GM 10200

GEOLOGICAL REPORT AND 13 DDH LOGS ON YASINSKI LAKE AREA, PROJECT 286

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PROJECT NO. 286 - YASINSKI LAKE AREA

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ABSTRACT

The Yasinski Lake Area of New Quebec includes a Precambrian structure similar to those farther south in northwestern Quebec which have produced such mining camps as Noranda-Rouyn, Malartic-Val d'Or, Bachelor Lake-Chibougamau and Mattagami.

Several mineral occurrences have been discovered that warrant diamond drilling. The occurrences are of gold, copper, nickel, zinc, silver and lead.

The metalliferous showings are distributed along a forty-mile belt of greenstones and quartzites that have been intruded by numerous bodies of peridotite. The belt forms the south limb of a regional syncline.

The geological-structural environment of the Yasinski Lake Area is one that could well have given rise to economic mineral deposits.

Additional exploration work especially diamond drilling is definitely warranted to more adequately evaluate the economic mineral potential of the Yasinski Lake Area.

GEOLOGIST'S REPORT

PROJECT NO. 286 - YASINSKI LAKE AREA

INTRODUCTION:

The following report concerns the exploratory work carried out by M. J. Boylen Engineering Offices in the Yasinski Lake Area of New Quebec in 1959.

This work was recommended as a result of preliminary geological prospecting in 1958 in the general area.

This report recommends the renewal of mineral rights on most of the area for one more year and the expenditure of an estimated sixty-five thousand dollars ($65,000) for additional exploration. The additional exploration mainly entails a diamond drilling programme upon localities with metalliferous occurrences discovered in 1959.

PROPERTY:

The property worked in 1959 included a total of thirteen (13) Concessions. These Concessions are 5 minutes latitude by 10 minutes longitude and comprise an area of about 42 square miles. This indicates a total area covered by exploration of 546 square miles. Contiguous areas were also prospected and mapped bringing the total coverage to over 600 square miles.

The thirteen Concessions are designated as follows:

Concession	Latitude (N)	Longitude (W)
A	53°16' - 53°21'	77°10' - 77°20'
B	53°21' - 53°26'	77°20' - 77°30'
C	53°21' - 53°26'	77°10' - 77°20'
1	53°21' - 53°26'	77°00' - 77°10'
2	53°26' - 53°31'	77°10' - 77°20'
6	53°16' - 53°21'	77°20' - 77°30'
8	53°11' - 53°16'	77°30' - 77°40'
9	53°11' - 53°16'	77°20' - 77°30'
D	53°17' - 53°22'	77°30' - 77°40'
E	53°11' - 53°16'	77°10' - 77°20'
F	53°06' - 53°11'	77°27' - 77°37'
G	53°09' - 53°14'	77°40' - 77°50'
H	53°07' - 53°12'	77°50' - 78°00'

Nine Concessions are recommended for renewal for 1960. The new Concession "J" includes parts of Concessions "8" and "F". Concession "J" has coordinates as follows:

Latitude 53°10' - 53°15' N
Longitude 77°30' - 77°40' W

The other eight are Concessions "A", "B", "C", "6", "9", "E", "G" and "H".

The centre of the Yasinski Lake Area lies about 60 miles east of James Bay, 180 miles northeast of Moosonee, 350 miles north of Val d'Or and 200 miles north of the Mattagami Lake mining camp. The most promising mineral occurrences are 50 miles east of James Bay.

Plane service may be had from Wheeler at Great Whale River, Austin Airways at Moosonee or Fecteau at Senneterre.

WORK PERFORMED:

An airborne electromagnetic-magnetic survey was carried out in March-April of 1959. This work included a total of 4,602 miles of combined E.M.-magnetometer survey and 188 miles of magnetometer survey.

The airborne work was followed by ground checking of most of the indicated anomalous zones. This phase of the work was begun in late May (immediately after break-up) and was terminated in early October (immediately before freeze-up). Areas with favourable geology were also examined by surface techniques.

The ground work included the following methods:

- Geological mapping
- Prospecting
- Electromagnetic surveying
- Diamond drilling
- Trenching
- Sampling

GENERAL REMARKS:

The Yasinski Lake Area represents typical Canadian Shield topography with abundant lakes, scattered muskegs and low rounded hills of largely bare rock. The elevation of the area is about 500 feet above sea level.

Outcrops of bedrock are abundant enough to gain a reasonable picture of the geology. However contacts and fault zones are usually thickly covered with overburden.

The overburden is entirely of glacial origin and includes silty clays, sands and coarse gravels. Glacial striae, chatter marks and eskers all indicate a westward ice movement with the most common direction being 245° (astronomic).

Fairly heavy black spruce stands occur in well-drained valleys and along lake shores where soil permits and the climate is less severe. The heaviest stand would probably yield about 10 cords of pulpwood to the acre with butt diameter as much as 12 inches. However total acreage of such woodland is very small. Difficulty was had in obtaining timber large enough to use as tripod legs for the diamond drill. The higher hills are mainly devoid of vegetation. The slopes have stunted trees and shrubs and the valleys, being largely poorly-drained, are covered with black spruce swamp and muskeg terrain. All areas have been severely burned at different periods.

Game is notably scarce and man would have serious difficulty living off the land. Beaver and porcupine are abundant. Bears, ducks, geese and rabbits are present in limited amounts. Fish include pike, pickerel, speckled trout and brown trout. Indians are absent in the summer but a few families migrate inland from James Bay each fall to trap during the winter and return to the coast in the spring.

The Hudson Bay Company maintains posts along the east coast of James Bay at Fort George, Paint Hills and Eastmain.

Radio communication may be had with the Department of Transport at Great Whale River and with Austin Airways at Moose Factory, near Moosonee.

RESULTS OF 1959 WORK PROGRAMME

1. AIRBORNE SURVEY:

The area covered by the airborne E.M.-magnetometer survey was chosen on the basis of the preliminary 1958 work and also with the aid of the geological interpretation of the Sakami Lake Sheet of the Geological Survey of Canada. The results of the survey together with the geology are shown on the accompanying maps. (Refer to Index Map, Geological Map of the Yasinski Lake Area and Map Sheets 2, 3 and 4).

The E.M. anomalies are caused by three main features:

(a) graphite or carbonaceous rocks
(b) lake bottom effects
(c) sulphide mineralization

The greenstone complex has numerous phases of sedimentary rocks most of which are impure quartzites. Detailed mapping is necessary to accurately delineate these rocks as they apparently represent many periods of sedimentary deposition. Metamorphism with shearing of the impure quartzites has resulted in the formation of graphite zones.

All of the larger lakes in the area have given strong electromagnetic anomalies. However as the anomalies coincide with the lake outlines it is highly probable that the conductors are caused by the clay deposits at the bottoms of the lakes. Weak superimposed conductors also have been indicated over several of the lakes. The most interesting one has been drilled in Beaver Lake. It is felt that the Beaver Lake anomaly is caused by the through-going fault in the lake. The lake was deepened by glacial gouging which was followed by clay deposition. The depth of this very narrow lake (over 100 feet of water) corroborates the foregoing assumption.

Two airborne E.M. anomalies are known to be caused by sulphide mineralization. One anomaly is due to a combination of a graphite zone and a sulphide zone occurring within 500 feet of each other. One anomaly is probably caused by sulphides.

Anomalies 4-22 and 4-31 are definitely due to sulphides. Anomaly 4-30 is the result of both graphite and sulphides. Anomaly 3-58 is probably due to sulphide mineralization.

Sulphide mineralization actually contributes to the intensity of many of the graphite anomalies. The original carbonaceous sediments that were metamorphosed later to form graphitic horizons were deposited with iron-rich material. A combination of the carbonaceous and ferruginous material together with the silica gave rise to carbonaceous-ferruginous sedimentary rocks. The mineral composition of the resulting rocks would then depend upon the chemical environment at the place of deposition. For example, in a reducing environment the rock would be a carbonaceous-pyritic sandstone and under oxidizing conditions the result would be a jasper rock. Metamorphism of the first would produce a graphitic-pyritic quartzite and of the second a magnetite iron formation. The intimate association of the two rock types indicate this similar origin and history. The close field association has also led to intense coincident E.M.-magnetic anomalies.

The magnetic anomalies are caused by magnetite iron formation, diabasic gabbro, peridotite, basic volcanics and mafic phases within the granite gneiss. Negative E.M. responses are also common over the more intense magnetic anomalies.

The highest magnetic anomalies are over the magnetite iron formation south of Pat Lake and its extension to the northeast. Readings as much as 12,000 gammas occur on this belt.

2. GEOLOGY:

The Yasinski Lake area is underlain by rocks of Precambrian age. The area represents a typical infolded Precambrian greenstone complex in a "sea" of granites and gneisses. All rock types have been intruded by local peridotite and diabasic gabbro, sills, dykes and plugs.

The rocks have been divided into three main rock types: Keewatin, Algoman and Keweenawan.

The following table of formations shows the chronological sequence of the rocks:

Quaternary -	Recent -	Muskegs and swamps.
	Pleistocene -	Sand, gravel and boulders.
Precambrian -	Keweenawan Type-	Gabbro diabasic to coarsely crystalline; as dykes, sills and plugs.
	Algoman Type -	Pegmatite, granitic; with local spodumene, lepidolite, tourmaline and molybdenite.
		Granite, pink, hornblendic, finely crystalline to pegmatitic; mostly potash-rich.
		Peridotite, fresh to intensely altered (Possibly a phase of the gabbro).
	Keewatin Type -	Quartzite, creamy, pure, gneissic, fine-grained to coarse grained (porphyritic).
		Quartzite, grey, impure; with local iron formation, conglomerate and carbonaceous phases.
		Magnetite-silica banded iron formation.
		Greenstone, finely crystalline; with mainly green hornblende and quartz; includes many altered basalt and andesite phases as well as unsegregated sedimentary rocks.
		Gneiss, granitic; with local mafic phases.

The gneiss is typically a granite gneiss with numerous hornblende-rich zones. In many places it is of sedimentary derivation but locally there are transitional phases through to a massive granitic rock. The sedimentary gneisses are well exposed in Concessions "A" and "9" where they grade into a clean well bedded quartzite along the southeast margin of the greenstone belt. The small and irregular stocks of granite in the western and northern parts of the Yasinski Lake Area have mainly indistinct contacts with the gneiss. In many cases the basis for differentiation of the two rock types is the presence or absence of gneissosity. Greenstone tongues and altered peridotite windows are locally common. Gneiss underlies the area around the Yasinski Lake greenstone belt except for the through-going greenstone necks west of Bruce Lake and northeast of Beaver Lake. Strikes and dips of the gneissosity are generally conformable with the greenstone structure. However local disturbed localities, such as on Concession "C", do exist. They probably represent the existence of nearby igneous intrusions.

The greenstone rocks are mainly altered intermediate to basic volcanics. Porphyritic rhyolites also occur in the northeast part of the area on Concessions "2" and "B". Pillow structures are common features but are usually deformed to such an extent as to render top determinations very difficult. The greenstone rocks south of Pat Lake have the best preserved pillows in the Yasinski Lake Area. Impure quartzite and lean banded magnetite iron formation occur as irregular zones within the greenstone rocks The sedimentary rocks are shown in part on the accompanying geological maps but the association is far too intimate to depict on a one-half mile scale map. Transecting and conformable milky to glassy quartz veins are common in the greenstone area. These veins carry low values in copper, lead, zinc, gold and silver.

Lean, well-banded, magnetite-silica iron formation occurs within the impure, sedimentary horizons within the greenstone complex. The individual bands vary in width from a few feet to 300 feet. The wider bands have relatively good grade iron phases as much as 100 feet wide. Most of the iron formation bands are comprised of very lean siliceous material or silicate-rich rocks. The Pat Lake iron occurrence appears to be the most promising iron band but the eastward extension northeast of Beaver Lake also has several long lenses of good iron formation. The Pat Lake occurrence is described more fully in a section on the Mineral Occurrences in the Yasinski Lake Area. Magnetite quartzites and magnetite chert conglomerates occur with the banded iron formations.

Grey, impure quartzite occurs as minor and major bands within the greenstone complex. The intimate relationship between the two has already been noted. Pyrite and pyrrhotite are common minerals in the sheared graphitic quartzite. These sulphides are syngenetic and are not believed to have any economic interest.

Light-coloured, well-sorted quartzite occurs as a well defined stratigraphic horizon along the southeast and south edge of the greenstone belt. Quartz is the predominant mineral in this rock although feldspar is common as the gneiss contact is approached to the south. Sulphide occurrences are distributed throughout the length of the quartzite belt in association with bright green mariposite. There is a definite spatial relation between the sulphide mineralization and the peridotite plugs. The sulphides include pyrite, pyrrhotite, chalcopyrite, galena, sphalerite and pentlandite. The largest sulphide deposits thus far discovered in these quartzites are associated with zones of quartz mobilization and veining within several hundred feet of peridotite.

The quartz-peridotite association represents a favourable environment for sulphide and vein sulphide occurrences. The most encouraging locality from an economic point of view is the Discovery Lake occurrence which includes several replacement sulphide bodies and many veins with gold and silver values.

The youngest Keewatin type rocks occur in the centre of the greenstone belt. They are best exposed immediately south of Beaver Lake but for the most part underlie a large area of muskeg and drift immediately north of Yasinski Lake. They are included on the accompanying map with impure quartzite. Actually these younger quartzites are fairly well-sorted rocks and resemble gneissic portions of the older pure quartzites south of the main greenstone structure. Quartz and biotite are the main mineral constituents. The rocks have a definite gneissic texture and the original banding seems to have been obliterated. No mineral occurrences have been discovered in these rocks.

The Yasinski Lake peridotite has a decided economic interest as it is the main mineralizing intrusive. The rock varies from massive and unaltered to intensely altered. Magnetite content varies but in general the larger the plug the greater the magnetite content. The altered peridotite is commonly fractured with development of talc, actinolite and carbonate.

Pyrite, pyrrhotite and chalcopyrite occur as disseminations and as minor blebs. Illmenite as well as several zones of chromite occur at the main Beaver Lake stock. The largest chromite occurrence is about 5 feet thick and 50 feet long. Chrysotile asbestos occurs in several of the plugs - notably the small isolated bodies east of Concession "C". Serpentinization is not extensive and the fibre content does not appear to be extensive enough to warrant additional work. Sulphide occurrences exist near all peridotite plugs in the greenstone and quartzite host rocks.

Several granite bodies with marginal dykes of aplite and syenite occur around the margins of the greenstone belt. One granite stock occurs within the greenstone immediately south of Yasinski Lake. The granite is a hornblende-biotite variety with orthoclase as the chief feldspar. The texture varies from aplitic to pegmatitic in the largest batholith north-west of Yasinski Lake.

Pegmatite dykes occur as irregular cross-cutting features in the greenstone rocks south of Bruce Lake on Concessions "G" and "H". The dykes are as much as 100 feet in width and are commonly zoned. The main minerals are quartz, pink feldspar and yellow mica. At least two carry important lithium values as lepidolite and spodumene in crystals as much as 2 feet in length. Molybdenite was identified as minor crystals in one dyke.

The youngest consolidated rocks in the Yasinski Lake Area are the Keeweenawan diabasic gabbro dykes, sills and plugs. The dykes and sills vary in width up to 200 feet and in general are quite regular. There are two main directions of dykes and sills - north south and east west (magnetic). The cores of the larger dykes are coarsely crystalline and the margins are chilled. The irregular shaped gabbro plug on Concession "2" is a segregated intrusive. A five-foot magnetite zone occurs near the base of the body. The occurrence was not mapped in detail. The peridotite plugs have been classified as Algoman type intrusives. However they could well be an ultrabasic differentiate of a basic magma of which the diabasic gabbro also represents part.

A. STRUCTURE:

The volcanic and sedimentary rocks of the Yasinski Lake Area have been isoclinally folded into a major syncline. The syncline is a down-folded structure in a "sea" of granite gneiss. The axis of the fold strikes northeast and the dips are steeply northwest. A cross-fold axis crosses the central part of the syncline resulting in a basin structure which is topographically expressed as a low area with much drift cover and with many lakes and muskegs. Yasinski Lake also occurs in this depression. The surface of the basin is as much as 200 feet lower than the surrounding greenstone and quartzite hills.

The cross-fold theory is corroborated by the two main directions of gabbro intrusion and also by the plunge of drag folds in the volcanic and sedimentary rocks. The plunges are northeast and southwest in the western and eastern portion of the basin respectively.

Following folding or contemporaneous with folding, the area underwent intrusion with the emplacement of granite stocks and batholiths with related aplite and pegmatite dykes. The last igneous activity in the area was accompanied by the injection of ultrabasic plugs and diabase dykes and sills. Base metal and precious metal mineralization accompanied the emplacement of the peridotite.

Faulting is mainly of the strike-shear variety. However one major cross fault was outlined southeast of Beaver Lake. This fault has a displacement of several miles and undoubtedly is closely related to the main Beaver Lake peridotite plug. The favourable structure in this area should be more closely investigated for sulphide deposits.

3. PROSPECTING:

Five prospecting parties were employed for the 1959 field season. Four of these parties were used to prospect the Concession area and environs. The fifth worked about 100 miles east on the extension of the Yasinski Lake belt.

Each of the crews on the main property came up with at least one mineral occurrence worthy of more work. The fifth outlined an area of greenstone with copper mineralization near peridotite intrusives. This geological environment is similar to that in the Yasinski Lake Area.

Three of the prospecting discoveries were found near indicated airborne anomalies but would probably have been overlooked by normal methods of geological mapping. The three anomalies are 4-30, 3-49 and 3-38. All are described in more detail in the section on individual occurrences. The other two discoveries are north of MacIntosh Lake and south of Discovery Lake. Airborne conductors occur within a mile of each but apparently have no connection with the sulphide occurrences.

The success of the prospecting parties definitely indicates the importance of careful prospecting in any mineral exploration endeavour.

4. ELECTROMAGNETIC SURVEYING:

A total of 25 airborne E.M. anomalies were investigated by ground electromagnetic surveys. The Sheridan-Kelk magnaphase instrument was used for this purpose and found to be quite effective. All airborne anomalies were picked up within a few hundred feet of their indicated position. Over 90 miles of picket lines were cut in order to carry out the ground survey. This does not include another 10 miles of line cut but not surveyed on Anomalies 6-8, 6-10, 6-11, 3-40 and 3-41. Fourteen miles of picket lines were also cut and chained over the Pat Lake iron occurrences.

5. DIAMOND DRILLING:

A total of 3,349 feet of diamond drilling was performed on the Yasinski Lake property. This includes 2,889 feet of drilling with a Boyles BBS1 machine and 460 feet with a packsack drill. Six holes were drilled with the big machine and seven with the small machine. One hole failed to reach bedrock and one broke through bedrock into the bottom of Beaver Lake. Four anomalies were tested with the big drill. These anomalies were 4-19, 4-30, 3-38 and 3-58. The first gave negative results; the second yielded sulphide mineralization on a weak part of a strong anomaly; the third gave inconclusive results and the fourth anomaly-target could not be reached with the BBS1 machine. Hence the last three anomalies warrant additional work.

Four localities were tested with the packsack drill. All yielded negative results. Sulphide mineralization of low grade in silver, copper and zinc values were intersected on a 1958 mineral occurrence immediately northeast of Beaver Lake. Low copper-nickel values were obtained at Anomaly 4-31. Low copper values were obtained in Anomaly 3-49 in a graphite-pyrite-pyrrhotite environment. Anomaly 4-23 yielded graphite when drilled with the packsack machine. Additional work is recommended only on Anomaly 3-49 of those tested with the packsack machine.

6. TRENCHING:

Trenching was carried out throughout the 1959 field season with concentration of work in three main localities. One 100-foot trench was completed at Asbestos #1 and one 50-foot trench has still to be completed on Asbestos #2 east of Concession "C". Four trenches were completed on Anomaly 3-49 and ten on the various Discovery Lake mineral occurrences.

This indicates a total footage trenched of 320 assuming an average length of 20 feet.

Several other anomalies and mineral occurrences warrant evaluation by trenching. Some have been stripped and are now ready for drilling and blasting. These anomalies include 3-40, 3-41, 2-35 and 4-26.

7. SAMPLING:

A total of 111 samples were taken for assay. These included core samples as well as grab samples from outcrops and trenches.

All quartz veins over two feet in width were sampled.

Most of these veins also carried minor sulphide minerals but low gold-silver values. In general gold values are carried with copper values in direct proportion. Silver accompanies both copper and zinc.

8. TRANSPORTATION:

Transportation on the property was carried out mainly by a Bell (G-2) helicopter chartered from Autair Helicopters Limited of Montreal. An average of 100 hours per month were put on this machine in the course of establishing, supplying, moving and supervising the four geological parties, five prospecting crews, E.M. crew and drill crews. This helicopter method of transportation and reconnaissance was found to be a very effective and efficient means of exploration.

DESCRIPTION OF INDIVIDUAL MINERAL OCCURRENCES

The following list shows the various anomalies and localities that were partially or completely evaluated during the 1959 field season. A more detailed description of several of these occurrences follows the list. Detailed maps also accompany many of the descriptions.

2. GENERAL:

Yasinski Lake Area has mineral occurrences of asbestos, chromite, copper, gold, iron, lead, nickel, silver and zinc. Copper is the most common and widespread of these occurrences. Chalcopyrite, the most abundant copper-bearing mineral in the area, occurs in showings over a distance of 40 miles from Bruce Lake to Beaver Lake. The copper showings are in the south limb of the Yasinski Lake syncline and occur in greenstone and quartzite rocks as vein and replacement deposits. The most important occurrences are related to known peridotite intrusives scattered throughout the length of the south limb. It is therefore apparent that the Yasinski Lake Area is a copper province. Favourable rocks and structures are known to exist near localities where encouraging assay results have been obtained. Hence the geological environment is one which could readily include one or more economic copper deposits.

Several of the copper occurrences have associated gold, silver, zinc, nickel and lead values. These metals could also occur in economic concentrations as the geological setting is favourable.

The asbestos, chromite and iron deposits appear to be either too low in grade or too limited in size to warrant much further attention. The asbestos and chromite occur with peridotite plugs especially the main peridotite mass east of Beaver Lake. The best iron showings are the banded magnetite-silica-iron formation lenses in the greenstone rocks of the north limb of the Yasinski Lake structure.

The most important mineral showings known to date in the

Yasinaki Lake Area are those near Discovery Lake (A.E.M. 2-22). A detailed description follows:

(a) DISCOVERY LAKE: A.E. M. Anomaly 2-22

LOCATION:

Discovery Lake is located two miles south of the west end of Yasinski Lake. The mineralized area is immediately south of Discovery Lake.

WORK DONE:

The Discovery Lake locality was discovered by Clyde MacIntosh in August, 1959. One very weak airborne anomaly was outlined but was later found to be caused by graphite. The main showings did not respond to the airborne survey. However they did respond to the ground geophysics.

Vein 1 was the discovery showing. Subsequent prospecting and mapping have revealed the presence of fourteen additional veins. Most of the veins have been sampled by trenching and blasting. Detailed mapping and a magnaphase electromagnetic survey were carried out using a picket line grid. The picket lines were at 200-foot intervals over the main showings and at 400-foot intervals over the eastern portion.

DESCRIPTION:

Sample assay results are given at the end of this section. The location of the various veins is shown on the accompanying map of the Discovery Lake Area (Plate 1).

It should be emphasized that the assay returns represent surface samples only and are not true indications of the actual metal content. For example, the veins in the main part of the locality - from L 18W to L 0, are intensely fractured with consequent weathering. This is especially true of Veins 1, 2 and 3. The weathering processes acted in such a manner as to have penetrated the numerous fractures and to have effectively removed all copper values from the uppermost three feet of the vein. The transition from leached capping to fresh vein material is gradual and without a zone of enrichment. Therefore as the trenching only went down to about four or five feet it is felt that the copper assays as shown are lower than actually exist at greater depths. The factor to correct for loss due to leaching will not be known before diamond drilling is done but probably will be at least 1% copper. The behaviour of the gold and silver values during weathering is not known.

The Discovery Lake Area is underlain by three main rock types. Greenstone (a finely crystalline green hornblende-quartz rock) occurs to the north of Discovery Lake. Well-sorted clean gneissic quartzite lies to the south of and in transitional contact with the greenstone. Granite gneiss outcrops to the south of and in transitional contact with the gneissic quartzite. Several sedimentary horizons occur within the greenstone belt which is mainly of basic volcanic derivation. In the Discovery Lake Area the sediments are impure carbonaceous quartzites. Showings 5, 6 and 9 are actually graphitic portions of the impure quartzites. Nevertheless these portions have been injected with quartz veins with associated values in silver, gold, copper and lead.

Outcrops of peridotite occur within 400 feet of Vein 1. The peridotite is quite talcose and represents the only exposures of a relatively small intrusive ultrabasic body. The aeromagnetics indicate a plug about 3,000 feet long and 400 feet wide. The mapped portion is at the eastern extremity of the airborne anomaly. The peridotite has apparently been localized at the quartzite gneiss contact. This intrusive is undoubtedly the source of the metal values in the neighbouring veins.

The peridotite plug at Discovery Lake is part of the ultrabasic belt extending for over 35 miles from Bruce Lake northeast to Beaver Lake in a broad arc. Metalliferous values are associated with the peridotite throughout the length of the belt.

The mineral occurrences shown on the accompanying map are of three types. The first type has been already described and includes Showings 5, 6 and 9. They are essentially silicified and mineralized, graphitic quartzite horizons within the greenstone. The geophysical responses over these showings are very strong due to the graphite content.

The second type is a disseminated-replacement mode of occurrence and includes Showings 4, 7 and 14. This type of deposit has more possibilities for large size than either of the others. For example, Showing 7 has been sampled for a true width of 35 feet and is still open under muskeg for additional width. The mineralization consists of sphalerite, galena, chalcopyrite and pyrite as massive bands, seams and blebs and as disseminations. The gold-silver content is also important. The mineralization occurs in a white bleached and remobilized quartzite with scattered green mariposite. Weathering has been deep but localized to the sulphide bands. The main mineralized quartzite rock has been planed by glaciation and rust development is insignificant due to the low pyrite content. The geophysical response to this type of occurrence is quite weak. Therefore prospecting for such mineralization is difficult.

Most of the mineralized occurrences at Discovery Lake belong to the third type. This is the true vein type wherein sulphide minerals are contained in varying amounts as fracture fillings and as disseminations in a glassy quartz gangue. The quartz veins in several occurrences appear to have undergone intense fracturing followed by injection of sulphide minerals - mainly chalcopyrite and pyrrhotite. This paragenesis has led to deep weathering as mentioned previously in this section. These quartz-sulphide veins carry gold and silver values up to 0.99 ounces and 10 ounces per ton respectively. It is the precious metal content that is regarded as of potential interest in the vein type of mineral occurrence in the Discovery Lake Area. Nine veins are known but the geophysics indicate others to occur under overburden. Detailed mapping results suggest a lenticular nature to the veins. However some are exposed for 200 feet in length before disappearing under drift or muskeg. Widths vary up to 14 feet for Vein 1. The vein type of deposit is most common over a strike length of 2,600 feet from L 20W to L 6E. It is obviously very closely related to the peridotite intrusive.

SUMMARY AND CONCLUSIONS:

The Discovery Lake Locality definitely warrants diamond drilling to evaluate the economic possibilities of gold, silver, lead, zinc and copper occurrences. Sectional drilling should be performed in a zone 2,600 feet in length and 800 feet in width where numerous mineral occurrences are known to exist. The potential mineralized zone is some 6,000 feet in length and 1,000 feet in width. The zone includes fifteen separate showings in a pure, well-sorted gneissic quartzite.

SAMI : RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project #286

DISCOVERY LAKE AREA
A.E.M. 2-22

-HOLE NO.
-PAGE 1

	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	Oz. Au	% Cu	% Pb	% Zn	DESCRIPTIONS
VEIN 1	286-411	6'	14'	8'	0.76	0.03	1.76	-	-	10% Chalcopyrite in Glassy Quartz
	286-415	0'	6'	6'	0.46	0.01	1.10	-	-	Minor Bornite and Pyrrhotite
	Average	0'	14'	14'	0.63	0.02	1.48			
	286-414	Character			2.60	0.03	7.86			Chalcopyrite - Bornite in Glassy Quartz
VEIN 2	286-416	0'	6.5'	6.5'	0.74	0.01	1.18			6% Chalcopyrite in Glassy Quartz
VEIN 3	286-458	0'	10'	10'	2.42	0.04	3.66			9% Chalcopyrite in Glassy Quartz
VEIN 4	286-457	0'	13'	13'	0.44	0.04	-	-	0.50	Bleached white quartzite with disseminated Pyrite-Sphalerite.
VEIN 5	286-456	0'	20'	20'	0.50	0.01	-	-	Nil	Mineralized quartzite with 10%
	286-413	Character			4.17	0.11	-	-	0.19	Pyrite-Pyrrhotite-Mariposite
VEIN 6	286-455	0'	20'	20'	0.26	Nil	0.07	Tr	Nil	Sheared impure quartzite and grey schist with graphite, pyrite, pyrrhotite, chalcopyrite and galena.

N.B. The copper content of Veins 1, 2 and 3 is believed to be too low by at least 1 percent copper. The samples were cut from trenches that had not completely penetrated the zone of leaching. The behaviour of the gold and silver during the weathering-leaching process is not known.

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SAMPLE RECORD SHEET

PROPERTY– MAIN EXPLORATION COMPANY LIMITED – Project #286

DISCOVERY LAKE AREA –HOLE NO
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	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
					Oz. Ag	Oz. Au	% Cu	% Pb	% Zn	
VEIN 7	286-412	Character			3.38	0.22	0.70	6.54	3.28	Moderate Galena in Quartzite
	286-418	0'	10'	10'	1.92	–	–	0.99	3.58	Disseminated Sphalerite – Galena in a white
	286-419	10'	20'	10'	1.94	0.03	–	3.03	3.18	remobilized Quartzite
	286-420	20'	30'	10'	0.46	0.005	–	0.28	1.39	
	286-421	30'	35'	5'	1.36	–	–	0.86	2.88	
VEIN 8	286-417	0'	4'	4'	10.25	0.99	2.94	–	–	15% Chalcopyrite in Quartz-Chlorite Shear
VEIN 9	286-459	0'	10'	10'	0.32	0.01	–	–	Nil	Sheared and altered impure quartzite with heavy graphite, pyrrhotite, mariposite, quartz & chalcopyrite
VEIN 10	286-453	0'	20'	20'	0.16	0.02	0.04	–	Tr	Mineralized and veined impure Quartzite with
	286-452	20'	32'	12'	0.42	0.01	0.19	–	Nil	biotite, chalcopyrite, pyrrhotite, pyrite & graphite
	286-451	32'	44'	12'	0.66	0.02	Tr	–	–	
	Average	0'	44'	44'	0.30	0.02	–	–	–	
VEIN 11	286-450	Character			Tr	Nil				Quartz vein with minor pyrrhotite

SAMI . RECORD SHEET

DISCOVERY LAKE AREA
A.E.M. 2-22

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project #286

-HOLE NO.
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	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
					Oz.Ag	Oz.Au	% Cu	% Pb	% Zn	
VEIN 12	286-449	0'	4'	4'	7.63	0.03	-	-	Tr	Quartz vein with minor pyrrhotite
VEIN 13	286-444	0'	10'	10'	Tr	0.01				Barren glassy quartz vein
VEIN 14	286-437	0'	20'	20'	0.98	0.01	-	0.07	1.09	Minor Pyrite-Galena-Sphalerite-Chalcopyrite in remobilized Quartzite
VEIN 15	286-435	0'	4'	4'	0.26	0.01	-	-	0.35	Quartz Vein carrying minor Sphalerite-Galena

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DISCOVERY LAKE AREA
A.E.M. 2-22

Townshend & Kent Form No. 8609

The Anomaly Lake (A.E.M. 3-58) and the Ultra Lake (4-30) localities are regarded as having excellent geological-geophysical conditions. Additional diamond drilling is recommended on both showings. A more detailed description of each is given in the succeeding paragraphs.

(b) ANOMALY LAKE: A.E.M. Anomaly 3-58

LOCATION:

Anomaly Lake is 9 miles southeast of the east end of Yasinski Lake in Concession "E".

WORK DONE:

Interest was first drawn to the locality by the results of the airborne geophysical work. A highly regarded E.M. anomaly was picked up in the lake coincident with a low magnetic response. A weaker indication was also picked up on strike to the northeast on land. Ground geophysics succeeded in picking up the land anomaly.

Geological mapping revealed a narrow (400 feet) band of greenstone on strike to the southwest of the anomaly in the lake. Isolated tongues of altered peridotite also were observed in the gneisses surrounding Anomaly Lake. A definite fairly tight fold structure was also traced in the greenstone gneiss rocks immediately southwest of the lake. The airborne E.M. response would coincide with the nose of this fold under Anomaly Lake. Hence the geological conditions for a sulphide deposit are excellent.

Diamond drilling was begun in late August 1959 to test the anomaly in Anomaly Lake. It was realized before drilling that the cause of the conductor could easily lie outside the reach of probing of the small diamond drill. However it was decided to test the locality with the small machine.

The drilling was done from the west shore of the lake. The first hole (286-5) at 45 degrees failed to penetrate the lake mud. The second hole (286-6) at 60 degrees could only be taken to a depth of 937 feet. This is several hundred feet short of the target. The rocks penetrated include granite gneiss and altered peridotite. Pyrrhotite and chalcopyrite occur in minor amounts throughout the hole.

SUMMARY AND CONCLUSIONS:

The 1959 work has indicated a very interesting locality as a possible site of a sulphide deposit. The drilling failed to test the target. Additional work in the locality is imperative.

The additional programme for 1960 should include an ice E.M. survey in March to accurately locate the anomaly for a drilling target. Hole 286-6 should be deepened by a larger drill to test the conductor.

A.E.M. Anomalies 4-37 and 3-59 occur about two miles to the east of Anomaly Lake in Hutton Lake. These conductors are regarded as interesting pending results at Anomaly Lake. The anomalies should be located in March by an ice geophysical survey.

(c) <u>ULTRA LAKE</u>: A.E.M. Anomaly 4-30 (See Plate 2).

<u>LOCATION</u>:

Ultra Lake is four miles south of the east end of Beaver Lake in Concession "A". Anomaly 4-30 extends north into Concession "C".

<u>WORK DONE</u>:

Interest was first drawn to the locality by the results of the airborne geophysical work. The airborne anomaly was surveyed on the ground and found to be actually a complex anomaly with two distinct and parallel conductors about 600 feet apart.

Prospector Alf Phillip discovered a well mineralized showing in late August. The discovery led to detailed mapping, additional geophysical surveying and diamond drilling.

<u>DESCRIPTION</u>:

The Ultra Lake occurrence is in greenstone rocks on the south limb and near the east end of the Yasinski Lake syncline. Impure quartzites and iron formation occur as phases of the greenstone. Graphite with quartzite and iron formation is the cause of the north part of A.E.M. 4-30. A long tabular body of peridotite occurs about 1,000 feet south of the graphite-iron formation horizon in conformable contact with the greenstone. A series of conductors immediately north of the peridotite is caused by sulphide mineralization.

The sulphide conductors occur over a length of 7,000 feet with attendant copper-nickel mineralization over a much greater length.

This mineralization commonly occurs as scattered rusty patches with very heavy chalcopyrite-pyrrhotite. The patches are usually isolated areas of several square feet. Pyrite and galena have also been identified in lesser amounts. Flakes and leaves of native copper occur in oxidized portions of some patches.

The important conductors always seem to occur in swamps which are bordered by the altered greenstone with rusty patches.

A trench was blasted across the discovery showing near L 88E and gave the following results upon assay:

	Cu	Ni	Ag	S
15% Pyrrhotite-Chalcopyrite over 50 feet	.09	.11	.16	2.86

A quartz vein transecting the mineralized greenstone near L 86E yielded 4.55% copper over 6 feet. The mineralized greenstone in this locality causes a very weak conductor. The conductor increases in intensity to the west until offscale readings are obtained on L 56.

Hole 286-7 was drilled to test the zone on L 76E at a weak geophysical anomaly. A wide zone of mineralization was intersected and the two best sections were cut for assay with the following results:

Core Interval	Core Length	Cu	Ni	Ag
392-398	6'	.09	.06	1.54
454-460	6'	.18	.13	Tr

The first section logged about 12% sulphides - mainly pyrrhotite while the second had about 5% sulphides. The indicated low S: Ni ratio of the second section suggests that additional evaluation is necessary on this mineralized horizon.

SUMMARY AND CONCLUSIONS:

A 7,000 foot long E.M. anomaly caused by sulphide mineralization in an excellent geological environment has been outlined at Ultra Lake (A.E.M. 4-30). One diamond drill hole in a weak portion of this anomaly gave sub-ore assays in copper and nickel.

Further diamond drilling on the stronger portions of the anomaly is strongly recommended.

(d) A.E.M. ANOMALIES 3-49 AND 3-38:

Interesting copper, nickel and silver values have been obtained by prospectors A. Taylor and T. Morrison from showings near A.E.M. Anomalies 3-49 and 3-38 respectively. (Refer to accompanying maps on Plates 8 and 9).

The A.E.M. Anomaly 3-49 was fully delineated by ground geophysics. Anomaly 2-15 is the west extension of 3-49. The entire anomaly is two miles in length with an apparent gentle fold near the centre. The west half is caused by rusty pyritic graphitic quartzites and iron formation and is well exposed. The east half is not well exposed and where the rocks can be observed are different from those to the west. Pyrrhotite has largely replaced pyrite as the common sulphide and a quartzite breccia horizon enteres the picture. The breccia is well exposed by a trench at L 14E between the gneissic pure quartzite to the south and the carbonaceous-graphitic rocks to the north. Geophysical profiles along lines over the east part of the structure also indicate a change in the causative material. The main geophysical peak can be traced throughout the entire length of the anomaly. From about L 12E to L 52E a smaller peak is picked up to the south of the main anomaly. This subsidiary peak is believed to represent the quartzite breccia mineralization. The breccia carries about 7% pyrrhotite and minor chalcopyrite along fractures and as disseminations. Assays show 0.14% combined Ni-Cu over a 50-foot width. The adjacent gneissic quartzite to the south is also mineralized and yielded the following assay results over 4 feet:

Ni	Cu	Ag
0.38	0.07	2.29

Boulders of chloritic rock carrying copper mineralization were picked up in the swamp near L 44 E or some 3,000 feet east of the forementioned mineralization.

Hence A.E.M. Anomaly 3-49 has a combination of favourable geology, good geophysics and interesting mineralization over a lengthy structure. Diamond drilling is definitely warranted to follow up these encouraging indications.

The A.E.M. Anomaly 3-38 was fully delineated by ground geophysics. The conductor is caused by a major zone of introduced milky quartz and graphite. The association appears to be an intensely brecciated graphite rock injected with milky quartz. The breccia-quartz zone is over 7,000 feet in length and varies in width from 5 feet to 100 feet. The average width is probably about 50 feet. Pyrite is a very common accessory mineral in places attaining a massive nature over a few feet but commonly comprising only about 5% of the zone. Chalcopyrite in important amounts occurs over a length of 200 feet and a width of 8 feet between L 72 and L 74. The assay results have been given previously in the tabulated summary. Channel samples from two trenches average about 2.5% copper. Gold values are low.

The size and strength of the breccia structure is great. The copper mineralization is not extensive enough to be of much interest especially in a quartz vein environment. However the intense brecciation that the zone has undergone may have given rise to channelways that gold-bearing solutions could have penetrated. Results were not conclusive as much of the vein material was lost by grinding and the sludge not recovered. At least two more holes are warranted on the copper portion of the zone to test the structure for gold values. If results are encouraging the locality could be of utmost importance.

(e) THE 1958 BEAVER LAKE SULPHIDE VEIN (Plate 10)

The Beaver Lake Sulphide Vein is 1/2 mile north of the bay at the east end of Beaver Lake. The vein was discovered in August of 1958 and was mainly instrumental in the decision to perform additional work in the Yasinski Lake Area in 1959.

Lines were cut and the vicinity intensely prospected in 1958 but additional showings were not forthcoming. The vein was not picked up in the 1959 airborne survey. One packsack diamond drill hole was drilled in 1959. Results were discouraging.

The Beaver Lake sulphide showing is a coarsely crystalline zoned fissure vein with variable relative amounts of white quartz, apple-green mariposite (chromium mica) and sulphides. The vein zone is over 2,000 feet in length and as much as 45 feet in width. The main sulphide lens is 400 feet long and 20 feet wide. The occurrence is in pure quartzite near an enlargement in a tongue from the Beaver Lake peridotite plug.

The best assay returns obtained from the Beaver Lake vein are as follows:

Trenched Width	Cu	Zn	Pb	Au	Ag
15'	1.70	3.74	0.10	0.05	1.57

The short hole under the trench gave disappointing results. Consequently no additional work is recommended.

(f) PAT LAKE IRON: A.E.M. Anomalies 3-9, 3-10, and 3-11 (Plate 1).

LOCATION:

The Pat Lake Iron Occurrence is an iron formation band extending from the west end of Yasinski Lake to the south shore of Pat Lake.

WORK DONE:

The iron formation band was outlined by the airborne magnetometer survey in March-April of 1959. The band was mapped and prospected in the 1959 field season. This work was done in conjunction with a dip needle survey done on a picket line grid at 600-foot intervals.

DESCRIPTION:

The Pat Lake iron formation band is a continuation of the Duncan Lake iron-rich zone which has been traced intermittently for 35 miles from the Duncan deposit. The Pat Lake iron formation is visually similar in texture and general appearance to the Duncan iron occurrence. The iron formation is a steel blue, well banded rock with alternating bands of magnetite and silica. The following table shows the chemical content of a typical sample of this material:

Total Fe	40.0%
A/Sol. Fe	39.2%
Magnetic Fe	37.9%
Titania (TiO_2)	$<$ 0.2%
Silica (SiO_2)	42.0%
Sulphur (S)	0.02%
Phosphorus (P)	0.03%

Airborne magnetic responses as much as 11,000 gammas were obtained intermittently for a strike length of five miles between Pat and Yasinski Lakes. Ground-mapping shows the discontinuous nature of the airborne anomaly to be real and caused by granite intrusions cutting off the iron formation sedimentary band between greenstone rocks of a basic volcanic origin. The entire complex has been intruded and disturbed by granite bodies.

The sedimentary band includes quartzite, magnetite-quartzite, chert conglomerate in a magnetic matrix, magnetite iron formation and silicate-magnetite iron formation.

The magnetite and silicate-magnetite iron formations are the only rocks of possible economic interest. These rocks occur in two main localities - from line 54E to 102E and from line 6W to 18E. Widths at both occurrences are over 200 feet. The iron formation is quite regular, strikes northeast and dips about 60 degrees to the northwest. The magnetite iron formation (about 40% Fe) and the leaner silicate-magnetite iron formation appear to be of equal areal extent.

The foregoing figures indicate a potential tonnage of 96,000 tons per vertical foot for the first deposit and 48,000 tons per vertical foot for the second deposit. The two deposits are 3,600 feet apart. The overall acid soluble iron content would probably be in the order of 30% assuming the silicate phases contain 30% magnetite.

One 20-pound sample of this iron-rich material was subjected to a Davis Tube Test. The sample assay was satisfactory (as shown above) but it was not possible to produce an acceptable grade of concentrate.

Additional work is not planned for the Pat Lake Iron Occurrence because of the unsatisfactory concentration test and the relatively modest size of such material in a remote location.

(g) DRUM LAKE LOCALITY

LOCATION:

Drum Lake is located two miles east of the east end of Pat Lake on Map Sheet 3. The mineralization described below occurs about 3,000 feet west of Drum Lake.

DESCRIPTION:

The area immediately west of Drum Lake is underlain by mainly sedimentary rocks and minor greenstone (altered basic volcanics). Lean magnetic iron formation and quartz deficient granite occur as narrow irregular bands and tongues. The strike of the rocks is east (magnetic) and dips are steeply to the north. The locality has undergone intense deformation and complex crumpling of the sediments and narrow contorted white quartz veins are common features.

Light disseminated sulphide mineralization accompanies the most intensely altered portions of the locality. This mineralization occurs both in the quartz veins and within the country rock adjacent to the veins. Mariposite is a common but not major constituent of the showing. The sulphides include pyrite, chalcopyrite, sphalerite and galena.

Representative samples were taken for assay from various rock types over an area about 400 feet in diameter. Results were very poor and no additional work is warranted on the locality.

GENERAL REMARKS:

The Drum Lake Locality was discovered by Ralph Croteau in August, 1959. Several trenches were blasted on the showing to obtain samples for assay. This work was carried out because of the proximity to a gold-copper vein occurrence about three miles to the east and of the presence of mariposite at the showing. Mariposite accompanies sulphide mineralization elsewhere in the Yasinski Lake Area and is believed to be genetically related to the peridotite intrusives with which the sulphide bodies are related.

SAMF RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY - Project #286 DRUM LAKE LOCALITY 1 -HOLE NO. -PAGE

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	Oz. Au	%Cu	%Pb	% Zn	DESCRIPTIONS
286-399	CHANNEL		5'	Tr	Tr	-	-	-	Abundant cherty quartz with light Pyrite and traces of Chalcopyrite.
286-400	GRAB		-	Tr	Tr	-	-	-	Carbonate-quartz rock with minor Pyrite, Chalcopyrite and Sphalerite.
286-429	GRAB		6"	-	Nil	0.05	-	-	Cherty quartz vein with 5% impregnated Pyrite - Tarnishes readily.
286-430	CHANNEL		4'	Tr	Nil	-	-	-	Cherty Quartz Veins with disseminated Pyrite.
286-431	CHANNEL		3'	-	Nil	0.10	-	-	Milky cherty quartz veins in Mariposite - Carbonate rock.
286-432	CHANNEL		3'	Tr	-	-	Tr	Tr	Impure quartzite with fractures and partings smeared with Galena-Sphalerite-Chalcopyrite.
286-433	GRAB		2'	Tr	Nil	-	-	-	Granite Tongue with light disseminated Chalcopyrite.

Drum Lake Locality.

Townshend & Kent Form No. 8609

COST OF 1959 EXPLORATION WORK:

The following is a semi-detailed list of expenditures incurred during 1959 for the Yasinski Lake Project. It should be noted that this breakdown does not include any concessional fees. Ths list is complete to November 17, 1959 and includes almost all items. Invoices for several small accounts have not yet been received. The final figure should not exceed the following total by more than one thousand dollars.

ITEM	EXPENDITURE
Drill Parts	$ 3,112.18
Drill Rental	2,839.66
Drilling Wages	5,516.80
Drilling Gasoline	365.54
Surface Salaries	44,771.53
Surface Exploration (Including some assaying)	18,663.76
Drill Steel	208.35
Camp Supplies	2,999.28
Flying Charges (includes gasoline)	18,258.49
Pack Sack Drill	1,578.59
Assaying	108.50
Rental (E.M. #24)	810.00
Helicopter Services	36,611.32
E. M. and Mag Airborne Survey	46,962.50
Legal - Head Office	2,880.17
Magnetometer 188 A-3	835.00
TOTAL	$ 186,521.67

A more complete breakdown of costs of this work indicates a diamond drilling cost of $4.99 per foot and a magnaphase electromagnetic survey plus line-cutting cost of $45.10 per mile. Neither cost includes transportation or cookery charges. The drilling cost includes an appreciable moving charge because the drilling was performed in several widely separated localities.

The cost for the 1959 work programme was estimated at $232,004.00 (Report by A. B. Baldwin on Project 286 dated at Bathurst, N.B. on November 12, 1958). This estimate included 10,000 feet of diamond drilling at $5.00 per foot. Correcting the estimate by the drilling not performed at $5.00 per foot yields the total of $198,749. Assuming a final figure of $187,000. as the total of 1959 actual expenditures, the estimated expenditures were too high by 5%. This margin of error is not regarded as excessive especially in view of the lack of previous operational experience in the Sub-Arctic. The 1960 estimates therefore should not differ by more than 5% from the eventual actual costs since the 1959 operational experiences formed the basis of preparation for the new estimates.

PROPOSED PROGRAMME OF ADDITIONAL WORK FOR 1960:

Additional work has been recommended on twenty separate localities in the Yasinski Lake Area for 1960. Four of the projects require geophysical work on lake ice. Several of the others require diamond drilling with holes as deep as 1,800 feet. The machine used in 1959 for the drilling programme (and still located on the property) is capable of only 900-foot holes. Therefore a heavier drill is necessary to perform the additional work. This diesel unit can best be flown in to the property with DC-3 aircraft on skis. **Flying** charges for this airplane are less than those for a Canso used in summer freighting in the area. Loading and unloading of heavy items into and from a DC-3 is much easier than into and from a Canso.

Hence it is recommended that the heavy freighting of equipment and fuel for the 1960 programme be carried out in March with a DC-3 on skis out of Moosonee via Austin Airways. The unloading at the property can be facilitated by a small crew of men living on the location and working in conjunction with the geophysical crew. It is also possible that the small drill unit already in the area could be more efficiently moved to the Discovery Lake locality in March in order to be used with the larger diesel unit on the same location after breakup. The geophysics, air freighting and moving can be easily completed in one month.

The forementioned first phase of the 1960 programme should start in mid-March. Freighting should be into the first lake south of Esther Lake in Concession "G" via DC-3 on skis. It is recommended that a Super Cub aircraft be rented and kept in the area to facilitate the moving of the geophysical crew. This independent transportation would also expedite the other winter work.

The second phase of the 1960 programme should start in late May or early June as soon as the lakes are free of ice. An advance party should be flown in to the area a week earlier than the main crew. The purpose of this party is to move the base camp from Beaver Lake to Discovery Lake and establish it for the drill crew.

The two drills would then be used together to drill off the

Discovery Lake showings. A minimum of 3,000 feet is recommended to test this locality with two sections with three holes on each designed for intersections at vertical depths of 100 feet, 300 feet and 500 feet. Additional drilling is dependent on results of this initial work.

Upon completion of this work, probably in early July, the drills should be moved east and northeast to successively test Anomalies 3-49, 3-38, 3-58 and 4-30. Other localities worthy of diamond drilling could have been turned up in the early season by the surface parties. The drills could be moved overland by tractor to these four sites as the terrain is mainly gravel and well-drained. The drilling of these additional localities will probably take until the end of August assuming only one or two test holes at each. At this time the equipment would be near the east end of Yasinski Lake and south transportation would be out of Yasinski Lake.

The previous section on "The Description of Individual Mineral Occurrences" recommends additional mapping, trenching, packsack drilling, sampling and geophysics on several showings or localities. A geologist and prospector with helpers together with a part-time two-man geophysical crew should handle this work. This surface crew is in addition to the supervising engineer with assistant at the drilling camp. The surface crews can board themselves while the drilling contractor is responsible for the drill cookery.

The foregoing outline is intended as an estimate for the minimum work recommended and could be altered or expanded depending upon the results obtained in the course of the programme.

ESTIMATED COST OF ADDITIONAL WORK:

The following table outlines the estimated costs of the various phases of the additional work recommended on the Yasinski Lake Area.

ITEM	REMARKS	COST
FIRST PHASE	Transportation of Drilling Equipment, Gasoline, Diesel Fuel and Men to the Area in March and to perform ground geophysical surveys for a period of one month:	
Flying Charges	Seven round trips from Moosonee with DC-3 on skis (7 x 400 at $1.50)	$ 4,200.00
	Local Flying	200.00
	Super Cub Rental for Geophysical Survey (Local Flying, 60 hours at $10/hr. Ferrying, 20 hours at $10/hr.)	800.00
	Insurance at $3/hr.	240.00
	Gasoline 6 gal/hr - 480 gal. at 63.8¢	306.24
	Oil, Pilot's Salary, etc. for one month	1,000.00
Supplies	Diesel Fuel - 6,000 feet at 1 gal/8' (750 gal. at 30¢)	225.00
	Esso Gasoline - 4,000 feet at 1 gal/4' (1,000 gal. at 41.90¢)	419.00
	Groceries 7 men for 1 month (21 x 30 meals at $1.)	630.00
	Fuel Oil, Naptha, Oil, etc.	200.00
	(Gasoline for tractor is presently at Beaver Lake)	
Salaries	6 men for 6 weeks (at average salary of $12/day	3,024.00
Geophysical Rental	$225. per month	225.00
Rental on BBS-1 Diamond Drill	Stored at property from Oct. - May (8 months at $100.)	800.00
	TOTAL	$ 12,269.24
LESS:	Cost of Diesel Fuel and Esso Gas for Drilling Contractor's Account	644.00
	NET	$ 11,625.24

ITEM	REMARKS	COST
SECOND PHASE	Diamond Drilling, Geological Mapping Trenching, Minor Geophysical Surveying, Assaying, etc. to be started in late May and lasting until late August.	
Flying Charges	6 round trips from Moosonee with Canso (6 x 400 at $1.65)	$ 3,960.00
	Local Flying	200.00
	6 round trips from Moosonee with Norseman (6 x 400 at 0.75)	1,800.00
Diamond Drilling	By Contract (10,000 feet at 2.80)	28,000.00
Geological Mapping	2 men for 3 months (Salaries 2,100.00 (Groceries 600.00 (Equipment 100.00	2,800.00
Geophysics	2 men for 1 month (Salaries 700.00 (Groceries 200.00 (Equipment 100.00 (Instrument Rental 225.00)	1,225.00
Trenching and Prospecting	2 men for three months (Salaries 2,000.00 (Groceries 600.00 (Equipment 200.00)	2,800.00
Assaying		500.00
Supervision	2 men for 3 months (Salaries 3,000 (Board at drill camp 600)	3,600.00
SECOND PHASE	TOTAL	$ 44,885.00
FIRST PHASE	NET TOTAL	11,625.24
		$ 56,510.24
	Plus 10% for Contingencies	5,651.02
	GRAND TOTAL	$ 62,161.26

The total estimated cost of the additional work recommended on the Yasinski Lake area is $62,161.26. It should be noted that this figure does not include Head Office charges or Concessional fees.

SUMMARY AND CONCLUSIONS:

The results of the 1959 exploration work on the Yasinski Lake Area are encouraging. Additional work is warranted in 1960 to test more adequately several localities indicated by the 1959 work.

Ore grade values in gold, copper, silver, zinc and lead have been obtained from several showings.

The most promising mineral occurrences are associated with peridotite masses intruding pure quartzite and greenstone rocks. The individual peridotite bodies are irregular but their pattern of occurrence is systematic. The bodies occur intermittently throughout a broad arc of greenstone and quartzite that forms the south limb of the Yasinski Lake syncline. Peridotite also occurs in the north limb but is of minor economic significance. The largest peridotite plug occurs at the east end of the Yasinski Lake structure. Apophyses from this plug intrude the surrounding rocks without any apparent pattern. However farther to the southwest along the south limb of the syncline the peridotite plugs follow a regular mode of occurrence within the pure quartzite band. Therefore the peridotite-quartzite association is one of utmost economic importance and should form the basis of further exploration work. The strike length of the peridotite-quartzite environment is 40 miles.

Much of the 1959 work has been of a reconnaissance nature with only a small amount of drilling. The recommended 1960 programme emphasizes diamond drilling and surface exploration restricted to known showings and favourable geology.

The 1960 work is estimated to cost sixty-five thousand dollars exclusive of Concessional fees. This work should be started in March and continue (with interruption for break-up) until late August. Additional work would depend upon the results of the diamond drilling programme.

Respectfully submitted,

A. B. Baldwin

A. B. Baldwin
Field Geologist

TORONTO, Ontario
November 23, 1959

CERTIFICATION

I, Andrew Bennett Baldwin of the Town of Weston,

Province of Ontario, do hereby certify as follows:

1. THAT I am a Mining Geologist and reside in the Town of Weston, Province of Ontario.

2. THAT I am a graduate of the University of New Brunswick, a Master of Science in Geology and have been practising my profession since 1951.

3. THAT my report dated the 23rd day of November, 1959 on the Yasinski Lake Area of New Quebec, is based on personal examinations.

4. THAT the said examinations of the area were made by me during the 1958 and 1959 field seasons in my capacity as field geologist in charge of this work.

A B Baldwin
....
A. B. Baldwin, M.Sc.

TORONTO, ONTARIO
This 23rd day of November 1959

PROPERTY MAIN EXPLORATION COMPANY PAGE 1

LOCATION Beaver Lake - 4300' west of Base Camp BEARING 150° Magnetic HOLE NO. 286-1
A.E.M. Anomaly #4-19

LOGGED BY A.B.Baldwin ELEVATION Lakeshore DIP 45° FINAL DEPTH 154'

STARTED July 27, 1959 TESTS (CORRECTED)

FINISHED July 28, 1959

150' 40°

CASING 10'

CORE SIZE EXT

FROM	TO	DESCRIPTION
10	35	Andesite, altered, green to cream to pink, scattered quartz-calacite veins, with rhyolite lenses, pyritic, chloritic to epidotic to sericitic; banding at 90° to the core.
35	54	Pyroclastic, speckled green, with fine grained andesite phases, with quartz and quartz-calcite fragments.
54	75	Andesite and Rhyolite with Pyroclastic phases.
75	90	Agglomerate, mottled green and pink, fragments or tongues as much as several inches in greatest dimension, pyritic, tongues appear to be a calcitic syenite, chloritic, with abundant calcite and quartz veinlets.
90	154	Agglomerate with pink medium crystalline syenite tongues as much as 12" in thickness. The syenite is a very calcitic and locally very pyritic rock.

10 - 35 75% recovery
35 -154 100% recovery

END OF HOLE

Abandoned at 154 as the hole broke into the mud at the lake bottom.

HOLE NO. 286-1

DOCKET NO. 8608

PROPERTY MAIN EXPLORATION CO. LIMITED

LOCATION Beaver Lake - 4300' west of Base Camp BEARING 100° magnetic HOLE NO. 286-1A
A.E.M. Anomaly #4-19

LOGGED BY A.B.Baldwin ELEVATION - DIP 60° FINAL DEPTH 900'

STARTED July 28, 1959 TESTS (CORRECTED)

FINISHED August 20, 1959

CASING 9'

CORE SIZE EXT

Tests (corrected)	
200	53°
400	53°
600	53°
800	53°

FROM	TO	DESCRIPTION
9	40	Andesite, altered, green to cream to pink, scattered quartz-calcite veins, rhyolite lenses. Pyritic, chloritic to epidotic to sericitic, banding at 70° to the core.
40	58	Pyroclastic, speckled green, fine grained, andesite phases, with quartz and quartz-calcite fragments. 60 Trace chalcopyrite.
58	83	Andesite and Rhyolite with Pyroclastic phases.
83	212	Agglomerate, mottled green and pink, with fragments or tongues as much as several inches in greatest dimension, pyritic, the tongues appear to be calcitic syenite, chloritic, with abundant calcite and quartz veinlets.
212	285	Chlorite Zone, green, soft, brecciated in places, numerous white veinlets of quartz and calcite, numerous blebs of quartz feldspar and calcite in a sea of green soft chlorite. 65% Recovery.
285	310	Chlorite Zone, as above, but less sheared, sheering at 80° to the core. 96% Recovery.
310	343	Agglomerate, as from 83 to 212, with light pyrite with the syenite veins. 94% Recovery.
343	501	Chlorite Zone, as from 212 to 285, with more quartz and less calcite, veinlets of pyritic syenite, very intense and contorted shearing. 430 - 501 Dark gray to green in colour, the colour change is caused by very dark coloured chlorite or biotite, not as badly sheared, shearing at 45° to the core. 60% Recovery.

Cont'd.

PROPERTY MAIN EXPLORATION COMPANY - Project #286

LOCATION Beaver Lake - 4300' west of Base Camp BEARING 100° magnetic HOLE NO. 286-1A
A.E.M. Anomaly #4-19
LOGGED BY A. B. Baldwin ELEVATION ______ DIP 60° FINAL DEPTH 900'

STARTED July 28, 1959 TESTS (CORRECTED)

FINISHED August 20, 1959

CASING 9'

CORE SIZE EXT

Tests (corrected)	
200	53°
400	53°
600	53°
800	53°

FROM	TO	DESCRIPTION
501	602	Agglomerate, mottled gray-green, locally pink, massive, much dirty pinkish material, this seems to be of a syenite origin - pyritic, with chloritic phases. 584-587 Quartz vein breccia with minor chalco. 82% Recovery.
602	728	Porphyry, mottled white and dark green, numerous angular fragments of white quartz-calcite-feldspar in a ground-mass of dark green chlorite, scattered quartz and quartz feldspar veinlets, the fragments average about 1/4 inch in greatest dimension, some phases are intensely sheared and chloritic and the fragments are calcite-rich. 706-710 Intensely sheared to a rock flour. 710-728 Massive dark gray or green rock that resembles an argillite. 68% Recovery.
728	792	Gneiss, speckled gray-green, with pink streaks, massive, pyritic, widely scattered quartz veins and calcite partings, of a quartzite derivation, gneissosity at 75° to the core. 98% Recovery.
792	860	Porphyry or possibly a quartzite, mottled pink and gray, very pyritic, very dense and massive, scattered pyrite-bearing quartz veins, the pyrite occurs as finely disseminated crystals and streaks, often accompanied by a black metallic mineral, many phases of salt and pepper gneiss as above, scattered quartz and calcite stringers. 850-860 More chloritic and with some partings coated with a soft silvery gray mineral. 92% Recovery.
860	900	Gneiss, dirty speckled to mottled gray and green, the main minerals are feldspar, hornblende, chlorite, quartz and calcite-pyrite, some scattered porphyritic phases, gneissosity at about 80° to the core. 88% Recovery.

DOCKET NO. 8608

SAMF RECORD SHEET

286-1A -HOLE NO.
1 -PAGE

PROPERTY- MAIN EXPLORATION COMPANY - Project #286

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	Oz. Au	%Zn	%Ni		DESCRIPTIONS
286-401	584	587	3	Nil	Nil	-	-		Quartz Vein Breccia with minor Chalcopyrite
286-402	792	802	10	Tr	0.005	-	-		Very Pyritic Porphyry and Gnessic Quartzite
286-403	802	812	10	Tr	0.01	-	-		" " " " " "
286-404	812	822	10	Tr	Nil	-	-		" " " " " "
286-405	822	832	10	Tr	Tr	-	-		" " " " " "
286-406	832	842	10	Tr	0.01	Tr	-		" " " " " "
286-407	842	852	10	Tr	0.01	-	0.01		" " " " " "
286-408	852	862	10	Tr	Tr	-	-		" " " " " "

286-1A

Townshend & Kent Form No. 8609

PROPERTY MAIN EXPLORATION COMPANY LIMITED PAGE 1

LOCATION LO#50S at O#50SE Beaver Lake 1958 Showing BEARING 530° Magnetic HOLE NO. 286-2

LOGGED BY A.B. Baldwin ELEVATION - DIP 53° FINAL DEPTH 105.5

STARTED June 4, 1959 TESTS (CORRECTED)

FINISHED July 26, 1959

CASING 0

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	30	Greenstone, dirty streaky grayish green, schistosity at 30° to the core, scattered quartz veinlets, minor pyrite, scattered quartzitic phases.
30	55	Quartzite, creamy with yellowish sericite streaks, pure, scattered white quartz veinlets, minor pyrite.
55	77	Quartzite, as above, with much quartz vein material, whiter and purer, 5% disseminated sulphides - mostly sphalerite but with some chalcopyrite and galena.
		66 4" Greenstone band.
77	85	Greenstone and Quartzite - banding at 45° to the core.
85	100	Quartz Vein - moderate disseminates sphalerite and galena. 90 - 94 Heavy Chalcopyrite and light Zn-Pb. 98 - 99 Heavy Mariposite.
100	105.5	Contorted Greenstone.
		END OF HOLE

DOCKET NO. 8608

HOLE NO. 286-2

SAM. .E RECORD SHEET

286-2 -HOLE NO.
1 -PAGE

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project 286

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	Oz. Au	% Cu	% Zn	% Pb	DESCRIPTIONS
286-378	55	70	15	1.48	Nil	0.08	0.50	-	Quartz Vein or Remobilized Quartzite with scattered sulphides
286-379	70	80	10	0.66	Nil	0.13	0.25	-	As above
286-380	80	89	9	Tr	Tr	0.07	Tr	-	As above
286-381	89	94	5	0.42	0.01	1.58	0.59		As above
286-382	94	100	6	0.34	Tr	0.09	0.69	0.11	As above

286-2

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project 286 PAGE 1

LOCATION L4#20E at 0#25S A.E.M. 4-31 (Talc Lake) BEARING 120° Magnetic HOLE NO. 286-3

LOGGED BY A.B. Baldwin ELEVATION - DIP 45° FINAL DEPTH 91'

STARTED July 28, 1959 TESTS (CORRECTED)

FINISHED July 31, 1959

CASING 0

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	15	Greenstone, greenish, hornblende-quartz rock with scattered quartz veins, traces of pyrrhotite. 10-15 Very Chloritic
15	42	Quartzite, gray, medium grained - with 25% pyrrhotite as disseminations, streaks, blobs, and bands as much as 4 inches in greatest dimension. Mineralization is mainly pyrrhotite with minor pyrite and chalcopyrite, banding at 50° to the core.
42	82	Quartzite, speckled green; the mineral constituents are quartz, biotite, chlorite, calcite, pyrrhotite and mariposite, banding is at 40° to the core. Some phases have abundant coarsely crystalline green chlorite. Section contains about 3% sulphides - mostly pyrrhotite with minor pyrite and chalcopyrite.
82	91	Soapstone, very soft, gray and talcose; an altered peridotite. 0 - 15 90% recovery 15 - 91 100% recovery END OF HOLE

HOLE NO. 286-3

DOCKET NO. 8608

SAMF RECORD SHEET

286-3 -HOLE NO.
1 -PAGE

PROPERTY-

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS % Cu	% Ni	%Co	% S		DESCRIPTIONS
286-387	15	25	10	0.08	0.05	Nil	-		30% Pyrrhotite in Quartzite
286-388	25	35	10	0.10	0.05	-	11.24		" " " "
286-389	35	42	7	0.03	0.02	-	-		15% " " "

286-3

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Townshend & Kent Form No. 8609

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project #286 PAGE 1

LOCATION A.E.M. Anomaly #4-23 P.L. 8SW at 320S BEARING 140° Magnetic HOLE NO. 286-4

LOGGED BY A.B. Baldwin ELEVATION - DIP 45° FINAL DEPTH 44'

STARTED September 9, 1959 TESTS (CORRECTED)

FINISHED September 11, 1959

CASING -

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	14	Grey, Impure Quartzite and Carbonaceous to Graphitic Argillite, scattered pyrite threads and partings, scattered red garnetiferous-chloritic phases. 10 Minor pyrrhotite-chalcopyrite
14	44	Quartzite, less carbonaceous than above banding at 40° to the core, minor garnets 40 - 44 Cherty 30 Minor Pyrrhotie-Pyrite
		END OF HOLE

HOLE NO. 286-4

DOCKET NO. 8608

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project #286 PAGE 1

LOCATION Anomaly Lake - North Shore - A.E.M. 3-58 BEARING 135° Magnetic HOLE NO. 286-5

LOGGED BY A.B.Baldwin ELEVATION - DIP 45° FINAL DEPTH 180'

STARTED August 23, 1959 TESTS (CORRECTED)

FINISHED August 24, 1959

CASING Not run

CORE SIZE EXT

FROM	TO	DESCRIPTION
0	180	Sand Gravel and Gray Mud or Clay. Pipe was run to 20 feet. Rods were then run ahead through mainly a very fine grained gray mud. About 6 inches of core was obtained at the bottom of the hole which may or may not have been from the bedrock. This core was a medium grained hornblende granite gneiss. Sufficient casing was not on hand to case the hole so it was decided to abandon it. The cost to fly in the necessary casing would be about $500 besides the men's wages for 5 days and the lost 5 days. For these reasons it was decided to abandon the hole and move about 500 feet to the west for a bedrock setup and a 60 degree hole. The move should take only about 2 days. It is a most peculiar locality as the water depth in Anomaly Lake never exceeds 10 feet. Bedrock is exposed almost all around the lake. Hence it is almost incredible that there is at least 180 feet of overburden under the water. In view of the excellent geology of the area and the excellent geophysics of the locality, I am still optimistic about the chances of the new hole. END OF HOLE

DOCKET NO.
8608

HOLE NO. 286-5

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project #286

LOCATION Anomaly Lake - 500' West of 286-5 - North Shore - A.E.M. 3-58 BEARING 100° HOLE NO. 286-6

LOGGED BY A.B.Baldwin ELEVATION — DIP 60° FINAL DEPTH 937'

STARTED August 26, 1959 TESTS (CORRECTED)

FINISHED September 11, 1959

200' - 56°
400' - 55°
600' - 53°
800' - 53°
957' - 53°

CASING 0

CORE SIZE EXT

FROM	TO	DESCRIPTION
0	22	Gneiss, salt and pepper, coarsely srustalline, scattered quartz-feldspar veins, gneissosity at 30° to the core, the main minerals are hornblende, quartz and feldspar
22	420	Gneiss, speckled white and pink and gray, with minor hornblende most of which occurs as hornblendite bands as much as 3 feet in core length; pyritic; with tongues and veinlets of graphic quartz-feldspar material; a light gray finely twinned plagioclase fledspar is a common constituent; scattered magnetite in hornblende-rich bands; the pyrite is also concentrated in the more basic phases; gneissosity at 30° to the core.
		60 Trace of chalcopyrite in chloritic phase.
		70 - 80 Salt and pepper gneiss.
		175 Disseminated chalcopyrite.
		142 -152 Much glassy quartz vein material.
		150 -420 Scattered partings of soft green to gray mineral (talc), more chlorite development.
		238 Minor pyrrhotite-chalcopyrite with chlorite.
		250 -420 Fractured and with widely scattered pyrite-pyrrhotite-chalcopyrite.
		324,335 1" Seam of soapstone.
		367 -374 Mafic rock - mainly hornblende, chlorite, biotite and minor sulphides.
		388 -420 More mafic.
		410 -420 Many talcose phases.
420	461	Altered Peridotite; green, soft but massive, mainly composed of talc and actinolite, soft greenish gray talc and apple green needles of actinolite, scattered crystals of magnetite and pyrite, scattered seams of bluish green light gray talc.
		436 Disseminated magnetite crystals as much as 1/4 inch in greatest dimension and surrounded by light gray talc.

Cont'd.

HOLE NO. 286-6

DOCKET NO. 8608

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project #286 PAGE 2 of 2

LOCATION Anomaly Lake - 500' West of 286-5, North Shore - A.E.M. 3-58 BEARING 100° HOLE NO. 286-6

LOGGED BY A.B. Baldwin ELEVATION — DIP 60° FINAL DEPTH 937'

STARTED August 26, 1959 TESTS (CORRECTED)

FINISHED September 11, 1959

CASING 0

CORE SIZE EXT

Depth	Corrected
200'	56°
400'	55°
600'	53°
800'	53°
957'	53°

FROM	TO	DESCRIPTION
461	470	Gneiss, mottled light gray and pink, mainly feldspar and quartz - less hornblende and minor pyrite.
470	505	Altered Peridotite, as above; more altered, commonly segregated into green actinolite-rich phases and light gray soapstone.
505	508	Gneiss, as from 461 to 470
508	558	Altered peridotite, as above.
558	563	Gneiss and peridotite.
563	717	Altered peridotite, as above; somewhat less altered; shearing at 40° to the core. 622, 656, 673, 674 Gneiss Phases.
717	752	Granite Gneiss, hornblendic and with talc phases.
752	794	Peridotite, altered with the development of talc and actinolite. 767 - 768, 790 Gneiss and biotitic inclusions.
794	833	Granite Gneiss, with talc and soapstone partings and inclusions.
833	917	Peridotite, with soapstone phases. 838, 841-44, 847-49, 853, 860, 867 Gneiss and Biotitic Inclusions.
917	921	Granite Gneiss.
921	937	Peridotite, with soapstone phases, with minor disseminated magnetite and pyrite.

LOST CORE
633 - 24
627 - 28
633-34
713 - 14, 715 -17, 726-27

END OF HOLE

PROPERTY MAIN EXPLORATION COMPANY LIMITED – Project #286 PAGE 1 of 2

LOCATION A.E.M. Anomaly 4-30 P.L. 76E at 144'S BEARING 180° Magnetic HOLE NO. 286-7

LOGGED BY A.B.Baldwin ELEVATION – DIP 45° FINAL DEPTH 490'

STARTED September 17, 1959 TESTS (CORRECTED)

FINISHED September 21, 1959

CASING 9'

CORE SIZE EXT

FROM	TO	DESCRIPTION
9	72	Chlorite-Garnet-Biotite Rock, dark gray, mottled with fine and medium grained red garnets, sedimentary derivation scattered glassy quartz veins with minor pyrrhotite, banding at 33° to the core. 11, 16, 18, 23, 29, 52, 59, 61 – 3" to 6" quartzite bands with scattered pyrrhotite – chalcopyrite. 34 – 43 Segregated bands of garnet, quartz, biotite and chlorite.
72	400	Biotite-Chlorite-Quartz Rock, dark brownish gray, numerous seams of bluish quartz; widely scattered red garnetiferous phases; scattered partings of pyrrhotite-chalcopyrite especially in the biotite-poor phases; scattered quartz veins with minor pyrrhotite – chalcopyrite. 112 Quartz veinlet with galena. 131, 147, 177, 181, 185, 187, 190, 192, 197, 211, 220, 221, 223, 224, 225 Quartz-rich phases (quartzite?) with moderate pyrrhotite-chalcopyrite. 143-144 White quartz vein with light pyrrhotite-chalcopyrite 152-153 Amphibolite – Quartz – Pyrrhotite. 215 Drag fold with numerous garnets. 267-278 Amphibolite-Biotite-Phase. 293-300 Well banded (at 50° to the core) more chloritic- 5% Pyrrhotite and minor Chalcopyrite. 307-310 Amphibolite. 322-334 Amphibolite. 350-353 Somewhat more chalcopyrite – banding at 50° to the core. 337 Quartz vein with moderate pyrrhotite. 353-366 Amphibolite – banding at 60° to the core. 376-392 Green, very chloritic massive rock with numerous white quartz veinlets. 392-400 12% Pyrrhotite and minor Chalcopyrite as stringers bands and blebs associated with a bright green mineral (mariposite?) and more quartz Cont'd.

Page 1 of 2

HOLE NO. 286-7

DOCKET NO. 8608

PROPERTY MAIN EXPLORATION COMPANY LIMITED

LOCATION A.E.M. Anomaly 4-30 P.L. 76E at 144'S BEARING 180° Magnetic HOLE NO. 286-7

LOGGED BY A.B.Baldwin ELEVATION - DIP 45° FINAL DEPTH 490'

STARTED September 17, 1959 TESTS (CORRECTED)

FINISHED September 21, 1959

CASING 9'

CORE SIZE EXT

FROM	TO	DESCRIPTION
400	413	Well-banded brown and green rock, banding at 70° to the core, mainly comprised of biotite and quartz, with bright green chlorite bands and red garnet clusters
413	454	Gabbro, mottled gray, slightly altered, scattered quartz and carbonate veinlets, medium crystalline
454	460	Chloritic Argillite, dark green, massive, scattered gabbro tongues, minor scattered pyrrhotite-chalcopyrite.
460	467	Gabbro, as above; with disseminated Chalcopyrite-Pyrrhotite.
467	473	Chloritic Argillite, as from 434 to 460.
473	490	Peridotite, mottled dark gray, fresh, magnetic, with traces of disseminated sulphides.
		END OF HOLE
Lost Core 469-471 472-473 477-478		

SAMPLE RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project #286

286-7 -HOLE NO.
1 -PAGE

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	% Cu	% Ni			DESCRIPTIONS
286-447	392	398	6	1.54	0.09	0.06			12% Pyrrhotite, Minor Chalcopyrite
286-448	454	460	6	Tr	0.18	0.13			Minor scattered Pyrrhotite-Chalcopyrite

286-7

Townshend & Kent Form No. 8609

PROPERTY MAIN EXPLORATION COMPANY LIMITED - Project #286 PAGE 1

LOCATION A.E.M. Anomaly #4-23 P.L. 760W at 420S BEARING 140° Magnetic HOLE NO. 286-8

LOGGED BY A.B.Baldwin ELEVATION - DIP 51° FINAL DEPTH 60'

STARTED September 11, 1959 TESTS (CORRECTED)

FINISHED September 14, 1959

CASING 0

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	25	Quartzite, mottled light grey, well-bedded, with garnet phases.
25	38	Graphite-Sulphide-Garnet Zone 31-35 Pyrrhotite and minor pyrite and a trace of Chalcopyrite.
38	48	Cherty Quartzite, mottled light grey, scattered garnets and scattered white quartz veins.
48	54	Garnet-Graphite-Chlorite Zone, with scattered seams and blebs of Pyrite and Pyrrhotite.
54	60	Greenstone, green, fine grained, mainly composed of quartz and hornblende.
		END OF HOLE
Lost Core 36-38 49-50		

DOCKET NO.
8608

HOLE NO. 286-8

PROPERTY MAIN EXPLORATION CO. LIMITED PAGE 1

LOCATION A.E.M. Anomaly 3-49, B.L. 15+15E at 1+00N BEARING 230° (Mag) HOLE NO. 286-9

LOGGED BY A.B.Baldwin ELEVATION DIP 45° FINAL DEPTH 63'

STARTED September 19, 1959 TESTS (CORRECTED)

FINISHED September 21, 1959

CASING -

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	63	GNEISSIC QUARTZITE; streaked and mottled grey; gneissosity at 45° to the core; scattered glassy quartz veins; with minor disseminated pyrite and pyrrhotite. The main minerals are quartz, chlorite and biotite; colour varies from brownish grey to greenish grey to light grey depending upon the relative abundance of the three main minerals 32 - 38: 2% Chalcopyrite-Pyrrhotite as disseminated streaks
		END OF HOLE

DOCKET NO. 8608

HOLE NO. 286-9

SAMPLE RECORD SHEET

PROPERTY- MAIN EXPLORATION CO. LTD.

286-9 -HOLE NO.
1 -PAGE

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
				Oz.Au	Oz.Ag	% Cu			
286-439	32	38	6	Tr	Tr	0.21			2% Chalcopyrite - Pyrrhotite as disseminated streaks in gneissic quartzite

286-9

Townshend & Kent Form No. 8609

PROPERTY MAIN EXPLORATION CO. Ltd.
Project 286 PAGE 1

LOCATION A.E.M. Anomaly 3-49, L 13+27E at 1+87N BEARING 50° (Mag) HOLE NO. 286-10

LOGGED BY A.B. Baldwin ELEVATION — DIP 45° FINAL DEPTH 55'

STARTED September 22, 1959 TESTS (CORRECTED)

FINISHED September 24, 1959

CASING —

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	55	GRAPHITE - PYRITE ROCK, black, with bands of bluish quartz and pyrite; 5% pyrite and minor pyrrhotite; scattered quartz veins. Pyrite occurs as blebs, seams, bands, concentric nodules and disseminations - banding at 30° to the core. 44-49: Somewhat more pyrrhotite
Lost Core 47- 49		END OF HOLE

HOLE NO. 286-10

DOCKET NO. 8608

SAMF _ RECORD SHEET

286-10 HOLE NO.
1 PAGE

PROPERTY- MAIN EXPLORATION CO. LTD.

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
				Oz. Au	Oz. Ag	% Cu			
286-438	44	49	5	Tr	0.46	0.04			Graphite-Pyrite-Pyrrhotite rock with glassy quartz veins

286-10

Townshend & Kent Form No. 8609

PROPERTY MAIN EXPLORATION CO. LTD. PAGE 1

LOCATION A.E.M. Anomaly 3-49, L 13+27E at 3+00N BEARING 230° (Mag) HOLE NO. 286-11

LOGGED BY A.B. Baldwin ELEVATION – DIP 45° FINAL DEPTH 41'

STARTED September 24, 1959 TESTS (CORRECTED)

FINISHED September 26, 1959

CASING 25

CORE SIZE XRP (Packsack)

FROM	TO	DESCRIPTION
0	25	Casing
25	41	Graphitic, fine-grained quartzite and carbonaceous argillite; quite pyritic; banding at 60° to the core.

END OF HOLE

286-11

DOCKET NO.
8608

PROPERTY MAIN EXPLORATION CO. LIMITED

LOCATION A.E.M. Anomaly 3-38 - P.L. 72+44S at B.L. BEARING 120° (Mag) HOLE NO. 286-12

LOGGED BY A.B.Baldwin ELEVATION ______ DIP 45° FINAL DEPTH 228'

STARTED September 25, 1959 TESTS (CORRECTED)

FINISHED September 27, 1959

CASING 2'

CORE SIZE EXT

FROM	TO	DESCRIPTION
2	58	QUARTZITE, Dark grey, impure, with chlorite and garnet phases, scattered quartz veinlets and mineralized fractures (pyrite-Pyrrhotite); banding at 50° to the core. 35-45: Coarse grained Chlorite-Garnet-Biotite-Pyrrhotite rock
58	113	QUARTZITE, Greenish light grey, altered and contorted, probable banding at 60° to the core, scattered quartz-calcite veinlets with associated pyrite and epidote, widely scattered mariposite seams
113	125	Intermingled dark grey carbonaceous pyritic quartzite, altered quartzite and Pyrite-Graphite-Quartz-Breccia
125	134	Altered, brecciated and veined greenish dark grey chloritic carbonaceous quartzite with light pyrite.
134	149	VEIN ZONE; 50% milky quartz, 35% Graphitic Material and 15% Pyrite (Brecciated) 60% Recovery 145: Minor Chalcopyrite
149	165	IMPURE QUARTZITE, dark greenish grey, very chloritic, very garnetiferous, pyritic
165	228	GREENSTONE, green, chloritic, scattered quartz veins, quartzose 192, 198: Quartz veins with minor pyrrhotite-chalcopyrite

END OF HOLE

HOLE NO. 286-12

DOCKET NO. 8608

SAM. E RECORD SHEET

PROPERTY— MAIN EXPLORATION CO. LTD

286-12 —HOLE NO.
1 —PAGE

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
				Oz. Au	Oz. Ag	% Cu			
286-459	121	125	4	Tr	0.30	0.02			Graphite – Quartz Breccia
286-460	139	144	5	Tr	Tr	0.02			Graphite – Quartz Breccia
286-461	144	149	5	Tr	TR	0.11			
286-462									
									286-12

Townshend & Kent Form No. 8609

SAMPLE RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY - Project #286 DRUM LAKE LOCALITY -HOLE NO.

1 -PAGE

SAMPLE NO.	FROM	TO	LENGTH	ASSAYS Oz. Ag	Oz. Au	%Cu	%Pb	% Zn	DESCRIPTIONS
286-399	CHANNEL		5'	Tr	Tr	-	-	-	Abundant cherty quartz with light Pyrite and traces of Chalcopyrite.
286-400	GRAB		-	Tr	Tr	-	-	-	Carbonate-quartz rock with minor Pyrite, Chalcopyrite and Sphalerite.
286-429	GRAB		6"	-	Nil	0.05	-	-	Cherty quartz vein with 5% impregnated Pyrite - Tarnishes readily.
286-430	CHANNEL		4'	Tr	Nil	-	-	-	Cherty Quartz Veins with disseminated Pyrite.
286-431	CHANNEL		3'	-	Nil	0.10	-	-	Milky cherty quartz veins in Mariposite - Carbonate rock.
286-432	CHANNEL		3'	Tr	-	-	Tr	Tr	Impure quartzite with fractures and partings smeared with Galena-Sphalerite-Chalcopyrite.
286-433	GRAB		2'	Tr	Nil	-	-	-	Granite Tongue with light disseminated Chalcopyrite.

13

Drum Lake Locality.

SAM E RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project #286

DISCOVERY LAKE AREA -HOLE NO.
A.E.M. 2-22 1 -PAGE

	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
					Oz. Ag	Oz. Au	% Cu	% Pb	% Zn	
VEIN 1	286-411	6'	14'	8'	0.76	0.03	1.76	-	-	10% Chalcopyrite in Glassy Quartz
	286-415	0'	6'	6'	0.46	0.01	1.10	-	-	Minor Bornite and Pyrrhotite
	Average	0'	14'	14'	0.63	0.02	1.48			
	286-414	Character			2.60	0.03	7.86			Chalcopyrite - Bornite in Glassy Quartz
VEIN 2	286-416	0'	6.5'	6.5'	0.74	0.01	1.18			6% Chalcopyrite in Glassy Quartz
VEIN 3	286-458	0'	10'	10'	2.42	0.04	3.66			9% Chalcopyrite in Glassy Quartz
VEIN 4	286-457	0'	13'	13'	0.44	0.04	-	-	0.50	Bleached white quartzite with disseminated Pyrite-Sphalerite.
VEIN 5	286-456	0'	20'	20'	0.50	0.01	-	-	Nil	Mineralized quartzite with 10%
	286-413	Character			4.17	0.11	-	-	0.19	Pyrite-Pyrrhotite-Mariposite
VEIN 6	286-455	0'	20'	20'	0.26	Nil	0.07	Tr	Nil	Sheared impure quartzite and grey schist with graphite, pyrite, pyrrhotite, chalcopyrite and galena.

N.B. The copper content of Veins 1, 2 and 3 is believed to be too low by at least 1 percent copper. The samples were cut from trenches that had not completely penetrated the zone of leaching. The behaviour of the gold and silver during the weathering-leaching process is not known.

SAMF . RECORD SHEET

PROPERTY- MAIN EXPLORATION COMPANY LIMITED - Project #286

DISCOVERY LAKE AREA
A.E.M. 2-22

-HOLE NO.
2 -PAGE

	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
					Oz.Ag	Oz.Au	% Cu	% Pb	% Zn	
VEIN 7	286-412	Character			3.38	0.22	0.70	6.54	3.28	Moderate Galena in Quartzite
	286-418	0'	10'	10'	1.92	-	-	0.99	3.58	Disseminated Sphalerite - Galena in a white
	286-419	10'	20'	10'	1.94	0.03	-	3.03	3.18	remobilized Quartzite
	286-420	20'	30'	10'	0.46	0.005	-	0.28	1.39	
	286-421	30'	35'	5'	1.36	-	-	0.86	2.88	
VEIN 8	286-417	0'	4'	4'	10.25	0.99	2.94	-	-	15% Chalcopyrite in Quartz-Chlorite Shear
VEIN 9	286-459	0'	10'	10'	0.32	0.01	-	-	Nil	Sheared and altered impure quartzite with heavy graphite, pyrrhotite, mariposite, quartz & chalcopyrite
VEIN 10	286-453	0'	20'	20'	0.16	0.02	0.04	-	Tr	Mineralized and veined impure Quartzite with
	286-452	20'	32'	12'	0.42	0.01	0.19	-	Nil	biotite, chalcopyrite, pyrrhotite, pyrite & graphite
	286-451	32'	44'	12'	0.66	0.02	Tr	-	-	
	Average	0'	44'	44'	0.30	0.02	-	-	-	
VEIN 11	286-450	Character			Tr	Nil				Quartz vein with minor pyrrhotite

SAM E RECORD SHEET

DISCOVERY LAKE AREA
A.E.M. 2-22

—HOLE NO.
3 —PAGE

PROPERTY— MAIN EXPLORATION COMPANY LIMITED — Project #286

	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					DESCRIPTIONS
					Oz. Ag	Oz. Au	% Cu	% Pb	% Zn	
VEIN 12	286-449	0'	4'	4'	7.63	0.03	—	—	Tr	Quartz vein with minor pyrrhotite
VEIN 13	286-444	0'	10'	10'	Tr	0.01				Barren glassy quartz vein
VEIN 14	286-437	0'	20'	20'	0.98	0.01	—	0.07	1.09	Minor Pyrite-Galena-Sphalerite-Chalcopyrite in remobilized Quartzite
VEIN 15	286-435	0'	4'	4'	0.26	0.01	—	—	0.35	Quartz Vein carrying minor Sphalerite-Galena

DISCOVERY LAKE AREA
A.E.M. 2-22

Townshend & Kent Form No. 8609

PLATE	TITLE
1	Anomaly 2-22: Discovery Lake Anomalies 3-9, 10, 11: Pat Lake Iron
2	Anomalies 4-26, 27, 28, 29, 30, 31, 33 and 38: Calamity Lake Area
3	Anomaly 4-31: Talc Lake
4	Anomaly 3-45: Russ' Hole
5	Anomaly 2-42,43: Poplar River
6	Anomaly 4-23: Instrument Knoll
7	Anomaly 2-35: MacIntosh Lake
8	Anomalies 2-15, 3-49: Taylor Lake
9	Anomaly 3-38: Morrison Lake
10	1958 Beaver Lake Sulphide Vein

4

GEOLOGICAL LEGEND FOR MAPS ACCOMPANYING A REPORT ON PROJECT 286

BY A.B.BALDWIN-NOVEMBER 1959

QUATERNARY

RECENT			MUSKEG AND SWAMP
PLEISTOCENE			SAND, GRAVEL AND BOULDERS

PRECAMBRIAN

KEWEENAWAN TYPE	9	9	GABBRO, DIABASIC TO COARSELY CRYSTALLINE, AS DYKES AND SILLS
ALGOMAN TYPE	8	8	PEGMATITE, GRANITIC ; WITH LOCAL SPODUMENE, LEPIDOLITE, TOURMALINE AND MOLYBDENITE .
	7	7	GRANITE, PINK HORNBLENDIC, FINELY CRYSTALLINE TO PEGMATITIC.
	6	6	PERIDOTITE, FRESH TO INTENSELY ALTERED.
KEEWATIN TYPE	5	5	QUARTZITE, CREAM, PURE, GNEISSIC, FINE GRAINED TO COARSE GRAINED (PORPHYRITIC.).
	4	4	QUARTZITE, GREY, IMPURE, WITH LOCAL IRON FORMATION, CONGLOMERATE AND CARBONACEOUS PHASES
	3	3	MAGNETITE — SILICA IRON FORMATION.
	2	2	GREENSTONE, FINELY CRYSTALLINE WITH MAINLY HORNBLENDE AND QUARTZ ; INCLUDES MAINLY ALTERED BASALT & ANDESITE AS WELL AS UNDIFFERENTIATED SEDIMENTARY ROCKS.
	1	1	GNEISS, GRANITIC, WITH LOCAL MAFIC PHASES

MINERAL OCCURRENCES — SYMBOLS

X FE — IRON	X NI —NICKEL	X PB. — LEAD	
X PY — PYRITE		X ZN — ZINC	
X PYRRHO— PYRRHOTITE		X AG — SILVER	
X LI — LITHIUM		X AU — GOLD	
X CU — COPPER		X GRAPHITE	

1. TABULATED SUMMARY - The reference numbers refer to A.E.M. Anomalies shown on the accompanying Geological-Geophysical Map Sheets.

REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)	DETAILS OF RECOMMENDED ADDITIONAL WORK
6-6	Prospecting and mapping.	The area is apparently all underlain by granite gneiss with no obvious conductive material.	Not sampled	Nil
6-8	Prospecting and mapping - Trial cross line and base line cut.	Graphite and minor magnetic iron formation in greenstone rocks.	Not sampled	Nil
6-11	Prospecting and mapping - Trial cross line cut.	Graphite and magnetic iron formation in greenstone rocks.	Not sampled	Nil
4-2	Magnaphase E.M.	Graphitic rocks occur on strike with this weak anomaly.	Not sampled	Nil
4-19 (Beaver Lake)	Diamond drilling.	Conductor probably caused by local accumulation of clay deposits at the bottom of a deep portion of Beaver Lake.	D.D.H. 286-1A Width: 70' · Au: 0.01 · Ag: Tr.	Nil
* 4-22	Prospecting and mapping - Minor blasting and sampling.	Copper-nickel mineralization in altered greenstone over an area 200 feet wide and 700 feet long.	Character Samples: Au Nil, Ag 0.14, Cu 0.41, Ni 0.18, S - Au Nil, Ag 0.04, Cu 0.25, Ni 0.10, S 4.06	Additional detailed geological mapping and prospecting with further sampling.
* 4-23	Magnaphase E.M., packsack drilling, mapping - with detailed map.	Graphitic quartzites with minor sulphides.	Quartz Vein (3' wide): Au - Trace, Ag - 1.44 Massive Pyrite (6" wide): Au - 0.02, Ag - 0.42	Nil
4-26	Magnaphase E.M., prospecting and mapping.	Graphite and copper-bearing quartz veins.	Irregular quartz veins with minor chalcopyrite in quartzites in a 40' zone. Au - 0.01 Ag 0.24	Nil
4-27	Magnaphase E.M., prospecting and mapping.	Graphite with copper-bearing quartz veins.	Not sampled	Nil
4-28	Magnaphase E.M., prospecting and mapping.	Graphite quartzites.	Not sampled	Nil

* Additional work recommended.

REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)					DETAILS OF RECOMMENDED ADDITIONAL WORK
4-29	Magnaphase E.M., prospecting and mapping - with detailed map.	Graphite quartzites.	Not sampled					Nil
				Cu	Ni	Ag	Width	
* 4-30 (Ultra Lake)	Magnaphase E.M., prospecting, mapping and diamond drilling - with detailed map.	Copper-nickel sulphide zone and a graphitic-iron formation zone.	Trench in Mineralized Greenstone:	0.09	0.11	Tr.	50'	Discussed in separate section. Additional diamond drilling.
			D.D.H. 286-7	0.09	0.06	1.54	6'	
			D.D.H. 286-7	0.18	0.13	Tr.	6'	
				Cu	Ni	Ag	Width	
* 4-31 (Talc Lake)	Magnaphase E.M., prospecting, mapping and packsack drilling - with detailed map.	Pyrrhotite with low copper-nickel values.	Friable quartz and Pyrite near Base Line at 0+00			0.64		Nil
			Weighted core assay	0.08	0.04	Tr.	27'	
* 4-33	Magnaphase E.M., prospecting and mapping - with detailed map.	No apparent conductive material - minor arsenopyrite.	Minor chalcopyrite in glassy quartz vein	0.26	0.01	Tr.	12'	Additional blasting and sampling.
4-43	Prospecting.	Probably graphite.	Not sampled					Nil
4-35	Prospecting.	Probably graphite.	Not sampled					Nil
* 4-37 (Hutton Lake)	Prospecting and mapping.	Probably sulphides - similar geology to 3-58.	Not sampled					Geophysics on ice. Additional work depending on results at 3-58.
3-8 (Pat Lake Iron)	Dip needle survey; mapping - with detailed map.	Magnetic iron formation.	Not sampled					Nil
						Au	Ag	
3-37	Magnaphase E.M., prospecting.	Probably graphite.	10% pyrite in impure quartzite over 10'			Nil	Tr.	Nil

* Additional work recommended.

REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)	DETAILS OF RECOMMENDED ADDITIONAL WORK
* 3-38	Magnaphase E.M., prospecting, mapping and diamond drilling with detailed map.	Quartz-graphite breccia zone about 7,000 feet long and with an average width of 50 feet	Channel Samples: Cu / Au / Ag / Width 2.52 / 0.01 / 0.53 / 6' – / Nil / Tr / 90' 7.19 / 0.01 / 0.45 / 10' 2.46 / Tr / 0.20 / 8' Core Samples: 0.07 / Tr / Tr / 10'	Additional 500 feet of diamond drilling in 2 holes.
* 3-40	Magnaphase E.M., prospecting and mapping.	Sulphides, iron formation and graphite	Zn / Pb / Ag / Au Moderate Galena-Sphalerite in zoned quartz vein/2': 5.87 / 0.55 / 0.62 / 0.03 Mineralized quartzite/1': 1.69 / 1.71 / 2.05 / 0.05 Zoned quartz vein/6': Pb 0.01 / Ag 0.22 / Cu 1.25	Blasting and sampling. Possible diamond drilling.
* 3-41	Magnaphase E.M., prospecting and mapping.	Sulphides, iron formation and graphite.	Width / Cu / Ag / Au Heavy pyrite in quartzite (L20W at 150N): 4' / 0.02 / Tr / Tr	Blasting and sampling. Possible diamond drilling.
3-42	Magnaphase E.M., prospecting.	Probably graphite.	Not sampled	Nil
* 3-43	Mapping.	Good geology.	Not sampled	Additional mapping and prospecting.
* 3-44	Mapping.	Good geology.	Not sampled	Additional mapping and prospecting.
3-45	Magnaphase E.M., prospecting and mapping - with detailed map.	Graphite.	Not sampled	Nil
* 3-46	Mapping.	Good geology.	Not sampled	Additional mapping, prospecting and geophysics.

* Additional work recommended.

REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)	Ni	Cu	Au	Ag	DETAILS OF RECOMMENDED ADDITIONAL WORK
* 3-49	Magnaphase E.M., mapping prospecting and packsack drilling - with detailed map.	Graphite and iron formation with copper mineralization along south contact.	Glassy quartz veins in graphitic schist			0.005	0.24	Diamond drilling - 1,000 feet in 2 holes.
			Graphite schist		0.02	Nil		
			Pyrrhotite in gneissic quartzite	0.38	0.07	0.01	2.29	
			Pyrrhotite in quartzite breccia	0.09	0.05			
* 3-58 (Anomaly Lake)	Magnaphase E.M., mapping, prospecting and diamond drilling.	Geological environment is favourable for the occurrence of sulphide mineralization.	Not sampled					Geophysics on ice. Additional diamond drilling.
* 3-59	Prospecting and mapping.	Probably sulphides - similar geology to 3-58.	Not sampled					Geophysics on ice. Additional work depending on results at 3-58.
* 3-66	Mapping.	Good geology.	Not sampled					Additional mapping and prospecting.
* 3-67	Mapping.	Good geology.	Not sampled					Additional mapping and prospecting.
2-13	Magnaphase E.M., prospecting, and mapping.	Graphite and lean iron formation.	Not sampled					Nil
2-15	Magnaphase E.M., mapping, prospecting and packsack drilling - with detailed map.	Graphite and iron formation with copper mineralization along south contact.	Not sampled					Nil
* 2-16	Prospecting and mapping.	Graphite with quartz veins to the south - good geology.	Not sampled					Additional mapping and prospecting.

* Additional work recommended.

REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)	DETAILS OF RECOMMENDED ADDITIONAL WORK
2-17	Prospecting and mapping.	Graphite.	Not sampled	Nil
2-18	Prospecting and mapping.	Graphite.	Arsenopyrite in carbonaceous greenstone — Cu 0.05, Pb 0.06, Au 0.05, Ag Tr	Nil
2-19	Magnaphase E.M., prospecting and mapping.	Graphite.	Not sampled	Nil
2-20	Magnaphase E.M., prospecting and mapping.	Graphite.	Not sampled	Nil
2-21	Magnaphase E.M., prospecting and mapping.	Graphite and pyrrhotite.	Not sampled	Nil
* 2-22	Magnaphase E.M., prospecting, mapping and trenching - with detailed map.	Graphite and sulphides	Assays as high as Zn 3.58, Cu 7.86, Pb 6.54, Au 0.99, Ag 10.25	Discussed in separate section - most important showings known in the Yasinski Lake Area.
2-23	Prospecting and mapping.	Graphite.	Not sampled	Nil
2-24	Prospecting and mapping.	Graphite.	Not sampled	Nil
2-25	Prospecting and mapping.	Graphite.	Not sampled	Nil
2-26	Prospecting and mapping.	Graphite.	Not sampled	Nil
2-27	Prospecting and mapping.	Graphite.	Not sampled	Nil
* 2-28	Magnaphase E.M., prospecting and mapping.	Graphite; west extension is probably caused by massive sulphides.	Massive pyrrhotite over 3' — Cu 2.62, Ni 0.13	Geophysics and packsack drilling.

* Additional work recommended.

	REFERENCE NUMBER	WORK PERFORMED	REMARKS	ASSAY RESULTS (GENERAL)	DETAILS OF RECOMMENDED ADDITIONAL WORK
	2-29	Prospecting and mapping.	Graphite.	Not sampled	Nil
*	2-35	Magnaphase E.M., prospecting, and mapping - with detailed map.	Graphite.	Not sampled	Additional geophysics as airborne anomaly is apparently not the ore located on the ground.
* *	2-42) 2-43)	Magnaphase E.M., prospecting and mapping - with detailed map.	Graphite, sulphides and iron formation	Not sampled	Blasting, sampling and packsack diamond drilling.

* Additional work recommended.