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GEOLOGICAL REPORT

ON THE

LUCKY PROPERTY

Alberni Mining Division  
Vancouver Island  
British Columbia

FOR

FREMONT GOLD CORPORATION

BY

N.C. CARTER, PH.D. P.ENG.  
May 27, 1987

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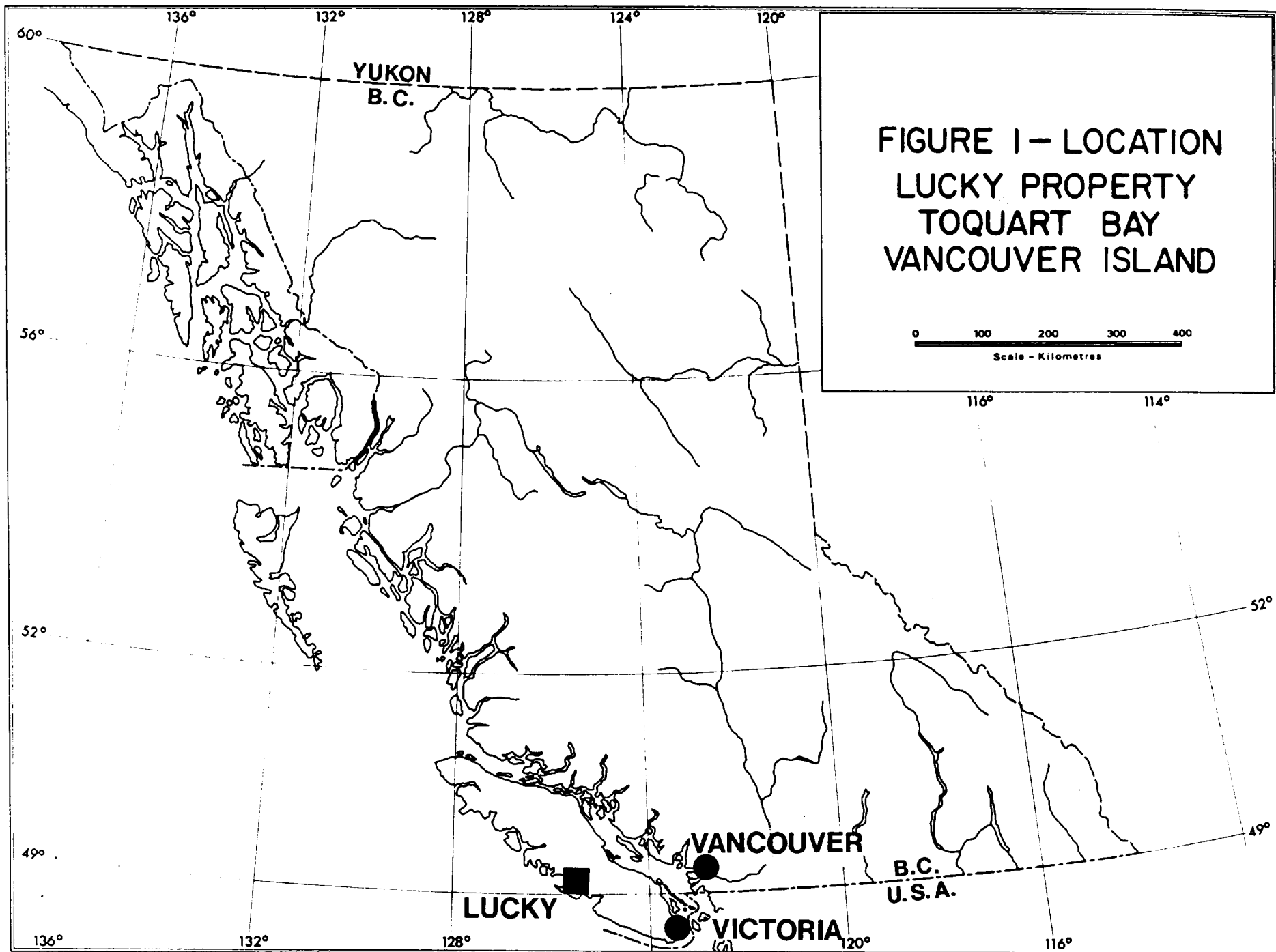
## SUMMARY

Freemont Gold Corporation holds an option on the Lucky gold property consisting of two 2-post claims, two fractional claims and 25 Modified Grid mineral claims and situated south of Kennedy Lake on the southwest coast of Vancouver Island.

Previous work on the Lucky property has been principally directed to the Lucky gold-bearing quartz vein. Where exposed in the underground workings and intersected in drill core, the vein is narrow (0.30 metre average width) but locally it contains gold values in the several oz/ton gold range. Recent diamond drilling indicates that values persist to depth and that the structure may be increasing in width along strike to the south.

Several other mineral showings and areas of anomalous geochemistry have been identified within the large property area.

A first phase program, estimated to cost \$100,000 is recommended to further test the potential of the Lucky vein. It is further recommended that geochemical surveys and prospecting be undertaken over areas of the property not previously investigated as part of the Phase I program.



## INTRODUCTION

Freemont Gold Corporation holds an option on the Lucky gold property on the west coast of Vancouver Island, British Columbia.

This report, prepared at the request of Freemont Gold Corporation, is based on available information pertaining to previous work and on examinations of parts of the present property while the writer was a director of Victoria Resource Corporation. These examinations took place May 16 and July 7, 1984, during which time Victoria Resource Corporation held an option on the property.

## LOCATION AND ACCESS

The Lucky property is situated on the southwest coast of Vancouver Island (Figure 1) at latitude 49°05' North and longitude 125°17' West in NTS map-area 92F/3.

The mineral claims, 22 km northeast of Ucluelet, are accessible via Highway 4 from Port Alberni and logging roads between Kennedy Lake and Toquart Bay (Figure 2).

The Lucky vein, the principal mineral showing on the property, is accessible by helicopter and a 2 km trail from the end of a logging road north of Toquart Bay (Figure 3). The southern claims can be reached by boat from Toquart Bay and Pipestem Inlet.

## MINERAL PROPERTY

Freemont Gold Corporation holds an option on two 2-post

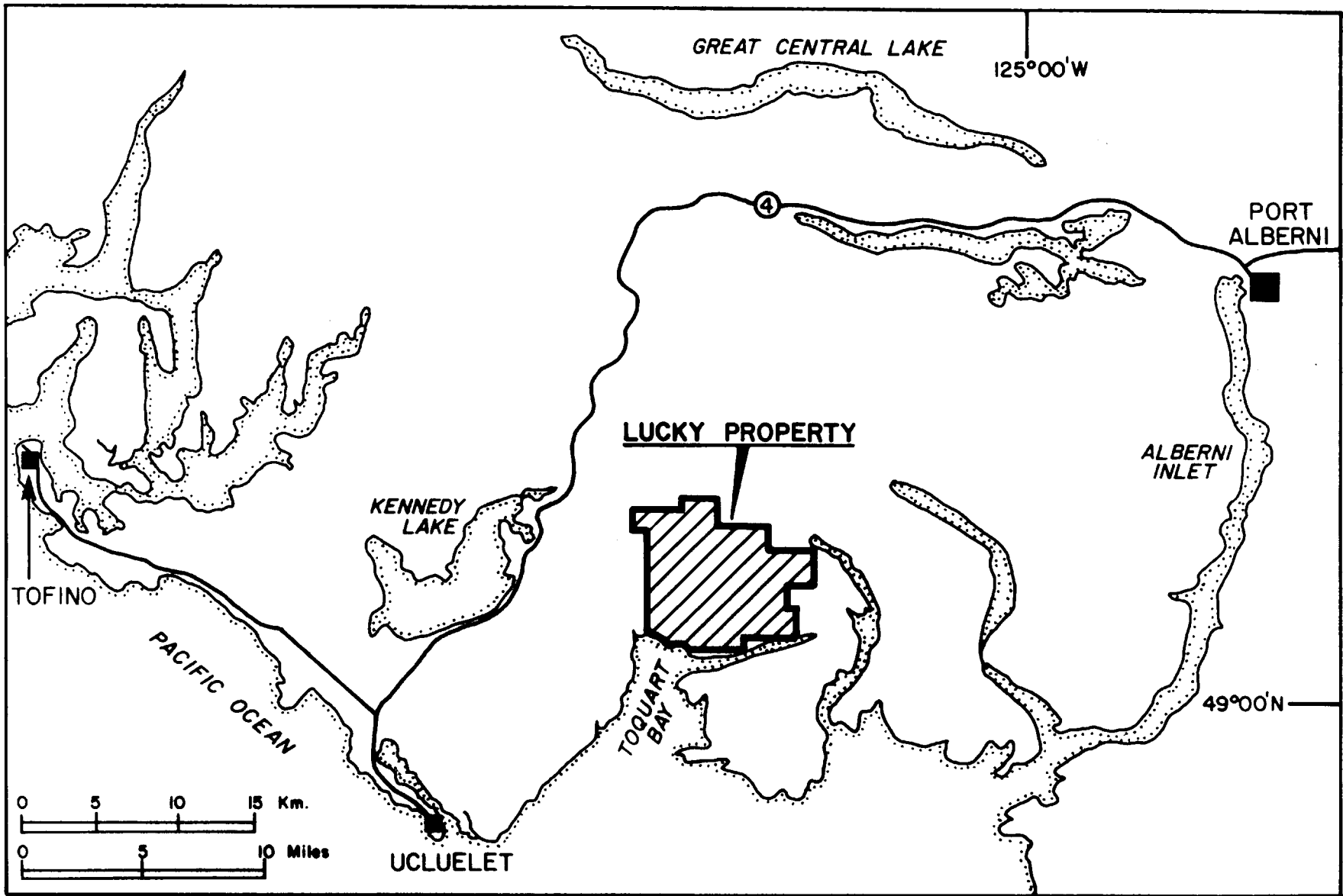


FIGURE 2 - LUCKY PROPERTY

mineral claims, two fractional claims and 25 Modified Grid mineral claims comprising 360 units in the Alberni Mining Division on Vancouver Island. The mineral claims are recorded in the names of Electrum Resource Corporation and Baril Development Ltd. The claims are shown on Figure 3 and details are as follows:

<u>Claim Name</u>	<u>Record Number</u>	<u>Units</u>	<u>Expiry Date</u>
Lucky 81	1365	1	October 7, 1989
Lucky 82	1366	1	" "
Lucky Fr.	1369	-	February 15, 1988 <sup>1989</sup>
Lucky 2 Fr.	1370	-	" "
WICK	<del>1441</del> <sup>3238</sup>	12	May 18, 1988 <sup>29, 1991</sup>
① KX	1555	9	November 24, 1987 <sup>1988, 1991</sup>
KY	<del>1556</del> <sup>3237</sup>	9	" " <sup>May 29, 1991</sup>
② KZ	1557	12	" " <sup>Nov. 24, 1988</sup>
KV	<del>1775</del> <sup>3242</sup>	20	May 31, 1988 <sup>June 2, 1991</sup>
③ KS	1818	4	August 2, 1988 <sup>1989</sup>
④ KT	1819	4	" " <sup>1990</sup>
⑤ KU	1820	6	" " <sup>1989</sup>
⑥ KW	1821	20	" " <sup>1990</sup>
⑦ KM	1866	20	October 7, 1987 <sup>1989</sup>
⑧ KN	1867	20	" " <sup>1989</sup>
⑨ KQ	1869	18	" " <sup>1989</sup>
TOQ 1	3090	10	December 22, 1987 <sup>1988</sup>
TOQ 2	3091	20	" "
TOQ 3	3092	18	" "
TOQ 4	3093	20	" "
TURRET	3094	20	" "
OYSTER 2	3095	8	" "
PEAK	3096	12	" "
KL	3158	20	March 16, 1988 <sup>1991</sup>
OYSTER 1	3159	18	" " <sup>1989</sup>
KO	3160	18	" "
KP	3161	18	" "
KR	3162	18	" "
OYSTER 3	3163	6	" " <sup>1990</sup>
<sup>Base 1</sup>	<sup>3450</sup>	1	<sup>Jan 14, 1989</sup>
<sup>Base 2</sup>	<sup>3431</sup>	1	" "

Expiry dates are based on information available at the Mineral Titles Office, Victoria, but should be checked at the office of the Government Agent in Port Alberni.

The mineral claims are believed to have been located pursuant

to procedures as specified by the Mineral Act Regulations of the Province of British Columbia. No claim posts or lines have been examined by the writer.

#### PHYSICAL SETTING

The Lucky property exhibits physical features typical of the west coast of Vancouver Island.

The entire claims area is heavily forested with abundant underbrush and deadfalls. This coupled with locally rugged topography and limited number of helicopter landing sites makes access to parts of the present claims area difficult.

Elevations range from sea level to more than 1100 metres in the northern part of the property. Much of the claims area is drained by Lucky Creek along which are three small lakes - Handsome, Kite and Ellswick (Figure 3).

#### HISTORY

The Lucky gold-bearing quartz vein was originally staked as the Red Rover property prior to 1905. Sporadic work through the 1930's included 100 metres of underground drifting in 2 adits,

The majority of the present claims were located on behalf of Electrum Resource Corporation in 1982 and optioned to Victoria Resource Corporation in 1983. Additional claims were located and silt, soil and rock sampling programs were undertaken through 1984.

Falconbridge Limited optioned the property from Victoria in



1985 and embarked on a program of follow-up geochemical sampling, airborne and surface geophysics and reconnaissance prospecting and geological mapping of selected areas. Underground workings on the Lucky vein were surveyed and sampled and 332 metres of diamond drilling in 7 holes was undertaken to further test the vein structure.

Falconbridge terminated the option agreement in late 1985 subsequent to which the claims were returned to Electrum by Victoria Resource Corporation.

Additional claims were located in late 1986 and early 1987.

#### REGIONAL GEOLOGY AND MINERALIZATION

Vancouver Island makes up the southern part of the Insular Belt, the westernmost tectonic subdivision of the Canadian Cordillera. The southern Insular belt is dominated by Paleozoic and Mesozoic volcanic-plutonic complexes overlain on the east coast of Vancouver Island by clastic sedimentary rocks of Cretaceous age. Tertiary basic volcanic rocks are prevalent in the southern Island area and granitic intrusions, also of Tertiary age, are widespread particularly along the west coast.

Vancouver Island hosts a variety of mineral deposits, including volcanogenic polymetallic massive sulfide deposits at Buttle Lake and near Duncan, which are hosted by late Paleozoic Sicker Group volcanic rocks. Island Copper near Port Hardy is a porphyry copper-molybdenum deposit with significant by-product gold and which is related to Mesozoic granitic intrusions. Iron-copper skarns,

hosted in late Triassic limestones marginal to granitic intrusions, are numerous in the central and northern Island areas.

The west coast of Vancouver Island is noted for gold-bearing vein deposits. Many of these are at least spatially related to Tertiary granitic intrusions, the most notable examples being the Zeballos camp and the Kennedy Lake and Mount Washington areas.

Oldest rocks in the Kennedy Lake - Long Beach area are Karmutsen mafic volcanic rocks of late Triassic age. A limestone-clastic sedimentary rock sequence lies between the Karmutsen Formation and the Bonanza Group intermediate to felsic volcanics. Island granitic intrusions, comagmatic with Bonanza volcanics, underlie broad areas west and east of Kennedy Lake. These are in part gneissic rocks believed to have been derived from older Paleozoic formations. Tertiary granitic intrusions occur as elongate stocks south of Kennedy Lake and as small stocks, dykes and sills in the Toquart Bay area.

All rocks in the area are segmented by regional west-northwest faults and subordinate northerly trending ones.

Mineral deposits in the area include the Catface porphyry copper-molybdenum prospect north of Tofino which is related to a Tertiary granite and the formerly producing Brynner iron skarn deposit several km south of Kennedy Lake.

A number of gold-bearing quartz veins occur principally in Karmutsen and Bonanza volcanic rocks in the Kennedy Lake area and in both granitic rocks and volcanics northeast of Tofino.

PROPERTY GEOLOGY, MINERALIZATION AND GEOCHEMISTRY

Geological mapping has been conducted only over selected parts of the Lucky property and the following comments are principally after Rebic and Lehtinen(1985).

Oldest rocks are massive Karmutsen mafic to intermediate volcanic flows which underlie the central property area. Overlying these in the Handsome Lake and Triple Creek areas (Figure 4) are light to dark grey thick bedded limestones and thinly bedded clastic sediments. Bonanza felsic to intermediate pyroclastic rocks were noted overlying the sedimentary sequence southwest of Handsome Lake and east of Triple Creek.

Island quartz monzonite and quartz diorite of Jurassic age is widespread, occurring as irregular masses near the property east boundary, north and south of Kite Lake, southwest of Handsome Lake and along the north shore of Toquart Bay.

Porphyritic quartz monzonite on two islands in the northern part of Toquart Bay and quartz feldspar porphyry dykes in the vicinity of many of the mineral showings including the Lucky vein are believed to be of Tertiary age.

Most layered rocks are massive with the exception of the sedimentary sequence which strikes east-west and dips moderately south. A west-northwest fault is projected through Kite and Ellswick Lakes and the lower part of Lucky Creek may be reflecting a north-trending fault structure.

An airborne magnetometer survey (Podolsky,1985) showed general northwest trends, and in particular a pronounced magnetic low

parallelling the fault through Kite and Ellswick Lakes. VLF electromagnetic surveys did not detect significant bedrock conductors.

Known mineralized zones and areas of anomalous geochemical values are shown on Figure 4. These are discussed separately and comments are based principally on a number of assessment reports listed in the Reference section and on the compilation report by Rebic and Lehtinen(1985).

#### Lucky Vein

The Lucky quartz (carbonate) vein occupies a northerly striking, steeply east dipping shear zone and is exposed in surface trenches and two adits. The vein pinches and swells with widths ranging from a few cm to 0.40 metre.

Detailed surface and underground sampling has been carried out in the past (Northcote 1983a). The lower adit extends for only 15 metres and the vein is best exposed in the first 47 metres of the 80 metre long upper adit at an elevation of 129 metres.

Wallrocks are grey Karmutsen volcanics, variably altered to clay minerals, sericite, chlorite and epidote and areas of silicification adjacent to the vein. Up to 2% finely disseminated pyrite occurs in both the vein and altered wallrocks and some visible gold has been noted in the quartz vein.

Both the Victoria (Eccles,1984) and Falconbridge (Rebic and Lehtinen,1985) sampling of the upper adit included samples of

vein, footwall and hangingwall rocks. Six vein samples collected by Falconbridge over 28 metres of strike length had gold values ranging from 0.318/0.30 metre to 7.421/0.18 metre. Weighted average grade of this section is 1.936 opt gold over an average width of 0.23 metre.

Footwall and hangingwall samples, across widths of 0.30 to 1 metre yielded low gold values of between 0.011 and 0.08 opt with a slightly higher concentration noted in the hangingwall.

The Lucky vein was tested by 7 angle holes drilled from 3 set-ups over a potential strike interval of 110 metres. The first two holes were drilled 20 metres north of the end of the upper adit. The deeper of these intersected 0.38 metres of quartz vein grading 0.068 opt gold 13 metres vertically below the adit level. Three holes drilled below the central section of the adit each intersected more than one quartz vein; values ranged from 0.005 to 0.054 opt over 0.21 to 0.46 metre core lengths.

Best values were obtained from 2 holes drilled on an azimuth 4 metres south of the adit portal. The upper hole intersected two parallel quartz (carbonate) veins and altered wallrock over a core length of 1.2 metres with an average weighted grade of 0.152 opt gold. The deeper hole on the same section, 16 metres vertically below the adit level, intersected 0.75 metre of quartz vein with visible gold assaying 1.680 opt gold. Bleached mafic rocksmarginal to the vein yielded 0.012 and 0.016 gold over 0.83 and 1 metre core lengths, with a resultant core length of 2,58

metres having a weighted average grade of 0.498 opt gold. Assuming a near vertical structure, approximate true width of this intercept would be 1.25 metres.

Silver values in vein samples were found to be low, generally not exceeding 0.15 opt.

Quartz feldspar porphyry dykes and sills were noted adjacent to veins in both underground exposures and drill core.

A 300 by 200 metre grid centred on the Lucky vein upper adit was used for geological mapping, soil geochemistry and VLF-EM and megnetometer surveys. Soil sampling at 10 metre intervals along 20 metre spaced lines led to the discovery of a narrow quartz vein parallell to and 45 metres west of the Lucky vein. Limited bedrock exposure indicates a strike length of at least 20 metres. No anomalous gold values were obtained from two samples collected by Falconbridge. High barium values of 4 to 10 times background were noted from soil samples collected over the Lucky vein.

A VLF-EM survey over the grid confirmed the presence of a fault extending west-northwest from Ellswick Lake and immediately south of the Lucky adits.

Two several hundred ppb gold anomalies in stream sediment samples along the major fault 600 metres northwest of Ellswick Lake are believed to be due to two 0.3 metre quartz veins with low gold values.

### Suicide Creek

A westerly striking, 0.3 metre wide quartz vein has been traced intermittently along Suicide Creek in the eastern property area (Figure 4). Assay values from float and bedrock samples range up to 0.06 opt gold and 0.54 opt silver with significant lead and zinc values.

### Handsome Lake

Siliceous volcanic rocks or probably intrusive sills are associated with limestones on the southwest side of Handsome Lake (Figure 4). Numerous small skarn zones are developed in the limestone and these contain varying amounts of magnetite, chalcocopyrite and pyrite with elevated gold and mercury geochemical values.

### Triple Creek

Stream sediments in this area with coincident anomalous values in base metals, arsenic, cadmium and minor gold were found to be due to skarn zones and zones of quartz veining and silicification. One occurrence includes a 4 metre wide gossanous zone with zinc values in the several per cent range developed in mafic volcanic rocks immediately below a limestone sequence. Numerous porphyry dykes were noted in this area.

### Mercury Creek

Two panned stream sediment samples from Mercury Creek (Figure 4) 1.5 km north of Pipestem Inlet returned values of up to 47,500

ppb mercury. Follow-up work by Falconbridge yielded only several hundred ppb mercury, still considered anomalous and possibly due to cinnabar in shear zones, a feature not uncommon in the area.

#### Lucky Creek

Stream sediments and rocks collected east and west of Lucky Creek below Ellswick Lake have returned anomalous base metals and gold and silver values. Rusty mafic volcanic rocks near the mouth of the creek contain low gold values.

#### Other Areas

Of possible significance is a shear zone in a road cut on the KW claim (Figure 3) which contains cinnabar.

Numerous other quartz veins were found during the course of the Falconbridge work; several of these contain weakly anomalous gold values.

Soil samples collected from the southwest shore of Hillier Island, west of the outlet of Lucky Creek, were found to have anomalous gold values of up to 1380 ppb and mercury in the 500 ppb range. Anomalous lithium values suggest that the granite underlying the island is of Tertiary age.

#### CONCLUSIONS AND RECOMMENDATIONS

Exploration work to date on the Lucky property has defined several potentially significant areas of mineralization and anomalous geochemistry.



Most work has been directed to the Lucky vein. Where exposed, the vein is narrow but it locally contains gold values in the several oz/ton range. Diamond drilling south of the main adit level demonstrates that good gold values persist to depth and that the width of the structure may be increasing in this direction.

VLF-EM surveys in the vicinity of the Lucky vein have been unsuccessful and it is recommended that a resistivity survey be undertaken over an expanded grid particularly to the south of the present workings. Resistivity surveys have proven to be useful in similar geological environments where gold bearing structures have been traced to depth.

Work to date has also indicated parallel veins to the west of the Lucky vein; these require additional investigation. Detailed rock and soil sampling and prospecting should be undertaken over the expanded grid.

Difficulty of access has precluded even reconnaissance investigation of much of the large property area. It is significant that two areas explored in some detail (Handsome Lake, Triple Creek) have significant geochemical values hosted by varied lithologies featuring porphyry intrusions of probable Tertiary age. The presence of mercury values in at least two areas is also interesting.

It is recommended that a Phase I program on the Lucky vein be complemented by prospecting and geochemical sampling of areas not previously investigated including the new claims to the north and east. Some consideration should be given to extending the road.

COST ESTIMATE

PHASE I

Grid extension - Lucky vein area - 12.5 km	\$6250.00
Resistivity survey - 15 km	\$22500.00
Soil and rock geochemistry - sample collection and analyses	\$10000.00
Detailed prospecting, geological mapping	\$10000.00
Road extension	\$7500.00
Reconnaissance geochemistry, prospecting - new claims	\$10000.00
Camp and support costs, travel	\$15000.00
Engineering, supervision, reporting	\$7500.00
Contingencies	\$11250.00
	<hr/>
Total	\$100000.00

PHASE II (Contingent on Phase I Results)

Diamond drilling	\$300000.00
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N.C. Carter, Ph.D. P.Eng.

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CERTIFICATE

I, NICHOLAS C. CARTER, of Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist registered with the Association of Professional Engineers of British Columbia since 1966.
2. I am a graduate of the University of New Brunswick with B.Sc. (1960), Michigan Technological University with M.S. (1962) and the University of British Columbia with Ph.D. (1974).
3. I have practised my profession in eastern and western Canada and in parts of the United States over the past 25 years.
4. This report is based on public and private reports pertaining to previous work on the Lucky property and on two property visits May 16 and July 7, 1984.
5. I was a Director of Victoria Resource Corporation during the time the Company held an option on the Lucky property.
6. I have no interest, direct or indirect, in the Lucky property or in Freemont Gold Corporation.
7. Permission is hereby granted to Freemont Gold Corporation to use this report in support of a Prospectus, Statement of Material Facts or Filing Statement to be submitted to the British Columbia Securities Commission and the Vancouver Stock Exchange.

N.C. Carter, Ph.D. P.Eng.

Victoria, B.C.  
May 27, 1987

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FIGURE 3 - LUCKY PROPERTY  
MINERAL CLAIMS

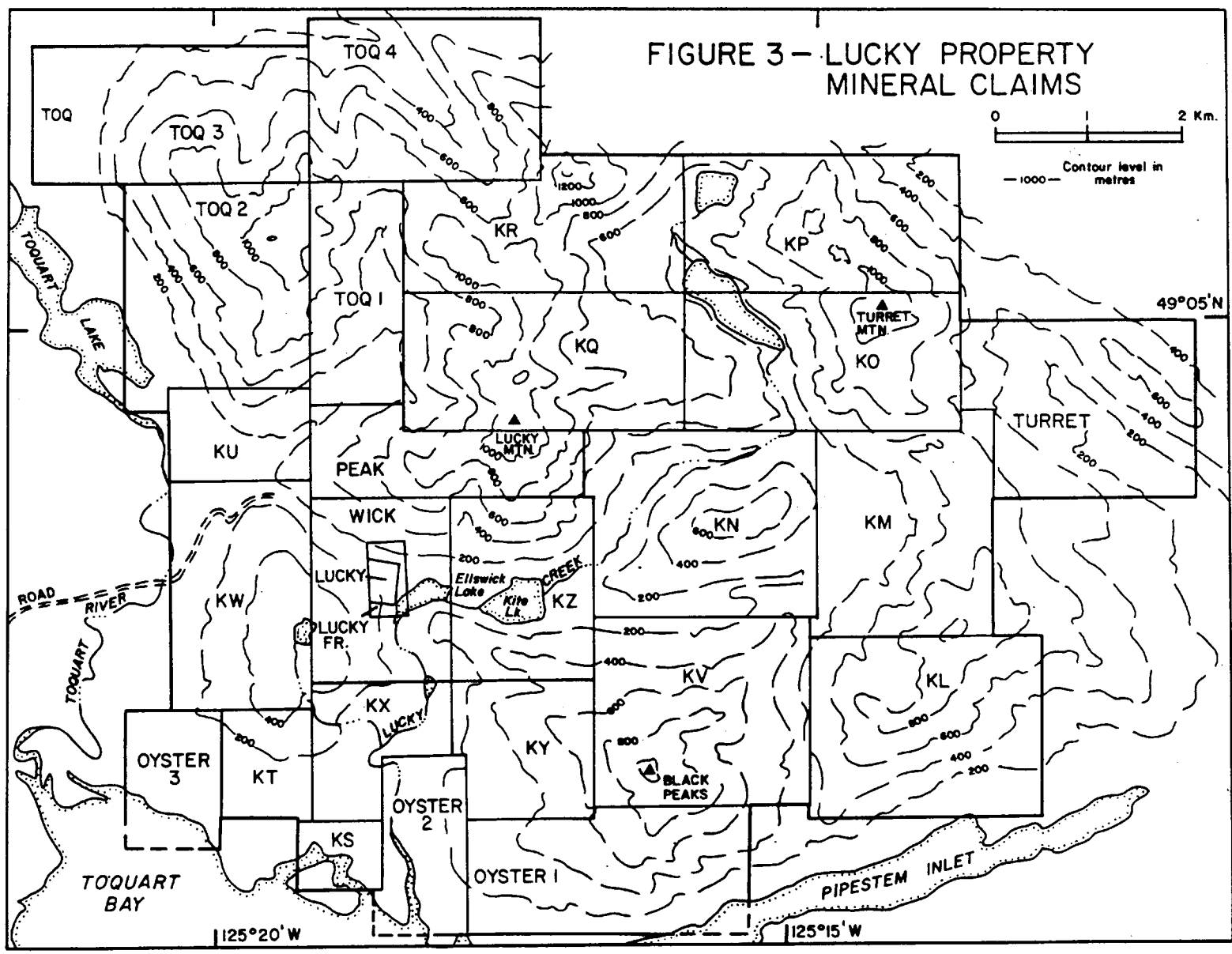
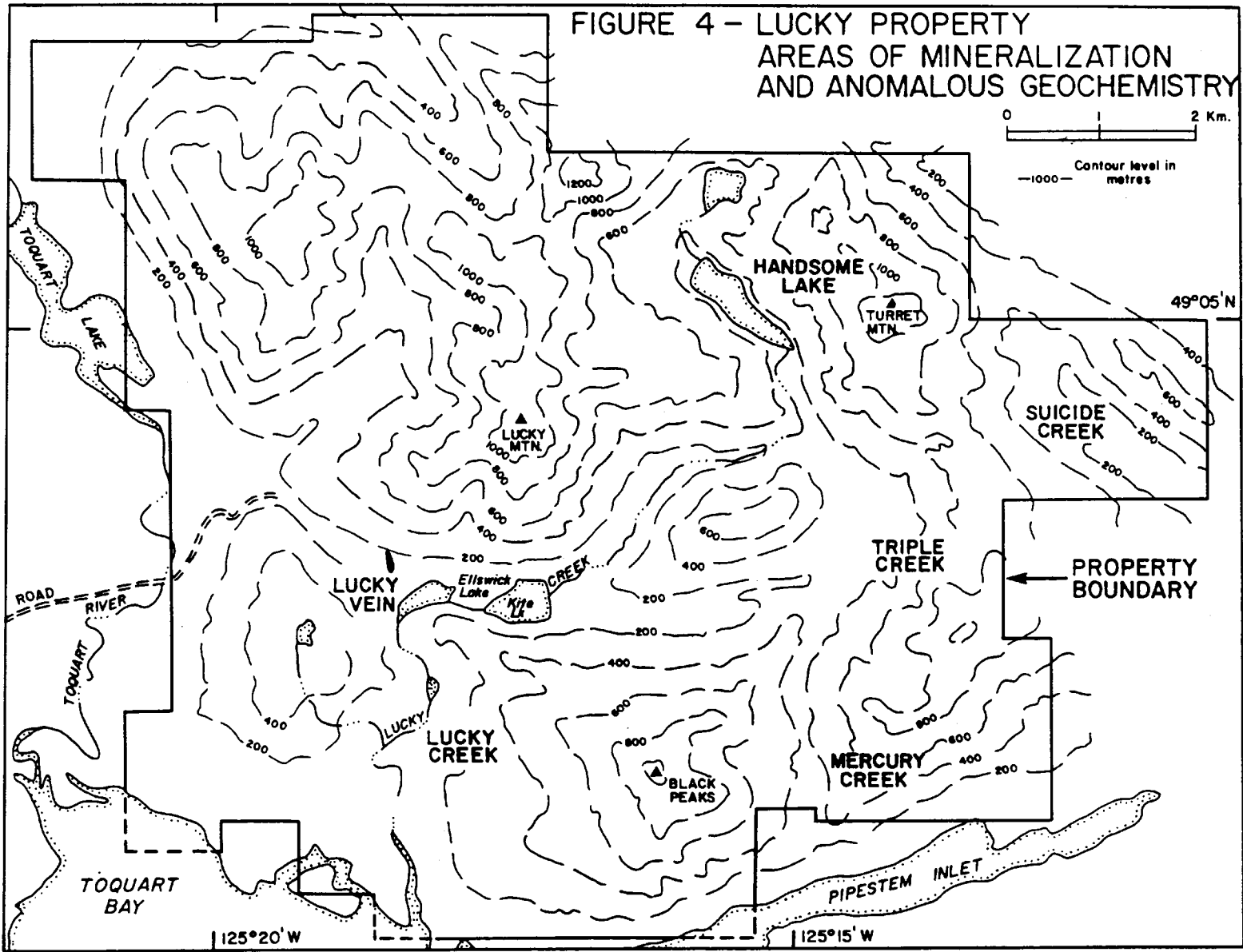


FIGURE 4 - LUCKY PROPERTY  
AREAS OF MINERALIZATION  
AND ANOMALOUS GEOCHEMISTRY



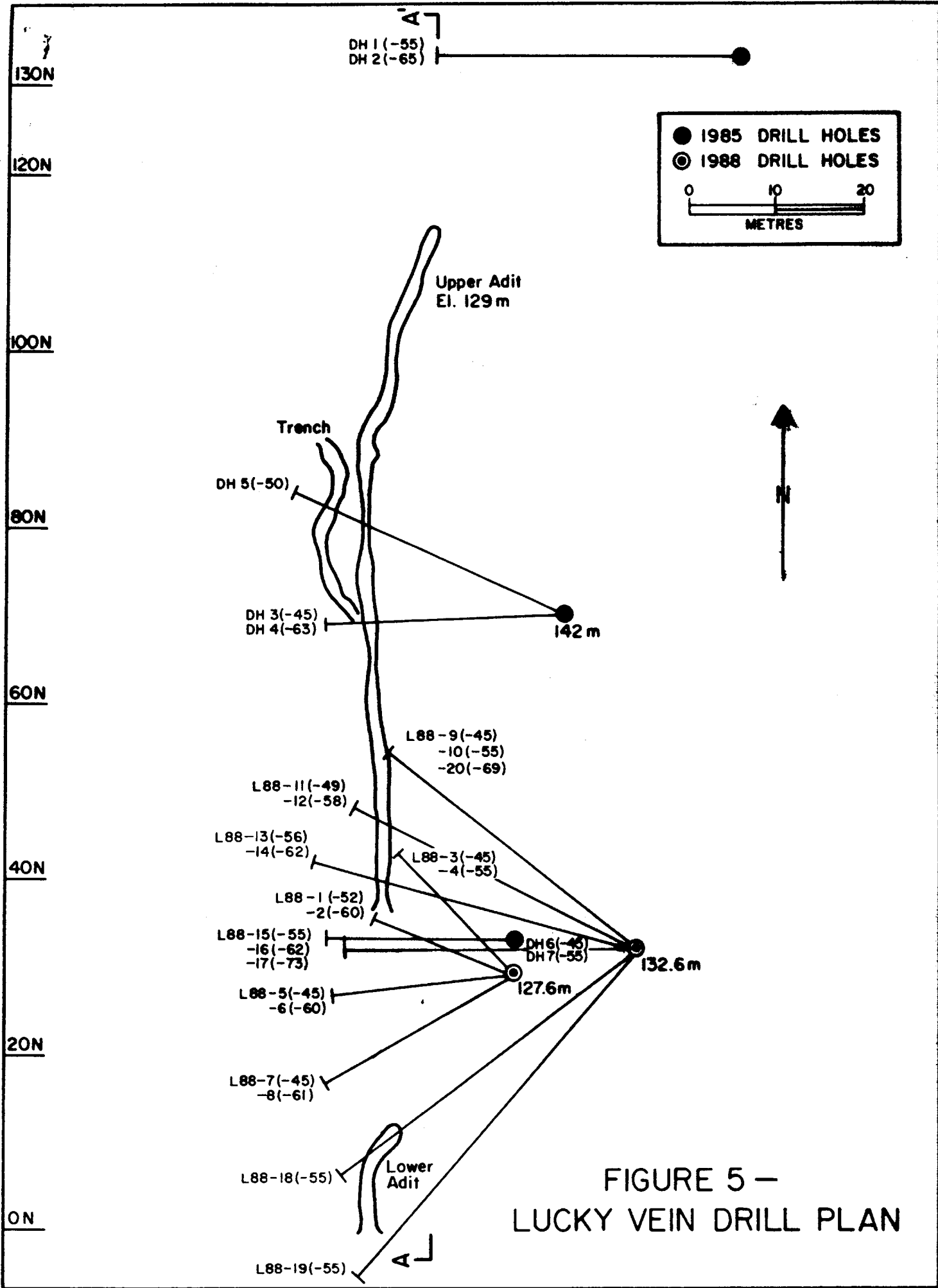


FIGURE 5 –  
LUCKY VEIN DRILL PLAN



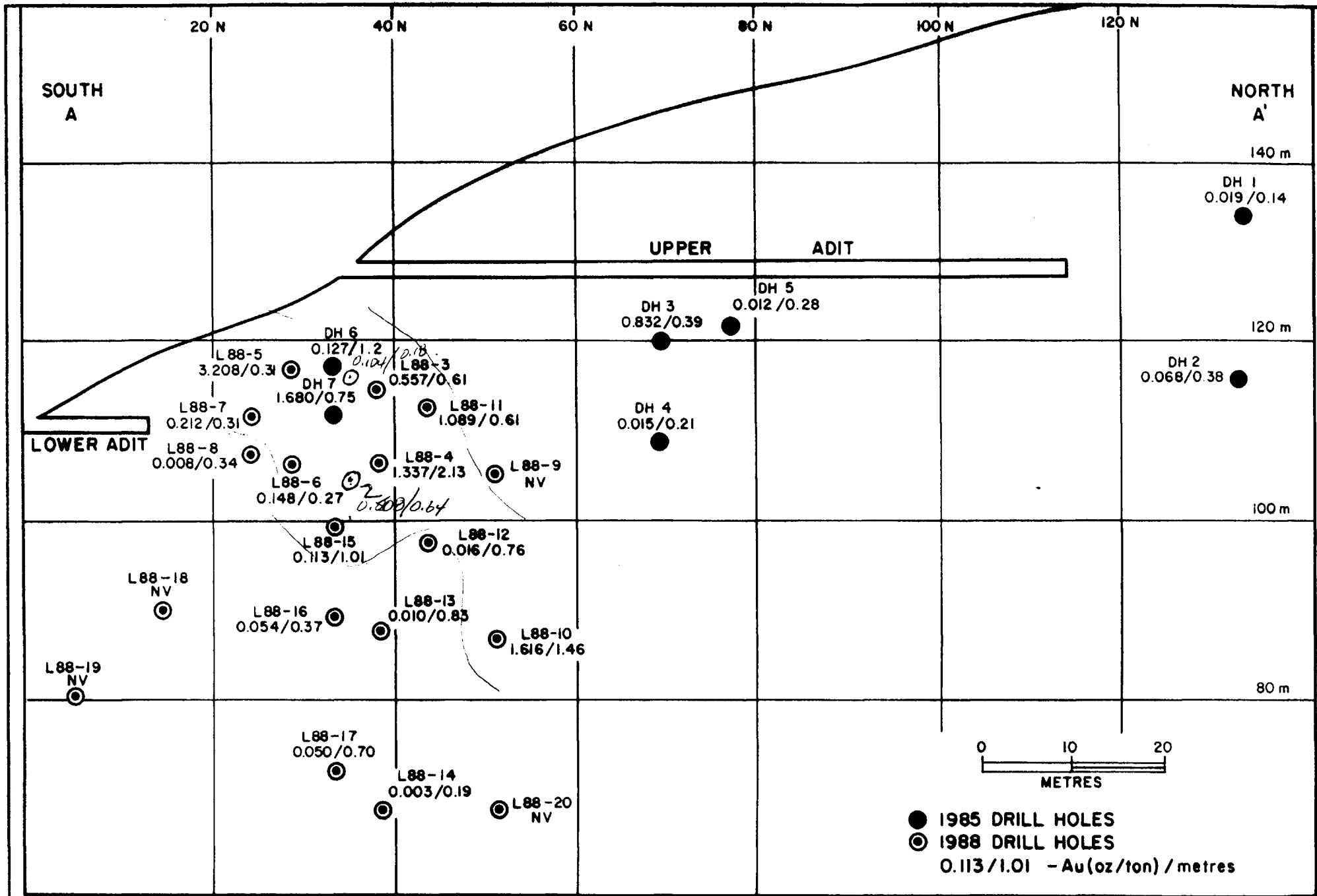


FIGURE 6 - LUCKY VEIN - LONGITUDINAL PROJECTION (LOOKING WEST)