

LOG NO: 1024	FD
ACTION:	
FILE NO:	

REPORT ON ~~THE GEOLOGICAL~~
AND

G E O P H Y S I C A L E X P L O R A T I O N

OF

FILMED

THE T O T E M G O L D P R O P E R T Y

Lat. 49 25'N; Long. 116 4

N.T.S. 82 F/7E

NELSON M. D.

British Columbia

1989

for

DOBRANA RESOURCES Lt

by

I. BOROVIĆ, P. Eng.
geologist

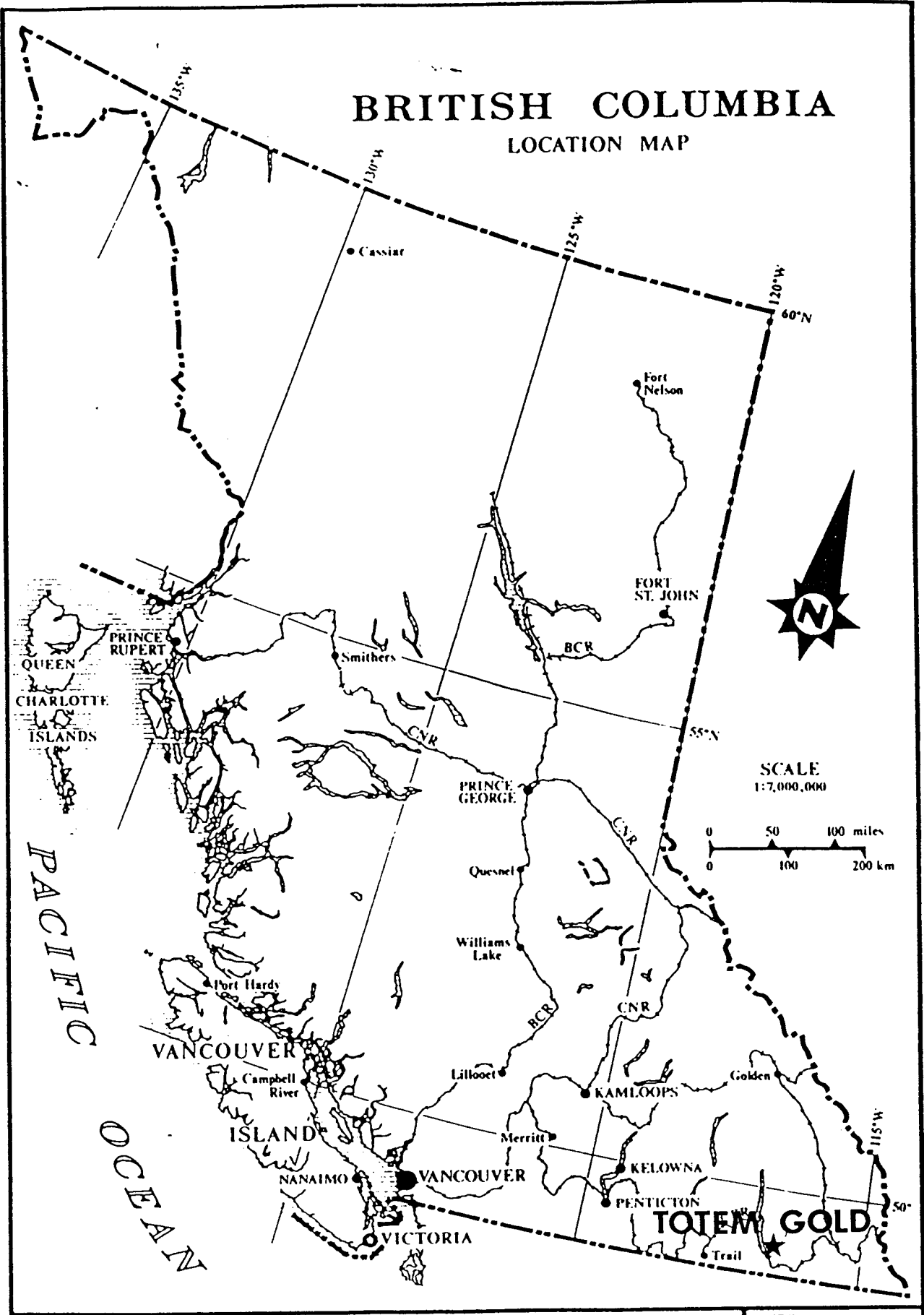
VANCOUVER, B. C.
October 5, 1989.

G E O L O G I C A L B R A N C H
A S S E S S M E N T R E P O R T

19,214

BRITISH COLUMBIA

LOCATION MAP



IGNA
engineering & consulting ltd.

DOBRANA RESOURCES Ltd

DATE	Sept 89
FIG. No.	1

TABLE OF CONTENTS

	page
SUMMARY.....	1
INTRODUCTION.....	2
PROPERTY.....	2
G E O L O G Y.....	4
STRUCTURE.....	5
MINERALIZATION.....	6
HISTORY OF EXPLORATION AND MINING.....	8
WORK DONE 1987.....	10
WORK DONE 1989.....	10
Geological Mapping.....	10
GEOPHYSICAL SURVEY 1989.....	12
CONCLUSIONS AND RECOMMENDATION.....	13
EXPLORATION PLAN AND ESTIMATED BUDGET 88/89.....	14
BIBLIOGRAPHY.....	15
Statement of Expenses.....	16
CERTIFICATE.....	17
APPENDIX VLF-EM field data	
List of illustrations	following page
Location map (Fig. 1).....	front
Claim Map (Fig. 2).....	2
Geology Map (Fig. 3).....	4
Location of Workings (Fig. 4).....	8
Compilation Map and Location of Workings (Fig. 5).....	10
Geology and Location of Workings (Fig. 6).....	in pkt
VLF Survey (Seattle) Profiles (Fig. 7).....	13
VLF Survey (Cutler) Profiles (Fig. 8).....	13

SUMMARY

A combined geological and geophysical exploration work on the TOTEM GOLD property owned by DOBRANA RESOURCES Ltd. was conducted by Igna Engineering and Consulting Ltd. during mid September 1989. 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 1/89/90

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

Phase 2/89/90

- 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 geological, geophysical and geochemical survey; and from recent investigations in September 1989.

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

The most recent work is continuation of the 1987 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 and in 1989 and in the past.

PROPERTY

Claims:
(Fig. 2)

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

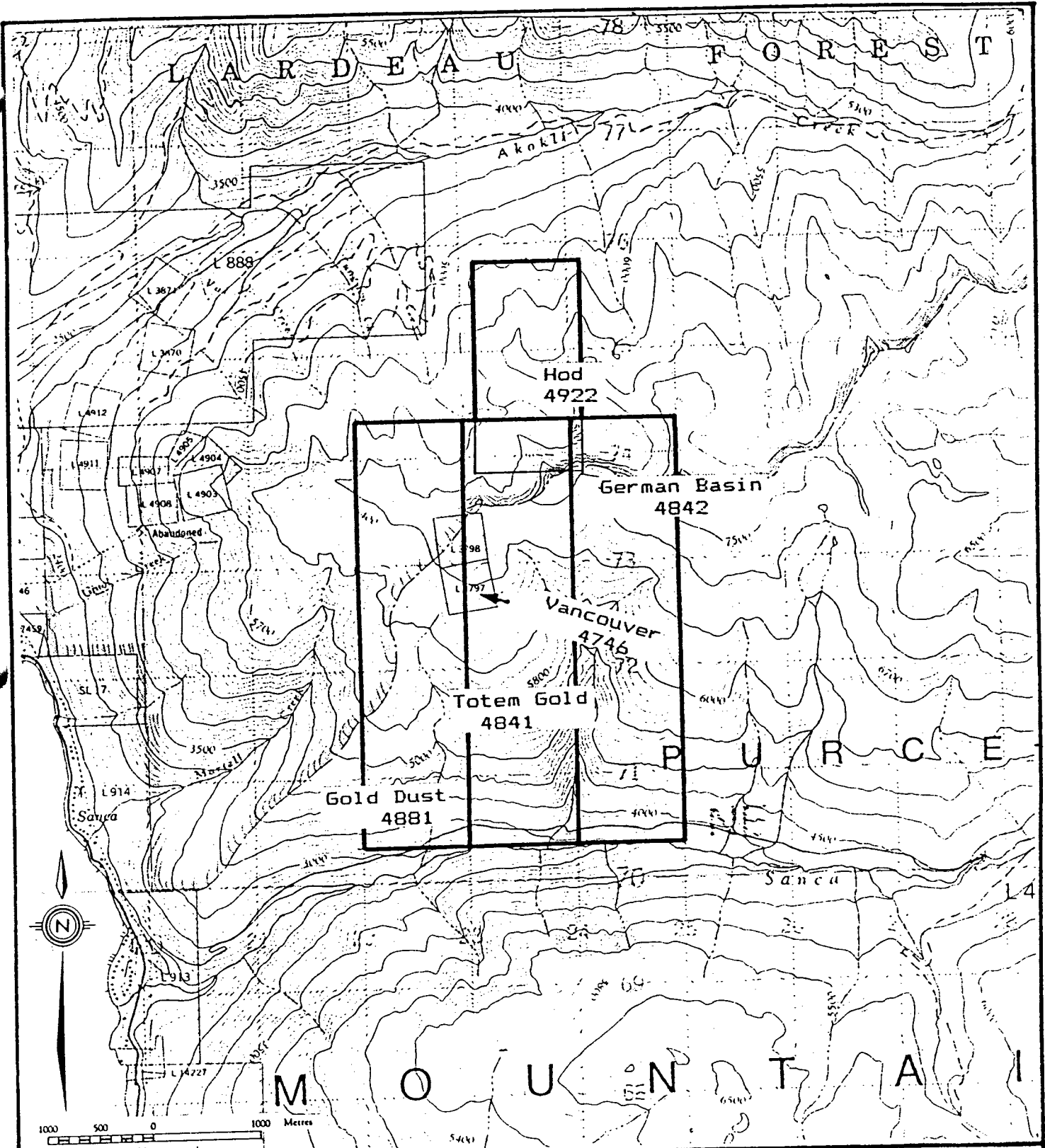
Claim(# of units)	Lot. No.	Rec. No.	Rec. Date
Totem Gold(16)		4841	Sept.18.1989.
German Basin(16)		4842	Sept.18.1989.
Gold Dust(16)		4881	Oct. 21.1989.
Hod(8)		4922	Dec. 29.1989.
Vancouver (RCG)	3797	4746	June.29.1989.

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.



IGNA
engineering &
consulting ltd

DOBRANA RESOURCES ltd
TOTEM GOLD
Claim Map

NTS 82F/7E

DATE
Sept 89

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)

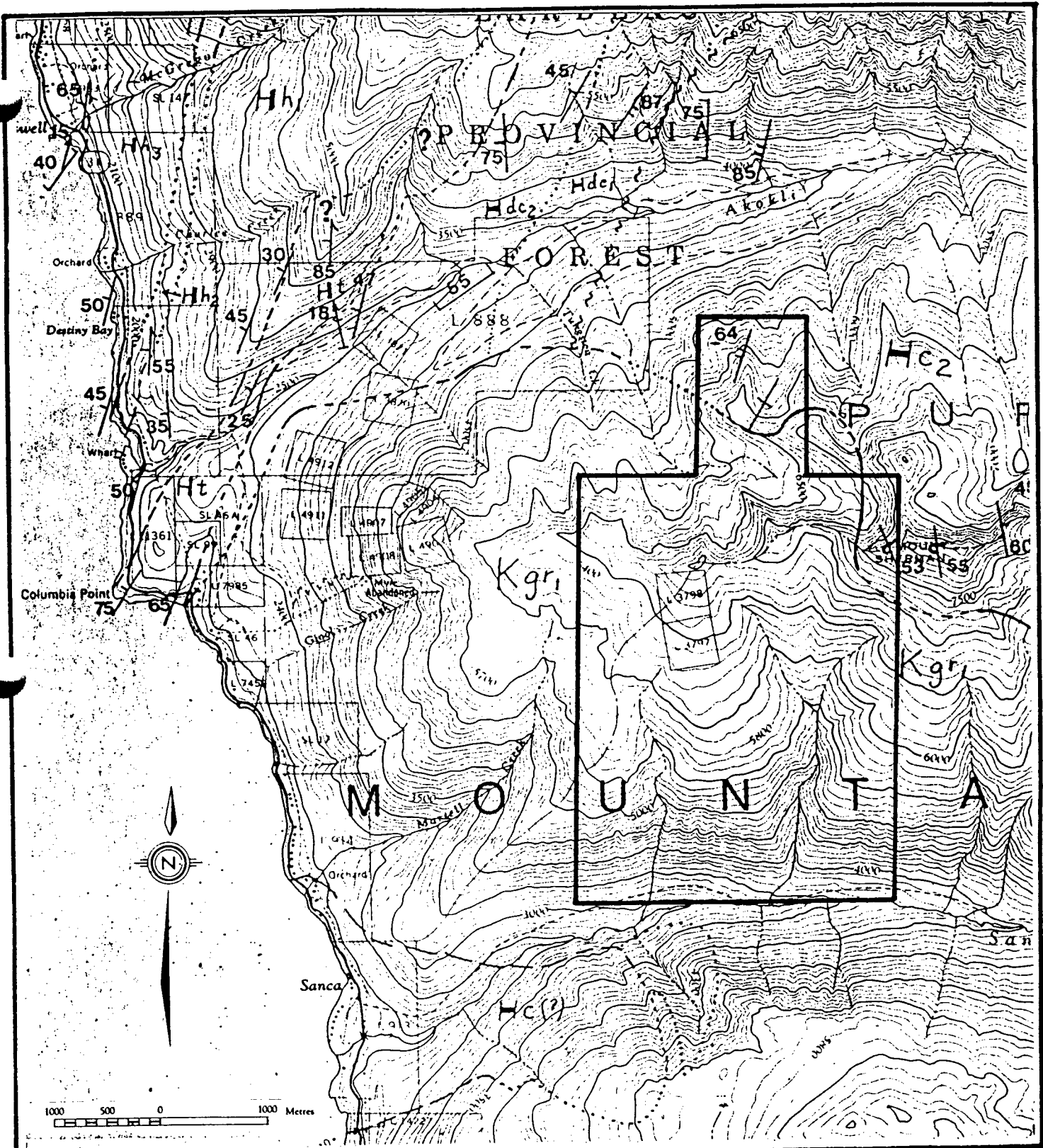
(Rice 1938, 1941; Green 1981; Reesor 1983)

The northeastern area of the Property is underlain by late Precambrian (Proterozoic) sediments of Hadrynian and Helikian 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.



IGNA
 engineering &
 consulting ltd

DOBRANA RESOURCES Ltd
TOTEM GOLD
Geology

NTS 82F/7E
 DATE
 Sept 89.
 FIG. 3

LEGEND

MESOZOIC

CRETACEOUS

- Kgr Biotite granite with megacrysts of Potash Feldspar
- Kgr₁

HADRYNIAN

WINDERMERE SUPERGROUP (Hh, H1)

- HORSETHIEF CREEK GROUP:**
- Hhc - Grey marble
 - Hhb - Pebble conglomerate
 - Hha - Cobble conglomerate
- Hh₇ Quartzite; Hh_{7a} - cobble conglomerate
 - Hh₆ Phyllite; Hh_{6a} - cobble conglomerate
 - Hh₅ Grey limestone and marble
 - Hh₄ Phyllite; Hh_{4a} - cobble conglomerate
 - Hh₃ Phyllite, grit and quartzite; Hh_{3a} - pebble conglomerate
 - Hh₂ White quartzite
 - Hh₁ Phyllite

- Ht **TOBY FORMATION:** polymict conglomerate, conglomeratic dolomite, conglomeratic pelite

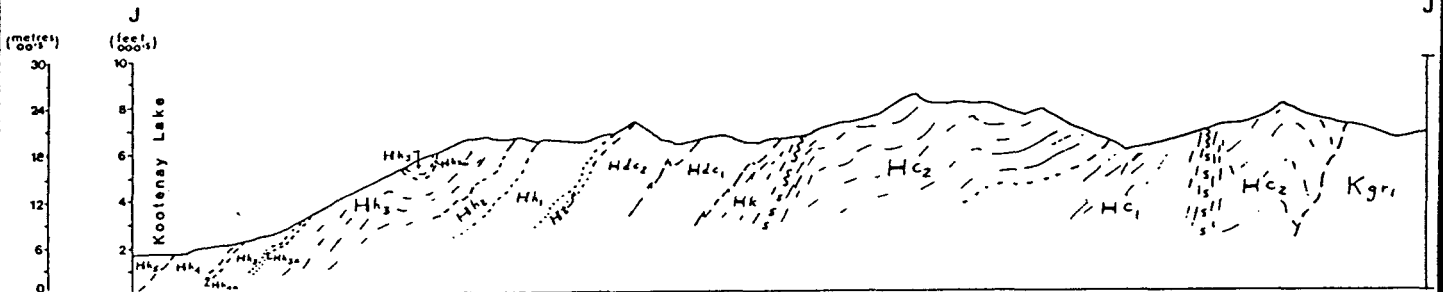
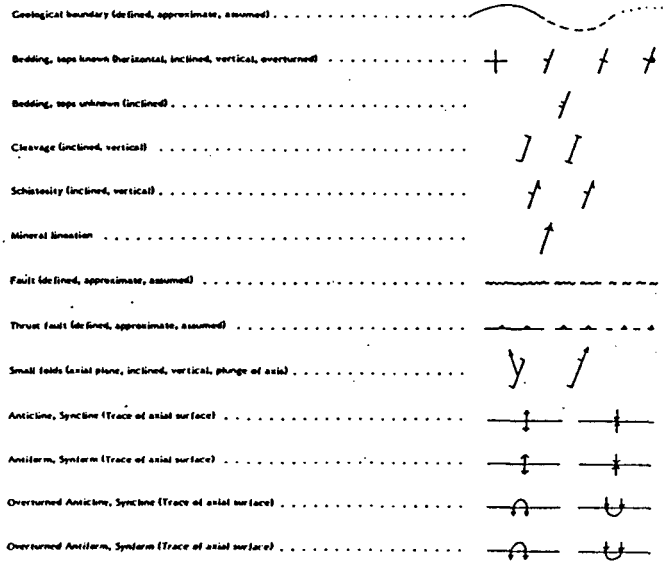
DUTCH CREEK FORMATION: undivided

- Hdc₂ UPPER: siltstone, argillite, quartzite
2a-carbonate bearing beds and dolomite
- Hdc₁ LOWER: black argillite and argillaceous grey siltstone, thinly interbedded; 1a-thin successions of dolomite and/or white quartzite

CRESTON FORMATION: undivided

- Hc₃ UPPER CRESTON: deep green siltstone, light and dark, thinly laminated argillite and siltstone; purple argillite.
- Hc₂ MIDDLE CRESTON: grey, blocky siltstone and very fine quartzite in beds to 30 cm or more, commonly ripple marked, and commonly purple lined or mottled; black to deep purple argillite and thin-bedded siltstone; white, medium-grained quartzite commonly associated with purple mud-chip breccias.
- Hc₁ LOWER CRESTON: thin-bedded dark argillite and grey siltstone characterized by irregular pinching and swelling beds, ripple cross-lamination, mud-cracks, minor cut and fill features; green siltstone with thin interbeds of argillite.

PROTEROZOIC



J. E. REESOR JAN. 1983

IGNA

Engineering & consulting Ltd

DOBRANA RESOURCES Ltd

TOTEM GOLD

NTS 82F/7E

DATE Sept 89

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.

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.

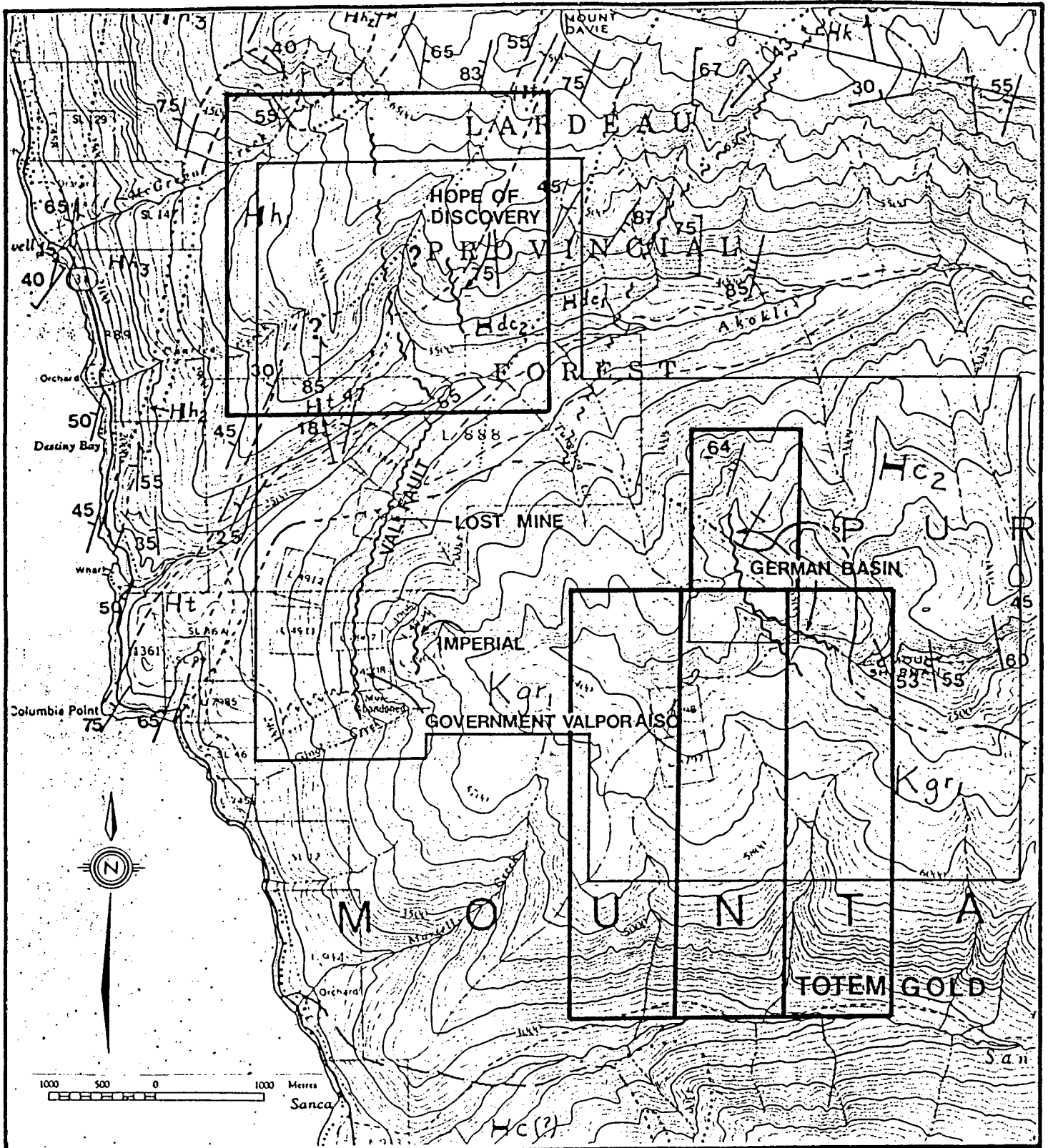
1928 - Sanca Mines Ltd. acquired the property of Associated Mining and Milling Co. Ltd. Some assessment work was done.

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.



IGNA
engineering &
consulting ltd

DOBRANA RESOURCES ltd
TOTEM GOLD
Location of Workings

NTS 82F/7E

DATE Sept 89

FIG. 4

- 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. Fritchard 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

(Fig. 5) (I. Borovic, 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 VLF conductors were mapped striking northwest-southeast.

VLF-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

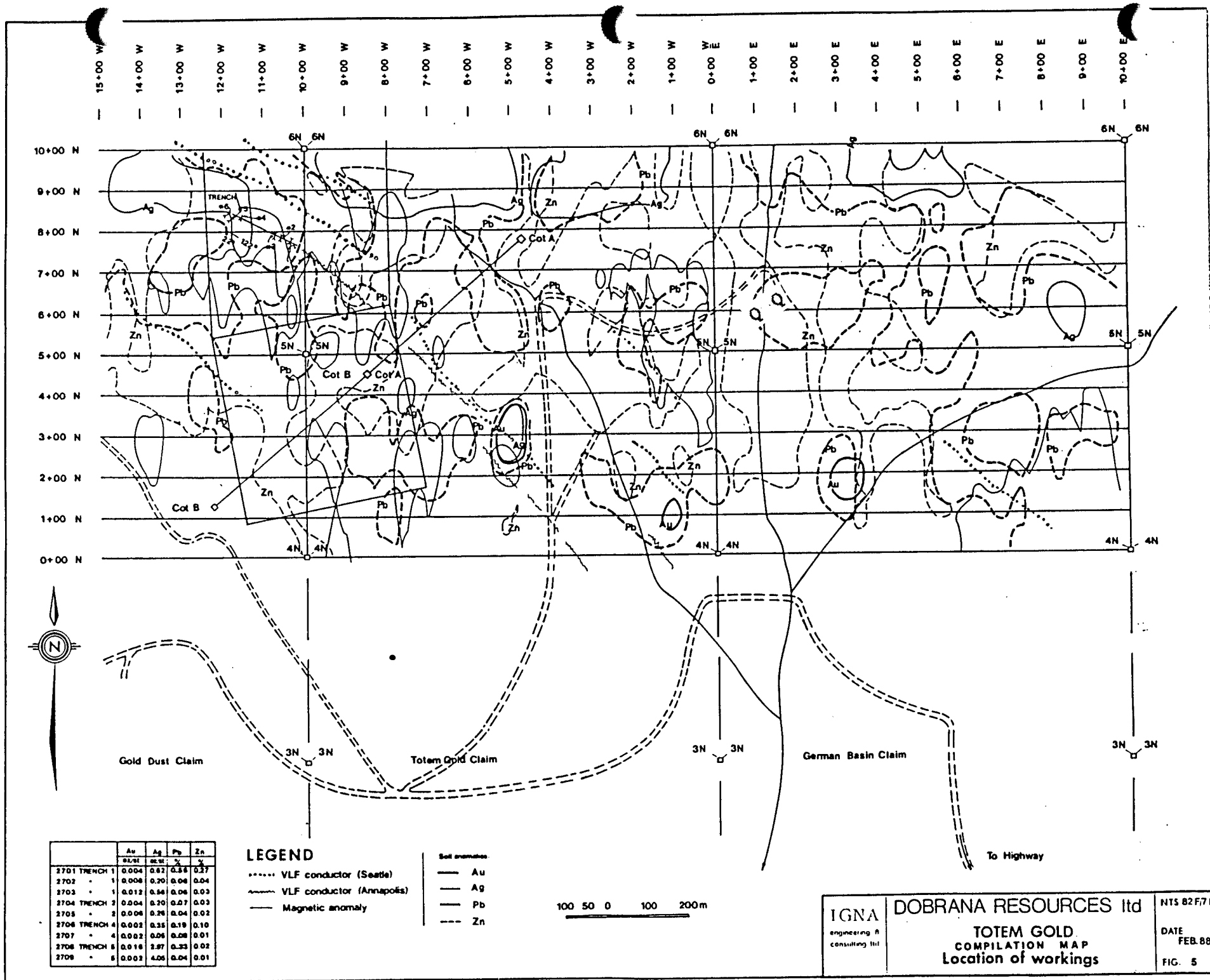
Geological and geophysical work was done on the property during September 1989.

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

Geological mapping

(Fig 6)

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



	Au	Ag	Pb	Zn
	g/t	g/t	g/t	g/t
2701 TRENCH 1	0.004	0.07	0.04	0.07
2702 - 1	0.008	0.20	0.08	0.04
2703 - 1	0.012	0.34	0.06	0.03
2704 TRENCH 2	0.004	0.70	0.07	0.03
2705 - 2	0.006	0.76	0.04	0.02
2706 TRENCH 4	0.002	0.35	0.19	0.10
2707 - 4	0.002	0.06	0.08	0.01
2708 TRENCH 5	0.016	2.97	0.33	0.02
2709 - 5	0.002	4.06	0.04	0.01

LEGEND

- VLF conductor (Seattle)
- VLF conductor (Annapolis)
- Magnetic anomaly

Soil anomalies

- Au
- Ag
- Pb
- Zn

100 50 0 100 200m

IGNA
engineering &
consulting ltd

DOBRANA RESOURCES Ltd

TOTEM GOLD
COMPILATION MAP
Location of workings

NTS 82F7E

DATE
FEB. 88

FIG. 5

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.

This year's mapping has mostly concentrated on the large shear zone which strikes north-south and passes through the old workings on the Northern Crown Grant. (Fig 6)

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 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 122° 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 VLF-EM survey (Figs 7, 8)

During the early part of September, 1989, a VLF-EM survey was conducted on the "Totem Gold" property near Boswell, B. C. A Sabre model 27 receiver was commissioned and signals transmitted from Seattle, Washington and Cutler, Maine were utilized. The survey consisted of approximately 4 line-kilometers on two parallel lines 100 m apart.

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.

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.

In addition to a follow up physical work, basic exploration work should be extended to the other parts of the Totem Gold Property, particularly in the area of the German (Gold) Basin old workings.

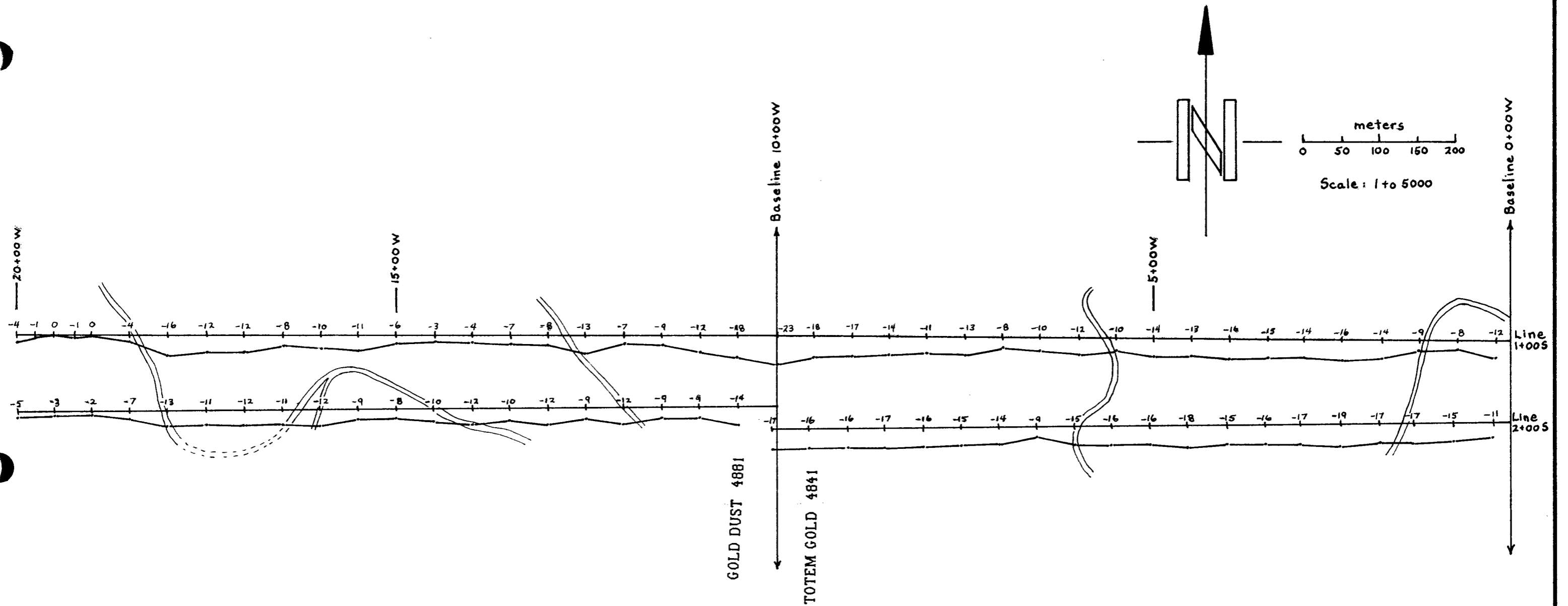
The Phase 1/87 of exploration on the Totem Gold project has indicated one large target worth investigating.

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.

Second possibility worth investigating is located in and around German (Gold) Basin area in the northern part of the Totem Gold Project.



Surveyed by J. R. Lucke
Instrument: SABRE Model 27

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

IGNA
engineering &
consulting ltd.

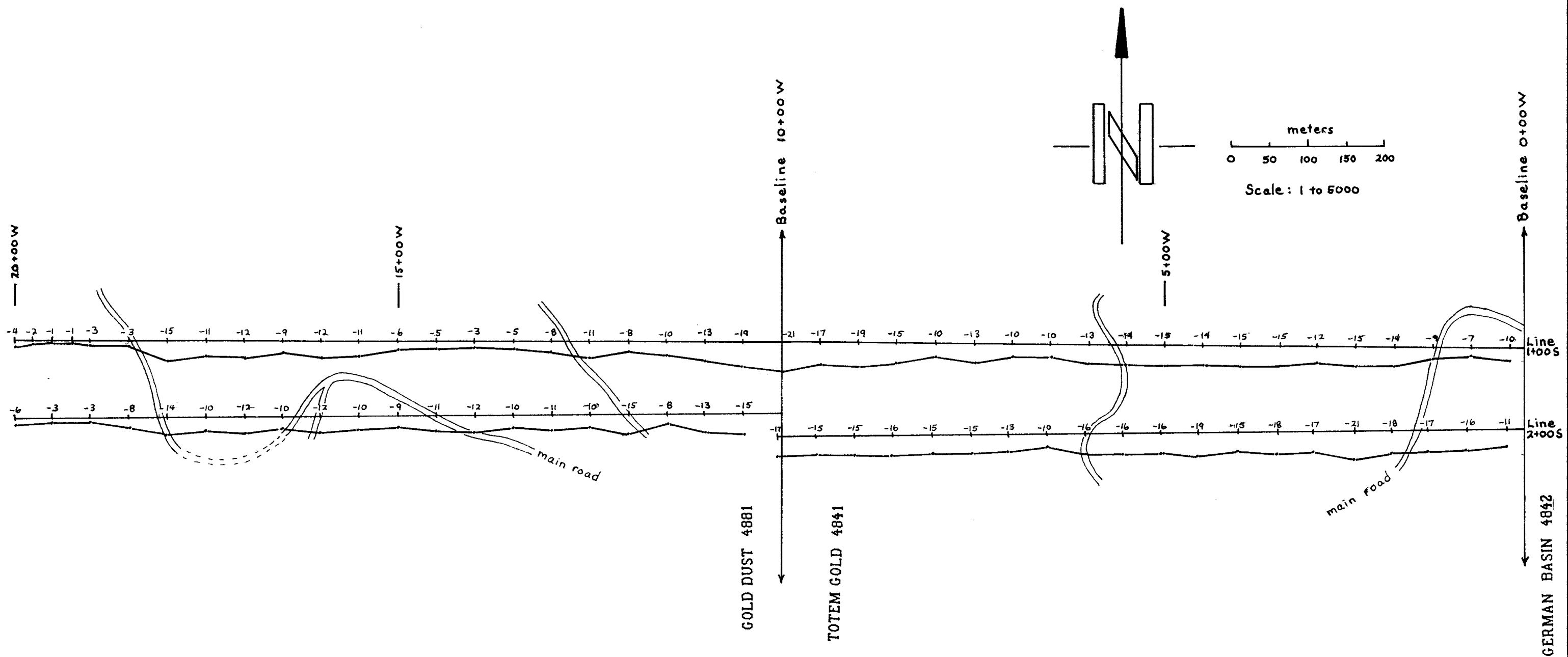
DOBRANA RESOURCES Ltd
TOTEM GOLD PROPERTY

STATION: Cutler, Maine 24.0 kHz

VLF-EM Survey--Profiles

NTS 82 F/E
Date: Sept 89

Figure: 8



Surveyed by J. R. Lucke
 Instrument: SABRE Model 27
 To accompan 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: Sept 89 Figure: 7
---	---	---

EXPLORATION PLAN AND ESTIMATED BUDGET 1988.

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

Total	\$ 101 000.00
Contingencies (10% of total).....\$	11 000.00

Total Phase 1.....\$	112 000.00

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

Total	\$ 453 000.00
Contingencies (10% of total).....\$	45 300.00

Total Phase 2.....\$	498 300.00

BIBLIOGRAPHY

Borovic, I. (1988): Report on the Mineral Exploration of the Hope of Discovery Property, Summary and Evaluation. For Forbes Resources Ltd.

(1988): Report on the Mineral Exploration of the Totem Gold Property, Summary and Evaluation. For Dobrana Resources Ltd.

Green, A. S. (1981): Property Evaluation Report, Destiny Bay Properties, Valporaiso/Government Workings, Hot Group of Claims. Prepared for Custom Mining Inc. Kamloops, B. C.

Hoy, Trygve (1980): Geology of the Riindel Area, Central Kootenay Arc, Southeastern B. C.; B. C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 73.

Reesor, J. E. (1973): Geology of Lardeau Map-Area, B. C. G. S. C., Memoir 369.

Reesor, J. E. (1983): Nelson Map-Area East Half; G. S. C. Open File 929.

Rice, H. M. A. (1938): East Half Nelson Map-Area British Columbia, Preliminary Report, Canada Department of Mines and Resources, Geological Survey, Ottawa 1938.

Rice, H. M. A. (1941): Nelson Map-Area, East Half, British Columbia, Canada Department of Mines and Resources, Geological Survey, Memoir 228.

STATEMENT OF EXPENSES

PERSONEL:

Senior geologist, P. Eng. and
Geophysicist

Field Work

(Sept 1989)

Geological mapping 3 days at \$ 500.00/day.....	\$1500.00
Geophysical VLF-EM survey (4 km lines).....	\$1200.00
Instrument rent.....	\$ 100.00
Topo maps, coppies, airphotos,.....	\$ 629.30
Room and Board 6 man/days at \$ 70.00/man/day	\$ 420.00
Transportation, travel(4x4; car, gas).....	\$ 251.00
Communications (mobile radiotelephone).....	\$ 68.00

Total field work.....	\$4168.30

Office Work

Report.....	\$1500.00
Word processing, draughting,	\$ 500.00
Coppies.....	\$ 67.00

Total office work.....	\$2067.00

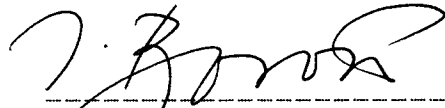
Total expenditures(Field + Office Work)....	\$6235.30

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



I. Borovic, P.Eng.

Vancouver, Oct 5 1989.

APPENDIX

TOTEM GOLD Property - Dobrana Resources Ltd. (Sanka Cr.) Boswell B.C.

EM Survey

Seattle

Cutler

Line	Station	Field Str.	Dip	Field Str.	Dip
1+00 S	10+00 W	52 (30)	-21	58 (40)	-23
	9+50 W	55	-17	62	-18
	9+00 W	54	-19	61	-17
	8+50 W	55	-15	63	-14
	8+00 W	55	-10	63	-11
	7+50 W	54	-13	61	-13
	7+00 W	51	-10	58	-8
	6+50 W	50	-10	59	-10
	6+00 W	54	-13	63	-12
	5+50 W	54	-14	62	-10

Good spur road at 5+75 W

line 1+00 S

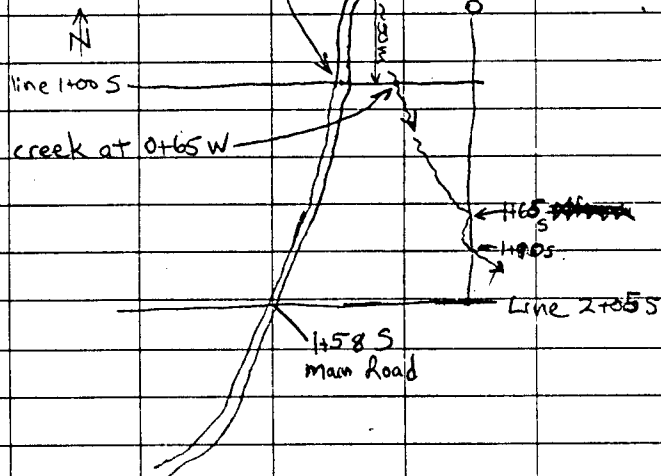
5+75 W



5+00 W	54	-15	63	-14
4+50 W	52	-14	62	-13
4+00 W	54	-15	63	-16
3+50 W	53	-15	62	-15
3+00 W	53	-12	63	-14
2+50 W	55	-15	65	-16
2+00 W	55	-14	66	-14
1+50 W	54	-9	66	-9
1+00 W	50	-7	60	-8
0+50 W	50	-10	60	-12

Hit B/L @ 0+30 W

Main road at 1+00 S 1+38 W



Line 2+00 S: Stn 0+25 W is on B/L 0+00

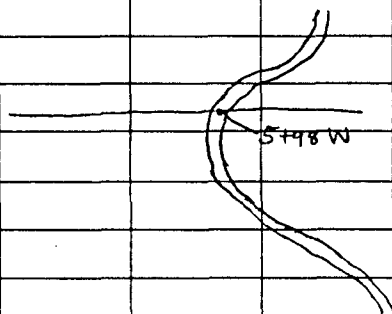
Seattle

Cutler

Line	Station	Field Str.	Dip	Field Str.	Dip
2+00 S	0+50 W	56	-11	66	-11
	1+00 W	56	-16	69	-15
	1+50 W	56	-17	67	-17
	2+00 W	55	-18	65	-17
	2+50 W	50	-21	60	-19
	3+00 W	54	-17	63	-17
	3+50 W	50	-18	59	-16
	4+00 W	51	-15	60	-15

Line	Stn	Seattle		Cutler	
		Field Str	Dip	Field Str	Dip
2+00S	4+50W	51	-19	60	-18
	5+00W	50	-16	58	-16
	5+50W	51	-16	61	-16
	6+00W	50	-16	60	-15

Road at 5+98W



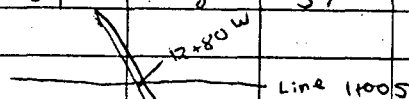
	6+50W	50	-10	61	-9
	7+00W	48	-13	58	-14
	7+50W	46	-15	57	-15
	8+00W	49	-15	60	-16
	8+50W	50	-16	60	-17
	9+00W	49	-15	59	-16
	9+50W	47	-15	57	-16
	10+00W	46	-17	56	-17

Ht B/L at measurement 9+96W

but 123 m south of line 1+00S

Line	Station	Seattle		Cutler	
		Field Str	Dip	Field Str	Dip
1+00S	10+50W	51 (30)	-19	54 (40)	-18
	11+00W	52	-13	54	-12
	11+50W	53	-10	55	-9
	12+00W	56	-8	56	-7
	12+50W	55	-11	57	-13
	13+00W	54	-8	57	-8

Road at 12+86W

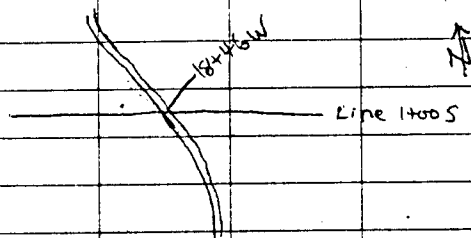


	13+50W	54	-5	56	-7
	14+00W	53	-3	55	-4
	14+50W	49	-5	53	-3
	15+00W	50	-6	56	-6
	15+50W	52	-11	57	-11
	16+00W	55	-12	60	-10

In minor gully, at 15+88W; apex of road curve
 approx 40 m south; junction of 2 roads ~ 25 m
 west of apex

	16+50W	55	-9	63	-8
	17+00W	58	-12	67	-12
	17+50W	62	-11	70	-12
	18+00W	61	-15	68	-16
	18+50W	60	-3	67	-4

Road at 18+46 W

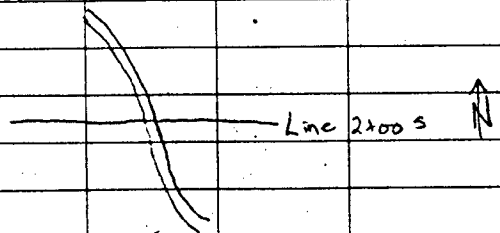


Line	Station	Seattle		Cutler	
		Field Str.	Dip	Field Str.	Dip
1+00 S	19+00 W	55 (30)	-3	65 (40)	0
	19+25 W	53	-1	64	-1
	19+50 W	52	-1	65	0
	19+75 W	53	-2	63	-1
	20+00 W	52	-4	63	-4

Chained 100 m S to establish 2+00 S 20+00 W

2+00 S	20+00 W	48	-6	58	-5
	19+50 W	47	-3	58	-3
	19+00 W	52	-3	63	-2
	18+50 W	54	-8	68	-7

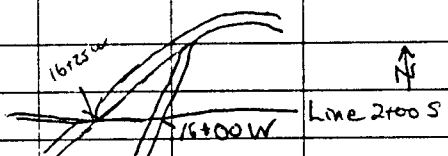
Road at 18+10 W



Line	Station	Seattle		Cutler	
		Field Str.	Dip	Field Str.	Dip
2+00 S	18+00 W	48 (30)	-14	55 (40)	-13
	17+50 W	47	-10	54	-11
	17+00 W	50	-12	55	-12
	16+50 W	48	-10	59	-11
	16+00 W	51	-12	64	-12

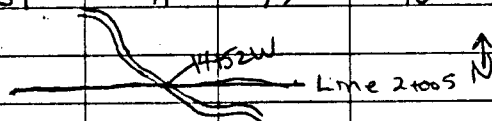
Road at 16+25 W

Road at 16+00 W



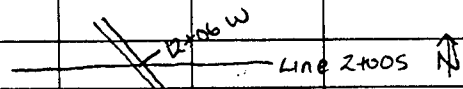
	15+50 W	54	-10	69	-9
	15+00 W	56	-9	68	-8
	14+50 W	59	-11	77	-10

Road at 14+52 W



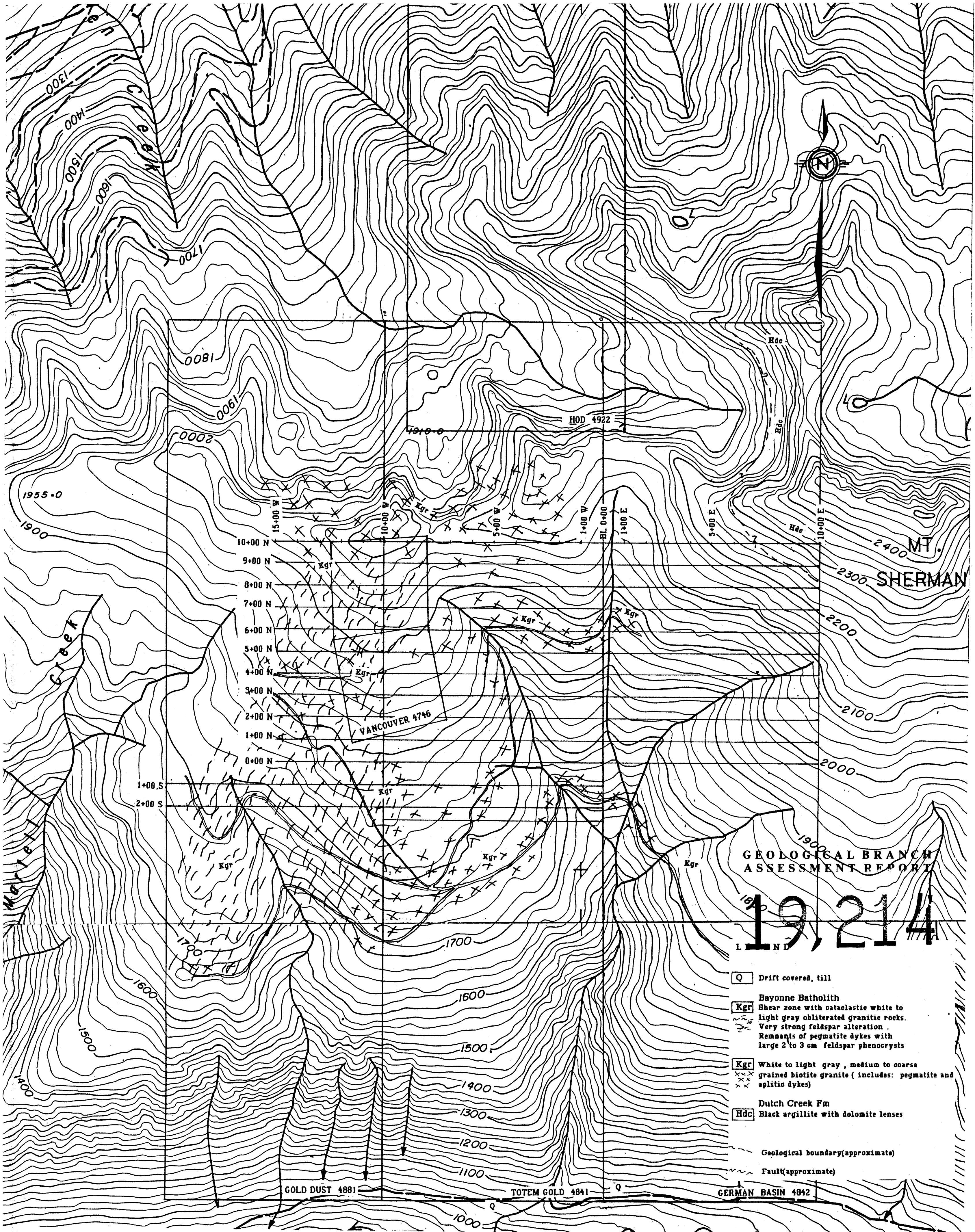
	14+00 W	58	-12	77	-12
	13+50 W	57	-10	72	-10
	13+00 W	54	-11	68	-12
	12+50 W	52	-10	67	-9
	12+00 W	50	-15	65	-12

Road at 12+06 W



	11+50 W	52	-8	64	-9
	11+00 W	53	-13	65	-9
	10+50 W	54	-15	65	-14

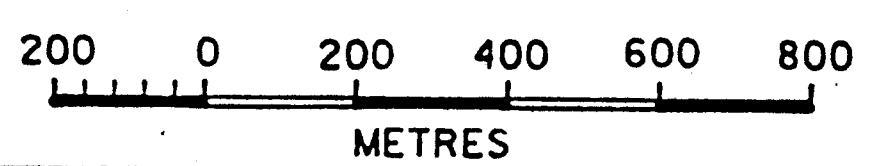
Hit Blt at measurement 9+45 W; 90 m south of 1+00 S.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,214
LAND

- Q** Drift covered, till
- Bayonne Batholith**
- Kgr** Shear zone with cataclastic white to light gray obliterated granitic rocks. Very strong feldspar alteration. Remnants of pegmatite dykes with large 2 to 3 cm feldspar phenocrysts
- Kgr** White to light gray, medium to coarse grained biotite granite (includes: pegmatite and aplitic dykes)
- Hdc** Dutch Creek Fm
Black argillite with dolomite lenses
- Geological boundary (approximate)
- Fault (approximate)



- BUILDING
- CONTOURS AND ELEVATION
- APPROX. CONTOUR
- SWAMP
- DEPRESSION
- TREED SWAMP
- ROADS
- RAILWAY
- POWER LINE
- FENCE
- FLUME
- ROUGH

CONTOUR INTERVAL 20 METRES

IGNA engineering & consulting ltd.	DOBRANA RESOURCES Ltd TOTEM GOLD PROPERTY	NTS 82 F/7K Date: Sept 89
	Geology and Location of Workings	
		Fig 6

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