Steve Hodgson

680577

REPORT AND WORK PROPOSAL

ON THE

CHALICE PROPERTY

IN THE

LOWER JERVIS INLET AREA

SOUTHWESTERN BRITISH COLUMBIA

VANCOUVER M.D.

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

BY

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E. W. Grove Consultants Ltd.

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SUMMARY

Chalice Mining Incorporated's gold property lies at the north end of the Sechelt Peninsula, near Earls Cove, about 80 kilometers north of Vancouver, B.C. The property includes 14 staked mineral claims comprising 184 units. Access is easy by highway, logging road and boat to most of the area.

At least one shipment of sulfide mineralization has been made from the beach showings on CHALICE I. About 106 tons barged by Abacon Minerals Exploration Ltd. in 1965 to the Tacoma smelter was reported to contain 34 ounces of gold, 45 ounces of silver and 170 pounds of copper.

In addition to the high grade gold bearing massive sulfide lenses found along the beach and reported in 1952, the known auriferous mineralization now includes structurally controlled quartz-sulfide veins, disseminated quartz-sulfide zones, quartz-sulfide stockworks, and mineralized breccia found in granodiorite and volcanic rock. Material grading from 0.01 to over 6 ounces per ton gold, and from 0.1 to over 6 ounces per ton silver have been sampled from the various locations. The main showings are located on the CHALICE I and STEIN claims between Earls Cove and Egmont over a distence of about 2500 meters and from North Lake to Agamemnon Channel. The NL quartz-marcasite vein system, at North Lake, has been traced on surface and by geophysical methods over a length of at least 500 meters. Other geophysical and geochemical anomalies show similar lengths. Other strong geochemical anomalies remain to be tested.

Geological studies have shown that the gold occurs as submircroscopic native metal, as gold tellurides, and probably as a solid solution in marcasite. The occurrence of these prospects as structurally controlled deposits, and the unique mineralogy suggests a low temperature, high level acid volcanic environment. The mineralization can be described as epithermal and has similarities to low temperature gold-silver deposits in the western United States.

The proposed 1983 exploration and development budget for the Chalice property is estimated at $620,000.

INTRODUCTION

The Chalice group of claims, including the CHALICE, CHALICE E-1, CHALICE E-2, CHALICE I, CHALICE II, CHALICE III, CHALICE IV, and STEIN is located about 80 kilometers northwest of Vancouver, B.C., at the northerly end of the Sechelt Peninsula. A number of gold bearing sulfide breccia lenses, quartz sulfide veins, and sulfide bearing quartz breccia zones have been discovered by prospecting methods on the STEIN and CHALICE I claims. The mineralogy of these veins is fairly constant, comprising mainly marcasite as lenses, and with quartz as veins in a predominantly granodioritic host. Detailed studies have shown that the gold occurs in these veins and lenses as sub-microscopic native gold and as gold telluride minerals. The mineralization is therefore unique representing the only known gold-telluride occurrence in the area, and one of less than ten known occurrences of telluride mineralization in British Columbia. The high grade nature of some of the vein

marcasite also suggests that part of the gold may also be present in solid solution. The mineralogy of these gold veins suggests a low temperature (epithermal-type) hypogene environment somewhat comparable to several of the gold camps in the western U.S.A.

Work by Chalice personnel and contractors during 1982 and 1983 has considerably upgraded knowledge of the local geology, distribution of gold in the claim area, and the geochemical and geophysical signature of the mineralization. The work completed includes a detailed topographic map of the area, 2 line kilometers of baseline, more than 50 line kilometers of grid line and soil geochemistry, 40 line kilometers of magnetometer survey, 20 line kilometers of VLF-E.M. survey, 11 line kilometers of multi-level Induced Polarization survey, and geological mapping of most of the CHALICE I claim, and part of the STEIN mineral claim. Detailed prospecting has also shown that in addition to the original gold-marcasite lenses exposed along the beach on Agamemnon Channel gold occurs in northeasterly trending quartz-sulfide veins and vein systems, and in several relatively wide northeasterly trending marcasite/pyrite breccia zones. Geophysical I.P. results which indicate a relatively large number of anomalies show coincidence with at least five (5) gold-marcasite-quartz vein systems including the significsnt North Lake vein system. Geochemical results have shown a strong correlation of gold in soils with the auriferous vein systems and suggest a major broad zone in which coincident I.P. and vein systems are also localized extending from wast of North Lake about 2500 meters towards the CHALICE I claim boundary. Several less extensive anomalous soil gold anomalies have also been recognized in the overburden

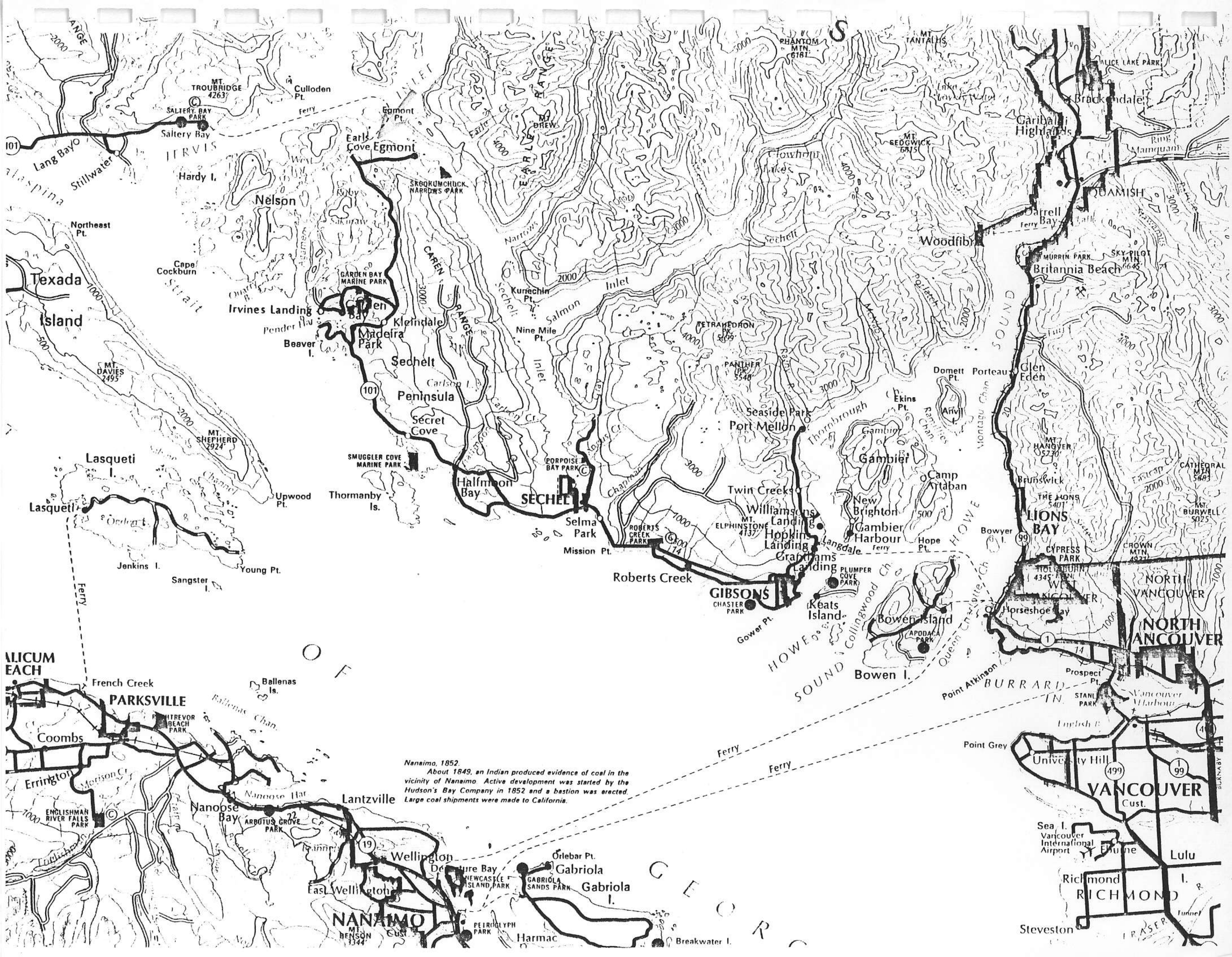
covered area between the main North Lake anomaly and Agamemnon Channel to the north.

The 1982-83 field program which included prospecting, geological mapping, detailed geochemical and geophysical surveys recommended by the writer has been largely completed with significant results. These results should now be followed up with trenching, sampling and diamond core drilling in order to evaluate the anomalies and auriferous mineral occurrences.

The writer has visited the claim area a number of times over the past year to examine the geology and mineralization and to recommend a work program (Grove, 1982) at the request of Mr. John LaRue, President, Chalice Mining Inc.

HISTORY

In 1913 a Mr. R. Durnsford, Jr., was reported to be driving a tunnel along sulfide veins along the shoreline of Agamemnon Channel, near Earls 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



MT. TROUBRIDGE 4263'
Culloden Pt.
SALTERY BAY PARK
Saltery Bay
Ferry
Egmont Pt.
Earls Cove
Egmont
Lang Bay
Stillwater
JERVIS
Hardy I.
SKOOKUMCHUCK NARROWS PARK
Nelson
Northeast Pt.
Texada
Island
Cape Cockburn
GARDEN BAY MARINE PARK
Irvines Landing
Pender Hbr
Kleindale
Madeira Park
Beaver I.
MT. DAVIES 2495'
Sechelt
Peninsula
CAREN RANGE
Secret Cove
MT. SHEPHERD 2924'
Lasqueti I.
Lasqueti
SMUGGLER COVE MARINE PARK
Thormanby Is.
Upwood Pt.
Halfmoon Bay
SECHELT
PORPOISE BAY PARK
Selma Park
Mission Pt.
Jenkins I.
Sangster I.
Young Pt.
Kunechin Pt.
Salmon Inlet
Nine Mile Pt.
Sechelt Inlet
Narrows
MT. DREW
PHANTOM MTN. 6181'
MT. TANTALUS
MT. SEDGWICK 6615'
Clowhom Lakes
TETRAHEDRON PK. 5199'
PANTHER PK. 5540'
Seaside Park
Port Mellon
Thornbrough Ch.
Ekins Pt.
Domett Pt.
Porteau
Glen Eden
Anvil I.
Gambier
Twin Creeks
Williamsons Landing
MT. ELPHINSTONE 4137'
Hopkins Landing
Granthams Landing
Langdale
New Brighton
Gambier Harbour
Hope Pt.
Camp Artaban
ROBERTS CREEK PARK
Roberts Creek
GIBSONS
CHASTER PARK
Gower Pt.
PLUMPER COVE PARK
Keats Island
Bowen Island
APODACA PARK
Bowen I.
HOWE SOUND
Collingwood Ch.
Queen Charlotte Ch.
Montagu Chan.
ALICE LAKE PARK
Brackendale
Garibaldi Highlands
SQUAMISH
Darrell Bay
Woodfibre
MURRIN PARK
SKY-PILOT MTN. 6645'
Britannia Beach
MT. HANOVER 5730'
Brunswick
THE LIONS 5401'
LIONS BAY
CATHEDRAL MTN. 5683'
MT. BURWELL 5025'
Bowyer I.
CYPRESS PARK
CROWN MTN.
HOLLYBURN
WEST VANCOUVER
NORTH VANCOUVER
Horseshoe Bay
Point Atkinson
BURRARD IN.
Prospect Pt.
STANLEY PARK
Vancouver Harbour
English B.
Point Grey
University Hill
VANCOUVER
Cust.
BURNABY
Sea I.
Vancouver International Airport
Lulu I.
Richmond
RICHMOND
Steveston
Tunnel
FRASER
QUALICUM BEACH
French Creek
PARKSVILLE
RATHTREVOR BEACH PARK
Ballenas Is.
Ballenas Chan.
Coombs
Errington
ENGLISHMAN RIVER FALLS PARK
Nanoose Bay
ARBUTUS GROVE PARK
Lantzville
Wellington
Departure Bay
NEWCASTLE ISLAND PARK
East Wellington
NANAIMO
MT. BENSON 3344'
PETROGLYPH PARK
Harmac
Orlebar Pt.
Gabriola
GABRIOLA SANDS PARK
Gabriola I.
Breakwater I.
OF GEORGIA
Ferry

Nanaimo, 1852.

About 1849, an Indian produced evidence of coal in the vicinity of Nanaimo. Active development was started by the Hudson's Bay Company in 1852 and a bastion was erected. Large coal shipments were made to California.

pounds of copper. The workings from which this material has generally been assumed to have been taken are still visible 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.

The most recent work on the mineralization and the exploration of the area was when the CHALICE, CHALICE E-1, and CHALICE E-2 claims were staked in January 1982. The CHALICE I, CHALICE II, and CHALICE III claims were staked in February and March of 1982. The STEIN claim was purchased by Chalice Mining Inc. in June 1982. The WALLY and BACON claims were subsequently purchase by the Chalice company which staked the CHALICE IV in 1983. Work on the property has been continuous from January of 1982 up to the present.

LOCATION AND ACCESS

The Chalice property situated at the north end of the Sechelt Peninsula near Earls 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 Earls 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, end relatively subdued compared to the snrrounding coast. Most of the area has been logged at least twice, and the eastern part of the CHALICE I claim has been 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 area 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.

CHALICE PROPERTY

The Chalice Mining Incorporated property near Earls Cove consists of the Chalice, Wally and Bacon mineral claim groups comprising 184 units (Figure 2):

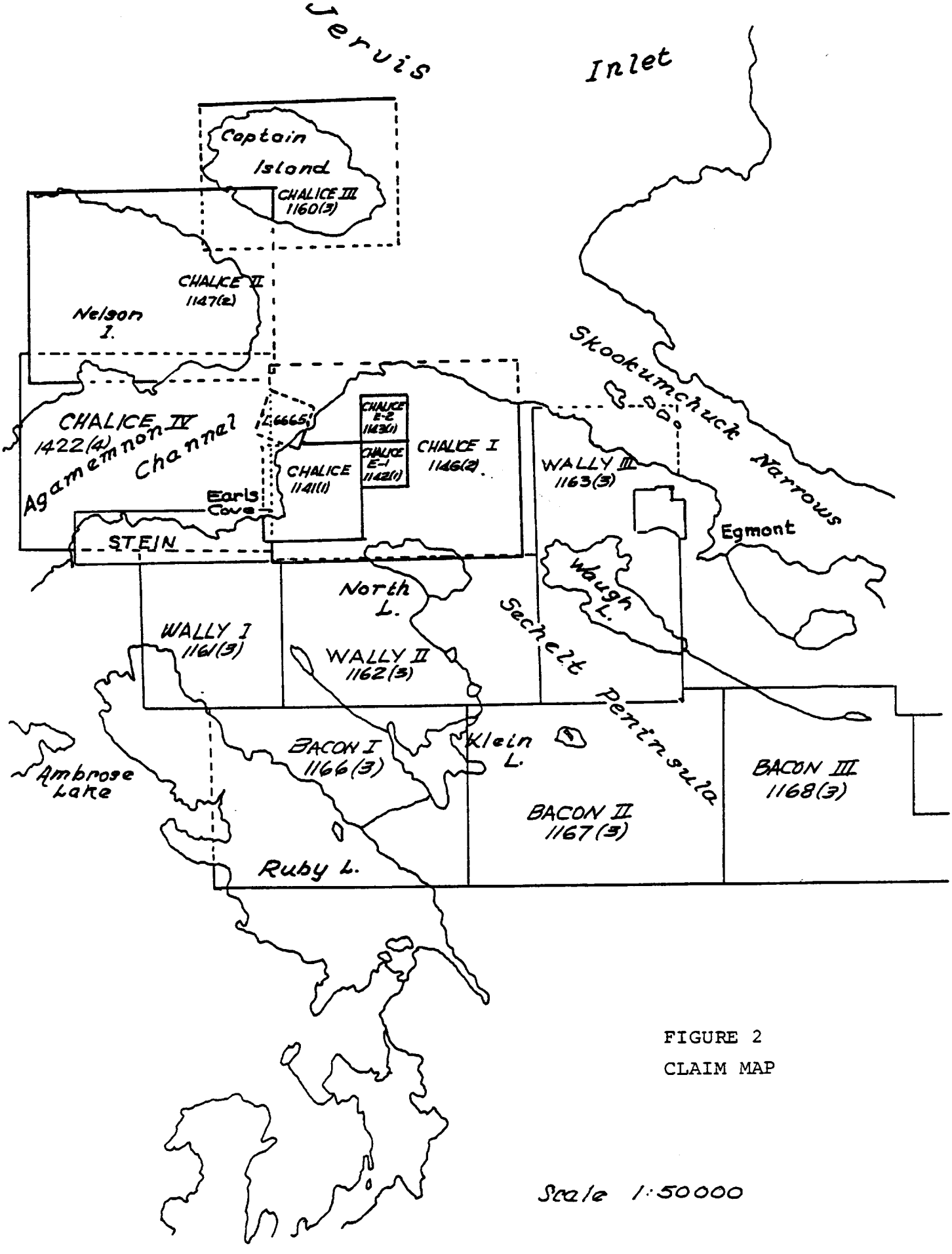


FIGURE 2
CLAIM MAP

SURVEY PLAN OF BLOCKS E AND F OF LOT 2504, GP. 1, N.W.D.

133702

92 G/13 d

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
SURVEYOR-GENERAL
VICTORIA, B. C. FEBRUARY 11, 1974

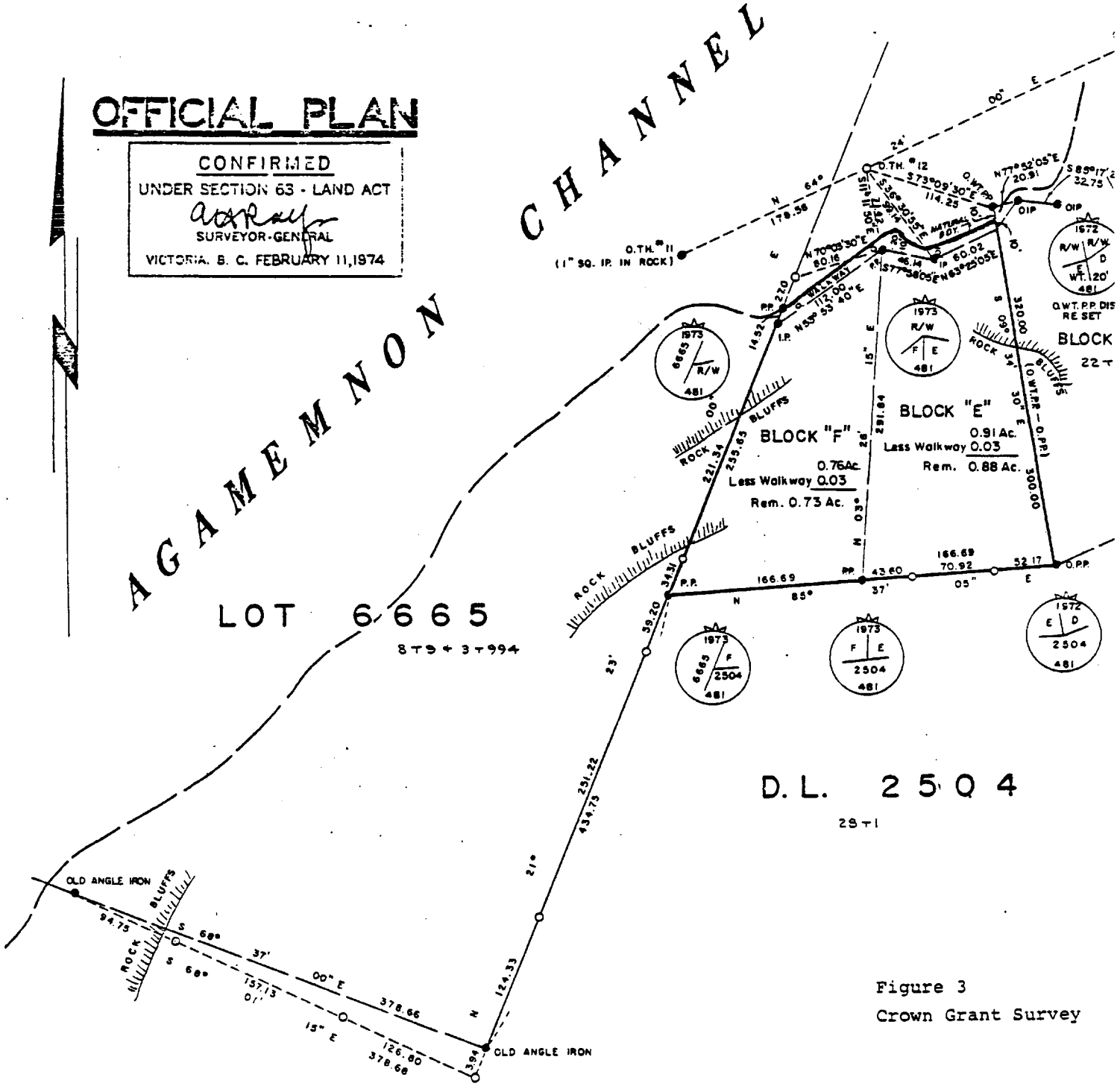


Figure 3
Crown Grant Survey

I, PETER D. SMITH, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA LAND 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. THE SAID SURVEY WAS COMPLETED ON THE 20th. DAY OF DEC. 1973.

Claim	Units	Record No.	Recorded
CHALICE	4	1141	January 13, 1982
CHALICE E-1	1	1142	January 13, 1982
CHALICE E-2	1	1143	January 13, 1982
CHALICE I	20	1146	February 5, 1982
CHALICE II	20	1147	February 5, 1982
CHALICE III	12	1160	March 9, 1982
CHALICE IV	20	1422	April 25, 1983
STEIN	4	1165	March 22, 1982
WALLY I	9	1161	March 11, 1982
WALLY II	15	1162	March 11, 1982
WALLY III	18	1163	March 11, 1982
BACON I	20	1166	March 23, 1982
BACON II	20	1167	March 23, 1982
BACON III	20	1168	March 23, 1982
	184		

All of the above claims are part of the Chalice property and currently expire on the anniversary in 1984.

The CHALICE, CHALICE E-1, AND CHALICE E-2 are overlapped by the CHALICE I, and the STEIN is overlapped by the CHALICE IV mineral claim. CHALICE I also overlaps Crown Grant L6665 reportedly owned by Mr. H.S. Grey. A legal survey of the claim has been included here as Figure 3. The

shoreline pits lie east of this Crown Grant boundary on CHALICE I. The survey also shows the location of the land lots on which three small summer cottages have been erected.

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 renmants of a once more extensive country rock cover. One major pendant zone described as mainly basalt or greenstone forms the height of land along the east side of the Peninsula. An extension of this pendant lies 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 Earls 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.

The geology of Lower Jervis Inlet including the Chalice property 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 Earls Cove included by Bacon in the Jarvis Group have now been correlated homotaxially 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.

LOCAL

Preliminary reconnaissance geology of the claim group along Agamemnon Channel and the local roads showed that the main rock underlying the property comprised mainly hornblendic and biotitic granodiorite. Irregular zones within the granodiorite were noted to have been epidotized, silicified and variably pyritized. All of 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 (Grove, 1982).

Country Rock

Adjacent portions of the CHALICE I and STEIN claims have now been mapped in more detail by Fleming (1983) and by S.H. Hodgson, a Director of Chalice Mining Inc. (Figures 6,7). This recent work has shown that the cantral and easterly portions of CHALICE I are largely underlain by hornblende and biotite granodiorite with a hornblende diorite phase on the west and southwest. The latter appears to be in fault contact with the main granodiorite. It has also been shown that the large pendant of country rock volcanics shown by Bacon (Figure 4) at Earls Cove is in fault contact (300°/45°W) with the underlying dioritic phase and scattered outcrops of the previously much more extensive volcanic sequence have been recognized as small structural remnants overlying granodiorite to the east on the STEIN and CHALICE I claims.

It is now evident that the local country rocks include a number of volcanic and volcanic/sedimentary units that trend northwesterly across what was first thought to be a dominantly granitic terrain. The major volcanic and volcanic/sediment pendants are exposed on the STEIN claim west of the road leading to the ferry terminal, and along the beach east of the ferry terminal (Figure 6). The members appear to be mainly northwest trending, but dips are variable, possibly because of faulting. The rocks include deformed pillow lava, volcanic conglomerate, rhyodacite, siltstone, limestone, chert, and their metamorphosed equivalents. These are mainly underlain or in fault contact with the dioritic phase.

Recent detailed mapping on the CHALICE I claim has

now shown the presence of a significant number of relatively isolated patches of coarse grained rhyolite and rhyodacite porphyry. The most extensive zone yet found is located near 1500N/1375E (Figure 5), has a width of about 46 meters and trends 120°. Other accessible zones have also been recognized along the Egmont Road, at 400N/150E and 1300N/125E. Scattered patches of dense carbonate (pendants ?) have also been mapped in contact with pink granite along the Egmont road and at Sid's Landing.

The coarsely porphyritic rhyolite and rhyodacite so far found on the CHALICE I claim as discrete units within the granodiorite phase commonly display brecciated borders with the intrusive. As a result of this and the lack of continuous outcrop the true relationship between these two units is obscure. Obvious young feldspar porphyry dikes with a somewhat similar aspect to the rhyolite porphyry suggest a late hypabyssal system and possible acidic volcanism.

Dikes

Dikes and dike swarms form at least 15% of the local igneous system. They are found along three fracture systems dominated by a strong northwesterly trending system, a conspicuous northeasterly system and a weak westerly trending group. The common northwesterly trending dikes include equigranular and porphyritic biotite-hornblende feldspar diorite, fine grained andesitic dikes, and coarse grained dioritic dikes all well exposed along the beach. Large felsite dikes also trending northwesterly are more common in the eastern portion of the CHALICE I claim. Less well exposed northeasterly trending dikes appear to be

mainly dioritic while the westerly trending dikes are basaltic and may represent the youngest basic units. Granitic pegmatite veins are fairly common cutting the main diorite phase but are irregular and show no observable preferred orientation.

Quartz feldspar porphyry dikes and breccia zones have also been recognized at the ferry terminal, and in rock cuts in the eastern portion of the CHALICE I within northwesterly fractures in the granodiorite (Hodgson, pers. comm.). As indicated previously these dikes have an apparent similarity to the porphyritic rhyolite and rhyodacite zones recently located on the CHALICE I claim. Similar coarsely porphyritic rhyolites are found as fresh float boulders and angular slabs throughout the gneral area. If not of local occurrence the source is not known.

Alteration

In the dioritic to mafic granodioritic phases of the plutons pink K feldspar alteration occurs as fracture controlled veinlets and as irregular wispy patches variably related to pegmatite. Near the granodiorite, the dark diorite shows as irregular foliation accompanied by silicification, pyritization and crushing possibly related to the North Lake fault zone. At the contact with the small northwesterly trending volcanic/sedimentary pendant exposed on the beach (tunnel zone) on the STEIN claim the breccia zone shows a fine pyrite-marcasite stockwork.

The main granodiorite phase which underlies most of the property appears to host most or all of the known auriferous sulfide lenses and veins, quartz sulfide veins,

sulfide breccias, and disseminated sulfide zones. Macroscopic alteration in the granodiorite includes epidote and chlorite adjacent to the veins and along joint planes. Sericite and pyrite are also common appearing to form envelopes about the vein mineralization and some fractures. This alteration appears to be coincident with the geochemical soil gold (and silver) anomalies.

Structure

Rock structure routinely mapped in the claim area included dike attitudes, joint systems, mafic foliation, and the attitude of the gold bearing sulfide systems. Fleming's stereo plots of these features show a strong coincidence of the northwesterly, northeasterly, and less prominent westerly dike systems with the air photo linears. The main vein systems coincide with the prominent northeasterly lineations but in detail have been shown to occupy three structural trends: 050°-070°; 030°-040°; and, 100°. The first two sets are dominant and the last represents conjugate veins at North Lake which form a stockwork system with the main vein. In addition to the above fracture systems the fine grained variations of the granodiorite best display a subhorizontal joint system, possibly related to unloading, which Fleming observed as having developed later than the mineralization and the andesitic dikes.

The main faults observed on the air photographs and mapped on the ground are steep northwesterly and westerly trending structures that stand out as deeply incised totographic features and in part represent rock contacts. The North Lake fault for example represents cataclastic deformation along a volcanic inclusion in the diorite. Other major features are not as readily explained.

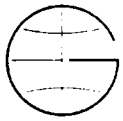
MINERALIZATION

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 thosa near Diadem Mountain at the head of No Mans Creek, and the Cambrian Chieftain on Mount Hallowell. Descriptions of these properties in Bacon (1957) and Annual Report 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 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 aulfide 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,



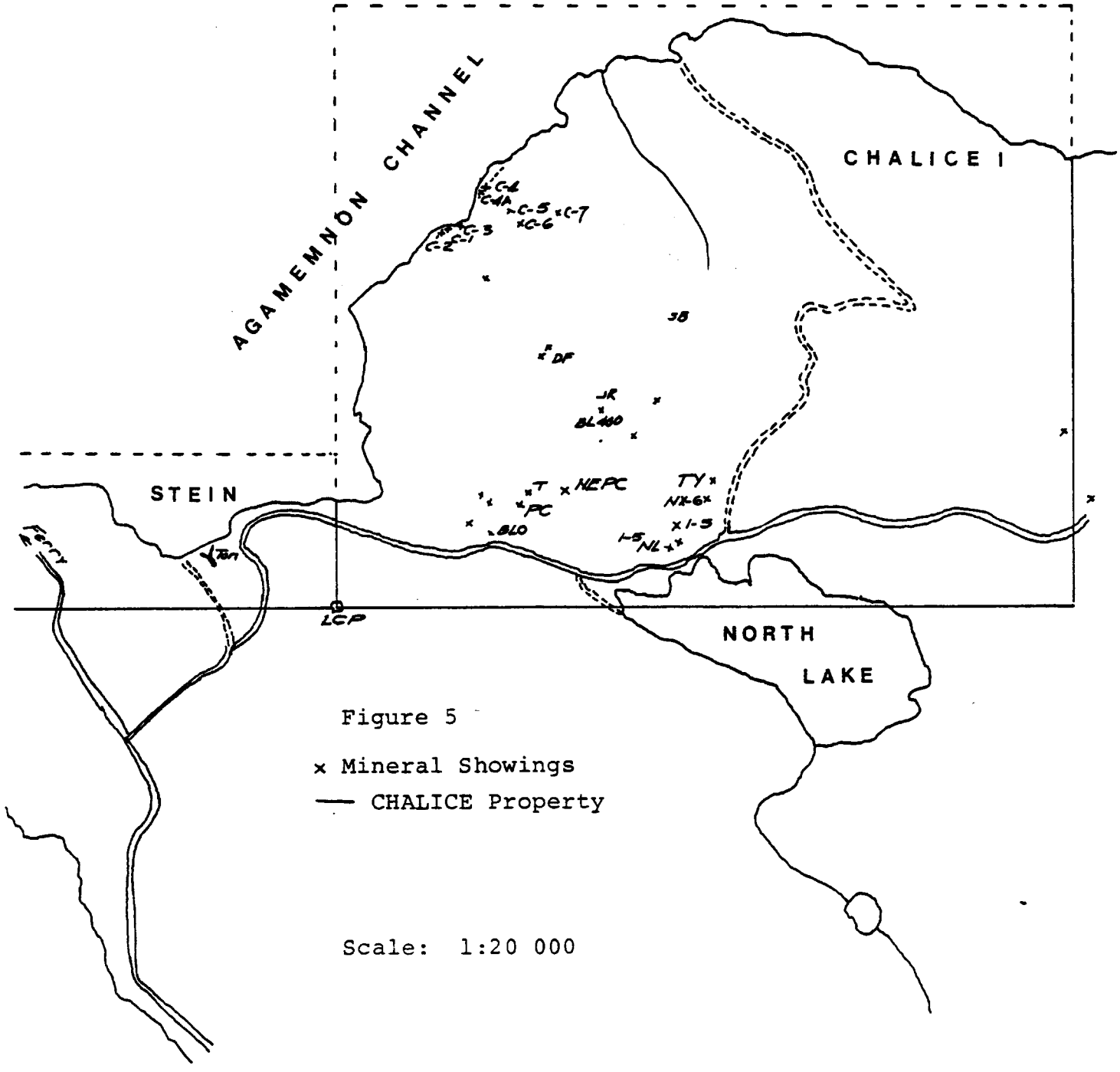


Figure 5

× Mineral Showings

—— CHALICE Property

Scale: 1:20 000

molybdenum, silver, gold deposit roughly localized within a small quartz porphyry stock approximately 500 meters in 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 MoS , 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

A variety of significant gold bearing sulfide rich structures have now been found on the Chalice property. Bacon (1957) first 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 ounces per ton gold, and 6.4 ounces per ton silver. He noted that the showings had no economic significance.

In 1965 Abacon Mineral Explorations Ltd. barged 106 tons of material from the pits to the Tacoma smelter. The smelter report indicated the ahipment graded 0.32 ounces per ton gold, 0.42 ounces 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 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	Location	Type	Au oz/ton	Ag oz/ton	Cu %
13804F	pit	quartz/pyrite	2.20	2.4	
13805	35' NE of pit	quartz/pyrite -grab	2.01	1.6	
13806	500' NE of pit	marcasite	4.02	3.1	
13807	750' NE of pit	quartz/pyrite	1.42	1.3	0.02
13808	750+' NE of pit	quartz/pyrite -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 of 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 partners in early 1982 to include the known sulfide zone, a newly discovered quartz-marcasite vein along the road at North Lake, and 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:

Sample #	Location	Material	Au oz/ton	Ag oz/ton
R-CP-1	Pit #1	marcasite, quartz	2.650	3.65
R-CP-2	Pit #2	marcasite, quartz	4.260	3.52
R-CP-3	Shear, 0-2 m	grd, quartz, marc	0.008	0.05
R-CP-3	Shear, 2-4 m	"	0.750	0.71
R-CP-3	Shear, 4-6 m	"	0.160	0.16
R-CP-3	Shear, 6-8 m	"	0.003	0.05
R-CP-4	Shore Cut (1m)	marcasite, quartz	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°/40°W to 045°/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°/V to 155°/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 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 centimeter wide marcasite veinlets trending 055°/75°W. The exposure measures about 2 meters high by 7 meters long and also discloses several cross-cutting basalt dikes trending 155°/75°N to V. The steep cliff face 10 meters east and above the showing marks a small fault trending 045°/75°E whioh 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 meter wide breccia in which a narrow stockwork of quartz veins and marcasite-filled fractures has been localized. The veins in the zone trend 110°/60°E to 75°W and form a second gold bearing mineralized structure in the local granodiorite which was previously unreported. Less prominent 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 Chalice personnel along Highway 101 in 1982 led to the discovery of a gold bearing quartz marcasite vein 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°-50°/65°N and the conjugate veins 080-100°/65°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:

Sample	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

Sample	Location	Material	Au oz/ton	Ag oz/ton
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.

Prospecting north of the highway has shown the widespread nature of the quartz-sulfide veining in the CHALICE I area (see Figure 5). 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	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°/75°N whereas the PC vein found nearby has an attitude at 065°/35°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).

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°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	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 ft. 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".

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):

Sample No.	Location	Material	Au oz/ton	Ag oz/ton
Ton	Stein Tunnel (2m)	Breccia	1.170	0.52
Ton 2	Road	Gossan	0.001	0.01
C-4A	Shore	Granodiorite, qtz, 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
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.

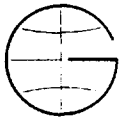
Sample C-6 comprises massive marcasite 'veins' up to 15 cm wide found as loose blocks in a deep gully trending about 045°. The gully appears to represent conjugate

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 is a 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. These VLF anomalies correspond strongly to N60°E trending quartz-sulfide veins and a quartz-sulfide alteration zone.

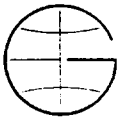


MINERALOGY

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 presant in solid solution. A brief report on four samples submitted to Bacon, Donaldson & Associates by Chalice Mining indicated that "The gold content appears to be associated with the pyrite (marcasite) as the gold content varies with the sulfide content" (Appendix IV).

In order to solve the nature of the occurrence of the gold in these high grade occurrences aamples were submitted to Vancouver Petrographics Ltd. for study using Bacon-Donaldson's Spectrometer-Scanning Electron Microscope (E.D.S.-S.E.M.). Preliminary work by the above indicated that some of the gold occurred as sub-microscopic inclusions in marcasite as both native gold and as gold tellurides, and possibly in other unknown tellurides.

The above material aad samples from five more veins were sent by the writer to experts in Ottawa at CANMET for verification and further work. It is now well established that the quartz-marcasite lenses and veins on the Chalice property contain sub-microscopic free gold and silver-gold tellurides as well as other telluride minerals. The current mineral list includes the following:



Mineral Species	Formula	Grain Size
Calaverite	$AuTe_2$	largest 20 x 24 microns
Petzite	Ag_3AuTe_2	6 x 40 to 30 x 32 "
Altaite	PbTe	14 x 16 microns
Tellurobismuthite (?)	Bi_2Te_3	up to 12 x 140 microns
Volynskite (?)	Bi>Te>Ag (no Pb or Au)	3 x 9 microns
Native Gold	Au	(similar)

(1 micron = 10^{-6} m = 0.001 mm)

These minerals have not been recognized in all the high grade samples submitted suggesting that gold may be present in solid solution (or ?) in the marcasite. Various studies have shown that common sulfide minerals such as pyrite (marcasite) and arsenopyrite can contain over 30 ounces gold per ton (or more) in solid solution. Significantly, at the Carlin Mine, Nevada, the double exidation treatment method has proved that up to 0.05 ounces/ton gold in solid solution in pyrite can be recovered profitably.

The above unique mineral suite including as well the low temperature mineral marcasite, the drussy nature of the quartz and the occurrence of the mineralization in fractures which are probably tension features strongly suggests an epithermal vein (low temperature hypogene) system. As such, this is the only known deposit of this type in the general area and is one of less than ten gold telluride systems now known in British Columbia.
Gold-silver telluride mineralization is found in many of the famous camps in the western U.S.A. where these minerals are known to occur in a variety of geological settings but are typically classified as epithermal deposits.

GEOPHYSICAL SURVEYS

The geophysical surveys of the Chalice property recommended by the writer (Grove, 1982) were carried out during late 1982. The results of these surveys have been integrated into a comprehensive report by Douglas R. MacQuarrie (1983) which has been summarized for this report.

Chalice personnel completed 40 line kilometers of magnetometer survey, and 20 line kilometere of VLF-E.M. survey, and D.R. MacQuarrie completed 11 line kilometers of multi-level Induced Polarization survey in late 1982. MacQuarrie reviewed the data and suggested that the magnetometer results primerily reflected variations in overburden thickness rather than geology as anticipated, but could have been distorted by the presence of numerous dikes and dike swarms. It appears that the detailed VLF-E.M. survey gave a significant response over the mein North Lake vein system (conductor) but only weak responses elsewhere which could be related to topography and overburden. The I.P. survey which covered only the western portion of the CHALICE I claim was saggested to have produced considerably more useful data and MacQuarrie has outlined numerous zones of moderate to weakly anomalous percent frequency effects (Figure 8). Four of these anomalies are coincident with gold bearing quartz-marcasite veins and one anomaly can be related to an outcrop of sulfidized granodiorite (0.016 ounces Au/ton). Seven more weakly anomalous I.P. effect zones also noted were not obviously related to surface material. Several of the known snlfide occurrences were not detected by the I.P. survey which may suggest showings with limited size (strike length ?). Overall the survey showed fairly continuous vein structures of up to 500 meters in

strike length, and that the sulfide content was probably lens-like.

MacQuarrie indicated that the geophysical results pointed out that several anomalous zones and possible zones of stockwork, disseminated and vein type mineralization have been detected. Five linear zones and several spot high areas of moderate to weakly anomalous percent frequency effect (PFE) have been isolated for further work. These include the NL-TY zone interpreted to have a length of 500 meters and corresponds to the North Lake (NL) quartz-marcasite vein system, the JR zone with a length of 200 meters, the Landing zone with a length of 300 meters, the BLO zone (6 gold occurrences known) with a length of 500 meters, and a linear possibly related to the main beach showings (pits).

GEOCHEMICAL SURVEYS

Because of the extensive overburden, poor outcrop, and generally good experience with geochemical surveys in the area, an extensive soil survey was conducted over a large portion of the CHALICE I claim. Five orientation survey profiles (Appendix V) are included here to show the variability of the local soil development. Soil samples were taken (C horizon here) at 25 meter intervals along the baseline and the northwest trending cross lines. All together over 1485 samples were taken and submitted for analysis. Of these 374 from 100S to 1000N were analysed for Au, Cu, Ag, and Fe, and 10 were analysed for Au, Zn, Cu, and Ag. All samples were analysed for gold. A review of these results showed a good correlation of soil Au with known

mineralization. Silt samples from the eastern portion of the claim showed anomalous gold and the lines were extended to 1700N. The new samples were analysed for gold only as it appears to be the best indicator of significant mineralization in this area. All the results have been plotted but only the gold survey is shown here as Figure 9 for simplicity and only values above 10 parts per billion are plotted. Most of the known auriferous mineralization found by prospecting is indicated by the soil results. Significantly, a large number of gold soil anomalies are still undetermined.

The soil anomalies are largely broad features in which a number of the known quartz-sulfide veins occur. In the North Lake (NL-Ty zone) for example, the soil results show a 1000 ppb anomaly uphill and west from the main vein in an area covered by bush and overburden. Several significant prospects have also been found in the broad anomalous area northeast of North Lake where several rhyolite zones have been identified, and in the anomalous areas between the baseline and Agamemnon Channel where bush and overburden preclude direct observation.

Soil geochemistry utilizing gold as the main pathfinder element has outlined most of the visible mineralization in the CHALICE I claim area. A number of other broad and highly anomalous zones still remain to be explored by other methods.

CONCLUSIONS

The Chalice property is located in an easily accessible area where exploration and development work can be carried out year round. Detailed prospecting has shown that gold bearing quartz-sulfide veins, disseminations and stockworks, and massive sulfide lenses occur on the property on the CHALICE I and STEIN claims. Preliminary prospecting has also shown the occurrence of somewhat similar mineralizetion on the outer Chalice, Wally and Bacon claims. Geological studies have shown that the known gold bearing minealization is mainly massive marcasite, or quartz-marcasite in which gold occurs as submicroscopic native gold, and gold tellurides, and probably as a solid solution in the marcasite. The veins, breccias, and disseminated zones are mainly concentrated along at least three prominent structural directions (NW, NE, EW). The main host rock on the CHALICE I claim is a variably altered biotite-hornblende granodiorite which includes a large number of older volcanic and sedimentary pendants and which is cut by swarms of various dikes, some of which are obviously younger than the mineral zones. A coarsely porphyritic rhyolite/rhyodacite (partly mineralized) found mainly as northwesterly trending zones in the eastern portion of CHALICE I suggests a late high level volcanic event with which the low temperature (epithermal) gold telluride-marcasite-quartz mineralization could be genetically related.

The geophysical I.P. surveys, geochemical soil gold results, and detailed prospecting have combined to give a number of strongly coincident anomalies of major order and extent. There are at least six of these of which the NL-Ty

is the most accessible and best known. Another fifteen or more coincident lower order anomalies have been outlined, and broad geochemical highs at the north and east on the CHALICE I are now known but are beyond the limits of the geophysical surveys and the detailed geological mapping.

Although the I.P. results (PEM) have been stressed here there is some evidence that the resistivity values, possibly reflecting rock quartz/quartz vein content, may also be coincident with the known mineralized zones. The raw V.L.F. E.M. and magnetometer results have not been of immediate value because of topography and overburden effects, but data manipulation could derive useful trend surfaces. These programs should be completed before any further magnetometer E.M., or I.P. work is continued.

Until recently the known mineralization in the area comprised several high grade gold pits and cuts and one adit on the beach. Gold bearing quartz-sulfide mineralization has now been found from Earls Cove to Egmont in the area from North Lake to Agamemnon Channel. Several of the auriferous zones have lengths of at least 500 meters on the basis of surface sampling, geophysical and geochemical surveys. These zones warrant core drilling to test depth continuity, tonnage and grade. The coincident anomalies and geochemical anomalies also warrant testing by trenching and drilling if necessary. The property is large but because of generally easy access the outer claims can be prospected by reconnaissance methods.

RECOMMENDATION

Sufficient preliminary exploration has been done on the CHALICE I and STEIN mineral claims to show that several types of gold mineralization including high grade massive sulfide lenses and quartz-sulfide veins are present and of sufficient size and extent to warrant trenching and core drilling. A number of broad geochemical anomalies have been localized and should be evaluated by geophysical methods and follow-up trenching and drilling as warranted. Because of the relatively good access to most of the claims surrounding the core CHALICE I and STEIN a preliminary geochemistry, prospecting and geological evaluation project should be mounted to evaluate other parts of the property particularly to the southeast along structural zones which may reflect acidic volcanic trends.

The work should be monitored on a regular basis and careful supervisory control will be required to coordinate the various components of the project. The project which will involve prospecting, geological mapping, geochemical and geophysical surveys, trenching and Stage I diamond core drilling is estimated to cost $384,000.

A second stage comprising step-out diamond drilling is recommended contingent upon the results of Stage I. The cost is estimated at $178,000 for a proposed budget of about $620,000 including contingencies.

The program can be carried out when personnel and equipment are available.

EXPLORATION BUDGET - CHALICE PROPERTY - 1983

STAGE I

1.	Diamond core drilling (fully loaded) coincident mineralized anomalies		
	2000 meters @ $70/meter	$140,000	
	Assays, 100 @ $25/sample	2,500	
			$142,500
2.	Geochemical soil sampling, including picket lines, markers, 25 meter spacing on 100 meter spread		
	2 men, $250/day, 30 days	7,500	
	1500 soil samples @ $10	15,000	
	100 rock/mineral samples	3,000	
	Transportation	1,500	
	Board	1,000	
			28,000
3.	Geophysical surveys (pulse E.M.)		
	40 kilometers @ $400/km (including final report)	16,000	
	Data manipulation (Mag., V.L.F. results)	5,000	
			21,000

4.	Prospecting, preliminary		
	2 men, @250/day, 60 days	$15,000	
	Transportation, truck, boat etc.	3,500	
	Board	2,000	
	Assays, 300 @ $30/sample	9,000	
			$29,500
5.	Trenching costs		
	(Equipment, fuel, powder etc.)	25,000	
	Assays	6,000	
	2 men, 45 days	11,500	
	Board	1,500	
			44,000
6.	Geological mapping (preliminary) core logging, reports (including assistant and expenses)	30,000	
	Transportation	1,000	
			31,000
7.	Transportation: company personnel		3,000
8.	Equipment, freight, rentals and sundries		25,000
9.	Supervision		25,000
10.	Engineering		35,000
	STAGE I TOTAL		$384,000

STAGE II

Diamond core drilling (fully loaded)
Step-out extensions

2500 meters @ $70/meter	$175,000	
Assays	3,000	
STAGE II TOTAL		$178,000

PHASE I TOTAL	$384,000	
PHASE II TOTAL	178,000	
SUB-TOTAL		$562,000
PLUS CONTINGENCIES @ 10%		58,000
PROPOSED 1983 BUDGET		$620,000

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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

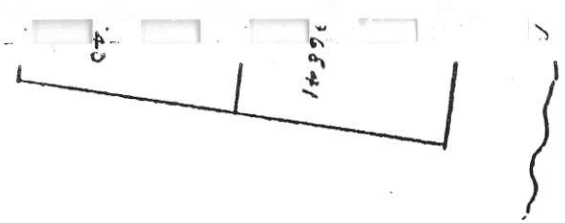
I, Edward W. Grove, of the Municipality of Central Saanich, do herby certify that:

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 Geological Sciences (Ph.D.).
3. I have practiced my profession continuously since graduation while being employed by such companies as the Consolidated Mining and Smelting Co. of Canada Ltd., British Yukon Exploration Ltd., the Quebec Dept. of Natural Resources, and the British Columbia Ministry of Energy, Mines and Petroleum Resources. I have been in corporate consulting practice since January 1981.
4. I have no direct, indirect or contingent interest in Chalice Mining Incorporated or any of its properties, 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.
6. I consent to the use of this report in a Prospectus or Statement of Material Facts.

June 1, 1983
Victoria, B.C.

Edward W. Grove, Ph.D., P.Eng.

APPENDIX I



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 (604) 876-4111
TELEX 04-50353
CABLE ADDRESS
ELDRICO

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

DATE September 23, 1969

We Hereby Certify *that the following are the results of assays made by us upon submitted* ..... *samples*

MARKED	GOLD		SILVER	Copper (Cu)					
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
		$							
13804 F	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					
13809	3.50	122.50	2.5						

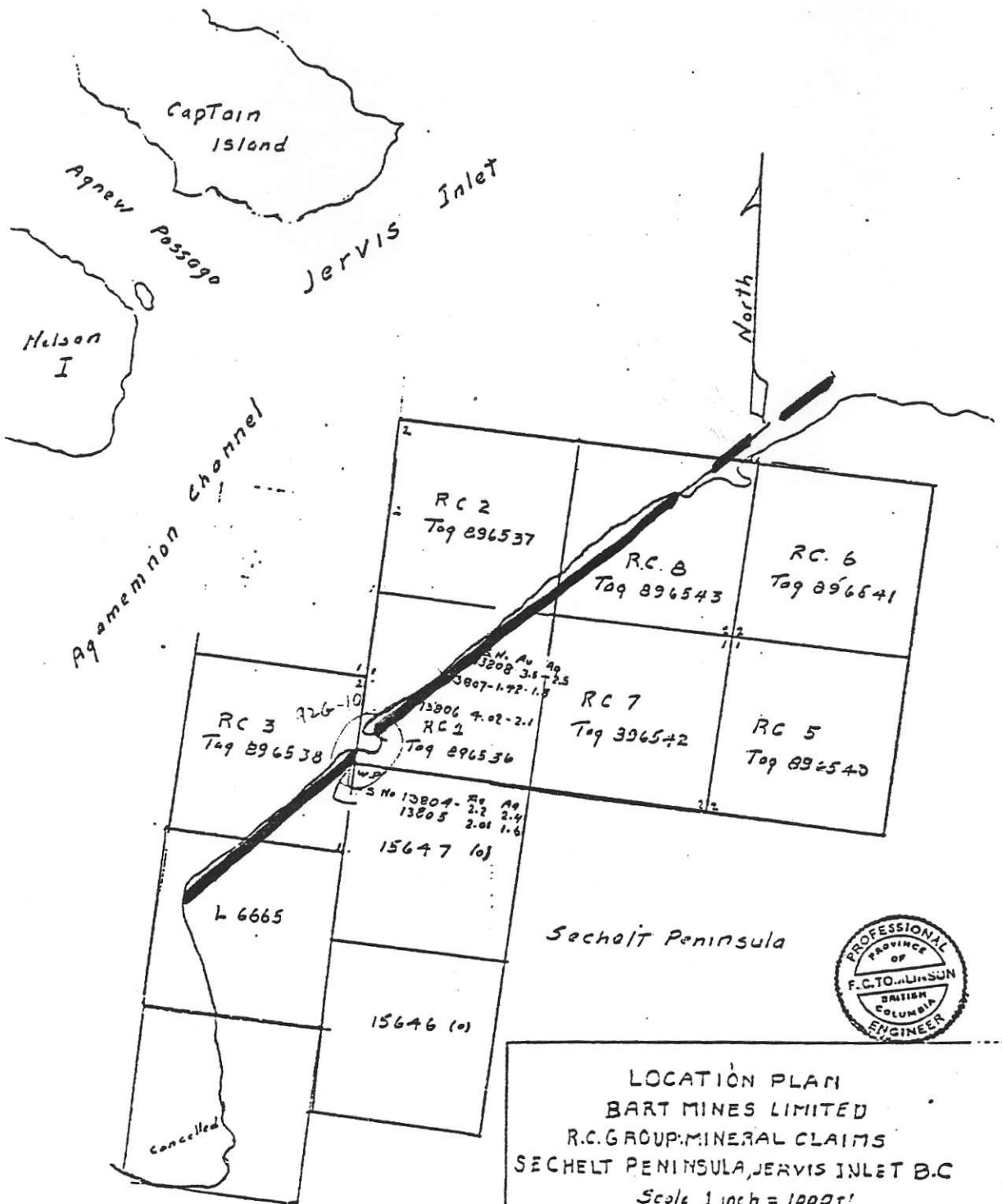
Gold calculated at $ ..... *per ounce*

Note Rejects retained one week.
Pulps retained one month.
Pulps 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.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — F.C. IU...LI

Provincial Assayer



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

PHONE (604) 876-4111
TELEX 04-50353
CABLE ADDRESS
ELONICO

Certificate of Assay

Mr. Roy Cameron

APPENDIX II

BONDAR-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		2.650	3.63	PIT NUMBER 1
R CP-2		4.260	3.52	PIT NUMBER 2
R C-3 (0-2)		0.008	0.05	STOCKWORK CHIP SAMPLE 2 METER WIDTH
R C-3 (2-4)		0.750	0.71	" " " " "
R C-3 (4-6)		0.160	0.16	" " " " "
R C-3 (6-8)		0.003	0.05	" " " " "
R C-4		4.290	3.77	CHIP SAMPLE OVER 3' LENGTH
R NL-1		0.690	1.17	CHIP SAMPLE FROM NORTH LAKE VEIN OVER 18" WIDTH
R NL-2A		0.170	0.32	2' CHIP LENGTH
R NL-2B		0.110	0.13	4' CHIP "
R NL-X-1		0.074	0.05	6' CHIP "
R NL-X-2		1.410	2.15	4 METER CHIP "
R NL-X-3		0.170	0.31	6' CHIP "
R NL-X-4		0.190	0.21	CHIP OVER 3' LENGTH
R NL-X-5		1.470	1.57	TENSION SHEAR 1-2" WIDE BY 6' LONG
R NL-X-6		1.100	1.57	TENSION SHEAR
R NL #4		0.061	0.12	TENSION SHEAR 3-4" WIDE
R NL 'A' ZONE		0.160	0.58	SW OF N.L. 12" WIDTH ROAD OUTCROP
R NEPC		0.003	0.05	INTRUSIVE
R T		0.049	0.08	14" WIDE CHIP
R PC		0.067	0.15	12" WIDE VEIN
R B		0.003	0.03	NELSON ISLAND 4" WIDE QUARTZ VEIN
R LB		0.003	0.04	200 M. WEST OF RB. ABOVE 8" WIDE

END OF LAB REPORT PRINTING

[illegible] & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER B.C. V7P 2R5 PHONE: (604) 985-0681 TELEX: 04-352667

REPORT: 422-0500 PROJECT: NONE GIVEN

CERTIFICATE OF ANALYSIS

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	As OPT	NOTES
R CP-1		2.650	3.65	
R CP-2		4.260	3.52	
R C-3 (0-2)		0.008	0.05	
R C-3 (2-4)		0.750	0.71	
R C-3 (4-6)		0.160	0.16	
R C-3 (6-8)		0.003	0.05	
R C-4		4.290	3.77	
R NL-1		0.690	1.17	
R NL-2A		0.170	0.32	
R NL-2B		0.110	0.13	
R NL-X-1		0.034	0.05	
R NL-X-2		1.410	2.15	
R NL-X-3		0.170	0.31	
R NL-X-4		0.190	0.21	
R NL-X-5		1.470	1.59	
R NL-X-6		1.100	1.57	
R NL #4		0.061	0.12	
R NL 'A' ZONE		0.160	0.58	
R NEPC		0.003	0.05	
R T		0.049	0.08	
R PC		0.067	0.15	
R B		0.003	0.03	
R LB		0.003	0.04	

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.
VON 3A0

CERT. # : A8310331-001
INVOICE # : I8310331
DATE : 14-FEB-83
P.O. # : NONE

Sample description	Prep code	Cu %	Ag FA oz/T	Au FA oz/T			
C-4W	207	--	1.04	1.092	--	--	--
C-8 (N. of C4)	207	--	1.80	1.648	--	--	--
83 CF-11	207	--	0.34	0.132	--	--	--
83 CF-12	207	--	0.04	0.014	--	--	--
83 CF-13	207	--	0.03	0.008	--	--	--
83 CF-14	207	--	0.06	0.094	--	--	--
83 CF-15	207	--	0.03	0.003	--	--	--
83 CF-16 N.L.	207	<0.01	0.05	0.024	--	--	--
83 CF-17	207	<0.01	0.03	0.012	--	--	--
83 CF-18 > C4 chip	207	--	0.16	0.162	--	--	--
83 CF-19	207	--	0.08	0.188	--	--	--
83 CF-20 > C4 chip	207	--	0.04	0.010	--	--	--
83 CF-21	207	--	0.02	0.003	--	--	--

B. Stewart

Registered Assayer, Province of British Columbia

CTA MEMBER CANADIAN TESTING ASSOCIATION

2 Moon

ORA[illegible]EX. EXPLORATION COMPANY, LIMITED

N.T.S. 92 F/16E
92 C/13W

PROPERTY SWBC GENERAL #1080

DATE JAN 10, 1983

SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	TYPE	WIDTH	ASSAYS opt							SAMPLE BY
				Au	Ag	Cu	Zn	Pb			
18518	45cm chip across NL	~~vein~~		1.49	2.56	0.01	0.02	0.02			C. Sizeland
9	mass. sulf NL vein	NL vein		8.80	10.6	0.01					A. Stevens
18520	FW of NL vein			0.252	0.34	0.01					
1	Tye whole rx			0.178	2.62	0.76					
2	JR whole rx			0.272	0.26	0.01					
3	JR 42" chip			0.028	0.15	0.01					
4	H.G. from pit			5.40	7.48	0.01					
18525	10' chip N			0.084	0.12	0.01					
20641	8'4" chip S			0.104	0.10	0.01					
2	country rx north showing			0.003	0.02	0.01					
3	whole rx (mass 6." "			1.85	1.06	0.01					
20644	E wall adit (whole rx)			0.008	0.02	0.01	↓	↓			
				SAMPLES BEING RERUN FOR Au Ag							

CHALICE MINING
SAMPLE DESCRIPTION OF ROCK SAMPLES COLLECTED
AUGUST 19, 1982 ON THE CHALICE I MINERAL CLAIMS

Sample No.	Showing	Description
25901	#2 Pit	A 30 cm continuous chip of the south margin of a silicified quartz-pyrite flooded quartz diorite structure.
25902	#2 Pit	A 45 cm continuous chip across the #2 Pit showing structure.
25903	C2	A grab sample of massive sulphide.
25904	C2	A grab sample of vein material.
25905	C4	A 50 cm continuous chip of altered porphyritic dacite wall rock east from the chilled margin of the dacite dyke.
25906	C4	A 10-20 cm chip of quartz-pyrite from the irregular fissure vein in the shoreline C4 showing.
25907	C4	A 1 cm quartz vein adjacent (W) the above fissure vein.
25908	Ton showing	A spotty chip sample across the face of the Darnsford adit.
25909	Ton showing	A grab sample from a pyritized sediment in the fault draw, west of the Darnsford adit.
25910	Egmont road showing	A 60 cm continuous chip across the quartz-siliceous diorite vein adjacent the Egmont road. Vein N 45°E/80°NW.

MINE-EN LABORATORIES LTD.
705 WEST 15TH STREET, NORTH VANCOUVER, B.C. V7M 1T2
PHONE: (604) 980-5814 OR (604) 988 4524

Certificate of Assay

Head Office

TO: E & B Explorations,
1440-800 W. Pender St.,
Vancouver, B.C.

PROJECT No. Chalice Mine

DATE: Aug.24/82

File No. 2-548

SAMPLE No.	Ag oz/ton	Au oz/ton
25901	.55	.350
02	4.24	2.595
03	1.62	1.625
04	.26	.111
05	.02	.011
06	.72	.670
07	.01	.009
08	.01	.001
09	.02	.001
25910	1.43	.680

AUG 1982
RECEIVED

MINE-EN Laboratories Ltd.

CERTIFIED BY:

General Testing Laborato
A Division of SGS Supervision Service
1001 EAST PENDER ST., VANCOUVER, B.C., CANADA.
PHONE (604) 254-1647 TELEX 04-507514 CABLE: SU

TO:
M. E. [illegible]
5151 - 10A Ave.,
Delta, BC.

CERTIFICATE OF AS

No: 8210-1254 DATE: Oct. 18/

We hereby certify that the following are the results of assays on: ore

MARKED	GOLD oz/st	SILVER oz/st	XXX	XXX	XXX	XXX	XXX	XXX
IL	0.264	0.56	NORTH LAKE MAIN VEIN					
P1	5.158	4.39	PIT NUMBER 1					
P2	2.316	3.98	PIT NUMBER 2					
TY	0.204	5.12	TY INTRUSIVE					
X	0.560	1.20	JR					

NOTE: REJECTS RETAINED ONE MONTH, PULPS RETAINED THREE MONTHS ON REQUEST PULPS AND REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR

L. Voigt

PROVINCIAL ASSA

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

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

File No. 82-0378

Type of Samples Rocks

Disposition _____

ASSAY CERTIFICATE

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

DATE SAMPLES RECEIVED June 9, 1982

DATE REPORTS MAILED June 14, 1982

ASSAYER _____

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

General Testing Laborato
A Division of SGS Supervision Servic
1001 EAST PENDER ST., VANCOUVER, B.C., CANAD
PHONE (604) 254-1647 TELEX 04-507514 CABLE:

TO:
MR. L. [illegible]
5151 - 10A Ave.,
Delta, BC.

CERTIFICATE OF A

No.: 8210-1254 | DATE: Oct. 18,

We hereby certify that the following are the results of assays on: Ore

MARKED	GOLD oz/st	SILVER oz/st	XXX	XXX	XXX	XXX	XXX	XXX
ML	0.264	0.56						
P1	5.158	4.39						
P2	2.316	3.98						
TY	0.204	5.12						
X	0.560	1.20						

L. Webb

PROVINCIAL ASSA

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.
VON 3A0

CERT. # : A8310655-001
INVOICE # : I8310655
DATE : 18-MAR-83
P.O. # : NONE

Sample description	Prep code	Au FA oz/T					
C-3M	207	1.364	--	--	--	--	--

Registered Assayer, Province of British Columbia

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-022
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT,B.C.
VON 3A0

CERT. # : A8310655-00
INVOICE # : I8310655
DATE : 18-MAR-83
P.O. # : NONE

Sample description	Prep code	Te ppm					
C-3M	207	38.00	--	--	--	--	--

Certified by Hart Bichler

MEMBER
CANADIAN TESTING
ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AV
NORTH VANCOUVER, B
CANADA V7J 2(

TELEPHONE: (604) 984-02
TELEX 043-525

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310228-00
INVOICE # : I8310228
DATE : 31-JAN-83
P.O. # : NONE

Sample description	Prep code	Ag FA oz/T	Au FA oz/t				
83-CF-7	207	0.30	0.003	--	--	--	--

Registered Assayer, Province of British Columbi

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-022
TELEX: 043-5259

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310749-001
INVOICE # : I8310749
DATE : 28-MAR-83
P.O. # : NONE

Sample description	Prep code	Au FA oz/T					
20CN 80W	207	0.010	--	--	--	--	--

Registered Assayer, Province of British Columbia

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-0221
TELEX: 043-5253

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310418-00
INVOICE # : I8310418
DATE : 1-MAR-83
P.O. # : NONE

Sample description	Prep code	Bi %	Te %				
C-2	209	0.013	0.088	--	--	--	--
JR	209	0.003	0.001	--	--	--	--
NL1-M	209	0.016	0.019	--	--	--	--
TY	209	0.017	0.010	--	--	--	--

Registered Assayer, Province of British Columbia

CHEMEX LABS LTD.

212 BROOKSBANK
NORTH VANCOUVER.
CANADA V7J

TELEPHONE. (604) 984-
TELEX. 043-5.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310675-
INVOICE # : I8310675
DATE : 18-MAR-83
P.O. # : NONE

Sample description	Prep code	Au FA oz/T					
LINE 00 35 WEST	214	0.080	--	--	--	--	-
00 + 35W	214	0.040	--	--	--	--	-
00 + 75W	214	0.160	--	--	--	--	-
LINE 100N 70W	214	0.024	--	--	--	--	-
LINE 100N 90W	214	0.038	--	--	--	--	-
480N 115E	214	0.360	--	--	--	--	-
LINE 600N 75E	214	0.060	--	--	--	--	-
500N 275W	214	2.024	--	--	--	--	-
500N 275W W.R.	214	0.026	--	--	--	--	-
540N 275W	214	0.020	--	--	--	--	-
83 CF 23	214	0.296	--	--	--	--	-
1400N 1460E	214	1.162	--	--	--	--	-
1600N 2050E	214	0.156	--	--	--	--	-

Registered Assayer, Province of British Colu

CHEMEX LABS LTD.

212 BROOKSBANK A
NORTH VANCOUVER,
CANADA V7J

TELEPHONE: (604) 984-
TELEX: 043-52

· ANALYTICAL CHEMISTS · GEOCHEMISTS · REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

** CERT. # : A8212657-0
INVOICE # : I8212657
DATE : 24-AUG-82
P.O. # : NONE

Sample description	Prep code	Ag FA oz/T	Au FA oz/t				
BL 400	207	0.07	0.150	4' WIDE CHIP	--	--	--
TY 2E	207	2.16	0.094	6' WIDE CHIP	--	--	--
TY 3E	207	0.86	0.060	6' WIDE CHIP	--	--	--

B. L. Swartes

Registered Assayer, Province of British Columbia

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK A
NORTH VANCOUVER, B
CANADA V7J 2
TELEPHONE: (604) 984-0
TELEX: 043-52

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC. **

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8213180-0
INVOICE # : I8213180
DATE : 10-SEP-82
P.O. # : NONE

Sample description	Prep code	Cu %					
TY 2E	214	1.92	--	--	--	--	--
TY 3E	214	0.35	--	--	--	--	--

CTA MEMBER CANADIAN TESTING

Registered Assayer, Province of British Colum

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-022
TELEX: 043-5259

· ANALYTICAL CHEMISTS · GEOCHEMISTS · REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310709-00
INVOICE # : I8310709
DATE : 23-MAR-83
P.O. # : NONE

Sample description	Prep code	Te ppm						
0+50N	207	0.10	--	--	--	--	--	

MEMBER
CANADIAN TESTING
ASSOCIATION

Certified by Hart Bichler

BACON, DONALDSON & ASSOCIATES LTD.
Consulting Engineers

2036 Columbia St., Vancouver, B.C. V5Y 3E1 · Tel. 879-8461, Telex 04-53437

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
Certified Assayer.

APPENDIX III

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

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

File No. 82-0247

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

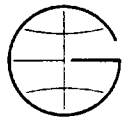
DATE SAMPLES RECEIVED Apr. 30, 1982

DATE REPORTS MAILED May 4, 1982

ASSAYER

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

APPENDIX IV



BACON, DONALDSON & ASSOCIATES LTD.
Consulting Engineers

2036 Columbia St., Vancouver, B.C. V5Y 3E1 · Tel. 879-8461, Telex 04-53437

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

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.

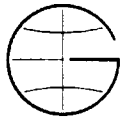
W. G. Bacon

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

WGB:pam

Att.

APPENDIX V



SOP 1 400N BL

A. 3cm - moss, fir needles, leaves

B. 1cm - black organic matter, humus

C. 15cm - red dirt, angular rock fragments up to 10cm size

SOP 2 600N/225E

A. 3cm - moss, fir needles, leaves

B. 10cm - black organic matter, humus and roots

C. 6cm - clay, ash and small rock fragments, hardpan

D. 32cm - apparent alluvial sorting of sand, gravel and small rounded pebbles up to 15cm in size

E. 22cm - reddish, fine grain sand with an occasional rounded pebble

F. 15cm - dark red gravel, coarse sand and rounded pebbles to 5cm

G. 70cm - dense hardpan clay with angular rock fragments up to 25cm in size and red in seams

SOP 3 620N/425E (15 meter E. of Ty adjacent Syd's road)

A. 5cm - moss, fir needles, leaves

B. 5cm - black organic matter, peat, humus and roots

C. 2cm - clay and ash

SOP 4 600N/400E

A. 5cm - moss, needles

B. 5cm - black peat, humus

C. 75cm - fine red sand and alluvial rounded pebbles

D. 75cm - compacted clay hardpan

SOP5 300N/475E (adjacent NL showing)

A. 5cm - moss, needles

B. 7.5cm - black peat, humus and roots

C. 30cm - reddish sand and dirt

D. 14cm - super enriched red dirt

E. 8.5cm - fine gray clay

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-022
TELEX: 043-5259

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310658-00.
INVOICE # : I8310658
DATE : 18-MAR-83
P.O. # : NONE

Sample description	Prep code	Ba ppm	Tl ppm	Bi ppm			
SOP 1 A	217	340	0.1	1.0	--	--	--
SOP 1 B	217	880	0.2	1.6	--	--	--
SOP 1 C	217	960	0.2	2.4	--	--	--
SOP 2 A	217	290	0.1	0.6	--	--	--
SOP 2 B	217	140	0.1	0.1	--	--	--
SOP 2 C	217	670	0.1	0.2	--	--	--
SOP 2 D	217	740	0.1	0.2	--	--	--
SOP 2 E	217	600	0.1	0.1	--	--	--
SOP 2 F	217	570	0.1	0.1	--	--	--
SOP 2 G	217	620	0.1	0.2	--	--	--
SOP 3 A	217	140	0.1	0.1	--	--	--
SOP 3 B	217	180	0.1	0.1	--	--	--
SOP 3 C	217	600	0.1	0.1	--	--	--
SOP 4 A	217	140	N.S.S.	0.1	--	--	--
SOP 4 B	217	340	0.1	0.1	--	--	--
SOP 4 C	217	540	0.2	0.2	--	--	--
SOP 4 D	217	620	0.2	0.1	--	--	--
SOP 5 A	217	350	0.1	0.5	--	--	--
SOP 5 B	217	230	0.1	0.1	--	--	--
SOP 5 C	217	640	0.2	0.7	--	--	--
SOP 5 D	217	580	0.1	0.7	--	--	--
SOP 5 E	217	620	0.2	0.9	--	--	--

Certified by Hart Bichler

CHEMEX LABS LTD.

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

TELEPHONE: (604) 984-022
TELEX: 043-5259

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310658-00
INVOICE # : I8310658
DATE : 18-MAR-83
P.O. # : NONE

Sample description	Prep code	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm	Co ppm
SOP 1 A	217	18	3	30	68	0.6	6
SOP 1 B	217	18	2	27	115	0.6	10
SOP 1 C	217	20	1	10	70	0.4	15
SOP 2 A	217	9	1	30	41	0.3	3
SOP 2 B	217	8	1	25	23	0.2	1
SOP 2 C	217	9	1	8	27	0.3	3
SOP 2 D	217	11	1	10	50	0.1	3
SOP 2 E	217	10	1	7	21	0.1	4
SOP 2 F	217	16	1	4	27	0.1	3
SOP 2 G	217	18	1	5	33	0.2	4
SOP 3 A	217	10	1	17	32	0.1	1
SOP 3 B	217	7	1	15	26	0.3	1
SOP 3 C	217	9	1	11	24	0.1	1
SOP 4 A	217	9	1	26	35	0.1	1
SOP 4 B	217	10	1	26	43	0.2	5
SOP 4 C	217	13	1	8	42	0.4	6
SOP 4 D	217	11	1	7	23	0.1	6
SOP 5 A	217	21	1	31	33	2.9	3
SOP 5 B	217	12	1	23	25	0.6	3
SOP 5 C	217	10	1	9	35	0.3	3
SOP 5 D	217	8	1	8	25	0.3	2
SOP 5 E	217	7	1	8	22	1.0	2

Certified by Hart Bichler

CHEMEX LABS LTD.

212 BROOKSBANK
NORTH VANCOUVER
CANADA V7J

TELEPHONE: (604) 98
TELEX: 043-

· ANALYTICAL CHEMISTS · GEOCHEMISTS REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT,B.C.
VON 3AO

CERT. # : A8310658
INVOICE # : I8310658
DATE : 18-MAR-8
P.O. # : NONE

Sample description	Prep code	AS ppm	AU-AA ppb	Hg ppb	F ppm	Sb ppm	Q
SOP 1 A	217	3.0	540	210	60	0.2	1.
SOP 1 B	217	6.0	1260	230	90	0.4	0.
SOP 1 C	217	4.0	300	80	190	0.1	1.
SOP 2 A	217	2.0	40	160	50	0.1	0.
SOP 2 B	217	3.0	10	280	30	0.2	0.
SOP 2 C	217	4.0	<10	30	160	0.2	0.
SOP 2 D	217	4.0	10	50	210	0.1	0.
SOP 2 E	217	3.0	10	30	120	0.1	0.
SOP 2 F	217	4.0	10	50	160	0.1	0.
SOP 2 G	217	3.0	<10	30	210	0.1	0.
SOP 3 A	217	3.0	10	220	50	0.2	N.S.
SOP 3 B	217	3.0	10	220	40	0.1	0.
SOP 3 C	217	3.0	<10	100	120	0.1	0.
SOP 4 A	217	2.0	<10	260	30	0.1	0.
SOP 4 B	217	4.0	10	200	80	0.2	0.
SOP 4 C	217	3.0	<10	60	170	0.1	0.
SOP 4 D	217	4.0	20	30	210	0.1	0.
SOP 5 A	217	3.0	2500	120	90	0.1	5.
SOP 5 B	217	1.0	80	100	60	0.1	1.
SOP 5 C	217	3.0	720	30	170	0.1	0.
SOP 5 D	217	3.0	480	30	120	0.1	0.
SOP 5 E	217	2.0	2100	20	160	0.1	0.

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by .....

Chemex

LAB PREPARATION OF GEOLOGICAL, GEOCHEMICAL AND BIOLOGICAL MATERIALS

Sample handling and preparation procedures are as important as field sampling techniques. A poorly prepared sample is neither representative of the material obtained in the field nor can it be analysed with any degree of confidence. For this reason we spend considerable time studying handling and preparation procedures for each project.

Prep. Code*	Sample Type	Description Prep. Procedure	Price/Sample
GEOCHEM			
201	Soil or Sediment	Dry, sieve through – 80 mesh screen	$ 0.60
202	Soil or Sediment	Dry, sieve through – 80 mesh screen save + 80 mesh fraction	1.00
203	Soil or Sediment	Dry, sieve through – 35 mesh screen then ring grind to approx. – 100 mesh	2.00
217	Soil or Sediment	Ring grind to approx. – 100 mesh	2.00
205	Rock or Core	Crush, subsample and ring grind to approx. – 100 mesh. Over 2 lbs. see code 251	2.50
235	Pan Concentrate	Ring Grind to approx. – 100 mesh	2.00
210	Vegetation	Milled to – 20 mesh	4.00
213	Stream Sediments Pan Concentrates	Separation of Heavy Minerals having a specific gravity greater than 2.96. Ring grind to – 100 mesh	14.00
214	Pulp	No sample preparation required	N/C
ASSAY			
207	Rock or Core (Precious metals)	Primary and secondary jaw crushing, tertiary cone crushing, rotary pulverize and screen to – 100 mesh. Screen is examined for 'metallics'	3.75
208	Rock or Core	Primary and secondary jaw crushing, tertiary cone crushing. Ring grind to approx. – 100 mesh	3.25
209	Concentrate	Ring grind and screen to – 100 mesh	3.75
225	Assay Material	No sample preparation required	N/C
MISCELLANEOUS			
221	Water	Water sample	N/C
227	Pulp	Rolling charge (Homogenizing pulp)	1.00
261	Pulp	Compositing charge (Combining pulps)	1.00 per included sample
231		1 - Assay ton fire assay – surcharge	1.00
216		Screen to – 140 mesh – surcharge	1.00
230		Screen to – 200 mesh – surcharge	2.00
219		Samples requiring additional drying	2.00
251		Overweight charge on assay samples > 15 lbs. and geochem samples > 2 lbs.	0.25/lb.

*Occurs in the first column of each certificate.
Prices in Canadian dollars or U.S. equivalent.