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REPORT ON THE GEOPHYSICAL

EXPLORATION

OF

THE TOTEM GOLD PROPERTY

Lat. 49 25'N; Long. 116 43'W

N.T.S. 82 F/7E

NELSON M. D.

British Columbia

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VANCOUVER, B.C.

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DOBRANA RESOURCES Ltd

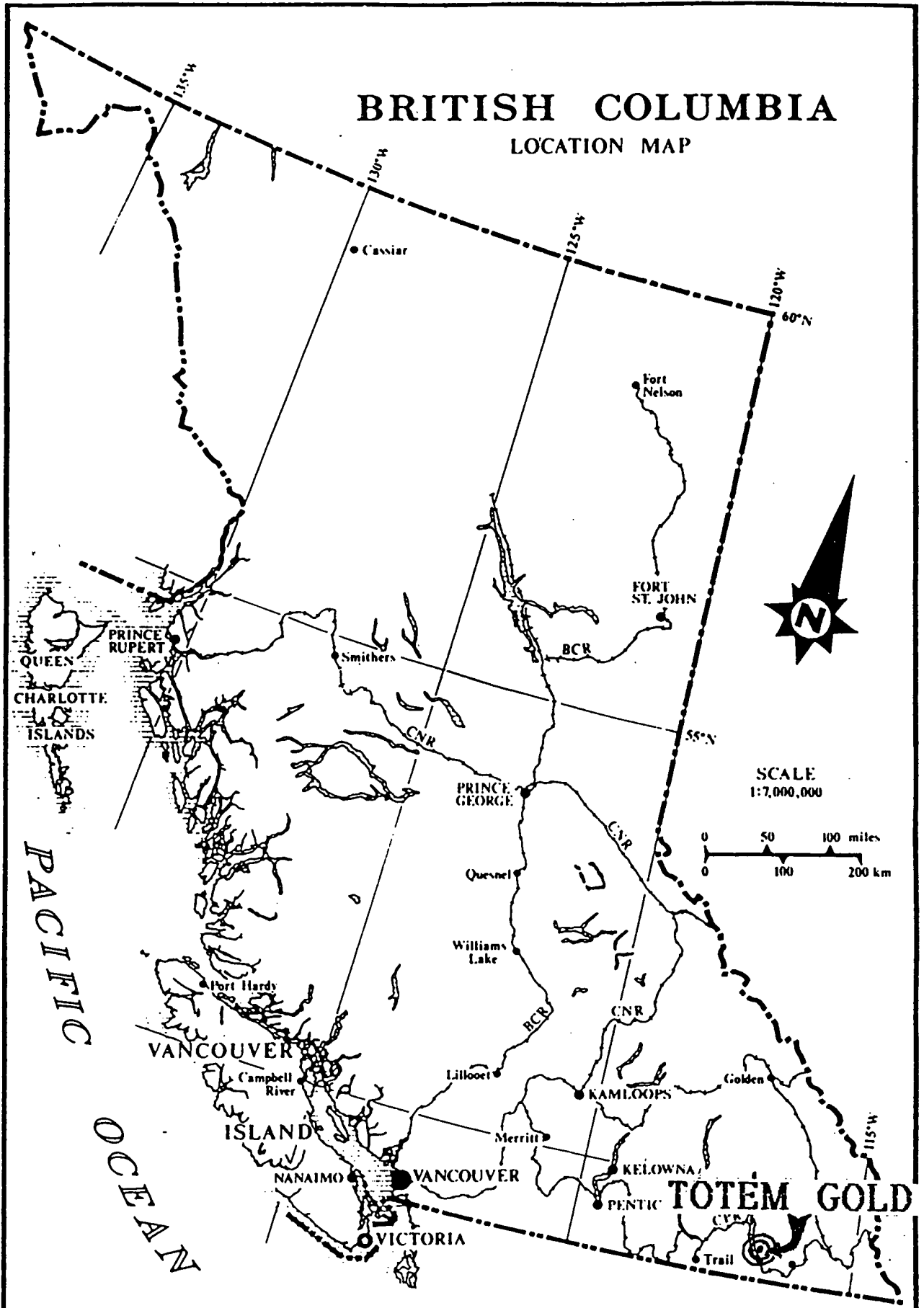
by

I. BOROVIC, P. Eng.  
geologist

VANCOUVER, B.C.  
May 1, 1994  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

23,374

# BRITISH COLUMBIA LOCATION MAP



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engineering &  
consulting ltd.

**DOBRANA RESOURCES Ltd**  
**TOTEM GOLD PROPERTY**

Date: Feb 94

FIG. No. 1

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## SUMMARY

Geophysical ULF-EM exploration work done on the TOTEM GOLD property owned by DOBRANA RESOURCES Ltd. was conducted by Igna Engineering and Consulting Ltd. during Feb 1994. The property is situated in the Nelson Mining Division in the southern Kootenay Lake area, 40 km north of Creston, B. C.

The geology of the property area is characterized by Proterozoic sediments of Purcell and Windermere Supergroups intruded by Cretaceous granitic rocks of the Bayonne Batholith. In many areas limestones and other sediments have undergone contact metamorphism and metasomatism resulting from the granitic intrusion.

Vein and skarn type mineralization occur in the area.

Numerous old workings such as German (Gold) Basin, Hope of Discovery, Copper Canyon, Imperial and Valporaiso/Government, date back to the turn of the century.

The area has been explored for high grade silver, lead, zinc, gold, tungsten and copper. The old records show shipments of ore from Imperial and Valporaiso/Government mines containing 3.45 oz/t silver and 0.356 oz/t gold (O'Grady, 1933).

Geophysical studies have revealed the presence of northerly trending electromagnetic conductors attributable to silver, lead, zinc, gold and copper mineralization. Magnetic survey suggests areas of alteration and possible presence of anomalous concentrations of minerals within shear zones parallel and coincidental with German Basin contact and shear zone.

Soil geochemistry results show an area anomalous in silver, lead, zinc, copper and gold in the vicinity of the north trending magnetic anomaly and electromagnetic conductor in the area of the TOTEM GOLD workings.

It is recommended that a next phase of exploration be undertaken to assess the following:

### Phase 1/94/95

- lateral (north-south) extent and grade characteristics of two target areas.

### Phase 2/94/95

- to test for the down dip extension of mineralization with diamond drilling.

## INTRODUCTION

DOBRANA RESOURCES LTD., a Vancouver, B.C. based mineral exploration company, intends to continue the exploration of the silver, lead, zinc, gold and copper bearing mineral property known in the past as GERMAN (GOLD) BASIN, located on the southwest slopes of Mount Sherman, north of Sanca Creek about 4 km east of Sanca on Kootenay Lake.

The following report is a summary of information obtained from the various published and private reports, which are listed in the Bibliography on page 15; from the writer's personal knowledge and experience gained through research and exploration work in the Kootenay Lake area in the past; from the results of the 1987 and 1989 geological, geophysical and geochemical survey; and from recent investigations in February 1994.

The writer supervised the basic exploration work, comprised of geological mapping, geochemical soil survey, geophysical VLF-EM and ground magnetic surveys, done during 1987 and 1989 exploration. The writer also performed and supervised work in Feb of 1994.

The most recent work is continuation of the 1987/89 exploration efforts.

The conclusions expressed in this report are based upon the results of the geological, geochemical and geophysical work done on and around the Totem Gold property in 1987/1989/1994 and in the past.

## PROPERTY

Claims:  
(Fig. 1 & 2)

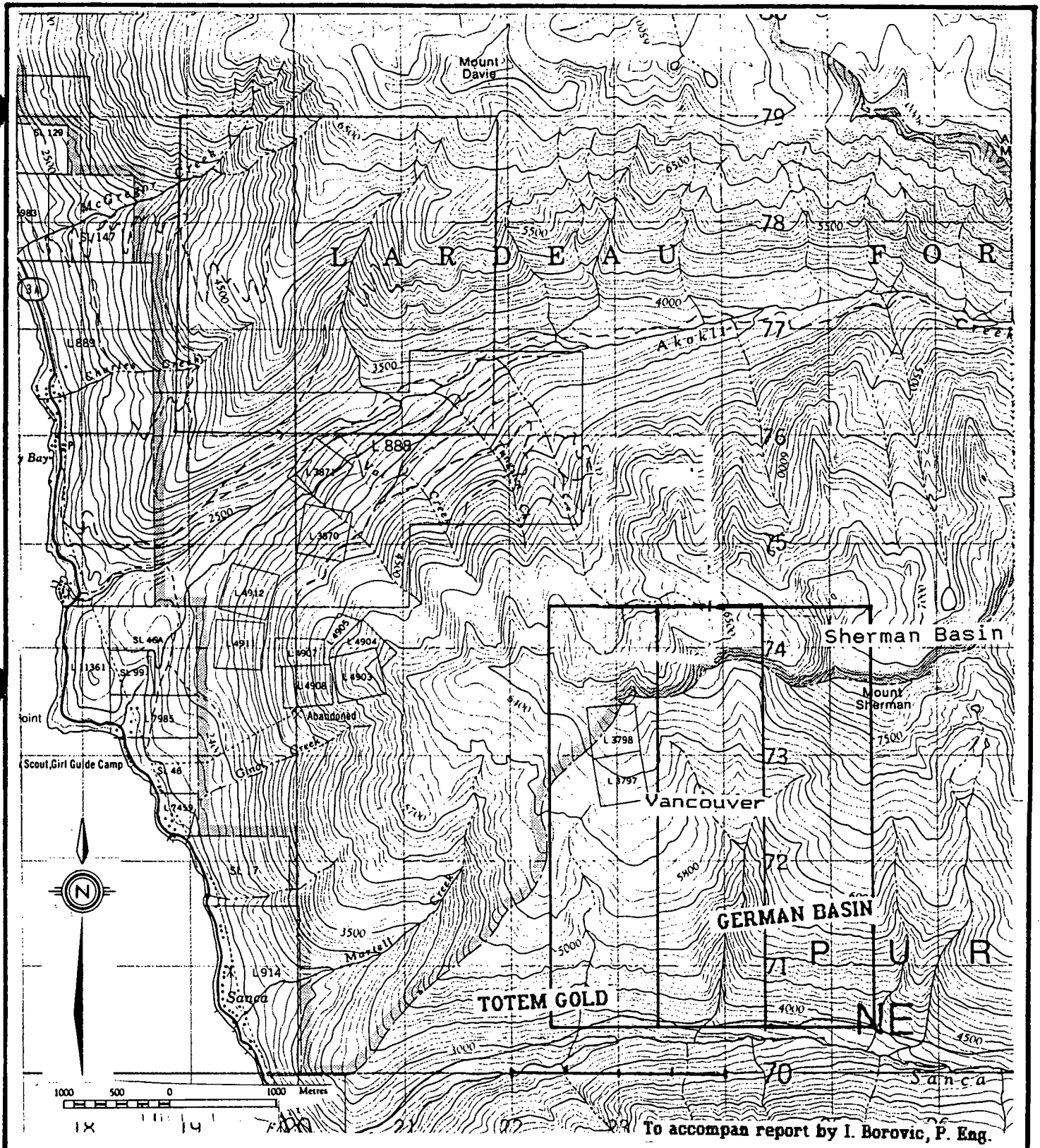
The property is composed of four located mineral claims with a total of 62 units and one reverted Crown Granted claim as follows:

Claim(# of units)	Title No.	Rec. Date
Totem Gold(16)	316180	Feb. 16 1994.
German Basin(16)	316179	Feb. 17 1994.
Sherman Basin(16)	312692	Aug. 27 1994.
Vancouver (1)	313573	Oct. 01 1994.

Owner: DOBRANA RESOURCES LTD.  
304-700 W, Pender St.  
Vancouver, B. C. V6C 1G8

Location:  
(Fig. 2)  
(Lat. 49 25'N; Long. 116 43'W); NTS 82 F/7E; Nelson, M.D. B.C.

The property is approximately 40 km north-northwest of Creston, B.C., about 4.5 km east of Sanca on Kootenay Lake and north of Sanca Creek.



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**Claim Map**

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FIG. 2

#### Access:

A forestry access road leaving highway 3A at Sanca rises to approximately 1200 m elevation in the easterly direction following Sanca Creek for 6.5 km where it joins an old mine and series of new logging roads leading northerly into the property. The nearest rail point is at Sirdar, 36 km distance south of the old mine site. The smelter at Trail is approximately 150 km distance by road.

#### Climate

In the property area, climate is temperate. Summers are moderately dry and warm. Snowfall accumulation varies widely from winter to winter but is rarely greater than one meter. Annual precipitation is light to moderate.

#### Physiography

THE TOTEM GOLD PROPERTY is located on the western flanks of the Purcell Mountains. The Purcell Mountains lie east of the Selkirk Mountains and are separated from them by the long through valley occupied by Beaver River, Duncan River, Duncan Lake, and Kootenay Lake.

Along the east side of Kootenay Lake the tributary creeks, flowing in narrow deep valleys, have carved out a series of narrow ridges running east and west, ranging in elevation from 7,000 feet on the ends overlooking the lake to 8,000 feet and higher on the eastern ends.

The Purcell Mountains are underlain by sedimentary and metamorphic rocks, largely of Proterozoic age but extending upward into the Lower Palaeozoic, which are intruded by batholiths of granitic rocks. The sedimentary and metamorphic rocks comprise thick quartzite, argillaceous quartzite, argillite, and limestone members.

The rocks are involved in overturned and frequently complex folds about axes which regionally have an accurate plan, being northeasterly in the south, northerly in the central ranges, and northwesterly in the north. The trends of individual ranges are controlled by this fundamental bedrock structure.

In the southern Purcell Mountains south of Mount Findlay and Skookumchuck Creek "the mountains up to 7,000 feet are rounded and well wooded to the summit, higher ones are commonly extremely rugged, and those carved out of granite or massive quartzites are climbed only with extreme difficulty."

#### Water

Intermittent streams from which quantities of water can be obtained for exploration drilling occur in the vicinity of the property.

## Power

A power line (rated 2200 volts) extends from the transmission line on Highway 3A to the old mine site at Valporaiso-Government workings (about 3.5 km from the Hope of Discovery property) and appears to be in good condition. To become operational, the terminus needs only to be refitted with transformers and the power line right-of-way re-slashed. The power line is owned and maintained by West Kootenay Power Ltd. from whom power can be contracted.

## Crew accommodation

During the summer months room and board for the exploration crew is found in the motel at the Destiny Bay on Kootenay Lake only 13 km from the property.

In late fall and winter months the nearest room and board facilities are located in the town of Creston some 40 km to the south of the property.

## G E O L O G Y

### REGIONAL GEOLOGY

(Fig. 3)

(Rice 1938, 1941; Green 1981; Reesor 1983)

The northeastern area of the Property is underlain by late Precambrian (Proterozoic) sediments of Hadrynian and Melikian age. Sediments have been divided into two systems or supergroups: the Purcell and the Windermere (Rice 1938, 1941). Proterozoic sediments have been intruded by Cretaceous granitic rocks of the Bayonne Batholith which occupy the rest of the property.

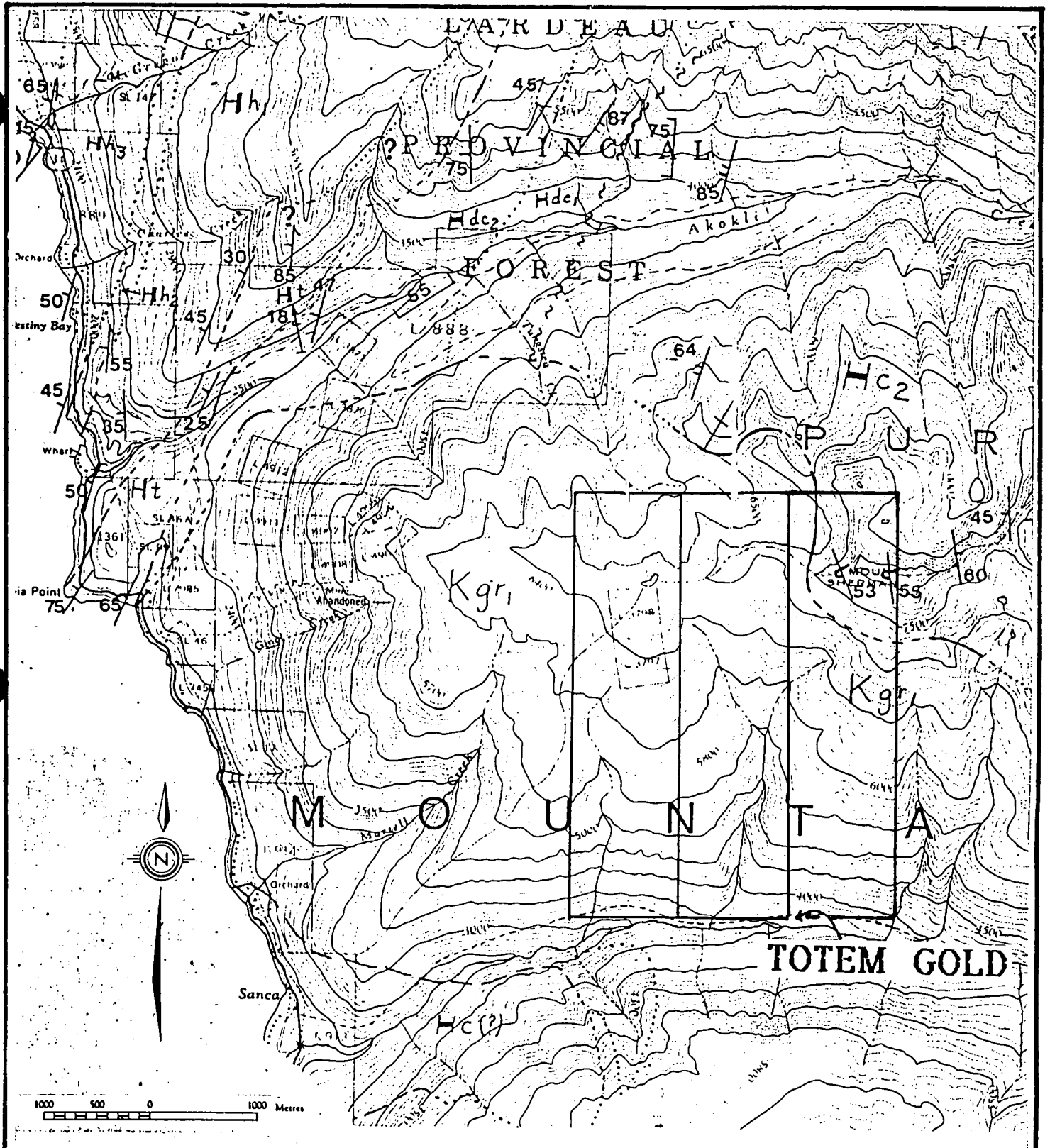
### The Purcell Supergroup

The Purcell Supergroup consists of a conformable succession of formations which in the area of interest is represented by Creston (Hc) and the Dutch Creek Formations (Hdc).

The Creston Formation (Hc) is composed of varicolored argillaceous quartzite, laminated argillite, bands of chlorite schist. Narrow beds and lenses of calcareous rocks occur in the upper part of the formation, and are transitional to the Kitchener-Siyeh Formation (Rice 1941). The Kitchener-Siyeh consists mainly of impure dolomitic limestone, argillite and calcareous quartzite. Limestone and calcareous rocks compose the bulk of the formation. The Kitchener Formation is not subdivided on map Fig 4 & 5.

The Dutch Creek Formation (Hdc) overlies the Kitchener and is represented by slaty argillite with fine, regular lamination. Some of the argillite is calcareous, grading to impure, dolomitic limestone or sandy, grading to argillaceous quartzite.





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**Geology**

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FIG. 3

# LEGEND

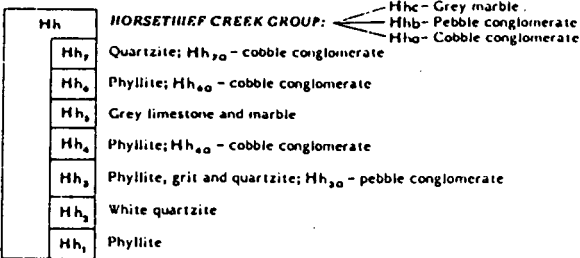
MESOZOIC

**CRETACEOUS**

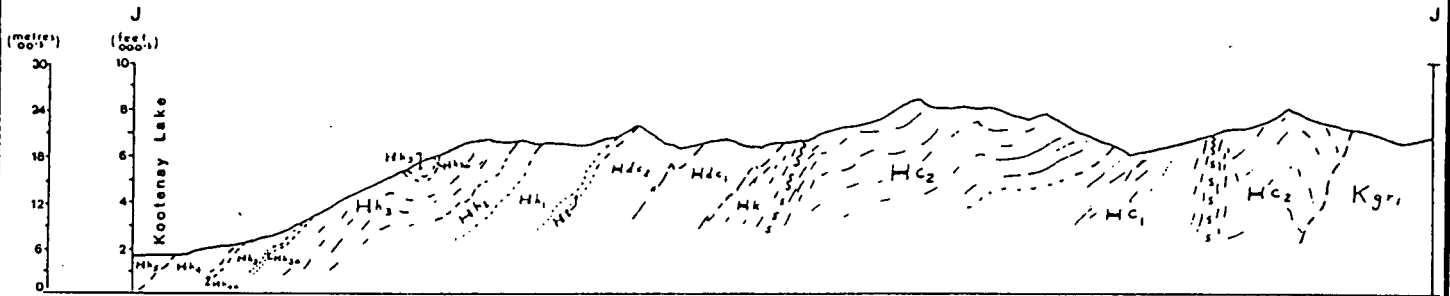
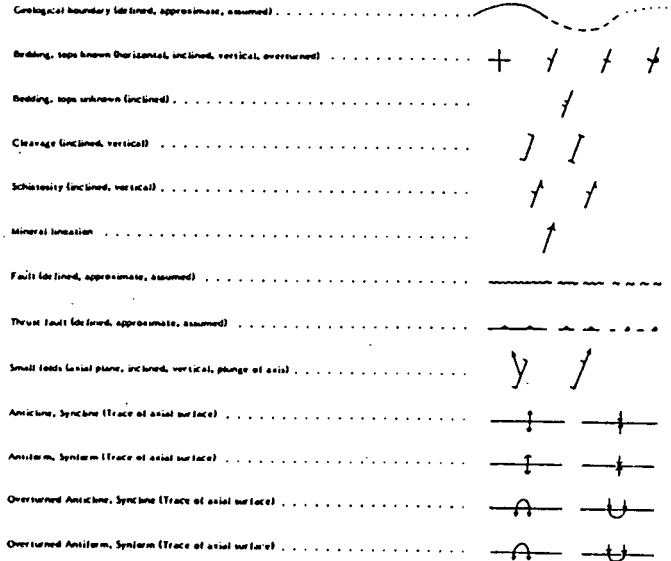
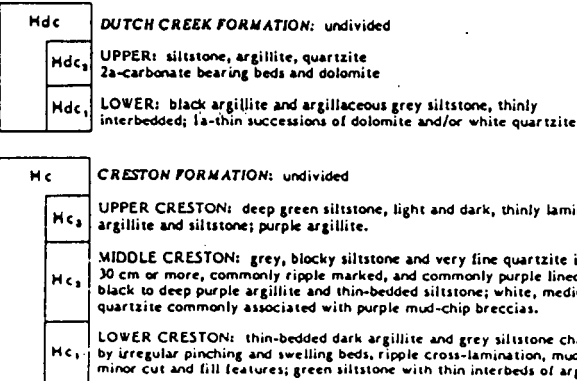


**MADRYNIAN**

**WINDERMERE SUPERGROUP (Hh, H1)**



PROTEROZOIC



J. E. REESOR JAN. 1983

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Date: Feb 94

FIG. 3A

## The Windermere Supergroup

The Toby Formation (Ht) is the basal member of the Windermere series (Rice, 1941) and mainly consists of a greenish grey conglomerate. The clasts are mostly quartz set in a siliceous cement. Conglomerate is interbedded with greenish foliated argillite.

The Horsethief Creek Group (Hh) overlies the Toby Formation and is represented in large part by slaty argillite, laminated, finely-grained or sandy with beds and lenses of crystalline limestone, arkose and pebble conglomerate.

### Granitic Intrusives:

#### Bayonne Batholith (Kgr)

The major part of the Totem Gold property area is underlain by the granitic intrusive rocks of the Bayonne Batholith. The intrusive is typically white to light grey, medium to coarse grained biotite granite.

It is composed of approximately equal amounts of quartz, potash feldspar and plagioclase. Megacrysts of potash feldspar from 2 to 3 cm long occur in the rock. Locally the intrusive rock may be weathered and friable with feldspar altered to kaolin. Fine grained pink to grey aplite dykes transect the granitic rock frequently.

The contact to the metasediments (northern part of the property) is irregular, with numerous apophysis and relicts of country rock. The metasediments observed near the contacts have been silicified and bleached in narrow aureoles.

### STRUCTURE:

Foliation measurements north and west of the intrusive rocks showed steep eastward dips on planes striking 10 - 200 NE (Green, 1981). This suggests an eastward dipping fold axial plane consistent with other areas adjoining the Kootenay Arc the major structure of the region.

A major fault structure or sheeted zone, conforming closely to the fabric of the schistose metasediments in the Akokli Creek Valley, traces southward into the intrusive rocks without apparent attenuation or refraction. This north-south trending shear zone, subparallel to the major structure of the area, the Val Fault (Green op. cit.), is the locus for mineralization in the Totem Gold and German (Gold) Basin area.

## MINERALIZATION

The results of a study of geology and related mineralizing events at the Valporaiso/Government workings and results of our investigations on the Totem Gold show remarkable structural and mineralogical similarities in the two properties. The reason for this is location of mineralization in the shear zone within the intrusive, along the numerous shear zones.

### Description of Workings

#### Valporaiso/Government workings (Fig. 4)

At the Valporaiso/Government Workings mineral and quartz vein deposition is controlled by parallel fractures within a major sheared zone striking northward and dipping 35- 50 to the east, and a minor zone of parallel fractures striking northeastward and dipping 50 to 80 to the east. The major fracture zone (the Val Fault) persists along the strike to the northern margin of the intrusive and extends into the metasediments. The host rock is a biotite granodiorite - chloritic and sericitic within and in the vicinity of mineralization, adjacent to quartz veins and locally adjacent to some concordant fractures. The mineral assemblages indicate both low to moderate and high temperature hydrothermal activity. Alteration of feldspar to muscovite (greisenization) occurs over narrow widths in the host rock near quartz veins in some localities. In general, alteration in the host rock near quartz veins or shears is chloritic, sericitic and kaolinitic, gradually decreasing outward, away from the shear.

Vein quartz, pyrite, arsenopyrite, wolframite, galena, sphalerite, chalcopyrite, silver and gold are the primary vein materials in order of abundance.

Pyrite, arsenopyrite and wolframite occur together and probably were precipitated in close synchronicity. Although wolframite with arsenopyrite occurs in sheared and altered wall rock, often in ribbon structures, it was also observed with pyrite along fracture shears in quartz veins. Small amounts of chalcopyrite with pyrite and galena occur in vein quartz, but generally these minerals are scarce. Gold values fluctuate in direct proportion to silver values and were likely deposited in the same stages.

#### Hope of Discovery Workings

The main occurrence consists of a galena-bearing quartz vein within thinly folded, bedded, white limestone of the Dutch Creek Formation. The vein strikes N 12 W and dips 77 E. Galena occurs in bands and pockets within the quartz and in minor concentrations along the bedding planes of the foot wall and hanging wall limestones. The vein varies from 2.5 to 70 cm in width and has been exposed over a strike distance of 60 m. An open cut and a 25 m long adit have been driven along the vein.

Three samples taken from the open cut averaged: Silver 7.7 oz/t; Lead 13.4%; Zinc 14.6% over 0.5 m width over a strike distance of 20 m.

#### Copper Canyon Workings

Located on the west facing slope of Mr. Davie between McGregor and Charles Creeks.

A quartz vein 0.7 to 1.2 m in width containing disseminations and stripes of pyrite, chalcopyrite, and secondary copper carbonates occurs within quartzites and quartzose schists. Two tunnels, separated by 12 to 15 m vertically, have been driven along the vein. The lower tunnel is 43 m long and the upper tunnel is 11 m long. Grab samples from the stockpile of the mouth of each tunnel assayed: Gold tr to 0.02 oz/t; Silver 0.6 to 1.0 oz/t; Copper 0.91 to 4.21%.

#### TOTEM GOLD PROPERTY

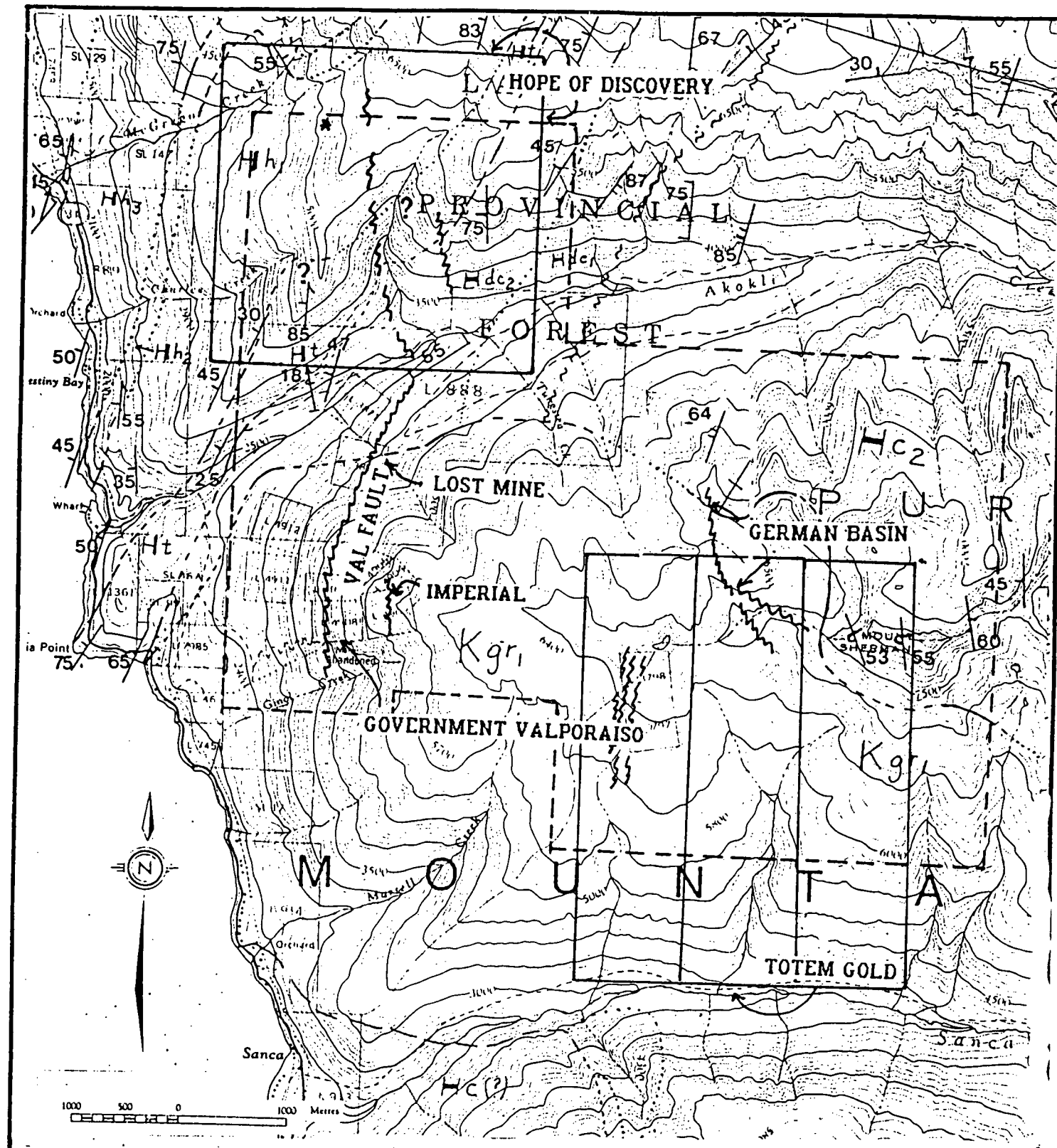
##### Gold (German) Basin Group

This is an old property restaked in 1906 by J. W. Mulholland of Sanca Creek, B. C.

It lies in German Basin on the south side of Akokli Creek at an elevation of 7,000 feet. A trail about 5 miles long connects it with the main highway up the east side of Kootenay Lake at Columbia Point.

The deposit is a quartz vein in the same granitic body as the Valporaiso, and the vein outcrops along its east wall not far below the crest of the ridge. It strikes roughly north and, near the surface, dips about 30 degrees west. The workings consist of a long adit driven from a point just above the floor of the basin, and a shorter adit higher up the vein. Several raises have been driven from these adits through to the surface. In addition to the underground workings, a line of open-cuts expose the vein on the surface for about 300 feet. All the underground workings were in poor condition at the time of the writer's visit and the examination was largely confined to the surface. The vein in the open-cuts occupies a strong fracture in the granite and is from 3 to 8 feet wide. It apparently dies out where the fracture passes from the granite to the sediments. The quartz is milky white and contains scattered galena, pyrite, and chalcopyrite. Some orange-yellow scheelite (calcium tungstate) was seen. Gold is reported associated with the sulphides.

On the ridge above the workings several open-cuts have been excavated, in most of which large quartz veins are exposed. The relation between these and the main vein is not known.



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 Location of Workings

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 FIG. 4

# LEGEND

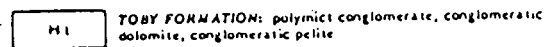
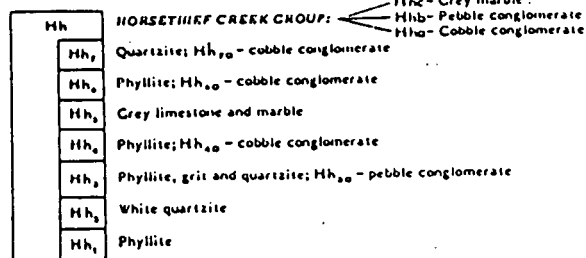
MESOZOIC

## CRETACEOUS

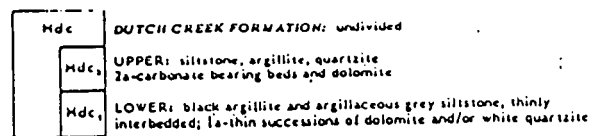


## HADRYNIAN

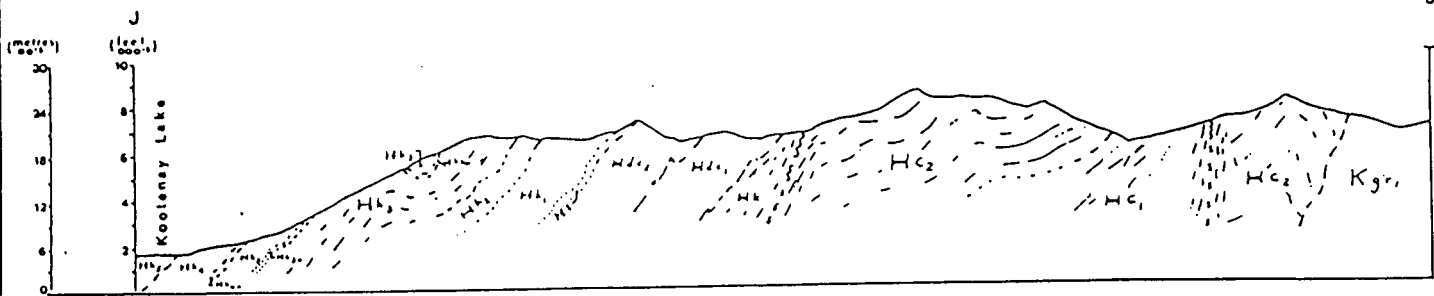
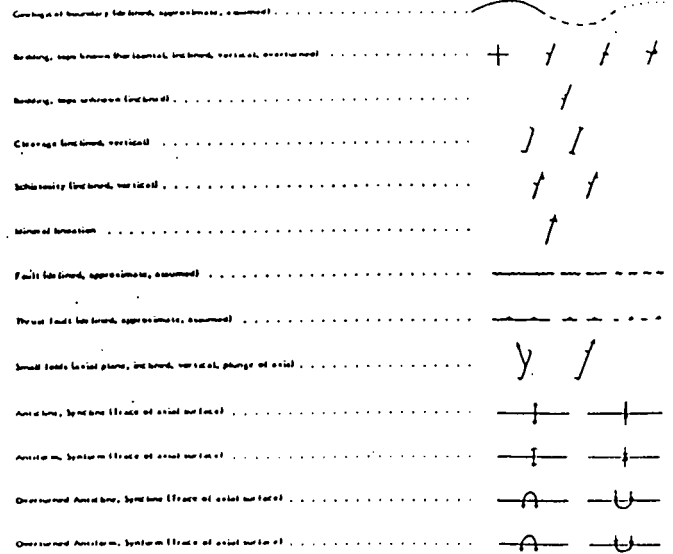
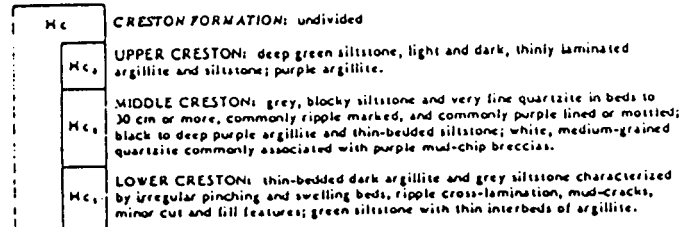
### WINDERMERE SUPERGROUP (Hh, Hh1)



### PURCELL SUPERGROUP (Hm to Hm)



PROTEROZOIC



J.E. REESOR JAN. 1983

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TOTEM GOLD PROPERTY

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FIG. 4A

HISTORY OF EXPLORATION AND MINING  
( Fig. 4 )

Exploration history of the Totem Gold property is related to the exploration history of the numerous properties in the area such as Government-Valporaiso, Imperial, Lost Mine, German (Gold) Basin and Hope of Discovery.

The above properties are located within similar geological structures and appear to have similar mineral paragenesis.

1898 - A claim was staked on the Imperial Vein.

1900 - The Valporaiso Gold Mining Company acquired 7 claims in the vicinity of the present workings and drove the Valporaiso crosscut adit 60 m east of the vein.

1901 - The Imperial and Valporaiso were closed.

1919 - Imperial Mines Ltd. drove a 39 m crosscut to the Imperial vein.

1926 - Associated Mining and Milling Co. Ltd. acquired the claims of the Valporaiso Gold Mining Co. and Imperial Mines Ltd. and staked 20 additional claims.

1927 - The holdings of Associated Mining and Milling Co. Ltd. were increased to 60 claims.

1928 - Sanca Mines Ltd. acquired the property of Associated Mining and Milling Co. Ltd. Some assessment work was done.

1930 - Sanca Mines Ltd. performed assessment work.

1932 - Canada Smelters Ltd., an associate of Sanca Mines Ltd., built a pole track tramway from the Valporaiso portal to a storage bin 900 m downslope.

1933 - Canada Smelters Ltd. shipped 324 tons of gold-silver ore to the Trail smelter. "Unsorted mine run ore" assayed 0.356 oz/t gold and 3.455 oz/t silver. The Government shaft was sunk to a depth of 82.5 m and about 190 m of lateral work was done in the Government/Valporaiso workings.

1953 - Mr. Wilson of Boswell leased the Valporaiso and Government claims and staked 15 more for the purpose of investigating the area for tungsten occurrences.



- 1954 - Akokli Tungsten Mines Ltd., associated with Palouse Co. Ltd. of Moscow, Idaho, performed underground lateral development, 450 m of long hole percussion drilling and some surface trenching on the Valporaiso/Government zone.
- 1955 - Akokli Tungsten Mines Ltd. improved the Government shaft, did some drifting and drove a raise to the surface. The pilot mill was completed. The mill treated 533 tons of tungsten material, and produced 11,200 lbs of tungsten-pyrite concentrate.
- 1956 - E. Houghland did sampling and geological work on behalf of Palouse Co. Ltd.
- 1964 - Present holdings were acquired by M. J. Pritchard on behalf of Northern Pacific Mines Ltd.
- 1981 - A. S. Greene examined the Valporaiso/Government Workings (August - October) at the request of J. D. Mawhinney of Custom Mining Inc. He did geological evaluation and examination of the property and located drill sites.

#### Hope of Discovery Workings

A very good but overgrown road leads 3.5 km from a forestry access road on the north side of Akokli Creek, approximately 2 km east of Highway 3A to the workings site at the 5500 foot elevation. The workings, approximately on strike and 4 km north of the Valporaiso/Government Workings, consist of a 24 m adit with a 3 m raise to surface, following a quartz lead and 30 m of surface trenching above the adit. Construction includes two ore bins and a waste chute in fair condition (approximately 4 tons of mineralized rock remain in the bins).

W O R K   D O N E   1987  
(Borovic, I. 1988)

Geological, geophysical and geochemical surveys were done on the part of the Totem Gold property during November and throughout December of 1987.

Results

Magnetic survey

In the north western part of the grid the magnetic high is mapped in an area with significant silver lead and zinc anomalies. ( see Compilation Map Fig. 5) In the general area two ULF conductors were mapped striking northwest-southeast.

ULF-EM survey

Two moderate strength conductors were mapped in the western part of the surveyed area and both correspond to the magnetic high and mineralized structures. The conductors strike southeast and may indicate mineralization localized within shears similar to mineralization occurring on the Valporaiso/Government property.

This conductors may indicate a mineralized zone. It coincides with a trenched shear near the northwest end and also with moderately significant silver, lead and zinc anomalies in the soils.

Soil survey

Soil geochemistry has outlined several anomalous zones on the property. Coincidental silver, lead and silver, lead, and zinc anomalies occur in the north, northwestern and south central parts of the surveyed area.

W O R K   D O N E   1989  
(Borovic, I 1989)

Geological and geophysical work was done on the property during September 1989.

Geological mapping was done in the central and northern part of the property in scale 1:10 000. in conjunction with geophysical ULF-EM survey in the same area.

Geological mapping  
(Borovic, I. 1989)

A thick succession of Proterozoic metasediments is folded, faulted and subsequently intruded by the intrusive rocks of the Cretaceous age.

The Dutch Creek Formation (Hdc) is represented by slaty argillite with fine, regular lamination. Some of the argillite is calcareous, grading to impure, dolomitic limestone or sandy, grading to argillaceous quartzite.

The most of the property is underlain by the granitic intrusives of the Bayonne Batholith.

Geological mapping in 1989 has mostly concentrated on the large shear zone which strikes north-south and passes through the old workings on the Northern Crown Grant. (Borovic, I. 1989)

#### Granitic Intrusives:

##### Bayonne Batholith (Kgr)

The major part of the Totem Gold property area is underlain by the granitic intrusive rocks of the Bayonne Batholith. The intrusive is typically white to light grey, medium to coarse grained biotite granite.

It is composed of approximately equal amounts of quartz, potash feldspar and plagioclase. Megacrysts of potash feldspar from 2 to 3 cm long occur in the rock. Locally the intrusive rock may be weathered and friable with feldspar altered to kaolin. Fine grained pink to grey aplite dykes transect the granitic rock frequently.

The contact to the metasediments (north eastern part of the property) is irregular, with numerous apophysis and relicts of country rock. The metasediments observed near the contacts have been silicified and bleached in narrow aureoles.

#### STRUCTURE:

A major fault structure or sheeted zone, conforming closely to the fabric of the schistose metasediments in the Akokli Creek Valley, traces southward into the intrusive rocks without apparent attenuation or refraction. This north-south trending shear zone, subparallel to the major structure of the area, the Val Fault, is the locus for mineralization in the Totem Gold and German (Gold) Basin area.

## MINERALIZATION

The results of a study of geology and related mineralizing events at the Valporaiso/Government workings and results of our investigations on the Totem Gold show remarkable structural and mineralogical similarities in the two properties. The reason for this is location of mineralization in the shear zone within the intrusive, along the numerous shear zones. (Borovic, I. 1988)

Northern Crown Grant and Vancouver Crown Grant  
(1987 and 1989 exploration)

On the Northern Crown Grant a series of trenches were located and sampled during 1987 (Borovic, I. 1988). These trenches, after some excavations, were found to contain massive--Vuggy + or - Fe Quartz veins and Fe--Granite with tree quartz stringers. In trench #5 (see map, Fig. 5) one sample contains a 1.0-1.5 cm band of brecciated vein with pyrite. The vein trends 122o and dips 22 south.

There seems to be an extensive 'shear zone' on the Southern Crown Grant located approximately 75-150 m east of the 115 + 00W tie line from Lines 2+50 - 4+50 North.

The entire area covered by the two Crown Grants seems to be completely underlain by granodiorite-granite. A noticeable amount of aplitic float is located around L 2 + 00N 115 + 00W and on the

During this year's mapping we were able to examine the shear zone toward south thanks to numerous new logging roads built on the property last year. Numerous dykes crisscross highly deformed cataclastic granitic rocks with strong clay alterations.

The shear striking in a northerly direction appears to be at least as much as one km wide and in the northern part where old workings are located it contains gold and silver mineralization.

In order to evaluate the gold bearing shear, more detailed work, specially close spaced sampling and possibly IP survey is going to be necessary in the shear zone.

## GEOPHYSICAL ULF-EM SURVEY 1989

The geology of this area is very consistent, granitic rocks being predominant. Because of this, the EM readings were quite constant and showed little that would be considered anomalous, with only one exception. No crossovers were discovered, dip angles lying in the negative virtually throughout.

The single area of interest lies at the west end of the survey area. Near this end of line 1+00 S, the dip angles are at their lowest and, on the Cutler frequency, actually hit zero at two stations.

This area is possible extension of the Val fault and further investigation of the region around the west end of line 1+00 S is recommended. It is recommended that closer line spacing (50 m) be considered around 1+00 S and that additional lines be established north of the current lines. This will serve a number of purposes. If the zero readings are indicative of a noteworthy anomaly, a detailed look in the immediate vicinity should define it. Additional lines outside those already done could cover a fairly large area in a relatively short time and provide a more complete picture rather economically.

#### WORK DONE 1994

(Fig. 5 & 6)

During February 1994, a VLF-EM survey was conducted on the "Totem Gold" property near Boswell, B. C. A Sabre model 27 receiver was used and signals transmitted from Seattle, Washington were utilized. The survey consisted of approximately 4.1 kilometers on two subparallel lines on snow bound roads from 100 to 300 m apart. The survey was done on Totem Gold and German Basin claims.

The survey continued to the south of 1989 area and came to the same conclusion as follows:

"The geology of this area is very consistent, granitic rocks being predominant. Because of this, the EM readings were quite constant and showed little that would be considered anomalous. No crossovers were discovered, dip angles lying in the negative virtually throughout."

#### CONCLUSIONS AND RECOMMENDATIONS

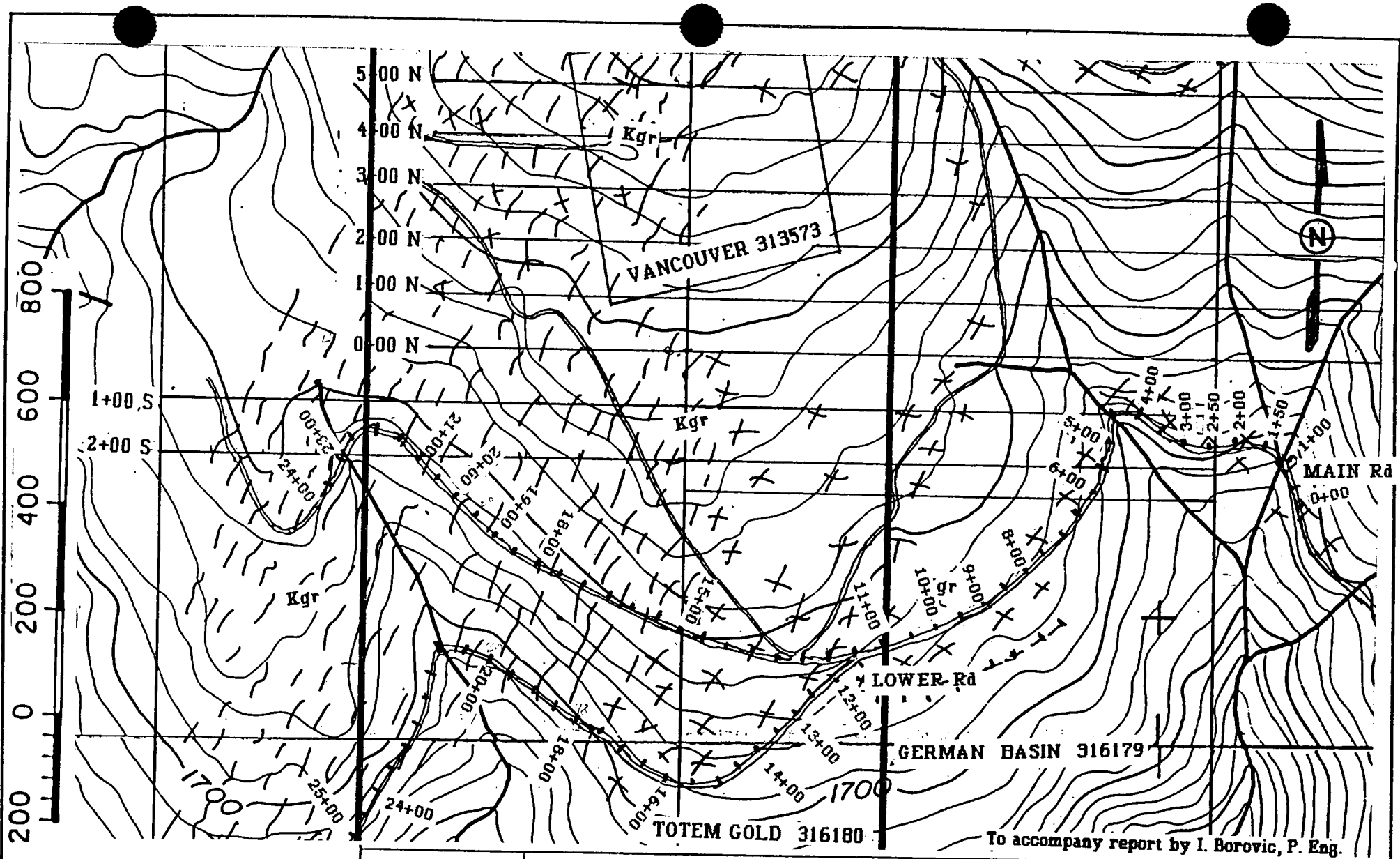
Coincidental soil, VLF and magnetic total field anomalies in the northwest and south central part of the surveyed area are probably caused by underlying mineralized structures. These areas should be further explored using excavating methods and later drilled in order to examine the horizontal and vertical extent of the silver, lead, zinc and gold mineralization.

The Phase 1/87 of exploration on the Totem Gold project has indicated one large target worth investigating.

1. -area beginning at the northwestern end of the property where northwest-southeast trending moderately strong VLF anomaly is located. The anomalies are about 1000 m long.

Featuring:

- presence of strong silicification, brecciation, in the shear.
- sulfide mineralization associated with the shear zone.



To accompany report by I. Borovic, P. Eng.

**IGNA**

engineering &  
consulting Ltd.

**DOBRANA RESOURCES Ltd**  
**TOTEM GOLD PROPERTY**

STATION: Seattle, Washington 24.8 kHz

**VLF-EM Survey--Profiles**  
**Location**

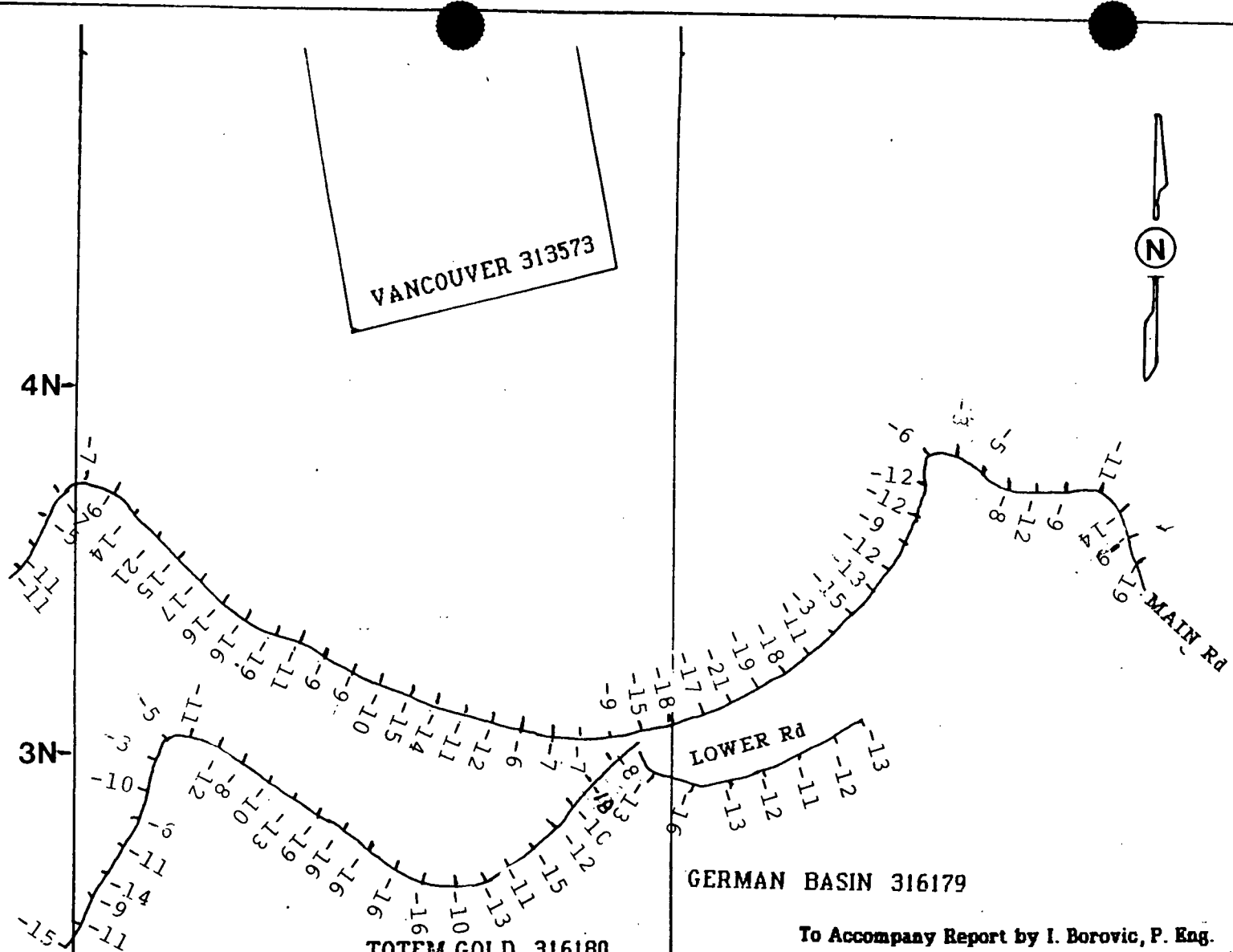
Scale:  $\frac{1}{25000}$  = 1" = 250'

NTS 82 F/7E

Date: Feb 94

Fig. 5

Instrument: SABRE Model 27



VANCOUVER 313573

4N

3N

LOWER Rd

N

MAIN Rd

GERMAN BASIN 316179

TOTEM GOLD 316180

To Accompany Report by I. Borovic, P. Eng.

**IGNA**  
engineering &  
consulting Ltd.

**DOBRANA RESOURCES Ltd**  
**TOTEM GOLD PROPERTY**  
STATION: Seattle, Washington 24.8 kHz  
**VLF-EM Survey--Profiles**

NTS 82 F/7E  
Date: Feb 94  
Fig. 6

Instrument: SABRE Model 27

## EXPLORATION PLAN AND ESTIMATED BUDGET 1994.

Exploration work should start by opening and enlarging the surface exposures coincidental with the VLF, soil and magnetic anomalies and also by opening, examining and sampling the old workings. Geological detail mapping and sampling of the trenches, and geological structural studies should continue.

In order to test extension of mineralized structures, trenching of significant anomalies which are showing the greatest mineral potential should be done.

To test the extent of the mineralization at depth a diamond drilling should follow in Phase 2.

The cost of the proposed exploration program is estimated at \$112,000.00. Additional work (Phase 2) would be dependent on favorable results of Phase 1.

## PHASE 1

Geological - structural - mineral studies.....	\$	12 000.00
Engineering, supervision, evaluation.....	\$	14 000.00
Room & Board.....	\$	4 000.00
Trenching.....	\$	25 000.00
Assaying.....	\$	7 000.00
Transportation.....	\$	4 000.00
Underground cleaning, sampling.....	\$	35 000.00

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Total	\$	101 000.00
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Contingencies (10% of total).....	\$	11 000.00
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Total Phase 1.....	\$	112 000.00
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## PHASE 2

Geology, engineering, supervision.....	\$	28 000.00
Room and board.....	\$	8 000.00
Diamond drilling (5000 ft. @ \$ 80.00/foot)....	\$	400 000.00
Assaying.....	\$	12 000.00
Transportation.....	\$	5 000.00

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Total	\$	453 000.00
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Contingencies (10% of total).....	\$	45 300.00
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Total Phase 2.....	\$	498 300.00
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STATEMENT OF EXPENSES

PERSONEL:

Senior geologist, P. Eng. and  
Geophysicist

Field Work

(Feb 1994)

Geophysical ULF-EM survey (4.1 km lines).....\$1600.00  
Instrument rent.....\$ 283.30  
Room and Board 6 man/days at \$ 90.00/man/day ....\$ 540.00  
Transportation, travel(4x4; car, gas).....\$ 825.00  
Communications (mobile radiotelephone).....\$ 117.08  
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Total field work.....\$3365.38

Office Work

Report.....\$1500.00  
Word processing, draughting, .....\$ 350.00  
Coppies.....\$ 96.19  
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Total office work.....\$1946.19

Total expenditures( Field + Office Work )....\$5311.57  
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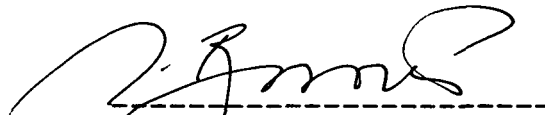


C E R T I F I C A T E

I, I. Borovic, of the city of Vancouver, B. C., do hereby certify that:

1. I have personally done and supervised the exploration program carried out in the area of the Totem Gold property of Dobrana Resources Ltd. located 48 km north of Creston, B.C.
- 2 The expenditures claimed for the performance of the work are correct.

Respectfully submitted

A handwritten signature in dark ink, appearing to read 'I. Borovic', is written over a horizontal dashed line.

I. Borovic, P.Eng.

Vancouver, Apr 01 1994.

APPENDIX

	TOTAL for 20		Service	Main Rd
Line	ft	FS	Dip	
Main Rd	0+00	56	-19	inter. W. Creek
2/12/94	1	55	-14	
	1+50	50	-11	
	2	54	-9	
	2+50	50	-12	
	3	51	-8	
	3+50	52	-5	
	4	54	-3	
	4+50	50	-6	
	5	52	-12	
	5+50	55	-12	
	6	54	-9	
	6+50	50	-12	
	7	50	-13	
	7+50	54	-15	
	8	56	-3	
	8+50	51	-11	
	9	52	-18	
	9+50	54	-19	
	10	54	-21	
	10+50	54	-17	
	11	52	-18	
	11+50	50	-15	
	12	50	-9	

line	St	#5	feet Dip
line 12	12+50	57	-7
Feb 13/94	13	48	-7
	13+50	48	-6
	14	49	-12
	14+50	50	-11
	15	46	-14
	15+50	47	-15
	16	46	-10
	16+50	50	-9
	17	51	-9
	17+50	51	-11
	18	55	-19
	18+50	56	-16
	19	56	-16
	19+50	50	-17
	20	52	-15
	20+50	50	-21
	21	51	-14
	21+50	49	-9
	22	48	-7
	22+50	52	-7
	23	55	-5
	23+50	58	-11
	24	62	-11
	2.4 km		

line	St	#5	feet Dip	
Line 12	8+50	55	-8	interest w.
Feb 14/94	9+50	53	-12	main loggy
	9+50	52	-11	land area
	10	52	-12	
	10+50	54	-13	
	11	53	-16	
	11+50	52	-13	/
	12	49	-8	
	12+50	46	-13	
	13	50	-10	
	13+50	54	-12	
	14	54	-15	
	14+50	52	-11	
	15	54	-13	
	15+50	54	-10	
	16	52	-16	
	16+50	53	-16	
	17	55	-16	
	17+50	56	-16	
	18	56	-19	
	18+50	50	-13	
	19	51	-10	
	19+50	53	-8	
	20	55	-12	
	20+50	56	-11	

245  
250  
1550

Inves RA	FEAT.	Sample FS	Dij 4
	21	49	-5
	21+5	48	-3
	22	58	-10
	22+50	63	-6
	23	68	-11
	23+50	54	-14
	24	52	-9
	24+50	50	-11
	25	52	-15

1.55 k

total 3.95 k