

IMPERIAL OIL ENTERPRISES LTD.

EXPLORATION - 1971
MAX MINERAL CLAIM GROUP
RHYOLITE CREEK, YUKON TERRITORY

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sidered to be a true and correct copy of the
original as submitted to the Survey. The amount of
\$ 61,764.75

Mr. W. McLean (Spec)

Director of Geological Survey of Canada

Conditioned on exploration work under
Section 33 (1) of the Yukon Quartz Mining Act.

[Signature]

Commissioner of Yukon Territory

Trigg, Woollett & Associates Ltd.

October, 1971

F. R. Hassard

IMPERIAL OIL ENTERPRISES LTD.

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IMPERIAL OIL ENTERPRISES LTD.

EXPLORATION - 1971

MAX MINERAL CLAIM GROUP

RHYOLITE CREEK, YUKON TERRITORY

SUMMARY

The Max mineral claims are in an unglaciated area of the Nisling Range in the Yukon Plateau, about forty-five miles northeast of Burwash Landing, Yukon Territory.

Initial work in 1970, by Atlas Explorations Limited located geochemically anomalous areas with a favourable geologic setting. During 1971, a program of geological mapping and prospecting, soil sampling, induced polarization (I.P.) survey and diamond drilling explored two geochemically anomalous areas. In addition, the claims held under option by Imperial Oil Enterprises Ltd. were prospected.

Mineralization is mainly disseminated chalcopyrite with pyrrhotite and molybdenite in quartz veins in a quartz monzonite stock and in silicified quartzite intruded by acidic dykes. Mineralization is associated with two types of intrusives; quartz monzonite and acidic dykes. Sixteen showings and several minor occurrences were located; none are economical.

Most acidic dykes trend north or northwesterly and are probably younger than two northwest trending faults. A second set of faults trends north or northeast and concentrates mineralization in the western quartz monzonite stock. Shearing has concentrated chalcopyrite mineralization and assisted propylitic alteration in the quartz monzonite.

Anomalous geochemical values indicate areas of low grade copper-molybdenum mineralization. The anomalous values were obtained from geochemically anomalous areas indicated by the 1970 program and are generally comparable to 1970 values.

The induced polarization survey was of limited value. Iron sulfides are widespread and mask possible concentration of copper and molybdenum minerals. Quartz monzonite could not be distinguished from quartzite by apparent resistivities.

Diamond drilling tested below surface mineralization and also tested geochemical and geophysical anomalies associated within the western quartz monzonite stock. Mineralization consists of

molybdenite, generally in quartz veins, and minor disseminated chalcopyrite. No economical zones were encountered. No further work is recommended for the area diamond drilled in 1971.

Portions of the diamond drill core and a rock suite should be petrographically studied in order to determine the origin of acidic dykes as well as the relationship of mineralization to intrusions and alteration. An expert on porphyry copper and molybdenum deposits should study all data. Contingent upon these studies, a program of diamond drilling may be required to explore copper and molybdenum geochemical anomalies in the eastern portion of the property. The cost is estimated at seventy thousand dollars and the program would require about two months to complete.

INTRODUCTION

Location and Access

The Max mineral claim group is centered at 61°52' north latitude and 138°34' west longitude (Dwg. IIM-1). The claims are near the headwaters of Rhyolite Creek in the Nisling Range, Yukon Territory, approximately forty-five miles northeast of Burwash Landing and sixty-five miles west-southwest of Carmacks, in National Topographic System 115G-15.

Access is by helicopter from Burwash Landing or Carmacks. During the winter, tracked vehicles could be brought in from the Casino road, approximately five miles to the west or from Aishihik Lake, 30 miles southeast.

Topography

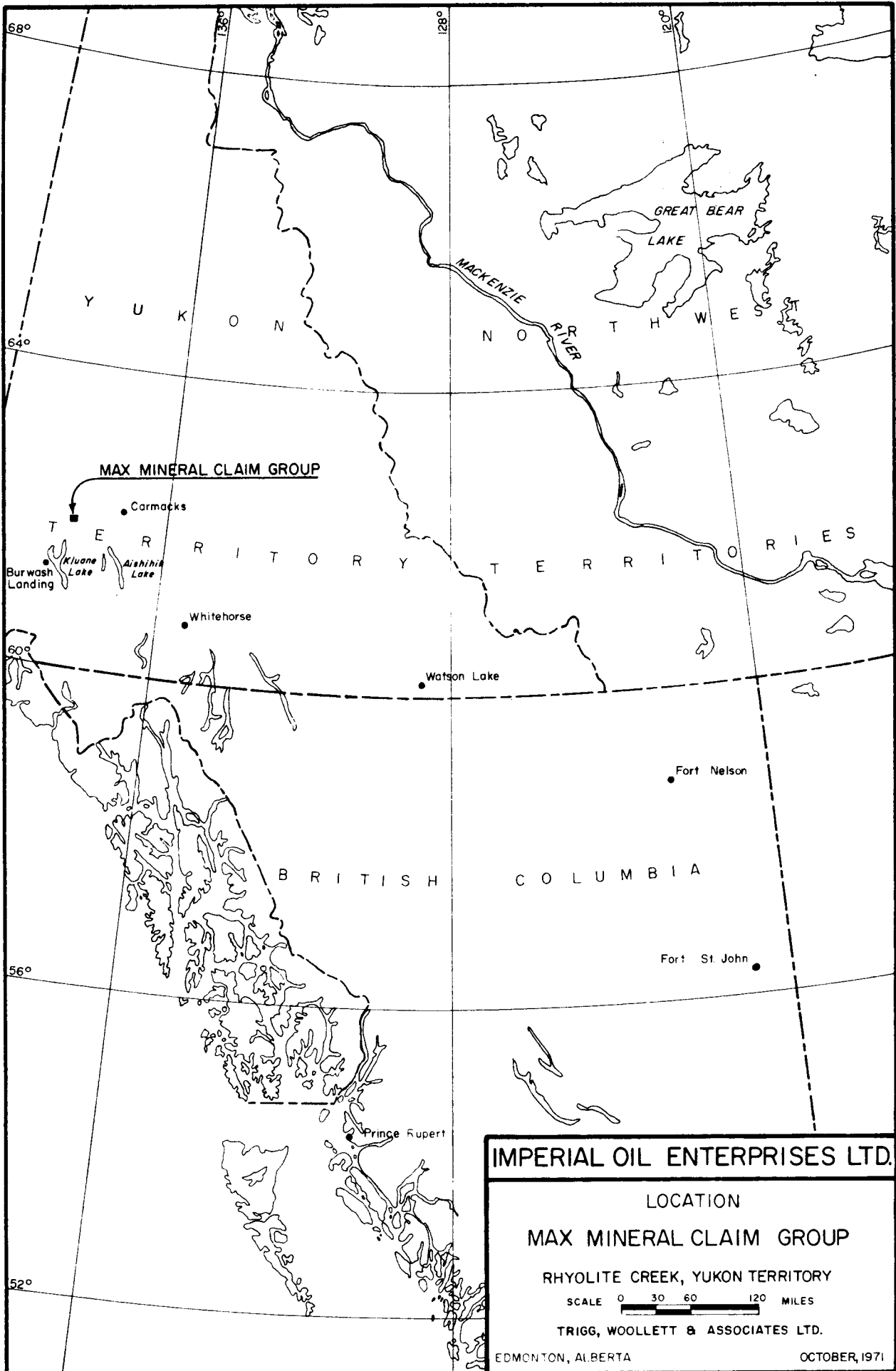
The claims are in an unglaciated part of the Yukon Plateau. Mountains are rounded; valleys are steep-sided. Relief is 1,000 to 1,500 feet.

Outcrop is less than 5 per cent and is obscured by felsenmeer, talus and moss.

Trees are generally restricted to valleys below 3,900 feet but the tree line reaches 4,500 feet on some south-facing slopes. North-facing slopes are usually covered by permafrost.

Property

Imperial Oil Enterprises Ltd. holds 140 claims under an option agreement with Dynasty Explorations Limited. During summer 1971 an additional eight claims were staked for Imperial Oil Enterprises Ltd. to cover open fractions.



IMPERIAL OIL ENTERPRISES LTD.

LOCATION

MAX MINERAL CLAIM GROUP

RHYOLITE CREEK, YUKON TERRITORY

SCALE 0 30 60 120 MILES

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA

OCTOBER, 1971

Previous Work

Atlas Explorations Limited located the area during a regional silt sampling program in the Nisling Range. Soil sampling outlined copper-molybdenum anomalies; 217 claims were staked to cover the area. Rough grids were surveyed; soil sampling, geological mapping and prospecting, magnetometer and topographic surveys were conducted and some pits were blasted. No economic mineralization was encountered.

A preliminary geology map, prepared in July 1970 by Atlas Explorations Limited, at 1 inch to 400 feet, is on file with Trigg, Woollett & Associates Ltd. in Edmonton.

1971 Program

Linecutting, geological, geochemical and geophysical surveys, prospecting, diamond drilling and claim staking were performed on the Max claims. The field season extended from June 6 to September 11, 1971. Field personnel are listed in Appendix I.

Disposition of Equipment

Some camp equipment is stored in a winterized frame tent at Rhyolite Creek; some is stored in an Arctic Diamond Drilling Ltd. trailer in Whitehorse. Inventories are listed in Appendix II.

Drill equipment, except the drill, is stored at drill locations 71M-2 and 71M-4.

METHOD OF EXPLORATION

Surveying, Linecutting and Staking

Parts of two grids were located on the property. The central part of the Atlas Explorations Limited Grid 1 was recovered, straightened and recut from 8+00W to 12+00E; this grid is referred to as Grid 1 in this report. The eastern portions of the original Grid 1 are nearly obliterated. A grid used for an Atlas Explorations Limited magnetometer survey was prominent but crooked. It was straightened and cut from 36+00E to 60+00E and is referred to as Grid 3 in this report.

Grid lines trend northerly and are spaced at 400 feet; station intervals are at 100 feet. These grids were used to control geological mapping, soil sampling and geophysical work.

In Grid 1, lines 0+00 to 4+00W and line 6+00E were precisely located by transit and tape. This partial grid was used for mapping and diamond drill hole locations. An altimeter survey was conducted. Lines are spaced at 100 feet, stations are at intervals of 50 feet.

Atlas Explorations Limited claim posts were located and plotted at 1 inch to 800 feet (Dwg. 1IM-2). The plotted claim boundary is approximate; not all claim posts were located. Several discrepancies in staking were noted: the claim line for MAX 300 to 307 is north of MAX 86 to 98, posts for MAX 301 to 305 are not legible, the MAX 70 final post and the MAX 72 initial post are duplicated, the MAX 74 initial post is absent, MAX 300 to 305 and MAX 72 and 74 may not be legally staked. Some claim lines are crooked; fractions may exist.

Eight claims, MAX 401 to 408, were staked in 1971 to cover fractions in Grid 1 and 3 areas (Dwg. 1IM-2).

Geological Survey and Prospecting

Grid areas were mapped and intensively prospected. A general geology map prepared by Atlas Explorations Limited at one inch to one-quarter mile was modified (Dwg. 1IM-3). Grid 1 and Grid 3 areas were geologically mapped at a scale of 1 inch to 400 feet (Dwgs. 1IM-4 and 1IM-5) and the precisely surveyed portion of Grid 1 was geologically mapped at 1 inch to 100 feet (Dwg. 1IM-6).

The area outside the grids was prospected. Mineral occurrences and rock samples collected for petrographic studies (Appendix III) are illustrated in drawing 1IM-7.

Geochemical Survey

Soil samples were collected from Grids 1 and 3. Soil varied from organic clays to sand and rock fragments with minor fines. Some samples were frozen. An attempt was made to sample the B-horizon below a thin volcanic ash layer, where it existed. Where the B-horizon was poorly developed in areas of thin soil cover a mixed sample of mainly C-horizon was collected. Sample intervals were 200 feet along lines spaced 400 feet apart. Geochemical data sheets for soil samples are bound separately. Assays are included in Appendix IV. Sample values are plotted at 1 inch to 400 feet (Dwgs. 1IM-8 and 1IM-9).

Analysis, by atomic absorption method, was performed by Imperial Oil Limited, Production Research and Technical Services Laboratory in Calgary, Alberta. Precision was not controlled.

Histograms (Dwgs. 1IM-10 and 1IM-11) and probability plots (Dwgs. 1IM-12 and 1IM-13) were prepared for copper and molybdenum.

Geophysical Survey

An induced polarization (I.P.) survey was performed by Peter E. Walcott & Associates Limited (Walcott, 1971).

Diamond Drilling

Four diamond drill holes were drilled by Arctic Diamond Drilling Limited. A Boyles Bros. BBS-1 wireline drill producing BQ size core was used. A total of 1,501 feet were drilled. A total of 158 feet of core was split and assayed for copper and molybdenum (Appendix V). Drill logs are included as Appendix VI.

Steep terrain, permafrost and lack of trees made setting up and moving difficult. A helicopter was used for some moves. No problems with water supply were encountered.

Most core is stored on the property. Some core was removed for study by Imperial Oil Enterprises Ltd. (Appendix VII).

GEOLOGY

General

The area is underlain by Yukon Complex siliceous metasediments with intrusives of quartz monzonite and many rhyolitic dykes and sills. Volcanic flows and pyroclastic breccias occur east and northwest of the Max claims. Alaskite and acidic porphyry bodies occur in the southern claims and north of the claims. Formations are summarized in Table I.

TABLE I
FORMATIONS

ERA OR PERIOD	GROUP	LITHOLOGY
Tertiary	Basic Dykes	Aphanitic and porphyritic basic dykes, diabase, lamprophyre.
Early Tertiary or Late Mesozoic	Nisling Range Alaskite	Alaskite, porphyritic acidic dykes, felsite.
Mesozoic	Nisling Range Granodiorite	Hornblende-biotite quartz monzonite, hornblende or biotite diorite.
Early Mesozoic	Volcanic Rocks	Porphyritic andesite, volcanic breccia.
Early Cambrian or Precambrian	Yukon Complex	Micaceous quartzite, quartz-biotite gneiss and schist, amphibolite, graphitic quartzite.

Regional metamorphism is low to medium grade. Yukon Complex rocks grade from lower to upper greenschist facies.

Northwest trending faults are the major structural feature. Most rhyolitic dykes follow this trend.

Lithology

Yukon Complex

Siliceous metasediments underly most of the claim group area. These rocks are considered to be late Precambrian to early Cambrian (Muller, 1967) and grade from laminated micaceous quartzite to quartz-biotite gneiss and schist. Calcareous and feldspathic quartzites occur, but do not form mappable units. Minor amphibolite and graphitic quartzite exist in float.

Laminated micaceous quartzite is the most abundant rock and, with increasing mafic content, grades to quartz-biotite gneiss and schist. It contains from four to ten thin, dark, micaceous laminae per inch in a groundmass of medium grey rounded quartz grains. Silicified areas are common. Rodded quartzite occurs in Grid 3; rodding is parallel to the b-axis of minor folds.

Amphibolite was found in float south of Grid 3. It is strongly lineated, dark greenish-black, fine-grained and contains a few small lenses of feldspathic material. Minor light pink garnets have been reported (Pearse, 1970).

Graphitic quartzite also occurs as float south of Grid 3. It is dark sooty-black crudely laminated and is slightly fissile. Graphite occurs along some shear planes encountered in drill holes.

Volcanic Rocks

Volcanic rocks outcrop east and northeast of Grid 3. They are considered to be early Mesozoic (Muller, 1967).

The rocks are dark purple or green, porphyritic andesite flows. Pyroclastic breccias outcrop immediately east of the property boundary.

Intrusive Rocks

Complex intrusive activity occurred in Mesozoic and early Tertiary time. Intrusive rocks have been divided into three groups: Nisling Range Granodiorite, Nisling Range Alaskite and basic dyke rocks (Muller, 1967).

Nisling Range Granodiorite

The oldest intrusive rock is Nisling Range Granodiorite. It exists on the property as two small stocks and two small occurrences of hornblende-biotite quartz monzonite. Several small bodies of fine-grained hornblende or biotite diorite are also placed in this group.

Hornblende-biotite quartz monzonite occurs as rusty, broken outcrop and talus. It is leucocratic, medium to coarse-grained and has a granitic texture. It contains 5 to 15 per cent brownish-black subhedral biotite, up to 5 per cent chloritized hornblende, 10 to 25 per cent anhedral quartz, and 60 to 70 per cent feldspar; 10 per cent is grey plagioclase laths, the rest is in medium grey anhedral masses intergrown with quartz. Chlorite and serpentine occur along shear planes and fractures. Calcite and white or pinkish dolomite fill some fractures. Pyrite and pyrrhotite are disseminated and in fractures; trace amounts of chalcopyrite occur with pyrrhotite. Molybdenite occurs in the western quartz monzonite stock in quartz veins, along shear planes and as a minor disseminate.

Quartz monzonite is altered near shears. Biotite and some plagioclase are sericitized; hornblende is completely altered to chlorite, pyrite and sericite. Some plagioclase is saussuritized and k-feldspar is kaolinized. Calcite and pyrite are more abundant than in fresh quartz monzonite; quartz is unaltered.

Hornblende or biotite diorite is dark fine-grained and has a granitic texture. It is composed of 40 to 50 per cent mafics; the rest is medium to dark grey plagioclase. Some quartz may be present.

Nisling Range Alaskite

The second oldest group of intrusive rocks is Nisling Range Alaskite. Included in this group are alaskite and a variety of acidic dykes.

Alaskite occurs as talus and felsenmeer in the southern claims and as float along the northern boundary. Alaskite is medium-grained and

less firmly bonded than the "granodiorite". Up to 40 per cent smoky quartz grains are contained in pink or light tan feldspars. Biotite content is less than 5 per cent and hornblende is absent.

Acidic dykes generally trend north or northwest. Dyke rocks are variable in composition, texture and general appearance. Most are porphyritic and approximate the alaskite composition. Outcrops are scattered and age relations within the group are uncertain; the dykes are considered nearly coeval. Four varieties of dyke rocks have been identified. The most abundant is a pink, quartz - k-feldspar porphyry. Phenocrysts of smoky quartz and pink k-feldspar range from 0.5 mm to 5 mm and comprise up to 35 per cent of the rock. Minor biotite occurs as small phenocrysts.

The three other varieties are a light to medium grey porphyritic felsite, with small hornblende and k-feldspar phenocrysts; a hornblende - quartz k-feldspar porphyry, with pink k-feldspar phenocrysts up to 1 cm; and a grey felsite that contains disseminated pyrrhotite.

Basic Dykes

The youngest group of intrusive rocks are dark basic dykes. Most are fine-grained diorite or gabbro. Some are porphyritic or subophitic with phenocrysts of hornblende or augite and plagioclase. Minor disseminated pyrrhotite was noted in diabase dykes intersected during drilling.

Structure

Two northwest trending faults, interpreted as normal faults (Pearse, 1970), are disrupted within the claim area; the northern fault is bent westward and the southern fault is cut by northeast cross-faults. Acidic dykes cross the southern fault undisturbed, west of Grid 1; other acidic dykes are offset by cross-faults (Dwg. 11M-3). A north trending transcurrent fault with approximately three hundred feet left-handed movement exists near the centre of Grid 1.

Economic Geology

Copper and molybdenum mineralization was encountered in Yukon Complex quartzite and Nisling Range Granodiorite. Much of the mineralization is in felsenmeer and talus. Most occurrences are small, low grade and mineralization is erratic. Limonite stains the surface.

Minor chalcopyrite occurs with disseminated pyrrhotite in silicified quartzite and in the western quartz monzonite stock. Chalcopyrite grains often contact pyrrhotite grains. Trace amounts of chalcocite and covellite occur with pyrrhotite-chalcopyrite mineralization in quartzite in Grid 3 and may be more widespread. Acidic dykes often occur near mineralization in quartzite. Bornite occurs with chalcopyrite in a solitary quartz vein.

Molybdenite occurs in quartz veins, along shear planes and as a minor disseminate in the western quartz monzonite stock and in quartz veins in quartzite. Molybdenite is often concentrated along vein margins. Powellite after molybdenite occurs rarely in quartz veins in both Grids 1 and 3.

Sixteen showings and several minor occurrences exist on the property. Data is summarized in Table II; locations are shown on drawing IIM-7. The principal showings are discussed below.

Showing HI1 contains the widest mineralized quartz vein observed on the property. The vein is exposed intermittently for 60 feet in three small trenches and trends 350°. It is 2 to 3 feet wide and contains up to 2 per cent molybdenum (estimated) mainly as large rosettes of molybdenite concentrated near vein margins. Minor powellite (after molybdenite) occurs in rosette pseudomorphs and films along some fractures. Much of the vein is barren.

Talus fragments of thin, poorly mineralized quartz veins occur downslope and to the west. Large barren bull quartz veins, up to 20 feet wide, outcrop to the south but not on strike.

Showing HI5 contains disseminated pyrrhotite, pyrite and minor chalcopyrite in quartzite outcrop and talus in an area 200 by 600 feet. An acidic dyke intrudes the area and the host quartzite is silicified. Overburden and barren talus cover probable extensions of the showing.

A representative sample was assayed and a polished section prepared (Appendix VII). The sample contained 0.054 per cent copper and a heavy metal fraction of approximately three per cent by weight, mainly pyrrhotite, with minor chalcopyrite and traces of chalcocite and covellite.

Showing HI8 contains mineralization similar to HI5. Pyrrhotite with minor chalcopyrite is disseminated and occasionally vaguely banded. Up to 1 per cent chalcopyrite occurs along small shear surfaces; the sheared zone is only 2 to 3 feet wide and about 6 feet long. Mineralization is erratic within the shears.

Three showings, HI3, HI4 and HI6, occur in the western quartz monzonite stock. Mineralization is similar in all three.

TABLE II
MINERAL SHOWINGS AND OCCURRENCES

<u>SHOWING</u>	<u>LOCATION</u>	<u>HOST ROCK</u>	<u>EXTENT</u>	<u>MINERALIZATION</u>	<u>REMARKS</u>
HI1	Grid 3 54+80E, 37+10N	Quartzite felsenmeer	Up to 60 feet exposed.	Less than 2 per cent Mo as rosettes in a 2 to 3 feet wide 335° trending quartz vein. Powellite occurs after molybdenite. Mineralization is very erratic; most of the quartz vein is barren.	Trenched - the vein is exposed in three pits.
HI2	Grid 1 6+70W, 12+00S	Quartzite talus	Few pieces of talus.	MoS ₂ in fine grains along margins of 1/2 inch wide quartz vein. Grade estimated less than 0.2 per cent Mo.	Small and low grade.
HI3	Grid 1 0+45W, 4+40S	Quartz monzonite- outcrop and talus	90 by 100 feet	MoS ₂ in quartz veins, along shear planes and disseminated. Grab sample assayed 0.47 per cent Mo. Disseminated iron sulfides and traces of chalcopyrite.	Tested by DDH 71M-1 and 71M-2.
HI4	Grid 1 6+80E, 4+40N	Quartz monzonite- outcrop and talus	Over 20 by 80 feet.	MoS ₂ in quartz veins and fractures estimated up to 0.5 per cent Mo. Traces of chalcopyrite with disseminated iron sulfides.	Tested by DDH 71M-4.
HI5	Grid 3 45+00E, 36+00N	Quartzite outcrop and talus	200 by 600 feet.	Approximately 3 per cent disseminated pyrrhotite and pyrite with minor chalcopyrite and traces of chalcocite and covellite. Assayed 0.054 per cent copper.	Cause of I.P. effect and anomalous soil values.

<u>SHOWING</u>	<u>LOCATION</u>	<u>HOST ROCK</u>	<u>EXTENT</u>	<u>MINERALIZATION</u>	<u>REMARKS</u>
HI6	Grid 1 0+60W, 2+80S	Quartz monzonite and quartzite outcrop and talus	30 by 80 feet.	MoS ₂ in quartz veins and along shear planes. Traces of chalcopyrite with disseminated iron sulfides.	Tested by DDH 71M-2.
HI7	Southwest of Grid 1	Quartzite outcrop and talus	40 by 100 feet.	Estimated 2 per cent pyrrhotite, Less than 0.5 per cent chalcopyrite. Chalcopyrite is low grade and is disseminated with pyrrhotite.	Low grade, uneconomic.
HI8	Southwest of Grid 1	Quartzite outcrop and talus	40 by 70 feet.	Low grade chalcopyrite with disseminated pyrrhotite. Best chalcopyrite approximately 1 per cent along small shears; restricted.	Grade generally low, uneconomic.
PI1	Grid 1 3+70W, 6+00S	Quartzite talus	Few scattered pieces in 10 by 35 feet.	MoS ₂ in quartz veins and along fractures. Grade is low except along fractures where Mo is approximately 1 per cent in best grab samples. Minor powellite also occurs.	Indicative of quartz vein mineralization. Near HI3 and HI6.
PI2	Southwest of Grid 1, north of HI7 and HI8	Quartzite talus	30 by 200 feet.	Traces of chalcopyrite with disseminated pyrrhotite. Less than 0.5 per cent chalcopyrite in best grab sample. MoS ₂ in thin quartz veins. Estimated grade is 0.3 to 0.5 per cent Mo in best grab samples.	Uneconomic.

<u>SHOWING</u>	<u>LOCATION</u>	<u>HOST ROCK</u>	<u>EXTENT</u>	<u>MINERALIZATION</u>	<u>REMARKS</u>
PI3	West of Grid 1 on Rhyolite Creek	Quartzite outcrop and talus	60 by 400 feet.	Disseminated pyrrhotite, pyrite and chalcopyrite. Estimated grade is 2 to 3 per cent pyrrhotite, less than 1 per cent chalcopyrite in best grab samples. Most chalcopyrite is in trace amounts.	Low grade, uneconomic.
PI4	West of Grid 1	Quartzite	1.5 inches by 4 feet.	Chalcopyrite and bornite in a 1.5 inch wide quartz vein. Mineralization is estimated 0.5 to 0.6 per cent copper in grab samples, but is spotty and erratic.	Limited and confined to one thin vein only.
PI5	Northwest corner of Max 86	Quartzite talus	3 by 4 feet.	Disseminated pyrrhotite and chalcopyrite. Best grab samples estimated at 6 to 8 per cent pyrrhotite, 0.2 per cent copper.	Limited and low grade.
BI1	Grid 1 0+35E, 7+20S	Quartzite talus	10 by 10 feet.	MoS ₂ in quartz veins in a few talus pieces. Estimated 0.3 to 0.5 per cent Mo in best grab samples.	Occurrence of low grade quartz veins.
BI2	150 feet east of the south-east corner of Grid 1	Quartzite talus	10 by 20 feet.	Traces to 0.2 per cent copper as chalcopyrite, with disseminated pyrrhotite.	Probable cause of copper anomaly. Uneconomic.
BI3	At top of hill, west of Grid 1	Quartzite talus	10 by 20 feet.	Similar to BI2.	Small and uneconomic.

Molybdenite occurs in quartz veins, generally less than one-half inch wide, along shear planes, and as a minor disseminate. At least two periods of quartz vein intrusion occurred in the quartz monzonite. In drill hole 71M-1, at 254.5 feet, a molybdenite-bearing quartz vein is offset along a barren quartz vein. A grab sample from HI3 assayed 0.47 per cent molybdenum (Appendix IX). Minor iron sulfides and traces of chalcopyrite are widely disseminated.

Basic dykes cut through HI3 and HI6; two acidic dykes intrude near HI4. Only minor pyrrhotite was observed in the dykes. A small fault occurs in HI6 but mineralization is not concentrated along the fault.

Mineralization at all three showings may have been part of one zone that was divided by the transcurrent fault in Rhyolite Creek valley. The mineralized stock was diamond drilled during 1971.

Diamond drill results, exposure of quartzite above quartz monzonite at HI6 and east of HI4 indicate an erosion surface at or near the top of the western quartz monzonite stock.

Showing PI4 is unique. Bornite and chalcopyrite occur in a small, poorly exposed and weathered quartz vein 1.5 inches wide and up to 4 feet long, parallel to a joint in a cliff-forming outcrop. Mineralization is erratic within the vein but grab samples are estimated to grade better than 0.5 per cent copper.

In all showings examined, economic grade or extent are lacking.

GEOCHEMICAL SURVEY

General

A total of 277 soil samples were collected; 85 from Grid 1 and 192 from Grid 3. Values agree closely with data collected in 1970.

Samples are from regionally anomalous areas indicated by the 1970 program. Precision of a statistical treatment of data is limited by the following factors: a large number of samples are from erratic anomalous value populations, soil varied from organic clay to sand and rock fragments, some was frozen and laboratory analyses were not controlled by standard samples.

Populations of copper and molybdenum values are not log-normally distributed (Dwgs. 11M-10 and 11M-11). Copper value populations approximate log-normality well enough that the probability plot (Dwg. 11M-12) has some meaning. Background population values are less than 80 ppm and anomalous population values are more than 175 ppm. Between 80 and 174 ppm is a mixed population of background and anomalous

values. Molybdenum value populations do not approximate log-normality sufficiently well to select population thresholds from the probability plot. Background population threshold selected from the histogram (Dwg. 1IM-11) is 25 ppm. The anomalous threshold was selected as 45 ppm.

Copper values greater than 175 ppm and molybdenum values greater than 45 ppm are contoured (Dwgs. 1IM-8 and 1IM-9). The areas indicated are considered highly anomalous. Anomalous copper and molybdenum value populations are correlatable with geology in both grid areas.

Grid 1 - Copper

Copper values greater than 175 ppm correspond to chalcopyrite-bearing quartz monzonite and rusty, pyrrhotite-bearing quartzite. Anomalous zones over quartz monzonite show left-handed separation consistent with movement along the north-south transcurrent fault in Rhyolite Creek valley. The southern area extends eastward towards rusty pyrrhotite and chalcopyrite-bearing quartzite which is intruded by felsite dykes and a small dyke or fault slice of quartz monzonite.

Grid 1 - Molybdenum

Molybdenum values above 50 ppm correspond to molybdenite-bearing quartz monzonite and quartz veins in quartzite. Values are from locations downslope of observed mineralization.

Grid 3 - Copper

Copper values in Grid 3 area range up to 980 ppm; much higher than would be suspected from existing mineralization. In the northern half, areas of rusty silicified quartzite containing pyrrhotite, chalcopyrite and traces of chalcocite and covellite (a typical specimen assayed 0.054 per cent copper) and acidic dykes are indicated by anomalous soil values. In the southwest portion of the grid, anomalous values are associated with an acidic dyke and nearby quartzite; low values occur over quartz monzonite. Many areas on the grid are masked by overburden. Geochemistry may indicate an extension of showing HI5 toward the south.

Grid 3 - Molybdenum

High molybdenum values are concentrated in the northern half of Grid 3 area. Molybdenite in quartz veins occurs in scattered quartzite talus in much of the area outlined by the 45 ppm contour. Molybdenum values are low over the quartz monzonite stock.

GEOPHYSICAL SURVEY

Interpretation of the I.P. survey is recorded in the report by Peter E. Walcott (Walcott, 1971).

Rocks in both grids exhibit high chargeability. Several anomalous zones were identified.

In Grid 3, the largest anomalies correspond to pyrrhotite, pyrite, and minor chalcopyrite of showing HI5, and indicate that the mineralization may extend southeasterly. The anomaly along the south end of line 48+00E probably is caused by pyrrhotite in rusty quartzite north of an acidic dyke. The molybdenum showing HI1 was not detected.

In Grid 1, anomalies along line 12+00E from 7+00S to nearly 12+00S and along line 8+00E from 0+50N to 3+50N correspond to a pyrrhotite-bearing acidic dyke; the northern zone anomaly corresponds to mineralized quartz monzonite. The anomaly on line 8+00E from 7+00S to 11+00S corresponds to another acidic dyke. Pyrrhotite-bearing quartzite was noted near both dykes. Anomalies associated with showings HI3 and HI6, and HI4 are discontinuous across Rhyolite Creek. Disseminated iron sulfides are abundant in the quartz monzonite; some I.P. effect may be due to the molybdenite.

Apparent resistivity was similar for quartz monzonite and quartzite. Extent of the quartz monzonite stock could not be outlined.

DIAMOND DRILLING

Four drill holes tested mineralization, geochemical and I.P. anomalies associated with the western quartz monzonite stock. Micaceous quartzite, normal and altered hornblende-biotite quartz monzonite and dyke rocks were intersected. Drill hole data is presented in Table III and assay data in Table IV. Drill hole sections are plotted on drawings 11M-14, 11M-15 and 11M-16. Drill logs are included in Appendix VI.

Mineralization is widespread but low grade. Pyrrhotite and pyrite are the most abundant minerals; some sections contain 2 to 3 per cent disseminated iron sulfides. Pyrite also occurs in small veinlets and along shear planes with graphite. Chalcopyrite often contacts pyrrhotite but is not abundant. The best copper assay was 0.06 per cent across 5 feet. Molybdenite is mainly associated with quartz veins but also occurs along shear planes and as a minor disseminate. The best assay was 0.802 per cent MoS_2 over 1 foot. The grade was 0.013 per cent and 0.022 per cent in 2 feet sections on either side of the high value. Mineralization is not concentrated in sheared or altered quartz monzonite.

The core was examined under an ultraviolet lamp. No scheelite was detected.

TABLE III

DIAMOND DRILL HOLE DATA

<u>HOLE</u>	<u>LOCATION</u>	<u>ELEVATION</u>	<u>AZIMUTH</u>	<u>DIP</u>	<u>LENGTH</u>	<u>STARTED</u>	<u>COMPLETED</u>
71M-1	1+00W, 3+50S	3878 feet	180°	-45°	345 feet	August 18	August 22
71M-2	1+00W, 2+00S	3855 feet	180°	-45°	457 feet	August 7	August 14
71M-3	4+00W, 6+50S	4090 feet	180°	-55°	339 feet	August 26	August 30
71M-4	6+00E, 2+50S	3970 feet	000°	-45°	360 feet	September 6	September 10

TABLE IV
DIAMOND DRILL HOLE ASSAY VALUES

HOLE	SAMPLE	FOOTAGE		SAMPLE LENGTH	% Cu	% MoS ₂	Average %			
		FROM	TO				Cu	MoS ₂		
71M-2	16101	36	41	5'	0.06	0.010	Cu	0.04		
	16102	41	46	5'	0.03	0.031			MoS ₂	0.018
	16103	46	51	5'	0.03	0.019				
	16104	51	56	5'	0.04	0.012				
	16105	177	182	5'	0.02	0.015	Cu	0.02		
	16106	182	187	5'	0.02	0.018			MoS ₂	0.017
	16107	187	192	5'	0.02	0.012				
	16108	192	197	5'	0.03	0.024				
	16109	257	262	5'	0.02	0.042	Cu	0.02		
	16110	262	267	5'	0.02	0.038			MoS ₂	0.031
	16111	267	272	5'	0.03	0.013				
	16112	277	282	5'	0.02	0.017	Cu	0.02		
	16113	282	287	5'	0.02	0.021			MoS ₂	0.016
	16114	287	292	5'	0.02	0.011				
	16115	337	342	5'	0.02	0.027	Cu	0.02		
	16116	342	347	5'	0.02	0.030			MoS ₂	0.032
	16117	347	352	5'	0.01	0.008				
	16118	352	357	5'	0.02	0.062				
16119	409	411	2'	0.01	0.018	Cu	0.01			
16120	411	412	1'	0.01	0.172			MoS ₂	0.046	
16121	412	414	2'	0.01	0.012					
71M-1	16122	116.5	119.5	3'	0.02	0.010	Cu			0.01
	16123	119.5	120.5	1'	0.02	0.262		MoS ₂	0.053	
	16124	120.5	123.5	3'	0.005	0.025				
	16125	174	177	3'	0.02	0.006	Cu			0.02
	16126	177	180	3'	0.03	0.031		MoS ₂	0.016	
	16127	180	183	3'	0.02	0.010				
	16128	205	210	5'	0.02	0.008	Cu			0.02
	16129	210	215	5'	0.02	0.078		MoS ₂	0.069	
	16130	215	216	1'	0.01	0.580				
	16131	216	221	5'	0.02	0.018				
	16132	290	293	3'	0.02	0.026	Cu			0.02
	16133	293	294	1'	0.02	0.008		MoS ₂	0.016	
	16134	294	297	3'	0.01	0.009				

HOLE	SAMPLE	FOOTAGE		SAMPLE LENGTH	% Cu	% MoS ₂	Average %	
		FROM	TO					
71M-3	16135	133	136	3'	0.02	0.009	Cu MoS ₂	0.02 0.013
	16136	136	139	3'	0.02	0.015		
	16137	139	142	3'	0.03	0.007		
	16138	283.6	285.6	2'	0.03	0.007	Cu MoS ₂	0.02 0.041
	16139	285.6	286.6	1'	0.02	0.145		
	16140	286.6	288.6	2'	0.02	0.023		
	16141	314	316	2'	0.03	0.006	Cu MoS ₂	0.03 0.061
	16142	316	317	1'	0.03	0.276		
	16143	317	319	2'	0.03	0.008		
	71M-4	16144	330	332	2'	0.02	0.013	Cu MoS ₂
16145		332	333	1'	0.02	0.802		
16146		333	335	2'	0.02	0.022		

CONCLUSIONS

The Max mineral claim group covers an area of Yukon Complex quartzite, intruded by a small stock of acid to intermediate intrusive rocks and a variety of dykes, and cut by faults. The upper level of quartz monzonite intrusives is exposed. Quartz monzonite may underlie other portions of the area and be the source of some acidic dykes; in particular, the hornblende-quartz - k-feldspar porphyry. Other dykes, quartz - k-feldspar porphyry and pink porphyritic felsite, may be hypabyssal equivalents of alaskite.

Mineralization is associated with quartz monzonite and acidic dykes. Mineralization in quartz monzonite is disseminated pyrrhotite and pyrite with minor chalcopyrite, and molybdenite in quartz veins, along shear planes, or as a minor disseminate. Iron sulfides and chalcopyrite are widespread and probably originated with the initial intrusion; molybdenite was introduced with quartz as a late stage derivative of the quartz monzonite melt or by a later stage intrusive. Molybdenite has been remobilized along some shear planes.

Pyrrhotite, with minor chalcopyrite and other sulfides occur in silicified quartzite, often intruded by pyrrhotite-bearing acidic dykes. Showing HI5 is this type; paragenesis is pyrrhotite and pyrite, chalcopyrite, chalcocite and covellite, and finally colloform marcasite and limonite.

Sixteen showings and several small occurrences were located. None are economic.

Mineralization in HI3 and HI6 belong to one zone in the western quartz monzonite stock, but is not continuous to HI4. Separation is caused by the north-south transcurrent fault in Rhyolite Creek valley. This fault has also produced shearing responsible for concentrations of molybdenite in HI6.

Some faulting in the area is later than the intrusion of acidic dykes and apparently has not provided a path for ore-forming solutions, but merely concentrated existing mineralization in shear zones.

Acidic and basic dykes trend subparallel to two north-west trending major faults; field evidence indicates the dykes were intruded after the major faulting but before cross-faulting.

Alteration of the quartz monzonite is associated with shearing and is probably propylitic. The assemblage is chlorite-calcite-kaolinite or epidote with associated quartz, muscovite (sericite), pyrite and serpentine. Sulfide mineralization, except pyrite, is not concentrated in altered quartz monzonite.

Anomalous soil values indicated areas of copper or molybdenum mineralization. Copper soil values are higher than expected for mineralization discovered. Some anomalous areas, particularly in the southern part of Grid 3 are masked by overburden and the source of copper is not known. However, pyrrhotite-chalcopyrite-bearing quartzite north of a felsite dyke may be the cause.

The induced polarization (I.P.) survey was of limited use. Disseminated iron sulfides are widespread and the I.P. effect derived from them masks possible concentrations of copper or molybdenum mineralization. Pyrite and pyrrhotite are probably responsible for the anomaly over HI3 and HI6. A pyrrhotite-bearing felsite dyke is considered responsible for the larger effect noted near HI4. Quartz monzonite and quartzite could not be distinguished by apparent resistivity.

Drilling tested mineralization observed in the western quartz monzonite stock, geochemical and I.P. anomalies. Mineralization (mainly molybdenite) in quartz is low grade but widely dispersed in the stock and does not increase with depth in the holes drilled.

If drilling is performed in the northern portion of Grid 3 the following problems will be encountered. Water must be derived from Rhyolite Creek, except in early summer when the north-flowing creek west of Grid 3 may be a source. Vertical lift will be greater than 500 feet and metal pipe will be necessary for part of the line. Permafrost will be encountered. Set-up locations will have to be blasted on steep slopes (approximately 25 degrees) covered by moss and talus. Drill moves will require a helicopter.

RECOMMENDATIONS

No further work is recommended in Grid 1 area.

A petrographic study of drill core and the rock suite should be performed to determine: the origin of the various acidic dykes, relation of mineralization to acidic intrusives and the relation of alteration in quartz monzonite to copper and molybdenum mineralization. The petrographic and field data should be analyzed by an expert on porphyry copper and molybdenum deposits.

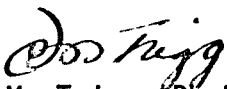
Contingent upon results of these studies, the following program may be required to evaluate mineral occurrences, geochemical and I.P. anomalies in the northern half of Grid 3 area:

1. A precise, transit-controlled grid with an east-west base line in Rhyolite Creek valley and south trending cross lines should be surveyed.
2. The grid area should be geologically mapped at a scale of 1 inch to 100 feet.

3. At least four drill holes, each 500 feet or longer, will be required to test HI5 and the best portions of the geochemical and I.P. anomalies.

The field program is estimated at seventy thousand dollars. A geologist, helper and cook would be required for two months and two surveyors would be required for about two weeks.

F. R. Hassard, B.A.Sc.


C. M. Trigg, Ph.D., P.Eng.

October, 1971
Edmonton, Alberta

REFERENCES

- Muller, J. E. (1967) Kluane Lake Map-area, Yukon Territory; Geol. Surv., Canada, Memoir 340.
- Pearse, G. H. K., Francis, D., and Brabac, D. (1970) Geological, Geochemical & Geophysical Report on the Max Group, Atlas Explorations Limited; unpublished.
- Walcott, P. E. (1971) A Geophysical Report on An Induced Polarization Survey, Max Claim Group, Rhyolite Creek Area, Y.T., prepared for Imperial Oil Enterprises Ltd.; unpublished.

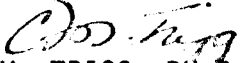
CERTIFICATION

I, C. M. TRIGG, OF 4016 - 124 STREET, EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF BRITISH COLUMBIA WITH A B.A.SC. DEGREE IN GEOLOGICAL ENGINEERING (1954) AND A GRADUATE OF MCGILL UNIVERSITY WITH A PH.D. DEGREE IN GEOLOGY (1964). I AM REGISTERED AS A PROFESSIONAL GEOLOGIST AND A PROFESSIONAL ENGINEER WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ALBERTA AND I AM LICENSED TO PRACTISE AS A PROFESSIONAL ENGINEER WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF SASKATCHEWAN.

MY EXPERIENCE INCLUDES SERVICE AS MINE GEOLOGIST, ELDORADO NUCLEAR LIMITED, GREAT BEAR LAKE, N.W.T.; CHIEF MINE GEOLOGIST AND CHIEF GEOLOGIST IN CHARGE OF EXPLORATION, ELDORADO NUCLEAR LIMITED, BEAVERLODGE, SASKATCHEWAN; MANAGER, EXPLORATION, J. FOSTER IRWIN ENGINEERING & MANAGEMENT SERVICES LTD., EDMONTON, ALBERTA. SINCE 1968 I HAVE CONDUCTED AND DIRECTED PROPERTY EXAMINATIONS, PROPERTY EVALUATIONS AND EXPLORATION PROGRAMS ON BEHALF OF COMPANIES AS PRINCIPAL OFFICER OF TRIGG, WOOLLETT & ASSOCIATES LTD. AND GEOWEST SERVICES LTD.

I HAVE NO INTEREST DIRECT OR INDIRECT IN IMPERIAL OIL ENTERPRISES LTD. OR THEIR PROPERTIES NOR DO I EXPECT TO RECEIVE SUCH INTEREST.

F. H. HASSARD'S REPORT IS BASED UPON HIS PERSONAL DIRECTION OF THE EXPLORATION PROGRAM PERFORMED UPON IMPERIAL OIL ENTERPRISES LTD.'S MAX MINERAL CLAIM GROUP, YUKON TERRITORY.


C. M. TRIGG, PH.D., P.ENG.

APPENDIX I

LIST OF PERSONNEL

APPENDIX I
LIST OF PERSONNEL

<u>NAME</u>	<u>POSITION</u>	<u>COMPANY</u>	<u>DATE</u>
F. R. Hassard	Geologist	Trigg, Woollett & Associates Ltd.	June 6 - September 11
J. Price	Assistant	Trigg, Woollett & Associates Ltd.	June 6 - September 6
T. Basisty	Assistant	Trigg, Woollett & Associates Ltd.	June 6 - August 27
B. Raymond	Cook	Trigg, Woollett & Associates Ltd.	June 6 - September 11
C. M. Trigg	Consultant	Trigg, Woollett & Associates Ltd.	June 29 - July 2
			July 28 - July 30
P. E. Walcott	Geophysicist	Peter E. Walcott & Associates Limited	July 8 - July 13
V. Pashniak	Operator	Peter E. Walcott & Associates Limited	July 3 - July 13
P. Charlie	Helper	Peter E. Walcott & Associates Limited	July 8 - July 13
S. Scurvey	Helper	Peter E. Walcott & Associates Limited	July 8 - July 13
R. W. Oddy	Geologist	Imperial Oil Enterprises Ltd.	July 12 - July 13
L. Kirwan	Geologist	Imperial Oil Enterprises Ltd.	July 29 - July 30
H. Balsillie	Runner-Foreman	Arctic Diamond Drilling Limited	August 1 - September 11
M. Ethier	Runner	Arctic Diamond Drilling Limited	August 1 - September 11
J. Rosedale	Helper	Arctic Diamond Drilling Limited	August 1 - September 11
R. Dieno	Helper	Arctic Diamond Drilling Limited	August 1 - August 27
L. Morrisette	Mechanic	Arctic Diamond Drilling Limited	August 1 - August 4
J. Touchette	Helper	Arctic Diamond Drilling Limited	August 27 - September 11

APPENDIX II

INVENTORIES - EQUIPMENT DISPOSITION

TRIGG, WOOLLETT & ASSOCIATES LTD.

INVENTORY LIST
STORAGE AT RHYOLITE CREEK

JOB IOE - MAX PARTY LEADER F. HASSARD

DATE SEPTEMBER, 1971 EXPENDABLE _____ NON EXPENDABLE _____

ITEM	QUANTITY				CONDITION	UNIT PRICE	TOTAL PRICE
	ON HAND	ORDERED	TAKEN TO FIELD	RETURNED TO FIELD			
Propane stove with regulator and hose.	1				Good		
Propane stove.	1				Needs repair		
Regulator for propane stove (extra)	1				Good		
Coleman stoves	2				Fair		
Airtight heaters (complete with pipes)	7				Good		
Stove pipe	2 Bundles				New		
Dampers	2						
Metal Folding Tables	2						
Metal Wash Basins	6						
Metal Buckets	6						
Mattocks	3						
Shovels	4						
Brooms	2						
Mirrors	2						
Axes	6						
Hammers	2						
Swede Saws	3						
Metal Survey pickets	1 Box						
Coleman lamps	2				Need repairs		
Soil and rock sample bags	1 Box						
Antles	20						
Coleman generators	3						
Coleman cooler	1						

TRIGG, WOOLLETT & ASSOCIATES LTD.

INVENTORY LIST

PAGE TWO

JOB IOE - MAX PARTY LEADER _____

DATE _____ EXPENDABLE _____ NON EXPENDABLE _____

ITEM	QUANTITY				CONDITION	UNIT PRICE	TOTAL PRICE
	ON HAND	ORDERED	TAKEN TO FIELD	RETURNED TO FIELD			
Camp cots	9				Good		
Foam mattresses	8				Fair		
Sledge hammer	1						
Pack Board	1						
Pack sacks	2				Fair		
Fire Extinguisher	1				Good		
Jerry can	1				Good		
Hand Saw	1				Good		
Crescent Wrench	1				Good		
Kitchen knives	3				Good		
Dinner Plates	18				Good		
Cups	16				Good		
Soup bowls	16				Good		
Cooking Pots	15				Good		
Dish ups	4				Good		
Plastic garbage cans	2				Good		
Cookie Sheets	3				Good		
Bake pans	3				Good		
Jugs	3				Good		
Tablespoons	23				Good		
Teaspoons	12				Good		
Forks	21				Good		
Knives	19				Good		

TRIGG, WOOLLETT & ASSOCIATES LTD.

INVENTORY LIST

PAGE THREE

JOB IOE - MAX PARTY LEADER _____

DATE _____ EXPENDABLE _____ NON EXPENDABLE _____

ITEM	QUANTITY				CONDITION	UNIT PRICE	TOTAL PRICE
	ON HAND	ORDERED	TAKEN TO FIELD	RETURNED TO FIELD			
Bread Pans	2				Good		
Dessert plates	21				Good		
Frying pans	5				Good		
Griddle	1				Good		
Flour sifter	1				Good		
Roast pans	2				Good		
Dish pans	2				Good		
Large Spoons	5				Good		
Large Fork	1				Good		
Ladles	2				Good		
Muffin pans	2				Good		
Strainer	1				Good		
Whip	1				Good		
Egg Beaters	2				Good		
Coffee pots	2				Good		
Tea Pots	2				Good		
Meat Grinder	1				Good		
Can openers	2				Good		
Rolling pin	1				Good		
Mixing bowl	1				Good		
EL:							
Na a	4 Gal.						
Regular Gas	10 Gal.						

TRIGG, WOOLLETT & ASSOCIATES LTD.

INVENTORY LIST

PAGE FOUR

JOB IOE - MAX PARTY LEADER _____

DATE _____ EXPENDABLE _____ NON EXPENDABLE _____

ITEM	QUANTITY				CONDITION	UNIT PRICE	TOTAL PRICE
	ON HAND	ORDERED	TAKEN TO FIELD	RETURNED TO FIELD			
Oil	2 Qts.						
<u>STORAGE AT ARCTIC DIAMOND DRILLING LTD.</u>							
<u>INDUSTRIAL AREA, WHITEHORSE, Y.T.</u>							
Coleman Lamps	6				Good		
Coleman stove	1				Good		
Chain saw	1				Good		
12 x 14 tents with floors	5				Good		
Flys for 12 x 15 tents	5				Good		
10 x 12 tent without floor	1				Good		
10 x 12 tarp	1				Good		
First Aid Kit	1				Good		
.303 Rifle	1				Fair		
Tracing Paper	1 Box						
Plastic core boxes	30						
Extra canvas							
Pencil sharpener	1						
100 foot tapes	2						
claw hammer	1						
10" crescent wrench	1						
se grips	1						
Pl .s	1						
Multi-head screw driver	1						

TRIGG, WOOLLETT & ASSOCIATES LTD.

INVENTORY LIST

PAGE FIVE

JOB IOE - MAX PARTY LEADER _____

DATE _____ EXPENDABLE _____ NON EXPENDABLE _____

ITEM	QUANTITY				CONDITION	UNIT PRICE	TOTAL PRICE
	ON HAND	ORDERED	TAKEN TO FIELD	RETURNED TO FIELD			
carborundum stone	1						
pair safety glasses	2						
tally counters	2						
Rapidograph Set	1						
Tapewriter	1						
Clipboards	2						
Set coloured pencils	1						
Pocket stereoscope	2						
Silva "Ranger" Compasses	2						
Circle template	1						
Douglas Protractor	1						
Pack Sacks	2						
Bottle India Ink	1						
Small stapler with box of staples	1						
Set Squares 45°; 30° - 60°	2						
6" scales 1" = 1/4 mi. & 1/2 mi.	2						
6" Post scales	2						
Engineers scales	2						
Staple gun with 2 boxes of staples	1						
Erasers	4						
1 pencils	6						
As. ted lead pencils							
Scissors	1 Pair						

APPENDIX III

LIST OF ROCK SAMPLES

APPENDIX III
LIST OF ROCK SAMPLES

<u>SAMPLE NO.</u>	<u>ROCK NAME</u>
1M-1	Porphyritic andesite.
1M-2	Alaskite.
1M-3	Alaskite.
1M-4	Quartz - k-feldspar porphyry.
1M-5	Hornblende - quartz - k-feldspar porphyry.
1M-6	Pink porphyritic felsite, with quartz and k-feldspar phenocrysts.
1M-7	Grey porphyritic felsite, with hornblende and feldspar phenocrysts.
1M-8	Grey porphyritic felsite, with quartz, hornblende and feldspar phenocrysts.
1M-9	Grey porphyritic felsite with hornblende and feldspar phenocrysts.
1M-10	Grey porphyritic felsite, with pyrrhotite and fine grained hornblende phenocrysts.
1M-11	Diorite porphyry.
1M-12	Basic dyke.
1M-13	Feldspar-hornblende porphyry.
1M-14	Biotite diorite.
1M-15	Hornblende(?) - biotite diorite.
HI-1	Quartz vein and quartzite with molybdenite rosettes and powellite.
HI-3	Hornblende-biotite quartz monzonite with molybdenite.
HI-7	Micaceous quartzite with pyrrhotite, pyrite and chalcopyrite.
PI-2	Micaceous quartzite with pyrrhotite, pyrite and chalcopyrite.
PI-4	Quartz vein with bornite and chalcopyrite.

APPENDIX IV

ASSAY SHEETS - GEOCHEMICAL SAMPLES

GEOCHEMICAL LABORATORY REPORT

Laboratory Report No. 52471 Analysis Requested by F. Hassard
 Type of Extraction Nitric-Hydrochloric Method of Analysis Atomic Absorption
 Analyst A. Perras & J. Collyer Date July 29/71
 Remarks: _____

SAMPLE NO.	ppm METAL			SAMPLE NO.	ppm METAL		
	Cu		Mo		Cu		Mo
84-001	89		6	84-029	125		14
002	119		6	030	14		0
003	126		3	031	475		7
004	58		0	032	250		11
005	18		0	033	550		60
006	41		0	034	80		17
007	24		0	035	74		7
008	76		2	036	14		1
009	450		210	037	31		0
010	330		31	038	51		1
011	17		1	039	73		8
012	18		1	040	22		2
013	315		62	041	32		0
014	45		9	042	82		5
015	138		18	043	9		0
016	93		4	044	19		0
017	22		0	045	7		0
018	42		1	046	222		0
019	235		1	047	68		0
020	84		0	048	28		0
021	125		1	049	69		0
022	42		1	050	82		0
023	185		5	051	295		1
024	355		1	052	27		0
025	42		1	053	98		5
026	275		0	054	109		1
027	2		0	055	56		1
028	68		3	056	27		0

Laboratory Report No. 52471 (continued....)

SAMPLE NO.	ppm METAL			SAMPLE NO.	ppm METAL		
	Cu		Mo		Cu		Mo
84-057	65		0	84-095	57		1
058	105		2	096	150		8 - 3
059	91		2	097	250		8
060	71		1	098	145		1
061	142		13	099	46		0
062	52		3	100	64		2
063	280		17	101	81		3
064	240		5	102	89		3
065	12		0	103	11		0
066	22		0	104	29		0
067	110		2	105	26		1
068	125		1	106	45		1
069	170		0	107	118		5
070	69		0	108	155		13
071	152		1	109	96		4
072	118		1	110	199		39
073	9		0	111	160		38
074	275		1	112	84		38
075	45		0	113	58		7
076	270		2	114	266		40
077	3		0	115	99		10
078	8		0	116	245		3
079	18		0	117	355		1
080	138		0	118	250		1
081	11		0	119	980		0
082	170		1	120	206		1
083	18		0	121	290		2
084	80		2	122	190		1
085	9		0	123	165		0
086	4		0	124	26		0
087	210		17	125	84		2
088	154		19	126	47		6
089	31		1	127	39		3
090	17		0	128	54		2
091	127		11	129	114		14
092	102		2	130	180		12
093	49		1	131	380		40
094	340		19	132	315		52

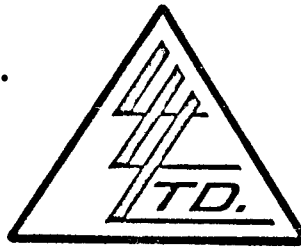
SAMPLE NO.	ppm METAL			SAMPLE NO.	ppm METAL		
	Cu		Mo		Cu		Mo
84-133	15		2	84-171	17		0
134	206		32	172	47		2
135	3		0	173	51		6
136	228		18	174	99		2
137	123		9	175	36		0
138	147		12	176	75		1
139	132		10	177	2		0
140	69		3	178	87		2
141	93		0	179	350		13
142	137		3	180	36		2
143	158		2	181	87		5
144	148		6	182	66		4
145	117		6	183	125		22
146	197		2	184	93		30
147	185		1	185	89		22
148	119		1	186	2		1
149	490		4	187	4		1
150	9		0	188	24		1
151	490		16	189	14		0
152	350		0	190	22		1
153	15		0	191	14		1
154	54		0	192	120		4
155	66		0	193	102		30
156	140		0	194	206		13
157	17		0	195	117		3
158	96		1	196	145		2
159	57		1	197	19		0
160	86		3	198	17		1
161	67		4	199	39		6
162	75		13	200	149		3
163	124		25	201	28		0
164	27		1	202	115		2
165	120		13	203	93		2
166	232		19	204	95		3
167	210		16	205	95		0
168	8		0	206	135		1
169	4		1	207	122		1
170	45		38	208	156		2

SAMPLE NO.	ppm METAL			SAMPLE NO.	ppm METAL		
	Cu		Mo		Cu		Mo
84-209	79		1	84-247	62		3
210	5		1	248	155		12
211	460		13	249	135		5
212	13		0	250	95		4
213	93		4	251	590		33
214	48		2	252	600		24
215	114		2	253	320		18
216	34		3	254	139		2
217	123		28	255	31		4
218	38		4	256	107		1
219	92		10	257	60		0
220	28		0	258	21		1
221	108		11	259	52		1
222	186		29	260	30		0
223	14		1	261	97		0
224	238		56	262	30		1
225	148		75	263	32		0
226	64		3	264	33		0
227	87		10	265	22		0
228	128		5	266	6		0
229	32		1	267	39		1
230	310		5	268	32		0
231	42		5	269	44		1
232	9		0	270	132		0
233	275		14	271	93		3
234	48		1	272	70		0
235	45		1	273	144		35
236	29		1	274	29		1
237	149		29	275	5		0
238	265		14	276	275		21
239	445		102	277	78		2
240	290		78				
241	286		80				
242	28		6				
243	118		5				
244	160		6				
245	98		5				
246	23		2				

APPENDIX V

ASSAY SHEETS - CORE SAMPLES

To: TRIGG, WOOLLETT & ASSOCIATES LTD..
 1404 Cambridge Bldg.,
 10020 Jasper Ave.,
 EDMONTON, Alberta.
 Mr. C. M. Trigg.



File No. 4442
 Date August 25th 1971
 Samples Core

Certificate of
 ASSAY OF
 LORING LABORATORIES LTD.

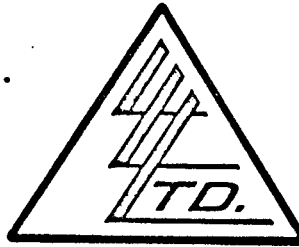
SAMPLE No.	Cu %	MoS2 %
16101	.06	.010
16102	.03	.031
16103	.03	.019
16104	.04	.012
16105	.02	.015
16106	.02	.018
16107	.02	.012
16108	.03	.024
16109	.02	.042
16110	.02	.038
16111	.03	.013
16112	.02	.017
16113	.02	.021
16114	.02	.011
16115	.02	.027
16116	.02	.030
16117	.01	.008
16118	.02	.062
16119	.01	.018
16120	.01	.172
16121	.01	.012

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.

C. M. Trigg
 Licensed Assayer of British Columbia

To: TRIGG, WOOLLETT & ASSOCIATES LTD.
 1404, Cambridge Bldg.,
 10020 Jasper Avenue,
 EDMONTON, Alberta.
 Mr. C. M. Trigg



File No. 4453
 Date August 27th 1971
 Samples Core

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

SAMPLE No.	Cu %	MoS2 %
16122	.02	.010
16123	.02	.262
16124	.005	.025
16125	.02	.006
16126	.03	.031
16127	.02	.010
16128	.02	.008
16129	.02	.078
16130	.01	.580
16131	.02	.018
16132	.02	.026
16133	.02	.008
16134	.01	.009

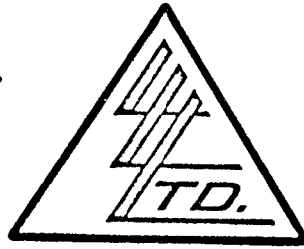
Oxides of Mo. removed.

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.


 Licensed Assayer of British Columbia

To: TRIGG, WOOLLETT & ASSOCIATES LTD.
 1404 - Cambridge Bldg.,
 10020 Jasper Ave.,
 Edmonton, Alberta.



File No. 4567
 Date September 14th 1971
 Samples Core

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

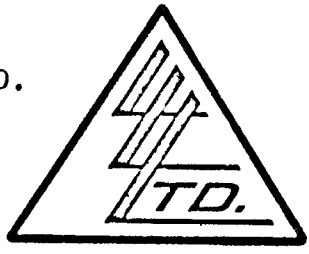
SAMPLE No.	Cu %	MoS2 %
16135	.02	.009
16136	.02	.015
16137	.03	.007
16138	.03	.007
16139	.02	.145
16140	.02	.023
16141	.03	.006
16142	.03	.276
16143	.03	.008

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.

A. L. M. J. ...
 Licensed Assayer of British Columbia

To: TRIGG, WOOLLETT & ASSOCIATES LTD.
 1404 Cambridge Bldg.,
 10020 Jasper Ave.,
 Edmonton, Alberta,
 G. M. Trigg



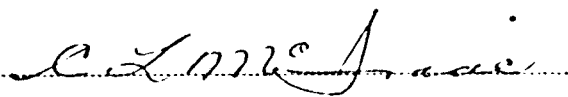
File No. 4588
 Date September 20th 1971
 Samples Core

Certificate of
ASSAY
 LORING LABORATORIES LTD.

SAMPLE No.	Cu %	MoS ₂ %
16144	.02	.013
16145	.02	.802
16146	.02	.022

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.


 Licensed Assayer of British Columbia

FOOTAGE		DESCRIPTION	CORE SAMPLES									
FROM	TO		NUMBER	FROM	TO	WIDTH	FROM	TO	WIDTH	% Cu	% MoS ₂	AVERAGES
		<p>whitish clay. Alteration is not uniform; some patches of relatively unaltered quartz monzonite occur.</p> <p>The alteration is possibly propylitic with the assemblage chlorite-calcite-kaolinite or epidote. Quartz, muscovite (sericite), serpentine and pyrite are also present in variable amounts. Minor molybdenite and chalcopyrite are present but apparently are not concentrated by the alteration.</p>										
100	345	<p>HORNBLLENDE-BIOTITE QUARTZ MONZONITE</p> <p>Light coloured, medium grained, fresh looking, with a granitic texture. Variable amounts of mafic minerals randomly oriented and scattered. Mafics are normally from 5 to 15 per cent brownish-black subhedral-biotite crystals 1 to 4 mm, and up to 5 per cent chloritized hornblende crystals. Small patches containing finer grained biotite up to 30 per cent of the rock occur within the more leucocratic rock. Feldspars are 10 per cent grey plagioclase laths 1-2 mm, and the rest, medium grey anhedral masses intergrown with quartz. Medium grey 1 to 2 mm anhedral quartz crystals make up 10 to 25 per cent of the rock. Minor chlorite and serpentine occur along some shear planes; calcite occurs in some fractures. Iron sulfides, roughly equal amounts of pyrite and pyrrhotite, grade up to 2 per cent of the rock. Traces of chalcopyrite occur with some pyrrhotite. Minor molybdenite occurs with quartz veins and disseminated in the quartz monzonite; mineralization less persistent than in 71M-2. Quartz veins generally thin, 1/8 to 1/4 inch thick and variable. Two periods of quartz vein intrusion are evident at 254.5 feet; a molybdenite-bearing 1/8 inch quartz vein at 40 degrees is cut and offset 3/8 inch by a barren 1/2 inch wide quartz vein at 60 degrees. Many veins barren; mineralization in others is low grade, usually only a trace over a foot, and erratic. No preferred orientation of mineralized quartz veins.</p> <p>(120 - 128) Basic Dyke</p> <p>Similar to the very fine-grained portions of diabase from 71M-2, dark greyish-green, fine-</p>										
			16122	116.5	119.5	3'				0.02	0.010) Cu - 0.01 MoS ₂ - 0.053 Across 7 feet.
			16123	119.5	120.5	1'				0.02	0.262	
			16124	120.5	123.5	3'				0.005	0.025	

DIP TESTS

TEST	FOOTAGE			DIP		LATITUDE	DEPARTURE	
	FROM	TO	TOTAL	CORR.	CUM.	CUM.	CUM.	
1	440			-51	-44			

DIAMOND DRILL HOLE LOG

CLIENT IMPERIAL OIL ENTERPRISES LTD.

PROPERTY MAX

TRIGG. WOOLLETT & ASSOCIATES LTD.

LOCATION 2+00S (Grid 1)
 SECTION 1+00W
 LATITUDE
 DEPARTURE
 ELEVATION 3855'
 CORE BQ
 LOGGED BY F. Hassard

HOLE NO. 71M-2
 AZIMUTH 180°
 DIP -45°
 LENGTH 457'
 PURPOSE Test HI-6,3 showing
 STARTED August 7, 1971
 COMPLETED August 14, 1971

FOOTAGE		DESCRIPTION	CORE SAMPLES							AVERAGES
FROM	TO		NUMBER	FROM	TO	WIDTH	% Cu	%MoS ₂		
		STORAGE: RHYOLITE CREEK HEIGHT OF CASING ABOVE GROUND: 2.5 Feet.								
0	36	CASING								
36	72.5	MICACEOUS QUARTZITE Medium grey, fine-grained, crudely foliated, hard, siliceous grades to quartz-biotite schist and gneiss. Fractured, sheared and cut by thin quartz veins, at variable angles. Mainly whitish-grey silicified quartz grains with minor scattered plagioclase laths. Dark, thin, irregular layers (75°-80°) mainly biotite and minor chlorite. Serpentine, chlorite, sericite and clay minerals along shear planes. Calcite and minor dolomite fill some fractures. Sulfides disseminated and in quartz veins. Iron sulfides, roughly two-thirds pyrrhotite, grade up to two per cent; pyrite occurs in some quartz veins. Traces of chalcopyrite appear associated with some pyrrhotite. Traces of molybdenite in some quartz veins, usually concentrated near the margins, and also disseminated.	16101	36	41	5'	0.06	0.010) Cu - 0.04) MoS ₂ - 0.018) Across 20 feet.	
			16102	41	46	5'	0.03	0.031		
			16103	46	51	5'	0.03	0.019		
			16104	51	56	5'	0.04	0.012		
		(58) One foot of crumbly sheared rose-brown quartzite. Shear planes are at 20°.								
72.5	177	DIABASE Greenish-dark grey with whitish-grey feldspar phenocrysts and porphyritic, sub-ophitic to ophitic. Plagioclase laths, 0.5 to 6 mm are 10 to 20 per cent. Randomly oriented, often broken. Anhedral								

APPENDIX VII

LIST OF CORE REMOVED FROM RHYOLITE CREEK

APPENDIX VII

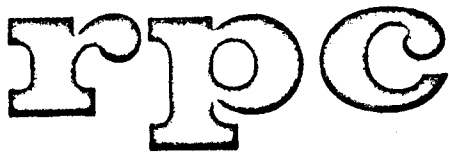
LIST OF CORE REMOVED FROM RHYOLITE CREEK

<u>Hole</u>	<u>Box</u>	<u>Footage</u>		<u>Sample Length</u>	<u>Remarks</u>
		<u>From</u>	<u>To</u>		
71M-1		51	52	1'	Schistose section of micaceous quartzite.
	10	203.4	225.8	22.4'	Hornblende-biotite quartz monzonite. Best mineralized box - 1971 drilling.
71M-2		60		4"	Laminated micaceous quartzite.
		85		3"	Diabase dyke.
	8	189.7	210	20.3'	Sections of altered quartz monzonite near top of stock.
		299		6"	Greenish altered quartz monzonite contacting hornblende-biotite quartz monzonite. Pyrite along shear plane.
	20	441	457	16'	Hornblende-biotite quartz monzonite from bottom of hole.
71M-3		95		1'	Boudins in quartz-biotite gneiss.
		105		8"	Quartz-biotite gneiss with minor folds.
71M-4		157		7"	Orangy altered quartz monzonite.
		239		6"	Greenish altered quartz monzonite.
		351		6"	Hornblende-biotite quartz monzonite with large MoS ₂ rosettes in quartz veins.

APPENDIX VIII

EXAMINATION AND ASSAY OF A QUARTZITE SAMPLE

AUG 18 1971



TELEPHONE: 475-8994
TELEX 014-4615
P. O. BOX 1236

EXAMINATION AND ASSAY OF
A QUARTZITE SAMPLE

for

TRIGG, WOOLLETT AND ASSOCIATES

Job No. 5001
Report No. M/71/104
August 12, 1971.

G. Ansell,
Dept. of Minerals
and Materials

INTRODUCTION

One quartzite sample marked HI-5 was submitted by C.M. Trigg. We were requested to break the sample, assay one part for copper, and prepare a polished section from the remainder.

The entire sample was crushed to -100 mesh and split. One half was assayed for copper; a heavy mineral separation, using methylene iodide (SG 3.3), was made on the remainder. The heavy fraction was mounted for study in polished section.

RESULTS

Using atomic absorption analysis, the sample was found to contain 0.054± 0.004%* copper.

Approximately 3% by weight heavy minerals were obtained from the sample. The relative abundances of the heavy minerals, with comments, are listed in Table 1. Copper minerals found were chalcopyrite and trace amounts of covellite and chalcocite. No chalcopyrite was found in the pyrrhotite.

* 3 analyses, error at 95% confidence.

TABLE 1

CONTENT OF HEAVY MINERAL FRACTION

<u>Mineral</u>	<u>Approximate Relative Abundance</u>	<u>Comments</u>
Pyrrhotite	60%	Contains no chalcopyrite.
Marcasite	20%	Colloform (see Plate 1).
Pyrite	10%	Commonly fractured.
Iron Oxides	5%	Contacts with pyrite, banded with marcasite.
Chalcopyrite	5%	Contacts with pyrrhotite.
Chalcocite	trace	} Occur together, contacts with pyrite (see Plate 2).
Covellite	trace	

PHOTOMICROGRAPHS



Plate 1

1 cm = 25 microns

Colloform marcasite
and iron oxides.



Plate 2

1 cm = 25 microns

Relatively large chalcocite/
covellite grain with pyrite
fragments.

(Chalcocite/covellite is
dark grey)

APPENDIX IX

ASSAY OF QUARTZ MONZONITE SAMPLE - HI3

CREST LABORATORIES LTD

7911 Argyll Road • Edmonton, Alberta • Phone 469-2391

• HOPE LAKE, N.W.T. •

JUL 21 1971

CERTIFICATE OF ASSAY

TO Trigg Woollett & Associates Ltd.

Lab No. 92

1400 Cambridge Building, 10025 Jasper Avenue,

July 19, 1971

Edmonton, Alberta.

I hereby certify THAT THE FOLLOWING ARE THE RESULTS OF ASSAYS MADE BY US UPON THE HEREIN DESCRIBED SAMPLES.

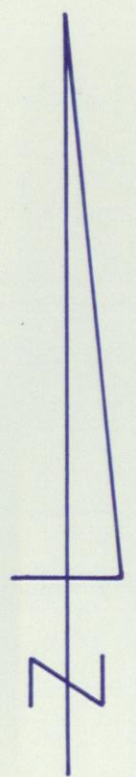
MARKED	Mo	MARKED		MARKED		MARKED	
	PERCENT		PERCENT		PERCENT		PERCENT
H13 - 08251 C	0.47						

NOTE:

Rejects Retained One Month
Pulps Retained Three Months
Unless Otherwise Arranged.

Frank J. Harvat

Registered Assayer, Province of British Columbia



LEGEND

- APPROXIMATE MINERAL CLAIM GROUP BOUNDARY
- CLAIM BOUNDARY, 1971 STAKING LOCATION OF NUMBER 1 AND 2 POSTS
- MAX MINERAL CLAIM POST AND NUMBER
- 1971 GRID LINE
- CREEK, INTERMITTENT CREEK
- TREE LIMIT
- CONTOURS (Interval 50 feet)
- 4180 SPOT ELEVATION

TOPOGRAPHY COMPILED BY NORTHWEST SURVEY CORP. LTD.

IMPERIAL OIL ENTERPRISES LTD.
MAX MINERAL CLAIM GROUP
CLAIM GROUP, 1971 STAKING
RHYOLITE CREEK, YUKON TERRITORY
SCALE 0 400 800 1600 2400 FEET
TRIGG, WOLLETT & ASSOCIATES LTD.
EDMONTON, ALBERTA OCTOBER, 1971



LEGEND

TERTIARY	SYMBOLS	
5 BASIC DYKES Aphanitic and porphyritic basic dykes, diabase lamprophyre	—	GEOLOGICAL CONTACT (Approximate, assumed)
EARLY TERTIARY OR LATE MESOZOIC	△	BRECCIA
4 NISLING RANGE ALASKITE Alaskite, porphyritic acid dykes, felsite	x	MINERAL OCCURRENCE
MESOZOIC	Cpy	CHALCOPYRITE
3 NISLING RANGE GRANODIORITE Hornblende-biotite quartz monzonite, hornblende or biotite diorite	Mo	MOLYBDENITE
EARLY MESOZOIC	Po	PYRRHOTITE
2 VOLCANIC ROCKS Porphyritic andesite, volcanic breccia	Bn	BORNITE
EARLY CAMBRIAN OR PRECAMBRIAN	→	CREEK
1 YUKON COMPLEX Micaceous quartzite, quartz-biotite gneiss and schist, amphibolite, graphitic quartzite	—4000—	CONTOUR (Interval 500 feet)
	---	APPROXIMATE MINERAL CLAIM GROUP BOUNDARY

NOTE -GEOLOGY AND GRID BY ATLAS EXPLORATIONS LIMITED, 1970.
 -GEOLOGY MODIFIED BY TRIGG, WOOLLETT & ASSOCIATES LTD., 1971.

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

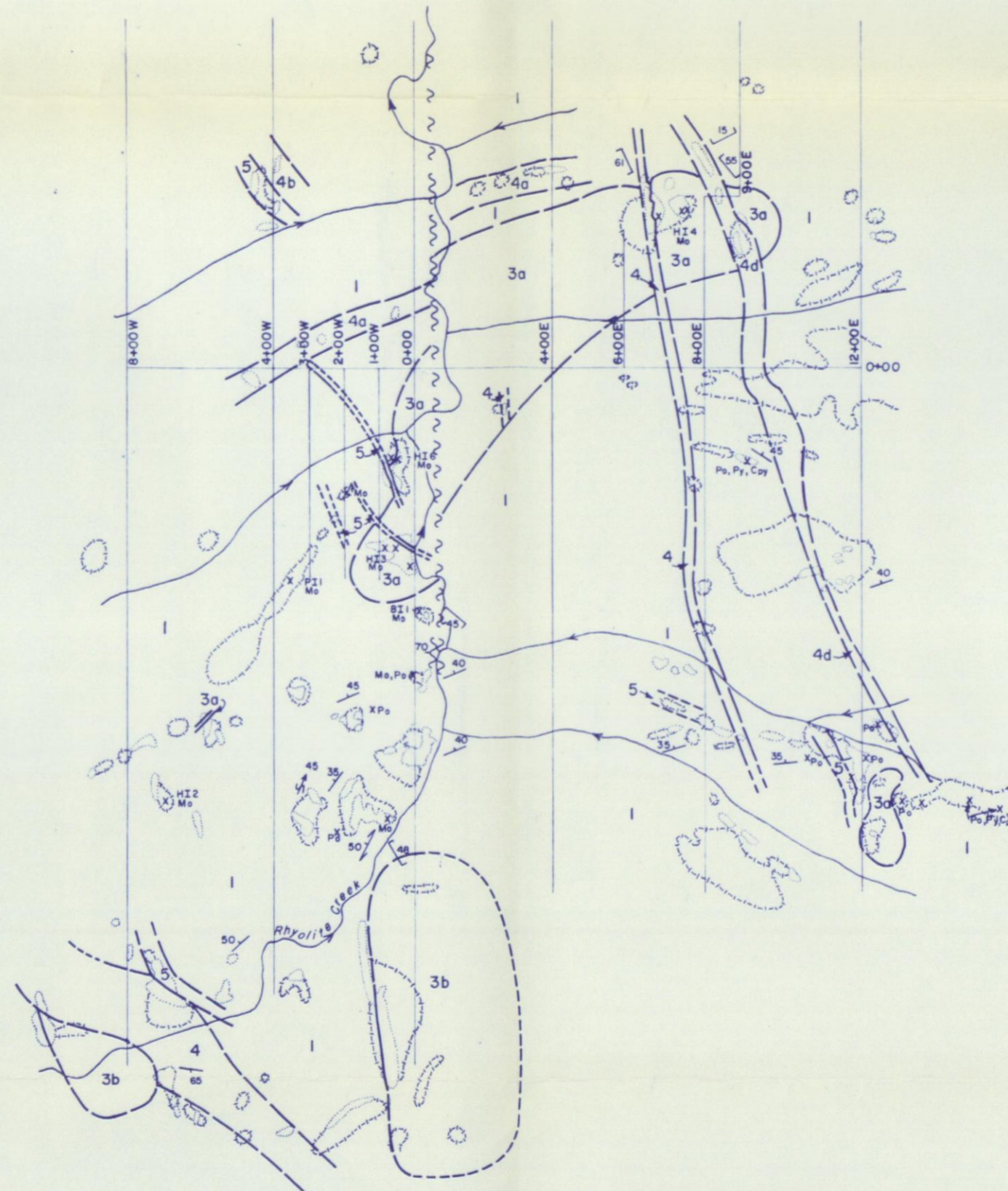
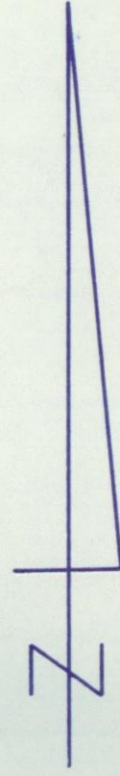
GEOLOGY

RHYOLITE CREEK, YUKON TERRITORY

SCALE 0 1/8 1/4 1/2 3/4 MILES

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA OCTOBER, 1971



LEGEND

- 5 BASIC DYKES
Aphanitic and porphyritic basic dykes, diabase
 - 4 NISLING RANGE ALASKITE
4a, pink porphyritic felsite; 4b, grey porphyritic felsite; 4c, grey felsite, contains pyrrhotite
 - 3 NISLING RANGE GRANODIORITE
3a, hornblende-biotite quartz monzonite; 3b, biotite diorite
 - 1 YUKON COMPLEX
Micaceous quartzite, quartz biotite gneiss and schist
- GEOLOGICAL CONTACT (Defined, approximate, assumed)
 - FAULT (Defined, approximate, assumed)
 - BEDDING (Inclined)
 - GNEISSOSITY OR SCHISTOSITY (Inclined)
 - JOINTING
 - SHEARING (Inclined)
 - MINOR FOLD (Direction and plunge of fold axis indicated)
 - x MINERAL OCCURRENCE
 - x M123 SHOWING
 - cu CHALCOPYRITE
 - Mo MOLYBDENITE
 - Py PYRRHOTITE
 - Py PYRITE
 - OUTCROP
 - TALUS
 - CREEK

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

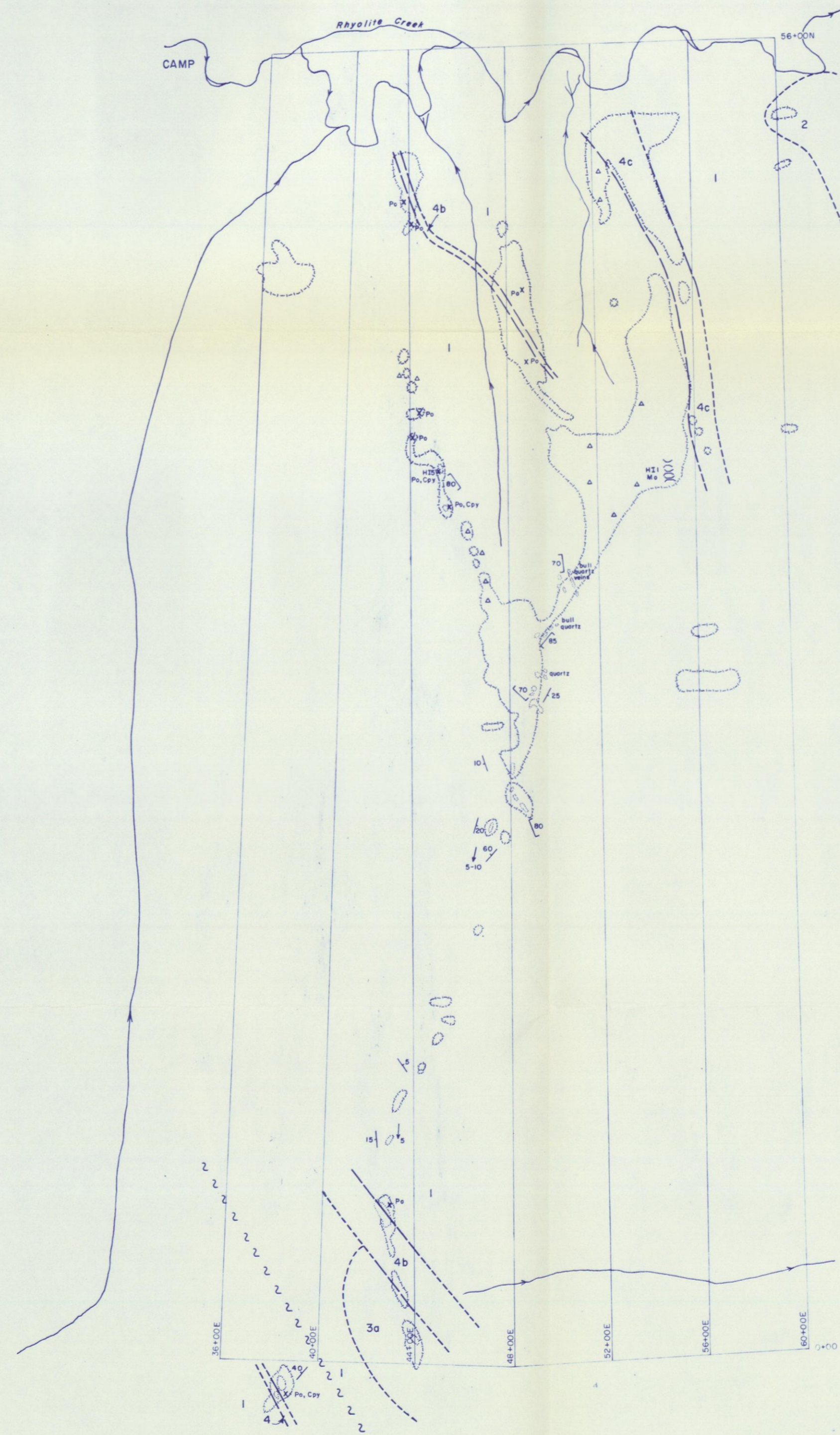
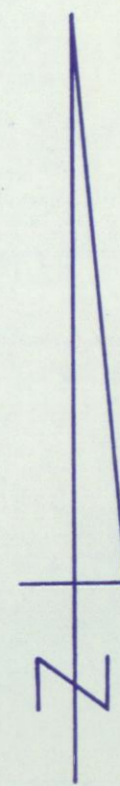
GEOLOGY GRID I AREA

RHYOLITE CREEK, YUKON TERRITORY

SCALE 0 200 400 800 1200 FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA OCTOBER, 1971



LEGEND

- 4 NISLING RANGE ALASKITE
4b, grey porphyritic felsite; 4c, hornblende-quartz-k-feldspar porphyry
 - 3 NISLING RANGE GRANODIORITE
3a, hornblende-biotite quartz monzonite
 - 2 VOLCANIC ROCKS
Porphyritic andesite
 - 1 YUKON COMPLEX
Micaceous quartzite, quartz biotite gneiss and schist, rodded quartzite
-
- GEOLOGICAL CONTACT (Defined, approximate, assumed)
 - FAULT (Assumed)
 - BEDDING (Inclined)
 - JOINTING (Inclined)
 - LINEATION
 - BRECCIATION
 - MINERAL OCCURRENCE
 - SHOWING
 - CHALCOPYRITE
 - MOLYBDENITE
 - PYRRHOTITE
 - TRENCH
 - OUTCROP
 - TALUS
 - CREEK

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

GEOLOGY GRID 3 AREA

RHYOLITE CREEK, YUKON TERRITORY

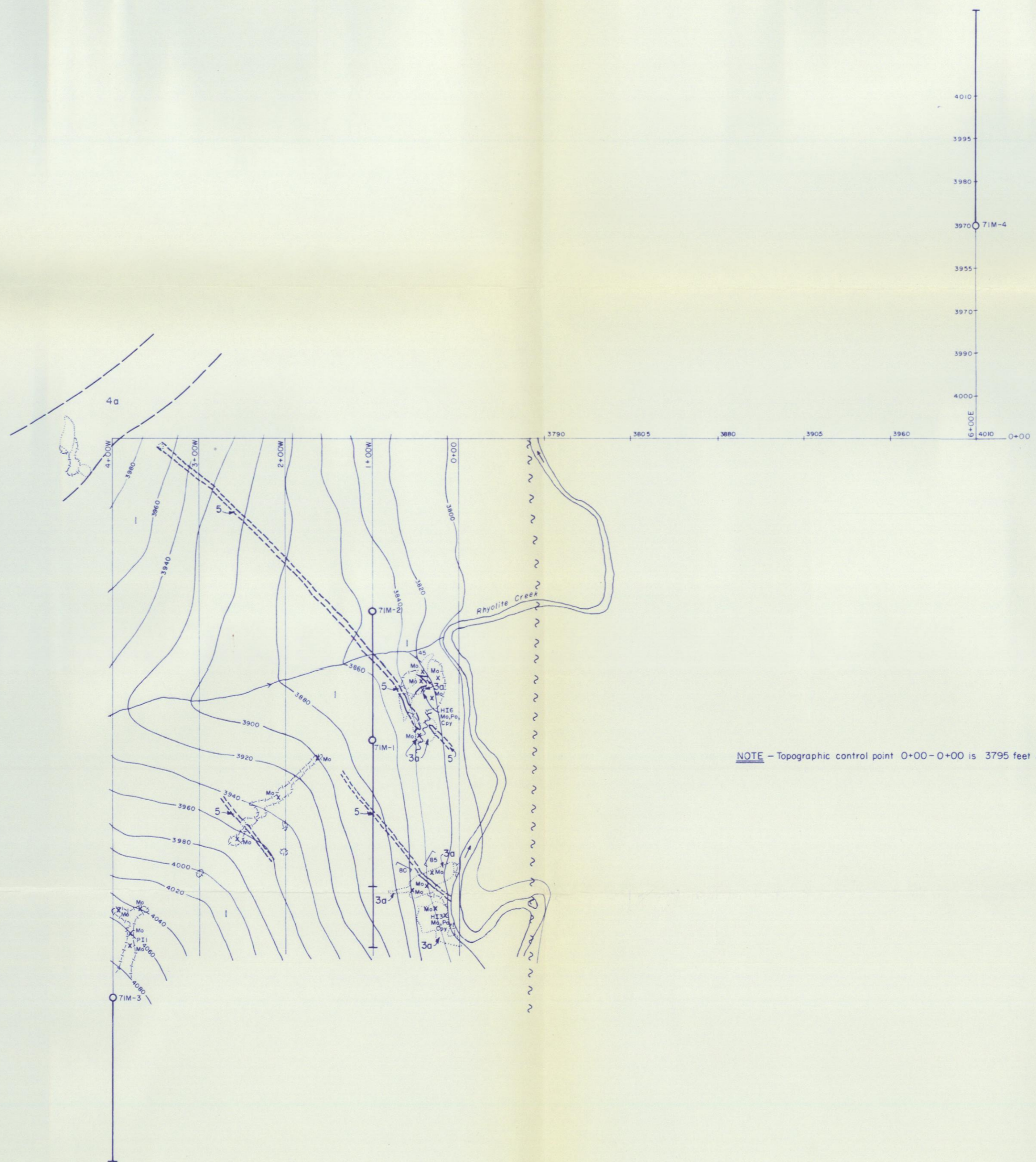
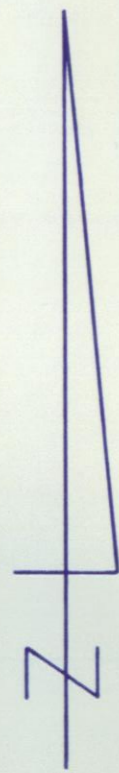
SCALE 0 200 400 800 1200 FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA

OCTOBER, 1971

DWG. IIM-5



LEGEND

- 5 BASIC DYKES
Aphanitic and porphyritic basic dykes, diabase
 - 4 NISLING RANGE ALASKITE
4a, pink porphyritic felsite
 - 3 NISLING RANGE GRANODIORITE
3a, hornblende-biotite quartz monzonite
 - 1 YUKON COMPLEX
Micaceous quartzite, quartz-biotite gneiss and schist
-
- GEOLOGICAL CONTACT (Defined, approximate, assumed)
 - ~ ~ ~ FAULT (Defined, assumed)
 - BEDDING (Inclined)
 - JOINTING (Inclined)
 - x MINERAL OCCURRENCE
 - x^{#13} SHOWING
 - Chy CHALCOPYRITE
 - Mo MOLYBDENITE
 - Py PYRRHOTITE
 - 1971 GRID LINE (Transit controlled)
 - DIAMOND DRILL HOLE
 - OUTCROP
 - TALUS
 - CREEK
 - CONTOUR (Interval 20 feet)
 - SPOT ELEVATION

NOTE - Topographic control point 0+00-0+00 is 3795 feet AMSL

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

DETAILED GEOLOGY GRID I AREA

RHYOLITE CREEK, YUKON TERRITORY

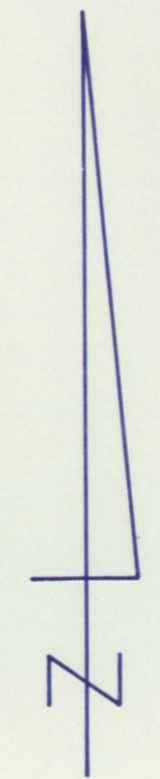
SCALE 0 50 100 200 300 FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA

OCTOBER, 1971

DWG. IIM-6



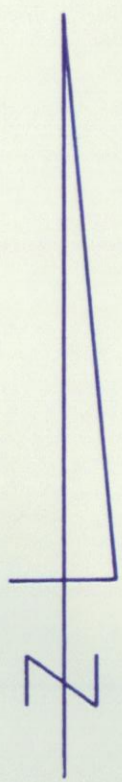
- LEGEND**
- X MINERAL OCCURRENCE
 - X H21 SHOWING
 - Bn BORNITE
 - Cpy CHALCOPYRITE
 - Mo MOLYBDENITE
 - Py PYRRHOTITE
 - Py PYRITE
 - IM-1 ROCK SAMPLE
 - IM-1 DIAMOND DRILL HOLE
 - IM-1 APPROXIMATE MINERAL CLAIM GROUP BOUNDARY
 - IM-1 1971 GRID LINE
 - Creek, INTERMITTENT CREEK
 - TREE LIMIT
 - CONTOURS (Interval 50 feet)
 - SPOT ELEVATION

TOPOGRAPHY COMPILED BY NORTHWEST SURVEY CORP. LTD.

IMPERIAL OIL ENTERPRISES LTD.
 MAX MINERAL CLAIM GROUP
 OCCURRENCES, SHOWINGS, ROCK
 SAMPLES, DIAMOND DRILL HOLES
 RHYOLITE CREEK, YUKON TERRITORY

SCALE 0 500 1000 1500 2000 FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.
 EDMONTON, ALBERTA OCTOBER, 1971



LEGEND

- 290/78 1971 GEOCHEMICAL SOIL SAMPLE, COPPER/MOLYBDENUM (Values in parts per million)
- COPPER CONTOUR (175 parts per million)
- MOLYBDENUM CONTOUR (45 parts per million)
- MINERAL OCCURRENCE
- SHOWING
- CHALCOPYRITE
- MOLYBDENITE
- PYRRHOTITE
- PYRITE
- CREEK

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

GEOCHEMICAL SOIL SURVEY GRID I AREA

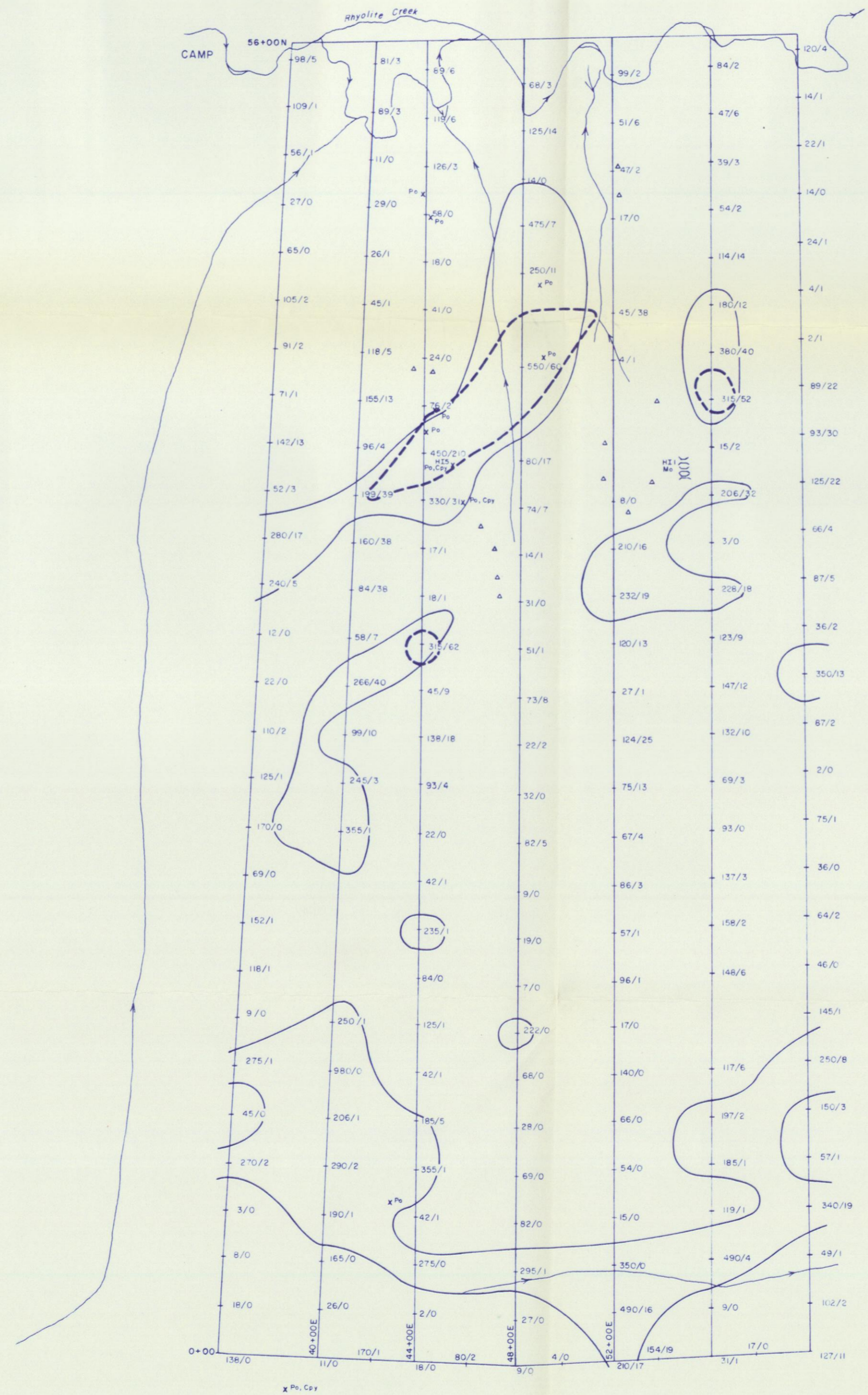
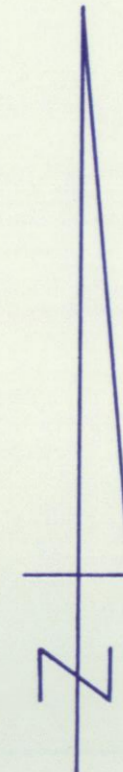
RHYOLITE CREEK, YUKON TERRITORY



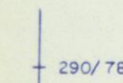

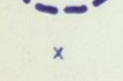
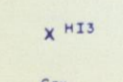
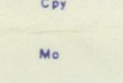
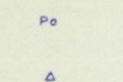

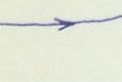


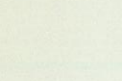
TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA

OCTOBER, 1971



LEGEND


-  1971 GEOCHEMICAL SOIL SAMPLE, COPPER/MOLYBDENUM (Values in parts per million)
-  COPPER CONTOUR (175 parts per million)
-  MOLYBDENUM CONTOUR (45 parts per million)
-  MINERAL OCCURRENCE
-  SHOWING
-  CHALCOPYRITE
-  MOLYBDENITE
-  PYRRHOTITE
-  BRECCIATION
-  TRENCH
-  CREEK

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP

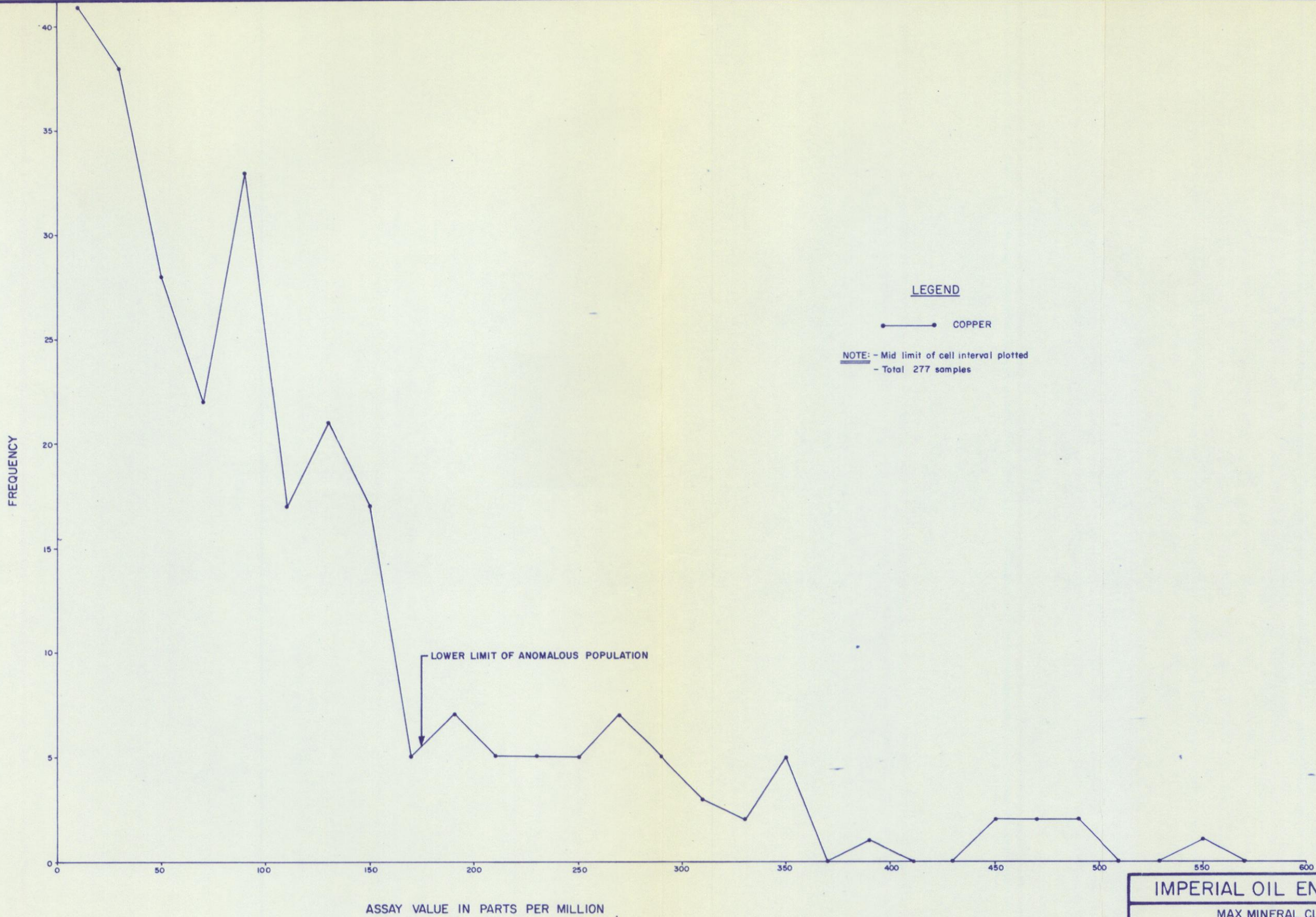
GEOCHEMICAL SOIL SURVEY GRID 3 AREA

RHYOLITE CREEK, YUKON TERRITORY

SCALE  FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA OCTOBER, 1971

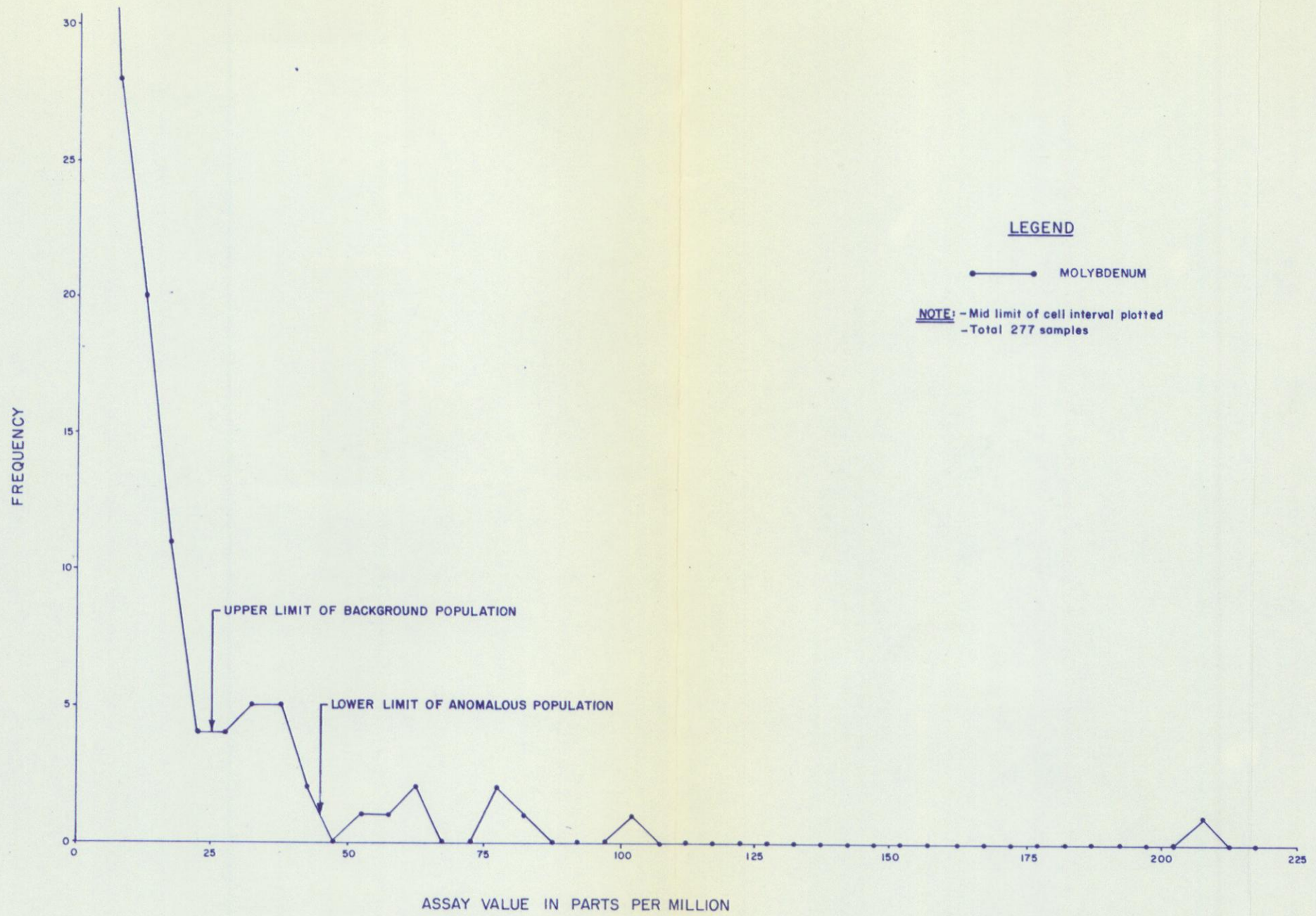


ASSAY VALUE IN PARTS PER MILLION

IMPERIAL OIL ENTERPRISES LTD.
 MAX MINERAL CLAIM GROUP
 HISTOGRAM-COPPER
 GEOCHEMICAL SOIL SURVEY
 RHYOLITE CREEK, YUKON TERRITORY
 TRIGG, WOOLLETT & ASSOCIATES LTD.
 EDMONTON, ALBERTA

OCTOBER, 1971

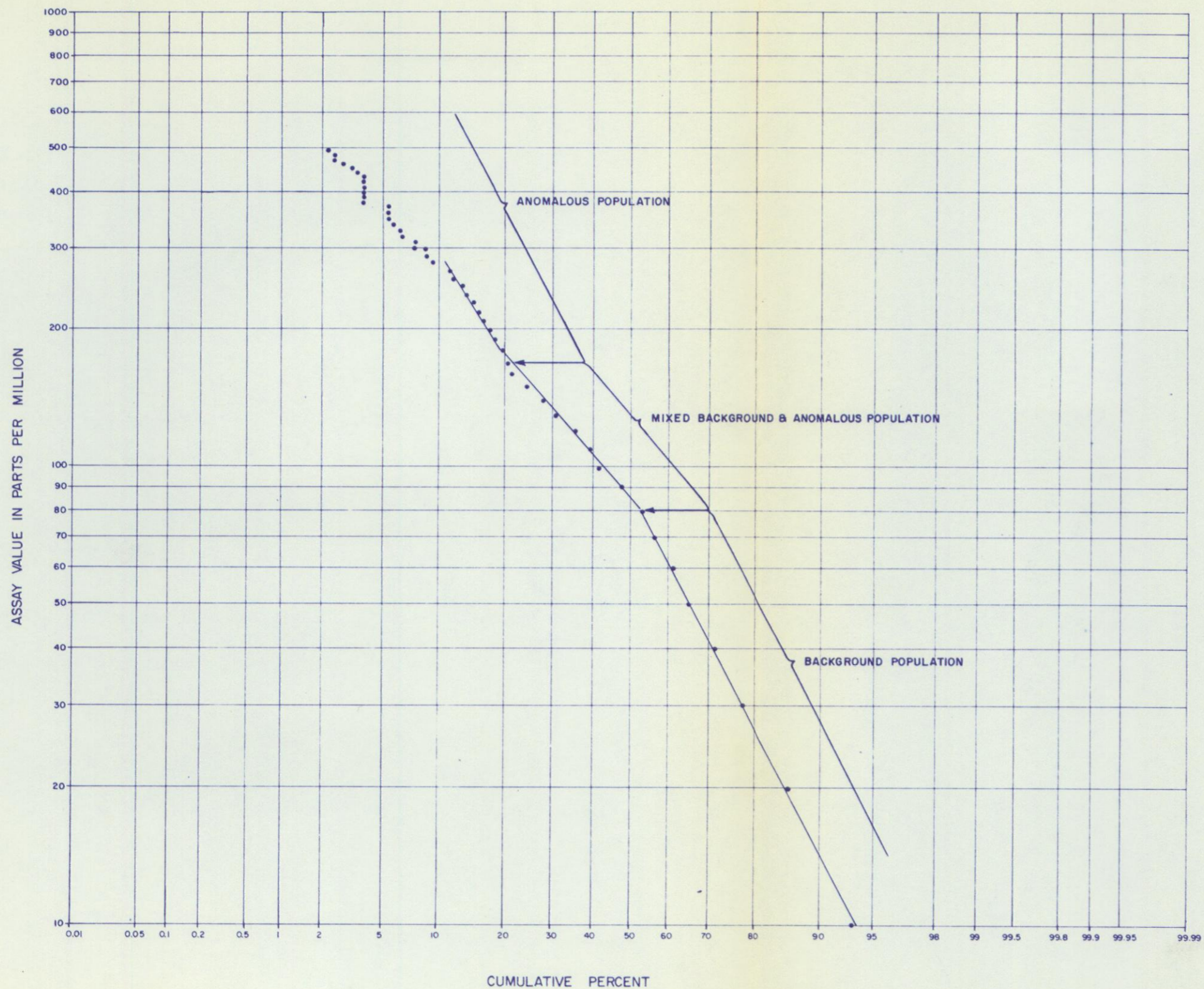
DWG. IIM-10



IMPERIAL OIL ENTERPRISES LTD.
 MAX MINERAL CLAIM GROUP
HISTOGRAM — MOLYBDENUM
 GEOCHEMICAL SOIL SURVEY
 RHYOLITE CREEK, YUKON TERRITORY
 TRIGG, WOOLLETT & ASSOCIATES LTD.
 EDMONTON, ALBERTA

OCTOBER, 1971

DWG. IIM-11



NOTE: - Data cumulated from high to low.
 - Lower limit of cell interval plotted.
 - Total 277 samples.

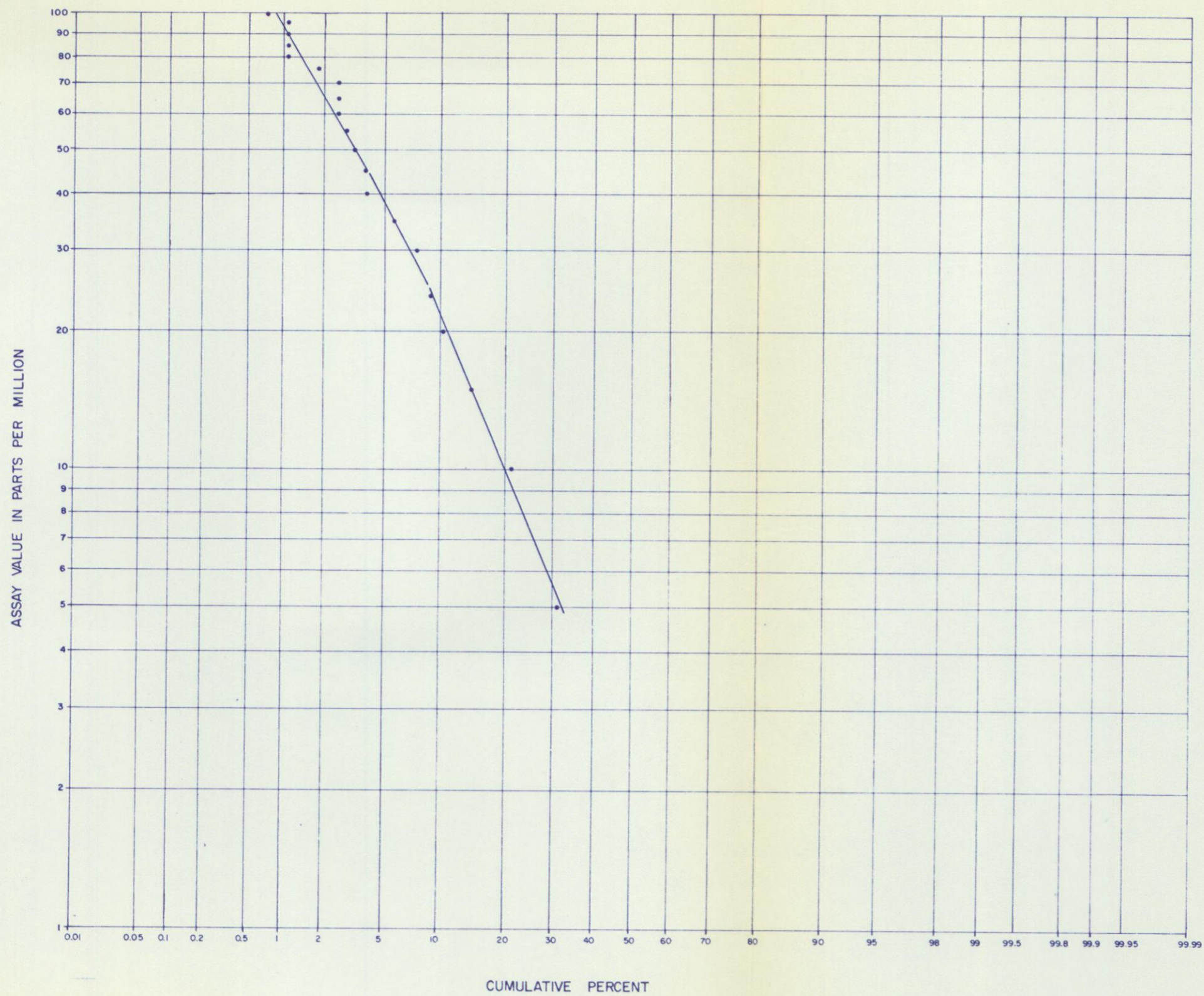
IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP
PROBABILITY PLOT — COPPER
 GEOCHEMICAL SOIL SURVEY
 RHYOLITE CREEK, YUKON TERRITORY
 TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA

OCTOBER, 1971

DWG. IIM-12

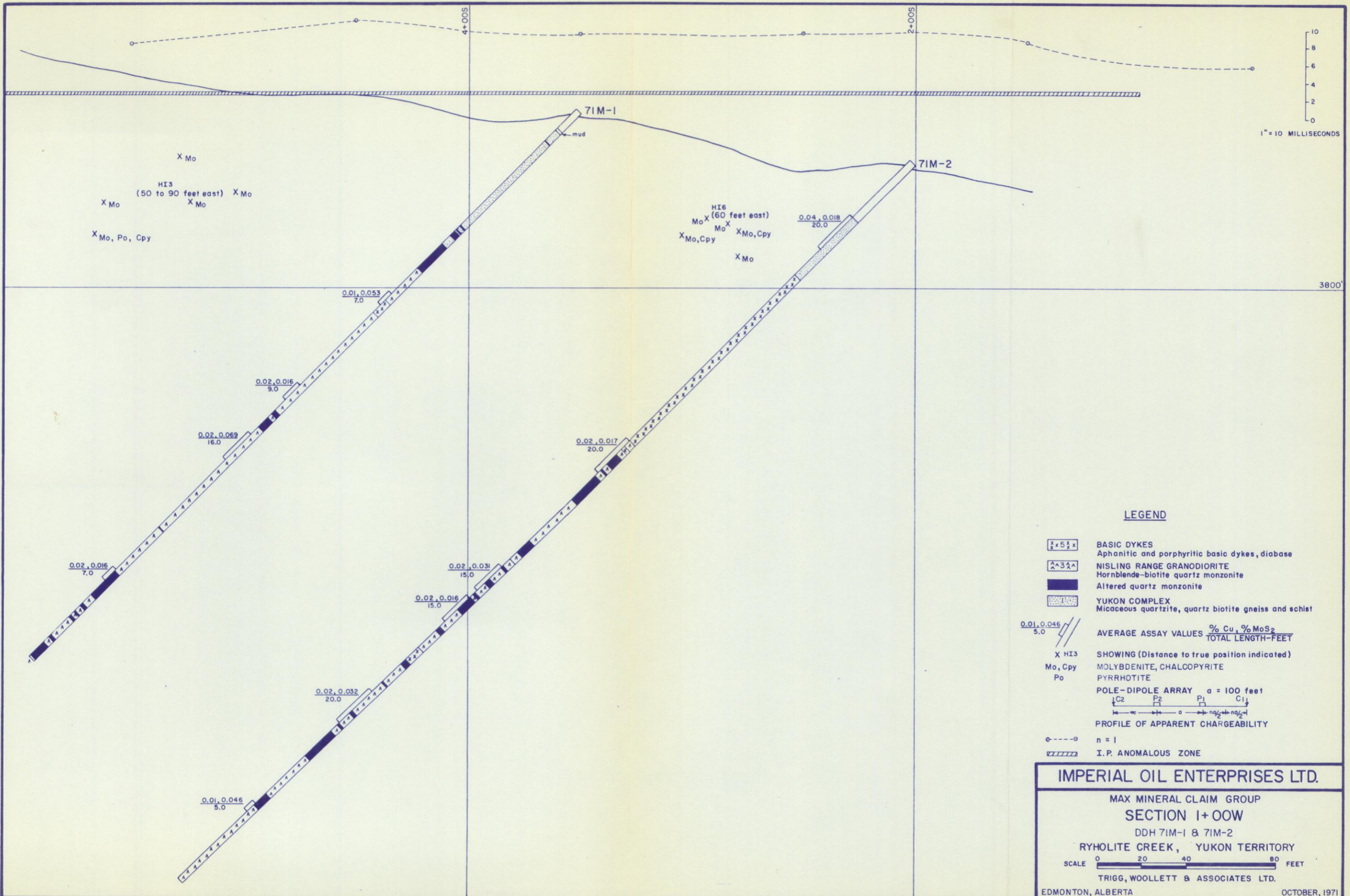


NOTE: - Data cumulated from high to low.
 - Lower limit of cell interval plotted.
 - Total 277 samples

IMPERIAL OIL ENTERPRISES LTD.
 MAX MINERAL CLAIM GROUP
 PROBABILITY PLOT — MOLYBDENUM
 GEOCHEMICAL SOIL SURVEY
 RHYOLITE CREEK, YUKON TERRITORY
 TRIGG, WOOLLETT & ASSOCIATES LTD.
 EDMONTON, ALBERTA





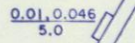

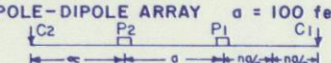


OCTOBER, 1971

DWG.IIM-13



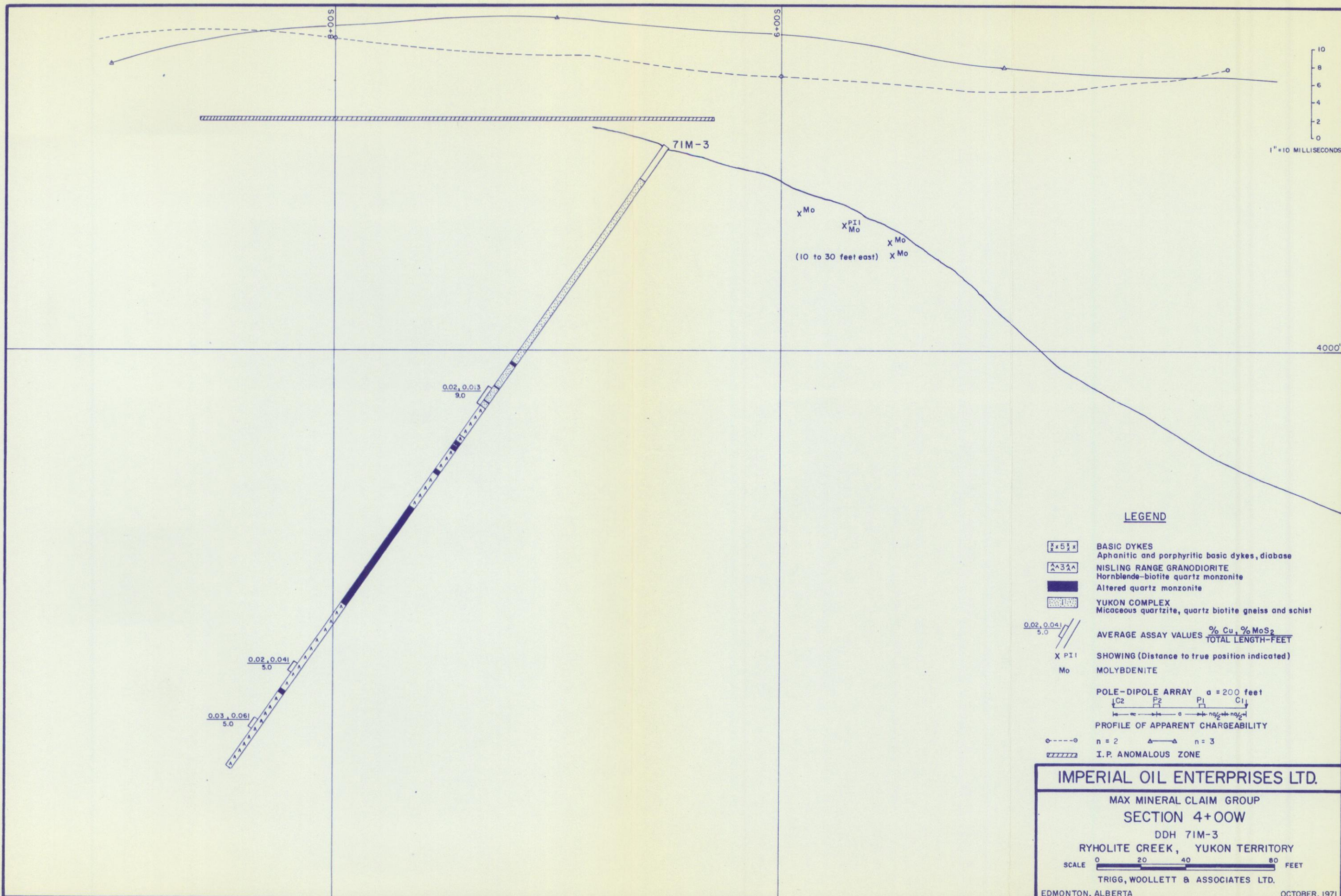
10
8
6
4
2
0
1" = 10 MILLISECONDS

LEGEND

-  BASIC DYKES
Aphanitic and porphyritic basic dykes, diabase
-  NISLING RANGE GRANODIORITE
Hornblende-biotite quartz monzonite
-  ALTERED QUARTZ MONZONITE
-  YUKON COMPLEX
Micaceous quartzite, quartz biotite gneiss and schist
-  AVERAGE ASSAY VALUES $\frac{\% \text{ Cu, } \% \text{ MoS}_2}{\text{TOTAL LENGTH-FEET}}$
-  X HI3
Mo, Cpy
Po
-  POLE-DIPOLE ARRAY $a = 100$ feet
C₂ P₂ P₁ C₁
a $\frac{ng_2}{2} \frac{ng_1}{2}$
-  PROFILE OF APPARENT CHARGEABILITY
n = 1
-  I.P. ANOMALOUS ZONE





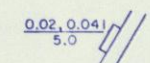

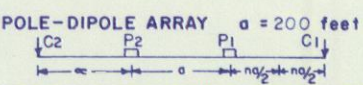


IMPERIAL OIL ENTERPRISES LTD.
 MAX MINERAL CLAIM GROUP
 SECTION I+00W
 DDH 71M-1 & 71M-2
 RYHOLITE CREEK, YUKON TERRITORY
 SCALE 0 20 40 80 FEET
 TRIGG, WOOLLETT & ASSOCIATES LTD.
 EDMONTON, ALBERTA OCTOBER, 1971

DWG. IIM-14



10
8
6
4
2
0
1" = 10 MILLISECONDS

LEGEND

-  BASIC DYKES
Aphanitic and porphyritic basic dykes, diabase
-  NISLING RANGE GRANODIORITE
Hornblende-biotite quartz monzonite
-  ALTERED QUARTZ MONZONITE
-  YUKON COMPLEX
Micaceous quartzite, quartz biotite gneiss and schist
-  AVERAGE ASSAY VALUES $\frac{\% \text{ Cu}, \% \text{ MoS}_2}{\text{TOTAL LENGTH-FEET}}$
-  SHOWING (Distance to true position indicated)
MOLYBDENITE
-  POLE-DIPOLE ARRAY $a = 200$ feet
↓ C2 P2 P1 C1 ↓
← a ← ← n/2 ← ← n/2 →
-  PROFILE OF APPARENT CHARGEABILITY
○ --- ○ n = 2 ▲ --- ▲ n = 3
-  I.P. ANOMALOUS ZONE

IMPERIAL OIL ENTERPRISES LTD.

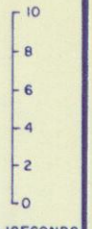
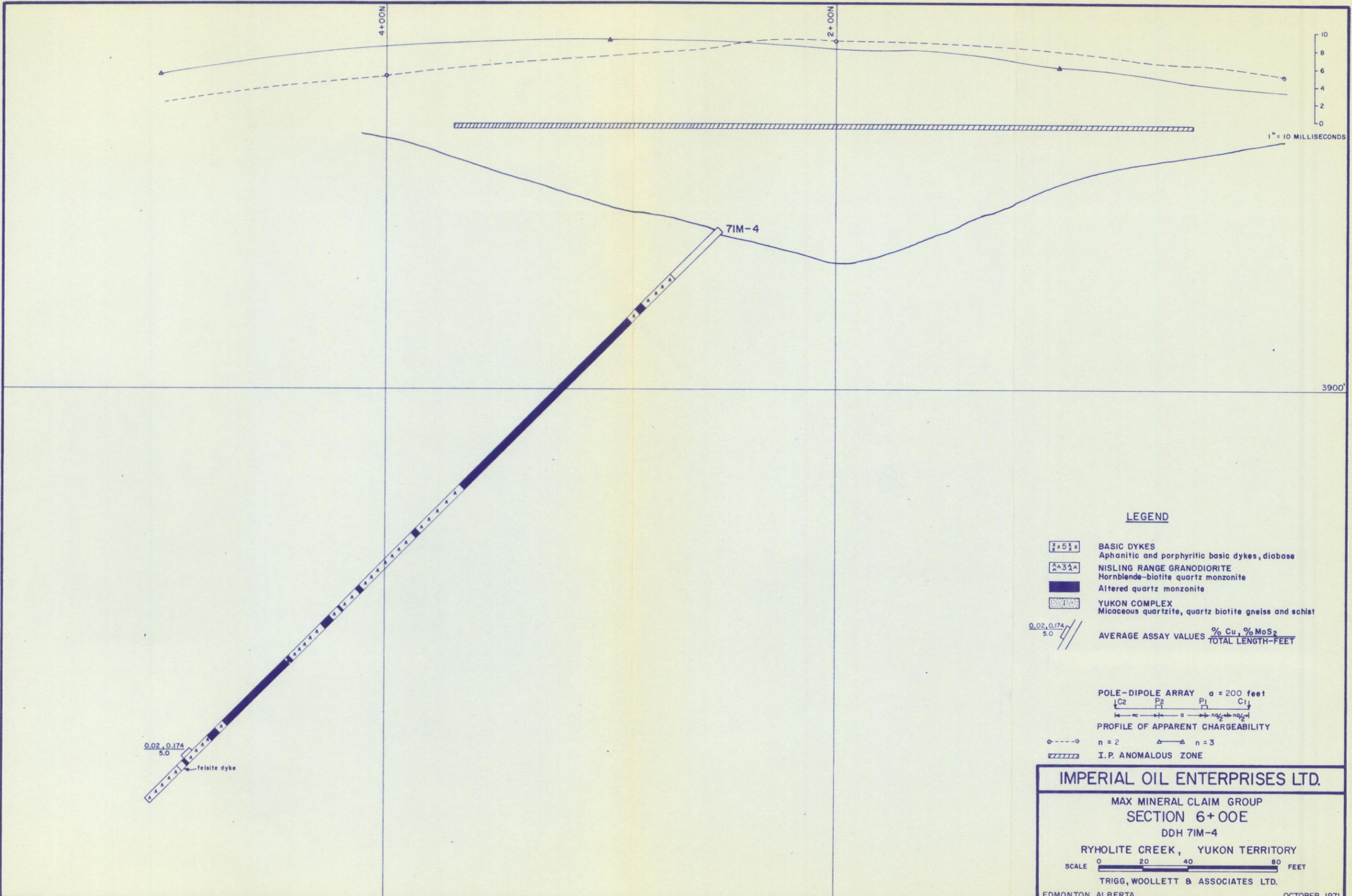
MAX MINERAL CLAIM GROUP
SECTION 4+00W
DDH 71M-3
RYHOLITE CREEK, YUKON TERRITORY

SCALE 0 20 40 80 FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.
EDMONTON, ALBERTA

OCTOBER, 1971

DWG.IIM-15



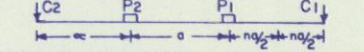
3900'

LEGEND

- BASIC DYKES
Aphanitic and porphyritic basic dykes, diabase
- NISLING RANGE GRANODIORITE
Hornblende-biotite quartz monzonite
- ALTERED QUARTZ MONZONITE
- YUKON COMPLEX
Micaceous quartzite, quartz biotite gneiss and schist

AVERAGE ASSAY VALUES $\frac{\% \text{ Cu, } \% \text{ MoS}_2}{\text{TOTAL LENGTH-FEET}}$

POLE-DIPOLE ARRAY $a = 200$ feet



PROFILE OF APPARENT CHARGEABILITY

- $n = 2$
- $n = 3$
- I.P. ANOMALOUS ZONE

$\frac{0.02, 0.174}{5.0}$

felsite dyke

IMPERIAL OIL ENTERPRISES LTD.

MAX MINERAL CLAIM GROUP
SECTION 6+00E
DDH 71M-4
RYHOLITE CREEK, YUKON TERRITORY

SCALE FEET

TRIGG, WOOLLETT & ASSOCIATES LTD.
EDMONTON, ALBERTA

OCTOBER, 1971