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NATIVE MINES LIMITED

SUMMARY REPORT
ZYMOETZ PROPERTY

Oct. 1, 1967

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Dolmage, Campbell & Assoc. Ltd.

DOLMAGE, CAMPBELL & ASSOCIATES
CONSULTING GEOLOGISTS
808 BANK OF CANADA BUILDING
VANCOUVER 1, B.C.

Native Mines Ltd.

Summary Report

ZYMOETZ PROPERTY

Terrace, B.C.

Oct. 1, 1967.

Douglas D. Campbell Dolmage-Campbell & Assoc. Ltd. Vancouver, Canada.

TABLE OF CONTENTS

	<u>Page</u>
CERTIFICATE	
INTRODUCTION	1
SUMMARY & RECOMMENDATIONS	3
GEOLOGY	5
Regional Setting	5
Property geology	6
ORE OCCURRENCES	8
DRILL & TRENCH RESULTS	9
CONCLUSIONS	11

	<u>ILLUSTRATIONS</u>	<u>following page</u>
Figure 1 -	Location map	4
Figure 2 -	Location of showings, 1" = 1000'	7
Figure 3 -	Lower Showing 1" = 100'	10
Figure 4 -	Lower Showing, sections	10
Figure 5 -	Upper Showing, 1" = 100'	10
Figure 6 -	" " , sections	10

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October 1, 1967

CERTIFICATE

I, Douglas D. Campbell, with business and residential addresses in Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer.
2. I am a graduate of the University of British Columbia, (B.A.Sc., Geological Engineering, 1946), and of the California Institute of Technology, (Ph.D., Economic Geology and Geophysics, 1955).
3. I am a registered Professional Engineer of the Province of British Columbia.
4. From 1946 until 1957 I was engaged in mining and mining exploration in Canada and the United States as geologist for a number of companies. I was chief geologist for Eldorado Mining and Refining Co. Ltd. when I retired in 1957 to begin private practice as a consulting geologist.
5. I personally have examined the Zymoetz River Property of Native Explorations Ltd. in 1965 and 1966 and have assessed all available data, government reports and private letters, plans and reports concerning this property.
6. I have not received, nor do I expect to receive, any interest directly or indirectly in the properties or securities of Native Explorations Ltd. or of any associated companies.

Respectfully submitted,



Douglas D. Campbell, P.Eng., Ph.D.

VANCOUVER, CANADA.

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- 1 -

INTRODUCTION

The writer first examined the Zymoetz Property for several days in October, 1965, when the property had just been staked and explored by a number of trenches. The property was again visited by the writer in August, 1966, after six diamond drill holes, extensive geological mapping and a geochemical soils survey had been completed. At that time the writer logged the core and checked the geological mapping of the principal showings. During the summer of 1967 more diamond drilling, soil sampling and surface trenching was done on the property by members of Associated Geological Services Ltd. All of the information thus accumulated on the property has been made available to the writer for the compilation of this report.

Location: (54° 29' N, 128° 08' W)

The property is located in west-central British Columbia, 21 miles east of the town of Terrace, up the Zymoetz River. From Terrace it is reached by 30 miles of highway and excellent logging road, a branch of which climbs up the mountain at the property to the main showings. The town of Terrace can be reached by the northern Trans Provincial Highway, or by Canadian National Railway from Prince George and by daily C.P. Airline flights from Vancouver. The main showings on the property are at elevations between 1600 and 2000 feet, approximately 600 feet above the floor of the Zymoetz River. The area is one of densely forested, glaciated mountains but the slopes at and below the main showings have been largely denuded or thinned of forest by logging and fire.

History: This property is a new discovery, having been discovered and staked in 1962. Native Explorations Ltd. optioned the property in 1965 and during the summer of that year crews of that company trenched and sampled the best exposures and made a reconnaissance geological map of the area surrounding the showings.

In 1966 Native Explorations Ltd. extended the mapping and soil sampling of the property and drilled 13 Ax diamond drill holes on the Lower

Showings for a total of 2947 feet. In addition, one mile of new tote road was built and 50 new claims were staked and added to the property.

In 1967 seven more diamond drill holes (BQ), totalling 2493 feet, were drilled to explore the Upper Showings. In addition a number of new surface trenches were excavated to extend the principal showings.

Property: The Zymoetz Property is comprised of one group of 71 mineral claims, nine of which are owned by Doreen Mineral Developments and the remainder by Native Explorations Ltd. The Doreen claims are under option to Native Explorations Ltd.

The claims comprising the property are:

Zymoetz 1-9	9
Zymoetz Fractions 1-6	6
Zymoetz 10-15	6
Kelly 1-10, 12-20, 24-32	28
Native 1-8	8
Saint 1-9, 11, 35-38	<u>14</u>
Total	<u>71</u>

The claim block is approximately square in outline and is oriented north-south with the northern boundary along the south shore of the Zymoetz River. The western boundary is at about Mile 19, Mattson Creek, on the road from Terrace and the eastern boundary is at Mile 23, Kelly Creek. The property extends for a distance of 15,000 feet to the south, to the crest of the mountain.

Complete claim maps are available at Native Explorations Ltd.

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- 3 -

SUMMARY & RECOMMENDATIONS

The Zymoetz Property of Native Explorations Ltd., consisting of 71 claims, is located on an excellent logging road 21 miles east of Terrace, B.C., on a rugged, heavily wooded mountain forming the south side of the Zymoetz River valley.

The area is principally underlain by volcanic flow and pyroclastic formations of the Hazelton Group of Jurassic age, near the eastern contact of the Coast Range Batholith. On the lower elevations of the Zymoetz Property the volcanic rocks are intruded by an irregularly shaped sill-like body of feldspar porphyry and by a younger stock of granodiorite.

The economic mineralization on the property occurs as finely disseminated bornite and chalcopyrite, principally within the pyroclastic or tuffaceous volcanic rocks within 1000 feet of a major topographic lineament that trends southeastward across the property. Within the ore zones some copper mineralization occurs for a few tens of feet into the feldspar porphyry and a very negligible amount within the granodiorite.

Six zones of copper mineralization are exposed over a length of 8000 feet of the lineament and of these only two, the Lower and the Upper showings, have been explored by trenching and drilling. The potential of the property for fruitful exploration along the lineament is excellent.

Exploration of the Lower Showing by nine drill holes and numerous trenches revealed an extensive tonnage of sub-marginal grade ore.

Exploration of the Upper Showing by thirteen drill holes has indicated a body of open pit ore of:

1,300,000 tons @ 1.00% Cu and 0.75 oz/t. Ag

This orebody is open at both ends and at depth, further drilling is necessary to fully delimit the reserve. The recoverable value of this ore at present metal prices is about \$10. per ton, which is considered to be profitable provided more reserves of this orebody and other similar orebodies can be indicated by drilling, the only practical form of exploration on this property.

RECOMMENDATIONS:

To determine the immediate economic potential of the Zymoetz Property the writer recommends the following drill program, specifically designed to determine the complete tonnage of the Upper Showing Orebody and to explore other promising showings for similar orebodies:

Upper Showing Orebody	- 21 holes -	6300 ft.
Other Exploration	- 24 holes -	<u>5400 ft.</u>
Total	-	<u>11700 ft.</u>

This program is well warranted by the results to date and will permit a firm assessment of the potential of the property.

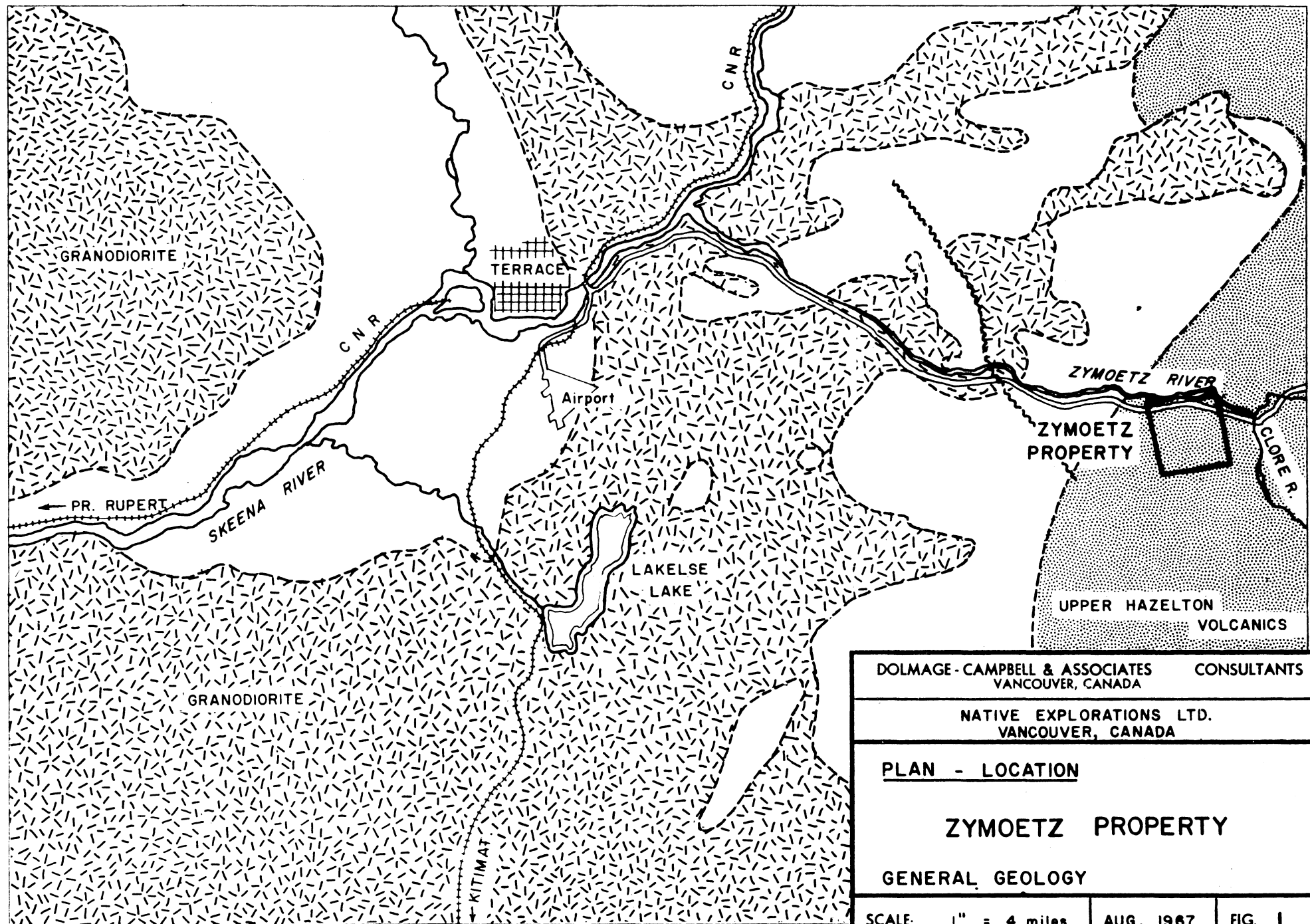
The total cost of such a program is estimated to be \$152,000.00.

Respectfully submitted,



Douglas D. Campbell, P.Eng., Ph.D.

Vancouver, Canada.



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PLAN - LOCATION

ZYMOETZ PROPERTY

GENERAL GEOLOGY

SCALE: 1" = 4 miles	AUG. 1967	FIG. 1
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GEOLOGY

REGIONAL SETTING:

Terrace, B.C. is located in a broad intermontane basin formed by the crossing of the present Skeena Valley and what was probably a major preglacial river valley now partially occupied by the Kitimat River. West and south of Terrace the Coast Range Mountains rise to 6500 feet, and east of Terrace the Bulkley Ranges rise to 8000 feet. The elevation of the Terrace Basin is about 500 feet. The Zymoetz River flows westward from the Bulkley Ranges to join the Skeena River at the northeast corner of the basin. The Zymoetz Property is located in the Bulkley Mountains on the south side of the Zymoetz River 21 miles east of Terrace. The principal showings, comprised of copper mineralization in a sequence of volcanic rocks, are scattered over a distance of about one mile along the north flank of the mountain that forms the south wall of the Zymoetz valley just west of the Clore River.

The Terrace basin is located on the eastern edge of the Coast Range batholith of granodioritic intrusive rocks. The region west and south of Terrace is underlain predominantly by granodiorite intrusive rocks. The area north and east of Terrace is underlain by Mesozoic formations that have been extensively intruded by apophyses of granodiorite related to the batholith to the west.

The western fringe of the intruded rocks, within 16 miles east of Terrace, is comprised predominantly of Triassic sedimentary rocks including limestones, sandstones and cherts. East of these rocks the underlying formations are volcanic and sedimentary rocks of the Hazelton Group of Jurassic age. The western border of this group lies approximately two miles west and north of the Zymoetz Group property.

The Zymoetz Property is underlain by Hazelton Group volcanic rocks locally intruded by stocks of granodiorite which crop out on the lower elevations of the mountain sides. The Hazelton rocks are comprised of intercalated andesitic and basaltic flows and pyroclastics. The thicknesses of the volcanic beds, as well as their attitude, are not evident in the limited exposures on the Zymoetz Property but in the region the beds generally range up to 100 feet in thickness and strike north-northeast and dip 35-60 degrees eastward. Regional faults or shear zones with minor displacements have been mapped in the area but as yet none have been noted on the Zymoetz Property.

Outcrops are generally restricted to scattered bluffs along the mountainsides.

PROPERTY GEOLOGY

The Zymoetz claims are largely blanketed by forest covered glacial outwash and thin till deposits but bedrock crops out commonly as cliffs and subdued bluffs. In addition a large number of shallow trenches and pits have been excavated in the area of the main showings by crews of Native Explorations Ltd.

The portion of the Zymoetz Property that has been geologically mapped is confined to the eastern side of the claim block from the Zymoetz River south-eastward up the valley of Kelly Creek for a distance of about 15,000 feet, in a strip about 3000 feet in width spanning a vertical interval of about 4000 feet. The upper elevations of this strip are covered by the Native Claims and the lower elevations by the Zymoetz Claims. The copper occurrences that have been trenched and drilled are all located on the Zymoetz Claims.

All of the mapped area is principally underlain by a sequence of volcanic rocks that show few structural features in outcrop exposures and which are largely andesitic in composition, with minor basalts, and which range in texture from aphanitic to porphyritic to fragmental. The predominant rock types of this sequence are purple and maroon-hued rocks that include massive tuffs, agglomerates and aphanitic flows. These rocks are generally massive, hard, competent, aphanitic to medium grained and dense. Locally they contain feldspar phenocrysts, amygdules and fragments (agglomeratic).

Intrusive into this volcanic sequence are two other rock types, both of which are exposed only on the Zymoetz Claims lower down the mountain side. The oldest of these intrusives is a sill-like body of feldspar porphyry which crops out on Zymoetz No. 2 M.C. as a west-trending band 1600 feet in length and 200-300 feet in width and which disappears under overburden at Kelly Creek to the east and is terminated to the west by intrusive granodiorite (Fig. 2). The feldspar porphyry is a massive, dense, dark green to pink-grey and white rock comprised of a green-grey andesitic matrix within which are holocrystalline white plagioclase phenocrysts up to 2 inches in length which comprise up to 50% of the rock. The phenocrysts in this rock are commonly grouped in star clusters and rarely show any preferred flow orientation. A similar porphyry body, mapped by the writer on the north side of the Zymoetz River, several

miles to the east, proved to be intrusive into the volcanic sequence as a crosscutting sill-like sheet. It is only sparsely mineralized by copper on both properties but it is definitely pre-copper mineralization in age.

The youngest intrusive exposed on the Zymoetz Claims is an irregular-shaped stock of medium crystalline granodiorite. This rock is composed principally of feldspar and hornblende and is a uniform grey and black to pink and black typical Coast Range-type of granodiorite.

The granodiorite crops out as an elongate stock, about 1000 feet in north-south width, that is open to the west and that fingers out to the east near Kelly Creek. It is evidently an outlier of a larger intrusive mass that underlies much of the river-level outcrops further west.

The intruded volcanic rocks are intensely granitized within tens of feet of the granodiorite and are variously feldspathized with pink potash feldspar for distances up to 100 feet from the contact. This feldspathization is first evidenced as patches and veinlets and then becomes so pervasive as to convert the recrystallized rock to a pseudosyenite. The granodiorite and the granitized rocks are very sparsely mineralized with chalcopyrite and rarely bornite; however, the feldspathized "metavolcanics" are locally richly mineralized with bornite, chalcocite and, less commonly, chalcopyrite.

Structure: The only known large structure exposed on the property is a pronounced topographic lineament that trends up Kelly Creek southeastward from the Zymoetz to the Native claims for a distance of about 3 miles. All of the known copper occurrences on the property are located within 1000 feet of this lineament. The lineament is characterized by vertical rock bluffs along its trend but no significant dislocation of the geology is discernible on either side of it, nor are there any exposures of sheared or slickensided rocks along it, although admittedly exposures are sparse. Within the strike length of this lineament elevations rise irregularly from 1,200 feet to 5,000 feet and since the lineament is essentially straight throughout this interval it therefore must be vertical or near-vertical.

Significantly, the rocks on both sides of the lineament, and in its immediate vicinity, are generally closely fractured and jointed by fractures that trend north-northeastward, at right angles to the lineament, and dip 30° - 60° to the northwest.

ORE OCCURRENCES

The mineralization of economic interest on the Zymoetz Property is copper. It occurs as fine grained bornite, chalcocite and chalcopyrite disseminated along fracture planes and throughout the groundmass of the host rock. The most favourable host rocks in order of importance are: pyroclastic volcanics, feldspathized volcanics and andesitic flow rocks. All other rocks are hosts to the copper mineralization but in relatively meagre and insignificant amounts. The copper minerals are so finely dispersed that they are inconspicuous and are generally detected by malachite staining on surface exposures. Assays of core indicate about 3/4 oz/ton of silver per percent of copper in the ore material. The chalcopyrite appears to be confined to the granodiorite and the granitized rocks.

The distribution of the copper mineralization as is known thus far is concentrated in the vicinity of the major topographic lineament previously described as trending up Kelly Creek, Fig. 2. Significant copper mineralization has been exposed at six locations along a 11,000 ft. strike length and 4000 ft. vertical interval of this lineament. Two of these showings are on the Zymoetz Claims and four are at the upper elevations of the Native Claims. All of the drilling and trenching done to date have been concentrated on the Lower and Upper Showings on the Zymoetz No. 2 M.C., representing a very small portion of the staked length of the lineament but chosen because it is the most readily accessible portion.

The decision was made in 1966 to explore the Lower and Upper Showings with a reconnaissance program of diamond drill holes designed primarily to determine the grade, the extent and the structural controls, if any, of the copper mineralization in that local area of the regional lineament. This program was completed in 1967 and the results have revealed that the mineralization occurs both as fracture fillings and as disseminations within the volcanic rocks. There appears to be some spatial relation of the copper mineralization to the vicinity of the porphyry intrusive and also the granodiorite intrusive, but these relationships are not well established, merely inferred. The mineralization does not appear to be controlled by any particular fault or fracture sets, at least none are exposed in the trenches or the drill cores; it does seem to be concentrated on the regional lineament.

Although the drilling to date has been entirely of a geologically exploration nature it is possible to summarize the results in the terms of tonnage and grade. This is done in the following section of this report.

DRILL AND TRENCH RESULTS

Nine diamond drill holes have been drilled to investigate the Lower Showing, (Fig. 3), and thirteen holes to explore the Upper Showings. The results from the Lower Showing are disappointing and somewhat inconclusive; the results from the Upper Showings have been considerably encouraging and definitely warrant further investigation of that particular area. A discussion of the results from each of these showings follows:

LOWER SHOWING:

As shown in Figure 3, the Lower Showings represent a deposit that is geologically confined on three sides, but open at depth. The south and west sides of the mineralized band of volcanics are cut off by underlying intrusive granodiorite and the south side by intrusive porphyry (see sections on Fig. 4). The surface trenches revealed disseminated bornite mineralization in the moderately intensely fractured volcanics but none in the granodiorite and negligible amounts in the porphyry above. As shown in Figure 3, the surface trenches exposed a considerable length (600 ft.) and width (100 ft.) of consistent mineralization but relatively low grade, averaging about 0.30% Cu.

Of the nine holes drilled on the Lower Showing three of the earliest were more or less entirely within granodiorite or porphyry, (Fig. 4), which returned no information on the ore zone within the volcanics but which did establish the fact that the intrusive rocks are generally barren. Generally in the Lower Showing the drilling, although not well sited geologically, (Fig. 4), did not intersect ore grade material. Local good intersections were obtained, (DH 2 and 6), and a very widespread pattern of low grade mineralization was revealed, but the drill holes are few and irregularly spaced, thus leaving much of the favourable volcanic band unexplored.

From the results to date no ore reserves are well established in the Lower Showing; however, the large extent of low grade copper mineralization is of interest and the favourable band of mineralization is open at depth and to the southeast.

UPPER SHOWING:

The Upper Showing of the Zymoetz Property, (Fig. 5), lies along the steeply south-dipping hanging wall contact of the porphyry intrusive body. Drilling and surface trenching have indicated that this zone of copper mineralization within the volcanics is apparently spatially related to the contact, but locally it penetrates the porphyry for a few tens of feet. Its full width, length and depth

have not been defined by the drilling but to date a possible orebody has been outlined that is 600 feet in length, about 120 feet in true width and about 250 feet in depth. Since the contact of the porphyry is most irregular care must be taken in the following of the trend of the orebody with drill holes.

Indicated Ore: It is inadvisable to calculate an "ore reserve" for the Upper Showing at this time on the basis of so few holes and with the zone still open and not defined. However, the core recovery was excellent and the results from hole to hole have been consistent, so it is reasonable to make a preliminary estimate of the ore indicated to date. Using the data illustrated in Figure 6 such an estimate, using a tonnage factor of 11.5 cu. ft./ton, is:

$$\underline{\text{INDICATED ORE}} - \frac{600 (120) 250}{11.5} = \underline{1,600,000 \text{ tons @ } 0.84\% \text{ Cu}}$$

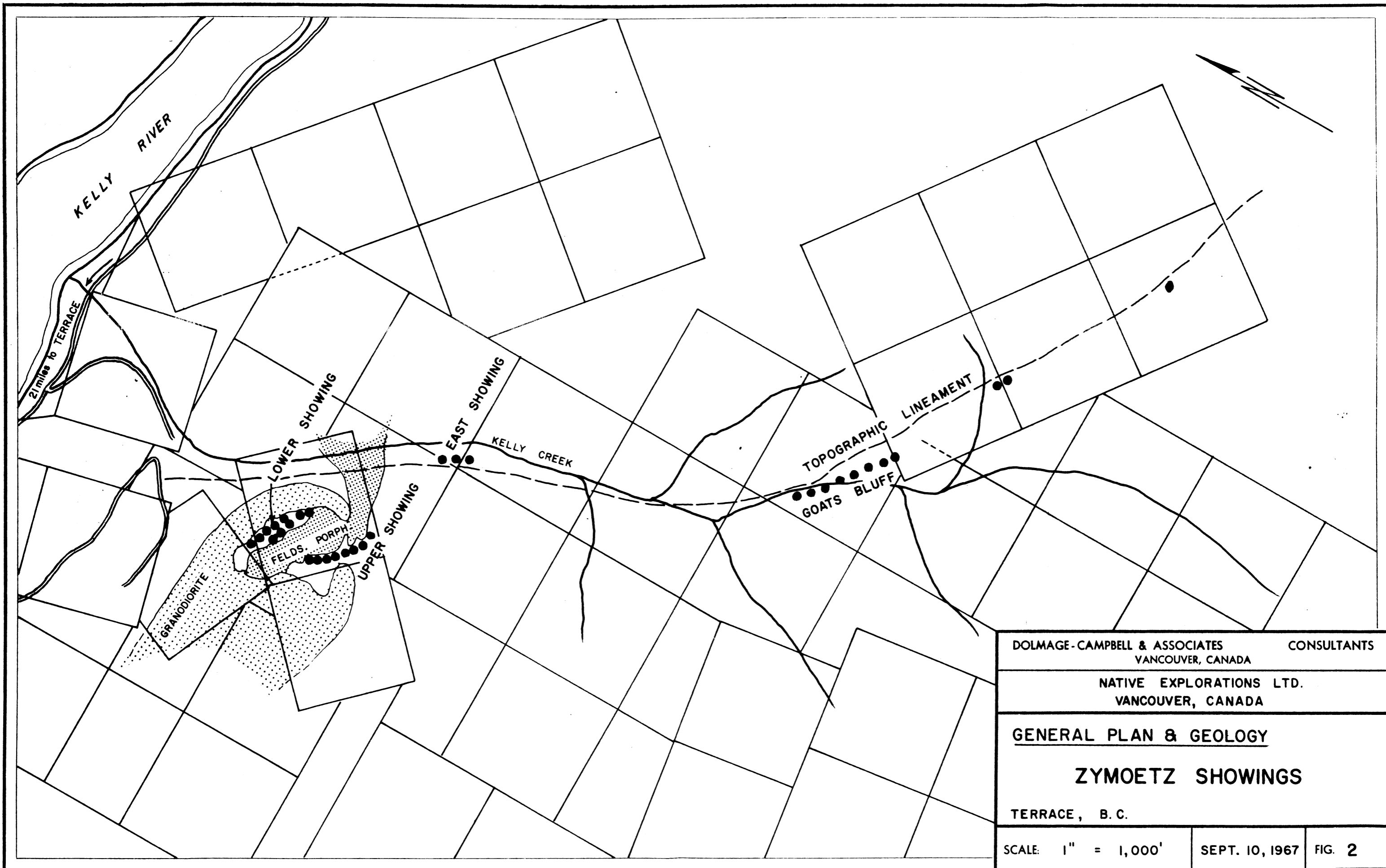
The above grade is not an exact calculation because only six significant holes are available and they are irregularly spaced and in different geological environments; however, the figure is probably within a reasonable degree of accuracy.

If DH 18 is discarded the indicated ore then becomes:

$$\underline{1,300,000 \text{ tons @ } 1.00\% \text{ Cu and } 0.75 \text{ oz. Ag/t.}}$$

The geological probability of expanding this reserve at depth and laterally is good; the extent to which this can be done is conjectural.

At \$0.48 (Can)/lb. for copper and \$1.60 (Can.)/oz. for silver, and 90% recovery for both, the recoverable value of this material is \$9.72 per ton. Most of it is minable by open pit, and the simple mineralogy indicates low cost milling; therefore there is probably a reasonable profit to be made on such ore. What is required is enough reserves to justify a mill of sufficient size to generate a worthwhile cash flow. To this end an extended drill program is required for the Upper Showing as well as for all of the other showings along the lineament to the southeast, (Fig. 2), for a length of 8000 feet.



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GENERAL PLAN & GEOLOGY

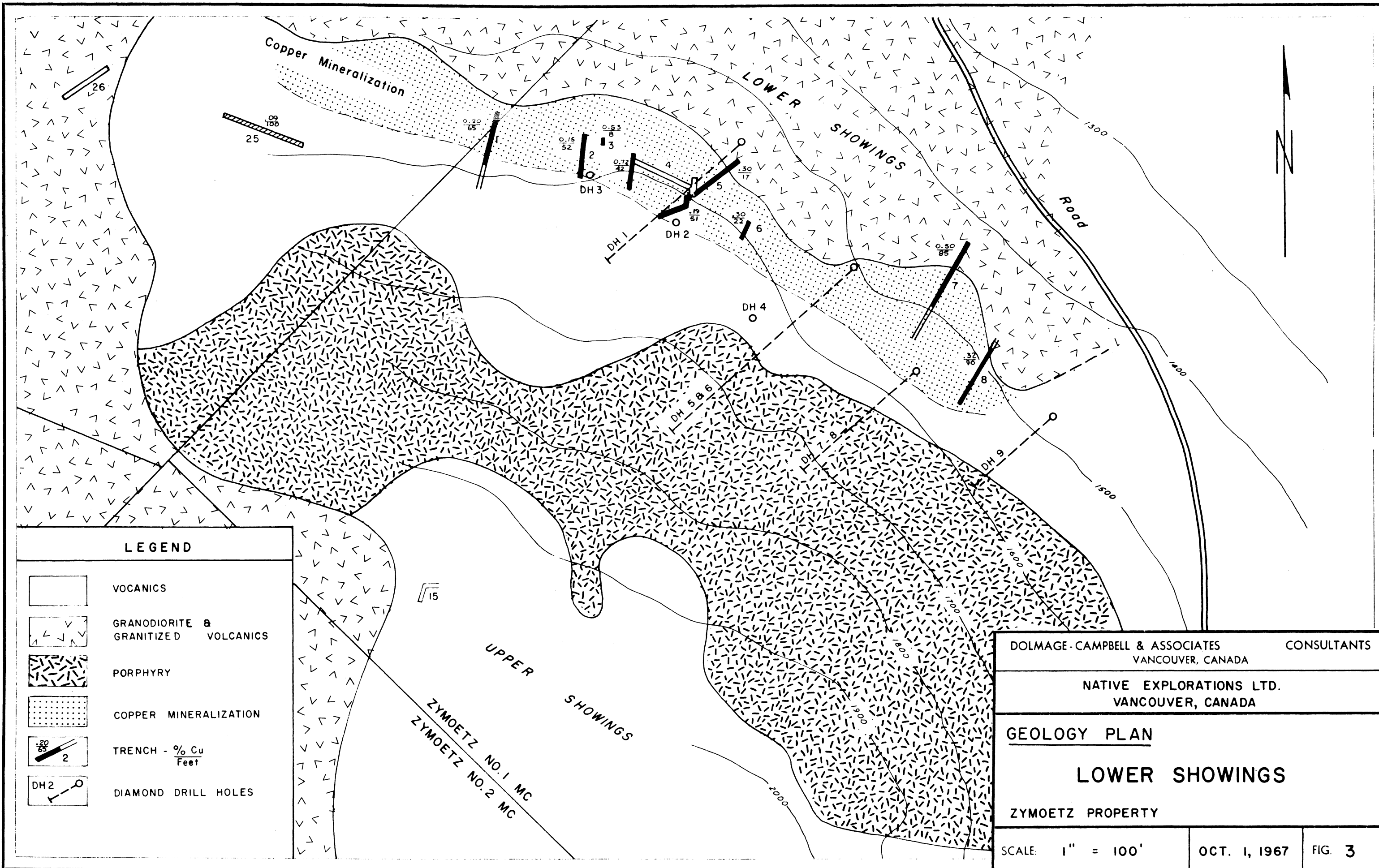
ZYMOETZ SHOWINGS

TERRACE, B. C.


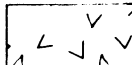

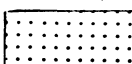

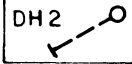
SCALE: 1" = 1,000'

SEPT. 10, 1967

FIG. 2



LEGEND

-  VOCANICS
-  GRANODIORITE & GRANITIZED VOLCANICS
-  PORPHYRY
-  COPPER MINERALIZATION
-  TRENCH - $\frac{\% \text{ Cu}}{\text{Feet}}$
-  DIAMOND DRILL HOLES

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GEOLOGY PLAN

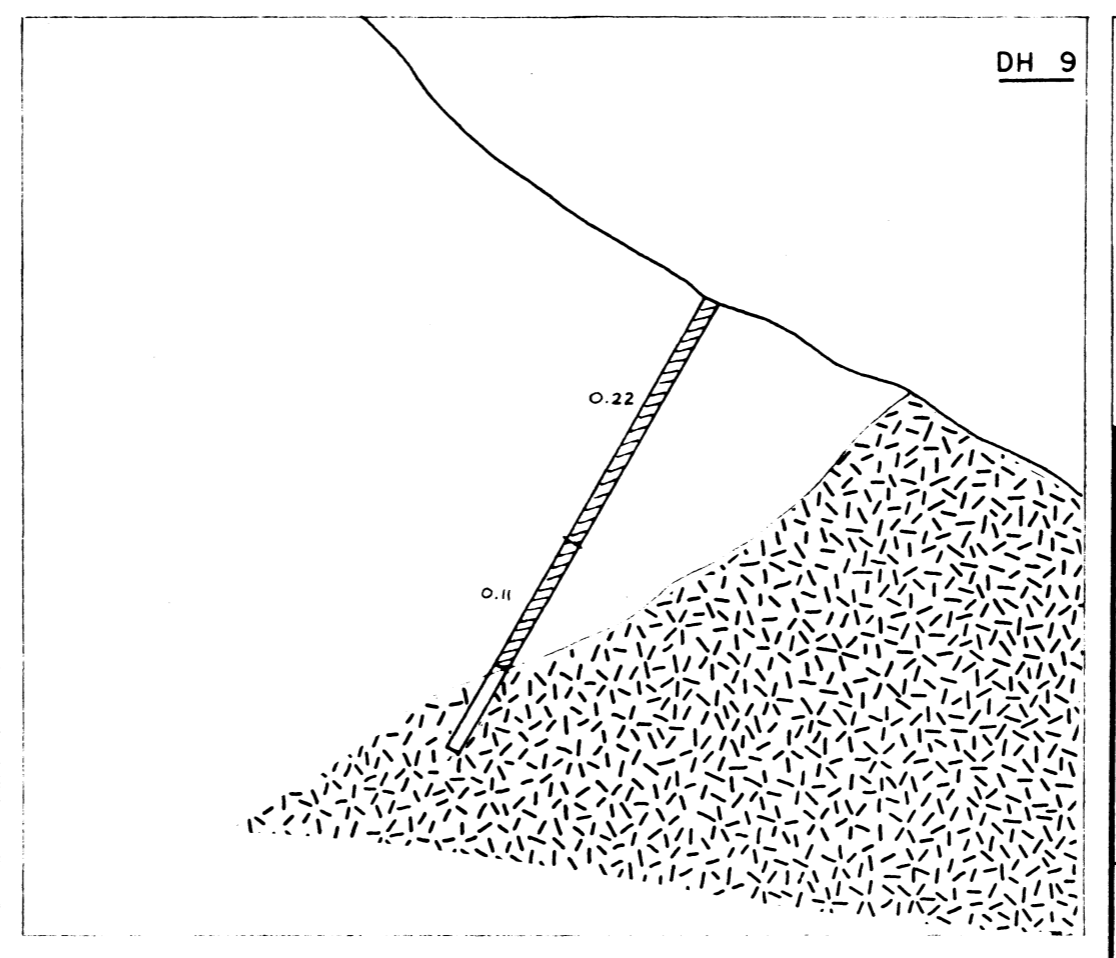
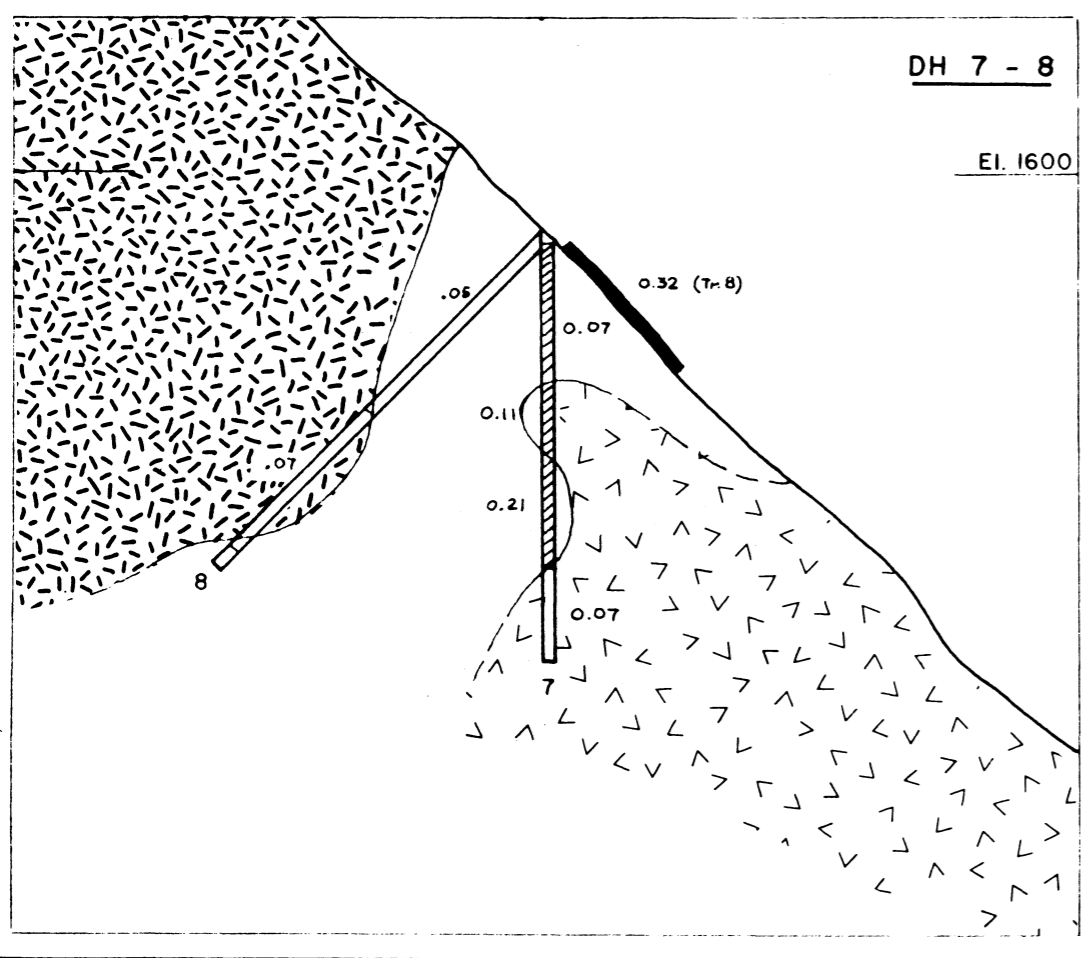
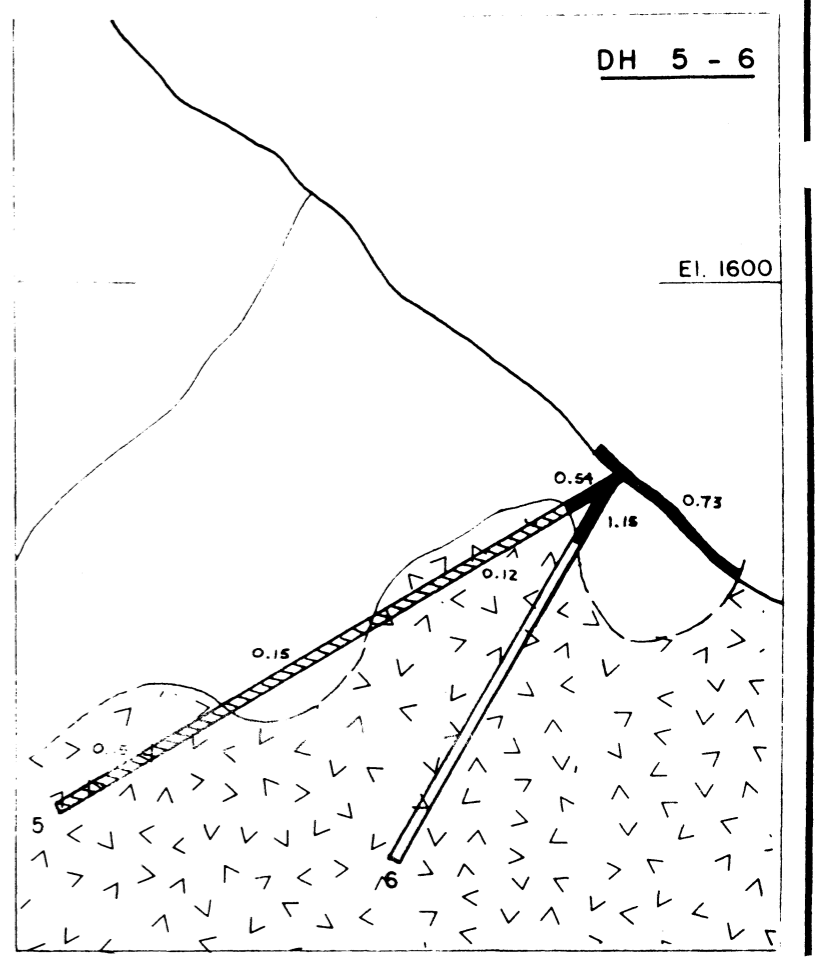
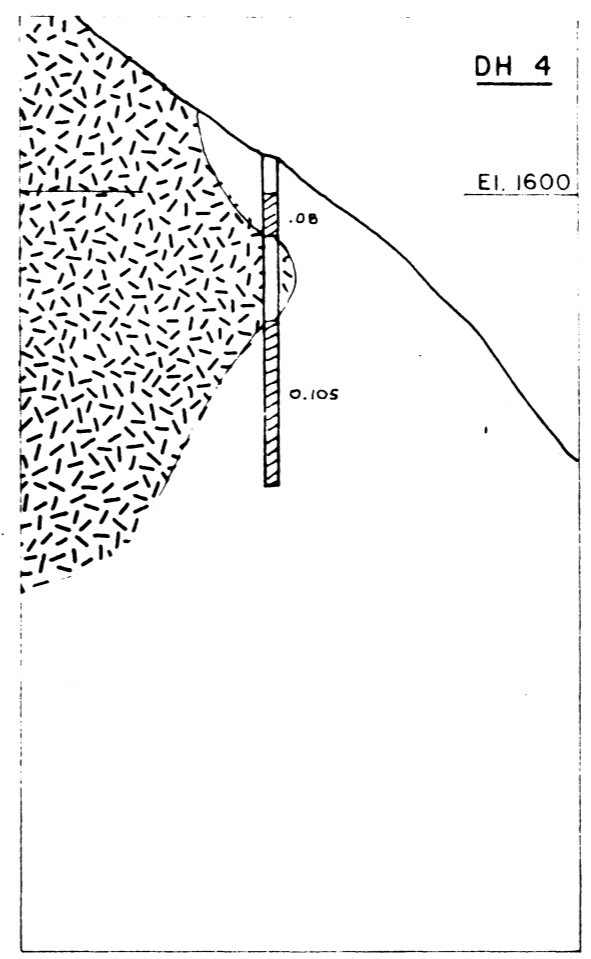
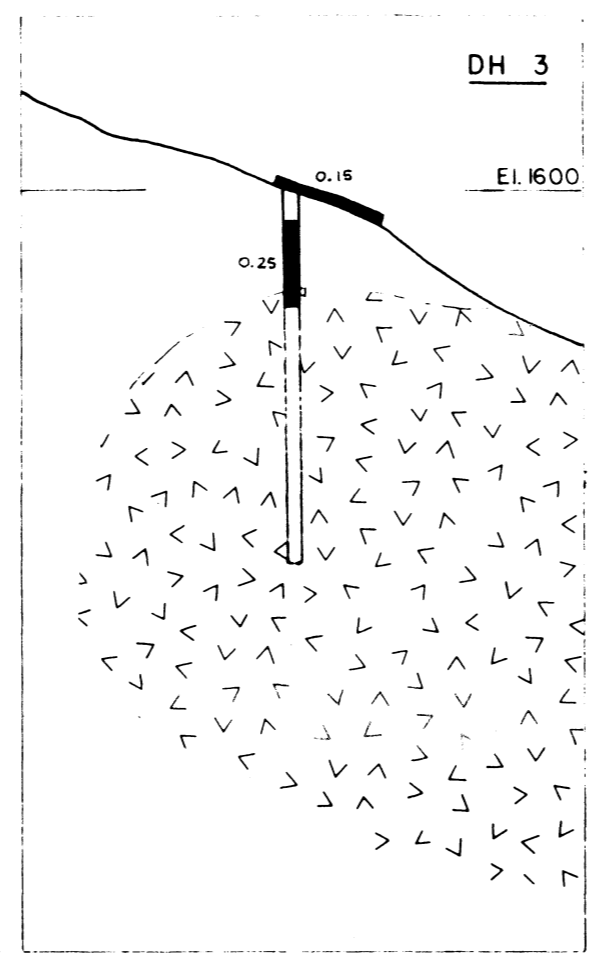
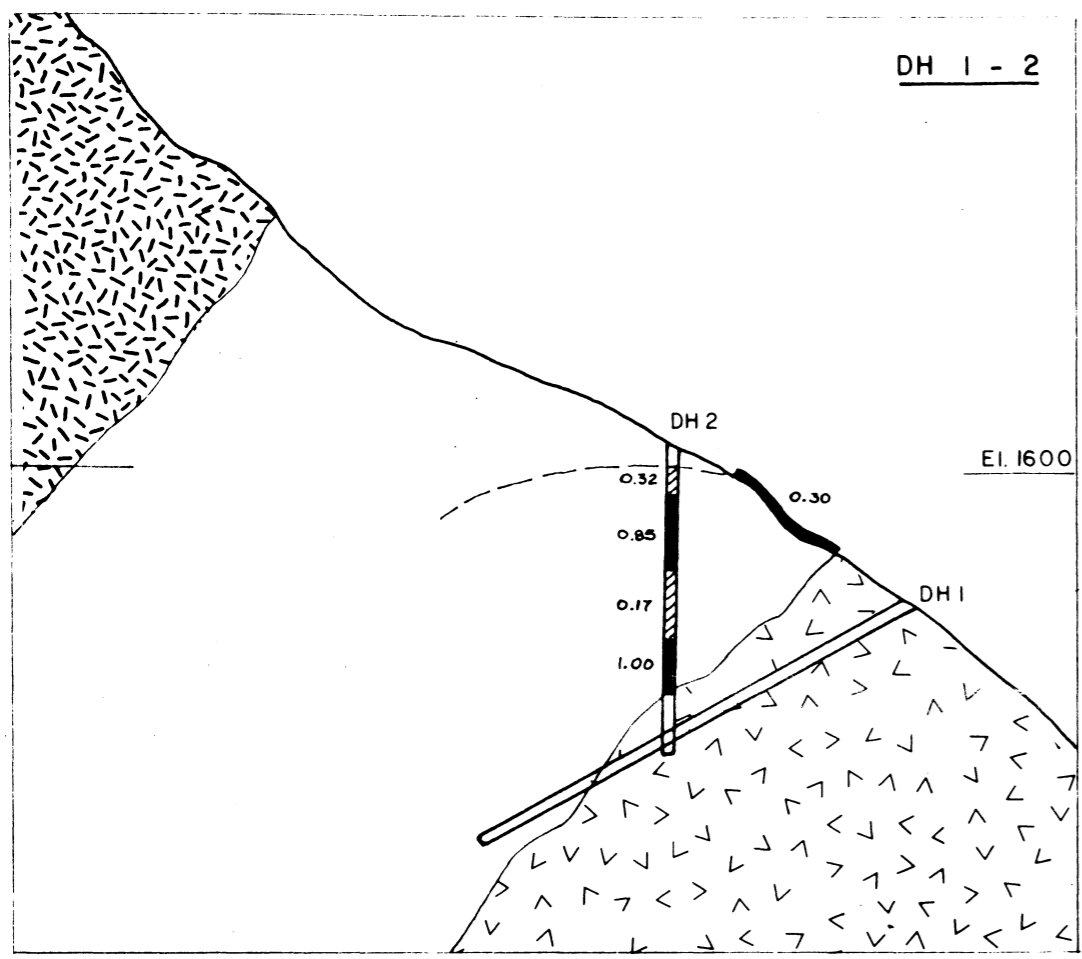
LOWER SHOWINGS

ZYMOETZ PROPERTY

SCALE: 1" = 100'

OCT. 1, 1967

FIG. 3



LEGEND

As in Fig. 3

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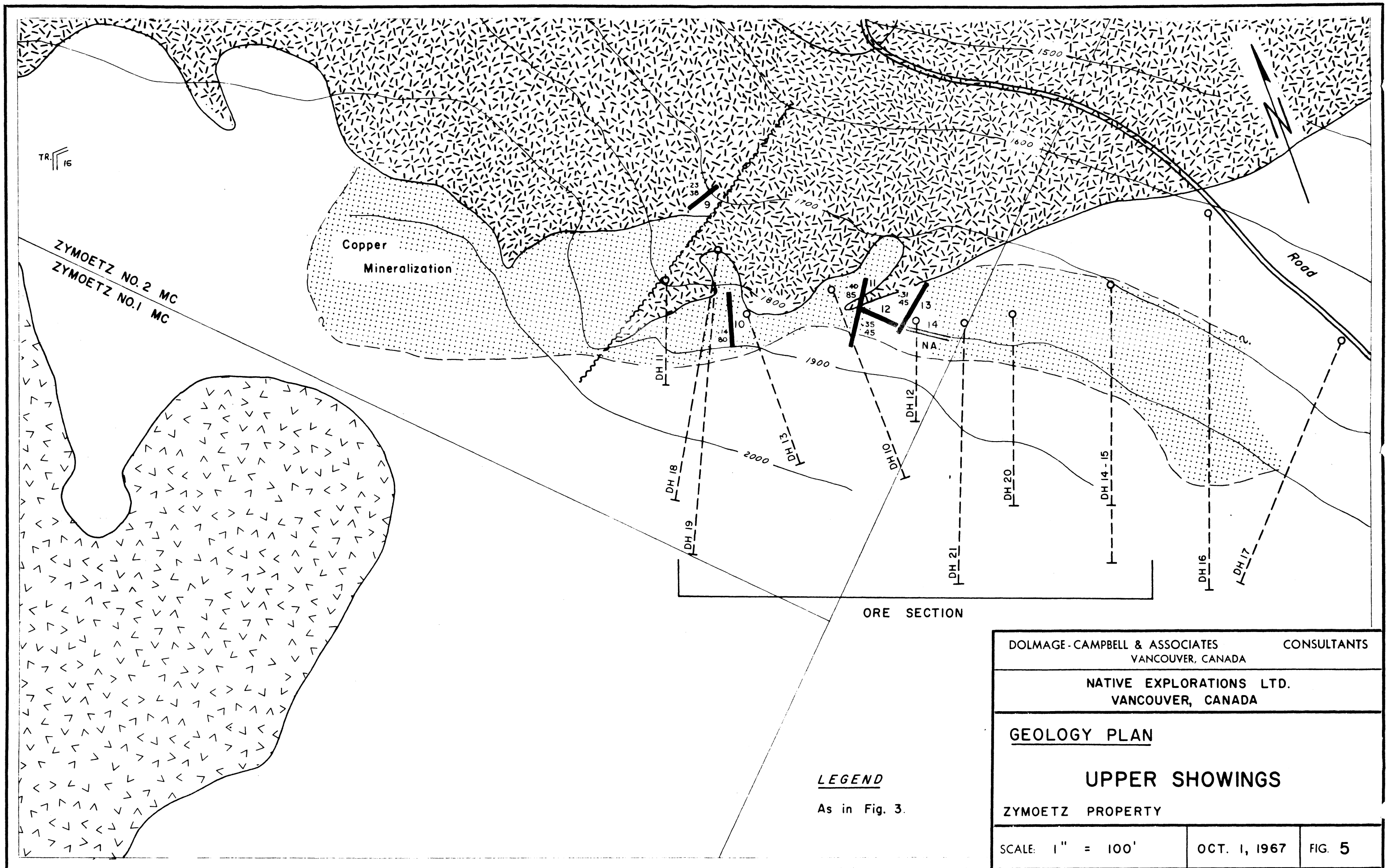
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LOWER SHOWING

DRILL INTERSECTIONS

ZYMOETZ PROPERTY

SCALE: 1" = 100'	OCT. 1, 1967	FIG. 4
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TR 16

ZYMOETZ NO. 2 MC
ZYMOETZ NO. 1 MC

Copper
Mineralization

Road

ORE SECTION

LEGEND
As in Fig. 3.

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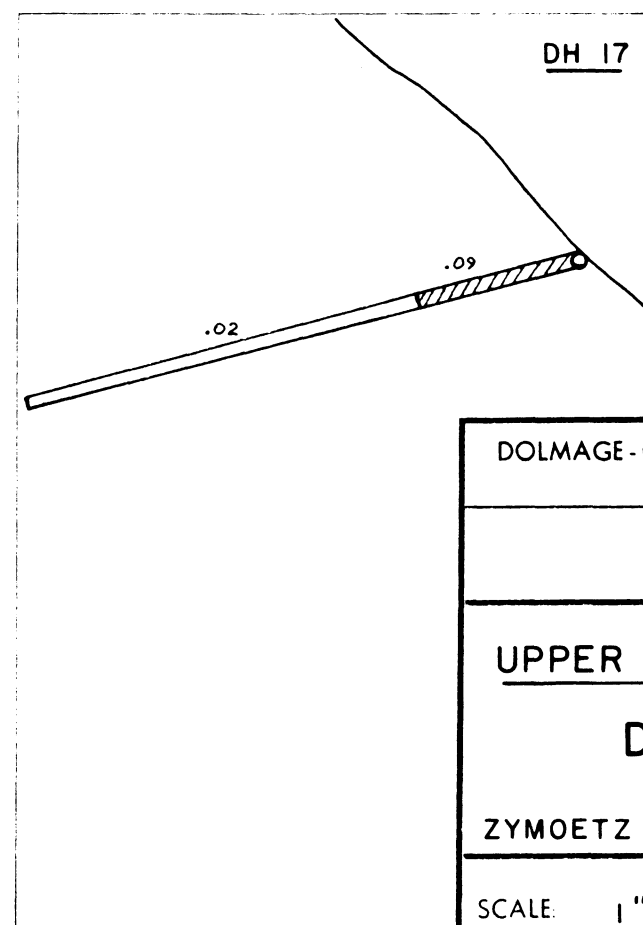
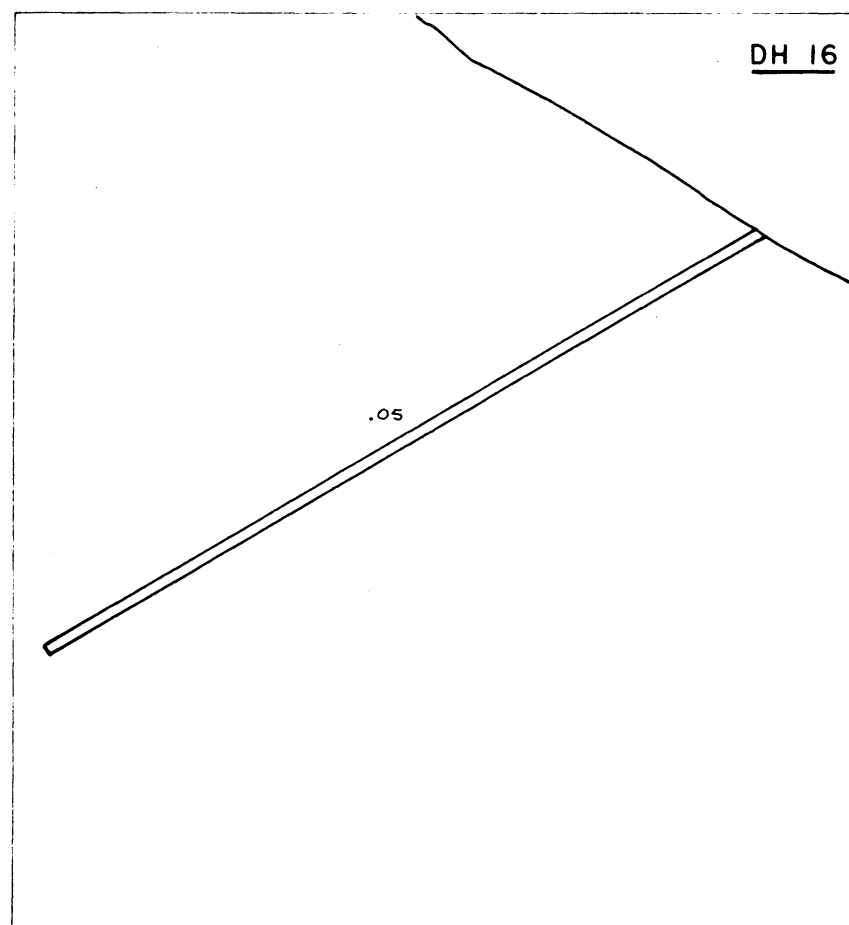
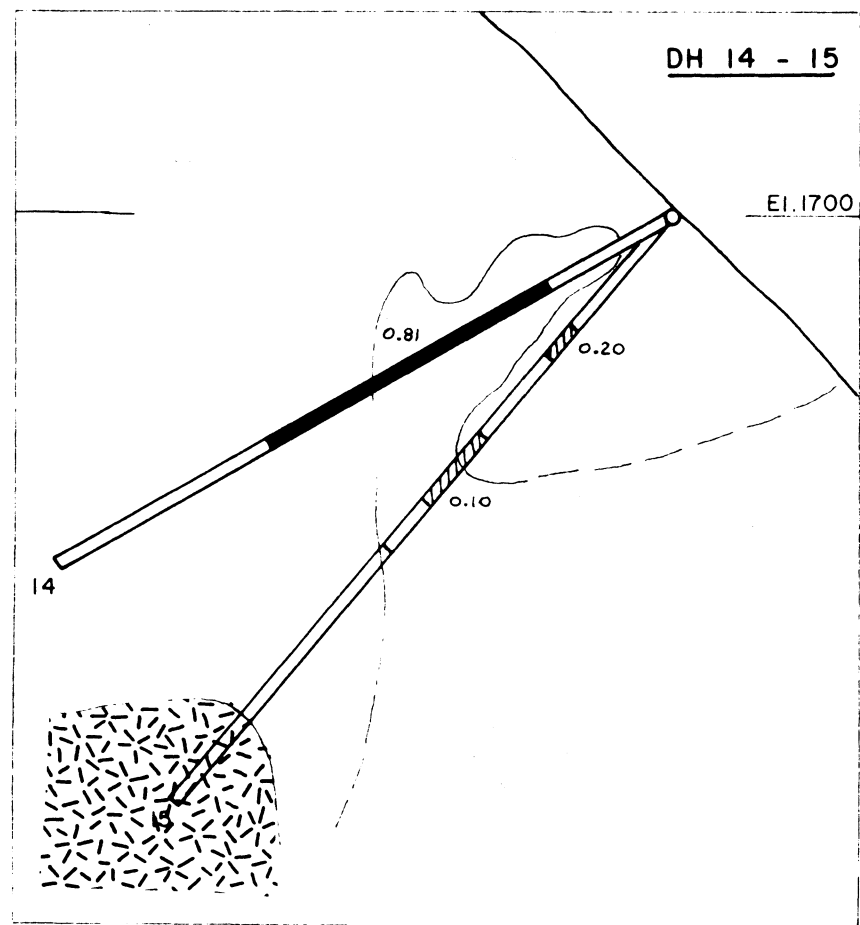
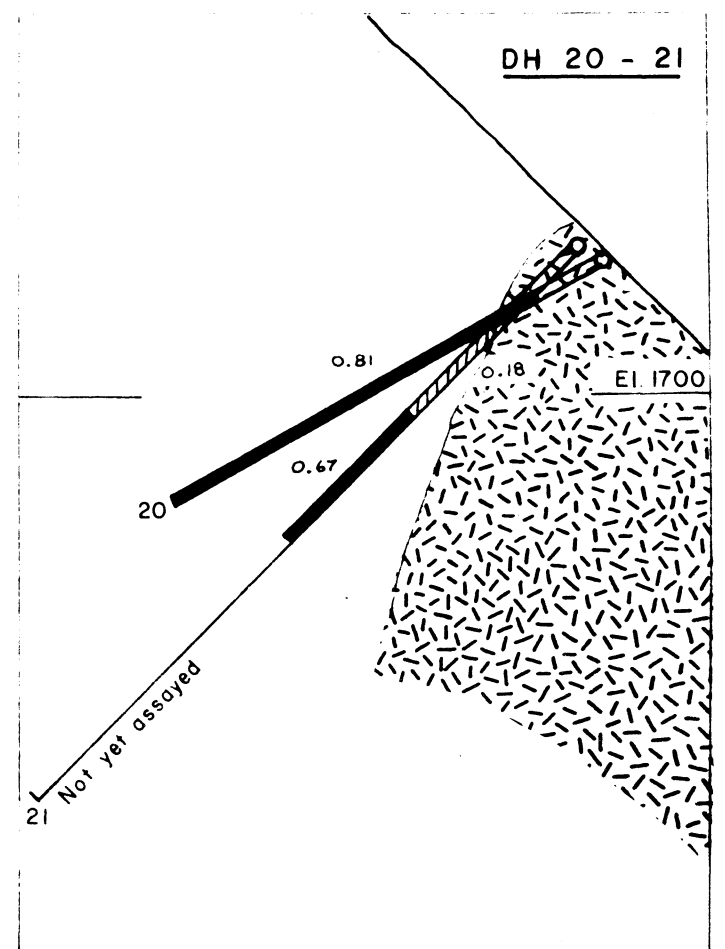
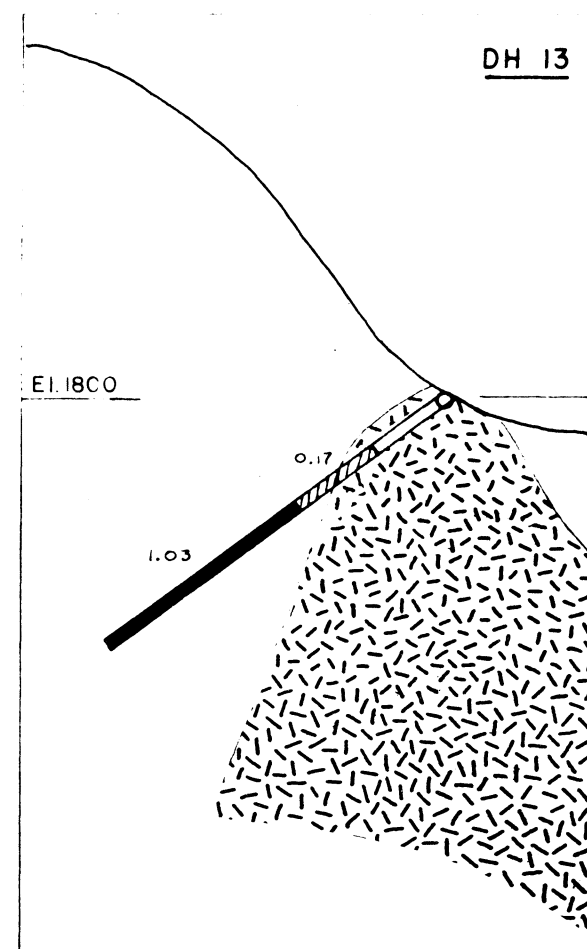
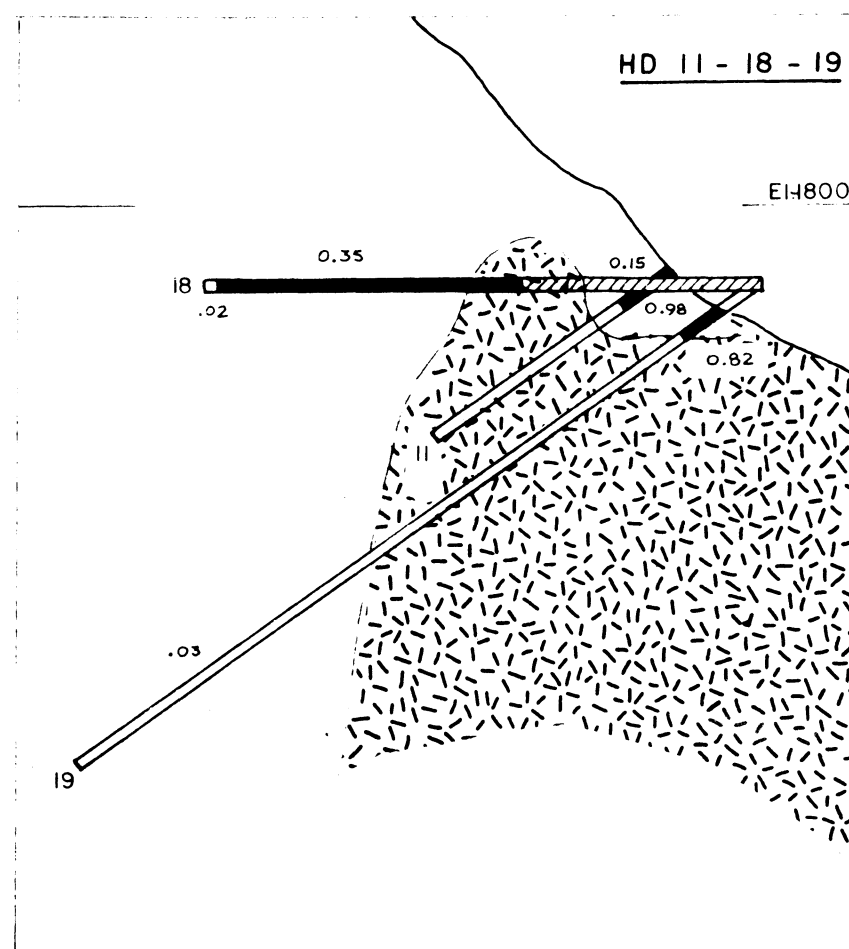
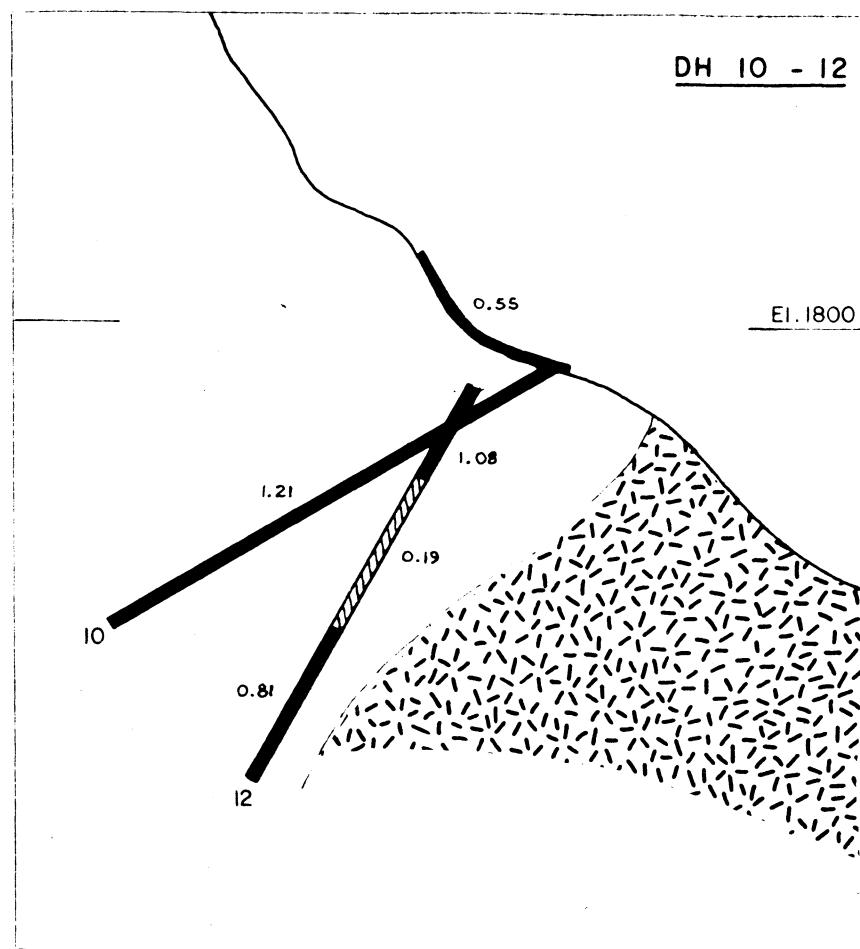
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GEOLOGY PLAN

UPPER SHOWINGS

ZYMOETZ PROPERTY

SCALE: 1" = 100'	OCT. 1, 1967	FIG. 5
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LEGEND
As in Fig. 3

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VANCOUVER, CANADA		
UPPER SHOWINGS		
DRILL INTERSECTIONS		
ZYMOETZ PROPERTY		
SCALE: 1" = 100'	OCT. 1, 1967	FIG. 6