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GEOLOGICAL REPORT AND WORK PROPOSAL

ON THE

CHALICE CLAIMS

IN THE

LOWER JERVIS INLET AREA

SOUTHWESTERN BRITISH COLUMBIA

VANCOUVER M.D.

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,129

N.T.S. 92F/16E, 92G/13W

LAT 49° 45' LONG 123° 59'

OWNER/OPERATOR : CHALICE MINING INC.

BY

EDWARD W. GROVE, Ph.D., P.Eng.

JUNE 28, 1982

VICTORIA, B.C.



Agamemnon Channel  
Nelson Island at left -  
Captain Island at right.



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SUMMARY

The CHALICE mineral claims lie across Agamemnon Channel, near Earl's Cove, about 80 kilometers northwest of Vancouver, B.C.. The claim group includes the CHALICE I which lies at the northern tip of Sechelt Peninsula, the CHALICE II which covers the east end of Nelson Island, and the CHALICE III which completely covers Captain Island.

The main auriferous sulfide showings found on CHALICE I have been prospected and high-graded intermittently since 1952 as evidenced by a number of pits and trenches found along or near the Channel. An auriferous quartz-sulfide vein and related stringers recently found 1200 meters east of Agamemnon Channel at North Lake has been explored by the current claim owners by surface prospecting and E.M. methods. Recent prospecting has also disclosed a number of narrow quartz veins as well as pyritic zones within the less well known interior of the claim area and has also rediscovered a wide, partially exposed zone of disseminated pyrite mineralization in granodiorite just east of the main shoreline workings. The main auriferous sulfide zones and quartz veins appear to be controlled by sub parallel, northeasterly trending fractures in the mainly granodioritic country rock.

At least one shipment of sulfide was made from the sulfide zone along the shoreline. About 106 tons loaded on



a barge in 1965 by Abacon Minerals Explorations Ltd. and shipped to Tacoma contained 34 ounces gold, 45 ounces silver and 170 pounds of copper.

Three types of potentially gold bearing mineralization are now known in the CHALICE I claim area. The presence of at least one northeast trending, extensive, narrow auriferous sulfide zone along the shore of Agamemnon Channel, a northeast trending auriferous quartz vein at North Lake, intermediate quartz stringers and disseminated pyritic mineralization have been shown by basic prospecting of the easily accessible shoreline and from the paved road. Logging in the CHALICE I area accompanied by reopening of portions of the old road system will provide good access to the claim for detailed prospecting, geochemical and geophysical surveys which could lead to the discovery of further gold bearing sulfide and quartz vein systems, and possibly a bulk-type stockwork disseminated sulfide deposit.

#### RECOMMENDATION

Evaluation of the Chalice property should include a grid, detailed prospecting, geochemical and geophysical surveys and sampling on the CHALICE I mineral claim concentrating on the area between North Lake and Agamemnon Channel. This work can be carried out by a prospecting crew and geophysical team during almost any time of the year. Overall geological



control and supervision is advised. This preliminary phase of the work is estimated to cost about \$81,750.00.

A second phase comprising an I.P. survey and diamond core drilling is recommended contingent upon the results of Phase I. Phase II survey and core drilling are estimated at about \$34,000.00 for a total proposed budget of about \$115,750.00 including contingencies.

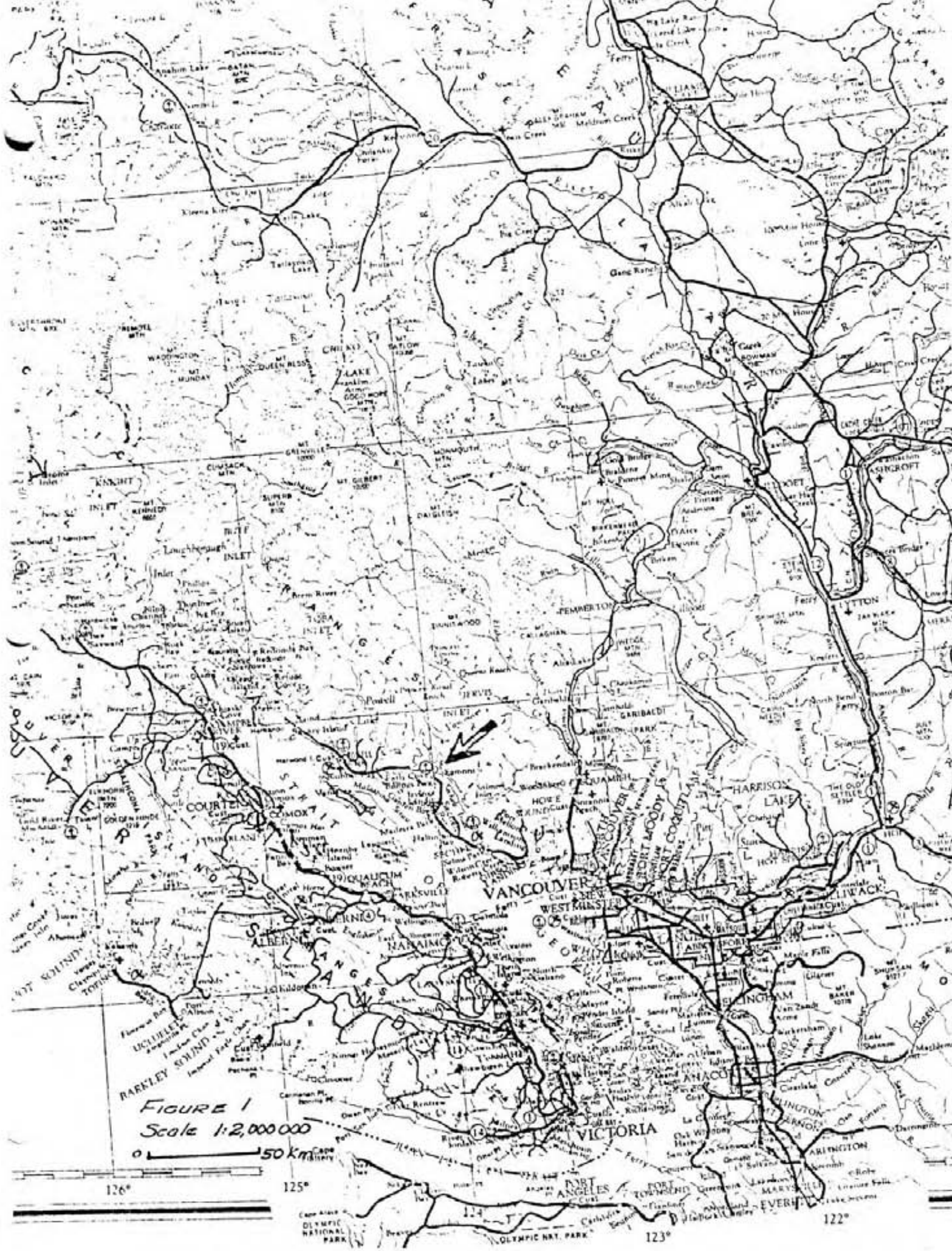


## INTRODUCTION

The Chalice group of three staked mineral claims is located near Earl's Cove on Agamemnon Channel about 80 kilometers northwest of Vancouver, B.C.. The main known mineral showings lie along the shore on Sechelt Peninsula where limited exploration activity has been indicated since 1913. Several companies and groups have worked the showings from 1952 up to the present but very little information has been recorded and preserved.

In 1913 a Mr. R. Durnsford, Jr., was reported to be driving a tunnel along sulfide veins along the shoreline of Agamemnon Channel, near Earl's Cove, about one kilometer west of the CHALICE I. In 1937 work was first recorded on the Cambrian Chieftain property located about 7 kilometers south of the CHALICE I showings. Work on this property has been intermittent up to recent years. The gold bearing sulfide lenses along the shoreline of Agamemnon Channel now covered by the CHALICE I mineral claim appear to have been found by Ernie Silvey as late as 1952 (Bacon, 1957). In 1965 Abacon Mineral Explorations Ltd. barged 106 tons of auriferous material from several small pits near and just above high tide level to the Tacoma smelter. The smelter return showed 34 ounces, gold; 45 ounces, silver; and 170 pounds of copper. The workings from which this material has generally been assumed to have been taken are still visible





**FIGURE 1**  
 Scale 1:2,000,000  
 0 ——— 50 Km



as water filled pits on the rocky shore, and cuts in the country rock above high tide. Recent investigations of the adjacent area by the current owners have only recently shown that a considerable amount of excavation by small tractor took place about 250 meters east of the beach showings in 'pyritized' country rock granodiorite. Other possible work sites along other potentially mineralized strong N60°E trending fracture systems reflecting the same explorers are obscured by heavy undergrowth and thick stands of alder.

At the request of Mr. John LaRue of the Chalice company the writer inspected the CHALICE I claim and showings in late March and again late June to review the situation prior to writing this report.

#### LOCATION AND ACCESS

The Chalice prospect situated at the north end of the Sechelt Peninsula near Earl's Cove is about 80 kilometers northwest of Vancouver, B.C. (Figure 1). The tip of this peninsula on which most of the known mineral showings are found is covered by the CHALICE I mineral claim. The adjoining CHALICE II claim covers the east end of nearby Nelson Island and CHALICE III completely encloses Captain Island.



Highway 101, a good paved road, provides access from the Langdale ferry terminal near Gibsons to the Earl's Cove ferry terminal and cuts across the southern portion of CHALICE I. An old logging road system now partly bushed out and in use cuts across the eastern part of the claim, and gives access to the shore. All three claims are easily accessible by small boat.

The topography of the claim area is generally low, rounded, and relatively subdued compared to the surrounding coast. Most of the area has been logged at least twice, and the eastern part of the CHALICE I claim is being logged again. Undergrowth including salal, alder, and young evergreens is generally moderately dense. Overburden appears to be very erratic varying from less than 2 meters of bouldery clay to thick moss and areas of float boulders in topographic lows. The central portion of the CHALICE I claim comprises a low hill which appears to have considerable rock outcrop found as hummocky ridges.

Weather conditions are typically coastal with somewhat more than average number of sunny days. As a result prospecting and exploration could be carried out in the property area virtually any time of the year.

Good access, temperate weather conditions and easy topography combine to favour efficient prospecting and exploration.



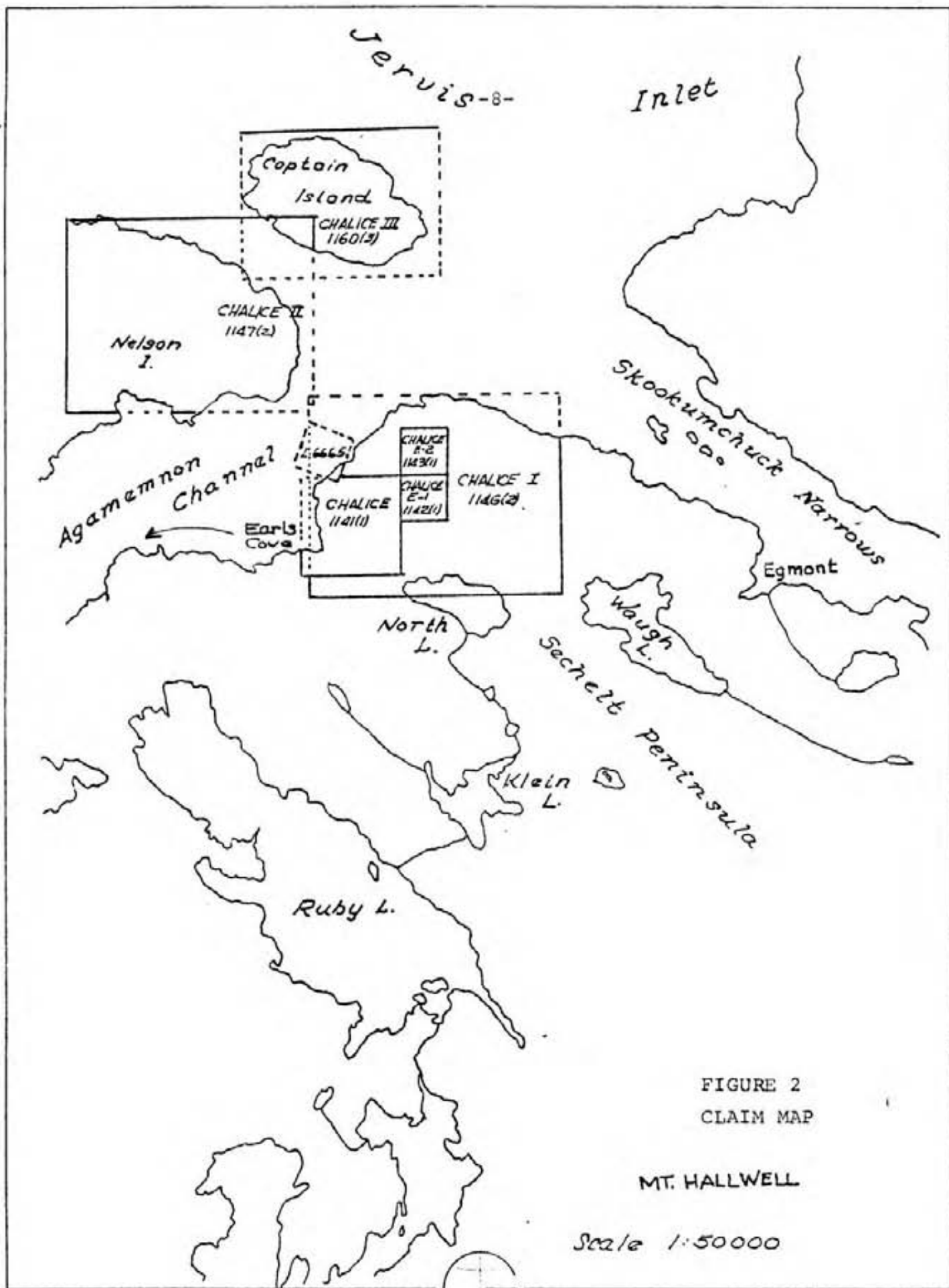


FIGURE 2  
CLAIM MAP

MT. HALLWELL

Scale 1:50000

CHALICE PROPERTY

The Chalice property consists of six partly overlapping staked mineral claims comprising 58 units (Figure 2):

	<u>Units</u>	<u>Record No.</u>	<u>Recorded</u>
CHALICE I	20	1146	February 5, 1982
CHALICE II	20	1147	February 5, 1982
CHALICE III	<u>12</u>	1160	March 9, 1982
	52		

The following claims are within the boundary of CHALICE I:

CHALICE	4	1141	January 13, 1982
CHALICE E-1	1	1142	January 13, 1982
CHALICE E-2	<u>1</u>	1143	January 13, 1982
	6		

All of the above claims are part of the Chalice property.

CHALICE I overlaps Crown Grant L6665 reportedly owned by a Mr. H.S. Grey. A legal survey of this Crown Grant is included here as Figure 3. The old shoreline pits lie east of the boundary of this Crown Grant and are on CHALICE I. This survey also shows the location of three land lots on which small summer cottages have been erected.



SURVEY PLAN OF BLOCKS E AND F  
OF LOT 2504, GR. I, N.W.D.

133702

92 G/13d

SCALE: 1 INCH = 100 FEET

NOTE: BEARINGS ARE ASTRONOMIC AND DERIVED  
FROM SURVEY OF BLOCK D OF LOT 2504

OFFICIAL PLAN

CONFIRMED  
UNDER SECTION 63 - LAND ACT  
*As per*  
SURVEYOR-GENERAL  
VICTORIA, B. C. FEBRUARY 11, 1974

CHANNEL

AGAMEMNON

LOT 6665  
573-3494

D.L. 2504  
28+1

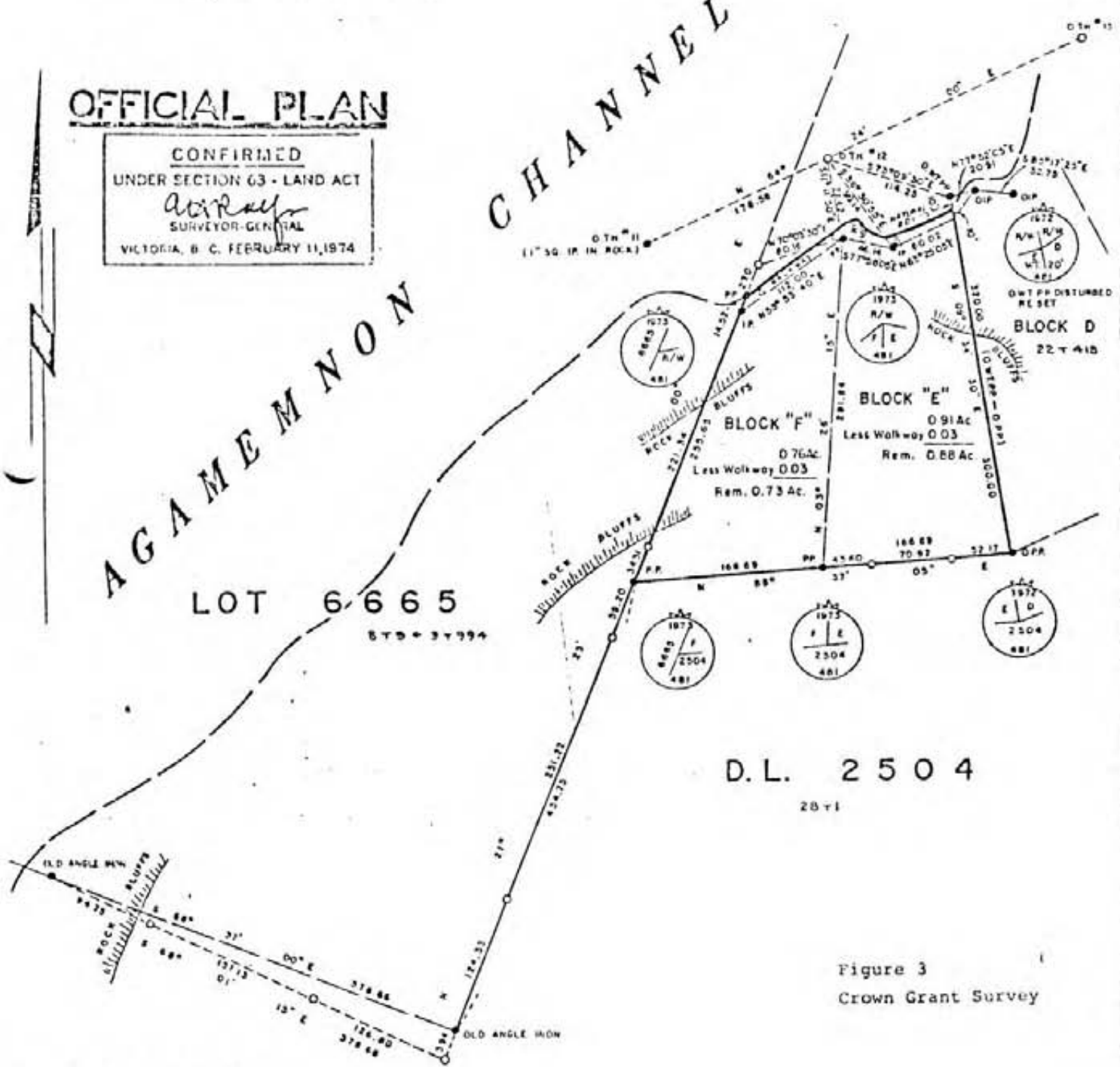


Figure 3  
Crown Grant Survey

J. R. D. SMITH, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA  
AND SURVEYOR, MAKE OATH AND SAY THAT I WAS PRESENT AT  
AND DID PERSONALLY SUPERINTEND THE SURVEY REPRESENTED  
BY THIS PLAN AND THAT THE SURVEY AND PLAN ARE CORRECT.  
HE SAID SURVEY WAS COMPLETED ON THE 20th DAY OF DEC. 1973.

GEOLOGY

REGIONAL

Sechelt Peninsula lies within the western boundary zone of the extensive Coast Plutonic Complex and is mainly underlain by Cretaceous (and Tertiary ?) plutons of granodioritic composition. Numerous inclusions or pendants of Upper Triassic ( and Jurassic ?) volcanics and sediments have been found as northwesterly trending remnants of a once more extensive country rock cover. One major pendant zone described as mainly basalt or greenstone and homotaxially related to the Karmutsen Formation forms the height of land along the east side of the Peninsula. An extension of this pendant zone extends along the east side of Ruby Lake and terminates on Nelson Island. Both the country rock pendants and the enclosing intrusive rocks have been cut by Tertiary and younger dike swarms and faults. Dike swarms are prominent in the general area along the shoreline west of Earl's Cove and at the east end of Nelson Island. Physiographic features in the general area appear to have been partly controlled by erosion along both fault zones and dike swarms with ridges or heights of land dominated by indurated volcanic remnants.



LOCAL

The geology of Lower Jarvis Inlet including the Chalice claims area was mapped by W. R. Bacon in 1951-52 (1957) and is included here as Figure 4. Although relatively little field work has been done to improve this map some changes in nomenclature based on more recent mapping and rock age dating have taken place. Country rock pendants found forming a northwest zone along the Caren Range, past Ruby Lake to Earl's Cove included by Bacon in the Jarvis Group have now been correlated with the Upper Triassic Karmutsen Formation. The main intrusions, included as part of the 'Coast Intrusions' have now been shown to be Cretaceous or Tertiary on the basis of rock age dates. These changes have little effect on the local picture, particularly the localization of mineral deposits.

Detailed geology in the Chalice property area is known only along the shore of Agamemnon Channel where mineralization has been found, and along portions of Highway 101. The main rock underlying the CHALICE I comprises hornblende and chloritic biotite granodiorite. Inclusions of altered, indurated volcanic rocks are present as irregular blocks and form up to 10 per cent of the exposures. Irregular zones within the granodiorite have been epidotized with attendant silicification and quartz stringers. Sulfide



mineralization found as extensive vein/shear zones and as disseminations as well as quartz sulfide veins have been found within the granodiorite. All the underlying rocks as well as the known various types of mineralization have been cut by a few diorite dikes generally found trending about N50°W. Basalt dikes ranging in width from a few millimeters up to two meters which appear to be the youngest rock units in the area trend from N40°W to N55°W and cut all units. The various dikes appear to be distributed irregularly and form up to ten per cent of the rock in the shore zone. Air photographs of the area reveal two strong sets of fractures corresponding to trends of the observed mineral zones and the cross-cutting dikes. The major fractures are expressed as topographic lows marked by heavy vegetation.

Features such as detailed rock type, alteration, inclusions, dike distribution, quartz veining, fracture frequency and sulfide distribution remain to be determined by detailed geological studies.

## MINERALIZATION

### REGIONAL

Mineral exploration in the lower Jervis Inlet area has concentrated on vein type deposits. Of the approximately twenty deposits on which work has been reported, most are





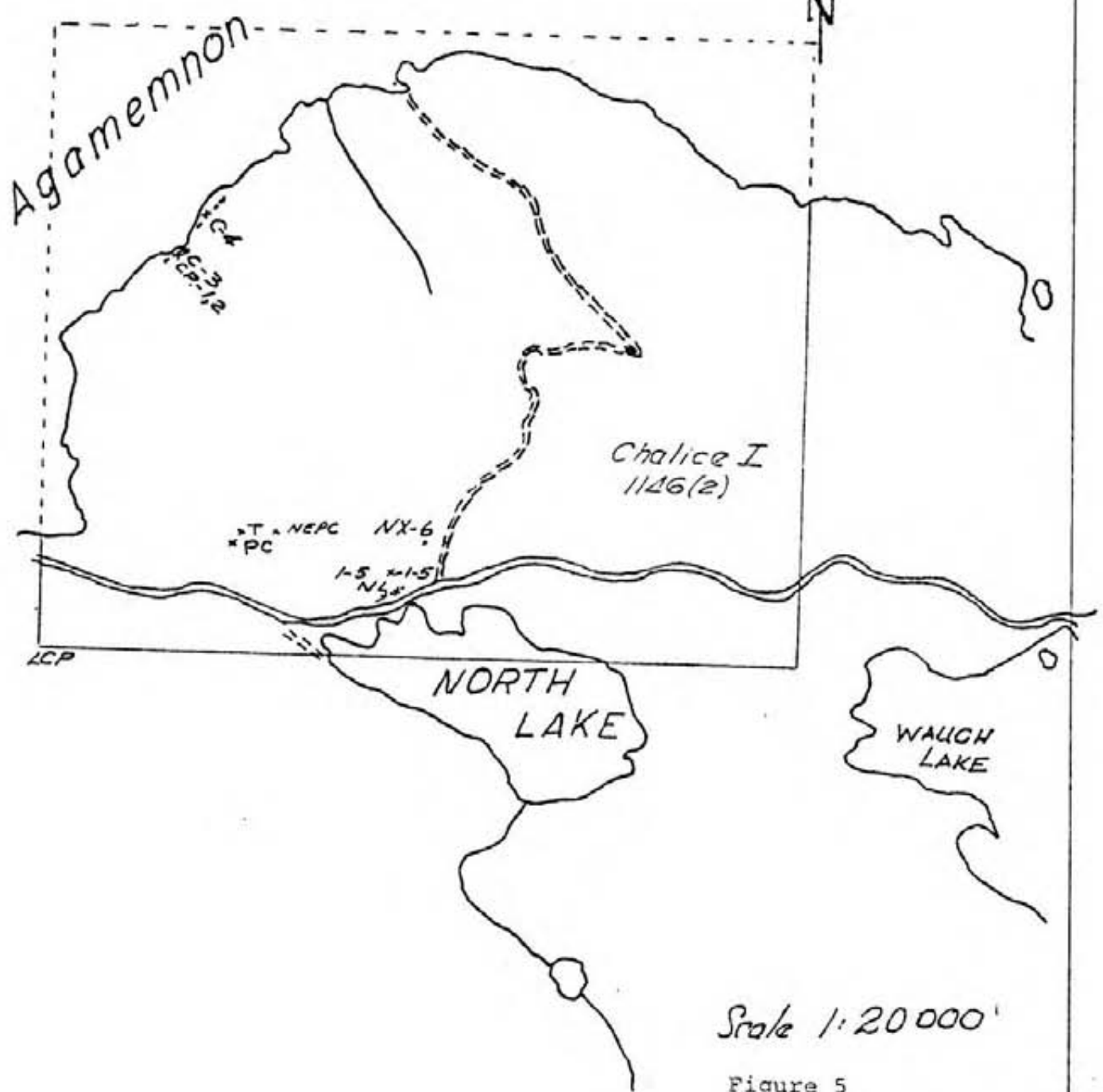
mixed base sulfide deposits with minor gold and silver. So far the most important of these deposits appear to have been those near Diadem Mountain at the head of No Mans Creek, and the Cambrian Chieftain on Mount Hallowell (see Figure 4). Descriptions of these properties in Bacon (1957) and Annual Reports of the Minister of Mines indicate that the mineralization is primarily confined to northeasterly and easterly trending shears or fractures in volcanic rocks.

Of all the known deposits in the general area only the King Midas near Sakinaw Lake, and the two known zones on the CHALICE I claim contain significant gold or silver and appear to lie entirely within granodiorite. Reports indicate that 95 tons of sulfide shipped from the King Midas contained 93 ounces of silver, and 5,166 pounds of copper. As reported previously, 106 tons of material shipped from pits on the CHALICE I (Skookum or R.C.) contained 34 ounces of gold, 45 ounces of silver and 170 pounds of copper. Shipments from the Cambrian Chieftain located south of the Chalice property have produced 884 tons containing 2 ounces gold, 1,442 ounces silver and 67,625 pounds of copper.

Recent exploration and development on Gambier Island, adjoining the south end of the Sechelt Peninsula, has disclosed the presence of a major porphyry type copper, molybdenum, silver, gold deposit roughly localized within a small quartz porphyry stock approximately 500 meters in



Agamemnon Channel



Chalice I  
1126(2)

NORTH  
LAKE

WAUGH  
LAKE

Scale 1:20 000'

Figure 5  
Mineral Showings  
- CHALICE I



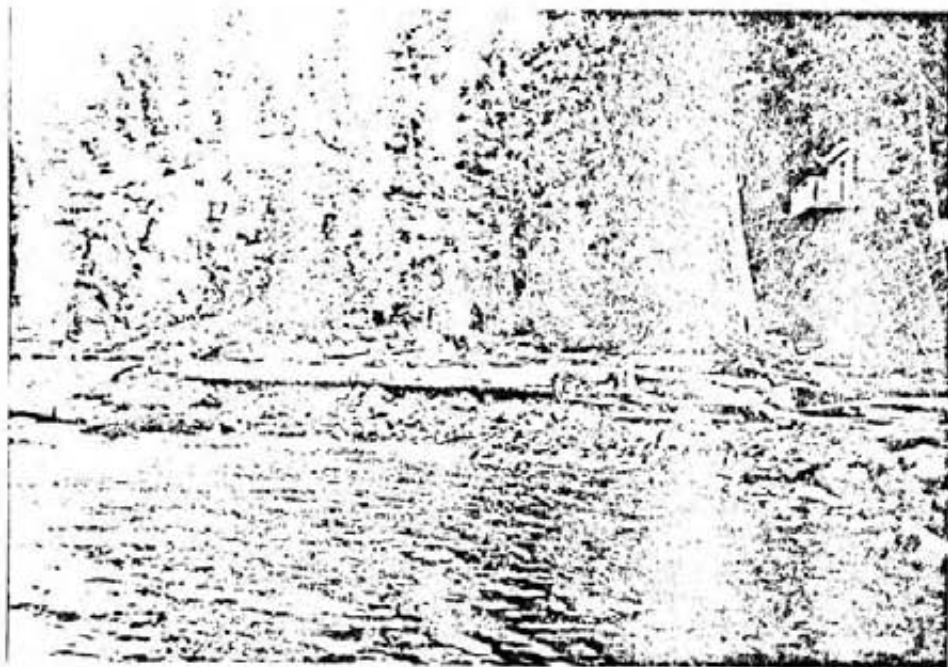
diameter and adjacent country rocks. Preliminary work indicated a mineralized zone about 500 meters by 1000 meters with inferred geological reserves of 41.4 million tons grading 0.32 per cent copper, 0.015 per cent  $\text{MoS}_2$ , 1.5 grams per tonne silver, and 0.08 grams per tonne gold (Fox, 1979). A number of small vein type copper showings found along the shoreline were known for many years before modern prospecting and exploration techniques were applied to the area.

#### LOCAL

Two significant gold deposits have been found on the CHALICE I claim. Bacon (1957) reported that a gold showing at sea level near the northern end of Agamemnon Channel was discovered in 1952. Two pits excavated along weak northeasterly trending fractures exposed quartz, and pyrite which assayed 6.21 oz. per ton gold, and 6.4 oz. per ton silver. He noted that the showing had no economic significance.

In 1966 Abacon Mineral Explorations Ltd. barged 106 tons of material from the pits to the Tacoma smelter. The smelter report indicated the shipment graded 0.32 oz. per ton gold, 0.42 oz. per ton silver, and 0.08 per cent copper. Open cuts found on the shore above high tide about 150 meters northeast of the pits (Figure 5) were apparently blasted between 1966 and 1969 when the property was taken over by





Shoreline pit area  
Cliff zone at left



Pit No. 1



Bart Mines Limited (R.C. group). Work by Bart Mines suggested that the fracture zone appeared to extend northeasterly from the pits parallel to the shoreline at least another 750 feet (Tomlinson, 1969). Samples taken by Bart Mines were as follows (Appendix I):

Sample No	Location	Type	Au	Ag	Cu
			oz/ton	oz/ton	%
13804F	pit	Quartz/pyrite	2.20	2.4	
13805	35' NE of pit	" " -grab	2.01	1.6	
13806	500' " " "	marcasite	4.02	3.1	
13807	750' " " "	quartz/pyrite	1.42	1.3	0.02
13808	750+' NE of pit	" " -grab	3.50	2.5	

(No widths were given)

In 1970 Bart Mines commissioned an "Electromagnetic-Galvanic" (E.M.P.) survey over four claims east to the showings but did not include the known mineralized zones in the survey. The survey was inconclusive and the property was allowed to lapse (Assess. Rept. 2722). No further work on the mineralization or in the area has been recorded.

The Chalice claims were staked by the partners in early 1982 to include the known sulfide zone as well as a newly discovered quartz-marcasite vein along the road at North Lake, as well as quartz-pyrite veins on the east end of Nelson Island and on Captain Island.



Resampling of the shoreline pits and cuts has confirmed the high grade nature of the mineralized zone (Figure 5):

Sample No	Location	Material	Au oz/ton	Ag oz/ton
R-CP-1	Pit #1	marcasite,qtz	2.650	3.65
R-CP-2	Pit #2	"	4.260	3.52
R-CP-3	Shear, 0-2 m	grd, qtz, marc	0.008	0.05
R-CP-3	" 2-4 m	"	0.750	0.71
R-CP-3	" 4-6 m	"	0.160	0.16
R-CP-3	" 6-8 m	"	0.003	0.05
R-CP-4	Shore Cut (1m)	marcasite, qtz	4.290	3.77

Pits number 1 and 2 have been blasted into massive granodiorite on the sloping rocky shore just above high tide. Both are filled with water and logs. Pit #1 measures about 2 meters wide and 5 meters long and appears to be at least one meter deep. Pit #2 is located below a small summer cottage and appears to have been excavated over an area about 8 m wide by 12 m long to an unknown depth. Mineral left in the area suggests a number of discontinuous marcasite/quartz/granodiorite pods up to 0.5 m wide trending  $045^{\circ}/40^{\circ}W$  to  $045^{\circ}/V$ . The pods are separated by massive granodiorite cut by a number of basalt dikes varying in width from a few millimeters to 2 meters and trending  $140^{\circ}/V$  to  $155^{\circ}/V$ . The smaller basalt dikes are wispy in nature and jump from one irregular fracture to another. Structure in the pits indicates that the sulfide zone extends to depth under Agamemnon Channel confirming Bart Mines





Cliff zone cut.



Cliff zone - basalt dikes

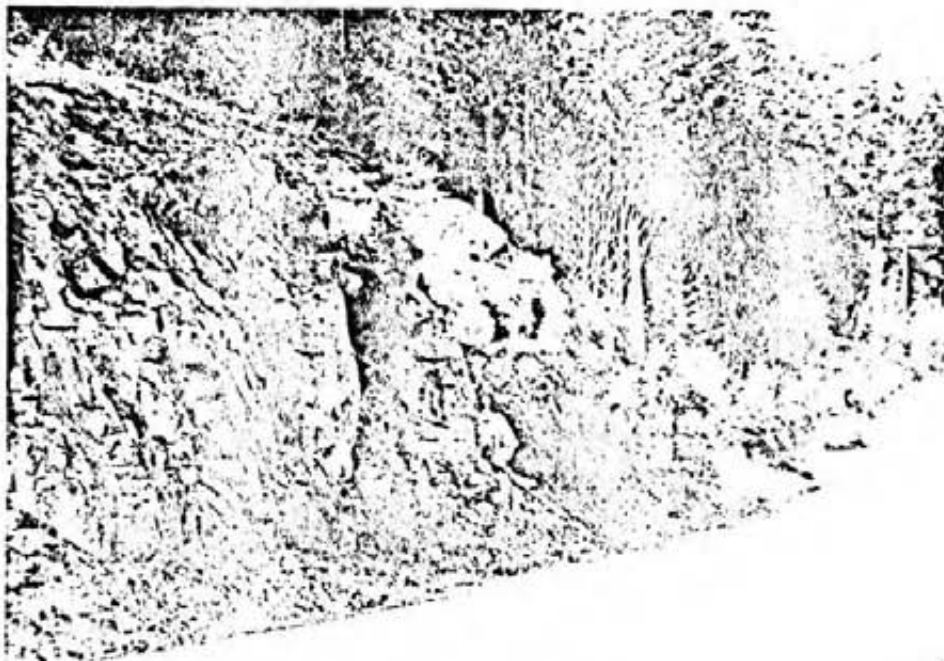


interpretation. Unconfirmed reports suggest that more workings are to be found in this area at low-low tide. The sulfide zone was not traced southerly, but was followed about 150 meters northeasterly across a small cove to a low cliff where the face had been blasted and more narrow discontinuous marcasite lenses in granodiorite were exposed. Here the massive granodiorite has been cut by irregular 4 to 6 cm wide marcasite veinlets trending  $055^{\circ}/75^{\circ}\text{W}$ . The exposure measures about 2 m high by 7 m long and also discloses several cross-cutting basalt dikes trending  $155^{\circ}/75^{\circ}\text{N}$  to V. The steep cliff face 10 meters east and above the showing marks a small fault trending  $045^{\circ}/75^{\circ}\text{E}$  which has offset both the sulfide veinlets and the basalt dikes. The more northeasterly extensions of this sulfide zone indicated by Bart Mines were not visited because of time constraints. Scattered chalcopyrite/molybdenite mineralization within the granodiorite has also been reported along the shoreline by prospectors.

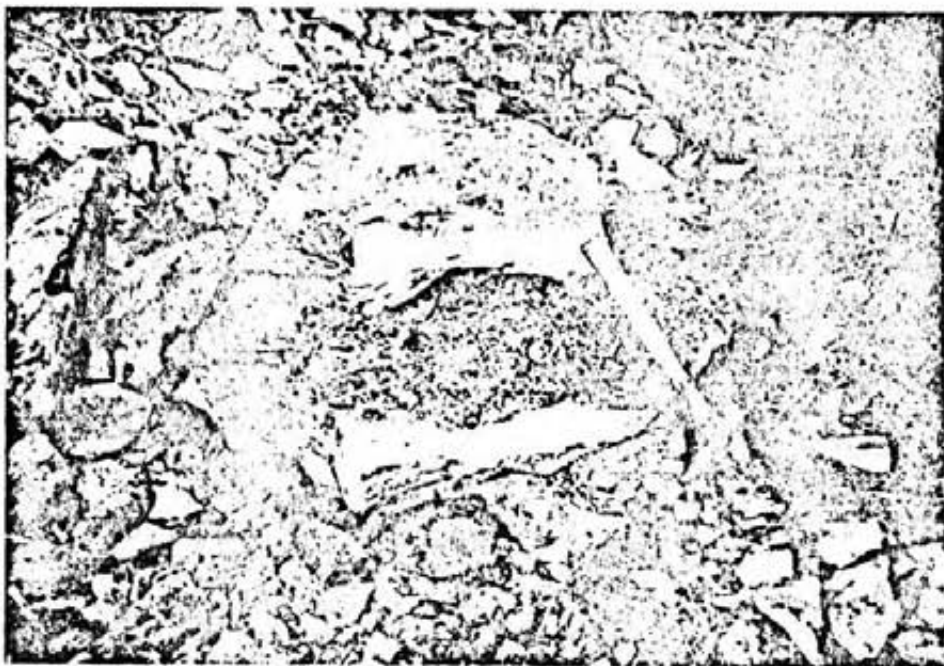
A mineralized breccia zone lying below the cottages at the end of the small cove between the pits and the shore cliff was also examined and sampled (R-C3). This zone represents a 20 m wide breccia in which a narrow stockwork of quartz veins and marcasite-filled fractures has been localized. The veins in the zone trend  $110^{\circ}/60^{\circ}\text{E}$  to  $75^{\circ}\text{W}$  and form a second gold bearing mineralized structure in the local granodiorite which was previously unreported. Less prominent







North Lake - vein area



North Lake - vein material



linears on the air photos of the area suggest that this secondary trend may be more important than first realized. The regional geological map also shows this easterly trend has been followed by numerous dike swarms. In the CHALICE I area the intersection of the three main fracture directions (mineralization, and dikes) forms a number of crude 'starburst' features which remain to be investigated.

Prospecting by the partnership along Highway 101 led to the discovery of a gold bearing quartz marcasite at the northwest end of North Lake. The vein is well exposed in the rock cut adjacent to the road where it has a width of about 0.7 m and has been traced in the bluff overlooking the road over a length of about 30 meters. Both ends are obscured by the road and overburden. Six narrow subsidiary tension quartz/marcasite veins were found in the granodiorite along the northwest side of the main vein. The attitude of the main quartz/sulfide vein is  $045^{\circ}-50^{\circ}/65^{\circ}\text{N}$  and the conjugate veins  $080-100^{\circ}/65^{\circ}\text{N-V}$ . The latter glassy quartz veins are irregular, have widths of from 3 to 15 cm and are exposed over lengths of up to 8 meters over a width of about 20 meters in the open outcrop area. Because of the size of these veins they were sampled along strike in order to obtain minimum two kilogram weight samples. Results from the samples are as follows:





T area vein



PC area veins

Sample No	Location	Material	Au oz/ton	Ag oz/ton
R-NL-1	main vein (central)	quartz/marcasite (46 cm width)	0.69	1.17
R-NL-2A	main vein (central)	quartz/marcasite (61 cm length)	0.170	0.32
R-NL-2B	main vein (central)	quartz/marcasite (1.2 m length)	0.110	0.13
R-NL-"A"	main vein (west end)	quartz/marcasite (31 cm width)	0.160	0.58
R-NL-X-1	tension vein	quartz/marcasite (1.83 m length)	0.034	0.05
R-NL-X-2	tension vein	quartz/marcasite (4 m length)	1.410	2.15
R-NL-X-3	tension vein	quartz/marcasite (1.83 m length)	0.170	0.31
R-NL-X-4	tension vein	quartz/marcasite (1.8 m length)	0.190	0.21
R-NL-X-5	tension vein	quartz/marcasite (1.8 m length)	1.470	1.59
R-NL-X-6	tension vein (166 m east of NL-1)	quartz/marcasite (1 m length, 2 cm wide)	1.100	1.57

The trend of these secondary veins is the same as the veins in the breccia stockwork at the beach showing and illustrates the possible widespread nature of fracturing and gold bearing mineralization in the area.

Limited prospecting along the baseline north of the highway has shown the widespread nature of the secondary tension veins in the CHALICE I area. Veins known as the T and PC



found 160 meters north of the road, halfway between Agamemnon Bay and North Lake, were also sampled.

Sample No	Location	Au (oz/ton)	Ag (oz/ton)
RT	T vein (10 cm wide) (36 cm wide sample)	0.049	0.15
RPC	PC vein (15 cm wide) (31 cm wide sample)	0.067	0.15

The T vein found in a small outcrop of massive, blocky granodiorite has an attitude at  $115^{\circ}/75^{\circ}\text{N}$  whereas the PC vein found nearby has an attitude at  $065^{\circ}/35^{\circ}\text{N}$ . Weakly pyritic granodiorite sampled nearby (sample R-NEPC) gave the values 0.003 oz/ton Au, and 0.05 oz/ton Ag, that is, well above what is considered normal for local granodiorite (15-25 ppb).

Preliminary prospecting has also located a moderately pyritized area in the granodiorite about 250 meters east of the main shoreline showings. Although covered by bush and debris it appears that some cat work was previously done in this area (Bart Mines ?) along one of the  $N60^{\circ}\text{E}$  linears. One grab sample from this material was reported to assay 0.016 oz/ton gold. This has not yet been confirmed by check samples.

Checks on most of the above samples were made on behalf of Pegasus Gold Inc. by A. D. Drummond who visited the property to examine the main showings on April 29, 1982.



In his report dated May, 1982 Drummond reported the following assays which can be compared to the above samples:

Sample No	Locality	Description	Au (oz/ton)	Ag (oz/ton)
452R	Pit 1	2 ft at pit edge	0.151	0.16
456R	cliff	2 in. pyrite vein	3.150	2.36
451R	cone (breccia zone)	5 ft width 15 veins	0.282	0.24
453R	North Lake #1	2 ft width	2.560	3.79
454R	North Lake #2	2 foot width	0.216	0.30
455R	T vein	3 inch width	0.020	0.01

Drummond concluded, "Gold-bearing pyrite occurs in pods and in quartz veins on the Chalice I mineral claim. Tonnage potential is limited due to the discontinuous nature of the vein mineralization".

One polished section of quartz/marcasite from Pit #1 was examined under the microscope. No visible gold was seen in either the quartz or in the marcasite under high power. Also no visible gold has been seen in hand specimen in any of the numerous samples from the various sites listed above. This suggests that the gold is present in very fine particles in the marcasite and may be partly present in solid solution. A brief report on four samples submitted to Bacon, Donaldson & Associates Ltd. by Mr. LaRue indicated the "The gold content appears to be associated with the pyrite (marcasite) as the gold content varies with the sulfide content" (Appendix IV).



GEOCHEMICAL SURVEYS

It does not appear that any type of geochemical survey has yet been undertaken in the CHALICE I claim area. One geochemical survey was conducted south of the Chalice area in the Ruby Lake-Sakinaw Lake area in 1972 on behalf of Cone Mountain Mines Ltd. (Assess. Rept. 3757). The report concluded that "The geochemical survey located several areas of definitely anomalous copper and zinc geochemical values which require further investigation" and "The good geochemical results obtained by this survey suggest that reconnaissance geochemical sampling would be a valuable tool in exploring the Caren Range roof pendant for other areas of overburden-covered mineralization." Further south at Gambier Island, the preliminary geochemical soil survey which was followed up by geophysical work and core drilling outlined the mineralized zone in good detail.

The presence of copper values in the sulfide mineralization in the CHALICE I area is indicated by smelter returns and one assay. Scattered chalcopyrite and molybdenite have been recognized in the granodiorite only as random scattered occurrences. A preliminary or reconnaissance type of geochemical survey should assist in defining the various types of gold bearing mineralization in the CHALICE I area which, as far as known, are represented by quartz-marcasite veins, and by 'pyritic' granodiorite.



### GEOPHYSICAL SURVEYS

At Gambier Island the geochemical soil anomaly and mineralization was confirmed and outlined by magnetometer and induced polarization surveys. In the CHALICE I area the main North Lake quartz-marcasite vein has recently been partially covered by a V.L.F. survey (Appendix V). The resulting anomaly corresponds closely to the known vein and to the vein projection.

### CONCLUSIONS

Limited prospecting along the shore and road on the CHALICE I mineral claim has shown the presence of several types of gold bearing mineralization. These include lenticular to vein-like sulfide-quartz zones, quartz-sulfide veins, quartz-sulfide and sulfide veinlets, and disseminated 'low grade' pyritic intrusive. The veins, stockworks, stringer zones, and veinlets appear to be largely controlled by intersecting northeasterly ( $060^{\circ}$ ) and easterly ( $110^{\circ}$ ) trending fractures and shears which are prominent features in the granodiorite underlying the area. Pyritic granodiorite tested in the vicinity of the quartz and sulfide zones is also anomalously high in gold.

As evidenced by production from other vein deposits in the general area and from the shoreline sulfide zone on the CHALICE I claim the potential for ore production from any





single narrow vein or lens is limited. The obvious exploration target should be to locate a wider gold bearing vein or zone, intersecting zones, or a bulk-type porphyry situation.

Detailed prospecting accompanied by a geochemical soil survey, a combined magnetometer-V.L.F. survey, and geological mapping should serve to isolate possible economic mineralization.



MINERAL EXPLORATION PROPOSAL - CHALICE PROPERTY - 1982

PHASE I

1. Topographic maps should be prepared for the CHALICE I claim area: Map scale 1:2,500 enlarged from available 1:50,000 (including copies)		\$350
2. A control grid with cut and picketed lines - 120 meter cross lines: 25 km @ \$250/km including flagging, pickets, marking, etc.		6,250
3. Prospecting, trenching, sampling:		
2 men, 90 days @ \$100/man/day	\$18,000	
Room & board, 2 men, 90 days @ \$35/m/day	6,300	
Equipment rentals (plugger, fuel etc)	2,000	
Miscellaneous supplies	3,500	
Assays, 200 @ \$25	5,000	
Vehicle (rental, fuel)	4,500	
Boat (rental, fuel)	2,500	
Transportation (Vancouver)	<u>300</u>	
		42,100
4. Geological mapping of area: (including report)		5,000
5. Reconnaissance geochemical soil survey: (120 m grid spacing) 500 samples @ \$2.50/sample incl. bags etc.		1,250
6. Geophysical surveys:		
Magnetometer survey	1,800	
E.M. survey	<u>7,000</u>	
		8,800
7. Field equipment & rentals		5,500
8. Supervision & documentation		<u>5,000</u>
		74,250
Contingencies @ 10%		<u>7,500</u>
SUB-TOTAL		\$81,750



PHASE II

Results of the prospecting, geochemical, geophysical and geological surveys forming Phase I will determine if Phase II is plausible, and the details of core hole drilling.

1. I.P. survey: 20 km @ \$500/km	\$10,000
2. Core drilling: 500 m @ \$30/m	15,000
Assays	3,000
3. Supervision, core logging, documentation, etc.	<u>3,000</u>
	31,000
Contingencies @ 10%	<u>3,000</u>
SUB-TOTAL PHASE II	\$34,000
Sub-total Phase I + Phase II	\$115,750
<u>PROPOSED 1982 BUDGET</u>	<u>\$115,750</u>



REFERENCES

Minister of Mines, British Columbia, Annual Reports

1913 p. 288

1937 p. F28

Bacon, W.R. (1957): Geology of Lower Jervis Inlet, British Columbia, Bull. No. 39, B.C. Dept. of Mines.

Fox, P. E. (1979): Geological Report on the Gambier Island Copper Prospect.

Drummond, A. D. (1982): Report on Mineral Potential of Chalice No. 1 Mineral Claim Near Earl's Cove, Sechelt Peninsula: B.C.

Assessment Reports

No. 2722 Geophysical Assessment Work Report on Bart Mines Ltd. R.C. Group of Mineral Claims, Jervis Inlet, Vancouver M.D., by F.C. Tomlinson, 1970.  
Report on R.C. Group of Mineral Claims, for Bart Mines Limited, by F.C. Tomlinson, 1969.

No. 3757 Geochemical Report on behalf of Cone Mountain Mines Ltd., Gold, Eddy, Day, John, Lake and BEV Mineral Claims, Pender Harbour Area, by Glen E. White, 1972.

No. 5007 Geochemical Report on Estella Mineral Claims, Pender Harbour Area, Vancouver M.D., by Daniel M. Basco, 1974.




CERTIFICATE

I, Edward Willis Grove, of the Municipality of Central Saanich, do hereby certify that:

1. I am a consulting geologist with an office at 6751 Barbara Drive, Victoria, British Columbia.
2. I am a graduate of the University of British Columbia (1955) with a Master's degree, Honours Geology (M.Sc. Hon. Geol.) and a graduate of McGill University (1973) with a doctorate in Geology (Ph.D.).
3. I have practiced my profession continuously since graduation while being employed by such companies as The Consolidated Mining & Smelting Co. of Can. Ltd., British Yukon Exploration Ltd., Quebec Dept. of Natural Resources, and British Columbia Ministry of Energy, Mines and Petroleum Resources. I have been in private corporate practice since January 1981.
4. I have no interest, either direct or indirect, in the Chalice property, nor do I expect to acquire any such interest.
5. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.

June 28, 1982  
Victoria, B.C.

  
Edward W. Grove, Ph.D., P.Eng.  
E. W. GROVE CONSULTANTS LTD.



## ITEMIZED COST STATEMENT

1. Property examination, research, report & disbursements

Dates: March 19, 20 & May 26, 1982

\$4,059.49

2. Property examination, report supplement

Dates: August 25 & 26, July 5, 1982

\$1,326.97

Total per E. W. Grove

\$5,386.46

3. Prospecting: B/L, L400E, L400W, L1200E

<u>Name</u>	<u>#of days</u>	<u>Date</u>	<u>Rate</u>	<u>Total</u>
T. Leidenius	4	3/21-24	\$100/diem	\$400
J. LaRue	4	3/21-24	\$100/diem	\$400
K. Sweet	4	3/21-24	\$100/diem	<u>\$400</u>

Total Cost Propsecting

\$1,200

APPENDIX I

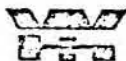


B.C.



to

Mr. Roy Cameron  
 840 Austin Avenue  
 Coquitlam, B.C.



**Certificate of Assay**  
**COAST ELDRIDGE**  
 PROFESSIONAL SERVICES DIVISION  
 WARNOCK HERSEY INTERNATIONAL LIMITED  
 125 EAST 4TH AVE. VANCOUVER 10, B.C. CANADA



PHONE 1604/ 876-4111  
 TELE 06-96353  
 CABLE ADDRESS  
 ELDORICO

FILE NO. A.3-C.2-69-8368

DATE September 23, 1969

We Herby Certify that the following are the results of assays made by us upon submitted samples

MARKED	GOLD		SILVER	COPPER (Cu) CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON						
		\$							
13804 7	2.20	77.00	2.4						
13805	2.01	70.35	1.6						
13806	4.02	140.70	3.1						
13807	1.42	49.70	1.3	0.02					
13808	3.50	122.50	2.5						

17

Gold calculated at \$ ..... per ounce

Note: Rejects retained one week.  
 Pulp retained one month.  
 Pulp and rejects may be stored for a maximum  
 of one year by special arrangement.

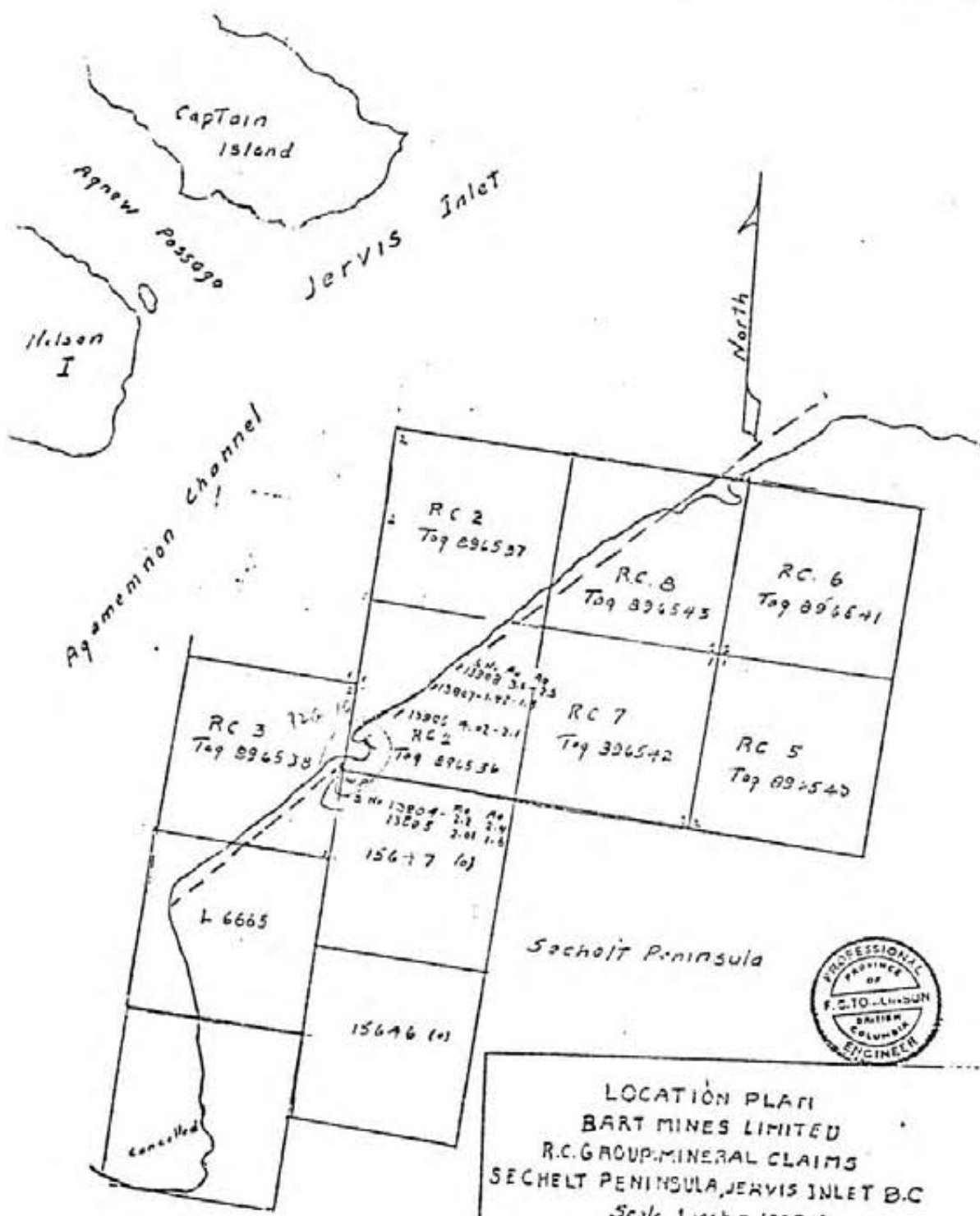
Unless it is specifically stated otherwise, gold  
 and silver values reported on these sheets have  
 not been adjusted to compensate for losses and  
 gain inherent in the fire assay process.

*[Handwritten signature]*



Provincial Assayer





LOCATION PLAN  
 BART MINES LIMITED  
 R.C. GROUP MINERAL CLAIMS  
 SECHART PENINSULA, JERVIS INLET B.C.  
 Scale 1 inch = 1000 ft.  
 To accompany Report by  
 J. L. Tomlinson P. Eng.



PHONE ROOM 874-4111  
 TELE 84-3033  
 CABLE ADDRESS  
 ELDONCO



Vertical of Axony

Mr. Roy Cameron

APPENDIX II



BUNDAR-CLEGG & COMPANY LTD.

130 PEMBERTON AVE., NORTH VANCOUVER B.C. V7P 2R5 PHONE: (604) 985-0681 TELEX: 04-352667

REPORT: 422-0500 PROJECT: NONE CERTIFICATE OF ANALYSIS PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Ag OPT	NOTES
R CP-1		3.650	3.65	PIT NUMBER 1
R CP-2		4.260	3.52	PIT NUMBER 2
R C-3 (1-1)		0.008	0.05	SPICKWORK CHIP SAMPLE 2 METER WIDTH
R C-3 (2-1)		0.750	0.71	" " " " "
R C-3 (4-1)		0.160	0.14	" " " " "
R C-3 (6-1)		0.003	0.05	" " " " "
R C-4		4.290	3.77	CHIP SAMPLE OVER 3' LENGTH
R NL-1		0.650	1.17	CHIP SAMPLE FROM NORTH LAKE VEIN OVER 18' WIDTH
R NL-2A		0.170	0.31	2' CHIP LENGTH
R NL-2B		0.170	0.13	4' CHIP "
R NL-X-1		0.074	0.25	6' CHIP "
R NL-X-2		1.330	2.15	4 METER CHIP "
R NL-X-3		0.170	1.21	6' CHIP "
R NL-X-4		0.180	0.21	CHIP OVER 5' LENGTH
R NL-X-5		1.470	1.57	TENSION SHEAR 1-2" WIDE BY 6' LENGTH
R NL-X-6		1.300	1.57	TENSION SHEAR
R NL #4		0.081	0.12	TENSION SHEAR 3-4" WIDE
R NL "N" ZONE		0.140	1.58	SUB OF N-L. 12" WIDTH ROAD OUTCROP
R NEPC		0.003	0.02	INTRUSIVE
R T		0.049	0.00	14" WIDE CHIP
R FC		0.067	0.11	12" WIDE VEIN
R B		0.003	0.03	NELSON ISLAND 4" WIDE QUARTZ VEIN
LB		0.003	0.11	200 M. WEST OF RB. ABOVE 8" WIDE

1982 February 23

John Paul LaRue  
P. O. Box 1531  
Sechelt, B. C.

---

ASSAY REPORT

Sample No.	Au	Ag
C	1.978	1.402
NL	1.008	1.576

Patricia Allen  
Patricia Allen  
Certified Assayer.

APPENDIX III





To: D.D.H. Geomanagement Ltd.,  
 422 - 470 Granville St.,  
 Vancouver, B.C.  
 V6C 1V5

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis  
 852 E. Hastings St., Vancouver, B.C. V6A 1R6  
 Telephone: 253 - 3158

82-0247

File No. \_\_\_\_\_

Type of Samples Rock

Disposition \_\_\_\_\_

**ASSAY CERTIFICATE**

No.	Sample	Ag oz/ton	Au oz/ton				No.
1	451 R	.24	.282				1
2	452	.16	.151				2
3	453	3.79	2.560				3
4	454	.30	.216				4
5	455	.01	.020				5
6	456 R	2.36	3.150				6
7							7
8							8
9	Samples from Chalice I mineral claim near Earl's Cove, B. C.						9
10	Please refer to text for explanation.						10
11							11
12							12
13							13
14							14
15							15
16							16
17							17
18							18
19							19
20							20

All reports are the confidential property of clients.

DATE SAMPLES RECEIVED Apr. 30, 1982

DATE REPORTS MAILED May 4, 1982

ASSAYER

.....

DEAN TOYE, B.Sc.  
 CHIEF CHEMIST  
 CERTIFIED B.C. ASSAYER

APPENDIX IV



1982 February 26

File No. 3716

Climex Mining Of B.C. Ltd. (NPL),  
P.O. Box 1531  
Sechelt, B. C.

Attention: Mr. John Paul Larue

Dear Sir:

We have fire-assayed the two sets of hard rock samples you delivered to our office. The first two samples have been reported via an assay certificate (these assays were for samples identified as "C" and "NL").

The samples as identified and their assays are:

Sample Identification	Assay	
	Au oz/ton	Ag oz/ton
C	1.978	1.402
NL	1.008	1.576
PC	0.024	0.051
T	0.0565	0.069

This short report is only to report the assays and advise you as to:

- 1) The gold appears to be associated with the pyrite (marcasite) as the gold content varies as the sulphide content.



- 2) It is very unlikely that you will be able to produce ore or concentrate that will give you a smelter return for silica and still contain enough gold for it to be acceptable to a smelter.

Our invoice is attached for our assaying and consultation to date.

Yours very truly,

Bacon, Donaldson & Assoc. Ltd.

A handwritten signature in cursive script that reads "W. G. Bacon".

W. G. Bacon, Ph.D., P. Eng.

WGB:pam

Att.

SUPPLEMENT  
TO  
GEOLOGICAL REPORT AND WORK PROPOSAL  
ON THE  
CHALICE CLAIMS  
IN THE  
LOWER JERVIS INLET AREA  
SOUTHWESTERN BRITISH COLUMBIA

DATED JUNE 28, 1982

VANCOUVER M.D.

N.T.S. 92F/16E, 92C/13W  
LAT 49° 45' LONG 123° 59'

BY

EDWARD W. GROVE, Ph.D., P.Eng.

AUGUST 30, 1982

VICTORIA, B.C.

## INTRODUCTION

At the request of Mr. John LaRue, President, Chalice Mining Incorporated, the writer again visited the Chalice property on August 25 and 26, 1982 in order to examine the tunnel zone mineralization on the recently acquired STEIN claim and several zones of mineralization recently uncovered and sampled on the CHALICE claim. The information regarding the new claim and mineral zones is included here as a supplement to the June 28, 1982 property report.

## CHALICE PROPERTY

The CHALICE, CHALICE I, CHALICE E-1, and CHALICE E-2 claims were grouped, and title to the claims transferred by Bill of Sale from Tammy Leidenius to Chalice Mining Incorporated on June 28, 1982. The title to the adjacent STEIN claim was also transferred by Bill of Sale from Edward Johnson to the company on the same date. The Chalice property now includes seven staked mineral claims as shown in the revised Figure 2.



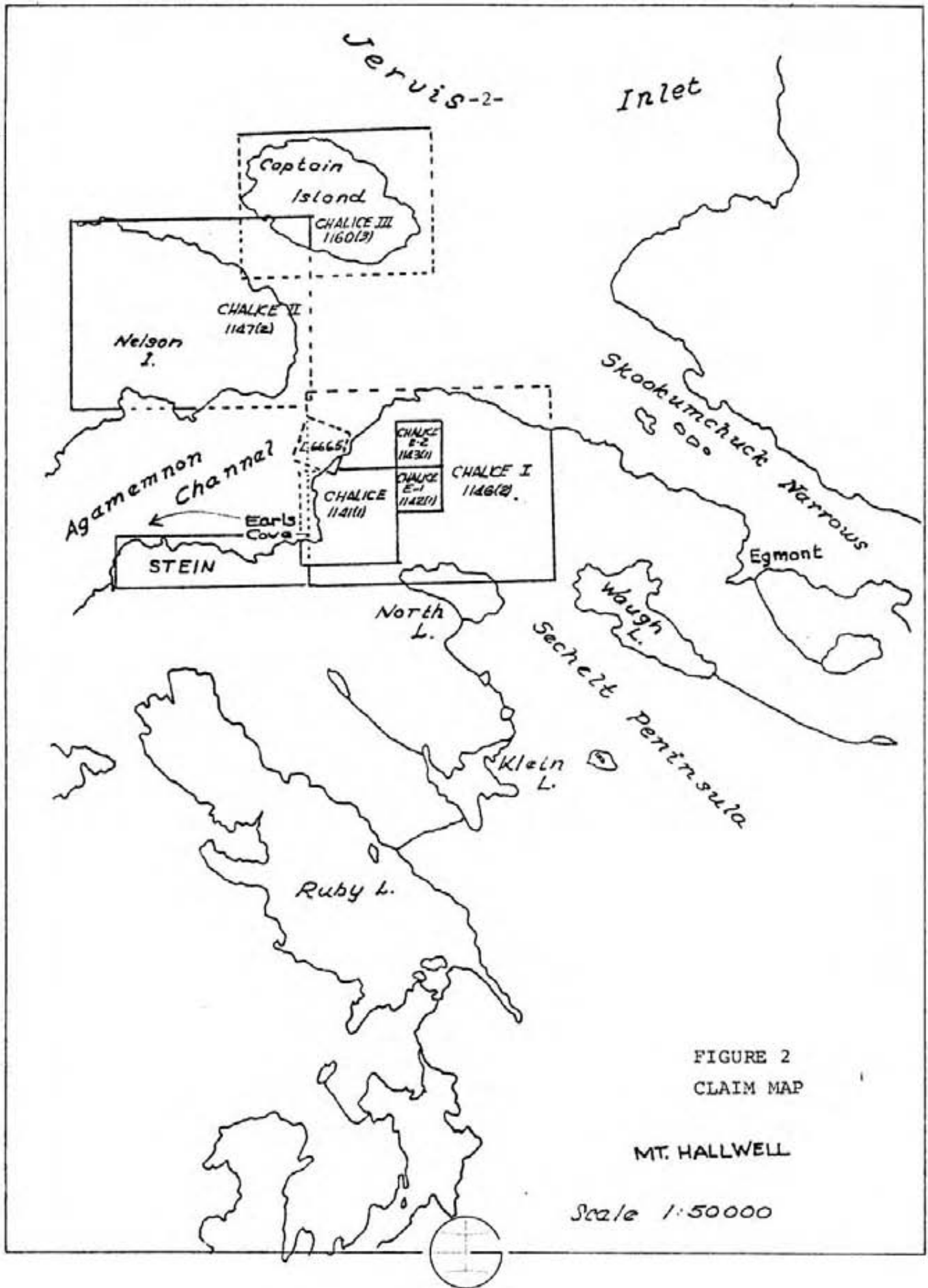


FIGURE 2  
CLAIM MAP

MT. HALLWELL

Scale 1:50000

	<u>Units</u>	<u>Record No.</u>	<u>Recorded</u>
CHALICE I	20	1146	February 5, 1982
CHALICE II	20	1147	February 5, 1982
CHALICE III	12	1160	March 9, 1982
STEIN	4	1165	March 18, 1982
CHALICE	4	1141	January 13, 1982
CHALICE E-1	1	1142	January 13, 1982
CHALICE E-2	<u>1</u>	1143	January 13, 1982

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#### LOCAL GEOLOGY

The STEIN claim which extends west from Agamemnon Bay includes a portion of the northwesterly trending pendant shown by Bacon (see Geology map, Figure 4). The pendant is well exposed along the highway, shoreline, and local roads and includes well banded flow volcanics, thinly bedded mixed volcanic-sedimentary members and limestone. The eastern contact of this sequence with the underlying pluton lies about 585 meters west of Agamemnon Bay. The contact between the volcanics and granodiorite is transitional over about 50 meters and the adjacent volcanics are marked by bleaching, extensive close spaced brecciation and quartz-sulfide fracture filling. One adit and at least two cuts were driven on this zone in 1913. The limestone band exposed just west of the tunnel shows deformation banding and



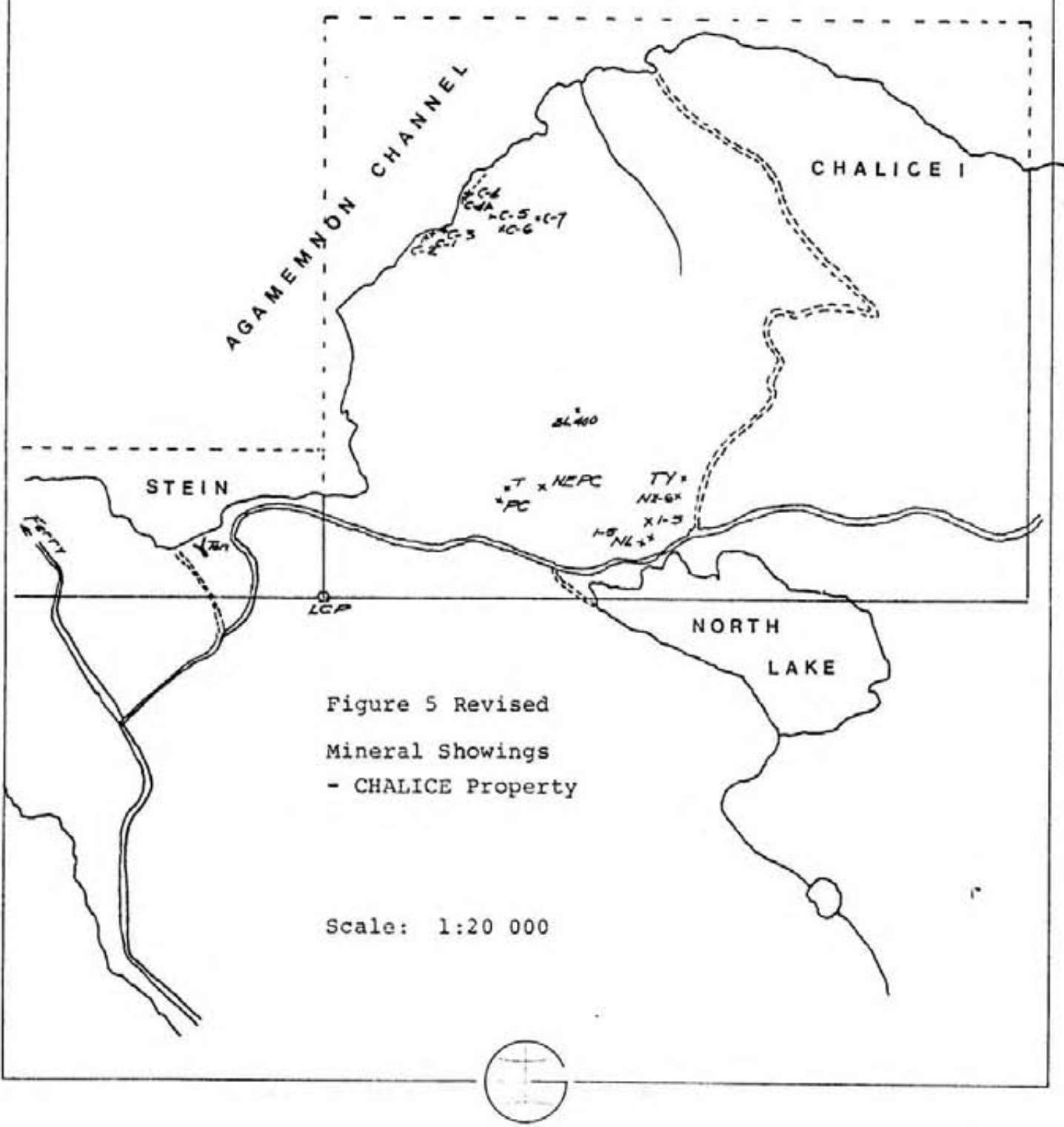


Figure 5 Revised  
Mineral Showings  
- CHALICE Property

Scale: 1:20 000

recrystallization. Primary structures in the volcanics west of Agamemnon Bay indicate that the volcanic-sedimentary sequence trends northwesterly and dips westerly at a moderate angle. Secondary features in this unit indicate intrusion was preceded by extensive northwesterly trending brecciation (possibly auto-brecciation) and accompanied by localized silicification and pyritization. A similar mineralized breccia zone was shown in the primary report as location C-3 (Figure 5).

#### LOCAL MINERALIZATION

Sampling of the tunnel breccia zone on the STEIN claim and of several new veins and zones on the CHALICE claim has shown further the potential for narrow high grade and disseminated gold mineralization in both the pendant and intrusive rocks in this area. The recent sample results are shown in the following (Figure 5 revised):

<u>Sample No.</u>	<u>Location</u>	<u>Material</u>	<u>Au oz/ton</u>	<u>Ag oz/ton</u>
Ton	Stein Tunnel (2 m)	Breccia	1.170	0.52
Ton 2	Road	Gossan	0.001	0.01
C-4A	Shore	Granodiorite, quartz, marcasite	1.240	1.53
C-5	Above C-4	Grd, qtz, marc.	0.489	0.61
C-6	Shear	Quartz, marcasite	3.560	5.50
C-7	Fracture	Grd, qtz, marc.	0.01	0.016



Sample No.	Location	Material	Au oz/ton	Ag oz/ton
BL-400	Fracture	Quartz, marcasite	0.150	0.07
TY-2E	Alteration zone	Quartz, marcasite	0.094	2.16
TY-3E	Alteration zone	Quartz, marcasite	0.060	0.86

Mineralization exposed on the beach in the brecciated volcanics on the STEIN claim has been partly explored by a 6ft x 6ft x 70 ft long adit (the tunnel) along a zone that trends about N50-60°W. The full width of this quartz-sulfide (marcasite) healed breccia appears to be at least 3 meters. The lateral extent of this zone southeast of the tunnel is still unknown.

Sample C-5 represents new quartz sulfide veins in the granodiorite. The narrow veins are localized in well jointed massive hornblende biotite granodiorite in fractures trending 065°/65°SE and 070°/50°W.

Sample C-6 comprises massive marcasite 'veins' up to 15 cm wide found as loose blocks in a deep gully trending about 045°. The gully appears to represent conjugate fractures in a dark dioritic phase of the granodiorite (dike?). In this zone massive fine grained sulfide-quartz mineralization appears to be localized along fractures trending 045°/V, 060°/V and 140°/V forming a mineralized zone at least one meter wide of unknown lateral extent, parallel to the better known shore pits.





Sample C-7 represents pyritic fine grained massive biotite granodiorite that appears to represent a separate distinct phase of the pluton.

Another sample, BL-400, taken from the central portion of the CHALICE I claim represents a 1.2 meter wide pyritic breccia zone in a small exposure of hornblende granodiorite.

In the North Lake area a new logging road has exposed a new quartz-sulfide alteration zone in the granodiorite. Two samples, TY-2E and TY-3E, each across two meters, represent material which underlies the northerly of two VLF anomalies (see Appendix 5, main report). These VLF anomalies correspond strongly to N60°E trending quartz-sulfide veins and a quartz-sulfide alteration zone.

#### SUMMARY

The additional samples and information presented here in this supplementary report confirm the presence of both high grade and bulk-type gold mineralization associated with massive and disseminated marcasite over a wide area. This mineralization occurs in the pendant brecciated volcanics in N50°W zones and in several prime directions in the massive plutons. Some of the high grade massive marcasite in the pluton now appears to be closely associated with either basic phases or irregular older dikes.







DATE July 21, 1982

Province of British Columbia  
Ministry of Energy, Mines and Petroleum Resources

SAMPLE RECEIVED FROM STEVEN HODGSON Page 2

ADDRESS General Delivery, Roberts Creek, B. C.

LABORATORY NO.	SUBMITTER'S MARK	LABORATORY REPORT
5546	12936 C-7-82	Gold - Trace Silver - Trace  Spectrographic Analysis: Copper - 0.01% Molybdenum - N.D. Lead - N.D. Zinc - N.D. Tungsten - N.D.
5547	12937 C-T-ESE-82	Gold - 0.79 oz. per ton Silver - 0.3 oz. per ton  Spectrographic Analysis: Tungsten - N.D. Copper - 0.4%  X-ray Identification: The submitted sample consists of highly altered rock specimens dominated by QUARTZ and PYRITE with minor amounts of SERICITE, CHLORITE, PREHNITE, CHALCOPYRITE and CALCITE. It could have been resulted from the brecciation of a dacite accompanied by hydrothermal alteration which led mainly to the silicification and sulfidization of the host rock. As is now, the rock could conveniently be called a mineralized quartz breccia, emphasizing its prominent texture and mineralogy.
5548	12938 C-T-OHF-82	Gold - 0.02 oz. per ton Silver - Trace  Spectrographic Analysis: Copper - 0.12%

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

## LEGEND

T - TRACE  
M.C. - MAJOR CONSTITUENT  
N.D. - NOT DETECTED  
P - PRESENT

*Paul G. Ralph*  
CHIEF ANALYST



DATE . . . . July 21, 1982 . . . . .

Province of British Columbia  
Ministry of Energy, Mines and Petroleum Resources

SAMPLE RECEIVED FROM . . . . . STEVEN HODGSON . . . . . Page 3 . . . . .

ADDRESS . . . . . General Delivery, Roberts Creek, B. C. . . . .

LABORATORY NO.	SUBMITTER'S MARK	LABORATORY REPORT
5549	12939 C-T-5MNWS-82	Gold - Trace Silver - Trace  Spectrographic Analysis: Cobalt - 0.014% Copper - 0.01%
5550	12940 C-T-BW-82	Gold - Trace Silver - Trace  Spectrographic Analysis: Molybdenum - 0.015%

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

LEGEND

- TRACE
- M.C. - MAJOR CONSTITUENT
- N.D. - NOT DETECTED
- P - PRESENT

..... *Paul G. Palf* .....  
 for CHIEF ANALYST



DATE . . . . . July 21, 1982 . . . . .

**Province of British Columbia**  
**Ministry of Energy, Mines and Petroleum Resources**

SAMPLE RECEIVED FROM . . . . . STEVEN HODGSON . . . . .

ADDRESS . . . . . General Delivery, Roberts Creek, B. C. . . . . VON 2W0 . . . . .

LABORATORY NO.	SUBMITTER'S MARK	LABORATORY REPORT
5541	12931 C-6-82	Gold - 3.52 oz. per ton Silver - 11.6 oz. per ton Spectrographic Analysis: Tungsten - N.D.
5542	12932 C-5-82	Gold - 0.37 oz. per ton Silver - Trace Spectrographic Analysis: Tungsten - N.D. Copper - 0.02%
5543	12933 C-NL-E	Gold - 0.02 oz. per ton Silver - Trace Spectrographic Analysis: Tungsten - N.D.
5544	12934 C-SB-335-82	Gold - Trace Silver - Trace Spectrographic Analysis: Copper - Trace Lead - Trace Zinc - Trace Tungsten - N.D.  Rock Identification: Most probably volcanic breccia.
5545	12935 C-SB-121-82	Gold - Trace Silver - Trace Spectrographic Analysis: Copper - 0.01% Zinc - Trace Lead - N.D. Tungsten - N.D.

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

## LEGEND

T - TRACE  
M.C. - MAJOR CONSTITUENT  
N.D. - NOT DETECTED  
P - PRESENT

*Paul G. Reilly*  
. . . . .  
CHIEF ANALYST



To: Mr. John P. Larue  
Chalice Mining Inc. (1982)  
Box 2240  
Sechelt, B.C.  
VON 3A0

Assaying & Trace Analysis  
852 E. Hastings St., Vancouver, B. C. V6A 1R6  
Telephone: 253-3158

File No. 82-0378  
Type of Samples Rocks  
Disposition \_\_\_\_\_

## ASSAY CERTIFICATE

No.	Sample	Ag oz/ton	Au oz/ton	No.
1	TON	.52	1.170	1
2	TON 2	.01	.001	2
3				3
4	C-4A	1.53	1.240	4
5	C-5	.61	.489	5
6	C-6	5.50	3.560	6
7	C-7	.01	.016	7
8				8
9				9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20

All reports are the confidential property of clients.

DATE SAMPLES RECEIVED June 9, 1982

DATE REPORTS MAILED June 14, 1982

ASSAYER

*D. Toye*  
DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1

TELEPHONE: (604) 984-0221  
TELEX: 043-52597

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240  
SECHELT, B.C.  
V0N 3A0

\*\* CERT. # : A8212657-001-1  
INVOICE # : 18212657  
DATE : 24-AUG-82  
P.C. # : NONE

Sample description	Prep code	Ag FA oz/T	Au FA oz/t			
BL 400	207	0.07	0.1504	WIDE CHIP	--	--
TY 2E	207	2.16	0.0946	WIDE CHIP	--	--
TY 3E	207	0.86	0.0606	WIDE CHIP	--	--



MEMBER  
CANADIAN TESTING  
ASSOCIATION

*P. L. Swaites*

.....  
Registered Assayer, Province of British Columbia



# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1

TELEPHONE (604) 984-0221  
TELEX 043-52597

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240  
SECHLT, B.C.  
VON 3A0

\*\* CERT. # : A8212658-001-4  
INVOICE # : 18212658  
DATE : 18-AUG-82  
P.O. # : NONE

Parameter Description	Sample # 1
Sample preparation code	222
Aluminium (pct)	5
Antimony (ppm)	<100
Arsenic (ppm)	<100
Barium (ppm)	1000
Beryllium (ppm)	<2
Bismuth (ppm)	<5
Boron (ppm)	<20
Cadmium (ppm)	<20
Calcium (pct)	7
Chromium (ppm)	150
Cobalt (ppm)	<20
Copper (ppm)	150
Germanium (ppm)	<10
Iron (pct)	5
Lead (ppm)	50
Magnesium (pct)	3
Manganese (ppm)	2000
Molybdenum (ppm)	1000
Nickel (ppm)	150
Niobium (ppm)	<200
Potassium (pct)	0.7
Silicon (pct)	10
Silver (ppm)	<2
Sodium (pct)	1
Thorium (ppm)	<500
Tin (ppm)	<10
Titanium (ppm)	3000
Vanadium (ppm)	150
Zinc (ppm)	<20
Zirconium (ppm)	300

-----  
SEMIQUANTITATIVE SPECTROGRAPH ANALYSIS

Sample description information	Preparation code description
Sample # 1 TY 2 & 3	222 Spectro: ring



Certified by *H. Schaefer*



# 11,129

Figure 4

## GEOLOGICAL MAP OF LOWER JERVIS INLET 1957

Geology by W.R. Bacon

Scale 0 1 2 3 4 5 Miles

Contour interval 500 feet

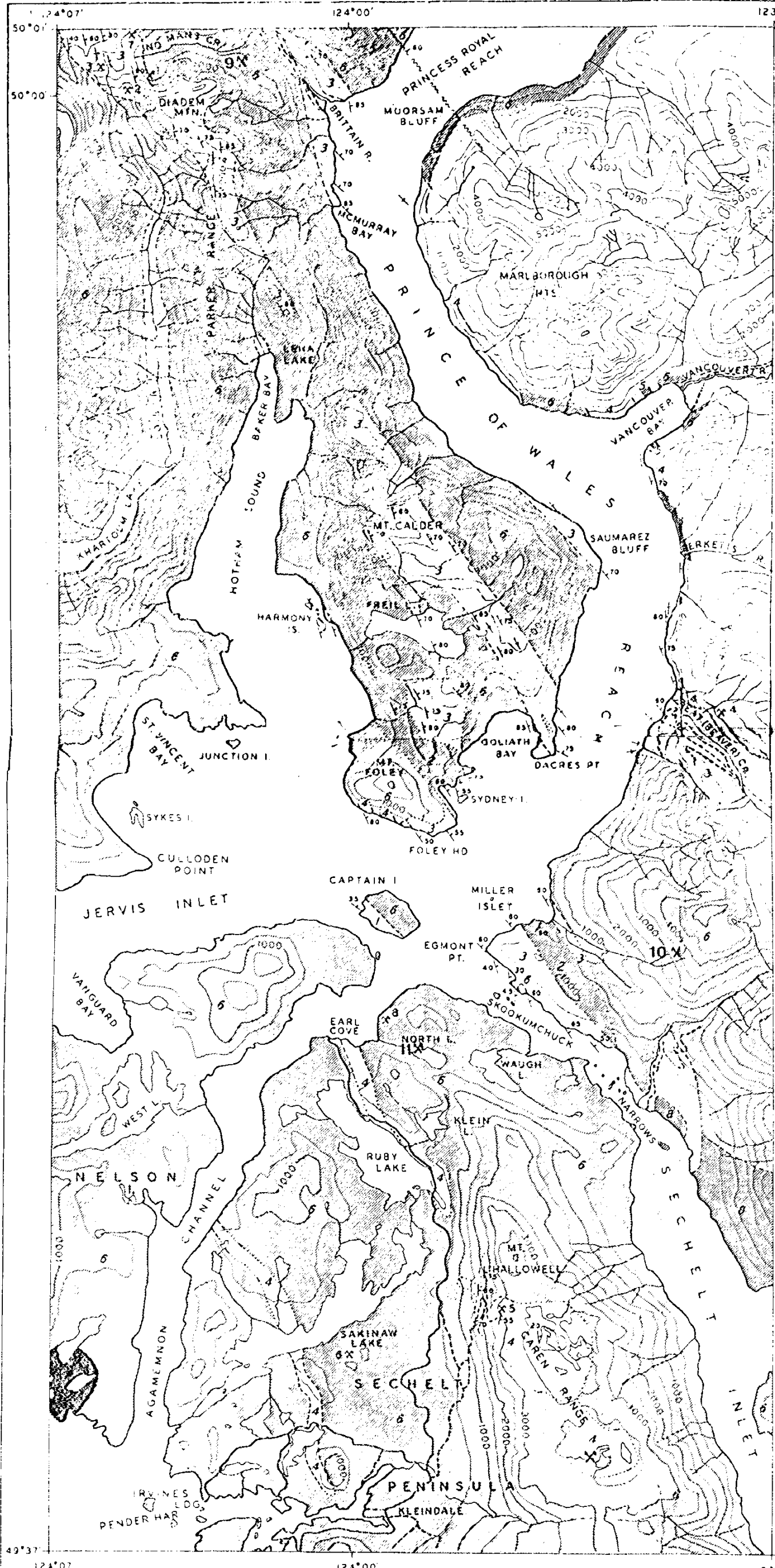
Approximate magnetic declination 24° 30' East

### LEGEND

- Drift and valley-fill
- JURASSIC (?) OR LATER  
COAST INTRUSIONS**
  - Mainly coarse-grained hornblende granodiorite
  - Medium-grained biotite granodiorite
  - Mainly medium-grained quartz diorite, granodiorite
  - Quartz feldspar porphyry
- AGE UNKNOWN  
JERVIS GROUP**
  - Basalt, andesite and associated pyroclastic rocks, minor limestone dolomitic limestone, chert, argillite
  - Mainly conglomerate, greywacke, sandstone, argillite, greenstone
  - Metavolcanic rocks; metasedimentary rocks; metadiabase
  - Gneiss

- Geological boundary defined
- approximate assumed
- Attitude of bedding inclined
- vertical
- Fault with dip
- Prospect number refers to text
- Main road
- Secondary road

1. Mt. Diadem
2. Linda
3. Linda
4. Copper
5. Cambrian Chieftain
6. King Midas
7. 'No Mans Creek'
8. R.C.
9. Virgo
10. Red Jacket
11. Chalice



EARLS COVE

Sheet Index



REF No. 1000

McElhanney Surveying & Engineering Ltd  
1166 Alberni Street, Vancouver B.C., Canada

Computed from aerial photography taken in 1981  
at an approximate scale of 1:2500

SCALE 1:2500  
CONTOUR INTERVAL 5

DATE COMPILED 1982  
SHEET NUMBER 1 of 2

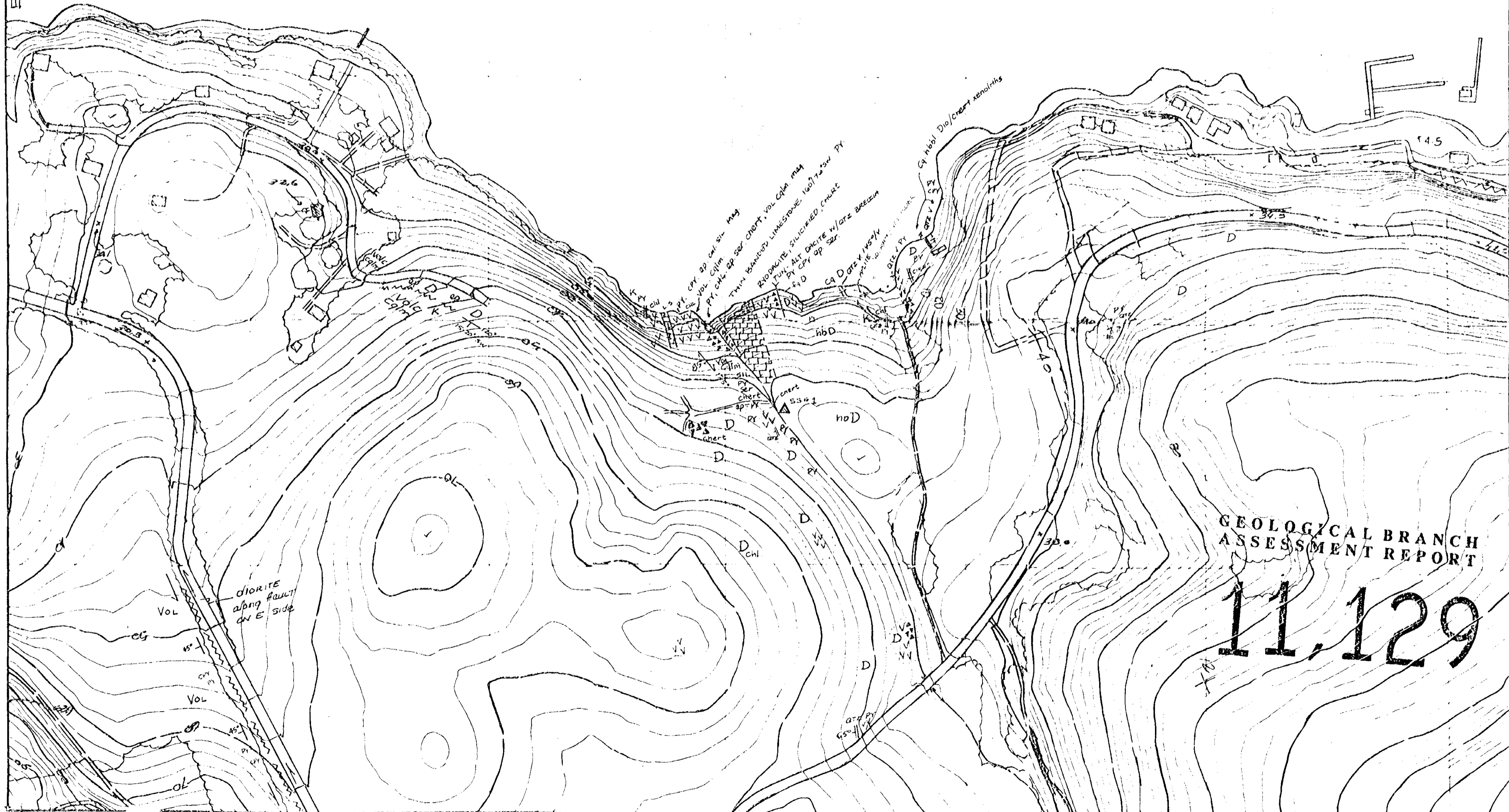
CHALICE MINING INC.

CHALICE I CLAIMS

PRELIMINARY RECONNAISSANCE TYPE MAPPING

Figure 6

947 + Vol. incl. at terminal



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

11,129

Site Egn...  
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