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REPORT ON THE GEOLOGICAL
AND GEOPHYSICAL EXPLORATION

OF

FILMED

THE HOPE OF DISCOVERY PROPERTY

Lat. 49 27'N; Long. 116 43'W

N.T.S. 82 F/7E

NELSON M. D.

British Columbia

1989

for

FORBES RESOURCES Ltd

by

I. BOROVIĆ, P. Eng.
geologist

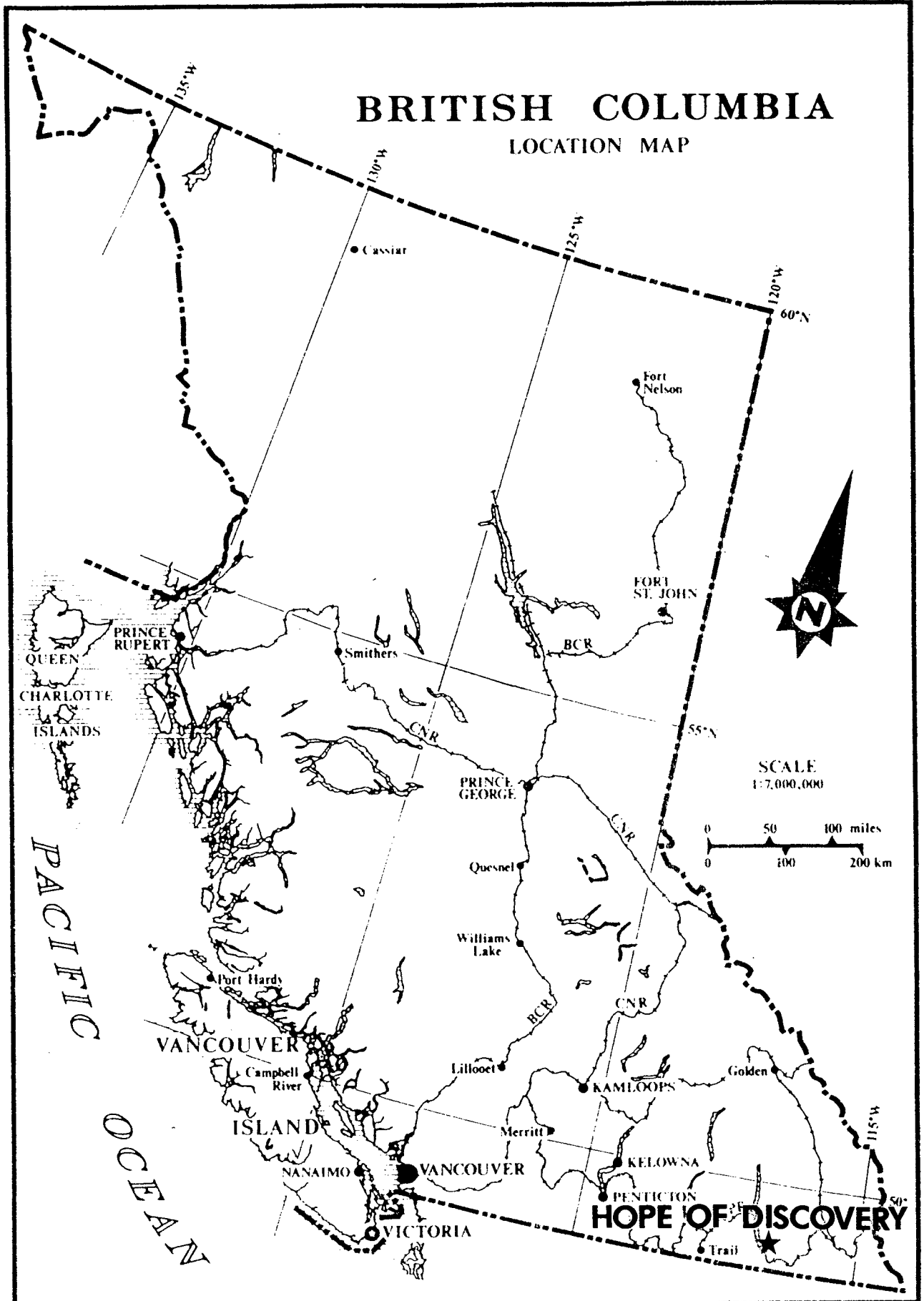
VANCOUVER, B. C.
September 25, 1989

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,215

BRITISH COLUMBIA

LOCATION MAP



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DATE: Sept 89

FIG. No. 1

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SUMMARY

A combined geological and geophysical exploration work of the Hope of Discovery property held by Forbes Resources Ltd. was continued by Igna Engineering and Consulting Ltd. during mid September of 1989. The property is situated in the Nelson M. D. in the southern Kootenay Lake area, 40 km north of Creston, B. C.

The geology of the property 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 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 containing 3.45 oz/t silver and 0.356 oz/t gold (O'Grady, 1933). Our sampling (in 1987) of the Hope of Discovery confirms values of the recorded assays. The assay results show range of 0.004 to 0.014 oz/t for gold; 2.26 to 35.38 oz/t for silver; 2.04% to 71.20% for lead and 1.83% to 28.81% for zinc in the samples taken from mineralized veins and lower grade results in the surrounding shear zones such as Creek showing.

Chip sampling of a 0.4 m wide quartz vein (sample 2727) assayed 0.01 oz/t gold; 2.04 oz/t silver; 2.4% lead and 12.69% zinc. Sample 2735 taken across 0.25 m vein assayed 0.004 oz/t gold; 5.23 oz/t silver; 7.65% lead and 6.91% zinc.

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 Val Fault shear.

Soil geochemistry results (Borovic, 1988) 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 Hope of Discovery workings.

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

Phase 1/88/89

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

Phase 2/88/89

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

INTRODUCTION

FORBES 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 Hope of Discovery, located on the southwest slopes of Mount Davie, north of and touching Akokli Creek about 4 km northeast of Columbia Point 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 14, and from the writer's personal knowledge and experience gained through extensive research and exploration work in the Kootenay Lake area.

The writer visited, examined and supervised the exploration work, comprised of geological mapping, geochemical soil surveying, geophysical, VLF, and ground magnetic surveying, done during November and December of 1987.

The most recent work done during September 1989 is continuation of the exploration efforts of the 1987.

The conclusions expressed in this report are based upon the results of the geological, geochemical and geophysical work done on and around the Hope of Discovery Property in 1987 and 1989 and in the past.

PROPERTY

Claims:
(Fig. 2)

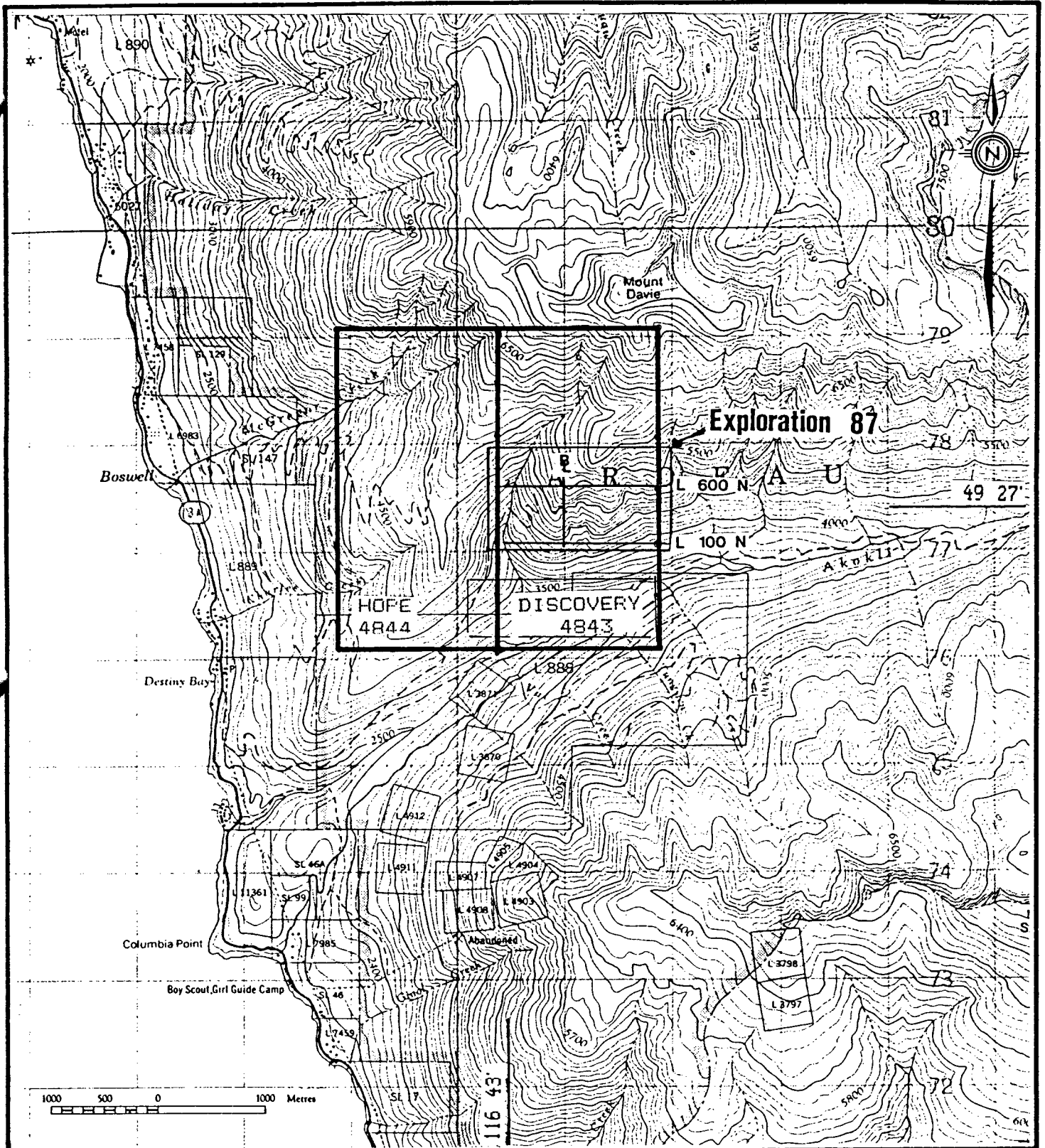
The property is composed of two located mineral claims with a total of 36 units as follows:

Claim(# of units)	Rec. No.	Rec. Date
DISCOVERY(18)	4843	Sept.18.1989.
HOPE(18)	4844	Sept.18.1989.

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

Location:
(Fig. 2)
Lat. 49 27'; Long. 116 43'; NTS 82 F/7E, Nelson, M.D. B.C.

The property is approximately 40 km north-northwest of Creston, B.C., about 4 km northeast of Columbia Point on Kootenay Lake and north of Akokli Creek.



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HOPE OF DISCOVERY
Claim Map

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DATE Sept 89

FIG. 2

Access:

Access is excellent. A forestry access road leaving highway 3A 2 km north of Columbia Point rises to approximately 990 m elevation in the northeasterly direction following Akokli Creek for 4.5 km where it joins an old mine and logging road 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 HOPE OF DISCOVERY 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 3 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 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).

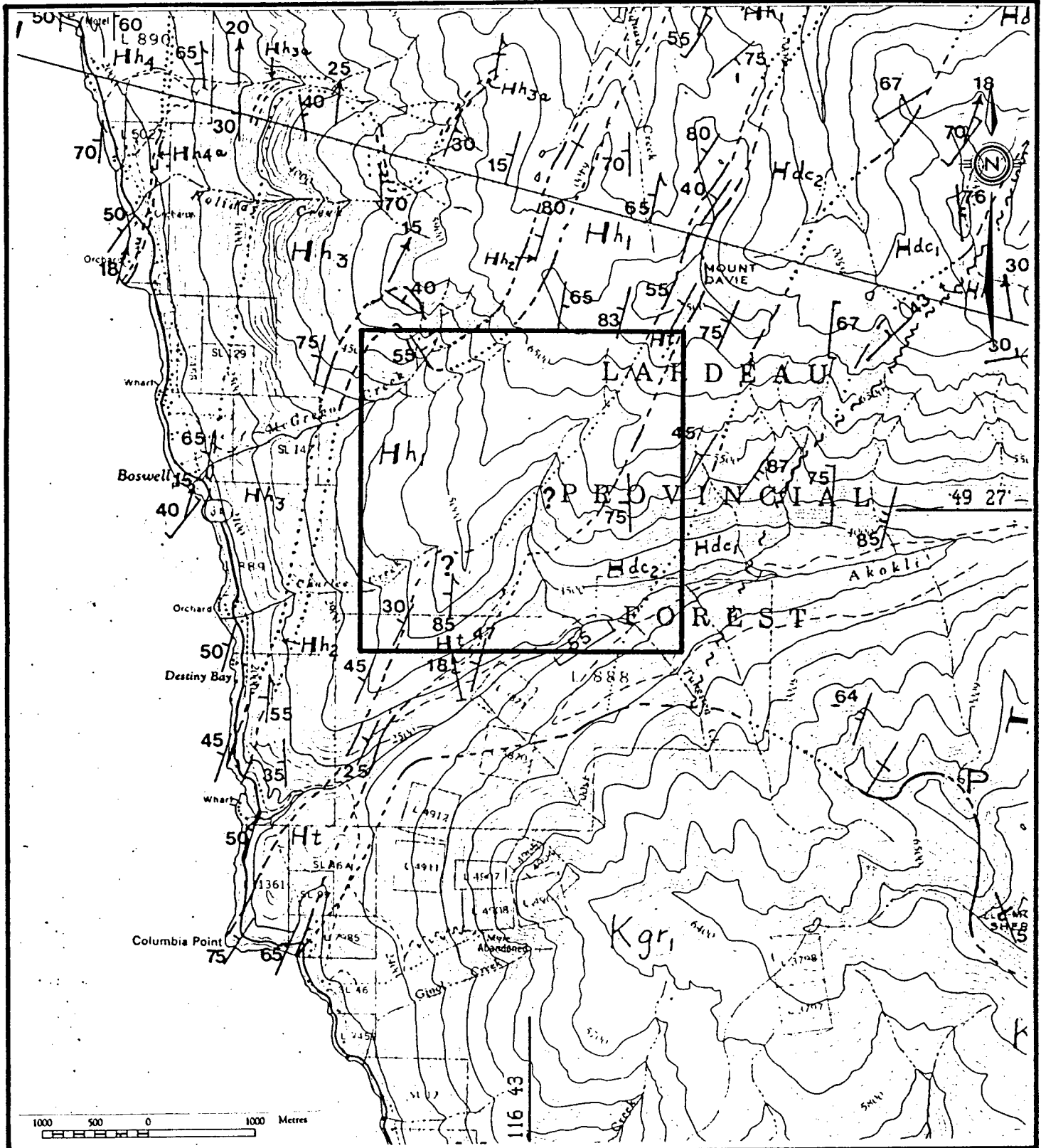
Proterozoic sediments have been intruded by Cretaceous granitic rocks of the Bayonne Batholith.

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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FIG. 3

LEGEND

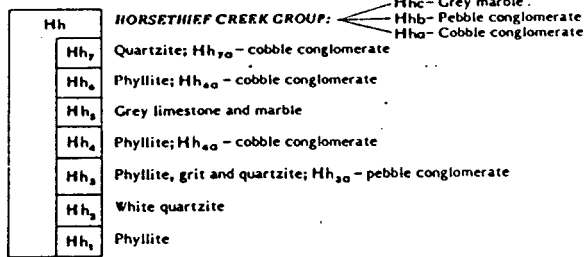
MESOZOIC

CRETACEOUS

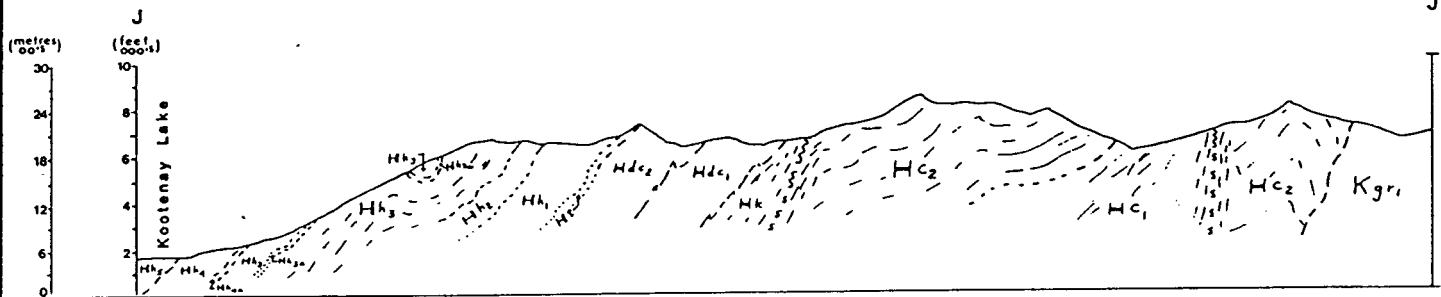
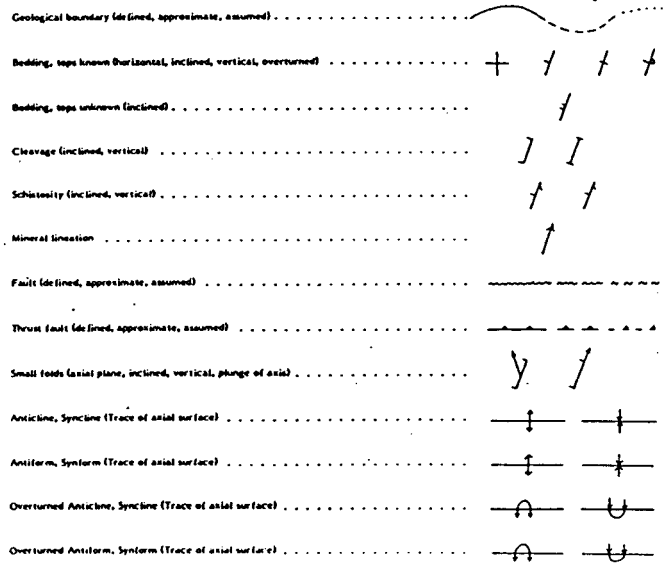
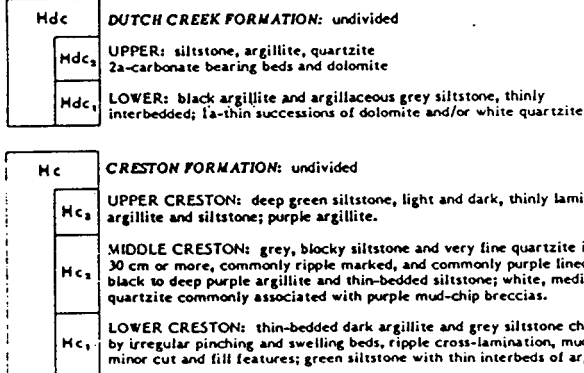


HADRYNIAN

WINDERMERE SUPERGROUP (Hh, Ht)



PROTEROZOIC



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FIG. 3 A

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)

Granitic dykes, sills and a lobe of the Bayonne Batholith are present in the property area. The Bayonne Batholith extends into the property from west and south. 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 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 fault zone, called the Val Fault (Green op. cit.), is the locus for mineralization in the Valporaiso/Government Workings, and Hope of Discovery area.

In the Hope of Discovery showing on the north side of Akokli Creek two shears control mineralization (Fig. 6). These are N15W and N35W with dips of 60 to the east.

MINERALIZATION

The results of a study of geology and related mineralizing events at the Valporaiso/Government workings and results of our investigations on the Hope of Discovery show remarkable structural and mineralogical similarities in the two properties. The reason for this is location of mineralization in the shear zone, along the Val Fault.

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

(see Figs 4 and 5)

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. (B. C. MMAR 1926 and 1927; Minfile)

Copper Canyon Workings
(Fig.4)

Located on the west facing slope of Mt. 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%. (B. C. MMAR 1926 and 1927; Minfile)

HISTORY OF EXPLORATION AND MINING

(Fig. 4)

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

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.

LEGEND

M E S O Z O I C

CRETACEOUS

- Kgr
- Kgr₁ Biotite granite with megacrysts of Potash Feldspar

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WINDERMERE SUPERGROUP (Hh, Ht)

- 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

- Mdc **DUTCH CREEK FORMATION:** undivided

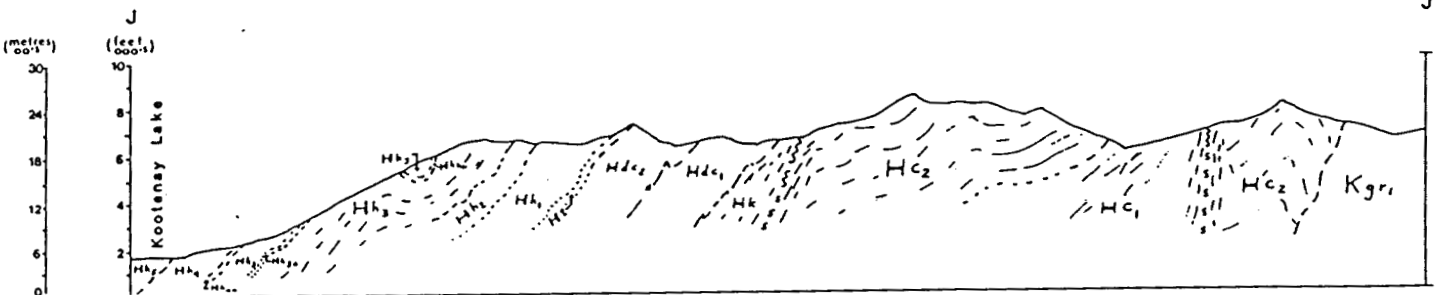
- Mdc₂ UPPER: siltstone, argillite, quartzite
Za-carbonate bearing beds and dolomite
- Mdc₁ LOWER: black argillite and argillaceous grey siltstone, thinly interbedded; Ia-thin successions of dolomite and/or white quartzite

- Hc **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.

P R O T E R O Z O I C

- Geological boundary (dotted, approximate, assumed)
- Bedding, tops known (horizontal, inclined, vertical, overturned) + / / /
- Bedding, tops unknown (inclined) /
- Cleavage (inclined, vertical) / /
- Schistosity (inclined, vertical) / /
- Mineral lineation /
- Fault (dotted, approximate, assumed) - - - - -
- Thrust fault (dotted, approximate, assumed) - - - - -
- Small folds (axial plane, inclined, vertical, plunge of axis) y /
- Anticline, Syncline (Trace of axial surface) - | - |
- Antiform, Synform (Trace of axial surface) - | - |
- Overturned Anticline, Syncline (Trace of axial surface) - A - U
- Overturned Antiform, Synform (Trace of axial surface) - A - U



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FIG. 4A

- 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).

WORK DONE 1987

(Fig. 5)

Geological, geophysical and geochemical surveys were done on the northwest part of the Hope of Discovery property during late November and December of 1987.

Results

Significant silver, lead, zinc, copper and minor gold anomalous values in soils occur in the surveyed area and the correlation with the geological and geophysical surveys show following:

-mineralization found in the Creek showing area coincides with the highest magnetic and strongest VLF-EM conductor. It also coincides with Creek (Val ?) fault.

Copper and minor lead soil anomalous values are found in this area.

-mineralization found in the Hope of Discovery area is coincidental with high lead, zinc, silver and minor gold anomalous values in soils. The showing is also located on the eastern edge of a 2000 gamma magnetic anomaly.

-high susceptibility and pronounced north-south strike of the anomalies are reflection of the geological structure, mineralization and to some extent influence of the relief.

-VLF-EM (Seattle and Annapolis) have mapped relatively weak anomalies. Stronger conductors are located only in the area of Creek showing. The assays of samples collected from the Creek showing dumps are of lower grade and do not reflect strong EM and very high magnetic anomaly. It is possible that other mineralized bodies reflect strong anomalies and assays only show low grade mineralization of the vein walls.

WORK DONE 1989

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

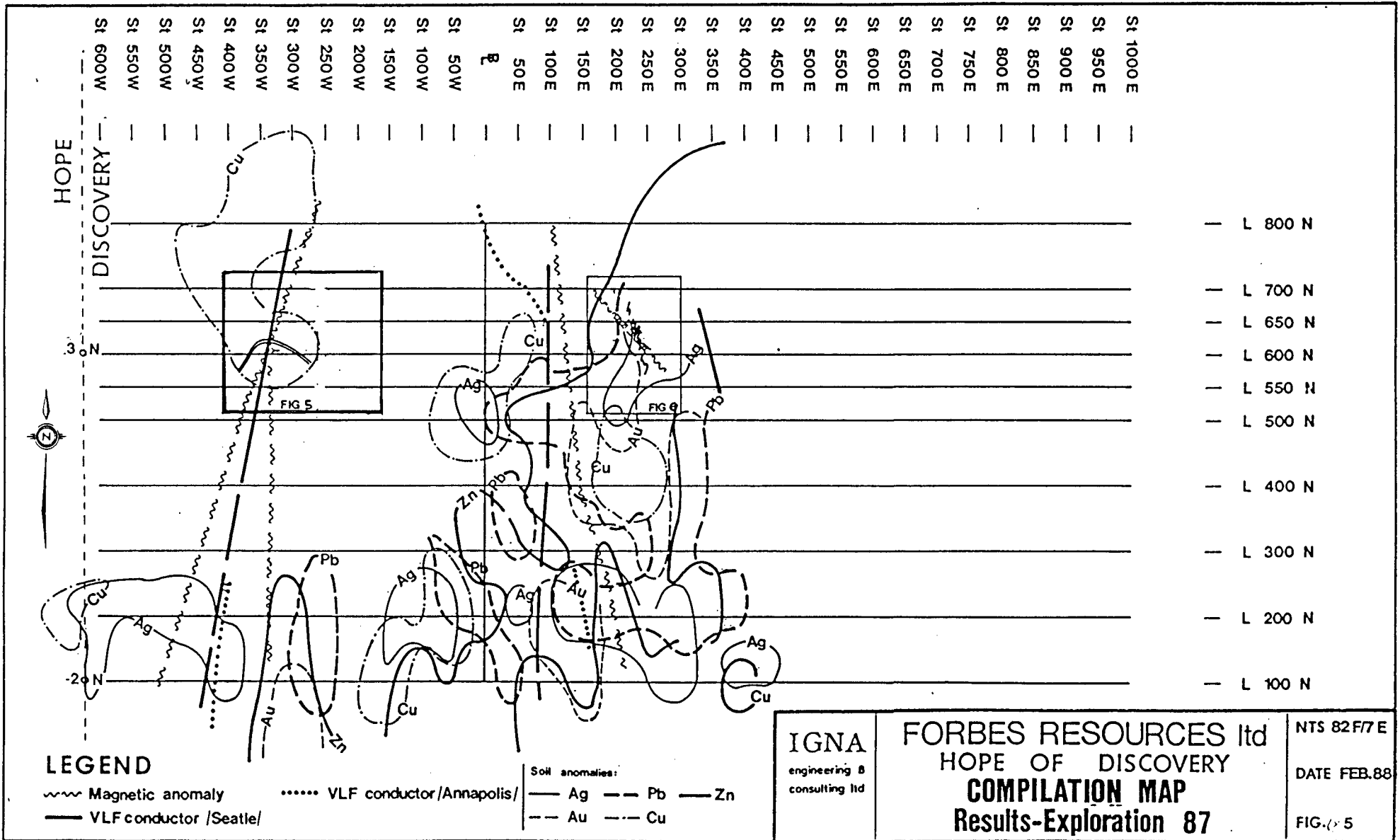
Geological mapping was done in the southern part of the property in scale 1:10 000. in conjunction with geophysical VLF-EM survey in the same area.

Geological mapping

(Fig 6)

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

The oldest rocks mapped are part of the conformable succession of formations which in the area of interest is represented by rocks of the Horsethief Creek Group (Hh) and Mt. Nelson and the Dutch Creek Formations (Hnd).



LEGEND

~~~~~ Magnetic anomaly  
 — VLF conductor /Seattle/  
 ..... VLF conductor /Annapolis/

Soil anomalies:  
 — Ag    - - - Pb    — Zn  
 - - - Au    - - - Cu

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**COMPILATION MAP**  
 Results-Exploration 87

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 FIG. 5

Granitic Intrusives:  
(Fig 6)

Bayonne Batholith (Kgr)

Granitic dykes, sills and a lobe of the Bayonne Batholith are present in the south east corner of the property. The Bayonne Batholith extends into the property from east and south.

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.

The contact to the metasediments 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 and bedding measurements of the quartzites and phylites show steep northwestward dips on planes striking 40 to 50 (NE)

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 and is found in the Hope of Discovery and Creek showing areas (Lines 500N to 800N St 350W). This fault zone, called the Val Fault, is the locus for mineralization in the Valporaiso/Government Workings, and Hope of Discovery area (Fig. 5).

## Geophysical VLF-EM survey

(Figs 7 & 8)

During the early part of September, 1989, a VLF-EM survey was conducted on the "Hope of Discovery" 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 3.2 line-kilometers on three parallel lines 100 m apart.

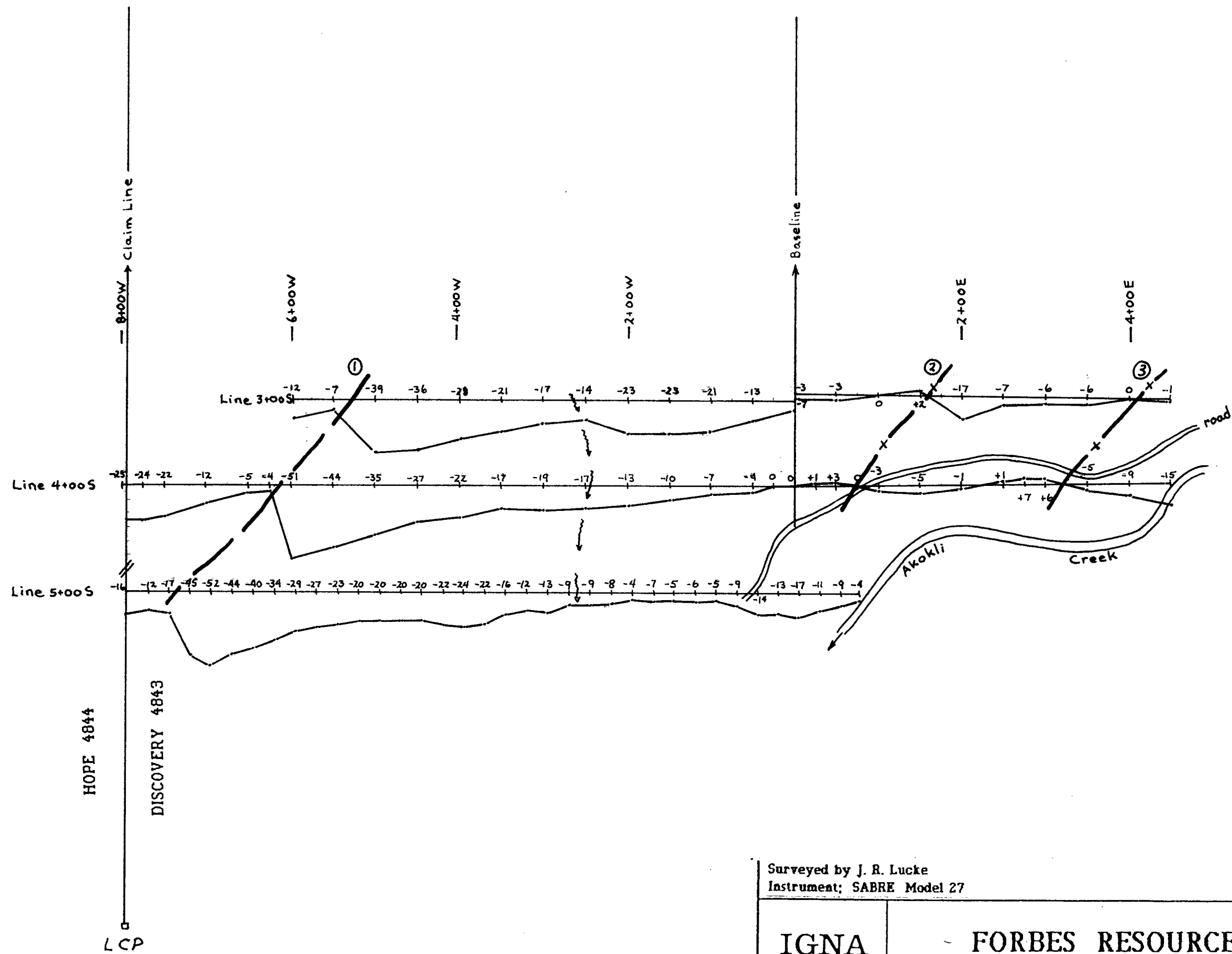
Several noteworthy responses were detected. There were two crossover anomalies noted toward the eastern end of the survey area and these are shown in bold lines marked X on the accompanying maps. Near the west end, a sudden and drastic change in the dip angles occurred on each line, even though these were not accompanied by actual crossovers. All anomalies showed a northeast-southwest trend.

Anomaly (1) (Figs 7 & 8) at the western end of the grid, where the sudden shift in dip angles appears, is of interest. This anomaly shows on all three adjacent lines with the most dramatic change located in the central line, 4+00 S. It is suspected that a significant structural feature, such as major faulting or a contact zone, is responsible for this trend.

The crossovers -anomalies (2) and (3)- in the eastern portion of the grid were detected only on the two northernmost lines, these being 3+00 S and 4+00 S. While there is no apparent continuation to line 5+00 S of anomaly 2, anomaly 3 possibly does extend this far. The dip angle readings approach 0 as Akokli Creek is neared on 5+00 S and may reverse sign on the east bank. Unfortunately, the line ends because of the presence of the creek before any crossover appears.

## CONCLUSIONS AND RECOMMENDATIONS

All anomalies are relatively accessible and could easily be investigated further. It is recommended that intermediate lines be established and closer station spacings be utilized to more accurately define the anomalies. Additional lines to the north and south would provide data as to the extent of the various zones of interest. In addition, the grid should be extended to the east, particularly across Akokli Creek.



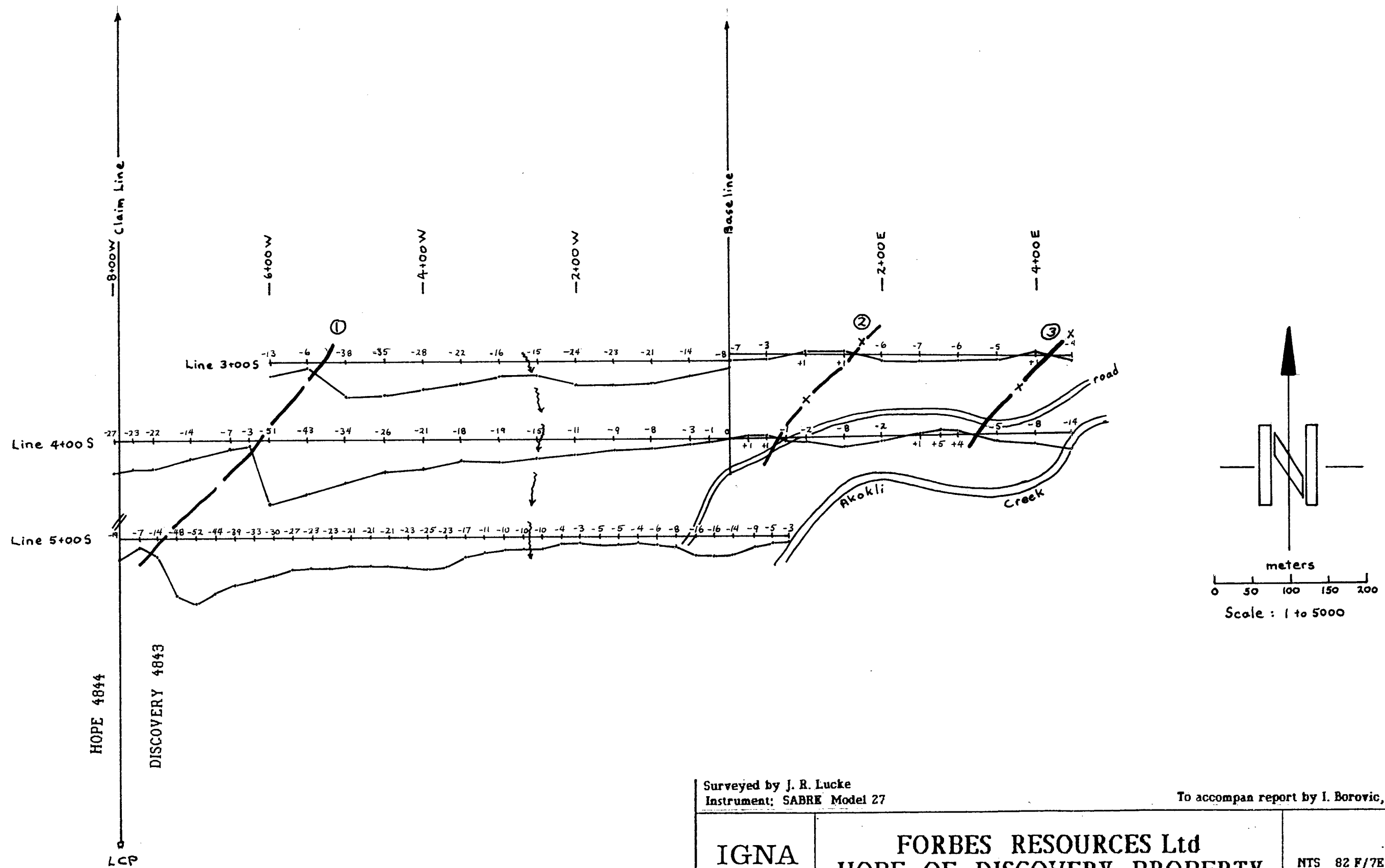
Surveyed by J. R. Lucke  
Instrument: SABRE Model 27

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

**IGNA**  
engineering &  
consulting ltd.

**FORBES RESOURCES Ltd**  
**HOPE OF DISCOVERY PROPERTY**  
STATION: Seattle, Washington 24.8 kHz  
**VLF-EM Survey--Profiles**

NTS 82 F/78  
Date: Sept 89  
Figure: 7



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

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

**IGNA**  
engineering &  
consulting ltd.

**FORBES RESOURCES Ltd**  
**HOPE OF DISCOVERY PROPERTY**

STATION: Cutler, Maine 240 kHz  
**VLF-EM Survey--Profiles**

NTS 82 F/7E

Date: Sept 89

Figure: 8

It is also my opinion that strong coincidental soil, VLF and magnetic anomaly of the Creek showing should be further explored by excavating methods and later drilled in order to evaluate the horizontal and vertical extent of the potential silver, lead, zinc, copper and gold mineralization.

Hope of Discovery area should be also trenched and later, if warranted, drilled.

It is also my opinion that the basic exploration work should be further extended to the other parts of the Hope of Discovery.

The exploration work in 1987 and recent exploration work in 1989 on the Hope of Discovery project has indicated two important targets worth investigating.

1. -area surrounding the Creek showing which features high magnetic north-south trending anomaly and coincidental VLF conductor.  
Featuring:
  - presence of strong silicification, brecciation, in the shear.
  - sulfide mineralization associated with the shear zone.
2. -mineralized area surrounding the Hope of Discovery workings striking north-south.  
Features:
  - high grade silver mineralization associated with lead, zinc, copper and gold.
  - shearing, silicification, brecciation and strong hydrothermal alterations.

During the next phase of exploration it should be kept in mind that there are two possibilities of mineral deposition in the geological environment on the Hope of Discovery property. Besides silver, lead, zinc, copper, and gold bearing veins in shear zones there is also a possibility of skarn type mineralization as evidenced by occurrence of high temperature tungsten minerals.

## EXPLORATION PLAN AND ESTIMATED BUDGET 1990.

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 two 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 \$ 81 600.00. 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.....      | \$ | 8 000.00  |
| Trenching.....                                 | \$ | 16 000.00 |
| Underground cleaning, sampling.....            | \$ | 20 000.00 |
| Assaying.....                                  | \$ | 4 000.00  |
| Room & Board.....                              | \$ | 3 000.00  |
| Transportation, travel.....                    | \$ | 5 000.00  |
|                                                |    | -----     |
| Total                                          | \$ | 68 000.00 |
| Contingencies (20% of total).....              | \$ | 13 600.00 |
|                                                |    | -----     |
| Total Phase 1.....                             | \$ | 81 600.00 |

### PHASE 2

|                                                 |    |            |
|-------------------------------------------------|----|------------|
| Geology, engineering, supervision.....          | \$ | 18 000.00  |
| Room and board.....                             | \$ | 5 000.00   |
| Diamond drilling (2000 ft. @ \$ 80.00/foot).... | \$ | 160 000.00 |
| Assaying.....                                   | \$ | 12 000.00  |
| Transportation.....                             | \$ | 5 000.00   |
|                                                 |    | -----      |
| Total                                           | \$ | 200 000.00 |
| Contingencies (20% of total).....               | \$ | 40 000.00  |
|                                                 |    | -----      |
| Total Phase 2.....                              | \$ | 240 000.00 |



**BIBLIOGRAPHY**

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## STATEMENT OF EXPENSES

## PERSONNEL:

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).....        | \$1110.00 |
| Instrument rent.....                               | \$ 100.00 |
| Topo maps, coppies, airphotos,.....                | \$ 627.80 |
| Room and Board 4 man/days at \$ 70.00/man/day .... | \$ 280.00 |
| Transportation, travel(4x4; car, gas).....         | \$ 251.00 |
| Communications (mobile radio-telephone).....       | \$ 95.00  |
|                                                    | -----     |
| Total field work.....                              | \$3963.80 |

## Office Work

|                                    |           |
|------------------------------------|-----------|
| Report.....                        | \$1500.00 |
| Word processing, draughting, ..... | \$ 425.00 |
| Coppies.....                       | \$ 52.00  |
|                                    | -----     |
| Total office work.....             | \$1977.00 |

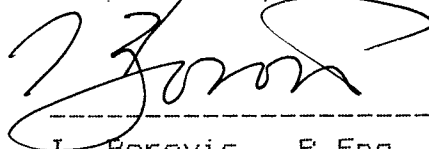
|                                               |           |
|-----------------------------------------------|-----------|
| Total expenditures( Field + Office Work ).... | \$5940.80 |
|                                               | -----     |

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 Hope of Discovery property of Forbes Resources Ltd. located 50 km north of Creston, B. C.
- 2 The expenditures claimed for the performance of the work are correct.

Respectfully submitted

A handwritten signature in cursive script, appearing to read 'I. Borovic', written over a horizontal dashed line.

I. Borovic, P.Eng.

Vancouver, Sept 25 1989.

APPENDIX



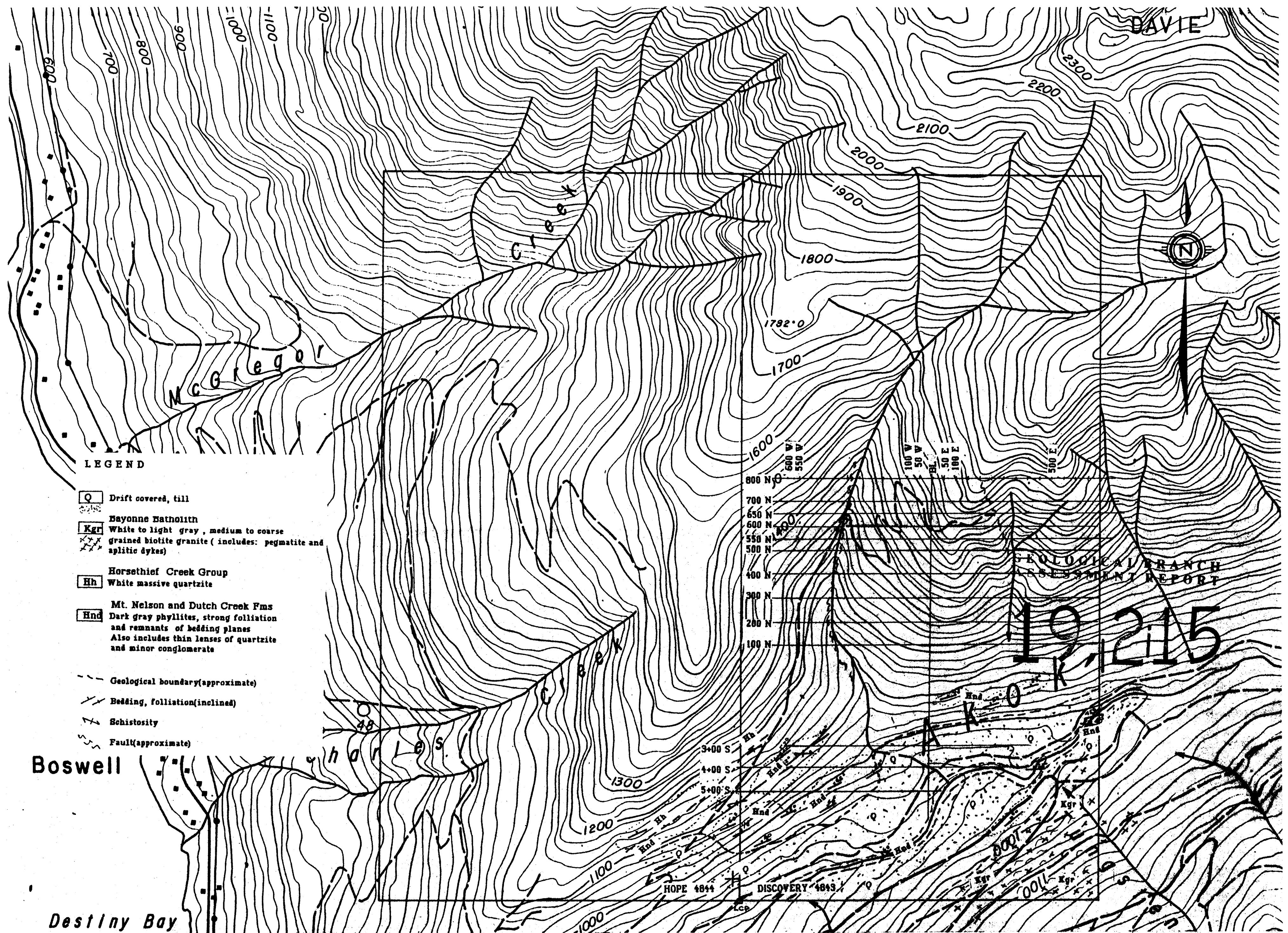
| Line                                                                        | Station | Seattle         |     | Cutler     |     |
|-----------------------------------------------------------------------------|---------|-----------------|-----|------------|-----|
|                                                                             |         | Field Str.      | Dip | Field Str. | Dip |
| Start on "Hope of Discovery" B/L @ 4+00 S                                   |         |                 |     |            |     |
| 4+00 S                                                                      | 0+00 W  | (see next page) |     |            |     |
|                                                                             | 0+50 W  | 24              | -4  | 24         | -3  |
|                                                                             | 1+00 W  | 24              | -7  | 24         | -8  |
|                                                                             | 1+50 W  | 25              | -10 | 25         | -9  |
|                                                                             | 2+00 W  | 26              | -13 | 27         | -11 |
| Babbling brook flows ~ south at 2+45 W                                      |         |                 |     |            |     |
|                                                                             | 2+50 W  | 25              | -17 | 28         | -15 |
|                                                                             | 3+00 W  | 28              | -19 | 30         | -19 |
|                                                                             | 3+50 W  | 28              | -17 | 29         | -18 |
|                                                                             | 4+00 W  | 26              | -22 | 27         | -21 |
|                                                                             | 4+50 W  | 26              | -27 | 25         | -26 |
|                                                                             | 5+00 W  | 24              | -35 | 25         | -34 |
| 4+75 W: Major outcrop ± boulder talus, incl large lumps of SiO <sub>2</sub> |         |                 |     |            |     |
|                                                                             | 5+50 W  | 26              | -44 | 31         | -43 |
|                                                                             | 6+00 W  | 50              | -51 | 57         | -51 |
|                                                                             | 6+25 W  | 61              | -4  | 72         | -3  |
|                                                                             | 6+50 W  | 41              | -5  | 47         | -7  |
|                                                                             | 7+00 W  | 33              | -12 | 40         | -14 |
|                                                                             | 7+50 W  | 31              | -22 | 37         | -22 |
|                                                                             | 7+75 W  | 32              | -24 | 35         | -23 |
|                                                                             | 8+00 W  | 41              | -25 | 46         | -27 |
| Hope I.P. 1 N 50 m S of line 4:00 S                                         |         |                 |     |            |     |
| 4+75 S 6+25 W is 102 m S of 4+00 S 7+95 W                                   |         |                 |     |            |     |

claim line @ 7+95 W  
B/L atop, 3000 N is 8 m south  
of line 4+00 S / claim line  
in resection

| Line                                                  | Station | Seattle    |     | Cutler     |     |
|-------------------------------------------------------|---------|------------|-----|------------|-----|
|                                                       |         | Field Str. | Dip | Field Str. | Dip |
| 4+00 S                                                | 0+25 W  | 22 (30)    | 0   | 22 (400)   | -1  |
|                                                       | 0+00    | 23         | 0   | 23         | 0   |
|                                                       | 0+25 E  | 23         | +1  | 23         | +1  |
|                                                       | 0+50 E  | 24         | +3  | 24         | +1  |
| cross road obliquely at 0+86 E                        |         |            |     |            |     |
|                                                       | 0+75 E  | 27         | 0   | 26         | -1  |
|                                                       | 1+00 E  | 28         | -3  | 26         | -2  |
|                                                       | 1+50 E  | 25         | -5  | 23         | -8  |
|                                                       | 2+00 E  | 24         | -1  | 21         | -2  |
|                                                       | 2+50 E  | 25         | +1  | 23         | +1  |
|                                                       | 2+75 E  | 27         | +7  | 25         | +5  |
|                                                       | 3+00 E  | 30         | +6  | 27         | +4  |
|                                                       | 3+50 E  | 32         | -5  | 32         | -5  |
|                                                       | 4+00 E  | 31         | -9  | 33         | -8  |
|                                                       | 4+50 E  | 24         | -15 | 22         | -14 |
| Edge of creek bank at 4+49 E; centre of creek N 44° E |         |            |     |            |     |
|                                                       |         |            |     |            |     |
| Chained 100 m north to establish 3+00 S 4+50 E.       |         |            |     |            |     |

Road swings to within ~5 m N of here.



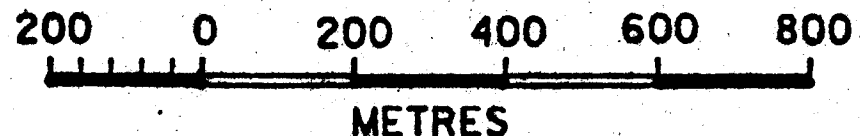


**LEGEND**

- Q Drift covered, till
- Kgr Bayonne Batholith  
White to light gray, medium to coarse grained biotite granite ( includes: pegmatite and aplitic dykes)
- Hh Horsethief Creek Group  
White massive quartzite
- Hnd Mt. Nelson and Dutch Creek Fms  
Dark gray phyllites, strong foliation and remnants of bedding planes  
Also includes thin lenses of quartzite and minor conglomerate
- Geological boundary (approximate)
- Bedding, foliation (inclined)
- Schistosity
- Fault (approximate)

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19-215



|                        |            |        |       |
|------------------------|------------|--------|-------|
| BUILDING               | ROADS      | PAVED  | ROUGH |
| CONTOURS AND ELEVATION | RAILWAY    | GRAVEL | TRAIL |
| APPROX. CONTOUR        | POWER LINE | ABAND. |       |
| SWAMP                  | FENCE      | FLUME  |       |
| DEPRESSION             |            |        |       |
| TREED SWAMP            |            |        |       |

CONTOUR INTERVAL 20 METRES

**IGNA**  
engineering & consulting ltd.

**FORBES RESOURCES Ltd**  
**HOPE OF DISCOVERY PROPERTY**  
**Geology and Location of Workings**

NTS 82 P/7K  
Date: Sept 89  
Fig 6

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