	8	65
280-290	M-27	< 5	10	50

Medium grey fine-grained sandstone or tuff with uniform white speckled texture. Contains 20% felsic grains. 1.5% disseminated pyrite

Dark grey fine grained sandstone or tuff with uniform white speckled texture. 5% disseminated pyrite.

Light grey fine-grained sandstone or tuff. 1-2% disseminated pyrite.

PERCUSSION DRILL HOLE M2

	Au ppb	As ppm	Hg ppb
30-40 M - 28 HOLE M#2	< 5	12	30
40-50 29	< 5	13	190
50-60 30	< 5	15	85
60-70 31	< 5	11	55
70-80 32	< 5	7	75
80-90 33	< 5	12	45
90-100 34	< 5	23	55
100-110 35	< 5	8	55
110-120 36	< 5	16	35
120-130 37	< 5	15	30
130-140 38	< 5	11	50
140-150 39	< 5	36	45
150-160 40	5	49	60
160-170 41	< 5	36	45
170-180 42	< 5	24	40
180-190 43	< 5	15	25
190-200 44	< 5	11	25
200-210 45	< 5	21	20
210-220 46	< 5	19	20
220-230 47	< 5	17	30
230-240 48	< 5	20	25
240-250 49	< 5	14	50
250-260 50	< 5	13	90
260-270 51	< 5	13	140
270-280 52	< 5	18	95
280-290 53	10	23	55
290-300 M - 54	10	2	60

Distinctive texture.
Weakly to moderately clay altered
sandstone or tuff with calcite
throughout.
30' - 50' much creamy coloured felsic.
1/2% disseminated and fracture pyrite.

As for 30' - 120' but slightly darker.

As for 30' - 120'.

PERCUSSION DRILL HOLE M3

		Au ppb	As ppm	Hg ppb
15-20	55	25	39	215
20-30	56	10	23	160
30-40	57	5	24	100
40-50	58	5	32	85
50-60	59	10	34	90
60-70	60	5	18	80
70-80	61	15	20	120
80-90	62	25	26	255
90-100	63	45	49	290
100-110	64	10	13	275
110-120	65	5	20	150
120-130	66	5	21	160
130-140	67	15	38	
140-150	68	25	37	
150-160	69	30	43	
160-170	70	25	58	
170-180	71	10	24	
180-190 _M	72	10	25	
190-200	73	40	43	
200-210	74	50	50	
210-220	75	25	43	
220-230	76	30	41	
230-240	77	60	52	
240-250	78	120	65	
250-260	79	125	85	
260-270	80	55	42	
270-280	81	60	56	
280-290	82	120	75	
290-300	83	150	105	

Mixed fine grained fragmental (basalt?) and light grey fragmental (dacite?) with 1% disseminated + fracture pyrite and 2% quartz.

Distinctive texture like 30' - 120' in M2 mixed with above (15'-80').
 30% distinctive texture.
 40% dacite?
 30% basalt?
 1/2% pyrite.
 1% quartz.
 Much calcite.
 200' - 300' darker.
 190' - 300' 2-3% pyrite.

PERCUSSION DRILL HOLE M4

	Au ppb	As ppm
20-30 84	< 5	7
30-40 85	5	< 2
40-50 86	10	21
50-60 87	10	17
60-70 88	5	23
70-80 89	5	40
80-90 90	< 5	33
90-100 91	5	31
100-110 92	10	43
110-120 93	5	29
120-130 94	10	48
130-140 95	15	33
140-150 96	10	28
150-160 97	5	32
160-170 98	10	36
170-180 99	5	27
180-190 100	10	54
190-200 101	10	54
200-210 102	5	43
210-220 103	< 5	30
220-230 104	< 5	28
230-240 105	10	22
240-250 106	10	25
250-260 M 107	5	24
260-270 108	< 5	14
270-280 109	< 5	12
280-290 110	< 5	11
290-300 111	< 5	11

Pale creamy green grey calcareous felsite sandstone or tuff.
2% very fine grained pyrite with much fracture pyrite.

Distinctive texture like 30' - 130' in M2.
Mixed felsite - basalt(?)
Medium grey
1-2% pyrite with some high pyrite fragments.
Some greenish clay altered fragments in bottom 30'.

PERCUSSION DRILL HOLE M5

		Au ppb	As ppm	Hg ppb	
15-20	112	< 5	12		Very fine grained phenocrysts (?) in feldspar porphyritic basalt(?). Uniform texture throughout. 1/2% pyrite.
20-30	113	< 5	11		
30-40	114	< 5	13		
40-50	115	< 5	11		
50-60	M - 116	< 5	5	290	
60-70	117	< 5	10		Mixed above with very fine grained andesitic(?) tuffs(?)
70-80	118	< 5	12		
80-90	119	< 5	11		
90-100	120	< 5	6	1600	
100-110	121	10	7	1400	
110-120	122	NS	NS		
120-130	123	5	18		
130-140	124	5	13	615	
140-150	125	< 5	5	350	
150-160	126	5	4	385	

PERCUSSION DRILL HOLE M6

Au As
ppb ppm

16-20	127	M#6	15	38
20-30	128		865	>1000
30-40	129		220	750
40-50	130		385	>1000
50-60	131		445	>1000
60-70	132		160	530
70-80	133		705	400
80-90	134		30	120
90-100	135		15	75
100-110	136		30	160
110-120	137		70	130
120-130	138		20	220
130-140	139		10	53
140-150	140		35	210
150-160	141		15	110
160-170	142		10	80
170-180	143		20	200
180-190	144		10	130
190-200	145		15	80
200-210	146		10	80
210-220	147		10	110
220-230	M 148	M#6	15	160
230-235	149		15	70

Felsite with 5% disseminated + fractured pyrite.

Dark grey basic tuff or speckled sandstone.
1 - 2% disseminated pyrite.

Felsite with 5% disseminated pyrite contaminated by or interbedded with basic tuff as per 70' - 190'.