ISBN 0-7778-1879-5

THESE TERMS GOVERN YOUR USE OF THIS DOCUMENT

Your use of this Ontario Geological Survey document (the "Content") is governed by the terms set out on this page ("Terms of Use"). By downloading this Content, you (the "User") have accepted, and have agreed to be bound by, the Terms of Use.

Content: This Content is offered by the Province of Ontario's *Ministry of Northern Development and Mines* (MNDM) as a public service, on an "as-is" basis. Recommendations and statements of opinion expressed in the Content are those of the author or authors and are not to be construed as statement of government policy. You are solely responsible for your use of the Content. You should not rely on the Content for legal advice nor as authoritative in your particular circumstances. Users should verify the accuracy and applicability of any Content before acting on it. MNDM does not guarantee, or make any warranty express or implied, that the Content is current, accurate, complete or reliable. MNDM is not responsible for any damage however caused, which results, directly or indirectly, from your use of the Content. MNDM assumes no legal liability or responsibility for the Content whatsoever.

Links to Other Web Sites: This Content may contain links, to Web sites that are not operated by MNDM. Linked Web sites may not be available in French. MNDM neither endorses nor assumes any responsibility for the safety, accuracy or availability of linked Web sites or the information contained on them. The linked Web sites, their operation and content are the responsibility of the person or entity for which they were created or maintained (the "Owner"). Both your use of a linked Web site, and your right to use or reproduce information or materials from a linked Web site, are subject to the terms of use governing that particular Web site. Any comments or inquiries regarding a linked Web site must be directed to its Owner.

Copyright: Canadian and international intellectual property laws protect the Content. Unless otherwise indicated, copyright is held by the Queen's Printer for Ontario.

It is recommended that reference to the Content be made in the following form:

Seim, G.W. 1993. Mineral deposits of the central portion of the Uchi Subprovince, Volume 1, Meen Lake to Kasagiminnis Lake portion; Ontario Geological Survey, Open File Report 5869, 390p.

Use and Reproduction of Content: The Content may be used and reproduced only in accordance with applicable intellectual property laws. *Non-commercial* use of unsubstantial excerpts of the Content is permitted provided that appropriate credit is given and Crown copyright is acknowledged. Any substantial reproduction of the Content or any *commercial* use of all or part of the Content is prohibited without the prior written permission of MNDM. Substantial reproduction includes the reproduction of any illustration or figure, such as, but not limited to graphs, charts and maps. Commercial use includes commercial distribution of the Content, the reproduction of multiple copies of the Content for any purpose whether or not commercial, use of the Content in commercial publications, and the creation of value-added products using the Content.

Contact:

FOR FURTHER INFORMATION ON	PLEASE CONTACT:	BY TELEPHONE:	BY E-MAIL:
The Reproduction of Content	MNDM Publication Services	Local: (705) 670-5691 Toll Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	pubsales.ndm@ontario.ca
The Purchase of MNDM Publications	MNDM Publication Sales	Local: (705) 670-5691 Toll Free: 1-888-415-9845, ext. 5691 (inside Canada, United States)	pubsales.ndm@ontario.ca
Crown Copyright	Queen's Printer	Local: (416) 326-2678 Toll Free: 1-800-668-9938 (inside Canada, United States)	copyright@gov.on.ca

Ministry of
Northern Development
and Mines
Ontario

Ontario Geological Survey
Open File Report 5869

Mineral Deposits of the Central Portion of the Uchi Subprovince, Volume 1, Meen Lake to Kasagiminnis Lake Portion

1993

Ministry of
Northern Development
and Mines
Ontario

ONTARIO GEOLOGICAL SURVEY

Open File Report 5869

Mineral Deposits of the Central Portion of the Uchi Subprovince, Volume 1, Meen Lake to Kasagiminnis Lake Portion

By

G.W. Seim

1993

Ontario Geological Survey

OPEN FILE REPORT

Open File Reports are made available to the public subject to the following conditions:

This report is unedited. Discrepancies may occur for which the Ontario Geological Survey does not assume liability. Recommendations and statements of opinions expressed are those of the author or authors and are not to be construed as statements of government policy.

This Open File Report is available for viewing at the following locations:

Mines Library
Level A3, 933 Ramsey Lake Road
Sudbury, Ontario P3E 6B5

Mines and Minerals Information Centre (MMIC)
Rm. M2-17, Macdonald Block
900 Bay St.
Toronto, Ontario M7A 1C3

The office of the Resident Geologist whose district includes the area covered by this report.

Copies of this report may be obtained at the user's expense from:

OGS On-Demand Publications
Level B4, 933 Ramsey Lake Road
Sudbury, Ontario P3E 6B5
Tel. (705)670-5691 Collect calls accepted.

Handwritten notes and sketches may be made from this report. Check with MMIC, the Mines Library or the Resident Geologist's office whether there is a copy of this report that may be borrowed. A copy of this report is available for Inter-Library loan.

This report is available for viewing at the following Resident Geologists' offices:

Sioux Lookout, Box 3000, Court House Building, Sioux Lookout P0V 2T0

Table of Contents

List of Figures

Maps

List of Tables

Abstract

This report contains descriptions of 121 mineral occurrences within the Meen Lake to Kasagaminnis Lake area of the central portion of the Uchi Subprovince. The Meen Lake to Kasagaminnis Lake area is synonymous with the Meen-Dempster greenstone belt. The greenstone belt is comprised of rocks from 6 tectonic assemblages; Woman, Confederation, Billet, Bamaji, St. Joseph. and Pickle Crow. The majority of the mineral occurrences contain gold mineralization. There are a lesser number of base metal occurrences and a few molybdenum occurrences. The majority of the mineral occurrences are known only from diamond-drill hole intersections. Gold mineralization within the greenstone belt is associated with highly deformed rocks. These highly deformed rocks may form a set of, at present, partially-defined deformation zones. Base metal occurrences within the greenstone belt are confined to the Woman assemblage.

The mineral occurrence descriptions contain information presented in both text and database-like formats, but the descriptions are not maintained in a database. Each description contain sections on:

Deposit identification
Location and Access
Exploration history
Geology
Geological Data (host rock, associated rock types, etc.)
References.

Where the information was available, the descriptions contain sections on:
Reserves
Production statistics
Economic features
Other Pertinent Data.

The data for this report was compiled from 1988 to and including the time of writing. Many of the mineral occurrences which outcrop, were visited by the writer and his observations have influenced the descriptions. The writer's assay data is presented in the Other Pertinent Data sections of the descriptions. The writer's assays were performed by the Ontario Geoscience Laboratory and by the Temiskaming Testing Laboratory.

Mineral Deposits, Central Portion of Uchi Subprovince

Volume 1

Meen Lake to Kasagiminnis Lake Portion

1993

by

G. Wm. Seim[1]

[1]Staff Geologist, Resident Geologist's office, Sioux Lookout, Ministry of Northern Development and Mines.

Manuscript approved for publication by K. Fenwick. Manager, Field Services Section, Northwest Ontario, Ontario Geological Survey, July 23, 1993

This report is published with the approval of John Wood, Director, Ontario Geological Survey.

Introduction

This report is a catalogue of information on 121 known mineral occurrences in the Meen Lake to Kasagiminnis Lake area of the central portion of the Uchi subprovince (map figure 1). The staff of the Sioux Lookout Resident Geologist's office documented the mineral occurrences through a systematic search of the assessment files and of the past literature pertaining to the area. Each mineral occurrence described in this report is a record in the Ministry's Mineral Deposit Inventory database (MDI). Where possible, the information given in this report is consistent with that contained in MDI. The information given here is generally more detailed than that contained in MDI.

In this report, each mineral occurrence is described in a separate extractable record. Each record contains both database-type information and block text-type information. The use of database-type information allows the user of this report to quickly determine if a mineral occurrence is of interest based on a few selection criteria. For example, one can quickly determine which mineral occurrences contain gold mineralization in iron formation by looking at the 'Commodity' and 'Mineralization occurs in' fields for each record. The report however, is not a database.

This report is subdivided into 13 sections and an introductory chapter. Each of the 13 sections corresponds to a National Topographic System (NTS) quadrant which, in the report area, is equivalent to a claim map area. Each section contains all the records for all the known mineral occurrence in that NTS quadrant. The location of each mineral occurrence is plotted on one of the maps in the back pocket using the MDI numbers for reference. Table 1 shows which NTS quadrant are illustrated on which map.

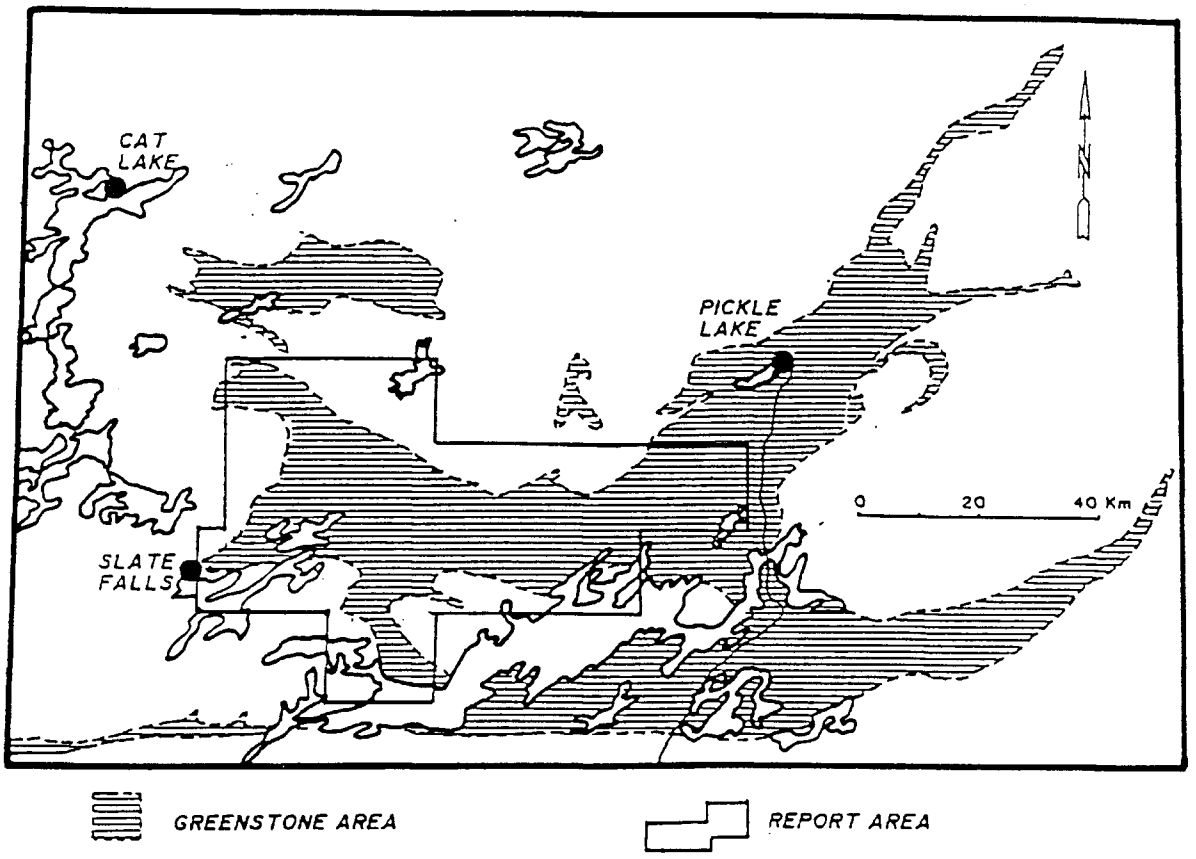
Table 1. Cross reference for NTS quadrant and mineral occurrence location maps.

Meen-Dempster Greenstone Belt

West Portion		East Portion	
52O/03NE	Drum Lake area	52O/02NE	Matapesatakun Bay area
52O/03NW	Fry Lake area	52O/02NW	Duffell Lake area
52O/03SE	Johnston Bay area	52O/07SW	Wright Lake area
52O/04NE	Wesleyan Lake area	52O/07SE	Caley Lake area
52O/06NE	Dobie Lake area	52O/08SW	Little Ochig Lake area
52O/06NW	Meen Lake area		
52O/06SE	Kawashe Lake area		
52O/06SW	Nabemakoseka Lake area		

Data on most of the mineral occurrences described in this report were previously only in the assessment files. Because of this, the information given, for the most part, has been gleaned from the assessment files. Other sources of information include

Map Figure 1 Map definition of the central portion of the Uchi Subprovince and location outline for the report area



government reports, newspaper clippings, and theses. Many of the outcropping mineral occurrences were examined the by Sioux Lookout Staff Geologist. The descriptions of these deposits were influenced by the observations made during the examination. Assay results for samples taken by the Staff Geologist are given in the 'Other pertinent data' fields of the appropriate records. A list of references for an individual mineral occurrence is given at the end of each record.

Acknowledgements

The Sioux Lookout Staff Geologist wishes to thank the all mineral exploration and mining company personnel who have provided valuable information to this report.

The Sioux Lookout Staff Geologist also thanks K. Carrol, P. Toth and C. Bowen who aided in the search of the assessment files; A. McTavish for computer aided drafting on most of the maps and for his contribution of his personal knowledge to this report; M. Roy for her editing and assistance in formatting the text; G. Stott for sharing his knowledge of the area and to D. Janes for being a mentor through this project.

General Exploration History

Mineral exploration in the central portion of the Uchi Subprovince began in 1928 with the discovery of gold mineralization near Pickle Lake. About the same time, several prospectors ventured into t2he Bamaji Lake area and discovered quartz veins in granite which carried pyrite, chalcopyrite, pyrrhotite, sphalerite, molybdenite and galena. (Harding, 1936) It was not until 1933, however, that prospectors are reported to have ventured into the main part of the Meen Lake to Kasagiminnis Lake area. Their work did not yield the discovery any sizable mineral deposits and their findings were not well recorded.

From the 1940's, through to the 1960's only a small amount of exploration took place within the report area. The most significant work resulted in the discovery of the Koval-Ohman gold deposit south of Bancroft Lake by prospector Ben Ohman. The discovery was optioned by Hasaga Gold Mines Ltd. who performed much prospecting, trenching and diamond-drilling. Their work outline a small tonnage of potentially economic gold mineralization.

In the late 1960's and early 1970's, the area was subject to a period of base metal exploration sparked by the discovery of the Thierry deposit at Pickle Lake and other discoveries near Sturgeon Lake and Confederation Lake. Cominco Ltd., the C. C. Huston 1969 Partnership and Cochenour Willans Gold Mines Ltd., in joint venture with Selco Exploration Company Ltd. commissioned separate airborne geophysical surveys over most of the western part of the Meen Lake to Kasagiminnis Lake area. Union

Miniere Explorations and Mining Company Ltd. (UMMEX) commissioned airborne geophysical surveys over the greater portion of the area. (These airborne surveys are not discussed as part of the exploration history in individual mineral occurrence records because of their large areal extent). Anomalies indicated by the airborne geophysical surveys were followed up by several diamond drilling campaigns. This resulted in the discovery of2 several minor base metal occurrences.

In the early to mid 1980's, several mineral exploration companies became interested in the gold potential of the Meen Lake to Kasagiminnis Lake area. Their efforts resulted in the discovery of the Golden Patricia Mine and several other significant mineral deposits. By 1986, almost all of the greenstone in the area was staked and exploration activity was at a intense level. The majority of the gold occurrences described in this report were discovered by diamond-drilling between 1985 and 1990.

Since 1990, the level of exploration activity in the area has steadily declined and only a few companies remain active.

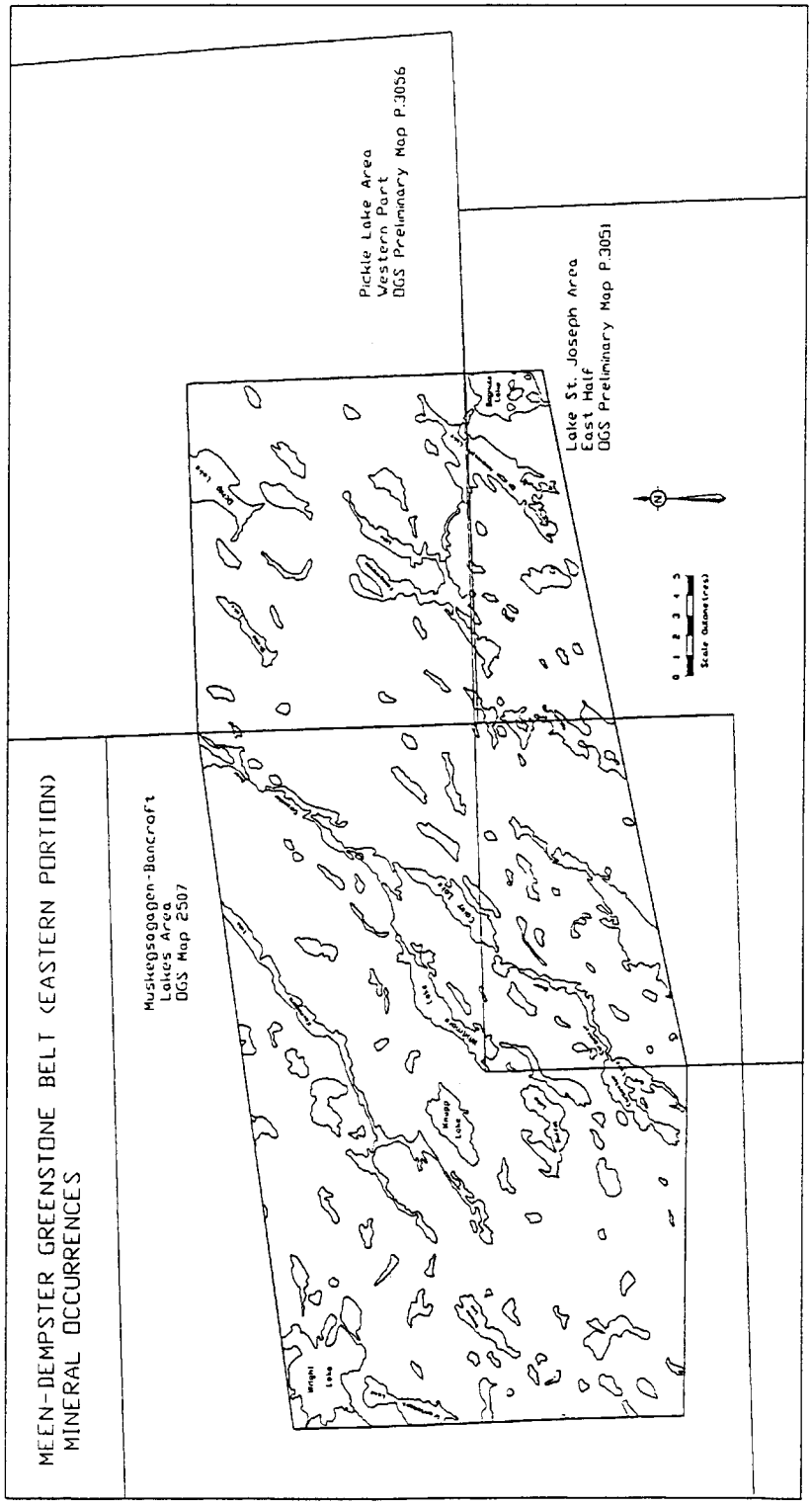
Geology

The Meen Lake to Kasagiminnis Lake area, as used in this report, is synonymous with the Meen-Dempster greenstone belt described by Stott and Corfu, (1991). For the purposes of this report, the boundaries of the belt are extended to include the Bamaji Lake-Fry Lake-Johnston Bay of Lake St. Joseph area. This area, in a few recent Ontario Geological Survey publications, is included as part of the Lake St. Joseph greenstone belt.

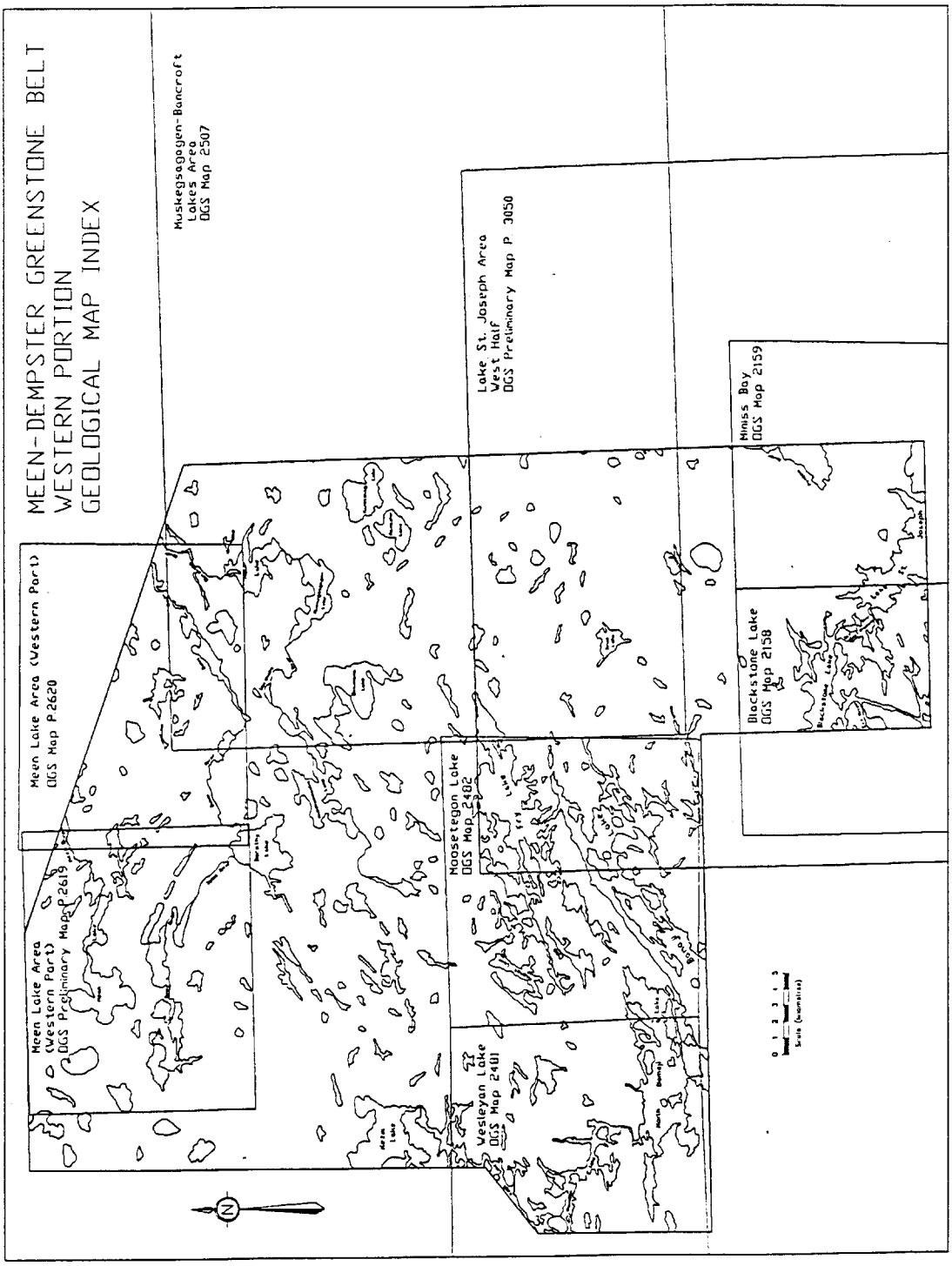
Regional Setting

The Meen-Dempster Lakes greenstone belt is the northwestern part of an extensively intruded block of supracrustals which forms the central portion of the Uchi Subprovince. (Stott and Corfu, 1991) The belt was first mapped by Harding (1936) for the Ontario Department of Mines. In 1963 and 1964, Clifford (1969) mapped the western portion of the Lake St. Joseph area including the Johnston Bay area. In 1972, the belt was included in "Operation Pickle Lake", a helicopter-supported reconnaissance mapping program.(Sage and Breaks, 1982). Most of the area was remapped through the 1980's by Stott and LaRocque (1983a, 1983b), Stott and Wilson (1986a, 1986b), Stott et al. (1989), Wallace (1985), and Stott et al, (1987). Map figures 2a and 2b illustrate the boundaries of the geological maps used as sources for the geological information in this report. Map 2218 (Sage and Breaks, 1982) covers the entire area.

Map Figure 2a Boundaries of geological maps used as references on this report. (east part)



Map Figure 2b Boundaries of geological maps used as references on this report. (west part)



The Meen-Dempster greenstone belt trends southeast to east and is laterally continuous with the Pickle Lake greenstone belt to the east and with the Lake St. Joseph greenstone belt to the south. The Meen-Dempster greenstone belt is comprised of rocks belonging to 6 distinct tectonic assemblages (map figure 3). These assemblages generally face south, but are overturned and dip steeply to the north. (Corfu and Stott, in press) The rocks contained in all the assemblages are to varying degrees metamorphosed. For this reason, the prefix meta- is not used in the following discussion.

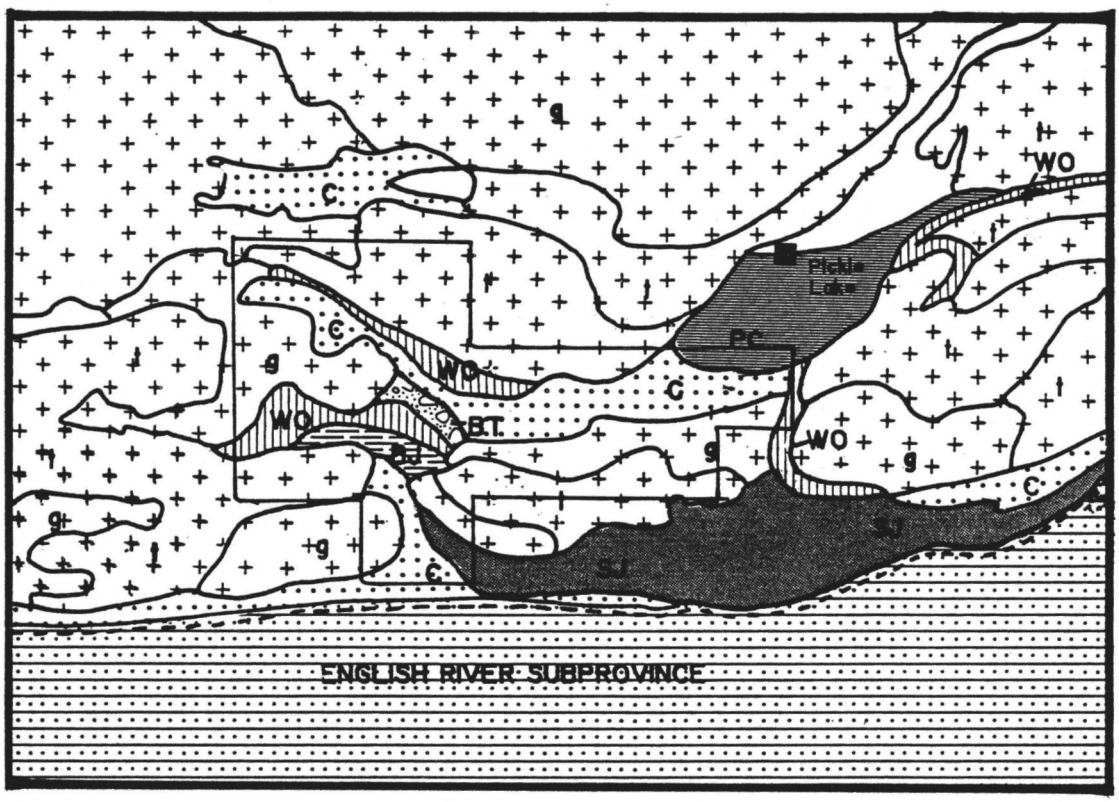
Rocks belonging to the Woman assemblage are found on the northern boundary of the Meen-Dempster greenstone belt and north of Bamaji Lake. The Woman assemblage ranges in age between 2800 Ma and 2900 Ma. In the Meen-Dempster greenstone belt the Woman assemblage consists of a lower portion and an upper portion. The lower portion consists mainly of massive to pillowed tholeiitic basalt with interspersed gabbroic sills, minor felsic tuffs and laterally continuous horizons of banded iron formation. The upper portion of the Woman assemblage consists of dacitic to rhyolitic pyroclastic and sedimentary rocks. (Corfu and Stott, in press) A felsic volcanic centres is interpreted near the north west end of the belt as the pyroclastics found there are of a coarse proximal facies (Stott 1982). Another felsic volcanic centre is indicated in the Muskegsagagen-Kawashe Lake area (Stott and Wallace, 1984).

Rocks of the Confederation assemblage overlie those of the Woman assemblage. Corfu and Stott (in press) suggest that the contact between the 2 assemblages is tectonic rather than depositional.

The Confederation assemblage in the northern part of the Meen-Dempster greenstone belt consists of 2 volcanic cycles and is possibly capped by a the start of an incomplete third. The lower 2 volcanic cycles contain rocks of mafic to intermediate composition. These are overlain by a basaltic unit that is either a mafic capping to the second cycle or a lower mafic member to a dismembered third cycle (Stott and Corfu, 1991). In the southern part of the greenstone belt, the Bamaji Lake-Fry Lake-Johnston Bay area, the Confederation assemblage consist of 4 mafic to felsic volcanic cycles (Stott and Corfu, 1991). The volcanic centre for the first 3 cycles is thought to be located south of the Johnston Bay area.

The Confederation assemblage in the northern part of the Meen-Dempster greenstone belt is separated from the Billet Lake assemblage to the south by an angular unconformity (Corfu and Stott, in press) The Billett Lake assemblage principally contains turbiditic wacke beds, conglomerate, graded sandstone and iron formation. Stott and Corfu (1991) suggest that the rocks of the Billett Lake assemblage were derived from the erosion of exposed continental crust close by.

Map Figure 3 Tectonic Assemblage Map for the Meen-Dempster greenstone belt



0 20 40 km

TECTONIC ASSEMBLAGES

WO Woman
C Confederation
PC Pickle Crow
BT Bamaji
Billet
SJ St. Joseph

PLUTONIC ROCKS

t tonalite - granodiorite
g granite - granodiorite

Boundary of report area

N

The Bamaji assemblage is a thin wedge (700 m) of volcanics and sediments positioned between the southern exposure of the Woman assemblage and the Bamaji-Blackstone batholith. The Bamaji assemblage is composed of a basal conglomerate unit overlain by potassium-rich, dacitic pyroclastics and thinly bedded wakes. The basal conglomerate is found along the southern flank of the North Bamaji Pluton (Stott and Corfu, 1991). The most abundant clast type within the conglomerate a variety of fine- to medium-grained, light grey plagioclase-phyric rocks similar to trondhjemitic rocks of the North Bamaji pluton (Wallace, 1985). Stott and Corfu, (1991) state that the conglomerate was derived from the exhumation of the pluton. They suggest that the Bamaji assemblage appears to unconformably overlie the Woman assemblage and was possibly deposited in a rift environment on exposed continental crust.

Rocks belonging to the St. Joseph assemblage underlie part of the Johnston Bay of Lake St. Joseph. The St. Joseph assemblage consists of a basal member of tholeiitic basalt which is overlain by a thick succession of dacitic to andesitic pyroclastic rocks. Local rhyolitic rocks occur within the pyroclastic succession. The St. Joseph assemblage contains the youngest volcanic rocks in the Meen-Dempster greenstone belt and is believed to be representative of arc-type volcanism. The boundary of the St. Joseph assemblage with the adjacent Confederation assemblage marks a disconformable hiatus in volcanic activity in western Lake St. Joseph. (Stott and Corfu, 1991)

Rocks of the Pickle Crow assemblage underlie the area adjacent the Little Ochig Lake Pluton in the eastern part of the Meen Dempster greenstone belt. Stott and Corfu (1991) indicate that the Pickle Crow assemblage consists of a folded sequence of subaqueous basaltic flows, dacitic to rhyolitic pyroclastic flows, synvolcanic quartz porphyry intrusions and magnetite-banded iron formation plus thin layers of graphitic schist.

The rocks of the Meen-Dempster greenstone belt are intruded by many synvolcanic to posttectonic felsic intrusive bodies. The larger synvolcanic felsic intrusive bodies include: the Dobie Lake batholith on the north boundary of the belt; the North Bamaji Pluton at the West end of the belt; and possibly the Ochig Lake Pluton at the east end of the belt (Stott and Corfu, 1991). These intrusives range in composition from trondhjemite to granodiorite and are locally quartz and feldspar porphyritic. Some of the highly deformed quartz and feldspar porphyries within the belt may be related to these plutons.

Most of the remaining felsic intrusives in the Meen-Dempster greenstone belt are thought to be late- to post-tectonic. These include most of the internal plutons and stocks, and some external plutons such as the Carling pluton, the Osnaburgh pluton, the Bamaji-Blackstone pluton and the Southern pluton to the west of the belt. The late- to post-tectonic felsic intrusives range from granites to tonalites.

Structural Setting

Stott and Corfu (1991) discuss the structural details of the Uchi Subprovince including the Meen-Dempster greenstone belt. This report discusses only the salient structural features of the belt in the opinion of the writer.

Stott and Wilson (1984) recognized 2 important structural features in the northern and eastern parts of the Meen-Dempster belt. They recognized 3 structural domains within the belt and they recognized 2 major deformation zones in the northwestern part of the belt.

The rocks of the eastern part of the belt (south and east of the Graniteboss Lake stock) belong to a structural domain characterized by moderate to steep westerly plunging mineral lineations. This domain is termed the D_1 structural domain. The D_1 domain is deemed the oldest preserved structural terrain in the belt. The rocks to the north and west of the Graniteboss Lake stock belong to the D_2 domain characterized by the 30° to 40° easterly plunging mineral lineations. The third structural domain (D_3) is a narrow contact strain aureole around the edge of the Southern pluton on the west end of the belt.

The two major deformation zones recognized by Stott and Wilson (1984) are known as the Billet Lake deformation zone and as the Bear Head fault zone. The Billet Lake deformation zone occurs along the boundary of the Confederation assemblage with the Billet Lake assemblage in the western part of the belt. The deformation zone, which also marks the boundary between the D1 and D2 structural domains, is up to 1.5 km in width. The extent of this deformation zone was not fully defined by Stott and Wilson (1984).

The Bear Head fault zone occurs along the northern margin of the greenstone belt. It is well expressed within the margin of the Dobie Lake pluton, varying from parallel sets of narrow mylonite zones to a broader zone 1.5 km wide with a range of moderate to high shear strain (Stott and Corfu, 1991). A splay off of the Bear Head Fault zone hosts the Golden Patricia gold deposit.

Wallace (1985) mapped another deformation zone, the Bamaji Lake deformation zone, in the Bamaji-Fry Lakes area. It extends from an external granitoid pluton southwest of the belt to the northeast. Work by Major General Resources Ltd. in the early 1990's extended this deformation zone east through McVean Lake.

Mineral exploration companied carried out a great amount of work in the Meen-Dempster greenstone belt after the period of Ontario Geological Survey (O.G.S.) mapping of the belt in the early 1980's. This exploration work added to the geological knowledge of the belt. The majority of the gold occurrences discovered by the exploration effort are associated with sheared and highly deformed rock. Some of the

gold occurrences are found within the boundaries of the deformation zones of Stott and Larocque (1983a, 1983b) Stott and Wilson (1984) and Wallace (1985). The other gold deposits may occur along as yet unmapped deformation zones. Map figures 4a and 4b show the locations of all the mineral occurrences in the belt as small dots. The shaded areas, on the maps, is an attempt to illustrated the areas of moderately to highly strained rocks as determined by the O.G.S. mapping and from the mineral exploration work. The Billet Lake and Bamaji Lake deformation zones and the Bear Head fault zone are included in the shaded areas. The writer suggests that the shaded areas partially define a belt-wide set of deformation zones. Further work is needed to test this suggestion.

Controls on Mineralization

Gold

The writer recognizes 5 principle types of gold deposits within the confines of the Meen-Dempster greenstone belt. They are:

1) Gold-bearing quartz veins occurring in discrete shear zones. (eg. Golden Patricia Vein, Tonsil zone, Koromond occurrence, Flicka occurrence)

2) Gold-bearing quartz veins filling tension induced fractures. (eg. Sudbury Point occurrence, South Dunlop Lake occurrence)

3) Shear zone hosted areas of silicification and/or sericitization and/or carbonitization and/or sulphidization. (eg. Dobie River Zone, Umex-Dorothy Lake, Koval-Ohman)

4) Gold-bearing sulphide replacement zones within iron formation and ferruginous metasediments (eg. Kasagiminnis Lake deposit, McVean Lake occurrence, Esker zone, Powerline zone, B-zone)

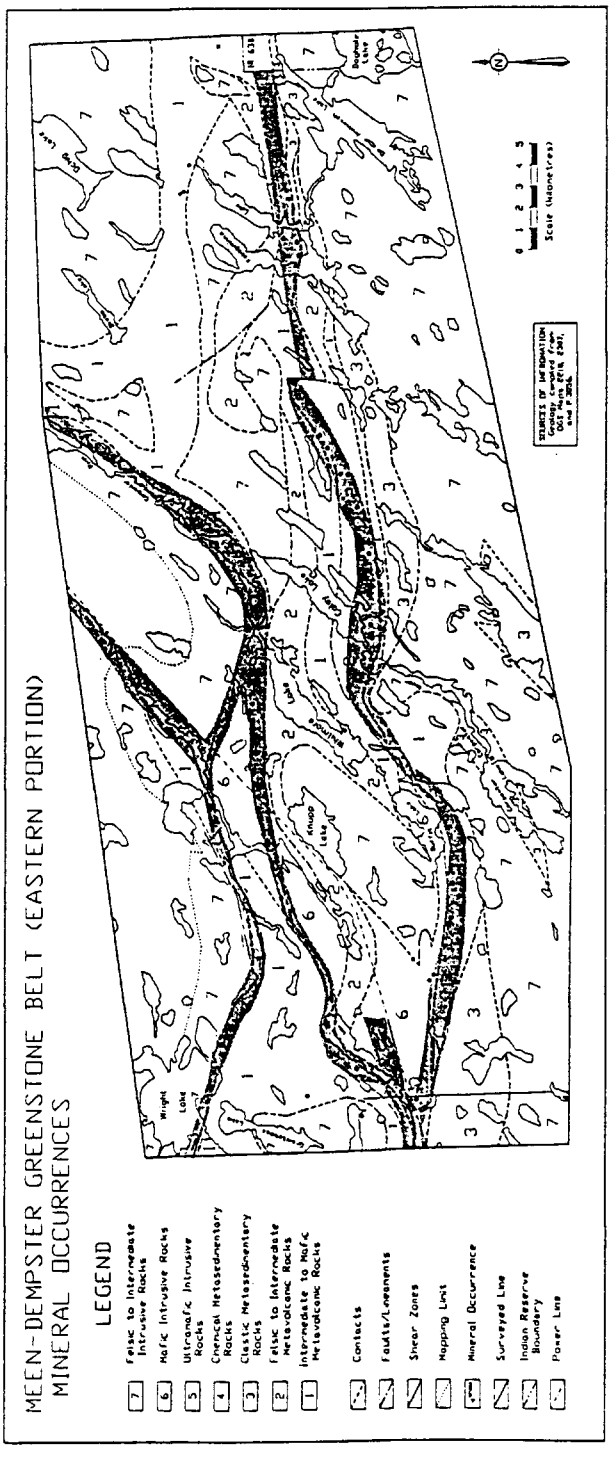
5) Gold-Uranium mineralization in the sheared contact between the metavolcanics and the North Bamaji Pluton.(eg. Kirkland Townsite Showing # 1).

Many of the gold occurrence described in this report include mineralization that can be placed into one or more of the above deposit types. For many others, the geological information available is not sufficient to classify the deposit type.

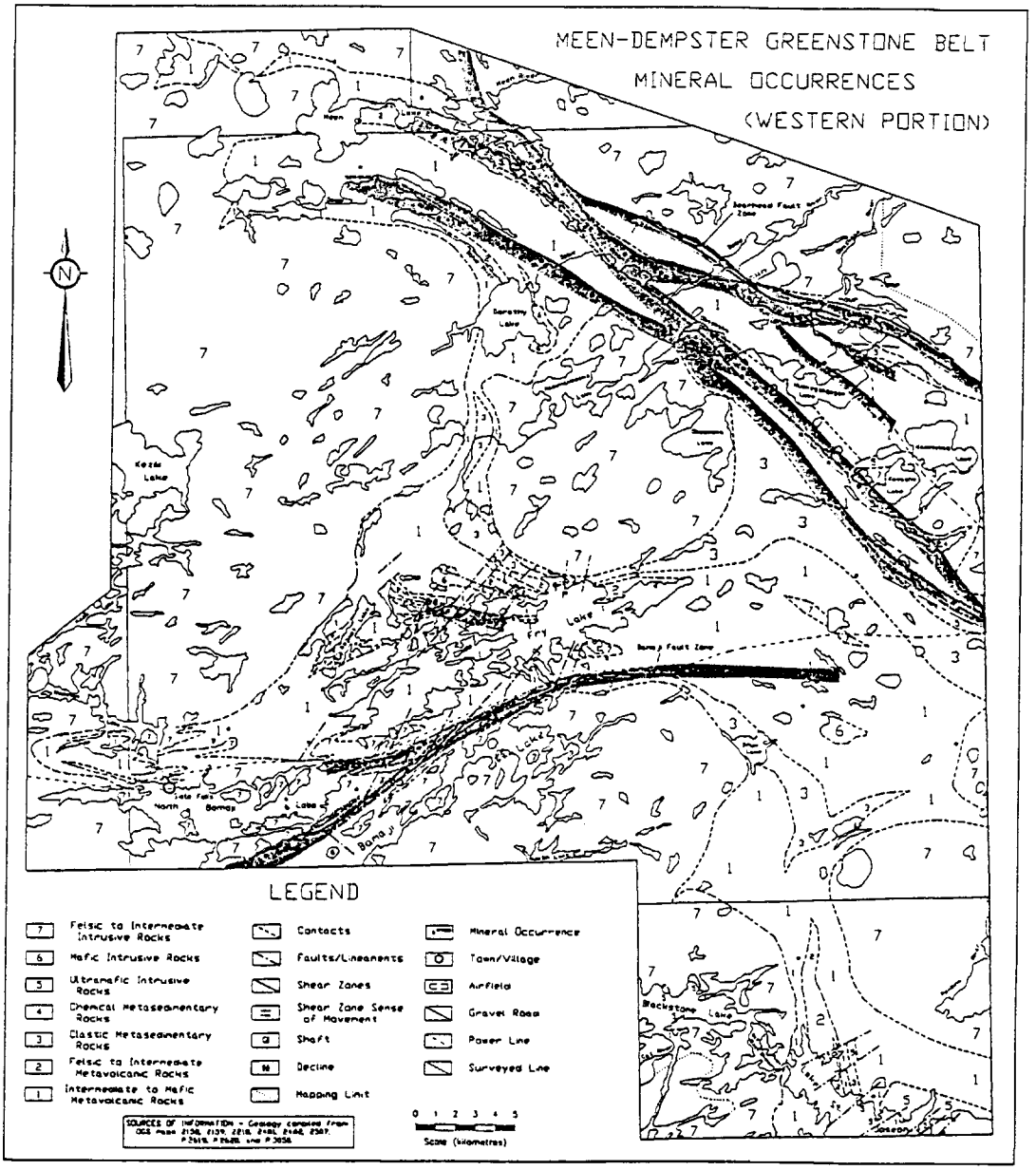
A common feature of the majority of the gold occurrences in the Meen-Dempster greenstone belt is their association with highly sheared and deformed rocks. These

Map Figure 4a

Locations of mineral occurrences and areas of highly deformed rock in the Meen-Dempster greenstone belt (east part)



Map Figure 4b Locations of mineral occurrences and areas of highly deformed rock in the Meen-Dempster greenstone belt (west part)



highly deformed rocks may be parts of a belt-wide set of deformation zones as suggested above. Andrews et al. (1986) suggested that, in the Red Lake greenstone belt, the gold deposits are essentially products of hydrothermal fluids introduced into ductile deformation zones at a late stage in the tectonic history of the belt and at about the time of plutonic emplacements. This may also be the case on the Meen-Dempster greenstone belt. Stott and Wilson (1984) and Stott and Corfu (1991) suggest that the deformation zones in the Meen-Dempster greenstone belt were active at different points late in the tectonic history of the belt and at about the time of the emplacement of some of the internal plutons. Thus, it is suggested that the role of the deformation zones in the Meen-Dempster greenstone belt, with respect to gold mineralization, may have been similar to that of the deformation zones in the Red Lake greenstone belt.

The concentrating mechanisms for the gold mineralization in the Meen-Dempster greenstone belt appear to be related to a combination of rock type and the dilatancy of the hosting structure. For deposit types 1 and 2 listed above the host structures are relatively tight with respect to intergrain porosity. The gold-bearing quartz veins occupy fissures within the host unit(s). The alteration associated with deposit types 1 and 2 is varied and of limited extent. Some type 1 deposits have considerable strike length (100 m - > 3 km), but they tend to be narrow (<1 m). Type 2 deposits typically have very short strike lengths (0.1 - 5 m), and are narrow (0.01 - 0.30 m). Type 2 deposits may have economic potential when the tension induced fractures are abundant and spaced closely enough to permit mining of many in one block (eg. Central Patricia deposit in the Pickle Lake greenstone belt). Type 1 and 2 deposits are usually found in areas where the host structure changes strike.

Deposit type 3 would apparently require a high intergranular porosity in the host rock. How this porosity is achieved is not known. Type 3 deposits occur in a variety of host rock types and may have a wide alteration halo. These deposits have variable strike lengths and widths. All such deposits found to date in the belt have been of subeconomic grade and tonnage, but the potential for one of these deposits to have good grade and a high tonnage is excellent.

Type 4 deposits are characterized by their association with deformed iron formation horizons or ferruginous metasediments. In some cases, like the Powerline Zone near the Goldent Patricia mine, the iron formation is tightly folded and the gold mineralization is associated with sulphide replacement of magnetite and with quartz veins occupying axial planar fractures. At other type 4 deposits, such as the Kasagiminnis Lake deposit, the iron formation horizon is cut at a low angle to the strike by a deformation/shear zone. At the Kasagiminnis Lake deposit, the magnetite is partially replaced by pyrrhotite and possibly pyrite. Alteration associated with type 4 deposits may include silicification, carbonitization, biotitization and grunerite development.

Type 5 deposits are found only in the Bamaji Lake area. They are associated with east-trending shear zones near the margin of the North Bamaji pluton. The margin of the pluton is characterized by *lit par lit* dikes of trondhjemite intruding the metavolcanics. The gold and uranium mineralization in these deposits is associated with a pyritic, sericite-carbonate schist, and with calc-silicate bands. Sage and Breaks (1982) suggest that the schist is a sheared and altered trondhjemite.

Base Metals

To date no economic concentration of base metal sulphides are known in the Meen-Dempster greenstone belt. The belt received a moderate amount of exploration for volcanogenic massive sulphide deposits and magmatic Cu-Ni deposits in the early to late 1970's. This exploration discovered several copper and zinc occurrences. Many were not assayed due to the subeconomic concentrations of the sulphides encountered. The writer tentatively suggests that the base metal mineralization in the belt belongs to 1 of 2 types of volcanogenic massive sulphide settings. The 2 types are analogous to the felsic volcanic-hosted Kuroko type and the mafic volcanic-/graphitic sediment-hosted Besshi type. The former are concentrated within the intermediate to felsic volcanoclastic rocks of the Woman assemblage near the contact with the Confederation assemblage. The later are found within within mafic metavolcanics and graphitic metasediments of the Woman assemblage near the contact the Billet Lake assemblage.

References

Andrews, A.J., Hugon, H., Durocher, M., Corfu, F., and Lavigne, M.J. 1986. The anatomy of a gold-bearing greenstone belt: Red Lake, northwestern Ontario, Canada; *in* Proceedings of Gold '86, an International Symposium on the Geology of Gold Deposits, Konsult International Inc., Toronto, p.3-22

Clifford, P.M. 1969. Geology of the western Lake St. Joseph area; Ontario Department of Mines, Geological Report 70, 61p.

Corfu, F. and Stott, G.M. in press. U-Pb geochronology of the central Uchi Subprovince, Superior Province; Canadian Journal of Earth Sciences.

Harding, W.D. 1936. Geology of th Cat River-Kawinogans Lake area; Ontario Department of Mines, Annual Report, 1935, v.44, pt.6, p.53-73.

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake-Pickle Lake area, Districts of Kenoar and Thunder Bay; Ontario Geological Survey, Report 207, 238p.

Stott, G.M. 1982. No.3 Meen Lake area, district of Kenora (Patricia potrion) *in* Summary of Fieldwork and Other Activities, 1982, Ontario Geological Survey, Miscellaneous Paper 106.

Stott, G.M., Brown, G.H., Coleman, V.J., Green G.M. and Reilly, B.A., 1989. Precambrian geology of the Pickle Lake area, western part; Ontario Geological Survey, Preliminary Map P.3056, scale 1:50,000.

Stott, G.M. and Corfu, F. 1991. Uchi Subprovince *in* Geology of Ontario, Ontario Geological Survey, Special Voume 4, Part 1, p.145-236.

Stott, G.M., Kay, S.V. and Sanborn, M.M. 1987. Precambrian geology of the Lake St. Joseph area, west half; Ontario Geological Survey, Map P.3050, scale 1:50,000.

Stott and LaRocque, C. 1983a. Precambrian geology of the Meen Lake area, western part; Ontario Geological Survey, Preliminary Map P.2619, scale 1:15 840.

--1983b. Precambrian geology of the Meen Lake area, eastern part; Ontario Geological Survey, Preliminary Map P.2619, scale 1:15 840.

Stott, G.M. and Wallace H. 1984. Regional stratigraphy and structure of the central Uchi Subprovince: Meen Lake-Kasagimminis Lake and Pashkokogan Lake section; *in* Summary of Field Work 1984, Ontario Geological Survey, Miscellaneous Paper 119, p.7-13.

Stott, G.M. and Wilson, A.C. 1986a. Precambrian geology of the Muskegsagagen-Bancroft lakes area; Ontario Geological Survey, Map 2507, scale 1:50 000.

--1986b. Precambrian geology of the Muskegsagagen-Bancroft lakes area; Ontario Geological Survey, Preliminary Map P.3049, scale 1:50 000.

Wallace, H. 1985. Geology of the Slate Falls area; Ontario Geological Survey, Report 232, 85p.

Selected Reading

Barrett, R.E. and Johnston, A.W. 1948. Central Patricia Mine; *in* Sturctural Geology of Canadian Ore Deposits, Jubilee Volume, Canadian institute of Mining and Metallurgy, p.368-372.

Cohoon, G.A. 1986. Gold in an iron formation: The Northern Miner Magazine, v.1,

no.8, p.16-20.

Corking, W.P. 1948. Pickle Crow Mine; *in* Structural Geology of Canadian Ore Deposits, Jubilee Volume, Canadian Institute of Mining and Metallurgy, p.373-376.

Durocher, M.E. and Burchell, P. 1983. Structural geology, hydrothermal alteration, metamorphism and gold mineralization in the Pipestone Bay-St. Paul Bay deformation zone, Red Lake; *in* Summary of Field Work 1983, Ontario Geological Survey, Miscellaneous Paper 116, p.220-226.

Durocher, M.E. and Hugon, H., 1983. Structural geology and hydrothermal alteration in the Flat Lake-Howey Bay deformation zone, Red Lake area; *in* Summary of Field Work 1983, Ontario Geological Survey, Miscellaneous Paper 116, p.216-219.

Ferguson, S.A., 1966. Geology of the Pickle Crow Gold Mines Limited and Central Patricia Gold Mines Limited, No. 2 Operation; Ontario Department of Mines, Miscellaneous Paper 4, 97p.

Hugon, H and Schwerdner, W.M., 1988. Structural signature and tectonic history of deformed gold-bearing rocks in northwestern Ontario; Ontario Geological Survey, Open File Report 5666, 113p.

Ontario Geological Survey, 1986. Airborne electromagnetic and total intensity magnetic survey, Pickle Lake area; Ontario Geological Survey, Maps 80894 to 80952, scale 1:120 000.

Osmani, I.A. and Stott, G.M., 1988. Regional-scale shear zones in Sachigo Subprovince and their economic significance, *in* Summary of Field Work and Other Activities 1988, Ontario Geological Survey, Miscellanous Paper 141, p.53-67.

Patterson, G.C. and Watkinson, D.H., 1984a. The geology of the Thierry Cu-Ni mine, northwestern Ontario; Canadian Mineralogist, v.22, p.13-21.

Pye, E.G., 1976. Geology of the Crow River area, District of Kenora (Patricia Portion); Ontario Department of Mines, Open File Report 5152, 264p.

Rodd, K.M. and Hutchinson, R.W., 1991. Geology and origin of the Golden Patricia deposit, Pickle Lake, Ontario; *in* Geological Association of Canada-Mineralogical Association of Canada, Joint Annual Meeting, Program with Abstracts, v.16, p.A107.

Stott, G.M., 1985. Regional stratigraphy and structure of the Lake St. Joserph area, central Uchi Subprovince, *in* Summary of of Field Work and Other Activities, 1985, Ontario Geological Survey, Miscellaneous Paper 126, p.17-22.

--1986. Regional geology and structure of the Pickle Lake metavolcanic belt, District of Kenora, Patricia Portion, *in* Summary of Field Work and Other Activities 2986. Ontario Geological Survey, Miscellaneous Paper 132, p.9-14.

--1991. A classification of fault systems and shear zones in the Superior Province; *in* Greenstone Gold and Crustal Evolution, Proceedings of a Workshop held at Val d'Or, Quebec, May 24-27, 1990, Nuna Conference Volume, Geological Association of Canada (Mineral Deposits Division), p.211-213.

Stott, G.M. and Smith, P.M., 1988. Development of gold-bearing structures in the Archaean: The role of granitic plutonism; *in* Bicentennial Gold 88, Extended Abstracts, Poster Programme, Volume 1, Geological Society of Australia, Abstract Series no.23, p.48-50.

Thomson, E.F., 1939a. The Crow River area; Ontario Department of Mines, Annual Report, 1939, v.47, pt.3, p.1-65.

Verbeek, T., Dehenne, R. and Bowdidge, C, 1972. Geophysical case history: The Thierry Copper-Nickel deposit in northwestern Ontario, Canada; International Geological Congress, 24th Session, Section 9, p.135-151.

MATAPESATAKUN BAY AREA

52O/02NE

DEPOSIT NAME: Matapesatakun Bay #1

NTS AREA: 52O/02NE **MDI #: KP1053**

ALTERNATE NAMES: 1) Matapesatakun Creek

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 14' 43" **LONGITUDE:** 90° 34' 12"

UTM ZONE: 15 **NORTHING:** 5679686 **EASTING:** 669611

LOCATION: The drill hole sites are located approximately 35 km southwest of Pickle Lake and about 800 m north of Matapesatakun Bay of Lake St. Joseph.

ACCESS: The Doghole Bay boat launch on Lake St. Joseph is the closest point, to this occurrence, from which road and boat access may be attempted. From the boat launch to the occurrence is an on- water distance of over 70 km. Otherwise access is by appropriately equipped aircraft from Pickle Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1985 and 1986 , Golden Terrace Resources Corporation conducted a diamond-drilling program in the area north of Matapesatakun Bay of Lake St. Joseph. Two diamond-drill holes intersected gold mineralization.

Prior to the diamond-drilling, Golden Terrace Resources Corporation conducted an exploration program consisting of an airborne geophysical survey followed up with geological mapping and rock and soil geochemistry.

DEPOSIT GEOLOGY

This occurrence consists of three (3) diamond-drill core intersections cut in two (2) diamond-drill holes. All three intersections are contained within a succession of mixed intermediate to mafic tuffaceous metavolcanics and siltstones. All three intersections

are quartz veins, but each quartz vein has a different mineralogical composition.

The first intersection made was in diamond-drill hole number BL 85-2. The intersection assayed 0.062 ounce gold per ton (2.126 g/t Au) over 0.25 m from 44.19 m to 44.44 m down the hole. This intersection is a quartz tourmaline vein with possible traces of pyrite.
The second and third intersections were cut in diamond-drill hole number BL 86-3. The upper intersection, from 140.7 m to 141.42 m down the hole, is described in the drill log as an interval of core containing up to 60 percent 2-to-4 mm quartz-carbonate veins with no observed sulphides. The interval returned an assay value of 1400 ppb Au over 0.72 m. The lower intersection, cut between 286.05 m and 286.86 m down hole BL 86-3 returned an assay of 2900 ppb Au and/or 0.06 ounce gold per ton over 0.81 m. (2900 ppb Au converts to 0.085 ounce gold per ton.) This intersection is described in the drill log as a white-to-clear quartz-carbonate-pyrrhotite vein. The pyrrhotite comprises 30 -40 percent of the vein.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: intermediate to mafic metavolcanics / metasediments

OTHER ASSOCIATED ROCK TYPES: 1) Amphibolite

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) carbonate **2)** tourmaline

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NE-0012	52O/06NE-0013	52O/06NE-0014
52O/07SE-0018	52O/08SW-0016	52O/08SW-0018

DEPOSIT NAME: Matapesatakun Bay #2

NTS AREA: 52O/02NE **MDI #: KP1054**

ALTERNATE NAMES: **1)** Sky Lake Stock occurrence

2) Sky Lake

3) Jewett Lake Joint Venture

DEPOSIT STATUS: Grab samples from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 14' 48" **LONGITUDE:** 90° 38' 06"

UTM ZONE: 15 **NORTHING:**5679693 **EASTING:** 665075

LOCATION: Sky Lake is located about 35 km southwest of Pickle Lake. The occurrence is located 325 m south of the mouth of Sky Creek on Sky Lake, and about 75 m west of the northwest shore of Sky Lake.

ACCESS: Access to sky Lake is by appropriately equipped aircraft from Pickle Lake. A late 1980's cut line grid may be of assistance in locating the occurrence. The occurrence is at L16+00 E ,05+00 N on the grid.

EXPLORATION AND DEVELOPMENT HISTORY

The Matapesatakun Bay #2 gold occurrence was discovered in 1988 by a Bond Gold Canada Inc. geological mapping crew.

In 1971, Union Miniere Explorations and Mining Corporation Limited commissioned airborne magnetometer and electromagnetic surveys over a large part of the Central Uchi greenstone belt, including the area of this occurrence.

In 1984, Golden Maverick Resources Limited commissioned another airborne magnetometer and electromagnetic surveys which covered an area including the Matapesatakun Bay #2 occurrence. This was followed up with geological mapping,

and rock and soil geochemistry.

In 1985, Golden Terrace Resources Corporation performed diamond-drilling to the southwest of the occurrence.

In 1988, Bond Gold Canada Inc. did geological mapping, and ground magnetometer and electromagnetic surveys over their Jewett Lake Joint Venture property.

In 1988 and 1990 Bond Gold Canada Inc. completed 9 diamond-drill holes on the property. Assay results were not reported with the diamond-drill hole logs. Some assays are found in assessment files, separate from the diamond-drill hole logs.

DEPOSIT GEOLOGY

The Matapesatakun Bay #2 occurrence is described as a shear within the Sky Lake Stock. The Sky Lake Stock is a small circular quartz porphyry intrusion (Stott and Wilson, 1986). The stock, as reported by Bond Gold Canada Inc., has a medium-grained, massive- to weakly foliated core surrounded by a substantial fine-grained chill margin. The medium-grained core contains up to 1 percent disseminated pyrite. Bond Gold Canada Inc. does not report on the occurrence in detail, but does note that quartz veins located within the stock contain up to 4 percent pyrite, pyrrhotite and chalcopyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: Quartz porphyry

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Grab samples reported 0.069 g/t Au and 1.03 g/t Au

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0016 52O/07SE-0018 52O/08SW-0018
52O/10SE-0011 52O/02NE-0017 52O/02NE-0019
52O/02SE-0080

DEPOSIT NAME: Matapesatakun Bay #3

NTS AREA: 52O/02NE **MDI #: KP1055**

ALTERNATE NAMES: 1) Monsoon Lake

2) Jewett Lake Joint Venture

DEPOSIT STATUS: Grab samples from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay Area

LATITUDE: 51° 14' 28" **LONGITUDE:** 90° 36' 05"

UTM ZONE: 15 **NORTHING:** 5679145 **EASTING:** 667431

LOCATION: This occurrence is located about 35 km southwest of Pickle Lake. The occurrence is about 2.11 km east of Sky Lake and 680 m north of Monsoon Lake (a local name for a small lake located 2.2 km east-southeast of Sky Lake). The occurrence is located at L 38+00 E, 2+75 N on a late 1980's Bond Gold Canada Inc. cut line grid.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Sky Lake, and then traversing overland east.

EXPLORATION AND DEVELOPMENT HISTORY

The Matapesatakun Bay #3 occurrence was discovered in 1988 by a Bond Gold Canada Inc. geological mapping crew.

In 1971, Union Miniere Explorations and Mining Corporation, Limited commissioned airborne magnetometer and electromagnetic surveys over a large part of the Central Uchi greenstone belt, including the occurrence area.

In 1984, Golden Maverick Resources Limited flew airborne magnetometer and electromagnetic surveys over a large claim group which covered the occurrence. This was followed by geological mapping, and rock and soil geochemistry.

In 1985, Golden Terrace Resources Corporation performed diamond-drilling to the west-southwest of the occurrence.

In 1988, Bond Gold Canada Inc. did geological mapping, and ground magnetometer and electromagnetic surveys on their Jewett Lake Joint Venture property. The claims comprising the Jewett Lake Joint Venture property covered the occurrence area.

In 1988 and 1990, Bond Gold Canada Inc. completed 9 diamond-drill holes on the joint venture property. Assay results were not reported with the diamond-drill hole logs. Some assays are reported in assessment files, separate from the diamond-drill hole logs.

DEPOSIT GEOLOGY

The Matapesatakun Bay #3 occurrence is an outcrop of silicified, mafic metavolcanics and iron formation as mapped by Bond Gold Canada Inc. The rocks strike northeast and dip vertically to steeply north. A shear zone in the outcrop is indicated on the Bond Gold Canada Inc. map and strikes sub-parallel to the regional strike of the rocks. Nearby are outcrops of gabbroic rock interpreted as discontinuous dykes.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics / iron formation / possible related shear zone

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) gabbro

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS OR PROCESSES

1) silicification **2)** carbonatization

ECONOMIC FEATURES

A grab sample of the iron formation returned 1.03 g Au/t. A grab sample of the silicified mafic metavolcanic returned 1.37 g Au/t.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0016	52O/07SE-0018	52O/08SW-0018
52O/10SE-0011	52O/02NE-0017	52O/02NE-0019

DEPOSIT NAME: Hasaga "C"

NTS AREA: 52O/02NE **MDI #: KP1056**

ALTERNATE NAMES: **1)** Matapesatakun Bay #4

2) Koval-Ohman -- "C" deposit

DEPOSIT STATUS: Developed prospect (has calculated mineral inventory)

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 14' 56" **LONGITUDE:** 90° 32' 51"

UTM ZONE: 15 **NORTHING:** 5680136 **EASTING:** 671157

LOCATION: The Hasaga "C" deposit is located approximately 34 km southwest of Pickle Lake. The deposit is about 1.1 km south of Bancroft Lake (aka. Ben Lake) and about 960 m northeast of Matapesatakun Bay of Lake St. Joseph.

ACCESS: Bancroft Lake to the north of the deposit and Matapesatakun Bay, of Lake St. Joseph, to the southwest of the deposit are suitable for float-equipped aircraft in the spring, summer and fall, and ski-equipped aircraft in the winter. Bancroft Lake is shallow with a soft, organic sediment bottom. It is not suitable for large aircraft. There is an old campsite on the south shore of Bancroft Lake. A network of diamond-drill roads lead south to the deposit area from the campsite.

EXPLORATION AND DEVELOPMENT HISTORY

The following exploration and development history is taken from Janes, Seim and Storey, (1990).

"In August 1953, B. Ohman, a well known prospector in the Pickle Lake Area, discovered interesting mineralization south of Bancroft Lake. Ohman submitted some samples to Hasaga Gold Mines Ltd. for assay and the results were interesting enough to prompt a property visit from their geologists. Channel and chip samples, taken during the visit, returned values of $6.58 over 31.25 feet and $25.85 over 8.5 feet (gold at $34.42 per ounce). Hasaga Gold Mines Limited subsequently optioned 45

claims from Ohman and his backers, the Koval family of Pickle Lake, in September of 1953.

Between September and December 1953, Hasaga Gold Mines Limited carried out line cutting, trenching and diamond-drilling on the optioned claims. Additional claims surrounding the optioned claims were staked for protection. The diamond-drilling totalled 7391 feet. Work resumed on the property in May 1954 and continued to December 1954, at which time operations were suspended. During this time Hasaga's exploration crew located at least five new showings on the property and completed 13 580 feet of diamond-drilling."

"Although a few memos, concerning the property are present in the assessment files, little work was conducted on the property between 1955 and 1975. However, during that time, Little Long Lac Gold Mines Ltd. acquired the Hasaga property.

In 1974, Little Long Lac Gold Mines Ltd. decided to re-examine the Hasaga property. A new grid was cut over the claim group and geological, ground magnetic, VLF-EM and IP surveys were carried out. In 1987, Lac Minerals Ltd. conducted a major diamond-drilling program on the property."

DEPOSIT GEOLOGY

The following is extracted from Janes, Seim and Storey, 1990.

"Recent Ontario Geological Survey mapping, in the Bancroft Lake area was carried out by Stott and Wilson (1986a, 1986b). Four main rock types underlie the Bancroft Lake area. In the north is a 1 to 2 km thick succession of mafic metavolcanics. Sage and Breaks (1982) tentatively interpreted deformed pillow structures within the succession as south facing. To the south of the mafic metavolcanic succession is a 1 to 3 km thick unit of predominantly intermediate to felsic metatuffs. The gold mineralization on the Hasaga property is hosted by the intermediate to felsic metatuffs. A small (0.5 by 1 km), gabbroic plug intruded along the contact of the mafic metavolcanics with the intermediate to felsic metatuffs. An east-trending shear zone cuts this contact and the gabbroic plug. South of the intermediate to felsic metatuffs is a 0.5 km thick succession of mafic metavolcanics. Farther to the south are metasediments. The metavolcanics and metasediments trend east to east-northeast."

"Dacitic metatuffs host the 'C' deposit mineralization and a lapilli tuff unit is found to the south." "... the mineralized zone consists of 1 to 10 percent disseminated pyrite in weakly silicified, dacitic metatuff. Only locally is the silicification strong enough to make the rock appear bleached and sericitic. The width of the mineralization is variable between 3 and 5 m, and it occurs over a strike length of approximately 100 m. The extent to which the mineralized section carried gold is not known ...."

"Bedding and shearing are sub-parallel at the 'C' deposit and strike between 090° and 070° and dips 89° south to 90°. South of the mineralized zone, narrow, blue-grey, quartz stringers strike 040° through the lapilli tuff.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: sheared

HOST ROCK: Intermediate volcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS OR PROCESSES

1) silicification 2) sericite

RESERVE DATA

RESERVE CATEGORY: unknown (mineral inventory)

TONNES: 50 576 (49 780 tons)

AVERAGE GRADE: 1) 5.074 PPM Au

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990 Sioux Lookout Resident Geologist's District -- 1989; in Report of Activities 1989, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, p.69-100.

Sage, R.P. and Breaks, F.W. 1982 Geology of the Cat Lake - Pickle Lake area, districts of Kenora and Thunder Bay: Ontario Geological Survey, Report 207, 238p.

Stott, G.M. and Wilson, A.C. 1986a. Precambrian geology of the Muskegsagagen-Bancroft Lakes area, district of Kenora (Patricia Portion); Ontario

Geological Survey, Preliminary Map P.3049, scale 1:50 000.

Stott, G.M. and Wilson, A.C. 1986b. Precambrian geology of the Muskegsagagen-Bancroft lakes area, district of Kenora (Patricia Portion); Ontario Geological Survey, Map 2507, P.3049, scale 1:50 000.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07SE-0011 52O/07SE-0012 52O/07SE-0013
52O/07SE-0014

DEPOSIT NAME: Matapesatakun Bay #5

NTS AREA: 52O/02NE **MDI #: KP1057**

ALTERNATE NAMES: **1)** Caley Lake Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 14' 28" **LONGITUDE:** 90° 38' 55"

UTM ZONE: 15 **NORTHING:** 5679058 **EASTING:** 664128

LOCATION: Diamond-drill hole J90-36 is located about 36 km southwest of Pickle Lake. The occurrence is located about 300 m south Caley Lake and about 750 m west of the south end of Sky Lake.

ACCESS: Access to the diamond-drill hole site is by appropriately equipped aircraft from Pickle Lake to Caley Lake or Sky Lake ,and then traversing overland. A late 1980's cut line grid may be of assistance in locating the diamond-drill hole site. The grid co-ordinates of J90-36 are L06+00 E ,00+50 S.

EXPLORATION AND DEVELOPMENT HISTORY

In 1971, Union Miniere Explorations and Mining Corporation Limited commissioned airborne magnetometer and electromagnetic surveys over a large part of the Central Uchi greenstone belt, including the area of this occurrence.

In 1984, Golden Maverick Resources Limited commissioned another airborne magnetometer survey and electromagnetic survey which covered an area including the Matapesatakun Bay #5 occurrence. This was followed up with geological mapping, and rock and soil geochemistry.

In 1985, Golden Terrace Resources Corporation performed diamond-drilling near this occurrence.

In 1988, Bond Gold Canada Inc. did geological mapping, and ground magnetometer

and electromagnetic surveys over their Jewett Lake Joint Venture property.

In 1988 and 1990 Bond Gold Canada Inc. completed several diamond-drill holes on the property. Assay results were not reported with the diamond-drill hole logs. Some assays are reported in assessment files separate from the diamond-drill hole logs.

DEPOSIT GEOLOGY

Diamond-drill hole number J90-36 was drilled to test the mineral potential of a magnetic high and coincident electromagnetic anomaly. The drill hole intersected a succession of metasedimentary mudstone, magnetite ironstone, and cherty pelitic sediments. The intersection, from 69.14 m to 62.94 m down the hole, is in a unit of magnetic ironstone. The ironstone is banded chert and magnetite with chlorite and a yellow carbonate (possibly ankerite) and 4-to-5 percent disseminated and wispy pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: magnetic ironstone

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mudstone

2) cherty pelitic sediments

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) chlorite **2)** carbonatization

ECONOMIC FEATURES

0.04 ounce gold per ton (1.37 g/t Au) from 69.14 m to 62.94 m (1.00 m)

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0016
52O/07SE-0018
52O/08SW-0018
52O/10SE-0011
52O/02NE-0017
52O/02NE-0019
52O/06SE-0080

DEPOSIT NAME: Matapesatakun Bay #6

NTS AREA: 52O/02NE **MDI #: KP1201**

ALTERNATE NAMES: 1) Sky Lake South occurrence

DEPOSIT STATUS: Grab sample from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 14' 10" **LONGITUDE:** 90° 38' 26"

UTM ZONE: 15 **NORTHING:** 5678508 **EASTING:** 664715

LOCATION: Sky Lake is located about 35 km southwest of Pickle Lake. The occurrence is located about 525 m southwest of Sky Lake in an isolated area of outcrops. The exact sampling site is not known.

ACCESS: Access to Sky Lake is by appropriately equipped aircraft from Pickle Lake. A late 1980's cut line grid may be of assistance in locating the mineralization. The occurrence is near L10+00 E ,04+75 N on the grid.

EXPLORATION AND DEVELOPMENT HISTORY

The Matapesatakun Bay #6 gold occurrence was discovered in 1988 by a Bond Gold Canada Inc. geological mapping crew.

In 1971, Union Miniere Explorations and Mining Corporation Limited commissioned airborne magnetometer and electromagnetic surveys over a large part of the Central Uchi greenstone belt, including the area of this occurrence.

In 1984, Golden Maverick Resources Limited commissioned another airborne magnetometer survey and electromagnetic survey which covered an area including the Matapesatakun Bay #6 occurrence. This was followed up with geological mapping, and rock and soil geochemistry.

In 1985, Golden Terrace Resources Corporation performed diamond-drilling near this occurrence.

In 1988, Bond Gold Canada Inc. did geological mapping, and ground magnetometer and electromagnetic surveys over their Jewett Lake Joint Venture property.

In 1988 and 1990, Bond Gold Canada Inc. completed 9 diamond-drill holes on the property. Assay results were not reported with the diamond-drill logs. Some assays are found in assessment files separate from the diamond-drill logs.

DEPOSIT GEOLOGY

The Matapesatakun Bay #6 occurrence is located in an area underlain by massive, mafic-metavolcanic flows. Locally the flows are silicified and sheared. A quartz porphyry dyke cuts the outcrop area.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic flows

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) Quartz porphyry

ECONOMIC MINERALS

1) not known

ALTERATION MINERALS AND PROCESSES

1) silicification

ECONOMIC FEATURES

A grab sample reported 1.03 g/t Au.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0016
52O/07SE-0018
52O/08SW-0018
52O/10SE-0011
52O/02NE-0017
52O/02NE-0019
52O/06SE-0080

DEPOSIT NAME: Carpenter Lake

NTS AREA: 52O/02NE **MDI #: KP0235**

ALTERNATE NAMES: 1) Matapesatakun Bay 'A'

DEPOSIT STATUS: Mineral observed in outcrop

COMMODITIES: Mo

LOCATION INFORMATION

TOWNSHIP OR AREA: Matapesatakun Bay area

LATITUDE: 51° 11' 31" **LONGITUDE:** 90° 44' 28"

UTM ZONE: 15 **NORTHING:** 5673387 **EASTING:** 657852

LOCATION: Capenter Lake is located 48 km southwest of Pickle Lake. The occurrence is located in outcrops "near the south shore of the narrows leading to the large western expansion of Carpenter Lake." (Harding, 1935)

ACCESS: Access to Carpenter Lake is by appropriately equipped aircraft from Pickle Lake.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was located in 1934 by an Ontario Department of Mines geologial mapping party, lead by W. D. Harding. No other exploration work is reported on this occurrence.

DEPOSIT GEOLOGY

Harding (1935) describes the occurrence as flakes of molydenite in pegmatite dikes which cut the granite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: Pegmatite dyke

HOST ROCK: granite

OTHER ASSOCIATED ROCK TYPES: 1) none

ECONOMIC MINERALS

1) molybdenite

ALTERATION MINERALS AND PROCESSES

1) not known

REFERENCES

Harding, W.D. (1935). Geology of the Cat River-Kawinogans Lake area in Forty-forth Annual Report of the Ontario Department of Mines, Vol. XLIV, Part VI p.69.

Johnston, F.J. 1968. Molybdenum deposits of Ontario, Mineral Resources Circular No. 7, Ontario Department of Mines, p46.

DUFFELL LAKE AREA

52O/02NW

DEPOSIT NAME: Duffell Lake #1

NTS AREA: 52O/02NW **MDI #: KP1051**

ALTERNATE NAMES: 1) Amoco Till occurrence

2) Fry Lake

DEPOSIT STATUS: Placer mineralization in till samples

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Duffell Lake area

LATITUDE: 51° 13' 38" **LONGITUDE:** 90° 52' 25"

UTM ZONE: 15 **NORTHING:** 5677027 **EASTING:** 648474

LOCATION: This occurrence is located about 56 km southwest of Pickle Lake. It is approximately 3.5 km west of Duffel Lake and 4.4 km southeast of Dempster Lake.

ACCESS: This occurrence can only be accessed by appropriately equipped aircraft to a near by lake, and then an overland traverse. There is a small lake about 400 m south of the occurrence where it may be suitable for a helicopter to land.

EXPLORATION AND DEVELOPMENT HISTORY

Prior to 1983, Amoco Canada Petroleum Company Limited conducted reconnaissance exploration which identified anomalous concentrations of glacially distributed gold in an esker near this occurrence.

In 1983 and 1984, Amoco Canada Petroleum Company Limited conducted two reverse-circulation (RC) drilling programs. Till samples from several holes in the first program indicated anomalous gold concentrations. One hole, number F-205 had 3 consecutive samples from the base of a single till unit return assay results of 7.0 ounces gold per ton, 0.087 ounce gold per ton and 0.202 ounce gold per ton. The 3 samples totalled 3.9 m in length. (This information is from assessment file number 52O/02NW-0027) The second program consisted of 24, tightly spaced RC drill holes to detail the area around hole F-205. This program had 3 drill holes return till samples assaying over 1000 ppb Au. Amoco followed up the reverse-circulation drilling program

with a fence of 7 diamond-drill holes designed to test for the source of the gold in the till. The diamond-drilling did not find the source for the gold in the till.

In 1986, Milner Consolidated Silver Mines Limited optioned a group of 44 claims from Amoco Canada Petroleum Limited which included the area with the anomalous gold in till.

Also in 1986, St. Joe Canada Inc. commissioned an airborne VFL-Em and vertical gradient magnetometer survey over an area including the area with the anomalous gold in till.

In 1987, Milner Consolidated Silver Mines Limited conducted VLF-Em, HLEM, magnetometer and geological surveys on the optioned claims. Napoleon Petroleum Corporation obtained an interest in the property around this time.

In 1988, Napoleon Petroleum Corporation conducted a nine-hole, diamond-drilling program on the optioned claims testing several geophysical anomalies and extending the fence of hole drilled by Amoco in the 'up-ice' direction.

DEPOSIT GEOLOGY

Outcrop in the area around this occurrence is scarce. Stott and Wilson (1986b) indicate the area to be underlain by the Dempster Lake Gabbro in the west and by the Knupp Lake Stock to the east.
The diamond-drilling and the geological mapping completed by the exploration companies indicate the area to be underlain by mafic-metavolcanic flows with metasedimentary interlayers including iron formation. These rocks are cut by felsic, often quartz and/or feldspar porphyritic, dykes. The presence of the Knupp Lake Stock in the east was confirmed with the 1988 diamond-drilling.

The glacial till which hosts the gold mineralization is composed of up to 60 percent volcanic pebbles, 30 percent granitic pebbles and 10 percent sedimentary pebbles in a light-grey, clayey matrix. The gold grains in RC drill hole F-205 are described in the assessment files as extremely delicate in nature. This suggests a proximal source for the gold grains.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: glacial till

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) iron formation

3) quartz and/or feldspar porphyry

4) metasedimentary rock

ECONOMIC MINERALS

1) native gold

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES

RC drill hole #

F-2053	samples totalling 3.9 m assaying 7.0 ounces gold per ton, 0.087 ounce gold per ton and 0.202 ounce gold per ton.
4	4990 ppb Au over 1.3 m from 7.0 m to 8.3 m
18	1395 ppb Au over 1.2 m from 4.0 m to 5.2 m
24	1185 ppb Au over 2.1 m from 0.0 m to 2.2 m

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07NW-0015 52O/02NW-0011 52O/02NW-0012
52O/02NW-0013 52O/02NW-0019 52O/02NW-0024
52O/02NW-0025 52O/06SE-0042 52O/02NW-0027
52O/02NW-0029 520/02NW-0033

DEPOSIT NAME: Duffell Lake #2

NTS AREA: 52O/02NW **MDI #: KP1052**

ALTERNATE NAMES: 1) Noranda Duffell Lake

DEPOSIT STATUS: Chip and grab samples from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Duffell Lake area

LATITUDE: 51° 12' 23" **LONGITUDE:** 90° 50' 55"

UTM ZONE: 15 **NORTHING:** 5674750 **EASTING:** 650283

LOCATION: This mineral occurrence is located about 52 km southwest of Pickle Lake. There is a small lake (pond) located 2 km southwest of Duffell Lake. The mineral occurrence is located about 175 m south of the small lake.

ACCESS: The best means of access to this mineral occurrence is by an appropriately equipped aircraft to an unnamed lake located 2 km south of Duffell Lake. On the north shore of the lake is an old diamond-drill camp and core storage area. Diamond-drill trails lead from the camp to the small lake (pond) located north of the mineral occurrence. Midway along the south shore of the small lake (pond), one traverses south to the mineral occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1969, Newconex Canadian Exploration Ltd. staked a large claim group that bordered to the north and east of the Duffell Lake #2 gold occurrence. Newconnex conducted an exploration program consisting of a Crone JEM survey and geological mapping.

In 1983, Noranda Exploration Company, Limited staked a block of claims which extended over the occurrence.

In 1984, Noranda conducted an exploration program consisting of magnetometer, VLF-Em and geological surveys on a flag line grid. A test humus sampling survey was conducted over the mineral occurrence area and a second area of the claim group.

In 1986, Noranda cut a grid on the property and conducted magnetometer, HLEM surveys and a second geological survey.

DEPOSIT GEOLOGY

The Duffell Lake #2 mineral occurrence is a 12 cm-to 24 cm-wide quartz vein that is exposed in an outcrop, and at one time was probably exposed in a series of shallow trenches over a strike length of up to 30 m. The host rock to the vein is a pillowed metabasalt. The southern end of the vein, as exposed, trends northeast (~030°) and dips vertically. To the north, the vein turns to trend east-northeast (~070°). The vein is cut off to the north by a 1.5-2.5 m breccia zone that strikes 115° through the pillowed metabasalt. The vein contains up to 35 percent arsenopyrite masses in tension fractures and disseminated euhedral pyrite.

About 50 m west-northwest of the quartz vein is an outcrop where a 1 m wide feldspar porphyry dyke intruded the metabasalt and the breccia zone. The feldspar-porphyry dyke contains quartz-filled, tension fractures up to 60 cm in length and 15 cm wide. The dyke trends 090°.

The breccia zone can be traced a further 50 m west-northwest to another outcrop. At the southern edge of this outcrop is a narrow (~45 cm) shear zone. A chip sample across this shear zone assayed 2810 ppb Au.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein / breccia zone / shear zone

HOST ROCK: pillowed metabasalts

OTHER ASSOCIATED ROCK TYPES: **1)** feldspar porphyry

ECONOMIC MINERALS

1) pyrite **2)** arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) none observed

ECONOMIC FEATURES

Noranda Exploration Company, Limited reported the following assay results.

0.10 ounce gold per ton)
0.18 ounce gold per ton |-- grab samples
0.25 ounce gold per ton)
0.07 ounce gold per ton over 6.0 ft.
0.43 ounce gold per ton over 2.0 ft.

OTHER PERTINENT DATA

This occurrence was examined by the Sioux Lookout Staff Geologist in 1988. He took several grab and chip samples in an attempt to confirm the Noranda results. His assay results are as follows:

GWS-88-59	A composite grab of the arsenopyrite-bearing quartz vein	3690 ppb Au
GWS-88-60	2 m chip of breccia zone	1220 ppb Au
GWS-88-61	grab of feldspar porphyry	3 ppb Au
GWS-88-62	grab from quartz filled tension fracture in feldspar porphyry	4 ppb Au
GWS-88-63	grab of breccia zone near feldspar porphyry	<2 ppb Au
GWS-88-63	45 cm chip of shear zone 100 m west-northwest of arsenopyrite-bearing quartz vein	2810 ppb Au

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07SW-0013 52O/02NW-0014 52O/02NW-0016-A1
52O/02NW-0017-D1 52O/02NW-0021 52O/02NW-0022
52O/02NW-0023

DEPOSIT NAME: Duffell Lake #3

NTS AREA: 52O/02NW **MDI #: KP1202**

ALTERNATE NAMES: 1) Bazinet occurrence

DEPOSIT STATUS: Grab samples from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Duffel Lake area

LATITUDE: 51° 13' 15" **LONGITUDE:** 90° 53' 16"

UTM ZONE: 15 **NORTHING:** 5676284 **EASTING:** 647507

LOCATION: The location given for this mineral occurrence is a point between two outcrops in which gold-bearing quartz veins are found. The point is located about 55 km southwest of Pickle Lake and about 4.4 km west of Duffell Lake.

ACCESS: This occurrence can only be accessed by appropriately equipped aircraft to a near-by lake, and then an overland traverse. There is a small lake about 800 m east of the occurrence where it may be suitable for a helicopter to land.

EXPLORATION AND DEVELOPMENT HISTORY

In 1991, Mr. Bazinet reported prospecting work on claims covering the occurrence outcrops. The quartz veins which comprise this mineral occurrence were discovered by Mr. Bazinet.

DEPOSIT GEOLOGY

Outcrop in the area around this occurrence is scarce. Stott and Wilson (1986b) indicate the area to be underlain by the Dempster Lake Gabbro in the west and by the Knupp Lake Stock to the east.

The diamond-drilling and the geological mapping completed by the exploration companies indicate the area to be underlain by mafic-metavolcanic flows with metasedimentary interlayers including iron formation. These rocks are cut by felsic,

often quartz and/or feldspar, porphyritic, dykes. The presence of the Knupp Lake Stock in the east was confirmed with the 1988 diamond-drilling.

This mineral occurrence consists of several gold-bearing quartz veins hosted by mafic-metavolcanic rock. The veins are found in 3 outcrops; 2 outcrops are within 100 m of each other; the other is about 600 m to the northeast. In the outcrop to the northeast, a quartz vein trends east. This vein is up to 25 cm wide, with a strike length of less than 20 m. The vein contains pyrite and arsenopyrite. Grab samples of this vein have reported good gold values.

In the two outcrops to the southwest, there are several north- trending veins and a couple of east-trending veins. Some of the veins contain pyrite and arsenopyrite. Grab samples from these veins report good gold values.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** not known

ECONOMIC MINERALS

1) pyrite **2)** arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Grab samples from the vein in the northeast outcrop have reported assay values up to 0.972 ounce gold per ton. Grab samples from the veins in the southwest outcrops have reported assay values up to 0.237 ounce gold per ton.

REFERENCES

Assessment file, Resident Geologist's office, Sioux Lookout District, 520/02NW-0033

DEPOSIT NAME: Duffel Lake #4

NTS AREA: 52O/02NW **MDI #: KP1203**

ALTERNATE NAMES: 1) Napoleon Hole #9

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Duffell Lake area

LATITUDE: 51° 13' 08" **LONGITUDE:** 90° 53' 03"

UTM ZONE: 15 **NORTHING:** 5676075 **EASTING:** 647765

LOCATION: The diamond-drill hole collar is located about 55 km southwest of Pickle Lake and about 4.0 km west of Duffell Lake. The cut line exploration grid co-ordinates for the drill hole collar is 23+75 S and 28+00 W.

ACCESS: This occurrence can only be accessed by appropriately equipped aircraft to a near-by lake, and then an overland traverse. There is a small lake about 500 m northeast of the occurrence where it may be suitable for a helicopter to land.

EXPLORATION AND DEVELOPMENT HISTORY

Prior to 1983, Amoco Canada Petroleum Company Limited conducted reconnaissance exploration which identified anomalous concentrations of glacially distributed gold in an esker near this occurrence.

In 1983 and 1984, Amoco Canada Petroleum Company Limited conducted two reverse-circulation (RC) drilling programs. Till samples from several holes in the first program indicated anomalous gold concentrations. One hole (number F-205) had 3 consecutive samples from the base of a single-till unit return assay results of 7.0 ounces gold per ton, 0.087 ounce gold per ton and 0.202 ounce gold per ton. The 3 samples totalled 3.9 m in length. (This information is from assessment file 52O/02NW-0027) The second program consisted of 24 tightly spaced RC drill holes to detail the area around hole F-205. This program had 3 drill holes return till samples assaying over 1000 ppb Au. Amoco followed up the reverse-circulation drilling program with a fence of 7 diamond-drill holes designed to test for the source of the gold in the

till. The diamond-drilling did not find the source for the gold in the till.

In 1987, Milner Consolidated Silver Mines Limited conducted VLF-Em, HLEM, magnetometer and geological surveys on optioned claims covering the occurrence. Napoleon Petroleum Corporation obtained an interest in the property around this time.

In 1988, Napoleon Petroleum Corporation conducted a nine-hole diamond-drilling program on the optioned claims, testing several geophysical anomalies and extending the fence of holes drilled by Amoco in the 'up-ice' direction.

DEPOSIT GEOLOGY

Outcrop in the area around this occurrence is scarce. Stott and Wilson (1986b) indicate the area to be underlain by the Dempster Lake Gabbro in the west and by the Knupp Lake Stock to the east.

The diamond-drilling and the geological mapping completed by the exploration companies indicate the area to be underlain by mafic-metavolcanic flows with metasedimentary interlayers including iron formation. These rocks are cut by felsic, often quartz and/or feldspar porphyritic, dykes. The presence of the Knupp Lake Stock in the east was confirmed with the 1988 diamond-drilling.

In 1988, Napoleon Exploration Corporation tested 'Conductor N' of their Amoco Project with diamond-drill hole number 9. 'Conductor N' is an electromagnetic anomaly and coincident magnetic anomaly that trends east-southeast for a strike length of 1400 ft. The diamond-drill hole intersected a sequence of "Tuff- Exhalite chert zones, magnetite iron formation and mafic metavolanics all of which are intruded by narrow feldspar porphyry dikes". The description in the diamond-drill log suggests that the "Tuff-Exhalite" may be an impure, banded, silicate iron formation and mafic metatuff. Three (3) intervals of the "Tuff-Exhalite" returned gold assay values high enough to be considered a gold occurrence (< 1000 ppb Au). These intervals all contain bands, and/or fracture filling of semi-massive to massive pyrite and pyrrhotite. Intervals with only pyrrhotite returned only anomalous assay values for gold.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: "Tuff-Exhalite" (Impure, banded, silicate iron formation and mafic metatuff)

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

2) magnetite iron formation

3) feldspar porphyry

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

From	To	Length	Assay value
27.12 m (89.0')	27.43 m (90.0')	0.31 m (2.0')	1332 ppb Au
61.87 m (203.0')	64.13 m (210.4')	2.26 m (7.4')	3287 ppb Au
65.17 m (213.8')	65.53 m (215.0')	0.36 m (1.2')	1559 ppb Au

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07NW-0015
52O/02NW-0011
52O/02NW-0012
52O/02NW-0013
52O/02NW-0019
52O/02NW-0024
52O/02NW-0025
52O/06SE-0042
52O/02NW-0027
52O/02NW-0029
520/02NW-0033

DEPOSIT NAME: Dempster Southwest

NTS AREA: 52O/02NW **MDI #: KP0206**

ALTERNATE NAMES: 1) Duffell Lake "A"

2) Duffell Lake #5

DEPOSIT STATUS: Grab samples from bedrock

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Duffell Lake area

LATITUDE: 51° 13' 39" **LONGITUDE:** 90° 58' 03"

UTM ZONE: 15 **NORTHING:** 5676865 **EASTING:** 641916

LOCATION: The Dempster Southwest gold occurrence is located about 58 km south of Pickle Lake. The gold occurrence is found in outcrops along the Ear Falls-Pickle Lake power line, 525 m southwest of the Kawinogans (Crow) River.

ACCESS: Access to the Dempster Southwest gold occurrence is by appropriately equipped aircraft from Pickle Lake to a small lake just north of the occurrence (100 - 150 m). The small lake is part of the Kawinogans River. Under freezing conditions, a seasonal road from Pickle Lake along the Ear Falls-Pickle Lake power line may also be used to access this occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered by an Ontario Department of Mines geological mapping party lead by W. D. Harding (1935). He reports "A grab sample from a mineralized quartz porphyry dike, which strikes in an east-west direction between the first and second lakes southwest of Dempster Lake, gave 0.02 ounces per ton in gold. There are other dikes in the vicinity."

In 1983, Noranda Exploration Company, Limited staked 20 claims to cover the mineral occurrence discovered by the Ontario Department of Mines in 1935.

In 1984, Noranda conducted an exploration program consisting of geological mapping, magnetometer and VLF-Em surveys and limited rock and humus geochemical sampling along a pace and compass, flagged-line grid.
In 1986, Noranda cut a grid on the property and completed geological, magnetometer, HLEM and humus geochemistry surveys on the claim group.

By 1990, Bond Gold Canada Inc. acquired the Noranda claims. In 1990, Bond Gold Canada Inc. completed geology and rock geochemistry surveys over the occurrence area.

DEPOSIT GEOLOGY

The Dempster Southwest gold occurrence consists of a sheared quartz-feldspar porphyry dyke mineralized with up to 2% Py. The porphyry is weakly altered by an unidentified carbonate species. The dyke strikes about 078° and dips vertically. It has a width between 15 cm and 25 cm, and is traceable in outcrop for about 100 m. The quartz-feldspar porphyry intrudes a metasedimentary sequence of thinly bedded to laminated, siliceous greywackes.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: **1)** metasediments, greywacke

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) carbonatization

ECONOMIC FEATURES

Grab samples from the quartz-feldspar porphyry dyke returned assays up to 0.05 ounce gold per ton.

REFERENCES

Harding, W.D., 1935. Geology of the Cat River-Kawinogans Lake area in Forty-forth Annual Report of the Ontario Department of Mines, Vol. XLIV, Part VI p.69.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0016-C1	52O/02NW-0022	52O/02NW-0015
52O/02NW-0018-A1	52O/02NW-0026	52O/02NW-0028
52O/02NW-0032	52O/02NW-0044	52O/02NW-0046
52O/06SE-0033		

DRUM LAKE AREA

52O/03NE

DEPOSIT NAME: South Dunlop Lake

NTS AREA: 52O/03NE **MDI #: KP1066**

ALTERNATE NAMES: 1) Drum Lake #1

2) Ontario Gold Joint Venture

DEPOSIT STATUS: Trenched and drilled occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake area

LATITUDE: 51° 14' 04" **LONGITUDE:** 91° 01' 14"

UTM ZONE: 15 **NORTHING:** 5677540 **EASTING:** 638197

LOCATION: This occurrence is located about 61 km southwest of Pickle Lake. The occurrence is found off the southeast end of a small un-named lake about 2 km south of Mousetrap Lake. The small un-named lake is locally known as Dunlop Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Mousetrap Lake. A trail which starts at the west end of Mousetrap Lake may be followed to the occurrence. Small helicopters may be able to land on the occurrence outcrop.

EXPLORATION AND DEVELOPMENT HISTORY

In 1972, Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd., in joint venture, did an airborne geophysical survey of the area and followed up with ground magnetometer and electromagnetic surveys in the Dunlop Lake area.

In 1978, Cominco Ltd. commissioned an airborne magnetometer survey over the Dunlop Lake area.

In 1979, Cominco Ltd. did ground magnetometer, electromagnetic, and gravity surveys and geological mapping on claims covering the South Dunlop Lake occurrence.

In 1981, Cominco Ltd. drilled a 99-m diamond-drill hole west of the South Dunlop Lake

occurrence.

From 1984 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Exploration Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted a multi-phased exploration program on claims covering the South Dunlop Lake occurrence. The work included airborne magnetometer and electromagnetic survey, ground magnetometer and electromagnetic surveys, geological mapping, rock and soil geochemistry, stripping and trenching, sampling and 3 diamond-drill holes totalling 144.47 m.

In 1986, Geocanex Ltd. commissioned airborne magnetometer and electromagnetic surveys over an area which included the South Dunlop Lake occurrence.

DEPOSIT GEOLOGY

Janes, Seim and Storey (1990) reported on the geology of the South Dunlop Lake gold occurrence as follows:

"The south Dunlop Lake gold occurrence is contained within the zone of intense deformation mapped by Stott and Wilson (1986a, 1986b). The occurrence consists of several deformed quartz-tourmaline-pyrite veins contained within a 15 m wide intensely deformed, silicified felsic metavolcanic unit. Intensely deformed mafic metavolcanics outcrop to the south of the silicified felsic metavolcanics. Intensely deformed intermediate to felsic metavolcanics outcrop to the north of the silicified felsic metavolcanics.

The second deformation event was so intense that, in the vicinity of the occurrence, primary textures and early deformation fabrics were masked. A well developed slaty cleavage is the prominent structural feature of the rocks around the occurrence. The cleavage planes are 3 to 10 mm apart. They strike 125° and dip 83° S within the silicified felsic metavolcanics. Occasional narrow fault breccia zones, that strike subparallel to the cleavage, cut the silicified felsic metavolcanics. The cleavage does not penetrate the fault breccia. The latest structural feature observed in the vicinity of the occurrence is a set of conjugate kink bands in the cleavage planes. The conjugate kink bands strikes 000° and 090° and dip 65° W and 65° E, respectively.

The quartz-tourmaline-pyrite veins, which contain the gold at the South Dunlop Lake occurrence, trend east and dip north. The veins are highly contorted and are penetrated by the cleavage. They average less than 30 cm in thickness and do not extend beyond the silicified felsic metavolcanics. The veins are offset by the fault breccia zones. The apparent offset is left-handed which does not conform to the ideas of Stott and Wilson (1986a, 1986b), who mapped the sense of movement within the deformation zone as right handed.

Northern Dynasty Explorations Ltd. reported that individual grab samples of the quartz-tourmaline-pyrite veins assayed up to 0.52 ounce gold per ton. They also reported the panel samples that included the silicified felsic metavolcanic and vein material returned less than 100 ppb gold (Youngman et al. 1985).

Other interesting features that the second author noticed in the vicinity of the South Dunlop Lake gold occurrence are: narrow (1.0 cm), short (less than 3 m) east-trending quartz veins within the mafic metavolcanics; and quartz feldspar dykes along the contact of the silicified felsic metavolcanics and the intermediate to felsic metavolcanics."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: felsic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) intermediate to felsic metavolcanics

3) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification

2) sericitization

ECONOMIC FEATURES

Northern Dynasty Explorations Ltd. best assay value from this occurrence was 0.52 ounce gold per ton from a grab sample.

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist took 4 grab samples from this occurrence for

assay. The best assay from the 4 samples was 630 ppb Au from a sample of quartz-tourmaline-pyrite vein.

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990. Sioux Lookout Resident Geologist's District -- 1989; in Report of Activities 1989, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, p.69-100

Assessment files, Resident Geologist's office, Sioux Lookout district,

52O/02NW-0039	52O/02NW-0040	52O/03NE-0016-B1
52O/03NE-0017-C1	52O/03NE-0026	52O/06SW-0013
52O/06SW-0015	52O/06SW-0017	52O/06SE-0033
52O/06SE-0032	52O/06SE-0040	52O/07SW-0014
52O/07SW-0018	53B/14NE-0020	

DEPOSIT NAME: Drum Lake #2

NTS AREA: 52O/03NE **MDI #: KP1067**

ALTERNATE NAMES: 1) North Dunlop Lake

2) Ontario Gold Joint Venture

DEPOSIT STATUS: Trenched and drilled occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake area

LATITUDE: 51° 14' 19" **LONGITUDE:** 91° 01' 19"

UTM ZONE: 15 **NORTHING:** 5678010 **EASTING:** 638081

LOCATION: This occurrence is located about 61 km southwest of Pickle Lake. It is about 2 km south-southwest of Mousetrap Lake and 300 m of a small Lake known locally an Dunlop Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Mousetrap Lake and traversing overland to the trenches. Small helicopters may be able to land near Dunlop Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1972, Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd., in joint venture, did an airborne geophysical survey of the area and followed up with ground magnetometer and electromagnetic surveys in the Dunlop Lake area.

In 1978, Cominco Ltd. commissioned an airborne magnetometer survey over the Dunlop Lake area.

In 1979, Cominco Ltd. did ground magnetometer, electromagnetic, and gravity surveys and geological mapping on claims covering the occurrence.

In 1981, Cominco Ltd. drilled a 99 m diamond-drill hole south of the occurrence.

From 1984 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Exploration Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted a multi-phased exploration program on claims covering the occurrence. The work included airborne magnetometer and electromagnetic surveys, ground magnetometer and electromagnetic surveys, geological mapping, rock and soil geochemistry, stripping, trenching, sampling and 3 diamond-drill holes totalling 144.47 m.

In 1986, Geocanex Ltd. commissioned airborne magnetometer and electromagnetic surveys over an area which included the South Dunlop Lake occurrence.

DEPOSIT GEOLOGY

This occurrence is found in a chert-magnetite iron formation contained in an intermediate-to felsic-metavolcanic unit. The Billett Lake deformation zone encompasses the intermediate-to felsic-metavolcanic unit and the iron formation. Both the deformation zone and the rock units strike east-southeast.

At the occurrence, the iron formation is intercalated with a chlorite-sericite schist in an 8-m exposure. Up to 3% pyrite is contained in the iron formation and in the chlorite-sericite schist.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: iron formation

OTHER ASSOCIATED ROCK TYPES: **1)** Chlorite-sericite schist

2) intermediate to felsic metavolcanic

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) sericite **2)** chlorite

ECONOMIC FEATURES

The best assay reported for this occurrence is 0.32 ounce Au per ton over 0.7 m.

OTHER PERTINENT DATA

North of Arrowhead Lake (local name), about 1.7 km along strike from this occurrence, Northern Dynasty Exploration Ltd. reported assays from a trench on the iron formation that averaged 0.037 ounce gold per ton over 1.0 m from a brecciated quartz vein containing up to 15% pyrite.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District.

52O/02NW-0039
52O/02NW-0040
52O/03NE-0026
52O/03NE-0031
52O/06SW-0013
52O/06SW-0015
52O/06SE-0017
52O/06SE-0032
52O/06SE-0033
52O/06SE-0040
52O/07SW-0014
52O/07SW-0018
53B/14NE-0020

DEPOSIT NAME: Firth, N.

NTS AREA: 52O/03NE **MDI #: KP0188**

ALTERNATE NAMES: 1) Drum Lake #3,C

2) McVean Lake

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Zn, Cu,

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake area

LATITUDE: 51° 12' 31" **LONGITUDE:** 91° 08' 01"

UTM ZONE: 15 **NORTHING:** 5674455 **EASTING:** 630383

LOCATION: The drill hole in which this occurrence was intersected was collared at the southeast end of a small un-named lake, located about 71 km southwest of Pickle Lake and 3.4 km north of Drum Lake.

ACCESS: The small lake on which this occurrence is located may be marginal for landing with float- or ski-equipped aircraft. A winter road along the Ear Falls-to Pickle Lake power corridor passed about 1.8 km north of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970, the C.C. Huston 1969 Partnership did ground magnetometer and electromagnetic surveys in claims covering the occurrence, and followed up with 2 diamond-drill holes totalling 64 m.

In 1987, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys and did a geological mapping program over claims covering the occurrence.

DEPOSIT GEOLOGY

Drill hole 6 on C.C. Huston 1969 Partnership's Pickle Lake claim group #9 intersected two sulphide zones. One is in what is described as silicified amphibolitic schist with

quartz and chert fragments and the other is in what is described as greenstone schist. Both zones are mineralized with pyrite and pyrrhotite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) Graphitic schist

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** garnet

ECONOMIC FEATURES

Diamond-drill hole 6 intersections:

From	To	Length	%Cu	%Zn
11.64 m (38.2')	13.59 m (44.6')	1.95 m (6.4')	0.05	0.20
16.37 m (53.7')	17.40 m (57.1')	1.03 m (3.4')	0.05	0.26

OTHER PERTINENT DATA

This occurrence does not meet the current O. G. S. standard for a copper, zinc or silver occurrence. It was named a mineral deposit in a previous compilation because it indicates what the compiler considered slightly anomalous base metal values. Newer intersections of similar assay values in the area covered by this Open File Report have not been included as mineral deposits.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NE-0010-A1 52O/03NE-0021 52O/03NE-0032
52O/08NW-0029

DEPOSIT NAME: Cochenour Willans-Selco

NTS AREA: 52O/03NE **MDI #: KP0105**

ALTERNATE NAMES: 1) Drum Lake "A"

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Cu

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake area

LATITUDE: 51° 10' 30" **LONGITUDE:** 91° 01' 23"

UTM ZONE: 15 **NORTHING:** 5670913 **EASTING:** 638196

LOCATION: This occurrence is located about 64 km southwest of Pickle Lake and about 9.6 km east of Drum Lake. The drill hole was collared about 1 km to the northwest of a small un-named lake.

ACCESS: It is recommended that this occurrence be accessed by helicopter.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970, Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd., in joint venture followed up an airborne geophysical anomaly with a ground electromagnetic survey and diamond-drilling (1 hole - 30.78 m).

In 1987, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area and did geological mapping.

In 1988, Bond Gold Canada Inc. drilled a hole near the occurrence as part of a 7-hole program that totalled 695.3 m.

In 1989, Bond Gold Canada Inc. drilled another hole near the occurrence as part of a 7-hole program that totalled 612.5 m.

DEPOSIT GEOLOGY

The Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd. joint venture diamond-drill hole B-21-70-1 intersected a 48.7 cm-thick sulphide zone in a mafic metavolcanic near the contact with more-siliceous tuffs. The sulphide zone contained up to 40% pyrrhotite, 20% pyrite and traces of chalcopyrite as thin stringers, blebs, lenses and massive layers.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** siliceous tuff

2) lapilli tuff

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Traces of chalcopyrite were reported in the drill hole. Copper values were not reported.

OTHER PERTINENT DATA

This occurrence does not meet the current O.G.S. standard for a copper occurrence. It was named a mineral deposit in a previous compilation because it indicates what the compiler considered slightly anomalous base metals in the ground.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NE-0012-D1 52O/03NE-0030 52O/03NE-0033
52O/03NE-0034 52O/04NE-0014 52O/06SE-0080
52O/08NW-0026

DEPOSIT NAME: Selco-Drum Lake

NTS AREA: 52O/03NE **MDI #: KP0205**

ALTERNATE NAMES: 1) Drum Lake #4,B

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Cu, Zn, Ag

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake Area

LATITUDE: 51° 11' 35" **LONGITUDE:** 91° 07' 51"

UTM ZONE: 15 **NORTHING:** 5672720 **EASTING:** 630608

LOCATION: The location given for this occurrence is about 70 km southwest of Pickle Lake and about 2.2 km north-northeast of Drum Lake. This occurrence consists of base metal mineralization intersected in 2 diamond-drill holes collared about 3.2 km apart.

ACCESS: It is recommended that this occurrence be accessed by helicopter.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970, Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd., in joint venture, drilled 5 holes totalling 337 m in the vicinity of this occurrence. Two (2) holes intersected sphalerite and chalcopyrite mineralization worthy of note. No ground or airborne work was reported prior to the drilling.

In 1987, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys and did a geological mapping program over the occurrence area.

DEPOSIT GEOLOGY

Cochenour Willans Gold Mines Ltd.'s and Selco Exploration Company Ltd.'s joint venture intersected base metal sulphides in 2 of 5 diamond-drill holes done on the B-16 claim group. The hole nearest the given location for this occurrence, B-16-70-4 intersected a thin horizon of base metal sulphides in felsic ash tuffs at a contact with

mafic metavolcanics. The sulphides reported in the 61-cm thick horizon were pyrrhotite (20%), pyrite (3%), chalcopyrite (1-2%) and sphalerite (<1%). Drill hole B-16-70-3 was collared about 3.2 km west northwest of the location given for this occurrence. In this drill hole, base metal sulphides were intersected in a thin horizon (67 cm) of interbanded mafic and siliceous tuffs. The tuffs are contained in a succession of undifferentiated mafic metavolcanics. The thin horizon of interbanded mafic and siliceous tuff is reported to contain 20% pyrrhotite, 5% pyrite, 2-4% chalcopyrite and 2% sphalerite.
A thin limestone unit and a thin tuff argillite unit are also reported in the hole.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) limestone

3) tuff argillite

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

3) chalcopyrite **4)** sphalerite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Base metal assays were not reported for this occurrence. Gold and silver assays returned trace and 0.80 ounce Ag per ton from hole B-16-70-3.

OTHER PERTINENT DATA

Several other diamond-drill hole done by the Cochenour Willans Gold Mines Ltd. and Selco Exploration Company Ltd. joint venture and by the C.C. Huston Partnership (1969) are reported to have intersected base metal mineralization. Few assays were reported.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NE-0011-D1 52O/03NE-0012-A1 52O/08NW-0029
52O/03NE-0032

DEPOSIT NAME: McVean Lake

NTS AREA: 52O/03NE **MDI #: KP1204**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Drum Lake area

LATITUDE: 51° 12' 13" **LONGITUDE:** 91° 07' 17"

UTM ZONE: 15 **NORTHING:** 5673926 **EASTING:** 631243

LOCATION: This occurrence is located about 69 km southwest of Pickle Lake and 2.8 km west of McVean Lake.

ACCESS: It is recommended that a helicopter be used to access this occurrence. A winter road along the Ear Falls-to Pickle Lake power corridor passes about 2.2 km north of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970, the C.C. Huston Partnership (1969) did ground magnetometer and electromagnetic surveys and drilled 3 diamond-drill holes totalling 86.5 m in the vicinity of the occurrence.

In 1987, both Umex Inc. and St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys and did geological mapping programs over the occurrence area.

In 1991, Major General Resources Ltd. did 4 diamond-drill holes totalling 864 m in the vicinity of the occurrence. Drill hole McV91-03 intersected gold mineralization.

In 1992, Major General Resources Ltd. did a 1600-m diamond-drilling program in the vicinity of the occurrence. At the time of writing, the log for one of these holes was in the assessment files.

DEPOSIT GEOLOGY

Major General Resources Ltd. intersected 2 zones of anomalous gold mineralization in drill hole McV91-03. Within these zones, 3 intervals returned assay values over 1000 ppb Au. The zones of anomalous gold mineralization occur in a wide deformation/shear zone. The shear zone encompasses units of mafic metavolcanics, chert-magnetite iron formation and quartz-feldspar porphyry. The higher gold values were intersected in the chert-magnetite iron formation. The best gold value came from a 0.5-m zone containing 25-30% pyrrhotite, flecks of visible gold and traces of chalcopyrite and pyrite. The 0.5-m zone is silicified.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: iron formation

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

2) quartz feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite **2)** gold

3) chalcopyrite **4)** pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification

ECONOMIC FEATURES

The three significant assay intervals in drill hole McV91-03 are:

From	To	Length	Au ppb	Cu ppm	Zn ppm
69.4	70.9 m	1.5 m	1030	158	58
119.7	121.2 m	1.5 m	1000	55	51
133.3	133.8 m	0.5 m	24070		

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NE-0010-C1 52O/03NE-0032 52O/03NE-0035
52O/03NE-0036 52O/08NW-0026 52O/08NW-0029
52P/12SW-0059

JOHNSTON BAY AREA

52O/03SE

DEPOSIT NAME: Mile Five

NTS AREA: 52O/03SE **MDI #: KP0017**

ALTERNATE NAMES: 1) Johnston Bay #1,A

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Johnston Bay area

LATITUDE: 51° 01' 06" **LONGITUDE:** 91° 05' 08"

UTM ZONE: 15 **NORTHING:** 5653372 **EASTING:** 634287

LOCATION: The Mile Five occurrence is located about 80 km southwest of Pickle Lake and 118 km north-northeast of Sioux Lookout. The occurrence is located about 300 m north of the shore of Lake St. Joseph and about 400 m southwest of the Mile 5 point on the 2nd Baseline. (The 2nd Baseline was surveyed by Dobe (OLS) in 1920.)

ACCESS: The most practical means of access to the Mile Five occurrence is by an appropriately equipped aircraft to the west end of Lake St. Joseph, and then traversing overland to the occurrence from the closest point of shoreline to the occurrence. Alternatively, road and boat access may be used, but this involves long distance boat travel. The closest water access point to Lake St. Joseph is on Highway 599 at Doghole Bay of Lake St. Joseph.

EXPLORATION AND DEVELOPMENT HISTORY

In 1977, the Mile Five property was staked by Noranda Exploration Company, Limited as follow-up to an airborne geophysical survey. This was followed by line-cutting and a magnetometer survey. Electromagnetic surveys including one or more of the CEM horizontal shootback, vertical loop Em and horizontal loop Em methods were also conducted on various parts of the grid.

In 1978, a three-hole diamond-drilling program was conducted on the property by Noranda.

There is no further record of work on this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole number LSJ 2-78, drilled at 250° by -50°, collared in medium- to coarse-grained, magnetite-bearing gabbro. At 44.55 m down, the hole passed into a sequence of felsic metavolcanics with units labelled felsic tuff, rhyolite breccia, rhyolite lapilli tuff, felsic and rhyolite ash tuff and rhyolite flow breccia. The felsic metavolcanics contained two interlayers of tuffaceous/graphitic argillite. At 68.1 m down, the hole passed into intermediate metavolcanics, labelled dacite-to-andesite ash tuff and dacite ash tuff-to-lapilli tuff. Slightly anomalous copper and zinc assays were reported for all five assay sections of core sampled. These five sections of core were mineralized with various concentrations of pyrite. Some pyrrhotite is also noted on the drill log. The best interval, with respect to assay values reported, contained up to 50% locally massive pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** gabbro

2) metasediments

3) intermediate metavolcanics

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) garnet

ECONOMIC FEATURES

The section of drill core from 46.30 m to 47.30 m (1.00 m) assayed 0.12 % Cu, 0.06 % Zn , 0.08 ounce gold per ton and a trace of gold.

OTHER PERTINENT DATA

This occurrence does not meet the current O. G. S. standard for a copper, zinc or silver occurrence. It was named a mineral deposit in a previous compilation because it indicates what the compiler considered slightly anomalous base metal values. Newer intersections of similar assay values, in the area covered by this Open File Report, have not been included as mineral deposits.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03SE-0011-D1 52O/03SE-0015

DEPOSIT NAME: Kitty Creek

NTS AREA: 52O/03SE **MDI #: KP0276**

ALTERNATE NAMES: 1) Johnston Bay #2,B

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Cu, Zn, Ag

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Johnston Bay area

LATITUDE: 51° 04' 49" **LONGITUDE:** 91° 08' 12"

UTM ZONE: 15 **NORTHING:** 5660181 **EASTING:** 630519

LOCATION: The Kitty Creek occurrence is located about 77 km southwest of Pickle Lake and 124 km north-northeast of Sioux Lookout. The occurrence is about 1 km east of the most northeastern bay of Blackstone Lake.

ACCESS: The best means of access to the Kitty Creek occurrence is by an appropriately equipped aircraft to the most-northeastern bay of Blackstone Lake, and then an overland traverse east to the occurrence. Alternatively, road and boat access may be used, but this involves long distance boat travel. The closest water access point to Lake St. Joseph is on Highway 599 at Doghole Bay of Lake St. Joseph.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970, Cochenour Willans Gold Mines Limited and Selco Explorations Company, Limited, in joint venture, drill tested an airborne geophysical anomaly believed to be the anomaly associated with the Kitty Creek occurrence.

In 1977, Noranda Exploration Company, Limited staked 6 claims to cover an airborne geophysical anomaly. In the same year, Noranda cut a metric grid on the property and contracted magnetometer, Vertical Loop Em and Em-17 (HLEM) surveys along the grid lines.

In 1978, Noranda drilled a 97.92 m-diamond-drill hole to test a 500 m-long magnetic high and associated electromagnetic anomaly. The drill hole intersected sulphides anomalous in base metals.

In 1985, Kerr Addison Mines Limited commissioned airborne magnetometer and electromagnetic surveys over an area including the Kitty Creek occurrence.

In 1986, Kerr Addison Mines Limited staked claims which covered the Kitty Creek occurrence and contracted out line-cutting, magnetometer and MaxMin II surveys.

In 1987, Kerr Addison drilled 2 diamond-drill holes near (1 possibly through) the Kitty Creek occurrence. Mineralization was assayed for gold only.

There is no further record of work on this deposit.

DEPOSIT GEOLOGY

It appears from examination of the assessment files that the magnetic and electromagnetic anomaly associated with the Kitty Creek occurrence has been tested 3 times by diamond-drilling. All the diamond-drill logs describe a mixed mafic-to-felsic metavolcanic and metasedimentary succession of rock in varying detail. All report intervals of semi-massive to massive pyrite and pyrrhotite and units rich in chlorite and garnet. A summary description of the Noranda Exploration Company, Limited drill hole is given as it is the one which was used for the initial documentation of this deposit.

The azimuth and inclination of diamond-drill hole LSJ 5-78 were 064° and -50°. The hole collared in a sequence of mixed mafic ash tuff and tuffaceous metasediments. At 28.7 m down, the hole passed into a sequence of mixed felsic ash tuff, tuffaceous metasediments, mafic ash tuff and argillite. The felsic ash tuff and the argillite contain concentrations of pyrite and pyrrhotite. At 56.93 m down, the hole passed into mixed mafic tuffaceous metasediment and mafic ash tuff. The mafic tuffaceous metasediment contained abundant chlorite and garnet before passing into mafic ash tuff which contained up to 50% pyrite and 25%pyrrhotite. Assay results show the sulphides to be anomalous in base metals. At 91.42 m down, the hole passed into felsic ash tuff mineralized with pyrite and pyrrhotite. The hole was stopped at 97.92 m in felsic ash tuff mineralized with up to 10% pyrrhotite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: Mafic metavolcanics / felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) metasediments

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) chlorite **2)**garnet

ECONOMIC FEATURES

From	To	Length	%Cu	%Zn	Ag oz./ton	Au oz./ton
89.36 m	90.36 m	1.00 m	0.08	0.15	0.22	tr.
90.36 m	91.42 m	1.06 m	0.08	0.20	0.32	tr.
91.42 m	92.39 m	0.97 m	0.05	0.09	0.09	tr.
92.39 m	93.36 m	0.97 m	0.07	0.09	0.09	tr.
93.36 m	94.46 m	1.10 m	0.08	0.06	0.06	tr.

OTHER PERTINENT DATA

This occurrence does not meet the current O. G. S. standard for a copper, zinc or silver occurrence. It was named a mineral deposit in a previous compilation because it indicates what the compiler considers slightly anomalous base metal values. Newer intersections of similar assay values, in the area covered by this Open File Report, have not been included as mineral deposits.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03SE-0012-A1 52O/03SE-0012-C1 52O/03SE-0015
52O/03SE-0016 52O/03SE-0017

DEPOSIT NAME: Island 81

NTS AREA: 52O/03SE **MDI #: KP1068**

ALTERNATE NAMES: 1) Johnston Bay #3

DEPOSIT STATUS: Grab sample from bedrock

COMMODITIES: Ag

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Johnston Bay area

LATITUDE: 51° 00' 05" **LONGITUDE:** 91° 02' 10"

UTM ZONE: 15 **NORTHING:** 5651593 **EASTING:** 637795

LOCATION: The Island 81 occurrence is located approximately 77 km southwest of Pickle Lake and 117 km north-northeast of Sioux Lookout. Island 81 is 3 km north of Eagle Island on the north side of Lake St. Joseph. The occurrence is located near the south shore of the island.

ACCESS: The best means of access to Island 81 is by appropriately equipped aircraft to Lake St. Joseph. Alternatively, road and boat access may be used, but this involves long distance boat travel. The closest water access point to Lake St. Joseph is on Highway 599 at Doghole Bay of Lake St. Joseph.

EXPLORATION AND DEVELOPMENT HISTORY

In 1977, Noranda Exploration Company, Limited staked 7 claims to cover airborne geophysical anomalies near Island 81.

In 1978, Noranda conducted line-cutting, magnetometer and HLEM surveys on the grid. In the same year, Noranda did 1 diamond-drill hole to test an anomaly to the northwest of the island. Sometime between the staking and the writing of the geophysical report a grab sample was taken near the south shore of the island.

There is no further record of work on this deposit.

DEPOSIT GEOLOGY

The grab sample taken by Noranda exploration was a felsic breccia with heavy pyrite mineralization.

Geological maps of the area around Island 81 indicate the area to be underlain by interlayered felsic metavolcanics and gabbro.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: felsic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) unknown

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES

The grab sample taken by Noranda assay 1.5 ounces silver per ton.

OTHER PERTINENT DATA

This occurrence lies on the line between NTS areas 52O/03SE and 52J/14NE.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03SE-0014 52O/03SE-0012-B1

FRY LAKE AREA

52O/03NW

DEPOSIT NAME: Kirkland Townsite Showing #1

NTS AREA: 52O/03NW **MDI #: KP0236**

ALTERNATE NAMES: **1)** Bamaji Lake

2) Fry Lake

3) Bamaji

4) Kirkland Townsite

5) North Bamaji Lake

6) Showing # 1 (Main)

7) Fry Lake # 2,D

DEPOSIT STATUS: trenched and drilled raw prospect

COMMODITIES: Au, U

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 23" **LONGITUDE:** 91° 25' 25"

UTM ZONE: 15 **NORTHING:** 5670032 **EASTING:** 610204

LOCATION: This occurrence is located 90 km west-southwest of Pickle Lake and 13 km east of the First Nation community of Slate Falls. The trenches and outcrops which expose this occurrence are located on the southwest shore of Don's Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bamaji Lake or to North Bamaji Lake, and then traversing overland to Don's Lake and the occurrence. Don's Lake is marginal for use by float-equipped aircraft. A winter road passes along the Ear Falls to Pickle Lake power corridor about 1 km north of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1954, McCombe Mining and Exploration Ltd. trenched the occurrence and drilled 11 short diamond-drill holes totalling 172 m.

In 1968, Kirkland Townsite Gold Mines Ltd. did trenching and geological mapping around the occurrence and commissioned an airborne spectrometer survey of the area.

In 1971, R. Knappett restaked the area of the occurrence and prospected the ground until 1977.

In 1978, Urangesellschaft Canada Ltd. commissioned a combined airborne VLF-Em, magnetometer and spectrometer survey over the area and did ground work consisting of line cutting, prospecting, trenching, ground scintillometer surveys, a limited geochemical orientation survey and detailed geological mapping.

In 1979, Urangesellschaft Canada Ltd. did a radon survey, 2 VLF-Em surveys and a resampling of the Kirkland Townsite and McCombe trenches.

In 1980, Teck Explorations Ltd. completed further geological mapping and trenching and drilled 2 diamond-drill holes totalling 276 m.

In 1883, FTM Resources Ltd. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

Between 1985 and 1989, Umex Inc. completed a multi-phased exploration program which included geological mapping and rock and soil geochemistry, ground magnetometer and electromagnetic surveys, 7 diamond-drill holes totalling 1203 m and airborne magnetometer and electromagnetic surveys in the area of the occurrence.

DEPOSIT GEOLOGY

The geology of this occurrence has been described in various terms by the exploration companies that have performed work on it and by Sage and Breaks (1982) and Wallace (1985).

Sage and Breaks (1982) provide a good discussion of the general geology of the occurrence.

"The No. 1 showing is contained within a relatively narrow east-trending, vertically

dipping shear zone, exposed for a distance of 268 m. This shear zone is marked by a short cliff which can be observed on 1 inch to 1 mile scale aerial photographs of the area. It can clearly be seen that this shear zone trends with an angular discordancy of about 15 degree to the two N60E trending regional lineaments described in the previous section. Relationship of the shear zone to these lineaments in unknown. The host rocks consist predominantly of foliated, occasionally pillowed, fine-grained to medium-grained amphibolitized mafic metavolcanics, heavily intruded by lit-par-lit dikes and small bodies of massive to foliated, medium-grained, light-grey (fresh surface) biotite, and muscovite-biotite trondhjemite. Adjacent to the shear zone, which reaches a maximum width of about 1.8 m, the wall rocks are locally dominated by a pyrite-bearing muscovite quartzofeldspathic schist which appears to be the sheared, altered equivalent of biotite trondhjemite. The latter rock type, which greatly resembles that of the Bamaji Lake complex, becomes progressively more schistose, pyritic and muscovitic towards the shear zone. Within the shear zone, a characteristic, highly carbonatized fault breccia composed of mafic, chloritic fragments imbedded in a finer grained, more readily disintegrated matrix of carbonate +/- actinolite +/- chlorite +/- biotite occurs intermittently along the exposed length. The carbonate is light brown on fresh surface and is possibly sideritic in composition. Actinolite often occurs as coarse-grained, radiating dark-green (fresh surface) fibrous aggregates. The geology of the immediate area around the No. 1 Showing is illustrated in Figure 9."

"The significant uranium, thorium, gold and silver values indicated in Table 4 are invariably correlated with bands of highly sheared pyritic sericite schist which intermittently occur along the exposed 240 m strike length of the shear zone. These bands contain up to 30 percent fine-grained disseminated pyrite and are characterized by both rusty limonitic and light yellow staining. The latter colouration is probably indicative of secondary uranium minerals such as carnotite. The highest radioactivity readings (geiger counter) of 950 counts per minute were recorded over these bands. The mineralized zone is often sharply bounded to the north by the carbonate fault-breccia unit. Within certain areas of the pyritic zones, black "sooty", very fine-grained masses amd {sic} seams of a lightweight friable substance are apparent. When strongly heated, this black material gives off considerable water and then burns in air emitting sulphur dioxide fumes. The residue, after strong heating, was found to be comprised of ferric oxide. X-ray diffraction patterns did not give a clear identification, although lines characteristic of goethite and marcasite were recognized.

The uranium mineral(s) could not be separated for unequivocal identification. A cut face of a specimen indicating the highest radioactivity detected in the field was exposed to X-ray sensitive film for 24 hours. The resulting autoradiograph indicated local faint diffuse darkening of the film. The radioactive source appeared to be extremely fine-grained and impossible to separate. It is suspected that uranothorite and/or uranite are present in very small quantities. Table 4 indicates that significant gold values (samples HCG9-14A, HCG9-17) and minor silver values occur within the

pyritic sericite schist. These results confirm similar values obtained by R. Knappett. Emission spectroscopic analysis on all grab samples in Table 4 indicated an absence of significant quantities of other economically important elements."

Wallace (1985) interprets the sheared and sericitized trondhjemite as rhyolite. His description of the occurrence is as follows:

"The geology of the main occurrence is depicted in Figure 8. The uranium-thorium-gold mineralization occurs in a sequence of rhyolitic pyroclastic rocks, chemical metasediments, and metawacke-mudstones totalling no more than 7.5 m in thickness and presently exposed along strike for at least 150 m. The stratigraphy to the north and south of this sequence consists almost entirely of fine to medium grained, commonly pillowed mafic amphibolites, intruded by numerous fine to medium grained aphyric and porphyritic trondhjemite sills from a few centimetres to several tens of metres in thickness.

Although several minor folds were observed in the local metavolcanics and metasediments, the rocks appear to face uniformly southward. The main occurrence is interpreted as being on the southern limb of the Moosetegon Lake Anticline. Consequently the strata described may be expected to recur around that structure, possibly through the central part of Moosetegon Lake, and the area south of Rockmere Lake.

The oldest units in the mineralized sequence are exposed at the north ends of trenches IX and IV. At trench IX the unit appears to be a rhyolitic to rhyodacitic lapilli-tuff of unknown thickness which has been highly folded. In trench IV the oldest rock is a white weathering rhyodacitic lithic tuff. Because of shearing in this area, this tuff is difficult to distinguish from the trondhjemitic rocks found just to the north, but small lapilli-sized fragments can still be discerned in the pyroclastic rock. In both trenches mentioned, the pyroclastic rocks give low radiometric readings comparable to those obtained in other parts of the region far from the occurrences.

To the south, these pyroclastic rocks are overlain by a calc-silicate carbonate unit. Where this contact is well-exposed in trenches IX, IV, and III, it is very sharp and forms a regular surface. The calc-silicate carbonate rock, which is believed to represent a metamorphosed chemical sediment such as a "dirty" dolostone, now consists of highly variable amounts of ankeritic dolomite, calcite, actinolite-tremolite, biotite and chlorite. The silicate occurs in patchy aggregates which tend to form a vague layering parallel to the contacts with underlying and overlying units. This layering may represent relict bedding. Christie (1978) believes this unit to be approximately constant in thickness at 1.0 to 1.5 m. Pyrite occurs disseminated as large crystals (2 to 4 mm) and small pods in both the calc-silicate clots and surrounding carbonate. Radiometric results from this rock type were highly variable, reflecting the great inhomogeneity in terms of silicate to carbonate ratio found across

the unit. Generally, the highest radiation counts corresponding to U and Th mineralization were obtained on actinolite-rich lenses low in pyrite. A chemical analysis of a sample of this calc-silicate carbonate material is given in Table 4.

The rock described above is in sharp conformable contact with overlying units, but that contact appears to be quite irregular in some places. At least two distinct units were found overlying the calc-silicate carbonate rock. In the west, the pyroclastic unit(s) consist(s) of buff coloured, dacitic, lithic crystal tuff to fine lapilli-tuff which has several thin (1 to 3 cm) intercalations of actinolite-rich calc-silicate material at intervals of 5 to 30 cm. These rocks are best exposed in trench IX and between trenches IV and V. The contacts between the tuffaceous rocks and the calc-silicate intercalations which contain virtually no carbonate, are very sharp and planar.

In the eastern part of the area included by the sketch map (Figure 8), the calc-silicate carbonate unit is overlain by a white, highly siliceous micaceous bed containing 5 percent finely disseminated pyrite. The bed is typically fissile, and stained with jurist, and limonite. A chemical analysis of this rock is provided in Table 4. The very low Na_2O, MgO, CaO, K_2O,Ba,Rb,Sr, and Zr contents of the rock tend to preclude a volcanic origin for the unit. It is probably best interpreted as metachert derived as a chemical precipitate similar to the underlying calc-silicate carbonate rocks. Radiometric analyses of this metachert unit shows it to be highly variable in uranium and thorium contents, but results were generally low except in very minor (<2 cm thick) intercalations of mudstone (Christie 1979) which were markedly enriched in those elements.

To the south of this siliceous unit, in trenches II, III and IV, there is a sequence of finely bedded pyritic and graphitic metawacke-mudstone units which reach a maximum exposed thickness of 2 m in trench III. Very thin layers (2 mm thick) rich in fine euhedral pyrite parallel the bedding. The rock is hard and siliceous, but very dark in colour. Fine graphite is concentrated in subconcordant streaks, and also occurs disseminated throughout the beds. Scintillometer readings in this sequence were far higher than those obtained from any of the other rock units in the area.

Along most of the exposed length of the metasedimentary sequence, those rocks are overlain by more dacitic to rhyolitic tuff units. These units are generally light grey, fissile, phyllitic, and sulphide-poor; and like the pyroclastics on the northern side of the metasediments, they can easily be confused with sheared trondhjemitic intrusions. Elsewhere the metasediments are directly overlain by fine-grained mafic amphibolite, or are in contact with intrusive trondhjemitic sills or lenses."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: trondhjemite

OTHER ASSOCIATED ROCK TYPES: **1)** quartz-sericite schist

2) calc-silicate-carbonate fault breccia

3) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) chalcopyrite

4) galena

5) pitchblende

6) uraninite

7) brannerite

8) limonite

9) uranophane

10) gold

ALTERATION MINERALS AND PROCESSES

1) carbonatization

2) silicification

3) sericitization

ECONOMIC FEATURES

Some of the better assays from this occurrence are:

.12 Au oz./ton, .14% U_3O_8 over 6.6 Ft. (chip sample)
0.44 oz./ton Au over 0.4 Ft. (in drill core)
1.68 oz. Au/ton (trench sample)
0.675% U_3O_8 (trench sample)
A bulk sample from the south zone assayed a maximum of 0.25 oz. Au/ton over 2.0 m.

OTHER PERTINENT DATA

The Kirkland Townsite Showing #1 occurrence has similar geological features to the other gold-uranium occurrences in the Bamaji Lake area. This showing may be contiguous to the Kirkland Townsite Showing #2 mineralization which in turn may be contiguous to the Showing #5 mineralization. Diamond-drilling along the trend of the three occurrences supports this hypothesis.

Diamond-drill hole BAM-88-12, drilled by Umex Inc. in 1988, intersected 0.51 oz. Au/ton, 2 oz. Ag/ton and 0.74% Zn over 1.1 m at a location between Kirkland Townsite Showing #1 and Kirkland Townsite Showing #2.

The Sioux Lookout Staff Geologist examined this occurrence in 1990. Four (4) samples were taken and assayed for Au, Ag, and U. A sample of sheared and sericitized trondhjemite with 3 - 5% disseminated pyrite returned 4937 ppb Au, 0.22 ounce Ag per ton and 202 ppm U. The remaining 3 samples returned non-significant results.

REFERENCES

Christie, B., 1979: The Bamaji Lake Uranium-Thorium Occurrence; Unpublished B. Sc. Thesis, University of Toronto, 93p.

Sage, R.P.and Breaks, F.W., 1982: Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, Henry, 1985: Geology of the Slate Falls area, district of Kenora (Patricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Palonen, P.A. and Speed, A.A. 1979: 1978 Report of the Sioux Lookout Resident Geologist in Annual Report of the Regional and Resident Geologists, 1978, edited by C. R. Kustra, Ontario Geological Survey, MP 84, 135p.

GSC 1962, Economic Geology Series 16, p. 248.

Robertson, J.A. 1968: Uranium and Thorium Deposits of Northern Ontario, Ontario Department of Mines, Mineral Resources Circular No. 9, p 62.

Robertson, J.A. and Gould, K.L. 1983: Uranium and Thorium Deposits of Northern Ontario, Ontario Geological Survey, Mineral Deposits circular 25, p 73 - 74.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0012
52O/03NW-0017
52O/03NW-0018
52O/03NW-0019
52O/03NW-0021-B1
52O/03NW-0023
52O/03NW-0035
52O/03NW-0039
52O/03NW-0041
52O/03NW-0048
52O/03NW-0049
52O/03NW-0052
52O/03NW-0054
52O/03NW-0057

DEPOSIT NAME: Fry Lake #1

NTS AREA: 52O/03NW **MDI #: KP1058**

ALTERNATE NAMES: 1) Bamaji Loon Option

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Mo, Cu

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 08' 57" **LONGITUDE:** 91° 29' 37"

UTM ZONE: 15 **NORTHING:** 5667257 **EASTING:** 605375

LOCATION: This occurrence is located 95 km west-southwest of Pickle Lake and 8 km east of the First Nation community of Slate Falls. diamond-drill holes intersecting Mo, Cu mineralization were collared on the south shore of North Bamaji Lake, and on an island close to the south shore of the lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake.

EXPLORATION AND DEVELOPMENT HISTORY

Cochenour Explorations Ltd. intersected molybdenite mineralization in 3 diamond-drill holes in 1966.

DEPOSIT GEOLOGY

Molybdenite mineralization is associated with quartz veins and stringers in sericitized and sheared "granite" (trondhjemite, North Bamaji Lake Intrusion).

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: trondhjemite

OTHER ASSOCIATED ROCK TYPES: **1)** sericitic quartz-eye schist

ECONOMIC MINERALS

1) molybdenite

2) sphalerite

3) chalcopyrite

4) pyrite

ALTERATION MINERALS AND PROCESSES

1) sericite

ECONOMIC FEATURES

The best assay reported is 0.53% Mo and 0.23% Cu over 0.52 m (1.7 ft.) in diamond-drill hole BL-66-11.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

520/03NW-0014-B1

DEPOSIT NAME: Kirkland Townsite Showing #2

NTS AREA: 52O/03NW **MDI #: KP1059**

ALTERNATE NAMES: 1) Fry Lake #3

2) Showing # 2

DEPOSIT STATUS: Drilled and trenched raw prospect

COMMODITIES: Au, Ag, Zn, U

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 18" **LONGITUDE:** 91° 26' 10"

UTM ZONE: 15 **NORTHING:** 5669868 **EASTING:** 600344

LOCATION: This occurrence is located about 91 km west-southwest of Pickle Lake and about 12 km east of the First Nation community of Slate Falls. There is a valley running between Don's Lake and North Bamaji Lake. This occurrence is found atop the north side of the valley about midway between the two lakes.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake, and then traversing overland to the occurrence area. A winter road along the Ear Falls to Pickle Lake power corridor passes about 1 km north of this occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1954, McCombe Mining and Exploration Ltd. trenched the Kirkland Townsite Showing #1 occurrence to the east of Showing #2 and drilled 11 short diamond-drill holes, totalling 172 m.

In 1968, Kirkland Townsite Gold Mines Ltd. did trenching and geological mapping around the occurrence and commissioned an airborne spectrometer survey of the area.

In 1971, R. Knappett restaked the area of the occurrence and prospected the ground until 1977.

In 1978, Urangesellschaft Canada Ltd. commissioned a combined airborne VLF-Em, magnetometer and spectrometer survey over the area and did ground work consisting of line cutting, prospecting, trenching, ground scintillometer surveys, a limited geochemical orientation survey and detailed geological mapping.

In 1979, Urangesellschaft Canada Ltd. did a radon survey, 2 VLF-Em surveys and a resampling of the Kirkland Townsite and McCombe trenches.

In 1983, FTM Resources Ltd. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

Between 1985 and 1989 Umex Inc. completed a multi-phased exploration program which included geological mapping and rock and soil geochemistry, ground magnetometer and electromagnetic surveys, 7 diamond-drill holes totalling 1203 m and airborne magnetometer and electromagnetic surveys in the area of the occurrence.

DEPOSIT GEOLOGY

Sage and Breaks (1982) describe the geology of the Kirkland Townsite Showing #2 as follows:

"The No. 2 Showing is situated along the contact of amphibolitized mafic metavolcanics and trondhjemitic rocks of the Bamaji Lake complex. The immediate host rock consists of leucocratic medium-grained creamy-weathering, massive to foliated, equigranular to locally porphyritic trondhjemite. Quartz phenocrysts up to 5 mm in diameter are especially prominent near the mineralized zone. Foliation within the host trondhjemite becomes perceptibly more intense close to the shear zone.

Similar to the No. 1 Showing, the mineralization is confined to a 0.6 m wide shear zone trending about N80E and dipping 40 degrees north. Thin actinolite-biotite laminae appear to be controlled by shears en echelon within this zone. Individually, these laminae, which rarely exceed 4 cm width and average about 1 cm, are typified by a crude mineralogical zonation. Actinolite tends to dominate although a thin carapace of fine-grained biotite and disseminated pyrite is invariably present. Usually a dark brown alteration halo occurs immediately adjacent to these veinlets. Disseminated fine-grained pyrite (?) appears to gradually increase to 5-10 percent near these veinlets."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: trondhjemite

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) quartz-sericite schist

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) chalcopyrite

4) galena

5) pitchblende

6) uraninite

7) brannerite

8) limonite

9) uranophane

10) gold

ALTERATION MINERALS AND PROCESSES

1) carbonatization

2) silicification

3) sericitization

4) calc-silicates

ECONOMIC FEATURES

Assays up to 0.54 ounce gold per ton and 0.97% U_3O_8 have come from trench samples.

OTHER PERTINENT DATA

This showing may be contiguous to the Kirkland Townsite Showing #1 mineralization and to the Showing #5 mineralization. diamond-drilling along the trend of the three occurrences supports this hypothesis.

The Sioux Lookout Staff Geologist examined this occurrence in 1990. He took 16 samples from the many trenches on this occurrence and submitted them for Au, Ag and U assay. The majority of the samples returned anomalous assay values for Au and U. Two samples returned Au values over 1000 ppb Au. (1680 ppb Au and 1141 ppb Au) The highest U values returned was 172 ppm.

REFERENCES

Sage, R.P. and Breaks, F.W., 1982: Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, Henry, 1985: Geology of the Slate Falls area, district of Kenora (Patricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Palonen, P.A. and Speed, A.A. 1979: 1978 Report of the Sioux Lookout Resident Geologist in Annual Report of the Regional and Resident Geologists, 1978, edited by C. R. Kustra, Ontario Geological Survey, MP84, 135p.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0018
52O/03NW-0019
52O/03NW-0021-B1
52O/03NW-0023
52O/03NW-0035
52O/03NW-0039
52O/03NW-0041
52O/03NW-0042-A1
52O/03NW-0044
52O/03NW-0046
52O/03NW-0048
52O/03NW-0049
52O/03NW-0051
52O/03NW-0052
52O/03NN-0055
52O/03NW-0057

DEPOSIT NAME: Fry Lake #4

NTS AREA: 52O/03NW **MDI #: KP1060**

ALTERNATE NAMES: **1)** Showing #5

DEPOSIT STATUS: Drilled and trenched raw prospect

COMMODITIES: Au, Ag,

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 16" **LONGITUDE:** 91° 26' 54"

UTM ZONE: 15 **NORTHING:** 5669766 **EASTING:** 608477

LOCATION: This occurrence is located about 92 km west-southwest Pickle Lake and 11 km east of the First Nation community of Slate falls. Trenches exposing this occurrence are located about 400 m east of the eastern extremity of North Bamaji Lake on the north side of a narrow valley which extends to Don's Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake, and then traversing overland to the occurrence. A winter road along the Ear Falls to Pickle Lake power corridor passes about 0.5 km north of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

The first record of this occurrence in a 1979 assessment file report by Urangesellschaft Canada Limited who reported trenching and assay results for the site.

In 1968, Kirkland Townsite Gold Mines Ltd. did trenching and geological mapping around the occurrence and commissioned an airborne spectrometer survey of the area.

In 1971, R. Knappett restaked the area of the occurrence and prospected the ground until 1977.

In 1978, Urangesellschaft Canada Ltd. commissioned a combined airborne VLF-Em, magnetometer and spectrometer survey over the area and did ground work consisting

of line cutting, prospecting, trenching, ground scintillometer surveys, a limited geochemical orientation survey and detailed geological mapping.

In 1979, Urangesellschaft Canada Ltd. did a radon survey, 2 VLF-Em surveys.

In 1883, FTM Resources Ltd. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

Between 1985 and 1989 Umex Inc. completed a multi-phased exploration program which included geological mapping and rock and soil geochemistry, ground magnetometer and electromagnetic surveys, 5 diamond-drill holes and airborne magnetometer and electromagnetic surveys in the area of the occurrence.

DEPOSIT GEOLOGY

On surface this occurrence is described as calc-silicate horizons in a strongly sheared, well foliated rock with the appearance of an intermediate volcanic rock. The intermediate volcanic rock grades into a medium-grained quartzo-feldspathic rock which is probably trondhjemite. The shearing and foliation trend east.

In diamond-drill holes the mineralization is found in silicified sheared and brecciated zones within pillowed mafic volcanic. Pyrite is the principle sulphide, but chalcopyrite, sphalerite, pyrrhotite and molybdenite have also been observed.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zones

HOST ROCK: mafic metavolcanics / trondhjemite

OTHER ASSOCIATED ROCK TYPES: 1) calc-silicate horizons

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) chalcopyrite

4) sphalerite

5) molybdenite

ALTERATION MINERALS AND PROCESSES

1) silicification

ECONOMIC FEATURES

Values up to 0.29 ounce Au per ton over 0.5 ft. were reported by Urangesellschaft Canada Ltd. from the trenches on this occurrence. diamond-drill hole Bam-87-6 returned 2775 ppb Au and 65.5 ppm Ag over 2.74 m from a "quartz filled breccia-shear zone" in pillowed basalt.

Diamond-drill hole Bam 88-8 returned 0.34 ounce Au/ton over 0.3 m from a discrete shear zone in basalt.

OTHER PERTINENT DATA

This occurrence may be contiguous with the Kirkland Townsite showing #2 occurrence.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0018	52O/03NW-0019	52O/03NW-0020
52O/03NW-0035	52O/03NW-0039	52O/03NW-0041
52O/03NN-0044	52O/03NW-0048	52O/03NW-0049
52O/03NW-0051	52O/03NW-0052	52O/03NW-0054

DEPOSIT NAME: Fry Lake #5

NTS AREA: 52O/03NW **MDI #: KP1061**

ALTERNATE NAMES: 1) Showing #6

DEPOSIT STATUS: Trenched and sampled outcrop

COMMODITIES: Au, U

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake

LATITUDE: 51° 10' 42" **LONGITUDE:** 91° 26' 36"

UTM ZONE: 15 **NORTHING:** 5670577 **EASTING:** 608813

LOCATION: This occurrence is located 92 km west-southwest of Pickle Lake and 12 km east of the First Nation community of Slate Falls. The occurrence is located 880 m northeast of North Bamaji Lake on the south side of a small un-named lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to either North Bamaji Lake or Moosetegon Lake, and then a traverse overland to the occurrence. A winter road along the Ear Falls to Pickle Lake power corridor passes about 400 m south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1968, Kirkland Townsite Gold Mines Ltd. did geological mapping around the occurrence and commissioned an airborne spectrometer survey of the area.

In 1971, R. Knappett restaked the area of the occurrence and prospected the ground until 1977.

In 1978, Urangesellschaft Canada Ltd. commissioned a combined airborne VLF-Em, magnetometer and spectrometer survey over the area and did ground work consisting of line cutting, prospecting, trenching, ground scintillometer surveys, a limited geochemical orientation survey and detailed geological mapping.

In 1979, Urangesellschaft Canada Ltd. did a radon survey, 2 VLF-Em surveys.

In 1883, FTM Resources Ltd. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1988, Gold Fields Canadian Mining Limited commissioned airborne magnetometer and electromagnetic surveys over the area of the occurrence. Humus and biogeochemistry surveys were done on the ground.

DEPOSIT GEOLOGY

This occurrence is hosted by west-to northwest-trending quartz-sericite schist units. These are believed to be sheared trondhjemite dikes intruding intermediate to mafic volcanics. The quartz-sericite schist units contain multiple thin calc-silicate-chlorite horizons. Pyrite is disseminated through- out the quartz-sericite schist units and galena is reported in one calc-silicate-chlorite horizon. Uranium mineralization is concentrated in the calc-silicate-chlorite horizons. Bull quartz veins are found in the occurrence area.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-sericite schist

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** calc-silicate-chlorite horizons

2) intermediate to mafic metavolcanics.

3) trondhjemite

ECONOMIC MINERALS

1) pyrite

2) galena

ALTERATION MINERALS AND PROCESSES

1) sericitization

ECONOMIC FEATURES

Assay values up to 0.11 ounce Au/ton and 0.083 U_3O_8 have been reported from trenches on this occurrence.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0018	52O/03NW-0019	52O/03NW-0020
52O/03NW-0023	52O/03NW-0047	52O/03NW-0055

DEPOSIT NAME: Fry Lake #6

NTS AREA: 520/03NW **MDI #: KP1062**

ALTERNATE NAMES: 1) Showing #4

DEPOSIT STATUS: Trenched and sampled outcrop

COMMODITIES: U

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 03" **LONGITUDE:** 91° 26' 58"

UTM ZONE: 15 **NORTHING:** 5669369 **EASTING:** 608420

LOCATION: This occurrence is located about 92 km west-southwest of Pickle Lake and 11 km east of the First Nation community of Slate Falls. Trenches exposing this occurrence are located about 400 m south of the eastern extremity of North Bamaji Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake, and then traversing overland to the occurrence. A winter road along the Ear Falls to Pickle Lake power corridor passes about 1.0 km north of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

The first record of this occurrence is in a 1979 assessment file report by Urangesellschaft Canada Limited, who reported trenching and assay results for the site.

In 1968, Kirkland Townsite Gold Mines Ltd. did trenching and geological mapping around the occurrence and commissioned an airborne spectrometer survey of the area.

In 1971, R. Knappett restaked the area of the occurrence and prospected the ground until 1977.

In 1974, Dome Explorations (Canada) Ltd. did ground magnetometer and electromagnetic surveys near the occurrence.

In 1978, Urangesellschaft Canada Ltd. commissioned a combined airborne VLF-Em, magnetometer and spectrometer survey over the area and did ground work consisting of line cutting, prospecting, trenching, ground scintillometer surveys, a limited geochemical orientation survey and detailed geological mapping.

In 1979, Urangesellschaft Canada Ltd. did a radon survey, 2 VLF-Em surveys.

In 1883, FTM Resources Ltd. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

Between 1985 and 1989, Umex Inc. completed a multi-phased exploration program which included geological mapping, rock and soil geochemistry, ground magnetometer and electromagnetic surveys, and airborne magnetometer and electromagnetic surveys in the area of the occurrence.

DEPOSIT GEOLOGY

Little is known about the geology of this occurrence. Maps and reports by Urangesellschaft Canada Ltd. indicate that the showing is contained by calc-silicate horizons in intermediate volcanics. The horizons trend 080° over a strike length of at least 200 m. The calc-silicate horizons are composed of actinolite, chlorite, vein quartz, calcite or dolomite and pyrite as bands and disseminations.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: calc-silicate horizons

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) intermediate volcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Assays of up to 0.06% U have been reported from this occurrence.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0018 52O/03NW-0019 52O/03NW-0020
52O/03NW-0021-A1 52O/03NW-0023 52O/03NW-0035
52O/03NW-0041 52O/03NW-0052 52O/03NW-0054
52O/03NW-0057

DEPOSIT NAME: Knappett, R.

NTS AREA: 52O/03NW **MDI #: KP0208**

ALTERNATE NAMES: 1) Fry Lake #11,B

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Ag, Cu

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 09' 34" **LONGITUDE:** 91° 27' 02"

UTM ZONE: 15 **NORTHING:** 5668488 **EASTING:** 608353

LOCATION: This occurrence is located 92 km west-southwest of Pickle Lake and 11 km east of the First Nation community of Slate Falls. The occurrence is reported to be 0.8 km south of the eastern-most extremity of North Bamaji Lake.

ACCESS: Access to the occurrence is by an appropriately equipped aircraft to North Bamaji Lake, and then a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was located and sampled by R. Knappett in 1971.

Kirkland Townsite Gold Mines Ltd., Urangesellschaft Canada Limited and Umex Inc. have all conducted various geophysical, geochemical and geological surveys over the area of the occurrence before and since 1971. No direct work has been recorded on this occurrence.

DEPOSIT GEOLOGY

Wallace (1985) reports that this *"occurrence consists of disseminated sulphides, mostly pyrite and chalcopyrite, in a shear zone in mafic metavolcanics."*

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) none

ECONOMIC MINERALS

1) pyrite **2)** chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) none

ECONOMIC FEATURES

The only assays known for this occurrence were first reported in Sage and Breaks (1976) as *"0.39 percent copper and 0.38 ounces silver per ton"*.

REFERENCES

Sage, R.P., and Breaks, F.W., 1976: Operation Pickle Lake, districts of Kenora, Patricia Portion and Thunder Bay; Ontario Division of Mines OFR 5180, 531 p. 2 appendices (93 p.) and 7 charts (maps, scale 1 inch to 1 mile).

Sage, R.P.and Breaks, F.W., 1982: Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, Henry, 1985: Geology of the Slate Falls area, district of Kenora (Patricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0019	52O/03NW-0020	52O/03NW-0021-A1
52O/03NW-0023	52O/03NW-0035	52O/03NW-0041
52O/03NW-0054	52O/03NW-0057	

DEPOSIT NAME: Flicka

NTS AREA: 52O/03NW **MDI #: KP0207**

ALTERNATE NAMES: **1)** Flicka-Red Lake

2) Knappett, R.

3) Fry Lake #7,A

DEPOSIT STATUS: Trenched and drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 14' 11" **LONGITUDE:** 91° 22' 33"

UTM ZONE: 15 **NORTHING:** 5677147 **EASTING:** 613393

LOCATION: This occurrence is located on the northwest shore of the northwest bay of Fry Lake about 84 km west-southwest of Pickle Lake and 19 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Fry Lake. A winter road along the Ear Falls to Pickle Lake power corridor passes about 6 km southeast of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

The No. 2 vein of the Flicka occurrence was discovered by Harding (1935), in 1934, while mapping the geology of the Cat River- Kawinogans Lake area for the Ontario Department of Mines. He obtained an assay of 0.22 oz. Au per ton from a quartz vein.

The ground was staked by Connell Mining and Exploration Company in 1935, but no work was reported on the claims.

The ground was restaked by E. Harwick in 1936. He performed physical work on the claims until 1946 when Flicka Red Lake Mines Limited was organized to explore and

develop the ground. This turned out to be mainly diamond-drilling.

In 1978 R. Knappett restaked the ground.

In 1983, Rockmere Lake Explorations Limited acquired ground covering the occurrence and carried out a program that included line cutting, VLF-Em and magnetometer surveys and geological mapping. In 1984, Rockmere Lake Explorations Limited carried out 2 diamond-drill programs, totalling 751 m in 13 holes.

DEPOSIT GEOLOGY

Wallace (1985) describes the geology of this occurrence as follows:

"The three main gold bearing veins on the property are subparallel and similar in appearance. They occur over a distance, perpendicular to strike, of about 100 m. Strike is northward and dips are to the east at 55° to 65°. All three extend from the lakeshore in heavy overburden to their northern end. The longest is exposed for about 30 m but diamond-drilling has confirmed its extension for at least 50 m to the north. Widths vary from a few centimetres to more than 1.5 m in places.

The country rock is coarse metagabbro which forms a sill intruding intermediate flows and pyroclastic rock, coarse clastic metasediments and magnetic chemical sediments. Adjacent to the mineralized quartz veins the metagabbro is generally rusty, highly sheared and shot with fine quartz stringers.

Several northeast and east-trending shear zones and minor faults are known in the immediate area. Some of these are strongly carbonatized, others are silicified and contain sulphides forming up to several percent of the rock. Two of these zones were explored by diamond-drilling and were found to contain appreciable (several assays over 1.0 oz gold/ton) but highly erratic gold values (Cumming 1945)."

"The three main veins consist of coarse white quartz with uniformly disseminated pyrite, arsenopyrite and tourmaline. gold values were reported from the mineralized quartz and from the sheared contacts with the metagabbroic country rock including rusty quartz stringers (Cumming 1945). It was suggested by Cumming that the gold was associated with the arsenopyrite, but there was little direct evidence for that hypothesis.

The best exposed vein, known as the No. 3, gave the highest assay results both from channel sample and diamond-drill core. results of 0.23 oz of gold/ton over 160 cm, and 0.18 oz of gold per ton over 140 cm were reported at the northern end of that vein. A 60 cm length of core from a drill hole which intersected the same vein at a vertical depth of 12 m assayed 1.12 oz of gold per ton (Cumming 1945)

Four drill holes intersected a northeast trending mineralized shear zone located about 60 m north of the No. 3 vein. In core from one hole 9.14 oz of gold per ton were reported over 50 cm, and in another 0.25 oz of gold per ton were found over 60 cm. Results from other holes were much lower; 0.06 oz of gold per ton over 50 cm and 0.10 oz of gold per ton over 40 cm."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins and shear zones

HOST ROCK: gabbro

OTHER ASSOCIATED ROCK TYPES: 1) none

ECONOMIC MINERALS

1) pyrite **2)** arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) tourmaline **2)** carbonatization

3) silicification

ECONOMIC FEATURES

The best diamond-drill intersection reported by Rockmere Lake Explorations Limited was 0.326 oz/t Au 0.08 oz/t Ag over 4.8 feet from a hole drilled at the southern extent of the No.3 vein.

OTHER PERTINENT DATA

Cumming, J. D. (1945) is no longer available in the Sioux Lookout Resident Geologist's Office, Sioux Lookout.

The Sioux Lookout Staff Geologist examined this occurrence in 1989 and sampled the three exposed veins. The assay results are as follows:

GWS-89-27 Grab:No. 1 quartz vein with < 1% diss. 4120 ppb Au

	Py, Aspy and tourmaline and carbonate	
GWS-89-28	Grab:Gabbro with 1% Py, wall rock to No. 1 vein	22700 ppb Au
GWS-89-29	20 cm Chip:No. 2 quartz vein with stringers and diss. Py along fractures	4950 ppb Au
GWS-89-30	Grab:Py and Po rich gabbro wall rock to No. 2 vein	6030 ppb Au
GWS-89-31	Grab:No. 3 quartz vein with diss. Py	7250 ppb Au

REFERENCES

Harding, W. 1936. Geology of the Cat River-Kawinogans Lake area, Kenora District; Ontario Department of Mines, Annual Report for 1935, Vol. 44, Pt.6 p. 53 - 75, Accompanied by Map 44F, scale 1 inch to 2 miles.

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, Henry 1985. Geology of the Slate Falls area, district of Kenora (Patricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0010-C1 52O/03NW-0022 52O/03NW-0025
52O/03NW-0027 52O/03NW-0030

DEPOSIT NAME: FTM

NTS AREA: 52O/03NW **MDI #: KP1063**

ALTERNATE NAMES: 1) Fry Lake #8

DEPOSIT STATUS: Trenched and sampled outcrop

COMMODITIES: Au, Ag

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 51" **LONGITUDE:** 91° 29' 03"

UTM ZONE: 15 **NORTHING:** 5670811 **EASTING:** 605947

LOCATION: This occurrence is located about 93 km west-southwest of Pickle Lake and about 9.5 km east-northeast of the First Nation community of Slate Falls. The occurrence is 1.2 km north of North Bamaji Lake and about 300 m north of a the west end of a small un-named lake, located about 900 m north of North Bamaji Lake.

ACCESS: Access to the occurrence is by appropriately equipped aircraft to North Bamaji Lake, and then a traverse north to the occurrence. The small lake north of North Bamaji Lake may be suitable for helicopter landing. The Ear Falls to Pickle Lake power corridor passes about 1 km south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1971, Canadian Onex Mines Ltd. commissioned an airborne geophysical survey in the area of the FTM gold occurrence. They stake 16 claims and conducted an IP survey as follow-up.

In 1981, R. Knappett staked 4 claims to cover the FTM gold occurrence which he optioned to D. Bell in 1983 who dealt the claims to FTM Resources Inc. Bell commissioned airborne electromagnetic and magnetometer surveys over the claims and surrounding area. Bell also performed geological mapping on the 4 Knappett claims.

In 1985, Norontex Exploration Ltd. conducted a rock geochemical survey on the 4 Knappett claims for First General Mine Management

and Gold Corporation.

In 1988, Gold Fields Canadian Mining Ltd. commissioned airborne magnetometer and electromagnetic surveys and performed humus and biogeochemistry surveys over a large claim group which included the area of the FTM gold occurrence.

DEPOSIT GEOLOGY

The geology of the FTM gold occurrence was discussed by Janes, Seim and Storey (1990). The discussion is as follows:

"Gold mineralization occurs in two modes at the FTM gold occurrence. The first is in a smokey-grey, quartz- tourmaline-sulphide vein hosted in a north-trending, brittle, shear zone cutting mafic metavolcanics. The second mode of occurrence is in quartz-tourmaline stringers and veins cutting the quartz-feldspar porphyries.

The quartz-tourmaline-sulphide vein is exposed in a shallow trench over a length of approximately 10 m. The vein is up to 30 cm in width and is hosted by a brittle, shear zone marked by a well-defined cleavage in the mafic metavolcanics. The vein and shear zone cut a quartz-feldspar porphyry at the south end of the trench, but do not extend into the porphyry 2 m north of the trench. The vein and the cleavage strike 350° and dip 73° east. The contact between the porphyry and the mafic metavolcanics at the south end of the trench is offset 30 cm, in a right-handed manner, by the shear zone.

The sulphides in the quartz-tourmaline-sulphide vein are principally pyrite. Traces of chalcopyrite, galena and sphalerite have all been observed in the vein. The sulphides occur in stringers and pods, but concentrations rarely exceed 1 percent. Tourmaline is present in the vein as stringers and as disseminations in the quartz."

"The second mode of gold mineralization at the FTM gold occurrence is associated with quartz-tourmaline stringers and veins in the quartz-feldspar porphyries. Both Simunovic (1984) and van Enk (1985) mapped the porphyries and east-trending lenses. The porphyries exhibit a 080° foliation that dips 73° north. The quartz-tourmaline stringers and veins follow generally northeast- to southeast-trending fractures and shear in the porphyries. These stringers and veins have widths up to 15 cm, but average less than 1 cm in width. A number of the stringers and veins interconnect to form a stockwork. Trace- to 1 percent -pyrite is found in the porphyry next to the quartz-tourmaline stringers and veins."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zones and fractures

HOST ROCK: mafic metavolcanics / quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: 1) none

ECONOMIC MINERALS

1) pyrite **2)** chalcopyrite

3) sphalerite **4)** galena

ALTERATION MINERALS AND PROCESSES

1) none observed

ECONOMIC FEATURES

Samples from the north-trending quartz-tourmaline-sulphide vein have assayed up to 4.34 ounces Au/ton and 4.93 ounces Ag per ton. Samples from the quartz tourmaline stringers and veins have assayed greater than 10000 ppb Au.

OTHER PERTINENT DATA

In 1990, the Sioux Lookout Staff Geologist examined this occurrence. He took 4 grab samples from the north-trending quartz-tourmaline-sulphide vein and 5 grab samples of quartz-tourmaline stringer and vein mineralization for assay. Assay results are as follows:

Sample No.	Description	Au ppb	Ag oz./t
GWS-90-89	Quartz-tourmaline-sulphide vein trace pyrite	41	nil
GWS-90-90	Quartz-tourmaline-sulphide vein trace pyrite	548	nil

GWS-90-91	Quartz-tourmaline-sulphide vein trace pyrite, chalcopyrite	33 394	1.21
GWS-90-92	Quartz-tourmaline-sulphide vein trace pyrite,chalcopyrite	76 837	2.54
GWS-90-93	Mylonitized quartz-feldspar porphyry	274	nil
GWS-90-94	Mylonitized quartz-feldspar porphyry cut by quartz-tourmaline vein	205	nil
GWS-90-95	Mylonitized quartz-feldspar porphyry with quartz-tourmaline vein on fractured surface	363	nil
GWS-90-96	Quartz-tourmaline vein	194	nil
GWS-90-97	Quartz-tourmaline vein in quartz-feldspar porphyry	18 308	0.42

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990. Sioux Lookout Resident Geologist's District -- 1990; in Report of Activities 1990, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 152, p. 67-105

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NE-0018	52O/03NW-0023	52O/03NW-0024
52O/03NW-0033	52O/03NW-0047	52O/03NW-0055

DEPOSIT NAME: Fry Lake #9

NTS AREA: 520/03NW **MDI #: KP1064**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 14' 06" **LONGITUDE:** 91° 21' 31"

UTM ZONE: 15 **NORTHING:** 5677025 **EASTING:** 614604

LOCATION: This occurrence is located on the southeastern shore of the northwest bay of Fry Lake. It is about 84 km west-southwest of Pickle Lake and about 19 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Fry Lake. A winter road along the Ear Falls to Pickle Lake power corridor passes about 6 km southeast of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1945 or 1946, Flicka Red Lake Gold Mines Ltd. drilled 4 short winkie holes near this occurrence. The most-westerly hole apparently gave interesting assay results according to a report by R. Thomson, Red Lake Resident Geologist at the time. In 1984, Rockmere Lake Explorations Limited drilled a 60.6 m hole on their 'C' Carbonate Zone near this occurrence.

In 1984, Sherritt Gordon Mines Ltd. conducted a lithogeochemical sampling and geological mapping program in the Fry Lake area. On sample returned an assay values of 12087 ppb Au.

In 1986, Sherritt Gordon Mines Ltd. conducted ground magnetometer and electromagnetic surveys over a large claim group that covered this occurrence.

In 1987, Sherritt Gordon Mines Ltd. drilled 2 diamond-drill holes on this occurrence as

part of a 11 hole drill program in the area that totalled 1757.78 m .

DEPOSIT GEOLOGY

This occurrence is hosted by an intermediate to mafic metavolcanic. The mineralization occurs within a 7 m zone of quartz-carbonate stringers where the metavolcanic is possibly weakly sheared. Between 2 and 3% pyrite is associated with the quartz-carbonate stringers.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: intermediate to mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** none

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) quartz **2)** carbonate

ECONOMIC FEATURES

A surface sample from this occurrence returned 12087 ppb Au. Sherritt Gordon Mines Ltd. diamond-drill hole number FRY-87-8 returned 0.08 ounce Au/t over 1.22 m.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0022 52O/03NW-0027 52O/03NW-0030
52O/03NW-0031 52O/03NW-0038

DEPOSIT NAME: Fry Lake #10

NTS AREA: 52O/03NW **MDI #: KP1065**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 10' 48" **LONGITUDE:** 91° 24' 09"

UTM ZONE: 15 **NORTHING:** 5670842 **EASTING:** 611660

LOCATION: This occurrence is located about 90 km southwest of Pickle Lake and about 15 km east of the First Nation community of Slate Falls. The diamond-drill hole collar is located about 800 m east of Don's Lake, north of Bamaji Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bamaji Lake, and then traversing overland to the drill hole collar.

EXPLORATION AND DEVELOPMENT HISTORY

In 1980, Urangesellschaft Canada Ltd. commissioned airborne radiometric, magnetometer and electromagnetic surveys over the occurrence area.

In 1985, Umex Inc. completed geological mapping and rock and soil geochemistry in the occurrence area.

In 1986, Umex Inc. did ground magnetometer and electromagnetic surveys.

In 1987, Umex Inc. did further ground magnetometer and electromagnetic surveys and 3 diamond-drill holes, totalling 688 m, in the occurrence area.

In 1989, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys.

DEPOSIT GEOLOGY

This occurrence was intersected in Umex Inc.s' drill hole # Bam-87-4. The intersection is a 1.08 m interval of core described as fine-grained, dark-brown, siliceous, strongly biotitic mafic to intermediate metavolcanic in a larger unit of silicified, pillowed, mafic metavolcanic. The intersection is reported to contain 30% disseminated pyrite, pyrrhotite, chalcopyrite, and sphalerite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** trondhjemite

2) feldspar-quartz trondhjemite porphyry

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite **3)** chalcopyrite **4)** sphalerite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** biotite

ECONOMIC FEATURES

The interval from 74.63 m to 75.71 m (1.08 m) in drill hole # Bam-87-4 returned an assay of 1080 ppb Au.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0020 52O/03NW-0029 52O/03NW-0032 52O/03NW-0034
52O/03NW-0037 52O/03NW-0039 52O/03NW-0041 52O/03NW-0046
52O/03NW-0052 52O/03NW-0054 52O/03NW-0057

DEPOSIT NAME: Selco-Fry Lake

NTS AREA: 52O/03NW **MDI #: KP0016**

ALTERNATE NAMES: 1) Zone "A"

2) Fry Lake #12,C

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Fry Lake Area

LATITUDE: 51° 12' 57" **LONGITUDE:** 91° 16' 12"

UTM ZONE: 15 **NORTHING:** 5675033 **EASTING:** 620834

LOCATION: This occurrence is located 78 km west-southwest of Pickle Lake. It is about 750 m north of the north end of Bamaji Lake and about 400 m south of Fry Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to either Bamaji Lake or Fry Lake, and then an overland traverse to the occurrence. A winter road along the Ear Falls to Pickle Lake power corridor passes about 500 m south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

Prior to 1970, Cochenour Willans Gold Mines Ltd. and Selco Exploration Co. Ltd., in joint venture, commissioned an airborne geophysical survey over an area including the occurrence.

In 1970, Cochenour Willans Gold Mines Ltd. and Selco Exploration Co. Ltd., in joint venture, did magnetometer, HLEM and soil geochemistry surveys on a block of claims covering the occurrence. In the same year, the two companies drilled 4 holes, totalling 332 m.

In 1989, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys over the occurrence area.

DEPOSIT GEOLOGY

The 4 Cochenour Willans--Selco drill holes intersected varying concentrations of sulphides in a mixed sequence of black argillaceous sediment and intermediate to felsic metatuff. Sulphide concentrations up to 23% including up to 2% sphalerite and 3% chalcopyrite are noted in the drill logs. The geophysical anomaly associated with the sulphides trends east with a strike length of about 800 m.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: metasediments / intermediate to felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) feldspar porphyry

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite **3)** sphalerite **4)** chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

There are no assays reported for this occurrence. Drill logs indicate traces of sphalerite and chalcopyrite in drill core over considerable widths (up to 10 m). Best mineralization in 4 holes reported at 2% sphalerite and 1% chalcopyrite over 1.06 m.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0011-D1 52O/03NW-0015 52O/03NW-0057

WESLEYAN LAKE AREA

52O/04NE

DEPOSIT NAME: Loon

NTS AREA: 52O/04NE **MDI #:** KP0239

ALTERNATE NAMES: 1) Wesleyan Lake #1

2) Loon Prospect

3) Bamaji Lake

DEPOSIT STATUS: Trenched and drilled occurrence

COMMODITIES: Mo, Cu, Au, Ag

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake Area

LATITUDE: 51° 08' 54" **LONGITUDE:** 91° 30' 10"

UTM ZONE: 15 **NORTHING:** 5667162 **EASTING:** 604730

LOCATION: The Loon Prospect is located about 96 km west-southwest of Pickle Lake and about 5.6 km east-southeast of the First Nation community of Slate Falls. It is on the south shore of North Bamaji Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake. A winter road along the Ear Falls- to Pickle Lake power corridor passes about 2.8 km north of the Loon Prospect.

EXPLORATION AND DEVELOPMENT HISTORY

The Loon Prospect was discovered by the Loon family from the First Nation community of Slate Falls in the early 1960's.

In 1965, claims covering the prospect were jointly optioned by Cochenour Willans Gold Mines Ltd. and Coin Lake Gold Mines Ltd. They conducted a program of line cutting, stripping and trenching, geological mapping and diamond-drilling that continued through 1966. A total of 9 diamond-drill holes tested the Loon Prospect with an aggregate length of 630 m. An additional 3 diamond-drill holes, totalling 155 m, tested other showings about 600 m to the east.

In 1989, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys which included the area of the Loon Prospect.

DEPOSIT GEOLOGY

Wallace (1985) describes the geology of the Loon Prospect as follows:

"Sulphide mineralization occurs in a complex series of quartz veins and discontinuous lenses and to a minor extent in the adjacent country rock which is sheared recrystallized leucocratic biotite trondhjemite. The quartz veins are subvertical and strike between 75° and 85°. Trondhjemite directly adjacent to the veins is typically highly schistose and rich in sericite. The contacts vary from sharp to gradational even along the length of individual veins, and the veins tend to be very irregular in terms of both size and shape.

At the main showing the largest vein pinches and swells in an en echelon (italics) manner over an exposed length of 13 m reaching a maximum width of 1 m. This and other smaller veins nearly {sic} change orientation, erratically varying from subparallel to highly discordant with respect to the strong east-west foliation of the trondhjemite.

The veins consists of white (locally rust stained), highly strained polygonized quartz. Besides the sulphide minerals discussed below they commonly contain variable amounts of coarse-grained biotite, fine- to coarse- grained actinolite and black prismatic tourmaline. Some veins also contain several percent pink microcline, ..." "... these are probably transitional between the local pegmatite dikes and normal quartz veins."

"Molybdenite occurs within the quartz veins along with abundant disseminated and massive pyrite and sparsely distributed chalcopyrite. Ferromolybdite {sic}, limonite and malachite are common alteration products present in several localities. The molybdenite itself forms fine- to very fine-grained disseminations in blue-grey quartz, and also occurs in narrow seams and veinlets, and in massive clots up to 3 cm in diameter. Minor molybdenite stringers and disseminations are found in the adjacent country rock.

The amount and type of sulphide minerals present vary markedly within and between individual veins. In the best mineralized examples molybdenite forms up to 5 percent of the vein material."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: trondhjemite

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) molybdenite **2)** pyrite **3)** chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) sericite **2)** ferrimolybdite **3)** malachite **4)** limonite

ECONOMIC FEATURES

Sage and Breaks (1982) took four grab samples from the Loon Prospect. Assay values ranged from 0.05 to 3.28% Mo, from 0.45 to 2.91% Cu, from 0.02 to 0.18 ounce Au per ton and from 0.94 to 9.49 ounce Ag per ton.

Assay results from the 1966 drilling of the prospect were generally less than 0.12% Mo. The best assay result from the drilling was 2.53% Mo over 79 cm.

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, H. 1985. Geology of the Slate Falls area, district of Kenora (Partricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/03NW-0057 52O/04NW-0012 52O/04NW-0024-C1

DEPOSIT NAME: Sanderson

NTS AREA: 52O/04NE **MDI #: KP0210**

ALTERNATE NAMES: 1) Main Vein

2) Sanderson Option

3) Bamaji Lake Gold Occurrence

4) Bamaji Lake

5) Wesleyan Lake #2

DEPOSIT STATUS: Trenched and drilled raw prospect

COMMODITIES: Au, Ag, Cu, Zn, Pb

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake area

LATITUDE: 51° 11' 16" **LONGITUDE:** 91° 32' 26"

UTM ZONE: 15 **NORTHING:** 5671484 **EASTING:** 601993

LOCATION: The Sanderson occurrence is located about 97 km west-southwest of Pickle Lake and 4.2 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to the Sanderson occurrence is by appropriately equipped aircraft to North Bamaji Lake. About 2 km east of the First Nation community of Slate Falls is a north-trending bay of North Bamaji Lake. A foot trail leads from the north end of this bay north and east to the occurrence area. A winter road along the Ear Falls-to Pickle Lake power corridor passes about 2 km south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

Claims were staked on this occurrence in 1965 and transferred to Dome Exploration (Canada) Limited.

In 1966, Dome Exploration Canada Ltd. did considerable trenching on the claims before transferring the claims back to a Mr. Sanderson of Balmertown.

In 1966, Cochenour Willans Gold Mines Ltd. acquired an option on the claims and did a diamond-drilling program of 9 holes totalling 447 m.

In 1980, St. Joseph Explorations Ltd. staked claims covering the occurrence and did geological mapping and geophysical surveys.

In 1981, St. Joseph Explorations Ltd. did more geological mapping and geophysical surveys. They also did orientation soil geochemistry surveys, trenching and staked additional claims.

In 1984, Sulpetro Minerals Ltd. (name changed from St. Joseph Explorations Ltd.) did 14 diamond-drill holes totalling 2235 m. on their claims.

DEPOSIT GEOLOGY

The Sanderson occurrence or main vein is contained in a west-trending, north-dipping shear zone through mafic metavolcanics. The shear zone has been traced by trenching and diamond-drilling for about 270 m. The Sanderson occurrence is a set of "irregular, lensoid, possibly boudinaged, milky quartz veins and stringers." (Sage and Breaks, 1982). The veins vary in width up to 75 cm, but average less than 15 cm. The sulphide minerals reported in the veins are pyrite, sphalerite, chalcopyrite, tetrahedrite, pyrrhotite and galena. The sulphides occur as disseminations, stringers and local masses within the veins and along the contacts of the veins with the sheared mafic metavolcanics. Total sulphide content of the veins is up to 5% though local sulphide concentrations suggest a higher content. Visible gold has also been reported in the drill holes which cut the vein.

The mafic metavolcanics in the vicinity of the occurrence are cut by irregular porphyritic biotite quartz diorite dikes

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) porphyritic biotite quartz diorite

ECONOMIC MINERALS

1) pyrite **2)** sphalerite

3) chalcopyrite

4) tetrahedrite

5) pyrrhotite

6) galena

ALTERATION MINERALS AND PROCESSES

1) biotite

ECONOMIC FEATURES

Assay values reported from the Sanderson occurrence from the range up to 0.74 ounce Au per ton and 15.34 ounces Ag per ton over 0.2 m from surface sampling and up to 25.12 ounces Au per ton and 6.24 ounces Ag per ton over 0.21 m in drill core (Cochenour Willans drill hole BS-66-11.) Visible gold was reported in the Cochenour Willans drill core.

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined the Sanderson occurrence in 1989 and took one grab sample for assay. It returned 0.59 ounce Au per ton, 25.37 ounces Ag per ton, 1.14% Cu, 7500 ppm Zn, and 1110 ppm Pb.

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, H. 1985. Geology of the Slate Falls area, district of Kenora (Partricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/04NE-0013 52O/04NE-0016 52O/04NE-0017
52O/04NE-0019-B1 52O/04NE-0021-A1 52O/04NE-0022
52O/04NE-0025

DEPOSIT NAME: Path Vein

NTS AREA: 52O/04NE **MDI #: KP1069**

ALTERNATE NAMES: 1) Sanderson Option

2) Wesleyan Lake #3

DEPOSIT STATUS: Trenched and sampled occurrence

COMMODITIES: Au, Ag, Cu, Zn, Pb

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake area

LATITUDE: 51° 10' 58" **LONGITUDE:** 91° 33' 05"

UTM ZONE: 15 **NORTHING:** 5670939 **EASTING:** 601250

LOCATION: The Path Vein occurrence is located about 97 km west-southwest of Pickle Lake and 3.5 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to the Path Vein occurrence is by appropriately equipped aircraft to North Bamaji Lake. About 2 km east of the First Nation community of Slate Falls is a north-trending bay of North Bamaji Lake. A foot trail leads from the north end of this bay north and east to the occurrence area. A winter road along the Ear Falls-to Pickle Lake power corridor passes about 2 km south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

Claims were staked on this occurrence in 1965 and transferred to Dome Exploration (Canada) Limited.

In 1966, Dome Exploration Canada Ltd. did considerable trenching on the claims before transferring the claims back to a Mr. Sanderson of Balmertown.

In 1966, Cochenour Willans Gold Mines Ltd. acquired an optioned on the claims and did a diamond-drilling program of 9 holes totalling 447 m.

In 1980, St. Joseph Explorations Ltd. staked claims covering the occurrence and did geological mapping and geophysical surveys.

In 1981, St. Joseph Explorations Ltd. did more geological mapping and geophysical surveys. They also did orientation soil geochemistry surveys, trenching and staked additional claims.

In 1984, Sulpetro Minerals Ltd. (name changed from St. Joseph Explorations Ltd.) did 14 diamond-drill holes totalling 2235 m. on their claims.

DEPOSIT GEOLOGY

The Path Vein occurrence is contained in an east-trending, south-dipping shear zone through massive, well-bedded siltstone. The shear zone has been traced by trenching for about 20 m. The Path Vein occurrence is a lensoid, possibly boudinaged, milky quartz vein. The vein varies in width between 10 cm and 30 cm. The sulphide minerals contained in the vein are pyrite, sphalerite, chalcopyrite, tetrahedrite, pyrrhotite and galena. The sulphides occur as disseminations, stringers and local masses within the vein and along the contacts of the vein with the sheared mafic metavolcanics. Total sulphide content of the vein is up to 5% though local sulphide concentrations suggest a higher content.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: metasediments

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

2) sphalerite

3) chalcopyrite

4) tetrahedrite

5) pyrrhotite

6) galena

ALTERATION MINERALS AND PROCESSES

1) biotite

ECONOMIC FEATURES

The 2 best assay results from the path vein are:

0.31 ounce Au per ton, 4.94 ounces Ag per ton, 0.012% Cu, 0.004% Pb, and 0.209% Zn over 0.2 m

0.29 ounce Au per ton, 4.97 ounces Ag per ton, 0.175 % Cu, 0.130% Pb, 0.126% Zn over 0.3 m.

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined the Path Vein occurrence in 1989 and took 3 grab samples for assay. The assay results are as follows:

Sample No.	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm
GWS-89-34	7780	110	2170	790	1110
GWS-89-35	5420	70	232	550	1400
GWS-89-36	3330	42	152	390	216

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, H. 1985. Geology of the Slate Falls area, district of Kenora (Partricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/04NE-0013 52O/04NE-0016 52O/04NE-0017
52O/04NE-0019-B1 52O/04NE-0021-A1 52O/04NE-0022
52O/04NE-0025

DEPOSIT NAME: Trail Vein

NTS AREA: 52O/04NE **MDI #: KP1070**

ALTERNATE NAMES: **1)** Wesleyan Lake # 4

2) Sanderson Vein

DEPOSIT STATUS: Trenched and drilled occurrence

COMMODITIES: Au, Ag, Cu, Zn, Pb

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake area

LATITUDE: 51° 10' 55" **LONGITUDE:** 91° 33' 04"

UTM ZONE: 15 **NORTHING:** 5670825 **EASTING:** 601265

LOCATION: The Trail Vein occurrence is located about 97 km west-southwest of Pickle Lake and 3.4 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to the Trail Vein occurrence is by appropriately equipped aircraft to North Bamaji Lake. About 2 km east of the First Nation community of Slate Falls is a north-trending bay of North Bamaji Lake. A foot trail leads from the north end of this bay north and east to the occurrence area. A winter road along the Ear Falls-to Pickle Lake power corridor passes about 2 km south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

Claims were staked on this occurrence in 1965 and transferred to Dome Exploration (Canada) Limited.

In 1966, Dome Exploration Canada Ltd. did considerable trenching on the claims before transferring the claims back to a Mr. Sanderson of Balmertown.

In 1966, Cochenour Willans Gold Mines Ltd. acquired an option on the claims and did a diamond-drilling program of 9 holes totalling 447 m.

In 1980, St. Joseph Explorations Ltd. staked claims covering the occurrence and did geological mapping and geophysical surveys.

In 1981, St. Joseph Explorations Ltd. did more geological mapping and geophysical surveys. They also did orientation soil geochemistry surveys, trenching and staked additional claims.

In 1984, Sulpetro Minerals Ltd. (name changed from St. Joseph Explorations Ltd.) did 14 diamond-drill holes totalling 2235 m. on their claims.

DEPOSIT GEOLOGY

The Trail Vein occurrence is contained in a south-dipping shear zone which trends 100° through massive, well-bedded siltstone. The shear zone has been traced by trenching and drilling for about 50 m. The Trail Vein occurrence is a lensoid, possibly boudinaged, milky quartz vein. The vein varies in width between 10 cm and 15 cm. The sulphide minerals contained in the vein are pyrite, sphalerite, chalcopyrite, tetrahedrite, pyrrhotite and galena. The sulphides occur as stringers and local masses within the vein. Total sulphide content of the vein is up to 5% though local sulphide concentrations suggest a higher content.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: metasediments

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite **2)** sphalerite **3)** chalcopyrite **4)** tetrahedrite

5) pyrrhotite **6)** galena

ALTERATION MINERALS AND PROCESSES

1) biotite

ECONOMIC FEATURES

The Trail Vein has yielded some spectacular gold and silver values from near massive

pods of sulphide mineralization. Chip samples from the trenches on the vein have assayed up to 2.44 ounces Au per ton, 25.08 ounces Ag per ton, 0.7% Cu, 0.405% Pb and 0.368% Zn over a 15 cm width and a 30 cm length of vein.

Sulpetro Minerals Ltd. diamond-drill hole 3357-14, drilled to test the western extension of the Trail Vein, intersected 3 narrow quartz veins. Assay results for these veins are as follows:

From (m)	to (m)	length (m)	Ounce Au per ton	Ounce Ag per ton
16.30	16.65	0.55	0.064	2.83
45.70	46.02	0.32	0.339	6.63
50.82	51.07	0.25	0.741	4.98

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined the Trail Vein occurrence in 1989 and took 2 grab samples for assay. The assay results are as follows:

Sample No.	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm
GWS-89-37	4770	94	765	390	4000
GWS-89-38	2.26*	26.5*	5300	28400	26300

* ounces per ton

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

Wallace, H. 1985. Geology of the Slate Falls area, district of Kenora (Partricia Portion); Ontario Geological Survey Report 232, 85p. Accompanied by Maps 2481 and 2482, scale 1:31 680.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/04NE-0013 52O/04NE-0016 52O/04NE-0017
52O/04NE-0019-B1 52O/04NE-0021-A1 52O/04NE-0022
52O/04NE-0025

DEPOSIT NAME: Wesleyan Lake #5

NTS AREA: 52O/04NE **MDI #: KP1071**

ALTERNATE NAMES: **1)** L15E Vein

2) Sanderson Option

DEPOSIT STATUS: Trenched and sampled outcrop

COMMODITIES: Au, Ag, Cu, Zn, Pb

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake area

LATITUDE: 51° 11' 23" **LONGITUDE:** 91° 32' 05"

UTM ZONE: 15 **NORTHING:** 5670825 **EASTING:** 601265

LOCATION: This occurrence is located about 97 km west-southwest of Pickle Lake and 3.4 km northeast of the First Nation community of Slate Falls.

ACCESS: Access to the this occurrence is by appropriately equipped aircraft to North Bamaji Lake. About 2 km east of the First Nation community of Slate Falls is a north-trending bay of North Bamaji Lake. A foot trail leads from the north end of this bay north and east to the occurrence area. A winter road along the Ear Falls-to Pickle Lake power corridor passes about 2 km south of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

Claims were staked on this occurrence in 1965 and transferred to Dome Exploration (Canada) Limited.

In 1966, Dome Exploration Canada Ltd. did considerable trenching on the claims before transferring the claims back to a Mr. Sanderson of Balmertown.

In 1966, Cochenour Willans Gold Mines Ltd. acquired an option on the claims and did a diamond-drilling program of 9 holes totalling 447 m.

In 1980, St. Joseph Explorations Ltd. staked claims covering the occurrence and did geological mapping and geophysical surveys.

In 1981, St. Joseph Explorations Ltd. did more geological mapping and geophysical surveys. They also did orientation soil geochemistry surveys, trenching and staked additional claims.

In 1984, Sulpetro Minerals Ltd. (name changed from St. Joseph Explorations Ltd.) did 14 diamond-drill holes totalling 2235 m. on their claims.

DEPOSIT GEOLOGY

Little is reported on the geology of this occurrence. It is contained in an east-trending shear zone which cuts massive, well-bedded siltstone. Sulphides are reported as 1-3% pyrrhotite,with sphalerite and galena.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: metasediments

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite **2)** sphalerite

3) galena

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Sulpetro Mineral Ltd. reported assay results for three samples taken from this occurrence. The best assay result was 0.12 ounce Au per ton, 3.68 ounces Ag per ton, 0.195% Cu, 0.088% Pb and 0.141% Zn.

Drill hole 3357-9 intersected 0.046 ounce Au per ton over 0.78 m at 7.49 m down the hole.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/04NE-0013 52O/04NE-0016 52O/04NE-0017
52O/04NE-0019-B1 52O/04NE-0021-A1 52O/04NE-0022
52O/04NE-0025

DEPOSIT NAME: Island-North Bamaji Lake

NTS AREA: 52O/04NE **MDI #: KP0209**

ALTERNATE NAMES: **1)** Wesleyan Lake #8

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Mo

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wesleyan Lake area

LATITUDE: 51° 09' 05" **LONGITUDE:** 91° 34' 11"

UTM ZONE: 15 **NORTHING:** 5667424 **EASTING:** 600046

LOCATION: The Island-North Bamaji Lake occurrence is located about 100 km west-southwest of Pickle Lake and about 1.5 km southeast of the First Nation community of Slate Falls. It is on the north shore of an island in the central part of North Bamaji Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to North Bamaji Lake. A winter road along the Ear Falls- to Pickle Lake power corridor passes about 1.2 km north of this occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered by an O.G.S. mapping party in 1972. Claims may have covered this occurrence in the 1960's, but their is no mention of it in the assessment files.

DEPOSIT GEOLOGY

Sage and Breaks (1982) describe the geology of this occurrence as follows:

"In the east-central section of North Bamaji Lake, approximately 1.5 km southeast of Slate Falls, a small island contains mineralized quartz veins typical of the Bamaji Lake complex. Very fine grained {sic} molybdenite, accompanied locally with fine-grained purple fluorite and pyrite, occurs within a medium {sic} to coarse-grained quartz veinlet

less than 25 cm in width. Borders of the vein consist of sheared sericitic masses and concentration of pale whitish feldspar. Malachite and very sparse azurite staining was noted in on of the veins. Each of the mineralized components constitute less than one percent of the vein."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: trondhjemite

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) molybdenite **2)** fluorite

3) pyrite

ALTERATION MINERALS AND PROCESSES

1) sericite **2)** malachite

3) azurite

ECONOMIC FEATURES

Sage and Breaks (1982) report that a gab sample contained 1.4% Mo, 1.0 to 2.0% F and traces of Bi.

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake--Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253 440 and Charts A, B, and C.

DOBIE LAKE AREA

52O/06NW

DEPOSIT NAME: Dobie Lake # 1

NTS AREA: 52O/06NE **MDI#: KP1080**

ALTERNATE NAMES: GPP Stratigraphy

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Dobie Lake area

LATITUDE: 51° 23' 29" **LONGITUDE:** 91° 13" 26'

UTM ZONE: 15 **NORTHING:** 5694616 **EASTING:** 623582

LOCATION: This occurrence is located about 71 km west of Pickle Lake and 800 m northeast of Tonsil Lake (local name for the first lake downstream on the Dobie River from Dorothy Lake.

ACCESS: Tonsil Lake is marginal for float- and ski-equipped aircraft. Helicopter access of this occurrence is recommended.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area including this occurrence. This was followed up by ground surveys and by diamond-drilling. Drill hole M86.18 intersected this occurrence.

In 1987, St. Joe Canada Inc. did diamond-drilling south of the occurrence.

In 1988, Bond Gold Canada Inc. did further ground geophysical surveys and geological mapping in the area of the occurrence. Two (2) additional drill holes tested this occurrence.

In 1989 and 1990, Bond Gold Canada Inc. did further diamond-drilling on target area around this occurrence.

DEPOSIT GEOLOGY

This occurrence is hosted by mafic metavolcanics. It consists of gold mineralization associated with a few separate, narrow quartz-carbonate veins and a zone of quartz-feldspar veins. The wallrocks to the veins are variably silicified and carbonatized. Biotite is also mentioned in the drill logs as an alteration mineral in the mafic metavolcanics.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-carbonate veins

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** carbonatization

3) biotite

ECONOMIC FEATURES

The assessment files indicate that this occurrence was tested by 3 diamond-drill holes. Assay results are only available for 2 of the 3 holes. The significant assay results from this occurrence are:

Hole #	From	To	Length	g/t Au
M86.18	70.38 m	71.38 m	1.50 m	1.37
	89.85 m	90.20 m	0.35 m	1.37
	91.80 m	92.60 m	0.80 m	2.74
	93.04 m	93.44 m	0.40 m	2.74
MD88.45	69.70 m	70.05 m	0.08 m	2.74

REFERENCES

Assessment files, Resident Geologist' office, Sioux Lookout District

52O/06NE-0011
52O/06NW-0038
52O/06NW-0047
52O/06NW-0071
52O/06NW-0071
52O/06SE-0071

DEPOSIT NAME: Spike Zone

NTS AREA: 52O/06NE **MDI#: KP1081**

ALTERNATE NAMES: Dobie Lake # 2

DEPOSIT STATUS: Drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Dobie Lake area

LATITUDE: 51° 23' 11" **LONGITUDE:** 91° 13' 49"

UTM ZONE: 15 **NORTHING:** 5694057 **EASTING:** 623157

LOCATION: The Spike Zone is located about 71 km west of Pickle Lake and about 250 m east of Tonsil Lake. (local name for the first lake downstream on the Dobie River from Dorothy Lake).

ACCESS: Tonsil Lake is marginal for float- and ski-equipped aircraft. Helicopter access of this occurrence is recommended.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the Spike Zone.

In 1986, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys on the Dobie Grid and drilled the initial holes intersecting the Spike Zone.

In 1987, St. Joe Canada Inc. did diamond-drilling on the Spike Zone.

In 1988, Bond Gold Canada Inc. did further ground geophysical surveys and geological mapping in the area and completed additional drill holes to delineate the zone.

In 1990, Bond Gold Canada Inc. did further diamond-drilling to delineate the Spike Zone.

DEPOSIT GEOLOGY

The Spike Zone occurs within a succession of mafic metavolcanic flows and tuff with occasional interbeds of iron formation. The Spike Zone is an gold-bearing alteration/shear zone that trend about 125° and dips north. The zone is slightly discordant to the stratigraphy. The Spike Zone is characterized by a strong foliation, and strong silicification, carbonatization and sericitization. It is cut by quartz-carbonate veinlets and mineralized with a few percent pyrite and traces of arsenopyrite. The Spike Zone is cut by a quartz-feldspar porphyry dike. The Spike zone has been traced by diamond-drilling for a strike length between 100 m and 150 m.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: alteration/shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES:

1) iron formation

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) silicification

2) carbonatization

3) sericitization

ECONOMIC FEATURES

The Spike Zone has been intersected in several diamond-drill holes. Not all assay values for all the intersections have been reported. The following are averaged assay results for some of the reported intersections.

Hole #	From	To	Length	g/t Au
M87.39	160.69 m	161.95 m	1.26 m	2.74
	166.45 m	168.45 m	2.00 m	1.54
	172.46 m	172.76 m	0.30 m	1.37
MD88.40B	163.85 m	166.75 m	2.90 m	5.99
MD88.41	184.50 m	186.10 m	1.60 m	1.73
MD88.42B	193.74 m	194.14 m	0.80 m	3.77

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SW-0017 52O/06SE-0040 52O/06SE-0042
52O/06SE-0074 52O/06NE-0010 52O/06NE-0015
52O/06SE-0016 52O/06NW-0035 52O/06NW-0038
52O/06NW-0047

DEPOSIT NAME: Dobie Zone

NTS AREA: 52O/06NE **MDI# KP1082**

ALTERNATE NAMES: 1) Dobie Lake # 3

DEPOSIT STATUS: Developed prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Dobie Lake area

LATITUDE: 51° 23' 00" **LONGITUDE:** 91° 13' 38"

UTM ZONE: 15 **NORTHING:** 56933715 **EASTING:** 623365

LOCATION: The Dobie Zone is located about 71 km west of Pickle Lake and about 500 m east of Tonsil Lake (local name for the first lake downstream on the Dobie River from Dorothy Lake).

ACCESS: Tonsil lake is considered marginal for float- and ski-equipped aircraft. Helicopter access of this occurrence is recommended.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the Dobie Zone.

In 1986, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys on the Dobie Grid and drilled the initial holes intersecting the Dobie Zone.

In 1987, did further diamond drilling on the Dobie Zone.

In 1988, Bond Gold Canada Inc. did additional geophysical surveys, geological mapping and further diamond-drilling to delineate the Dobie Zone.

Additional diamond drilling was completed by Bond Gold Canada Inc. in 1990.

DEPOSIT GEOLOGY

This occurrence consist of what Bond Gold Canada Inc. refers to as the Dobie Zone and the Dobie North Zone. The Dobie North zone is located about 100 m north of the Dobie Zone towards the latter's west end.

The Dobie Zone and the Dobie North zone are hosted in a succession of mafic metavolcanic flows and tuffs with interbeds of iron formation. The succession is cut by quartz-feldspar porphyry dikes.

Both zones are trend southeast and dip north. They are characterized by strong shearing, silicification, carbonatization and sericitization. They are mineralized with up to 8% pyrite and pyrrhotite with traces of chalcopyrite and arsenopyrite. The sulphides occur as massive bands, stringers, blebs and disseminations.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: alteration/shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** iron formation

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

3) chalcopyrite **4)** arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** carbonatization

3) sericitization

RESERVE DATA

RESERVE CATEGORY: drill inferred

TONNES: 301 000

AVERAGE GRADE: 5.5 g/t Au

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SW-0017
52O/06SE-0040
52O/06SE-0042
52O/06SE-0074
52O/06NE-0010
52O/06NE-0011
52O/06NE-0012
52O/06NE-0015
52O/06NE-0016
52O/06SE-0016
52O/06NW-0035
52O/06NW-0038
52O/06NW-0047
52O/06NW-0071

KAWASHE LAKE AREA

52O/06SE

DEPOSIT NAME: Jacknife Lake North

NTS AREA: 52O/06SE **MDI #: KP0197**

ALTERNATE NAMES: 1) Kawashe Lake "C"

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Cu, Ni

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 16' 47" **LONGITUDE:** 91' 02' 44"

UTM ZONE: 15 **NORTHING:** 5682536 **EASTING:** 636308

LOCATION: The Jacknife Lake North occurrence is located about 61 km southwest of Pickle Lake and about 11 km south-southeast of the Golden Patricia mine. The occurrence is located on the south side of a small un-named lake located on a drainage system between Kaminiskag Lake and Jacknife Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to the un-named lake or a near by lake. The Golden Patricia mine winter road passes about 5 km northeast of this occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered by an Ontario Geological Survey mapping party in 1972.

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys that covered the area of the occurrence.

In 1989, Bond Gold Canada Inc. did a geological mapping program which covered the area of the occurrence.

DEPOSIT GEOLOGY

Sage and Breaks (1982) report a grab sammple from an outcrop exposing small

peridotite body returned assay values of 0,15% Cu and 0.15% Ni.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: peridotite

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) magnetite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

OTHER PERTINENT DATA

This occurrence does not meet the current O. G. S. standard for a copper or nickel occurrence. It was named a mineral deposit in a previous compilation because it indicates what the compiler considered slightly anomalous base metal values. Newer reports of similar assay values, in the area covered by this Open File Report, have not been included as mineral deposits.

REFERENCES

Sage, R.P. and Breaks, F.W. 1982. Geology of the Cat Lake -- Pickle Lake area, districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, scale 1:253440 and Charts A, B, and C.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0042 52O/06SE-0073

DEPOSIT NAME: Muskegsagagen Lake West

NTS AREA: 52O/06SE **MDI #: KP0199**

ALTERNATE NAMES: **1)** New Jersey Zinc # 1 Showing (East and West Zones)

2) Muskegsagagen Group

3) Kawashe Lake 1A

DEPOSIT STATUS: Trenched and drilled occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 21' 55' **LONGITUDE:** 91° 08' 43'

UTM ZONE: 15 **NORTHING:** 5691875 **EASTING:** 629125

LOCATION: The Muskegsagagen Lake West occurrence is located on Lac Minerals Ltd.'s Golden Patricia mine property. The mine is located about 65 km west-southwest of Pickle Lake. The occurrence is sited in the area where it was first drilled and trenched about 2 km north of Muskegsagagen Lake and 2 km west of Hour Lake (local name first large lake down the Obaskaka River from Muskegsagagen Lake).

ACCESS: This occurrence is accessible from the Golden Particia mine which is serviced by an all-weather airstrip and by a winter road from Pickle Lake.

EXPLORATION AND DEVELOPMENT HISTORY

The initial discovery date for this occurrence is unknown.

In 1961, New Jersey Zinc Exploration Company (Canada) Ltd. dug approximately 20 trenches on the east and west zones of their #1 showing.

In 1963, New Jersey Zinc Exploration Company (Canada) Ltd. drilled 1 diamond-drill hole (50.29 m) on this occurrence as part of a six-hole, diamond-drilling program which totalled 212.78 m.

In 1984, St. Joe Canada Inc. began an exploration program in the Muskegsagagen

Lake area which included airborne geophysical surveys, ground geophysical surveys, geological mapping, trenching and stripping, soil geochemistry, and diamond-drilling . This exploration work is on-going.

In 1988, Bond Gold Canada Inc. opened the Golden Patricia mine to extract a deposit to the north of the Muskegsagagen Lake West occurrence. The mine is presently owned and operated by Lac Minerals Ltd.

DEPOSIT GEOLOGY

In 1961, New Jersey Zinc Exploration Company (Canada) Ltd. trenched the Muskegsagagen Lake West occurrence over a west-northwest trending strike length of about 800 m. At that time the occurrence was called the No. 1 showing, East and West zones. The trenching unearthed gold mineralization in several places. The geological information supplied on the trench maps, filed as assessment work, is not detailed. The gold mineralization in the eastern part of the occurrence is associated with zones of iron carbonate alteration proximal to an iron formation horizon. Assay values from the eastern part of the occurrence are, for the most part, sub-occurrence levels. To the west the occurrence is associated with quartz-feldspar porphyry dike and narrow, west-northwest trending shear zones. Iron carbonate alteration becomes less and less of a factor to the west-northwest as is the presence of iron formation. Free gold was reported at several places in 2 of the trenches. The best gold assay value came from a narrow shear zone in the west-northwestern most trench.

In 1963, New Jersey Zinc Exploration Company (Canada) Ltd. drill- tested the west end of the No. 1 showing on the companies Muskegsagagen Group. The drill hole, M-6-63, intersected 2 narrow zones of gold mineralization in 2 quartz-feldspar porphyry dikes. The dikes contained disseminated pyrite and blue quartz stringers. The quartz-feldspar porphyry dikes intrude a succession of mafic metavolcanics and gabbro with minor felsic tuff.

This occurrence has subsequently been drilled by St. Joe Canada Inc. and its successors.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) felsic metavolcanics

3) iron formation

4) gabbro

ECONOMIC MINERALS

1) pyrite

2) gold

ALTERATION MINERALS AND PROCESSES

1) iron carbonate

ECONOMIC FEATURES

New Jersey Zinc Exploration Company (Canada) Ltd.'s best assay result from the trench sampling was 0.205 ounce Au per ton over 30.5 cm (12").

Significant assays from New Jersey Zinc Exploration Company (Canada) Ltd.'s diamond-drill hole M-6-63 are as follows:

From	To	Length	Ounce Au per ton
68.0' (20.7 m)	69.0' (21.0 m)	1.0'0 (0.30 m)	0.12
97.4' (29.7 m)	98.4' (30.0 m)	1.0' (0.30 m)	0.04

OTHER PERTINENT DATA

In past mineral occurrence compilations this occurrence was considered to be contiguous with the Golden Patricia Vein (KP 0446). It is not. This occurrence lies to the south of the Golden Patricia Vein and a parallel zone known as the "B" zone. (J. Ackert, Geologist, Lac Minerals Ltd. personal communication, 1993)

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District.

52O/06SE-0010	52O/06SE-0011-A1	52O/06SE-0020
52O/06SE-0024	52O/06SE-0030	52O/06SE-0039
52O/06SE-0040	52O/06SE-0056	52O/06SE-0057
52O/06SE-0058	52O/06SE-0074	52O/06SE-0083
52O/06SE-0084	52O/06SW-0040	

DEPOSIT NAME: Golden Patricia Mine

NTS AREA: 52O/06SE **MDI #: KP0446**

ALTERNATE NAMES: 1) Golden Patricia Vein

2) Golden Patricia Zone

3) Muskegsasagen Lake

4) New Jersey Zinc Showing No. 2

5) Muskegsagagen Group

6) Muskeg Lake Property

7) Kawashe Lake 1E

DEPOSIT STATUS: Producer

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 22' 01" **LONGITUDE:** 91° 08' 03"

UTM ZONE: 15 **NORTHING:** 5692048 **EASTING:** 629889

LOCATION: The Golden Patricia mine is located about 64 km west-southwest of Pickle Lake and 2.1 km north of the west end of Muskegsagagen Lake.

ACCESS: The Golden Patricia mine is serviced by an all-weather air strip and by a winter road from Pickle Lake.

EXPLORATION AND DEVELOPMENT HISTORY

There is no record of the original discovery of the gold-bearing quartz vein which eventually became known as the Golden Patricia vein.

The first recorded exploration of the site was in 1961 when New Jersey Zinc

Exploration Company (Canada) Ltd. dug several trenches on a gold-bearing quartz vein.

In 1963, New Jersey Zinc Exploration Company (Canada) Ltd. drilled 5 diamond-drill holes, totalling 162.49 m, on the gold-bearing quartz vein as part of a six-hole, 212.78 m program.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over a large part of the Muskegsagagen Lake area.

In 1984, St. Joe Canada Inc. staked claims to cover the New Jersey Zinc showings. Follow-up work performed in 1984 included ground magnetometer and electromagnetic surveys and geological mapping and prospecting.

In 1985, St. Joe Canada Inc. did a diamond-drilll program which relocated the gold-bearing quartz vein. Six diamond-drill holes intersected the Golden Patricia vein.

In 1986, St. Joe Canada Inc. did a definition diamond-drill program which outlined a potentially mineable deposit.

In 1986, St. Joe Canada Inc. commenced an underground exploration program on the deposit with the driving of 2 declines and the extraction of a bulk sample. At the same time, further airborne magnetometer and electromagnetic surveys were commissioned to cover a much expanded claim group. Additional ground geophysical surveys were completed and several additional targets were tested by diamond-drill holes.

In March 1987, St. Joe Canada Inc. announced its decision to bring the Golden Patricia vein into production.

In 1988, St. Joe Canada Inc. was taken over by Bond Gold Canada Inc.. The Golden Patricia mine started production in September of 1988.

In 1989, Lac Minerals Ltd. acquired a major interest in Bond Gold Canada Ltd. and took over operation of the mine.

In 1990, Lac Mineral Ltd. did a deep drill program on the deposit.

In 1991, Lac Minerals Ltd. commissioned a 335 m one-compartment shaft and manway to aid in production at depth.

DEPOSIT GEOLOGY

The Golden Patricia mine produces gold from a quartz vein in a shear zone which

cuts through a mafic metavolcanic succession. The vein averages a 40 cm thickness and is remarkably continuous over a strike length of more than 3.3 km. The vein and shear zone strike roughly east and dip steeply north, more or less concordant with the regional stratigraphy. Stott and Corfu (1991) suggest that the shear zone may be a splay off of the Bear Head fault zone which is a boundary fault to the greenstone belt.

The mafic metavolcanic succession which hosts the Golden Patricia vein and shear zone is comprised of tholeiitic flows with interflow beds of tuff, immature clastic sediments and iron formation. It is intruded by gabbroic intrusions, feldspar porphyry dikes and by late biotite-rich mafic dikes commonly identified as lamprophyres. The mafic metavolcanic succession is overturned.

In addition to containing the Golden Patricia vein, the shear zone encompasses the remnants of feldspar porphyry intrusions on the footwall and hanging wall of the vein. These porphyries were mylonitized by the deformation. Originally, they were identified as felsic tuffs. The hanging wall is characterized by chlorite and biotite alteration which grades into the mafic metavolcanics. The footwall is characterized by silicification and sericitization and by a thin band of sulphidization (pyrrhotite) adjacent to the vein.

The Golden Patricia vein is mineralized with fine-to-coarse visible gold which is commonly associated with pyrrhotite. Pyrite, chaclopyrite, sphalerite and galena are also observable in the vein. Generally, sulphides comprised less than 5% of the vein material. The quartz vein also contains tourmaline, carbonate, sericite, chlorite and rutile. The vein is not uniformly mineralized. Ore shoots defined by grade tend to rake about 70° east.

The Golden Patricia vein exhibits D_2 folding along its length and is fractured and locally offset minor distances along the late D_3 plane which strikes almost perpendicular to the vein.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** feldspar porphyry

2) iron formation

3) clastic metasediments

ECONOMIC MINERALS

1) gold
2) pyrrhotite
3) pyrite
4) chalcopyrite
5) sphalerite
6) galena

ALTERATION MINERALS AND PROCESSES

1) silicification
2) sericitization
3) suphidization
4) chlorite
5) carbonate
6) biotite

RESERVE DATA

RESERVE CATEGORY: proven and probable

TONNES: 327,000 tonnes (361,000 tons) (Jan. 1993)

AVERAGE GRADE: 21.94 g/t Au (0.64 ounce Au per ton) (Jan. 1993)

PRODUCTION DATA

START UP DATE: Sept. 1988

DEPTH OF WORKINGS: 400 m

SHUT DOWN DATE:

MILL CAPACITY: 380 tonnes per day

MINING METHODS: The Golden Patricia vein is accessed by 2 declines 1 km apart and a 1.5-compartment shaft. The vein is mined using conventional shrinkage stoping techniques. The ore is ground and milled using conventional technology and the gold is recovered using a combination gravity and Merrill Crowe cyanide leach process. Recovery averages 96%.

TONNAGE MILLED: 564 000 Tonnes (Dec. 92)

AVERAGE GRADE: 20.47 g/t Au

REFERENCES

Janes, D.A., Redden, J.W. and Brown, G.H. 1987. Sioux Lookout Resident Geologist's Area, Northwestern Area p. 46-71 in Report of Activities 1986, Regional and Resident Geologist's, edited by C.R. Kustra; Ontario Geological Survey, Miscellaneous Paper 134, 322p.

Janes, D.A., 1988. Sioux Lookout Resident Geologist's Area--1987. p. 61-71 in Report of Activities 1987, Resident Geologists, edited by C.R. Kustra; Ontario Geological Survey, Miscellaneous Paper 138, 367p.

Janes,D.A., Seim, G.W. and Storey, C.C. 1989. Sioux Lookout Resident Geologist's District--1988, p.65-91 in Report of Activities 1988, Resident Geologists, edited by K.G. Fenwick, P.E. Giblin and A.E. Pitts, Ontario Geological Survey, Miscellaneous Paper 142, 391p.

Janes,D.A., Seim, G.W. and Storey, C.C. 1990. Sioux Lookout Resident Geologist's District--1989, in Report of Activities 1989, Resident Geologists, edited by K.G. Fenwick, P.E. Giblin and A.E. Pitts, Ontario Geological Survey, Miscellaneous Paper 142, p.69-100.

Janes,D.A., Seim, G.W. and Storey, C.C. 1991. Sioux Lookout Resident Geologist's District--1990, in Report of Activities 1990, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 152, p.67-105.

Janes,D.A., Seim, G.W. and Storey, C.C. 1992. Sioux Lookout Resident Geologist's District--1991, in Report of Activities 1991, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 158, p.59-86.

Stephenson, J. 1986. Grassroots Gold, Northern Miner Magazine Vol. 1, No. 10, p.29-31 and 60-61.

Stott, G.M. and Corfu, F. 1991. Uchi Subprovince in Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p145-239.

Stott, G.M. and Wilson, A.C. 1986. Precambrian Geology of the Muskegsagagen-Bancroft Lakes area, District of Kenora (Patricia Portion); Ontario Geological Survey, Map P.3049.

Assessment files, Resident Geologist's Office, Sioux Lookout District,

52O/06SE-0010	52O/06SE-0011-A1	52O/06SE-0021-A1
52O/06SE-0024	52O/06SE-0026	52O/06SE-0030
52O/06SE-0039	52O/06SE-0042	52O/06SE-0047

52O/06SE-0050 52O/06SE-0056 52O/06SE-0057
52O/06SE-0058 52O/06SE-0074 52O/06SE-0083
52O/06SE-0084

DEPOSIT NAME: Jacknife Lake

NTS AREA: 52O/06SE **MDI #: KP1083**

ALTERNATE NAMES: 1) Kawashe Lake "D"

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Au, Fe

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 16' 10" **LONGITUDE:** 91° 02' 59"

UTM ZONE: 15 **NORTHING:** 5681372 **EASTING:** 636060

LOCATION: This occurrence is located about 61 km west-southwest of Pickle Lake and about 13 km south-southeast of the Golden Patricia mine. This occurrence is an iron formation horizon that outcrops at various locations along the north shore of Jacknife Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Jacknife Lake. The Golden Patricia mine winter road passes about 6 km northeast of this occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was first noted as an iron occurrence by Harding (1935). Sage and Breaks (1982) report that Umex Inc. had a grab sample of the iron formation return an assay result of 0.02 ounce gold per ton.

In 1971, Union Miniere Explorations and Mining Corporation Limited commissioned airborne magnetometer and electromagnetic surveys and did a reconnaissance geological mapping program which covered this occurrence.

In 1972 and 1973, Union Miniere Explorations and Mining Corporation Limited did diamond-drilling near this occurrence.

In 1984, St. Joe Canada Inc. did 4 diamond-drill holes, totalling 2177 m, on part of this occurrence.

In 1985, St. Joe Canada Inc. did ground magnetometer and electromagnetic surveys and geological mapping over part of this occurrence.

In 1985, Dome Exploration (Canada) Ltd. did ground magnetometer and electromagnetic surveys over part of this occurrence.

In 1986, St. Joe Canada Inc. and Northern Dynasty Explorations Ltd. (for the Ontario Gold Joint Venture) commissioned separate airborne magnetometer and electromagnetic surveys over this occurrence.

In 1987, Dome Exploration (Canada) Ltd. drilled 11 diamond-drill holes, totalling 1432 m, on this occurrence.

DEPOSIT GEOLOGY

The Jacknife Lake occurrence was described by Harding (1935) and later by Sage and Breaks (1982). Both describe a lean iron formation which outcrops on the north shore of Jacknife Lake. Harding (1935) suggests that the iron formation horizon may be 30 m-to 90 m thick with a strike length close to 5 km. The diamond-drilling done by Dome Exploration (Canada)Ltd. and by St. Joe Canada Inc. indicates that there are multiple iron formation horizons. Some are very lean and others are rich in magnetite. Pyrrhotite and pyrite occur in all the iron formation horizons.

The iron formation horizons are part of an east-to southeast striking metasedimentary -- metavolcanic succession. The metavolcanics range in composition from mafic to felsic and consist of flows and pyroclastic deposits.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) felsic metavolcanics

3) metasediments

ECONOMIC MINERALS

1) magnetite

2) pyrrhotite

3) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

Sage and Breaks (1982) report that Union Miniere Explorations and Mining Corporation Limited took *"a grab sample of the Jacknife Lake chert-magnetite iron formation" which assayed 0.02 ounce Au per ton."*

All other reported assays for samples of iron formation from Jacknife Lake are trace gold or nil.

OTHER PERTINENT DATA

This occurrence does not meet the current O. G. S. standard for a gold occurrence. It was named a mineral deposit in a previous compilation because it indicated what the compiler considered to be a slightly anomalous gold value. Newer reports of similar assay values, in the area covered by this Open File Report, have not been included as mineral deposits.

REFERENCES

Harding, W.D., 1935. Geology of the Cat River-Kawinogans Lake area in Forty-forth Annual Report of the Ontario Department of Mines, Vol. XLIV, Part VI p.69.

Sage, R.P. and Breaks, F.W., 1982. Geology of the Cat Lake -- Pickle Lake area, Districts of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, scale 1:253440 and Charts A, B, and C.

Shklanka, R., 1968. Iron Deposits of Ontario; Ontario Department of Mines, Mineral Resourses Circular No. 11., page 221.
Assessment files, Resident Geologist's office, Sioux Lookout District,

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0011-A1	52O/06SE-0018	52O/06SE-0020
52O/06SE-0025	52O/06SE-0042	52O/06SE-0044
52O/06SE-0058	52O/09SE-0035	52O/10SE-0011
53B/14NE-0020		

DEPOSIT NAME: Kawashe Lake #2

NTS AREA: 52O/06SE **MDI #: KP1084**

ALTERNATE NAMES: 1) Fry Lake area grid 44

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 15' 12" **LONGITUDE:** 91° 14' 50"

UTM ZONE: 15 **NORTHING:** 5679236 **EASTING:** 622325

LOCATION: This occurrence is located about 75.5 km south-southwest of Pickle Lake and about 250 m north of Fry Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Fry Lake, and then about a 250-m traverse overland from the north shore to the occurrence. A winter road along the Ear Falls-to Pickle Lake power corridor passes on the south side of Fry Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1971 and 1972, a joint venture funded by Cochenour Willans Gold Mine Ltd., Coin Lake Gold Mines Ltd. and Selco Mining Corporation Ltd. conducted an exploration program that discovered this occurrence. The exploration program consisted of ground magnetometer and electromagnetic surveys, geological mapping and 8 diamond-drill holes, totalling 325 m. Three of the diamond-drill holes intersected base metal mineralization.

In 1987, Umex Inc. did ground magnetometer and electromagnetic surveys over the occurrence area.

In 1989, Umex Inc. did airborne magnetometer and electromagnetic surveys over the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill holes, B-44-72-6, B-44-72-7, B-44-72-9 intersected several narrow intervals of base metal sulphide mineralization in a succession of metasediments. The concentrations of base metal sulphides occur in rocks described as black argillaceous sediments. The base metal sulphides reported are in decreasing abundance of sphalerite, chalcopyrite and galena. These are associated with larger concentration of pyrrhotite and pyrite.

The sulphides are associated with east-trending geophysical anomalies.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: metasediments

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** amphibole-chlorite-chert-garnet-argillite

2) magnetite-sulphide iron formation
3) feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite

2) pyrite

3) sphalerite

4) chalcopyrite

5) galena

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

No assays were reported for this occurrence. The log for diamond-drill hole B-44-72-7 records a 43 cm interval of 50% - 60% sulphides. The sulphides were 80% Po, 10% Py, 5% - 8% sphalerite with traces of chalcopyrite and galena.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0013-B1 52O/06SW-0012-B1 52O/06SW-0013
52O/03NW-0040 52O/03NW-0057

DEPOSIT NAME: Kawashe Lake #3

NTS AREA: 52O/06SE **MDI #: KP1085**

ALTERNATE NAMES: 1) Drum Lake area grid 30

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 15' 03" **LONGITUDE:** 91° 05' 31"

UTM ZONE: 15 **NORTHING:** 5679235 **EASTING:** 633171

LOCATION: This occurrence is located about 63.5 km south-southwest of Pickle Lake and about 13 km south of the Golden Patricia mine. The occurrence is 3 km southwest of Jacknife Lake.

ACCESS: There are no lakes within 2 km that are suitable for float- or ski-equipped aircraft. Helicopter accessing of this occurrence is recommended.

EXPLORATION AND DEVELOPMENT HISTORY

In 1970 and 1971, a joint venture funded by Cochenour Willans Gold Mines Ltd., and Selco Mining Corporation Ltd. conducted an exploration program that discovered this occurrence. The exploration program consisted of ground magnetometer and electromagnetic surveys, and several diamond-drill holes, some of which intersected base metal mineralization.

In 1973 Union Miniere Explorations and Mining Corporation Limited commissioned an airborne magnetometer which included the area of the occurrence.

In 1987, Beaufield Resources Inc. did ground magnetometer, electromagnetic and geological surveys on claims covering the occurrence.

DEPOSIT GEOLOGY

Several of the joint venture diamond-drill holes intersected a narrow base metal sulphide zone at the contact between a mafic metavolcanic unit and a metagreywacke unit. The sulphide zone is comprised of mostly pyrrhotite and pyrite with lesser amounts of chalcopyrite, sphalerite and galena.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: contact zone

HOST ROCK: mafic metavolcanics / metasediments

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite **3)** chalcopyrite **4)** sphalerite

5) galena

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

No assays are reported for this occurrence. Massive sulphide concentrations were reported in several diamond-drill holes. the thickest intersection (38 cm) was comprised of 85% Po, 2% - 5% Cp, 5%-10% Gn, 0.5% - 1% Sp.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0014 52O/06SE-0017 52O/06SE-0045
52O/07SW-0015

DEPOSIT NAME: Kawashe Lake #4

NTS AREA: 52O/06SE **MDI #: KP1086**

ALTERNATE NAMES: 1) Power Explorations' Muskeg Lake area #1

2) Muskeg Lake property

3) Area #1

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 25" **LONGITUDE:** 91° 06' 09"

UTM ZONE: 15 **NORTHING:** 5689151 **EASTING:** 632178

LOCATION: This occurrence is located about 63 km south-southwest of Pickle Lake and about 3.7 km southeast of the Golden Patricia mine. The occurrence is in a group of intersections from diamond-drill holes spotted in the mouth of a small bay at the northeast end of Muskegsagagen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Muskegsagagen Lake. The Golden Patricia mine to the northwest has an all-weather air strip and is serviced by a winter road which passes northeast of Muskegsagagen Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and

electromagnetic surveys, geological mapping, rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 36 diamond-drill holes, totalling 3448.8 m, on a claim group covering the occurrence. A fence of 5 diamond-drill holes tested the occurrence.

DEPOSIT GEOLOGY

Three of the 5 diamond-drill holes that tested this occurrence intersected narrow gold-bearing zones at the contacts between mafic metavolcanic flows and quartz-feldspar porphyry intrusions. The gold-bearing contacts between the 2 rock types are silicified and sericitized and, in the case of the richest intersection, sheared. The gold-bearing zones typically contain 2% - 5% pyrite, but the highest grade assay was reported from a zone containing an estimated 20% pyrite. In all the intersections, the quartz-
feldspar porphyry intrusions contain disseminated pyrite mineralization and return anomalous gold values when assayed.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification 2) sericitization

ECONOMIC FEATURES

The assay values for the diamond-drill hole intersections that make up this occurrence

are:

	From	To	Length	Ounce Au per ton
MM-87-20	125.1' (38.13 m)	126.3' (38.49 m)	1.2' (0.36 m)	0.054
MM-87-21	152.9' (46.60 m)	154.6' (47.12 m)	1.7' (0.52 m)	0.039
	154.6' (47.12 m)	156.2' (47.61 m)	1.6' (0.49 m)	0.039
	156.2' (47.61 m)	157.7' (48.07 m)	1.5' (0.47 m)	0.066
MM-87-22	355.0' (108.20 m)	356.2' (108.57 m)	1.2' (0.37 m)	0.091

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0022 52O/06SE-0035
52O/06SE-0037 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #5

NTS AREA: 52O/06SE **MDI #: KP1087**

ALTERNATE NAMES: **1)** Power Explorations' Muskeg Lake area 2

2) Muskeg Lake Property

3) Area #2

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 47" **LONGITUDE:** 91° 06' 45"

UTM ZONE: 15 **NORTHING:** 5689802 **EASTING:** 631466

LOCATION: This occurrence is located about 63 km south-southwest of Pickle Lake and about 2.75 km south of the Golden Particia mine. This occurrence was intersected in a diamond-drill hole, spotted 1.1 km north of the southern tip of the peninsula, on the north shore of Muskegsagagen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Muskegsagagen Lake and then a traverse overland north to the occurrence. The Golden Patricia mine to the northwest has an all-weather air strip and is serviced by a winter road which passes northeast of Muskegsagagen Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd.,

669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 36 diamond-drill holes, totalling 3448.8 m, on a claim group covering the occurrence. The discovery hole for this occurrence was diamond-drill hole MM-86-4.

DEPOSIT GEOLOGY

In diamond-drill hole MM-86-4, assay values of gold occurrence levels were returned from 2 intervals of core. Both intervals are within a unit of chert-magnetite iron formation. The two intervals are separated by a quartz-feldspar porphyry intrusive which itself is mineralized with disseminated pyrite and quartz stringers containing galena.

The higher grade of the 2 intervals contains about 2% pyrite, 1% pyrrhotite and traces of arsenopyrite. The lower grade interval contains 2% - 3% pyrite. The sulphides in the iron formation may be alteration products.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) sulpidization

ECONOMIC FEATURES

The assays reported in diamond-drill hole MM-86-4 that comprise this occurrence are:

From	To	Length	Ounce Au per ton
149.1' (45.44 m)	151.5' (46.18 m)	2.4' (0.74 m)	0.16
151.5' (46.18 m)	153.9 (46.92 m)	2.4' (0.74 m)	0.05
172.9' (52.70 m)	174.4' (53.16 m)	1.5' (0.46 m)	0.04

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0022 52O/06SE-0035
52O/06SE-0037 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #6

NTS AREA: 52O/06SE **MDI #: KP1088**

ALTERNATE NAMES: **1)** Power Explorations' Muskeg Lake area 4

2) Muskeg Lake

3) Area #4

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake

LATITUDE: 51° 20' 41" **LONGITUDE:** 91° 07' 40"

UTM ZONE: 15 **NORTHING:** 5689600 **EASTING:** 630399

LOCATION: This occurrence is located about 65 km south-southwest of Pickle Lake and about 2.5 km south of the Golden Particia mine. This occurrence was intersected in diamond-drill holes spotted near the eastern shore of the northwest bay of Muskegsagagen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Muskegsagagen Lake. The Golden Patricia mine to the northwest has an all-weather air strip and is serviced by a winter road which passes northeast of Muskegsagagen Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and

electromagnetic surveys, geological mapping, and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 36 diamond-drill holes, totalling 3448.8 m, on a claim group covering the occurrence. The discovery diamond-drill holes for this occurrence were MM-86-1 and MM-87-25.

DEPOSIT GEOLOGY

This occurrence consists of 2 distinct diamond-drill hole intersections in 2 diamond-drill holes in collared close proximity to each other.

In MM-86-1, an assay value of 0.05 ounce Au per ton over 24 cm reported from an interval of folded iron formation followed by sheared mafic metavolcanic. Quartz stringers cut the iron formation. The core of the mafic metavolcanic was broken and ground.

In MM-87-25, an assay value of 0.03 ounce Au per ton over 94 cm reported from a sample of mafic metavolcanic at the top of the hole.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation and mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See deposit geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0022 52O/06SE-0035
52O/06SE-0037 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #7

NTS AREA: 52O/06SE **MDI #: KP1089**

ALTERNATE NAMES: 1) Kawashe Lake Property

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake

LATITUDE: 51° 19' 14" **LONGITUDE:** 91° 04' 24"

UTM ZONE: 15 **NORTHING:** 5687019 **EASTING:** 634261

LOCATION: This occurrence is located about 61 km west-southwest of Pickle Lake and about 6.5 km southeast of the Golden Patricia Mine. The diamond-drill hole which intersected this occurrence was spotted about 150 m north of a small un-named lake located midway between Muskegsagagen Lake and Kaminiskag Lake.

ACCESS: The small un-named lake south of the diamond-drill hole location is not suitable for float- or ski-equipped aircraft. Muskegsagagen Lake and Kaminiskag Lake are suitable for float- or ski-equipped aircraft. The winter road to the Golden Patricia mine passes about 2.3 km northeast of the diamond-drill hole location.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 42 diamond-drill holes, totalling 3824.8

m, on a claim group covering the occurrence. The discovery diamond-drill hole for this occurrence was KW-86-8. Four (4) subsequent diamond-drill holes tested this occurrence without encountering significant gold mineralization.

DEPOSIT GEOLOGY

Diamond-drill hole KW-86-8 intersected a succession of interlayered mafic metavolcanics, banded chert-magnetite iron formation and meta-mudstone. A highly folded and brecciated interval of one iron formation unit returned an averaged assay of 0.107 ounce Au per ton over 1.92 m. The gold-bearing interval is described in the drill log as a "highly folded and brecciated collection of discontinuous bands of magnetite, chert, and chlorite offset along small quartz-carbonate stringers." The interval contained 5% - 10% pyrrhotite. The iron formation above and below the interval assayed lower gold values.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) metasediments

ECONOMIC MINERALS

1) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

The significant assay results from KW-86-8 reported as follows:

From	To	Length	Ounce Au per ton
218.3' (66.54 m)	219.7' (66.96 m)	1.4' (0.42 m)	0.02
219.7' (66.96 m)	221.8' (67.60 m)	2.1' (0.64 m)	0.03*
221.8' (67.60 m)	223.9' (68.24 m)	2.1' (0.64 m)	0.14*
223.9' (68.24 m)	226.0' (68.88 m)	2.1' (0.64)	0.15*
226.0' (68.88 m)	229.1' (69.83 m)	3.1' (0.95 m)	tr. **
229.1' (69.83 m)	230.6' (70.29 m)	1.5' (0.46 m)	0.04
230.6' (70.29 m)	233.0 (71.02 m)	2.4' (0.73 m)	0.02

* averaged interval
** not iron formation

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0023 52O/06SE-0036
52O/06SE-0038 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #8

NTS AREA: 52O/06SE **MDI #: KP1090**

ALTERNATE NAMES: 1) Kam Lake

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 19' 40" **LONGITUDE:** 91° 02' 26"

UTM ZONE: 15 **NORTHING:** 5687891 **EASTING:** 636516

LOCATION: This occurrence is located about 59.5 km west-southwest of Pickle Lake and 7.7 km southeast of the Golden Patricia mine. A diamond-drill hole spotted near the southwest shore of the second small un-named lake north of Kaminiskag Lake intersected the occurrence.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Kaminiskag Lake. The small lake may be suitable for helicopter landing. A winter road to the Golden Patricia Mine passes about 1 km north of the site of the diamond-drill hole.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1984, Noranda Exploration Company, Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, and rock and soil geochemical sampling along a pace and compass, flagged-line grid.

In 1985, Noranda Exploration Company, Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and a basal till sampling program along a cut-line grid.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne

magnetometer and electromagnetic surveys over the occurrence area.

In 1987, Noranda Exploration Company, Ltd. drilled 4 diamond-drill holes, totalling 320 m, on a claim group which covered the occurrence. diamond-drill hole KL-87-1 intersected the occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole KL-87-1 cut a succession of interbedded clastic metasediments and iron formation. The clastic metasediments were immature and were probably derived from mafic volcanics. A 1.6 m interbed of a lean iron formation assayed 1.89 g/t Au. The interbed contained 4% - 5% pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) metasediments

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See deposit geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0019
52O/06SE-0034
52O/06SE-0048
52O/03SE-0021-A1
52O/03SE-0040
52O/06SW-0017
52O/06SE-0028-A1
52O/06SE-0042

DEPOSIT NAME: Kawashe Lake #9

NTS AREA: 52O/06SE **MDI #: KP1091**

ALTERNATE NAMES: 1) Power Explorations' Muskeg Lake area 3

2) Muskeg Lake Property

3) Area #3

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 44" **LONGITUDE:** 91° 06' 57"

UTM ZONE: 15 **NORTHING:** 5689707 **EASTING:** 631233

LOCATION: This occurrence is located about 63 km south-southwest of Pickle Lake and about 2.75 km south of the Golden Particia mine. This occurrence was intersected in a diamond-drill hole spotted 1.0 km N of the southern tip of the peninsula on the north shore of Muskegsagagen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Muskegsagagen Lake and then a traverse overland north to the occurrence. The Golden Patricia mine to the northwest has an all-weather air strip and is serviced by a winter road which passes northeast of Muskegsagagen Lake.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd.,

669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 36 diamond-drill holes, totalling 3448.8 m, on a claim group covering the occurrence. The discovery hole for this occurrence was diamond-drill hole MM-87-24.

DEPOSIT GEOLOGY

Diamond-drill hole MM-87-24 intersected a gold-bearing zone an a thin iron formation bed and in the adjacent mafic metavolcanics down hole. The iron formation is described as appearing heavily weathered with limonite staining. It contains 5% pyrite. The surrounding mafic metavolcanic is described as chlorite-quartz schist with up to 3% disseminated pyrite. The chlorite quartz schist is locally sericitic and contains a mineral identified by the core-logger as fuchsite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation and chlorite-quartz schist

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) sericite **2)** quartz

3) fuchsite

ECONOMIC FEATURES

The assays reported in diamond-drill hole MM-86-24 that comprise this occurrence are:

From	To	Length	Ounce Au per ton
111.7' (34.05 m)	112.8' (34.38 m)	1.1' (0.33 m)	0.035
112.8' (34.38 m)	116.0' (35.36 m)	3.2' (0.98 m)	0.034

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0022 52O/06SE-0035
52O/06SE-0037 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #10

NTS AREA: 52O/06SE **MDI #: KP1092**

ALTERNATE NAMES: 1) Kawashe Lake Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 19' 18" **LONGITUDE:** 91° 04' 39"

UTM ZONE: 15 **NORTHING:** 5687142 **EASTING:** 633958

LOCATION: This occurrence is located about 61 km west-southwest of Pickle Lake and about 6.25 km southeast of the Golden Patricia mine. The diamond-drill hole which intersected this occurrence was spotted about 1.75 km southeast of Muskegsagagen Lake and 1.5 km northwest Kaminiskag Lake.

ACCESS: Muskegsagagen Lake and Kaminiskag Lake are suitable for float- or ski-equipped aircraft. The winter road to the Golden Patricia mine passes about 2.3 km northeast of the diamond-drill hole location.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 42 diamond-drill holes, totalling 3824.8

m, on a claim group covering the occurrence. The discovery diamond-drill hole for this occurrence was KW-86-5.

DEPOSIT GEOLOGY

Diamond-drill hole KW-86-5 intersected a gold-bearing zone within a mafic metavolcanic flow. An occurrence grade assay value of 0.03 ounce Au per ton reported from the last 61 cm of a 4.27 m interval of core exhibiting abundant quartz-carbonate stringers, minor carbonate and 1% - 2% disseminated and stringer pyrrhotite. This interval of core is at the contact of the mafic metavolcanic flow with metagreywacke.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** metasediments

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) quartz-carbonate stringers **2)** carbonate

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0023 52O/06SE-0036
52O/06SE-0038 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #11

NTS AREA: 52O/06SE **MDI #: KP1093**

ALTERNATE NAMES: 1) Kawashe Lake Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 19' 24" **LONGITUDE:** 91° 04' 12"

UTM ZONE: 15 **NORTHING:** 5687343 **EASTING:** 634481

LOCATION: This occurrence is located about 60 km west-southwest of Pickle Lake and about 6.5 km southeast of the Golden Patricia mine. The diamond-drill hole which intersected this occurrence was spotted about 80 m south of a small un-named lake which is located 1.6 km southeast of Muskegsagagen Lake and 1.75 km northwest of Kaminiskag Lake.

ACCESS: Muskegsagagen Lake and Kaminiskag Lake are suitable for float- or ski-equipped aircraft. The winter road to the Golden Patricia mine passes about 1.75 km northeast of the diamond-drill hole location.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 42 diamond-drill holes, totalling 3824.8 m, on a claim group covering the occurrence. The discovery diamond-drill hole for this occurrence was KW-86-11.

DEPOSIT GEOLOGY

Diamond-drill hole KW-86-11 intersected gold mineralization of occurrence grade in 2 sections of core. The upper intersection reported an assay value of 0.03 ounce Au per ton over 0.91 m. The intersection was the first 91 cm of a 6.31 m altered shear zone within a mafic metavolcanic flow. The shear zone had moderate to extensive fracturing along the foliation planes and contained up to 30% chlorite, 5% - 10% quartz augens, abundant quartz-carbonate stringers, 2% - 3% limonitic staining and traces of disseminated pyrite.

The lower intersection reported an assay value of 0.03 ounce Au per ton over 0.18 m in a mafic metavolcanic flow. The drill log does not indicate the intersection had any special characteristic other than containing 2% - 3% pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: mafic metavolcanic

OTHER ASSOCIATED ROCK TYPES: **1)** iron formation

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) quartz-carbonate stringers **2)** carbonate

3) chlorite

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0023 52O/06SE-0036
52O/06SE-0038 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #12

NTS AREA: 52O/06SE **MDI #: KP1094**

ALTERNATE NAMES: 1) Kawashe Lake Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 19' 19" **LONGITUDE:** 91° 04' 15"

UTM ZONE: 15 **NORTHING:** 5687161 **EASTING:** 634434

LOCATION: This occurrence is located about 60 km west-southwest of Pickle Lake and about 6.5 km southeast of the Golden Patricia mine. The diamond-drill hole which intersected this occurrence was spotted about 250 m south of a small un-named lake which is located 1.6 km southeast of Muskegsagagen Lake and 1.75 km northwest of Kaminiskag Lake.

ACCESS: Muskegsagagen Lake and Kaminiskag Lake are suitable for float- or ski-equipped aircraft. The winter road to the Golden Patricia mine passes about 1.75 km northeast of the diamond-drill hole location.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986, joint ventures funded by Power Explorations Inc., Moss Resources Ltd., 669977 Ontario Ltd. and Oracle Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemistry surveys on a claim group covering the occurrence.

In 1986 and 1987, Power Explorations Inc. did 42 diamond-drill holes, totalling 3824.8 m, on a claim group covering the occurrence. The discovery diamond-drill hole for this occurrence was KW-86-15.

DEPOSIT GEOLOGY

Diamond-drill hole KW-86-15 intersected gold mineralization of occurrence grade in 1 section of core. The intersection reported an assay value of 0.03 ounce Au per ton over 0.91 m. The intersection was in a mafic metavolcanic flow at a contact with a mafic dike. The drill log does not indicate the intersection had any other special characteristics other than containing traces of pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) iron formation

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0023 52O/06SE-0036
52O/06SE-0038 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #13

NTS AREA: 52O/06SE **MDI #: KP1095**

ALTERNATE NAMES: 1) Santa Maria's Muskeg Lake area 3

2) Muskeg Lake Property

3) Area #3

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 47" **LONGITUDE:** 91° 10' 02"

UTM ZONE: 15 **NORTHING:** 5689731 **EASTING:** 627641

LOCATION: This occurrence is located about 67 km west-southwest of Pickle Lake and about 3.25 km southwest of the Golden Patricia mine. The occurrence was intersected in a diamond-drill hole which was spotted about 500 m south of the Obaskaka River and 900 m west of Muskegsagagen Lake.

ACCESS: This occurrence may be accessed by an appropriately equipped aircraft to Muskegsagagen Lake and a traverse overland to the drill hole site. The Golden Patricia mine to the northeast is serviced by an all-weather airstrip and a winter road.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. bored 3 diamond-drill holes in the vicinity of the occurrence as part of a large follow up program to a regional airborne geophysical survey flown in 1971.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986 and 1987, Santa Maria Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, humus geochemical sampling and a 32-hole, 4028 m diamond-drill program on a claim group that covered this occurrence. The occurrence was intersected by diamond-drill hole SMM-86-5.

In 1989, Santa Maria Resources Ltd. did magnetometer and electromagnetic surveys over new claims covering the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill hole SMM-86-5 intersected a 15 cm wide section of brecciated chert filled with chlorite stringers within a 5.85 m wide bedded chert unit. The 15 cm wide section of brecciated chert reported an assay value of 0.05 ounce Au per ton. The drill log does not specifically report sulphides with the brecciated chert, but indicates that the main chert unit contains 5% pyrrhotite and 1% pyrite throughout.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: brecciated chert

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) metasediments

3) felsic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) chlorite

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District.

52O/06SE-0021-A1 52O/06SE-0040 52O/06SE-0042
52O/06SE-0046 52O/06SE-0064 52O/06SE-0066
52O/06SW-0017 52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #14

NTS AREA: 52O/06SE **MDI #: KP1096**

ALTERNATE NAMES: 1) Santa Maria's Muskeg Lake area 3

2) Muskeg Lake Property

3) Area #3

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 52" **LONGITUDE:** 91° 10' 06"

UTM ZONE: 15 **NORTHING:** 5689858 **EASTING:** 627575

LOCATION: This occurrence is located about 67 km west-southwest of Pickle Lake and about 3.2 km southwest of the Golden Patricia mine. The occurrence was intersected in a diamond-drill hole which was spotted about 400 m south of the Obaskaka River and 900 m west of Muskegsagagen Lake.

ACCESS: This occurrence may be accessed by an appropriately equipped aircraft to Muskegsagagen Lake and a traverse overland to the drill hole site. The Golden Patricia mine to the northeast is serviced by an all-weather airstrip and a winter road.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. drilled 3 holes in the vicinity of the occurrence as part of a large follow up program to a regional airborne geophysical survey flown in 1971.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986 and 1987, Santa Maria Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, humus geochemical sampling and a 32-hole, 4028 m, diamond-drill program on a claim group that covered this occurrence. The occurrence was intersected by diamond-drill hole SMM-86-6.

In 1989, Santa Maria Resources Ltd. did magnetometer and electromagnetic surveys over new claims covering the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill hole SMM-86-6 intersected 17.2 m of lean iron formation within a succession of mafic to felsic metavolcanics and clastic and chemical metasediments. All of the iron formation assayed trace gold except for a 0.91 m sample which reported 0.03 ounce Au per ton. The drill log does not contain a specific description of the sample interval. The iron formation is reported to contain about 5% pyrrhotite and 2% pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) metasediments

3) felsic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District.

52O/06SE-0021-A1
52O/06SE-0040
52O/06SE-0042
52O/06SE-0046
52O/06SE-0064
52O/06SE-0066
52O/06SW-0017
52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #15

NTS AREA: 52O/06SE **MDI #: KP1097**

ALTERNATE NAMES: 1) Muskeg Lake Property

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 39" **LONGITUDE:** 91° 10' 10"

UTM ZONE: 15 **NORTHING:** 5689461 **EASTING:** 627497

LOCATION: This occurrence is located about 67 km west-southwest of Pickle Lake and about 3.5 km southwest of the Golden Patricia mine. The occurrence was intersected in a diamond-drill hole which spotted about 750 m south of the Obaskaka River and 1400 m west of Muskegsagagen Lake.

ACCESS: This occurrence may be accessed by an appropriately equipped aircraft to Muskegsagagen Lake and a traverse overland to the drill hole site. The Golden Patricia mine to the northeast is serviced by an all-weather airstrip and a winter road.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. bored 3 diamond-drill holes in the vicinity of the occurrence as part of a large follow up program to a regional airborne geophysical survey flown in 1971.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986 and 1987, Santa Maria Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, humus geochemical sampling and a 32-hole, 4028 m, diamond-drill program on a claim group that covered this occurrence. The occurrence was intersected by diamond-drill hole SMM-86-7.

In 1989, Santa Maria Resources Ltd. did magnetometer and electromagnetic surveys over new claims covering the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill hole SMM-86-7 intersected 2 gold-bearing zones within mafic metavolcanics. The upper zone assayed 0.03 ounce Au per ton over 0.15 m. The sample interval is described as mafic metavolcanic containing a series of small pyrite stringers (2% - 3%) parallel to the foliation. The lower zone assayed 0.03 ounce Au per ton over 0.91 m. The sample interval came from a 20.45 section of mafic metavolcanic which contained 3% pyrite and 2% pyrrhotite in stringers and disseminated throughout. Other samples of the mineralized mafic metavolcanic reported anomalous gold values.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** tonalite

2) gabbro

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0040 52O/06SE-0042
52O/06SE-0046 52O/06SE-0064 52O/06SE-0066
52O/06SW-0017 52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #16

NTS AREA: 52O/06SE **MDI #: KP1098**

ALTERNATE NAMES: 1) Santa Maria's Muskeg Lake area 1

2) Muskeg Lake Property

3) Area #1

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 26" **LONGITUDE:** 91° 10' 14"

UTM ZONE: 15 **NORTHING:** 5689049 **EASTING:** 627426

LOCATION: This occurrence is located about 67 km west-southwest of Pickle Lake and about 3.8 km southwest of the Golden Patricia mine. The occurrence was first intersected in a diamond-drill hole which was spotted about 1300 m south of the Obaskaka River and 1700 m west of Muskegsagagen Lake.

ACCESS: This occurrence may be accessed by an appropriately equipped aircraft to Muskegsagagen Lake and a traverse overland to the drill hole site. The Golden Patricia mine to the northeast is serviced by an all-weather airstrip and a winter road.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. drilled 3 holes in the vicinity of the occurrence as part of a large follow-up program to a regional airborne geophysical survey flown in 1971.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986 and 1987, Santa Maria Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, humus geochemical sampling and a 32-hole, 4028 m diamond-drill program on a claim group that covered this occurrence. The occurrence was intersected by diamond-drill holes SMM-86-8 and SMM-87-5.

In 1989, Santa Maria Resources Ltd. did magnetometer and electromagnetic surveys over new claims covering the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill holes SMM-86-8 and SMM-87-5 intersected gold- bearing, quartz vein mineralization hosted in a mafic metavolcanic tuff. The holes were spotted about 60 m apart. If the gold- bearing, quartz vein mineralization represents a single vein, the vein trends north to north-northwest. In SMM-86-8, the gold-bearing quartz vein contains 20% chlorite stringers and 5% pyrite. In SMM-87-5, the gold-bearing quartz vein contains traces of carbonate and less than 1% pyrite blebs disseminated along fracture surfaces.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

The assay results for the intersections of this occurrence are as follows:

	From	To	Length	Ounce Au per ton
SMM-86-8	46.0' (14.02 m)	47.1' (14.36 m)	1.1' (0.34 m)	0.10
SMM-87-5	93.1' (28.38 m)	93.7' (28.56 m)	0.6' (0.18 m)	0.07

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District.

52O/06SE-0021-A1 52O/06SE-0040 52O/06SE-0042
52O/06SE-0046 52O/06SE-0064 52O/06SE-0066
52O/06SW-0017 52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #17

NTS AREA: 52O/06SE **MDI #: KP1099**

ALTERNATE NAMES: 1) Santa Maria's Muskeg Lake area 2

2) Muskeg Lake Property

3) Area #2

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 07" **LONGITUDE:** 91° 09' 40"

UTM ZONE: 15 **NORTHING:** 5688507 **EASTING:** 628106

LOCATION: This occurrence is located about 67 km west-southwest of Pickle Lake and about 4.0 km south-southwest of the Golden Patricia mine. The occurrence was intersected in a diamond-drill hole which spotted about 1750 m south of the Obaskaka River and 1500 m west of Muskegsagagen Lake.

ACCESS: This occurrence may be accessed by an appropriately equipped aircraft to Muskegsagagen Lake and a traverse overland to the drill hole site. The Golden Patricia mine to the north-northeast is serviced by an all-weather airstrip and a winter road.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. did 3 diamond-drill holes in the vicinity of the occurrence as part of a large follow-up program to a regional airborne geophysical survey flown in 1971.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence area.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. commissioned separate airborne magnetometer and electromagnetic surveys over the occurrence area.

In 1986 and 1987, Santa Maria Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping, humus geochemical sampling and a 32-hole, 4028 m diamond-drill program on a claim group that covered this occurrence. The occurrence was intersected by diamond-drill hole SMM-87-8.

In 1989, Santa Maria Resources Ltd. did magnetometer and electromagnetic surveys over new claims covering the occurrence area.

DEPOSIT GEOLOGY

Diamond-drill hole SMM-87-8 intersected a gold-bearing, sheared, mafic intrusive which reported an assay value of 0.06 ounce Au per ton over 30 cm. The intrusive is described in the drill log as being brownish grey and composed of predominantly fine-grained amphibole with 15% - 20% biotite flakes and wisps, and 5% -10% fine-grained chlorite and chlorite wisps. The intrusive is moderately fractured parallel to the foliation and contains no visible sulphides.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: mafic intrusive

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanic flow

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1 52O/06SE-0040 52O/06SE-0042
52O/06SE-0046 52O/06SE-0064 52O/06SE-0066
52O/06SW-0017 52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #18

NTS AREA: 52O/06SE **MDI #: KP1100**

ALTERNATE NAMES: 1) Muskegsagagen Lake

DEPOSIT STATUS: Basal till anomaly

COMMODITIES: Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 18' 51" **LONGITUDE:** 91° 07' 47"

UTM ZONE: 15 **NORTHING:** 5686204 **EASTING:** 630340

LOCATION: This occurrence is located about 70 km south-southwest of Pickle Lake and about 5.7 km south of the Golden Patricia mine.
The occurrence is located about 1.5 km south of Muskegsagagen Lake and 3.5 km east of Obaskaka Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Muskegsagagen Lake and then traversing overland south to the occurrence. The winter road to the golden Particia Mine passes about 5.75 km to the northeast of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Inc. drilled a diamond-drill hole to the northeast of the occurrence as part of a large program to follow up a large airborne geophysical survey.

In 1978, Cominco Ltd. commissioned an airborne geophysical survey which covered the occurrence.

In 1979, Cominco Ltd. did ground magnetometer and electromagnetic and gravimetric surveys near the occurrence.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over the occurrence.

In 1985, St. Joe Canada Inc. did ground geophysical surveys north of the occurrence and drilled 5 diamond-drill holes, totalling 2815 m.

In 1986, Geocanex Ltd. commisssioned airborne magnetometer and electromagnetic surveys which covered the occurrence area.

In 1987, Massive Resources Ltd. did ground magnetometer and electromagnetic surveys, geological mapping and a basal till sampling survey over the occurrence area. This occurrence was discovered by the basal till survey.

In 1989, Bond Gold Canada Inc. did a geological mapping program north of the occurrence.

DEPOSIT GEOLOGY

This occurrence was discovered in a basal till sample which reported an anaytical result of 7500 ppm zinc. Geological mapping for Massive Resources Ltd. indicated the occurrence to be underlain by mafic metavolcanics. Stott and Wilson (1986) indicate an intermediate-to-felsic metavolcanic contact with mafic metavolcanic in the vicinity of the occurrence. The occurrence is associated with an electromagnetic anomaly.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: basal till

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) intermediate to felsic metavolcanics

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's Office, Sioux Lookout District,

52O/06SE-0021-A1	52O/06SE-0027	52O/06SE-0040
52O/06SE-0054	52O/06SE-0058	52O/06SE-0062
52O/06SW-0015	52O/06SW-0017	52O/09SE-0035

DEPOSIT NAME: Kawashe Lake #19

NTS AREA: 52O/06SE **MDI #: KP1101**

ALTERNATE NAMES: 1) Dobie River Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 22' 01" **LONGITUDE:** 91° 14' 55"

UTM ZONE: 15 **NORTHING:** 5691880 **EASTING:** 621918

LOCATION: This occurrence is located about 73 km west-southwest of Pickle Lake and about 8 km west of the Golden Patricia mine. It is 2.3 km northeast of the northeast end of Nabemakoseka Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Nabemakoseka Lake, the Dobie River or one of the smaller lakes near the occurrence and then a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1978, Cominco Ltd. commissioned an airborne magnetometer survey which covered this occurrence.

In 1979, Cominco Ltd. did ground magnetometer, electromagnetic and gravity surveys which may cover the occurrence.

In 1981, Cominco Ltd. did a 3 hole diamond-drilling program totalling 284.7 m near this occurrence.

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which covered the occurrence area.

In 1987, a joint venture between North American Rare Metals Ltd. and Power Explorations Inc. did ground magnetometer and electromagnetic surveys on a claim

group which covered this occurrence.

In 1988, the above joint venture expanded to include Osisko Lake Minerals Ltd.. This group drilled 29 holes, totalling 2939.8 m, in the area. Diamond-drill hole DR-88-13 intersected gold mineralization at the end of the hole.

DEPOSIT GEOLOGY

Diamond-drill hole DR-88-13 intersected 0.039 ounce Au per ton in the last 1.52 m of the hole. The value was not repeated in check assays and may represent a false assay or nugget effect. The diamond-drill hole ended in an intermediate metavolcanic, and no special features are noted for the assay interval.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: intermediate metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) felsic intrusive

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's Office, Sioux Lookout District

52O/06SE-0015-A1 52O/06SE-0040 52O/06SE-0042

52O/06SW-0015	52O/06SW-0017	52O/06NW-0026
52O/06NW-0037	52O/07SW-0014	

DEPOSIT NAME: Kawashe Lake #20

NTS AREA: 52O/06SE **MDI #: KP1102**

ALTERNATE NAMES: 1) Billett Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 17' 26" **LONGITUDE:** 91° 05' 20"

UTM ZONE: 15 **NORTHING:** 5683661 **EASTING:** 633262

LOCATION: This occurrence is located about 64 km west-southwest of Pickle Lake and 9 km south-southeast of the Golden Patricia mine. It is located about 600 m northwest of the west end of Kawashe Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Kawashe Lake and then a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey which covered the occurrence area.

In 1986, Geocanex Ltd. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence.

In 1987 St. Joe Canada Inc. commissioned airborne electromagnetic and magnetometer surveys over a claim group on which the occurrence is found.

In 1988, Bond Gold Canada Inc. did a program of geological mapping and 7 diamond-drill holes, totalling 735.6 m. Diamond-drill hole JBI-88-26 intersected this occurrence.

DEPOSIT GEOLOGY

The only information available on this occurrence is the diamond-drill log for JBI-88-26 without sample intervals or numbers indicated, and a separate assay report which indicates an assay result of 0.03 ounce Au per ton for an unknown interval. Gabbro and feldspar porphyry are the rock types mentioned in the drill log.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: not known

HOST ROCK: not known

OTHER ASSOCIATED ROCK TYPES: **1)** gabbro

2) feldspar porphyry

ECONOMIC MINERALS

1) not known

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1	52O/06SE-0042	52O/06SE-0063
52O/06SE-0065	52O/06SE-0076	52O/06SE-0080
52O/06SW-0017	52O/08NW-0026	

DEPOSIT NAME: Kawashe Lake #21

NTS AREA: 52O/06SE **MDI #: KP1103**

ALTERNATE NAMES: 1) Billet Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 18' 05" **LONGITUDE:** 91° 06' 37"

UTM ZONE: 15 **NORTHING:** 5684815 **EASTING:** 631735

LOCATION: This occurrence is located about 64 km west-southwest of Pickle Lake and 7.5 km south-southeast of the Golden Patricia mine. It is located about 1720 m north of the northeast tip of Billet Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Billet Lake and then a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey which covered the occurrence area.

In 1986, Geocanex Ltd. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence area.

In 1987 St. Joe Canada Inc. commissioned airborne electromagnetic and magnetometer surveys over a claim group on which the occurrence is found.

In 1988, Bond Gold Canada Inc. did a program of geological mapping and 7 diamond-drill holes, totalling 735.6 m. Diamond-drill hole JBI-88-28 intersected this occurrence.

DEPOSIT GEOLOGY

The only information available on this occurrence is the diamond-drill log for JBI-88-28 without sample intervals or numbers indicated, and a separate assay report which indicates an assay result of 0.03 ounce Au per ton for an unknown interval. Gabbro, and mixed clastic and chemical metasediments are the rock types mentioned in the drill log.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: not known

HOST ROCK: not known

OTHER ASSOCIATED ROCK TYPES: **1)** gabbro

2) metasediments

ECONOMIC MINERALS

1) not known

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1	52O/06SE-0042	52O/06SE-0063
52O/06SE-0065	52O/06SE-0076	52O/06SE-0080
52O/06SW-0017	52O/08NW-0026	

DEPOSIT NAME: Esker Zone

NTS AREA: 52O/06SE **MDI #: KP1104**

ALTERNATE NAMES: 1) Kawashe Lake # 22

DEPOSIT STATUS: Drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 40" **LONGITUDE:** 91° 04' 23"

UTM ZONE: 15 **NORTHING:** 5689672 **EASTING:** 634218

LOCATION: The Esker Zone is located about 61 km west-southwest of Pickle Lake and about 4.75 km east-southeast of the Golden Patricia mine. The centre of the zone is about 550 m northeast of the northeast shore of Muskegsagagen Lake.

ACCESS: Access to this occurrence is best gained through the Golden Patricia mine which is serviced by an all-weather airstrip and a winter road from Pickle Lake. Appropriately equipped aircraft may land on Muskegsagagen lake to the southwest of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered through a diamond-drill program done in 1988 by St. Joe Canada Inc./Bond Gold Canada Inc.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over an area including the occurrence. This was followed up with a ground magnetometer survey over an area includung the occurrence.

In 1985, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys and diamond-drilling around the occurrence.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. did separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1986, St. Joe Canada Inc. continued diamond-drilling around the occurrence.

In 1988, St. Joe Canada Inc./Bond Gold Canada Inc. did additional geophysical surveys around the occurrence and did the diamond-drilling which located and defined the Esker Zone.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling on and around the Esker Zone.

DEPOSIT GEOLOGY

The Esker Zone is 2 zones of gold mineralization in close proximity to each other. The first zone of gold mineralization is contained within a silicified and sulphidized portion of an iron formation horizon. The iron formation occurs in a succession of mafic metavolcanic flows. The Esker Zone occur in a thicker portion of the ironformation and has a strike length of 60 m. A fold closure may have caused the thickening of the iron formation. Quartz-feldspar porphyry intrusives cut the mafic metavolcanic flows.

The gold-bearing portion of the iron formation is typically strongly deformed. Often it is cut by blue grey quartz veins and stringers. The principle sulphide in the zone is pyrrhotite, with pyrite, arsenopyrite and chalcopyrite as accessory sulphides.

The second zone of gold mineralization is contained in a zone of biotite-carbonate alteration within the mafic metavolcanics. Locally, the zone contains a blue-grey quartz vein and/or pyrrhotite, but neither are necessary for gold to be present. It is not certain if this second zone is one entity or several erratic occurrences of gold.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation / alteration zone

HOST ROCK: same / mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

3) arsenopyrite

4) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) silicification

2) sulphidization

3) carbonate

4) biotite

ECONOMIC FEATURES

Some of the better assay results from the Esker Zone are:

ME-88-08	In iron formation 3.18 g/t Au over 12.3 m including 3.82 g/t Au over 9.6 m including 5.67 g/t Au over 5.22 m
ME-88-06	Blue grey quartz vein in mafic metavolcanic 24.0 g/t Au over 0.3 m
ME-89-15	Biotite-carbonate alteration zone 2.26 g/t Au over 3.1 m

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1	52O/06SE-0040	52O/06SE-0042
52O/06SE-0058	52O/06SE-0069	52O/06SE-0070
52O/06SE-0071	52O/06SE-0074	52O/06SE-0081
52O/06NW-0035	52O/06NW-0059	52O/06SW-0017

DEPOSIT NAME: Powerline Zone

NTS AREA: 52O/06SE **MDI #: KP1105**

ALTERNATE NAMES: 1) Kawashe Lake #23

DEPOSIT STATUS: Drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 21' 13" **LONGITUDE:** 91° 06' 40'

UTM ZONE: 15 **NORTHING:** 5690628 **EASTING:** 631534

LOCATION: The Powerline Zone is located about 63 km west-southwest of Pickle Lake and about 2 km southeast of the Golden Patricia mine. The Powerline Zone is located near the Golden Patricia mine power line about midway between Muskegsagagen Lake and Hour Lake (local name).

ACCESS: Access to this occurrence is best gained through the Golden Patricia mine which is serviced by an all-weather airstrip and a winter road from Pickle Lake. Appropriately equipped aircraft may land on Muskegsagagen Lake and Hour Lake (local name).

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered in 1988 by diamond-drilling done by St. Joe Canada Inc./Bond Gold Canada Inc.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over an area including the occurrence. This was followed up with a ground magnetometer survey over an area including the occurrence.

In 1985, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys and diamond-drilling around the occurrence.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. did separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1986, St. Joe Canada Inc. continued diamond-drilling around the occurrence.

In 1988, St. Joe Canada Inc./Bond Gold Canada Inc. did additional geophysical surveys around the occurrence and did the diamond-drilling which located and defined the Powerline Zone.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling on and around the Powerline Zone.

DEPOSIT GEOLOGY

Gold has 2 mode of occurrence in the Powerline Zone. The first is in a series of 6 parallel gold-bearing quartz veins. The second is in silicified, sulphide replaced iron formation. The iron formation, banded chert and magnetite, occurs with tuffaceous metasediments within a succession of mafic metavolcanic flows. The succession is cut by quartz-feldspar porphyry intrusives.

The 6 gold-bearing quartz veins strike 075° and dip steeply south. They occur in mafic metavolcanics and appear to occupy axial planar structures to minor drag folds in the iron formation. (J. Ackert, mine geologist, Lac Minerals Ltd., written communication, 1993)

The gold in the iron formation occurs where it is cut by the axial planar structures hosting the gold-bearing quartz veins.(J. Ackert, mine geologist, Lac Minerals Ltd., written communication, 1993) There, the principle sulphide-replacing magnetite is pyrrhotite although pyrite, chalcopyrite and sphalerite are noted in the drill logs. Visible gold is also present in the zone.

Gold at the Powerline Zone is also found with a zone of light-grey, quartz-carbonate veining hosted by a mafic metavolcanic flow and with a strongly brecciated and sheared zone mineralized with pyrrhotite within a mafic metavolcanic flow.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation / quartz veins / breccia and shear zone

HOST ROCK: same/mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite
2) pyrite
3) chalcopyrite
4) sphalerite

ALTERATION MINERALS AND PROCESSES

1) silicification
2) sulphidization
3) carbonate
4) chlorite
5) epidote

ECONOMIC FEATURES

The following are among the better assays reported from the Powerline Zone:

PL-88-07

in iron formation
5.86 g/t Au over 7.55 m
including 60.00 g/t Au over 0.65 m

quartz-carbonate veins
2.74 g/t Au over 0.30 m

brecciated and sheared mafic metavolcanic flow
5.86 g/t Au over 0.95 m

PL-88-08

in iron formation
7.25 g/t Au over 2.80 m
2.41 g/t Au over 2.34 m

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1
52O/06SE-0039
52O/06SE-0040
52O/06SE-0042
52O/06SE-0058
52O/06SE-0074
52O/06SE-0084
52O/06SW-0017

DEPOSIT NAME: Kawashe Lake #24

NTS AREA: 52O/06SE **MDI #: KP1106**

ALTERNATE NAMES: 1) Muskeg Lake

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 26" **LONGITUDE:** 91° 03' 55"

UTM ZONE: 15 **NORTHING:** 5689267 **EASTING:** 634764

LOCATION: This occurrence is located about 61 km west-southwest of Pickle Lake and about 5.5 km east-southeast of the Golden Patricia mine. This occurrence was intersected by diamond-drill hole M-86-07 which was spotted about 1.1 km east-northeast of the northeast shore of Muskegsagagen Lake.

ACCESS: Access to this occurrence is best gained through the Golden Patricia mine which is serviced by an all-weather airstrip and a winter road from Pickle Lake. Appropriately equipped aircraft may land on Muskegsagagen lake to the southwest of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered in 1986 by diamond-drilling done by St. Joe Canada Inc./Bond Gold Canada Inc.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over an area including the occurrence. This was followed up with a ground magnetometer survey over an area including the occurrence.

In 1985, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys and diamond-drilling near the occurrence.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. did separate airborne magnetometer

and electromagnetic surveys over areas including the occurrence.

In 1986, St. Joe Canada Inc. continued diamond-drilling and located this occurrence.

In 1988, St. Joe Canada Inc./Bond Gold Canada Inc. did additional geophysical surveys around the occurrence.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling near this occurrence.

DEPOSIT GEOLOGY

This occurrence is known from 2 closely spaced intersections of gold mineralization in diamond-drill hole M-86-07. The upper zone consists of a carbonate-quartz vein system with 1% - 2% disseminated sulphides hosted by a mafic metavolcanic flow. The upper zone assayed 1.37 g/t Au over 0.30 m. The lower zone, intersected about 4 m further down the hole consists of a narrow, "magnetite ironstone" hosted by the same mafic metavolcanic flow. The mafic metavolcanic around the "magnetite ironstone" contains wispy carbonate stringers. Sulphides are not noted in the lower zone. The lower zone assayed 1.37 g/t Au over 0.60 m.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: carbonate-quartz vein/iron formation

HOST ROCK: mafic metavolcanic

OTHER ASSOCIATED ROCK TYPES: 1) porphyry intrusive

ECONOMIC MINERALS

1) unspecified sulphides

ALTERATION MINERALS AND PROCESSES

1) carbonate

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1
52O/06SE-0040
52O/06SE-0042
52O/06SE-0070
52O/06SE-0074
52O/06NW-0035
52O/06NW-0059
52O/06SW-0017

DEPOSIT NAME: Kaswashe Lake #25

NTS AREA: 52O/06SE **MDI #: KP117**

ALTERNATE NAMES: 1) Muskeg Lake

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 20' 31" **LONGITUDE:** 91° 04' 05"

UTM ZONE: 15 **NORTHING:** 5689406 **EASTING:** 634568

LOCATION: This occurrence is located about 61 km west-southwest of Pickle Lake and about 5.5 km east-southeast of the Golden Patricia mine. The centre of the occurrence is about 875 m east of the northeast shore of Muskegsagagen Lake.

ACCESS: Access to this occurrence is best gained through the Golden Patricia mine which is serviced by an all-weather airstrip and a winter road from Pickle Lake. Appropriately equipped aircraft may land on Muskegsagagen lake to the southwest of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

This occurrence was discovered in 1986 by diamond-drilling done by St. Joe Canada Inc.

In 1984, St. Joe Canada Inc. commissioned an airborne magnetometer survey over an area including the occurrence. This was followed up with a ground magnetometer survey over an area including the occurrence.

In 1985, St. Joe Canada Inc. did ground magnetometer, electromagnetic and IP surveys and diamond-drilling around the occurrence.

In 1986, St. Joe Canada Inc. and Geocanex Ltd. did separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1986, St. Joe Canada Inc. did a diamond-drill program which intersected this occurrence with diamond-drill holes M-86-05 and M-86-11.

In 1988, St. Joe Canada Inc./Bond Gold Canada Inc. did additional geophysical surveys and diamond-drilling near the occurrence.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling east of this occurrence.

DEPOSIT GEOLOGY

Diamond-drill holes M-86-05 and M-86-11 intersected gold-bearing quartz vein mineralization in a mafic metavolcanic flow. The 2 diamond-drill holes were spotted on sections 25 m apart. Diamond-drill hole M-86-05 intersected a 7 cm grey quartz vein containing 12 specks of visible gold. The drill log does not specifically describe the wall rock to the vein. Diamond-drill hole M-16-11 intersected a 16 cm blue-grey quartz vein containing 10 specks of visible gold. The rock for about 30 cm above the vein is described in the diamond-drill log as a carbonate altered mafic metavolcanic. The rock for about 20 cm below the vein is described as a carbonate-biotite-chlorite alteration zone. There is a 4 cm grey quartz vein and a quartz stringer with possible visible gold within the lower alteration zone.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in alteration zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) gold

ALTERATION MINERALS AND PROCESSES

1) carbonate **2)** chlorite

3) biotite

ECONOMIC FEATURES

The grey quartz vein in M-86-05 assayed 9.60 g/t over 0.30 m

Assay were not reported for the mineralization in M-86-11

OTHER PERTINENT DATA

The occurrence may be contiguous with the Esker Zone.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0021-A1	52O/06SE-0040	52O/06SE-0042
52O/06SE-0058	52O/06SE-0069	52O/06SE-0070
52O/06SE-0071	52O/06SE-0074	52O/06SE-0081
52O/06NW-0035	52O/06NW-0059	52O/06SW-0017

DEPOSIT NAME: B-Zone

NTS AREA: 52O/06SE **MDI #: KP1205**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Kawashe Lake area

LATITUDE: 51° 21' 57" **LONGITUDE:** 91° 08' 03"

UTM ZONE: 15 **NORTHING:** 5691948 **EASTING:** 629889

LOCATION: The B-Zone is located about 64 km west-southwest of Pickle Lake on the Golden Patricia mine site. The B-Zone is located about 100 m south of the Golden Patricia vein.

ACCESS: The Golden Patricia mine is serviced by an all-weather airstrip and a winter road from Pickle Lake.

EXPLORATION AND DEVELOPMENT HISTORY

The B-Zone is believed to have been discovered in 1985 by St. Joe Canada Inc.

In 1961, New Jersey Zinc Exploration Company (Canada) Ltd. dug several trenches north of the B-Zone.

In 1963, New Jersey Zinc Exploration Company (Canada) Ltd. drilled 6 diamond-drill holes, totalling 212.78 m, on mineral occurrences north and south of the B-Zone.

In 1984, St. Joe Exploration Canada Inc. started an exploration program on claims covering the B-Zone occurrence. The work included airborne and ground geophysical surveys, geological mapping, soil geochemistry, trenching, and diamond-drilling.

In 1986, St. Joe Exploration Canada Inc. completed an underground exploration program on the Golden Patricia vein with the driving of 2 declines and the extraction of a bulk sample. A large amount of diamond-drilling was completed on the B-Zone in

the same year.

In 1988, Bond Gold Canada Inc. opened the Golden Patricia Mine.

At the time of writing, the mine is owned and operated by Lac Minerals Ltd.

DEPOSIT GEOLOGY

The B-Zone is a gold-bearing, narrow, partially sulphidized, iron formation horizon which trends northwest sub-parallel to the Golden Patricia vein. It is located about 100 m south of the vein near to the mine workings, but is further separated from the vein to the southeast. The B-Zone has a strike length of about 1.2 km, but is not consistently mineralized. (Written communication, J. Ackert, mine geologist, Lac Minerals Ltd, 1993)

The iron formation horizon is hosted by a succession of mafic metavolcanic flows. The succession is cut by feldspar porphyry dikes.

The iron formation is impure with a significant mafic tuff component. Locally, it is intensely folded and strongly fractured with sulphides occupying small fissures parallel to the banding of the iron formation. The sulphides noted in the B-Zone are pyrrhotite, pyrite and chalcopyrite. Overall sulphide content is reported at 2%.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) suplidization

2) silicification

3) carbonate

4) chlorite

ECONOMIC FEATURES

The assessment files contain the logs complete with assays for 3 diamond-drill holes which cut the B-Zone. The assay results are:

	From	To	Length	Au ounce per ton
MN-86-169	111.9 m	113.0 m	1.1 m	0.10
MN-86-182	91.40 m	91.70 m	0.30 m	0.06
	97.70 m	93.38 m	0.68 m	0.12
	92.38 m	92.80 m	0.42 m	0.01
	92.80 m	93.30 m	0.50 m	tr. Au
	93.30 m	93.80 m	0.50 m	0.06
	93.80 m	94.30 m	0.50 m	tr. Au
MN-86-192	78.52 m	79.09 m	0.57 m	0.08

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0010
52O/06SE-0011-A1
52O/06SE-0021-A1
52O/06SE-0024
52O/06SE-0026
52O/06SE-0030
52O/06SE-0039
52O/06SE-0042
52O/06SE-0047
52O/06SE-0050
52O/06SE-0056
52O/06SE-0057
52O/06SE-0058
52O/06SE-0074
52O/06SE-0083
52O/06SE-0084

NABEMAKOSEKA LAKE AREA

52O/06SW

THERE ARE NO DOCUMENTED MINERAL
OCCURRENCES IN THE NABEMAKOSEKA LAKE AREA.

MEEN LAKE AREA

52O/06NW

DEPOSIT NAME: Jorsco

NTS AREA: 52O/06NW **MDI #: KP0198**

ALTERNATE NAMES: 1) Meen Lake "A"

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 28' 07" **LONGITUDE:** 91° 23' 57"

UTM ZONE: 15 **NORTHING:** 5702945 **EASTING:** 611197

LOCATION: The Jorsco occurrence is located about 82 km west of Pickle Lake and about 500 m north of the east bay of Meen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Meen Lake and a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1962, Jorsco Explorations Ltd. did ground magnetometer and electromagnetic surveys and geological mapping. This work located the occurrence.

In 1984, a joint venture between Duration Mines Ltd. and Wilshire Resources Inc. did ground magnetometer and electromagnetic surveys and geological mapping in the area of the occurrence.

In 1986, a joint venture between Duration Mines Ltd. and Wilshire Energy Inc. did ground magnetometer and electromagnetic surveys and geological mapping in the area of the occurrence. This was followed by 2 diamond-drill holes, totalling 360 m.

In 1989 and 1990, Bond Gold Canada Inc. did geological mapping in the area of the occurrence.

DEPOSIT GEOLOGY

The area of the occurrence is underlain by mafic metavolcanic flows with interbeds of lean banded iron formation. The iron formations are commonly mineralized with fractures and stockworks of pyrite (Sage and Breaks, 1982).

Jorsco Explorations Ltd. reported an assay of 0.02 ounce Au per ton from a quartz vein.

Bond Gold Canada Inc. reported an assay of 0.033 ounce Au per ton from a sample of iron formation containing traces of pyrite. The sample location is close to the location of the Jorsco sample.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES:

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Sage, R.P. and Breaks F.W. 1982. Geology of the Cat Lake-Pickle Lake area, District of Kenora and Thunder Bay; Ontario Geological Survey, Report 207, 238p. Accompanied by Map 2218, Scale 1:253440 and Charts A, B, and C.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0013	52O/06NW-0017-A1	52O/06NW-0019
52O/06SW-0017	52O/06SE-0040	52O/06SE-0042
52O/11SW-0025		

DEPOSIT NAME: Umex-Dorothy Lake

NTS AREA: 52O/06NW **MDI #: KP1072**

ALTERNATE NAMES: 1) Dorothy Lake property

2) Main zone

3) Meen Lake #1

DEPOSIT STATUS: Drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 25' 17" **LONGITUDE:** 91° 18' 16"

UTM ZONE: 15 **NORTHING:** 5697841 **EASTING:** 617899

LOCATION: The Umex-Dorothy Lake deposit is located about 76 km west of Pickle Lake and 4.6 km north-northeast of Dorothy Lake.

ACCESS: The Umex-Dorothy Lake deposit is best accessed by helicopter to one of the nearby, small, unnamed lakes. These lakes are believed to be marginal for float- and ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. drilled a diamond-drill hole on this deposit as part of a large follow-up program to a regional airborne geophysical survey. The core was not assayed for gold at this time.

In 1985, Umex Inc. re-logged the 1973 drill core and sampled for gold, base metals and major oxides. Umex Inc. also did ground soil and lithogeochemistry in 1985.

In 1986, Geocanex Ltd., St. Joe Canada Inc. and Kerr Addison Mines Ltd. commissioned separate airborne magnetometer and electromagnetic surveys which included the area of the Umex-Dorothy Lake deposit.

In 1986, Umex Inc. did geological mapping, ground magnetometer and electromagnetic surveys and 5 diamond-drill holes, totalling 626 m.

In 1987, Umex Inc. reported drilling 1 diamond-drill hole, 255.7 m in length, on the deposit.

In 1988, Umex Inc. reported drilling 27 diamond-drill holes, totalling 3763.44 m, on the deposit.

In 1990, Major General Resources Inc. did further diamond-drilling on the deposit.

DEPOSIT GEOLOGY

The Umex Dorothy Lake deposit consists of 2 zones. The main zone is hosted in a diorite intrusive. The West zone is hosted by mafic metavolcanics.

The diorite sill which is host to the main zone is 90 to 150 m in width and intrudes a succession of intermediate pyroclastics at the contact with a unit of chemical metasediments. A shear zone and coincident 30 m to 50 m wide alteration zone trends 135° to 140° along the southern contact of the sill. In the alteration zone, hydrothermal activity affected the amphiboles in the diorite and resulted in a fine-grained alteration assemblage of magnetite, biotite, sericite, carbonate, chlorite, epidote and quartz. Auriferous zones within the alteration zone are characterized by intense, pervasive silicification/silica flooding, quartz veining and sulphidization. The dominant sulphide is pyrite in concentrations up to 10%. There are local concentrations of pyrrhotite and traces of chalcopyrite.

The chemical metasediment south of the diorite is 5 to 30 m wide and is composed of primarily chert with seams of pyrite, pyrrhotite and magnetite. Locally, quartz veining from the altered diorite cut into the chemical metasediment unit. When assayed, the chemical metasediment cut by quartz veins reports values up to 0.40 ounce Au per ton over 1.5 m.

South of the chemical metasedimentary unit, the rock succession passes into mafic metavolcanics.

The west zone occurs along the same shear zone which hosts the main zone. The west zone is hosted in mafic metavolcanics and shearing and alteration is evident over 1.7 to 4.5 m widths in drill core. The auriferous zone is characterized by pervasive carbonatization, biotite replacement of other ferromagnesian minerals and quartz veining. Pyrite (3% - 5%) and magnetite occur in the auriferous zone.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone / alteration zone

HOST ROCK: diorite / mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** chemical metasediments

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) chalcopyrite

4) (sphalerite)

ALTERATION MINERALS AND PROCESSES

1) silicification

2) carbonatization

3) magnetite

4) biotite

5) sericite

6) chlorite

7) epidote

RESERVE DATA

RESERVE CATEGORY: preliminary (Main Zone)

TONNES: 236220 (240000 tons)

AVERAGE GRADE: 6.17 g/t Au (0.18 ounce Au per ton)
(The Northern Miner, June 11, 1990, p.13)

ECONOMIC FEATURES

The best assay interval from the west zone averaged 0.14 ounce Au per ton over 2.9 m.

The best assay value reported from the chemical metasedimentary unit was 0.40 ounce Au per ton over 1.5 m.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0015	52O/06NW-0017-C1	52O/06NW-0018
52O/06NW-0020	52O/06NW-0021	52O/06NW-0022
52O/06NW-0024	52O/06NW-0028	52O/06NW-0039
52O/06NW-0048	52O/06NW-0077	52O/06SE-0040
52O/06SE-0042	52O/06SW-0017	52O/09SE-0035

DEPOSIT NAME: Meen Lake #2

NTS AREA: 52O/06NW **MDI #: KP1073**

ALTERNATE NAMES: 1) Dobie River Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 22' 44" **LONGITUDE:** 91° 16' 38"

UTM ZONE: 15 **NORTHING:** 5693152 **EASTING:** 619893

LOCATION: This occurrence is located about 75 km west-southwest of PickLe Lake. It was intersected in diamond-drill hole DR-88-21, which was spotted about 3.1 km east of Dorothy Lake and 3.25 km north of Nabemakoseka Lake.

ACCESS: This occurrence may be accessed by helicopter to one of the nearby, small lakes and then traversing overland to the drill-hole site. Dorothy Lake is the nearest lake suitable for float- or ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1979, Cominco Ltd. did ground magnetometer, electromagnetic and gravity surveys over the occurrence area as follow-up to a regional airborne geophysical survey.

In 1981, Cominco Ltd. drilled a hole on or near this occurrence as part of a 5-hole, 505.36 m, diamond-drilling program in the Meen Lake area.

In 1986, Geocanex Ltd. and St. Joe Canada Ltd. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1987, a joint venture between Power Explorations Inc., North American Rare Metals Ltd. and Osisko Lake Mines Ltd. conducted ground magnetometer and electromagnetic surveys on their Dobie River property.

In 1988, a joint venture between Power Explorations Inc., North American Rare Metals Ltd. and Osisko Lake Mines Ltd. conducted a 29-hole, 2939.80 m, diamond-drilling program on their Dobie River property. Drill hole DR-88-21 intersected this occurrence.

In 1989, Pantheon Minerals Ltd. drilled 7 holes, totalling 677.26 m, near this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole DR-88-21 intersected gold mineralization within a wide zone of brecciated and sheared, silicified intermediate to felsic metavolcanics. The zone contained from 1% to 20% pyrite as disseminations, wisps, blebs and near-massive bands. The zone has several biotite-rich bands and is cut by several quartz and/or carbonate veinlets with traces of tourmaline. The part of the zone that contained the gold mineralization is marked by 1%-to 3% pyrite and 1% pyrrhotite over about 9 m. The 1.5 m interval which reported the only occurrence level assay in the drill hole exhibited no special features which were noted in the drill log.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: intermediate to felsic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** none

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** biotite

ECONOMIC FEATURES

diamond-drill hole DR-88-21 reported an assay value of 0.219 ounce Au per ton over 1.52 m (5.0') at 73.06 m (239.7') to 74.58 m (244.7').

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0010 52O/06NW-0026 52O/06NW-0037
52O/06SW-0015 52O/06SW-0017 52O/06SW-0022
52O/06SE-0040 52O/06SE-0042

DEPOSIT NAME: Koromond #1

NTS AREA: 52O/06NW **MDI #: KP1074**

ALTERNATE NAMES: 1) Meen Lake #3

DEPOSIT STATUS: Trenched and diamond-drilled occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 26' 34" **LONGITUDE:** 91° 20' 35"

UTM ZONE: 15 **NORTHING:** 5700143 **EASTING:** 615155

LOCATION: The Koromond #1 showing is located about 79 km west of Pickle Lake, on the southwest shore of the south bay of Cooper Lake (local name for first lake east of Meen Lake).

ACCESS: Cooper Lake may be accessed by appropriately equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

The Koromond #1 showing was discovered in 1988 by Bond Gold Canada Inc.

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area of this occurrence.

In 1988, Bond Gold Canada Inc. did geological mapping, ground magnetometer and electromagnetic surveys and diamond-drilling on their Cooper Lake grid. Part of this work focused on the discovery and testing of the Koromond #1 showing.

DEPOSIT GEOLOGY

The Koromond #1 showing occurs within a mineralized, quartz vein- and stringer-rich shear zone at or near the contact of a mafic metavolcanic xenolith in a gabbro intrusion. The shear zone is exposed on surface over a strike length of 8 m. The

shear zone is carbonatized. The shear zone and quartz veins contain up to 8% pyrite, pyrrhotite and chalcopyrite. The showing was channel sampled on surface and tested by 3 diamond-drill holes. The drilling indicated the gold mineralization was confined to the shear zone in the mafic metavolcanic inclusion.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** gabbro

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) carbonatization

ECONOMIC FEATURES

Channel sampling of the Koromond #1 showing yielded assay values up to 19.54 g/t Au over 1 m and 8.53 g/t over 2 m. Grab samples ranged up to 23.6 g/t Au. The best assay reported in the diamond-drill holes which tested the showing was 0.96 g/t Au over 0.6 m.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0035 52O/06NW-0040 52O/06NW-0060
52O/06NW-0062 52O/06SE-0040 52O/06SE-0042
52O/06SE-0074 52O/06SW-0017

DEPOSIT NAME: Meen Lake #4

NTS AREA: 52O/06NW **MDI #: KP1075**

ALTERNATE NAMES: 1) Dorothy Lake property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 23' 32" **LONGITUDE:** 91° 18' 41"

UTM ZONE: 15 **NORTHING:** 5694583 **EASTING:** 617495

LOCATION: This occurrence is located about 76 km west-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted on the north side of the Dobie River, 1.5 km northeast of Dorothy Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Dorothy Lake and then a traverse or boat trip downstream along the Dobie River.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corp. Ltd. did a diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1984, Kerr Addison Mines Ltd. did geological mapping and lithogeochemical sampling on a claim group covering the occurrence.

In 1986, Kerr Addison Mines Ltd., Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1988 and 1989, Argyle Venture Inc. did geological mapping, ground magnetometer and electromagnetic surveys and a 4-hole, 414.22 m diamond-drilling program on a claim group covering the occurrence. Drill hole DOT 89-1 intersected the occurrence.

In 1990, Argyle Ventures Inc. drilled 6 more diamond-drill holes, totalling 684.88 m, on

their Dorothy Lake property. One of the 6 drill holes tested the same geophysical anomaly as DOT 89-1.

DEPOSIT GEOLOGY

Drill hole DOT 89-1 intersected sphalerite mineralization in a felsic metavolcanic at the contact with a thin horizon of banded iron formation. The iron formation occurs between felsic metavolcanics and mafic metavolcanics.

The felsic metavolcanic unit is mineralized with pyrite, pyrrhotite and chalcopyrite throughout, but with semi-massive sulphides including sphalerite in the 79 cm before the iron formation horizon.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** iron formation

2) mafic metavolcanics

ECONOMIC MINERALS

1) sphalerite

2) chalcopyrite

3) pyrite

4) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

DOT 89-1 intersected 0.79 m grading 0.9% Zn from 46.21 m to 47.00 m down the hole.

DOT 90-1 drilled on the same geophysical anomaly was not assayed for zinc.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0014	52O/06NW-0022	52O/06NW-0031
52O/06NW-0043	52O/06NW-0051	52O/06SW-0017
52O/06SE-0040	52O/06SE-0042	52O/09SE-0035

DEPOSIT NAME: Meen Lake #5

NTS AREA: 52O/06NW **MDI #: KP1076**

ALTERNATE NAMES: 1) Dorothy Lake property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 23' 40" **LONGITUDE:** 91° 18' 51"

UTM ZONE: 15 **NORTHING:** 5694814 **EASTING:** 617295

LOCATION: This occurrence is located about 76 km west-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted on the north side of the Dobie River, 1.6 km northeast of Dorothy Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Dorothy Lake and then a traverse or boat trip downstream along the Dobie River.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corp. Ltd. did a diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1984, Kerr Addison Mines Ltd. did geological mapping and lithogeochemical sampling on a claim group covering the occurrence.

In 1986, Kerr Addison Mines Ltd., Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1988 and 1989, Argyle Venture Inc. did geological mapping, ground magnetometer and electromagnetic surveys and a 4-hole, 414.22 m diamond-drilling program, on a claim group covering the occurrence. Drill hole DOT 89-2 intersected the occurrence.

In 1990, Argyle Ventures Inc. drilled 6 more diamond-drill holes, totalling 684.88 m, on

their Dorothy Lake property.

DEPOSIT GEOLOGY

Drill hole DOT 89-2 intersected a 24 m thick zone of quartz-rich mafic metavolcanics carrying up to 25% pyrite and pyrrhotite. All samples from the 24 m returned elevated assay values for Cu and Zn, but only 1 sample returned an occurrence grade value.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) none

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) quartz flooding

ECONOMIC FEATURES

DOT 89-2 intersected 5637 ppm Zn, 547 ppm Cu, and 146 ppb Au over 0.36 m at 31.88 m to 32.24 m.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0014
52O/06NW-0022
52O/06NW-0031
52O/06NW-0043
52O/06NW-0051
52O/06SW-0017
52O/06SE-0040
52O/06SE-0042
52O/09SE-0035

DEPOSIT NAME: Meen Lake #6

NTS AREA: 52O/06NW **MDI #: KP1077**

ALTERNATE NAMES: **1)** Frankfield Exploration-Dorothy Lake-area 1

2) Dorothy Lake property

DEPOSIT STATUS: Diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 27' 04" **LONGITUDE:** 91° 23' 31"

UTM ZONE: 15 **NORTHING:** 5701006 **EASTING:** 611732

LOCATION: This occurrence is located about 82 km west of Pickle Lake. The diamond-drill hole which intersected this occurrence was spotted about 700 m south of the east bay of Meen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to the east bay of Meen Lake and then a traverse overland south to the occurrence.

EXPLORATION AND DEVELOPMENT

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1987, Frankfield Explorations Ltd. did ground magnetometer and electromagnetic surveys and geological mapping on their Dorothy Lake property which covered the occurrence.

In 1988, North American Rare Metals Ltd. completed a 14-hole, 1432.86 m diamond-drilling program on the Frankfield Explorations Ltd. Dorothy Lake property. Three drill holes tested the area 1 gold target. Only DL-88-08 reported an occurrence grade assay.

DEPOSIT GEOLOGY

On a check assay, DL-88-08 reported an assay value of 0.034 ounce Au per ton over 1.0 m. The sample was from a wide section of brecciated metavolcanics tentatively called a debris flow. The upper 55 cm of the sample contained up to 50% pyrite and pyrrhotite, and the lower 45 cm contained massive pyrite. The host rock was heavily carbonatized.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: brecciated metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** felsic metavolcanics

2) mafic metavolcanics

3) metasediments

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) carbonatization

ECONOMIC FEATURES

See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0027 52O/06NW-0045 52O/06SE-0017
52O/06SW-0040 52O/06SW-0042

DEPOSIT NAME: Meen Lake #7

NTS AREA: 52O/06NW **MDI #: KP1078**

ALTERNATE NAMES: 1) Frankfield Explorations-Dorothy Lake-area 2

2) Dorothy Lake Property

DEPOSIT STATUS: Diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 27' 07" **LONGITUDE:** 91° 23' 23"

UTM ZONE: 15 **NORTHING:** 5701102 **EASTING:** 611885

LOCATION: This occurrence is located about 82 km west of Pickle Lake. The diamond-drill hole which intersected this occurrence was spotted about 460 m south of the east bay of Meen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to the east bay of Meen Lake and then a traverse overland south to the occurrence.

EXPLORATION AND DEVELOPMENT

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1987, Frankfield Explorations Ltd. did ground magnetometer and electromagnetic surveys and geological mapping on their Dorothy Lake property which covered the occurrence.

In 1988, North American Rare Metals Ltd. completed a 14-hole, 1432.86 m diamond-drilling program on the Frankfield Explorations Ltd. Dorothy Lake property. DL-88-13 reported 2 occurrence grade assays.

DEPOSIT GEOLOGY

DL-88-13 reported 2 occurrence grade assays each over 1.52 m sample intervals within an intermediate intrusive. The intermediate intrusive is composed of quartz, feldspar and amphibole with disseminated magnetite. The upper sample interval contained a 55 cm silicified zone with up to 20% discontinuous wispy lenses of pyrite. The silicified zone also contained up to 5% small garnet poikioblasts.

The lower sample interval, according to the drill log had no distinguishing features.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: intermediate intrusive

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification

ECONOMIC FEATURES

The 2 sample intervals in DL-88-13 which reported occurrence grade assays are:

From	To	Length	Ounce Au per ton
65.9' (20.09 m)	70.9' (21.61 m)	5.0' (1.52 m)	0.048
87.0' to (26.52 m)	92.0' (28.04 m)	5.0' (1.52 m).	0.033

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0027 52O/06NW-0045 52O/06SE-0017
52O/06SW-0040 52O/06SW-0042

DEPOSIT NAME: Meen Lake #8

NTS AREA: 52O/06NW **MDI #: KP1079**

ALTERNATE NAMES: 1) Dobie River Property

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 23' 28" **LONGITUDE:** 91° 15' 53"

UTM ZONE: 15 **NORTHING:** 5694535 **EASTING:** 620739

LOCATION: This occurrence is located about 73 km west-southwest of Pickle Lake. It was intersected in diamond-drill hole DR-88-26, which was spotted about 4.2 km east-northeast of where the Dobie River exits Dorothy Lake and about 500 m west of Tonsil Lake (Local name for the first lake downstream of Dorothy Lake on the Dobie River.)

ACCESS: Tonsil Lake is marginal for float- and ski-equipped aircraft. Helicopter access of this occurrence is recommended.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Ltd. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1987, a joint venture between Power Explorations Inc., North American Rare Metals Ltd. and Osisko Lake Mines Ltd. conducted ground magnetometer and electromagnetic surveys on their Dobie River property.

In 1988, a joint venture between Power Explorations Inc., North American Rare Metals Ltd. and Osisko Lake Mines Ltd. conducted a 29-hole, 2939.80 m, diamond-drilling program on their Dobie River property. Drill hole DR-88-26 intersected this occurrence.

DEPOSIT GEOLOGY

Drill hole DR-88-26 intersected a 1.52 m interval which assayed 0.31 ounce Au per ton in a unit of mafic metavolcanics. The drill log notes no specific characteristic of the sample interval.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0026 52O/06NW-0037 52O/06SW-0017
52O/06SE-0040 52O/06SE-0042

DEPOSIT NAME: Meen Lake #9

NTS AREA: 52O/06NW **MDI #: KP1206**

ALTERNATE NAMES:

DEPOSIT STATUS: Grab sample from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 28' 03" **LONGITUDE:** 91° 22' 51"

UTM ZONE: 15 **NORTHING:** 5702850 **EASTING:** 612475

LOCATION: This occurrence is located 80 km west of Pickle Lake. The sample site was from an outcrop located 425 m north of the west end of Pitu Lake and 150 m south of Ekto Lake. (Pitu Lake and Ekto Lake are local names for the first and second lakes north of the east end of the east bay of Meen Lake, respectively.)

ACCESS: Pitu Lake and Ekto Lake are marginal for float- and ski- equipped airplanes. Recommended access to this occurrence is by appropriately equipped aircraft to Meen Lake and then a traverse overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1989, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Meen Lake grid which includes the area of the occurrence. This was followed up by diamond-drilling, including 1 hole drilled near the occurrence.

In 1990, Bond Gold Canada Inc. completed geological mapping on the Meen Lake grid.

DEPOSIT GEOLOGY

This occurrence is hosted by a weakly sheared quartz-feldspar porphyry dike which cuts mafic metavolcanic flows. A sample from this dike containing quartz veinlets and trace-to 1% pyrite returned an assay value of 0.06 ounce Au per ton. A check assay returned 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-feldspar porphyry

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0047 52O/06NW-0059 52O/06NW-0063
52O/06NW-0066 52O/06SW-0017 52O/06SE-0040
52O/06SE-0042

DEPOSIT NAME: Meen Lake #10

NTS AREA: 52O/06NW **MDI #: KP1207**

ALTERNATE NAMES:

DEPOSIT STATUS: Samples from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 26' 33" **LONGITUDE:** 91° 20' 45"

UTM ZONE: 15 **NORTHING:** 5700100 **EASTING:** 614960

LOCATION: This occurrence is located about 78 km west of Pickle Lake on the south shore of the south bay of Cooper Lake. (Cooper Lake is a local name for the first large lake east of Meen Lake.) The occurrence outcrops about 100 m east of the western creek mouth, on the south shore of the south bay of Cooper Lake.

ACCESS: Access to Cooper Lake is by appropriately equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1988, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Cooper Lake grid which includes the area of the occurrence.

DEPOSIT GEOLOGY

Two samples from an outcrop of "diorite - gabbro" returned occurrence grade assays of 0.03 ounce Au per ton. The Bond Gold Canada Inc. geological map of the occurrence area indicates a east trending shear zone and a southeast trending shear zone converge near the outcrop.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: diorite - gabbro

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) not known

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0040 52O/06NW-0060 52O/06NW-0062
52O/06SE-0040 52O/06SE-0042 52O/06SE-0074
52O/06SW-0017

DEPOSIT NAME: Meen Lake #11

NTS AREA: 52O/06NW **MDI #: KP1208**

ALTERNATE NAMES:

DEPOSIT STATUS: grab sample from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 26' 10" **LONGITUDE:** 91° 19' 08"

UTM ZONE: 15 **NORTHING:** 5699460 **EASTING:** 616850

LOCATION: This occurrence is located about 76 km west of Pickle Lake. It is located about 230 m west of the southern end of Kormond Lake (local name for the small lake 3 km southeast of Wellein Lake and 6.5 km north of Dorothy Lake)

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to Cooper Lake (local name for first large lake east of Meen Lake) and then a taverse overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1988, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Cooper Lake grid which includes the area of the occurrence. This was followed by a diamond-drilling program.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling on the Cooper Lake grid.

DEPOSIT GEOLOGY

A grab sample from an outcrop of mafic metavolcanics interbedded with "ferrigenous chert" assayed 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics / chemical metasediments

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0035
52O/06NW-0040
52O/06NW-0060
52O/06NW-0062
52O/06NW-0068
52O/06NW-0071
52O/06SE-0040
52O/06SE-0042
52O/06SE-0074
52O/06SW-0017

DEPOSIT NAME: Meen Lake #12

NTS AREA: 52O/06NW **MDI #: KP1209**

ALTERNATE NAMES:

DEPOSIT STATUS: grab sample from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 26' 20" **LONGITUDE:** 91° 18' 57"

UTM ZONE: 15 **NORTHING:** 5699750 **EASTING:** 617050

LOCATION: This occurrence is located about 76 km west of Pickle Lake. It is located about 350 m west of the southern end of Kormond Lake (local name for the small lake 3 km southeast of Wellein Lake and 6.5 km north of Dorothy Lake)

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to Cooper Lake (local name for first large lake east of Meen Lake) and then a taverse overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1988, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Cooper Lake grid which includes the area of the occurrence. This was followed by a diamond-drill program with one hole being collared on a geophysical anomaly near this occurrence.

In 1989 and 1990, Bond Gold Canada Inc. did additional diamond-drilling on the Cooper Lake grid.

DEPOSIT GEOLOGY

A grab sample from an outcrop exposing a mafic metavolcanic, an intermediate metavolcanic tuff and a quartz vein assayed 0.04 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein ?

HOST ROCK: mafic metavolcanics / intermediated metavolcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0035
52O/06NW-0040
52O/06NW-0060
52O/06NW-0062
52O/06NW-0068
52O/06NW-0071
52O/06SE-0040
52O/06SE-0042
52O/06SE-0074
52O/06SW-0017

DEPOSIT NAME: Cooper Zones

NTS AREA: 52O/06NW **MDI #: KP1210**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 25" 50" **LONGITUDE:** 91° 19' 35"

UTM ZONE: 15 **NORTHING:** 5698825 **EASTING:** 616350

LOCATION: The Cooper Zones are located about 77 km west of Pickle Lake. The Cooper Zones are located about 5.5 km north of Dorothy Lake and 4.5 km south of Wellein Lake.

ACCESS: Access to the Cooper Zones is best had by appropriately equipped aircraft to Cooper Lake (local name for the first large lake east of Meen Lake) followed by a traverse south to the area of the zones.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1988, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Cooper Lake grid which includes the area of the occurrence. This was followed by a diamond-drill program. A total of 7 drill holes tested
the Cooper Zones.

In 1990, Bond Gold Canada Inc. did additional diamond-drilling on the Cooper Lake grid, including the Cooper Zones.

DEPOSIT GEOLOGY

Bond Gold Canada Inc. drilled 7 diamond-drill holes to test for the western extension of the west zone of Umex Inc.'s Dorothy Lake deposit (KP1072). Four drill holes were spotted on the same section and three are on lateral step-outs of 50 m. The four drill holes on the 1 section intersected a total of 5 separate zones of gold mineralization. The 5 zones are called the Cooper 1, Cooper 2, G1, G2 and G3 zones.

The Cooper 1 and Cooper 2 zones are contained within wide shear zones cutting through a fine- to medium-grained diorite intrusive. The diorite, away from the shear zones, is well foliated and uniform in grain size. In the shear zones, the diorite is schistose and appears very finely laminated (<1 mm); with alternating laminae of chlorite/amphibole and feldspar. The mineralized zones are well foliated to massive. The mineralized zones contain many 3-10 cm quartz veins and the diorite is variably silicified between the veins. The mineralized zones are also variably carbonatized, sericitized, chloritized, epidotized and contain pyrite. The pyrite is typically disseminated as fine (<1 mm) euhedral crystals. The concentration of pyrite varies between 5 and 15 percent and is locally as high as 20 percent. The higher gold assays are associated with the most silicified and pyritized intervals. Wider quartz veins, which were sampled separately, returned low gold values.

Quartz feldspar porphyry dikes cut the shear zone and probably the mineralized zones. An interesting feature of these porphyry dykes are large (up to 3 cm diameter) zones of anhedral feldspar phenocrysts. The relationship of the porphyries to the mineralization is not known.

A gabbroic body intruded into the diorite north of the Cooper 1 and Cooper 2 zones. Shear zones, which cut the gabbro, host the G1, G2 and G3 zones. The gabbro is coarse grained and is weakly foliated to massive. Locally the gabbro is pegmatitic. This is indicated by an increase in feldspar content and by an increase in crystal size. Where cut by shear zones, the gabbro is schistose and altered to chlorite, talc, sericite, carbonate and feldspar. The mineralization consists of quartz veins with minor pyrite. In one hole, the G2 zone includes a 23 cm thick quartz vein containing pyrite, chalcopyrite, molybdenite, abundant tourmaline and several specks of visible gold.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone / quartz vein in shear zone

HOST ROCK: diorite / gabbro

OTHER ASSOCIATED ROCK TYPES: 1) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrite
2) chalcopyrite
3) molybdenite
4) gold

ALTERATION MINERALS AND PROCESSES

1) silicification
2) sericitization
3) chloritization
4) carbonatization
5) epidotization

ECONOMIC FEATURES

The best intersection from the Cooper 1 zone averaged 4.27 g/t Au over 5.23 m (includes 5.86 g/t Au over 1.80 m). The best intersection from the Cooper 2 zone averaged 2.00 g/t over 3.7 m (includes 3.42 g/t Au over 0.83 m).

The best "G" zone intersection was in the G2 zone and averaged 3.77 g/t Au over 2 m. Typically, the gold tenor of the "G" zones is low, ranging between 1.7 g/t Au and 3.77 g/t Au over widths of 0.5 m to 2.7 m.

OTHER PERTINENT DATA

The Cooper zones and "G" zones are considered to be extensions of the Umex-Dorothy Lake deposit.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0035
52O/06NW-0040
52O/06NW-0060
52O/06NW-0062
52O/06NW-0068
52O/06NW-0071
52O/06SE-0040
52O/06SE-0042
52O/06SE-0074
52O/06SW-0017

DEPOSIT NAME: Meen Lake #13

NTS AREA: 52O/06NW **MDI #: KP1211**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Cu

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 27' 31" **LONGITUDE:** 91° 26' 36"

UTM ZONE: 15 **NORTHING:** 5701750 **EASTING:** 608150

LOCATION: This occurrence is located about 85 km west of Pickle Lake. It was intersected in a diamond-drill hole spotted about 160 m east of the east shore of the main body of Meen Lake, and about 700 m south of the south shore of the channel mouth leading to the east bay of Meen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Meen Lake followed by a traverse overland to the drill-hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1979, Cominco Ltd. did ground magnetometer, electromagnetic and gravity surveys on a claim group covering the occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area including the occurrence.

In 1988, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys over a claim group covering the occurrence.

In 1991, Major General Resources Ltd. drilled a 182.6 m drill hole that intersected this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole ML-91-1 intersected a quartz-carbonate vein and a carbonatized zone in a felsic metatuff. The vein was cut subparallel to the core axis. The zone was mineralized with 10% pyrrhotite and 1% chalcopyrite. The zone assayed 4150 ppm Au over 0.5 m.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: alteration zone

HOST ROCK: felsic metavolcanics

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrrhotite **2)** chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) carbonatization

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

52O/06NW-0033 52O/06NW-0061 52O/06SE-0042
52O/06SW-0015

DEPOSIT NAME: Meen Lake #14

NTS AREA: 52O/06NW **MDI #: KP1212**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Cu

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 26' 16" **LONGITUDE:** 91° 26' 36"

UTM ZONE: 15 **NORTHING:** 5699450 **EASTING:** 608200

LOCATION: This occurrence is located about 85 km west of Pickle Lake. It was intersected in a diamond-drill hole spotted about 200 m south, and 1.55 km east, of the most southern point on the south shore of the main body of Meen Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Meen Lake followed by a traverse overland to the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex LTd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including the occurrence.

In 1988, Umex Inc. commissioned airborne magnetometer and electromagnetic surveys over a claim group covering the occurrence.

In 1991, Major General Resources Ltd. drilled a 185.6 m drill hole that intersected this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole ML-91-5 intersected a succession of mafic metavolcanics with thin interlayers of iron formation. The upper 0.6 m of an iron formation horizon starting at 119.3 m down the hole is mineralized with about 10% pyrite and pyrrhotite with traces

of chalcopyrite. The sulphides are associated with magnetite in the iron formation which is composed of magnetite bands and chlorite-carbonate bands with minor chert. The 0.6 m sulphide rich section returned an assay of 2680 ppm Cu.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite

2) pyrite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

52O/06NW-0033
52O/06NW-0061
52O/06SE-0040
52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Meen Lake #15

NTS AREA: 52O/06NW **MDI #: KP1213**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 52° 19' 37" **LONGITUDE:** 91° 16' 07"

UTM ZONE: 15 **NORTHING:** 5798600 **EASTING:** 618000

LOCATION: This occurrence is located about 75 km west of Pickle Lake. It is located about 5.2 km north of where the Dobie River exits Dorothy Lake and 4.2 km south of Wellein Lake.

ACCESS: Access to this occurrence is best gained by helicopter to one of the small unnamed lakes near the occurrence and then traversing overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys which included the area around this occurrence.

In 1988, Bond Gold Canada Inc. did ground electromagnetic and magnetometer surveys and geological mapping on the Cooper Lake grid which includes the area of the occurrence. This was followed by a diamond-drilling program. Diamond-drill hole MDW88.05 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did an IP survey that covered this occurrence and additional diamond-drilling on the Cooper Lake grid.

DEPOSIT GEOLOGY

Drill hole MDW88.05 intersected an interval from 32.60 m to 32.90 m (0.60 m) down the hole which returned an assay of 1.02 g/t Au. The interval included the contact between a iron formation horizon and a mafic metavolcanic flow. The iron formation contained 10% - 15% pyrite in stringers and the mafic metavolcanic was highly sheared and contained up to 50% quartz-carbonate veinlets and 10%- to 15% pyrite stringers near the contact.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: iron formation / mafic metavolcanic

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0035 52O/06NW-0040 52O/06NW-0060
52O/06NW-0062 52O/06NW-0068 52O/06NW-0071
52O/06SE-0040 52O/06SE-0042 52O/06SE-0074
52O/06SW-0017

DEPOSIT NAME: Meen Lake #16

NTS AREA: 52O/06NW **MDI #: KP1214**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 28' 21" **LONGITUDE:** 91° 21' 34"

UTM ZONE: 15 **NORTHING:** 5703425 **EASTING:** 613950

LOCATION: This occurrence is located about 79 km west of Pickle Lake. It is located about 1.8 km northeast of the exit of the Meen River from Meen Lake and 4.6 km west of Wellein Lake.

ACCESS: Access to this occurrence is best gained by helicopter to a small lake located about 500 m south east of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area including the occurrence.

Between 1988 and 1990, Bond Gold Canada Inc. did geological mapping, ground magnetometer and electromagnetic surveys in the area of the occurrence. In 1989, diamond-drill hole MC89.16 intersected this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole MC89.16 intersected 1.06 m grading 1.03 g/t Au in a mafic metavolcanic flow at the contact of a sheared porphyritic quartz-diorite dike. The sample interval contained numerous narrow quartz-carbonate veinlets and traces of pyrrhotite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) quartz diorite

ECONOMIC MINERALS

1) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0047 52O/06NW-0059 52O/06NW-0066
52O/06SE-0042

DEPOSIT NAME: Meen Lake #17

NTS AREA: 52O/06NW **MDI #: KP1215**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 29' 09" **LONGITUDE:** 91° 27' 38"

UTM ZONE: 15 **NORTHING:** 5704750 **EASTING:** 606900

LOCATION: This occurrence is located about 87 km west of Pickle Lake and 850 m north of the north end of Meen Lake.

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to Meen Lake and then traversing overland to the north.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area including the occurrence.

Between 1988 and 1990, Bond Gold Canada Inc. did geological mapping, ground magnetometer and electromagnetic surveys in the area of the occurrence. In 1989, diamond-drill hole MC89-01 intersected this occurrence.

DEPOSIT GEOLOGY

Diamond-drill hole MC89-01 intersected 0.90 m grading 2.74 g/t Au in a pillowed mafic metavolcanic flow. The rock above the sample interval is silicified and bleached, and contains crosscutting stringers of quartz with traces of pyrite. The rock below the sample interval contains carbonate veining and is "extremely chloritized". There is no specific description of the sample interval.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanic

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

3) chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) chloritization **2)** silicification

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0047 52O/06NW-0059 52O/06NW-0063
52O/06NW-0066 52O/06SE-0042

DEPOSIT NAME: Meen Lake #18

NTS AREA: 52O/06 **MDI #: KP1216**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 24' 52" **LONGITUDE:** 91° 23' 17"

UTM ZONE: 15 **NORTHING:** 5696925 **EASTING:** 612100

LOCATION: This occurrence is located about 81 m west of Pickle Lake. It is located about 4.4 km northeast of the entrance of the Dobie River to Dorothy Lake and 4.4 km south of the east bay of Meen Lake.

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to a unnamed lake located about 300 m to the south.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including this occurrence.

In 1988, Golden Tanager Resources Ltd. did geological mapping and prospecting, and ground magnetometer and electromagnetic surveys on a claim group covering the occurrence. Bond Gold Canada Inc. optioned the claim group.

In 1989, Bond Gold Canada Inc. did a humus geochemistry survey and a diamond-drilling program of 9 holes, totalling 938 m. Drill holes MP89-01 and MP89-02 intersected gold mineralization.

In 1989, Bond Gold Canada Inc. followed up with a 6-hole diamond-drill program, totalling 500.85 m.

DEPOSIT GEOLOGY

Diamond-drill hole MP89-01 intersected 2 zones of occurrence grade gold mineralization. The upper zone consists of a quartz and quartz-carbonate stringer zone in a locally highly sheared and carbonatized biotite-quartz schist, tentatively identified as a greywacke. The lower zone is contained within a unit of sheared mafic metavolcanic. The zone consists of a talcose, slightly-to moderately carbonatized, and chloritic mafic metavolcanic mineralized with less than 1% finely disseminated pyrite in contact with a sheared, silicified and mineralized, laminated interval of greywacke and mudstone cut by quartz-carbonate stringers. The greywacke and mudstone interval is mineralized with 2% to 6% laminae, stringers, blebs and finely disseminated pyrite and pyrrhotite.

Diamond-drill hole MP89-02 intersected 2 different zones of occurrence grade gold mineralization. The upper zone is hosted by a sheared mudstone and is associated with pods of quartz with pyrrhotite at the contacts. The lower zone is associated with a mafic dike and shear zones in a mafic metavolcanic at the upper and lower contacts. The lower zone is mineralized with up to 5% pyrite along chloritic fractures and is cut by quartz veins.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zones

HOST ROCK: mafic metavolcanic / mafic intrusive / metasediment

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** carbonatization

3) talc **4)** chlorite

ECONOMIC FEATURES

The following are the significant assay intervals from MP89-01:

From	To	Length	g/t Au
23.18 m	24.18 m	1.00 m	1.71
40.55 m	41.62 m	1.07 m	13.71
41.62 m	42.34 m	0.72 m	7.20.

The following are the significant assay intervals from MP89-02:

38.70 m	39.40 m	0.70 m	3.77
40.00 m	41.00 m	1.00 m	2.40
41.00 m	41.60 m	0.60 m	6.51
48.97 m	49.47 m	0.50 m	3.77
49.47 m	50.47 m	1.00 m	4.11
50.47 m	51.47 m	1.00 m	1.71

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0032	52O/06NW-0036	52O/06NW-0044
52O/06NW-0049	52O/06NW-0058	52O/06NW-0064
52O/06NW-0065	52O/06SE-0040	52O/06SE-0042
52O/06SW-0017		

DEPOSIT NAME: Meen Lake #19

NTS AREA: 52O/06 **MDI #: KP1217**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 25' 01" **LONGITUDE:** 91° 22' 07"

UTM ZONE: 15 **NORTHING:** 5697250 **EASTING:** 613450

LOCATION: This occurrence is located about 80 km west of Pickle Lake. It is located on the south side of a small unnamed lake about 4.0 km northeast of the entrance of the Dobie River at Dorothy Lake and 3.9 km south of the east bay of Meen Lake.

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to one of the near-by unnamed lakes.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including this occurrence.

In 1988, Golden Tanager Resources Ltd. did geological mapping, prospecting and trenching, and ground magnetometer and electromagnetic surveys on a claim group covering the occurrence. Bond Gold Canada Inc. optioned the claim group.

In 1989, Bond Gold Canada Inc. did a humus geochemistry survey and a diamond-drill program of 9 holes, totalling 938 m. Drill holes MP89-06 and MP89-07 intersected gold mineralization.

In 1989, Bond Gold Canada Inc. followed up with a 6-hole diamond-drill program, totalling 500.85 m.

DEPOSIT GEOLOGY

In several places, diamond-drill holes MP89-06 and MP89-07 intersected occurrence grade gold mineralization associated with quartz veins and zones of quartz-carbonate stringers and veins in sheared mafic metavolcanic flows and metasediments.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz and quartz-carbonate stringers

HOST ROCK: mafic metavolcanics / metasediments

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

MP89-06 intersected 3.23 g/tAu over 0.30 m from 73.85 m to 74.15 m.

The following are the significant assay interval from MP89-07:

From	To	Length	g/t Au
44.00 m	45.00 m	1.00 m	2.40
58.00 m	58.50 m	0.50 m	1.03
67.50 m	68.50 m	1.00 m	3.09
68.50 m	69.60 m	1.10 m	1.37
70.09 m	71.09 m	1.00 m	1.03

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0032 52O/06NW-0036 52O/06NW-0044
52O/06NW-0049 52O/06NW-0058 52O/06NW-0064
52O/06NW-0065 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Meen Lake #20

NTS AREA: 52O/06NW **MDI #: KP1218**

ALTERNATE NAMES:

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 24' 42" **LONGITUDE:** 91° 22' 23"

UTM ZONE: 15 **NORTHING:** 5696650 **EASTING:** 613150

LOCATION: This occurrence is located about 80 km west of Pickle Lake. It is located about 3.6 km northeast of the entrance of the Dobie River at Dorothy Lake and 4.4 km south of the east bay of Meen Lake.

ACCESS: Access to this occurrence is best gained by appropriately equipped aircraft to one of the near by unnamed lakes.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd. and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over areas including this occurrence.

In 1988, Golden Tanager Resources Ltd. did geological mapping, prospecting and trenching, and ground magnetometer and electromagnetic surveys on a claim group covering the occurrence. Bond Gold Canada Inc. optioned the claim group.

In 1989, Bond Gold Canada Inc. did a humus geochemistry survey and a diamond-drill program of 9 holes, totalling 938 m. Drill hole MP89-03 intersected occurrence grade gold mineralization.

In 1989, Bond Gold Canada Inc. followed up with a 6-hole, diamond-drill program, totalling 500.85 m.

DEPOSIT GEOLOGY

Drill hole MP89-03 intersected an interval that assayed 2.40 g/t Au over 1.2 m from 55.82 m to 57.02 m down the hole. The intersection is hosted by a mafic metavolcanic unit containing interbeds of metasediments. The interval contained an unknown concentration of pyrrhotite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: 1) metasediments

ECONOMIC MINERALS

1) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0032 52O/06NW-0036 52O/06NW-0044
52O/06NW-0049 52O/06NW-0058 52O/06NW-0064
52O/06NW-0065 52O/06SE-0040 52O/06SE-0042
52O/06SW-0017

DEPOSIT NAME: Tonsil Lake

NTS AREA: 52O/06NW **MDI #: KP1219**

ALTERNATE NAMES: 1) Dobie Golden Patricia zone

DEPOSIT STATUS: Drilled raw prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Meen Lake area

LATITUDE: 51° 23' 55" **LONGITUDE:** 91° 15' 05"

UTM ZONE: 15 **NORTHING:** 5695375 **EASTING:** 621650

LOCATION: The Tonsil Lake deposit is located about 71 km west of Pickle Lake and about 500 m to 1 km northwest of Tonsil Lake. (local name for the first lake downstream from Dorothy Lake on the Dobie River system)

ACCESS: Tonsil Lake is marginal for float- and ski-equipped aircraft. Access to the deposit is best gained by helicopter.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corp. Ltd. drilled a hole near or on the Tonsil Lake deposit as part of a follow-up program to a regional airborne geophysical survey.

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area that included the Tonsil Lake deposit.

In 1988, Bond Gold Canada Inc. did geological mapping, ground magnetometer and electromagnetic surveys and an IP survey which covered the area of the Tonsil Lake deposit.

In 1990, Bond Gold Canada Inc. discovered the Tonsil Lake deposit through diamond-drilling. Bond conducted additional detailed geophysical surveys and drilled off the deposit to a depth of about 200 m over a strike length of 1.1 km.

DEPOSIT GEOLOGY

The following quotation is from a OMEP report file by Bond Gold Canada Inc. in 1991. (52O/06NW-0071)

"The drilling program, completed on the Tonsil Lake Detailed Grid, consisted of 62 holes totalling 5654.5 m, that tested a narrow, locally auriferous quartz vein over a strike length of 1100 m (see Plan 6, Appendix 2). All but one of the holes, MD90-109, intersected a regular and predictable stratigraphy with the following observed progression of rock-types with depth:

1) mafic metavolcanic flows (massive, pillowed, banded);

2) an upper, sheared felsic unit, associated with banded iron formation;

3) an intermediate feldspar porphyry dyke;

4) a deformed and altered "amphibolite unit";

5) a narrow biotitic alteration zone containing;

6) a very narrow quartz vein;

7) a lower, sheared felsic unit; and

8) mafic metavolcanic flows.

Descriptions of the rock-types present within this stratigraphy are described below.

The mafic metavolcanic flows are green to dark green in colour, aphanitic to fine-grained, massive to pillowed, variably sheared (weak to intense), locally silicified, occasionally carbonatized or biotitic, and invariably chloritic. Weak amnphibolitization occurs rarely. Trace of very finely disseminated pyrrhotite and pyrite is common. A banded variety of flow is produced when pillows are highly deformed.

The upper felsic unit is light brownish-yellow in colour, moderately highly sheared, very sericitic, fine-grained, and locally contains elongated, greyish to bluish quartz eyes up to 2 mm in diameter. The unit occasionally contains highly saussuritized plagioclase remnants that are also elongated due to deformation. Slickensides are common locally. Commonly associated with this unit is a disrupted, banded iron formation interbedded with siltstone.

Immediately downhole from the upper felsic unit is a light brownish-grey, moderately sheared, biotitic intermediate feldspar porphyry dyke that ranges between 0.5 and 3.0 m in thickness. This dyke is composed of 30 to 45%, elongated, greyish plagioclase phenocrysts, up to 4 mm in diameter, within an aphanitic to fine-grained, biotitic groundmass. The upper and lower contacts are commonly chilled.

The thickest rock unit within the stratigraphy is "amphibolite", and it is generally in the order of 20 to 30 m, in thickness. This unit is moderately to intensely sheared, green to dark green in colour, mottled in appearance, and contains numerous elongated, relatively unsheared remnants (protoliths) that contain radial aggregates of coarse-grained actinolite. The rock surrounding these remnants is distinctly foliated and schistose, highly chloritic, and locally talcose. Where relatively undeformed, the rock acquires an intrusive appearance, and may have once been a porphyritic hornblende melagabbro or a coarse mafic flow centre.

The most important portion of this sequence of rocks is the variably sheared, locally silicified, mineralized, biotitic alteration zone, that contains, at or near its base, a narrow, crack-seal, greyish, cherty quartz vein. The alteration zone is aphanitic to fine-grained, brownish-green to brown in colour, and generally contains 1 to 5% disseminated and stringered pyrrhotite. The associated quartz vein is locally auriferous, and commonly contains numerous chloritic wisps and inclusions and some finely disseminated pyrrhotite. It varies in thickness from 2 mm to 28 cm, and is generally within 10 cm of the base of the alteration zone. Gold values obtained from this zone range from <1 g/ton to 20 g/ton, and are sporadic in nature.

The lower felsic unit is almost identical to the upper felsic unit, but tends to become less sheared and sericitic with depth. This unit can be up to 4 m in thickness.

Mafic metavolcanic rock similar to those described earlier are again encountered below the lower felsic unit. Shearing is locally intense near the upper contact, and the unit can become quite talcose. Shearing decreases gradually with depth.

All of the above rock-types are locally cross-cut by dark green, aphanitic to fine-grained, variably sheared mafic dykes up to 2 m in thickness.

Drilling has inferred the presence of some cross-cutting, strike-slip faults that have produced dextral offsets of up to 20 m to the south.

This drill program has determined that this zone is presently too narrow, and gold values too sporadic, to be economic."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: mafic metavolcanic

OTHER ASSOCIATED ROCK TYPES: **1)** felsic metavolcanic

2) quartz-feldspar porphyry

3) mafic intrusive

4) iron formation

ECONOMIC MINERALS

1) pyrrhotite **2)** gold

3) pyrite **4)** arsenopyrite

ALTERATION MINERALS AND PROCESSES

1) biotite **2)** sericite

3) carbonatization **4)** silicification

ECONOMIC FEATURES

The above quotation indicated that the Tonsil Lake deposit yielded gold values up to 20 g/t Au over an unspecified width. Assay reports submitted to the assessment files indicated assays up to 26.40 g/t Au. again over an unspecified width.

Bond Gold conclude that *" this zone is presently too narrow, and gold values too sporadic, to be economic." (52O/06NW-0071)*

OTHER PERTINENT DATA

The Tonsil Lake deposit may be contiguous with the Golden Patricia vein (KP0446).

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06NW-0038
52O/06NW-0052
52O/06NW-0054
52O/06NW-0068
52O/06NW-0069
52O/06NW-0071
52O/06NE-0014
52O/06NE-0016
52O/06SE-0042
52O/06SE-0074
52O/09SE-0035

CALEY LAKE AREA

52O/07SE

DEPOSIT NAME: Koval-Ohman

NTS AREA: 52O/07SE **MDI#: KP0243**

ALTERNATE NAMES: 1) "A" zone of the Hasaga deposit

2) "A" zone

3) Caley Lake # 1,A

DEPOSIT STATUS: developed prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 15' 06" **LONGITUDE:** 90° 32' 50"

UTM ZONE: 15 **NORTHING:** 5680450 **EASTING:** 671183

LOCATION: The "A" zone of the Koval-Ohman deposit is located approximately 34 km southwest of Pickle Lake. The "A" zone is located about 850 m south of Bancroft Lake (aka. Ben Lake) and about 2.4 km northeast of Matapesatakun Bay of Lake St. Joseph.

ACCESS: Bancroft Lake to the north of the deposit and Matapesatakun Bay, of Lake St. Joseph, to the southwest of the deposit are suitable for float-equipped aircraft in the spring, summer and fall, and ski-equipped aircraft in the winter. Bancroft Lake is shallow with a soft, organic sediment bottom. It is not suitable for large aircraft. There is an old campsite on the south shore of Bancroft Lake. A network of diamond-drill roads lead south to the deposit area from the campsite.

EXPLORATION AND DEVELOPMENT HISTORY

The following exploration and development history is taken from Janes, Seim and Storey, (1990).

"In August 1953, B. Ohman, a well known prospector in the Pickle Lake Area, discovered interesting mineralization south of Bancroft Lake. Ohman submitted some samples to Hasaga Gold Mines Ltd. for assay and the results were interesting enough to prompt a property visit from their geologists. Channel and chip samples, taken

during the visit, returned values of $6.58 over 31.25 feet and $25.85 over 8.5 feet (gold at $34.42 per ounce). Hasaga Gold Mines Limited subsequently optioned 45 claims from Ohman and his backers, the Koval family of Pickle Lake, in September of 1953.

Between September and December 1953, Hasaga Gold Mines Limited carried out line cutting, trenching and diamond-drilling on the optioned claims. Additional claims surrounding the optioned claims were staked for protection. The diamond-drilling totalled 7391 feet. Work resumed on the property in May 1954 and continued to December 1954, at which time operations were suspended. During this time Hasaga's exploration crew located at least five new showings on the property and completed 13 580 feet of diamond-drilling."

"Although a few memos, concerning the property are present in the assessment files, little work was conducted on the property between 1955 and 1975. However, during that time, Little Long Lac Gold Mines Ltd. acquired the Hasaga property.

In 1974, Little Long Lac Gold Mines Ltd. decided to re-examine the Hasaga property. A new grid was cut over the claim group and geological, ground magnetic, VLF-EM and IP surveys were carried out. In 1987, Lac Minerals Ltd. conducted a major diamond-drilling program on the property."

DEPOSIT GEOLOGY

Janes, Seim and Storey describe the geology if the "A" zone of the Koval-Ohman deposit as follows:

"Four main rock types underlie the Bancroft Lake area." (Stott and Wilson, 1986a, 1986b). "In the north is a 1 to 2 km thick succession of mafic metavolcanics. Sage and Breaks (1982) tentatively interpreted deformed pillow structures within the succession as south facing. To the south of the mafic metavolcanic succession is a 1 to 3 km thick unit of predominantly intermediate to felsic metatuffs. The gold mineralization on the Hasaga property is hosted by the intermediate to felsic metatuffs. A small (0.5 by 1 km), gabbroic plug intruded along the contact of the mafic metavolcanics with the intermediate-to felsic-metatuffs. An east-trending shear zone cuts this contact and the gabbroic plug. South of the intermediate-to felsic-metatuffs is a 0.5 km thick succession of mafic metavolcanics. Farther to the south are metasediments. The metavolcanics and metasediments trend east to east-northeast.

The "A" deposit outcrops between 2+00E/1+00N and 1+00W/1+00S on the Lac Minerals Ltd. grid (measured in feet). A series of old trenches also exposes the mineralization. Thinly laminated metatuffs are located to the north of the mineralization. Mafic minerals compose 10 to 25 percent of the laminae in the

metatuff. The second author estimates the metatuffs to be dacitic in composition. The bedding and the foliation are sub-parallel, striking 070° and dipping 76°S. A prominent lineation on an azimuth of 114° plunges 72°. Fine-grained felsic dikes, striking 080° to 090°, cut the metatuffs. These felsic dikes contain conjugate, quartz-tourmaline-filled tension gashes that trend 110° and 170°.

The mineralized unit is a well-sheared, siliceous, sericitic schist. The contact between the dacitic metatuffs and sericitic schist is gradational over a couple of metres. The schistosity strikes 082° and dips 86°S. The sericitic schist contains 1-to 5- percent, very-fine, disseminated pyrite and up to 1 percent disseminated tourmaline crystals and clusters. The tourmaline crystals define a mineral lineation on an azimuth of 100° plunging 51°. The sericitic schist is approximately 6 m in width and has a strike length of approximately 100 m. The sericitic schist unit appears to be lenticular in shape.

A 1 to 2 m wide layer of mafic metatuff is situated immediately south of the mineralized sericitic schist.

A lapilli metatuff is found south of the mafic metatuff. The matrix of the lapilli metatuff is intermediate in composition. The lapilli are intermediate to felsic in composition and are very stretched (length of thickness ratio greater than 10:1). The lapilli metatuff strikes 070° and dips 80°S. Narrow blue-grey quartz veins (0.5 to 3 cm) cut the lapilli metatuff and have a strike and dip of 075/70S."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: shear zone

HOST ROCK: intermediate to felsic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** felsic intrusive

2) quartz-tourmaline veins

3) metasediments

ECONOMIC MINERALS

1) pyrite

2) arsenopyrite

3) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) sericite **2)** tourmaline

3) silicification

RESERVE DATA

RESERVE CATEGORY: mineral inventory

TONNES: 471,589*

AVERAGE GRADE: 5.81 g/t Au

* The reserve figure may include the mineral inventory of the "C" deposit (KP1056).

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined the surface expression of this deposit in 1989.

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990 Sioux Lookout Resident Geologist's District -- 1989; in Report of Activities 1989, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, p.69-100.

Sage, R.P. and Breaks, F.W. 1982 Geology of the Cat Lake - Pickle Lake area, districts of Kenora and Thunder Bay: Ontario Geological Survey, Report 207, 238p.

Stott, G.M. and Wilson, A.C. 1986a Precambrian geology of the Muskegsagagen-Bancroft Lakes area, district of Kenora (Patricia Portion); Ontario Geological Survey, Preliminary Map P.3049, scale 1:50 000.

Stott, G.M. and Wilson, A.C. 1986b Precambrian geology of the Muskegsagagen-Bancroft lakes area, district of Kenora (Patricia Portion); Ontario Geological Survey, Map 2507, P.3049, scale 1:50 000.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07SE-0011 52O/07SE-0012 52O/07SE-0013

52O/07SE-0014 52O/06NW-0066

DEPOSIT NAME: Ben Lake Property, Zone # 1

NTS AREA: 52O/07SE **MDI#: KP 1114**

ALTERNATE NAMES: 1) Caley Lake # 2

DEPOSIT STATUS: Drill and trenched occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 15' 34" **LONGITUDE:** 90° 31' 36"

UTM ZONE: 15 **NORTHING:** 5681350 **EASTING:** 672750

LOCATION: This occurrence is located about 31 km southwest of Pickle lake and 425 m southwest of the creek mouth at the west end of Bancroft Lake (aka. Ben Lake) on the north side of the creek.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bancroft Lake and then a traverse to the occurrence area. Bancroft Lake is very shallow with a soft bottom and is not recommended for landing with a large aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1959, Hasaga Gold Mines Ltd. optioned a claim block covering this occurrence from B. Ohman and K. Koval. Hasaga performed prospecting, geological mapping, trenching and diamond-drilling on the optioned claim block.

In 1963 Pickle Crow Gold Mines Ltd. sampled 5 trenches on this occurrence and reported significant gold values.

In 1982, 493217 Ontario Ltd. did ground magnetometer and electromagnetic surveys which covered this occurrence.

In 1983, and 1984, Moss Resource Ltd. conducted geological mapping, magnetometer, electromagnetic, IP , rock and soil geochemistry surveys which covered this occurrence. This included trenching and sampling and was followed up by a 20 hole, 1522.78 m, diamond-drilling program.

In 1986, Power Explorations Inc. completed a 16 hole, 1430.43 m, diamond-drilling program on a claim block including this occurrence.

DEPOSIT GEOLOGY

This occurrence outcrops intermittently over an east-trending strike length of about 1 km. The gold mineralization occurs in a metasedimentary unit near the contact with a mixed intermediate to mafic metavolcanic succession. Within the metasedimentary unit, the gold mineralization occurs with quartz stringers, tourmaline and pyrite in a variety of rock types including argillite, a deeply weathered limonitic schist and iron formation. The area is intruded by quartz-feldspar porphyry dikes and sills. Visible gold has been panned from the limonitic schist. In drill hole BL-84-19, The gold mineralization is associated with a sulphide-bearing mafic tuff beds in the metasedimentary unit.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: metasediments / iron formation

OTHER ASSOCIATED ROCK TYPES: **1)** quartz-feldspar porphyry

2) intermediate to mafic metavolcanics

ECONOMIC MINERALS

1) gold

2) pyrite

3) limonite

4) arsenopyrite

5) pyrrhotite

6) chalcopyrite

7) sphalerite

8) bornite

ALTERATION MINERALS AND PROCESSES

1) silicification

2) chlorite

3) garnet

ECONOMIC FEATURES

When this occurrence was sampled by Pickle Crow Gold Mines Ltd. in 1963, assay results of 2.86 ounces Au per ton over 28 cm (11"), 4.07 ounces Au per ton over 40 cm (16") and 0.49 ounce Au per tone over 81 cm (32") were reported from 3 separate trenches.

Repeated Moss Resources sampling of the 4.07 ounces gold per ton sample interval yielded values of 0.295, 0.40 and 0.28 ounce Au. Moss Resources best assay result of 1.054 ounces Au per ton over 30 cm (1.0') came from another trench.

Diamond-drill hole BL-84-19 intersected values of 0.06 ounce Au per ton over 30 cm (1.0') and 0.03 ounce Au per ton over 55 cm (1.8') within the zone of the occurrence.

REFERENCES

Assessment files, Resident Geologist' office, Sioux Lookout District,

52O/07SE-0014	52O/07SE-0015	52O/07SE-0016
52O/07SE-0019	52O/07SE-0020	52O/07SE-0021

DEPOSIT NAME: Ben Lake Property, Zone # 2

NTS AREA: 52O/07SE **MDI#: KP 1115**

ALTERNATE NAMES: 1) Caley Lake # 3

DEPOSIT STATUS: drill and trenched occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 15' 36" **LONGITUDE:** 90° 31' 13"

UTM ZONE: 15 **NORTHING:** 5681425 **EASTING:** 673020

LOCATION: This occurrence is located about 31 km southwest of Pickle lake and 300 m southwest of the creek mouth at the west end of Bancroft Lake (aka. Ben Lake) on the north side of the creek.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bancroft Lake and then a traverse to the occurrence area. Bancroft Lake is very shallow with a soft bottom and is not recommended for landing with a large aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1959, Hasaga Gold Mines Ltd. optioned a claim block covering this occurrence from B. Ohman and K. Koval. Hasaga performed prospecting, geological mapping, trenching and diamond-drilling on the optioned claim block.

In 1963 Pickle Crow Gold Mines Ltd. sampled 5 trenches on this occurrence and reported significant gold values.

In 1982, 493217 Ontario Ltd. did ground magnetometer and electromagnetic surveys which covered this occurrence.

In 1983, and 1984, Moss Resource Ltd. conducted geological mapping, magnetometer, electromagnetic, IP , rock and soil geochemistry surveys which covered this occurrence. This included trenching and sampling and was followed up by a 20 hole, 1522.78 m, diamond-drilling program.

In 1986, Power Explorations Inc. completed a 16 hole, 1430.43 m, diamond-drilling program on a claim block including this occurrence.

DEPOSIT GEOLOGY

This occurrence is exposed in a series of trenches over a east-trending strike length of about 730 m. The strike length has been extended by diamond-drilling to over 1300 m. Gold mineralization occurs at the contacts of an partially sulphidized iron formation and in the surrounding siliceous metasediments. The sulphides associated with this occurrence are pyrrhotite, pyrite, chalcopyrite and arsenopyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: iron formation / metasediments

HOST ROCK: same / same

OTHER ASSOCIATED ROCK TYPES: **1)** quartz-feldspar porphyry

2) mafic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

3) arsenopyrite **4)** chalcopyrite

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES

The best assay from the surface expression of this occurrence was 0.10 ounce Au per ton over 60 cm (2.0').

Diamond-drill holes on this occurrence have returns intersections of:

Hole #	From	To	Length	Ounce Au per ton
BL-84-10	34.23 m (112.3')	35.08 m (115.1')	0.85 m (2.8')	0.04
BL-84-11	31.61 m (103.7')	32.70 m (107.3')	1.09 m (3.6')	0.08

REFERENCES

Assessment files, Resident Geologist' office, Sioux Lookout District,

52O/07SE-0014	52O/07SE-0015	52O/07SE-0016
52O/07SE-0019	52O/07SE-0020	52O/07SE-0021

DEPOSIT NAME: Ben Lake Property, Zone # 3

NTS AREA: 52O/07SE **MDI#: KP 1116**

ALTERNATE NAMES: 1) Caley Lake # 4

DEPOSIT STATUS: drilled and trenched occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 15' 25" **LONGITUDE:** 90° 31' 45"

UTM ZONE: 15 **NORTHING:** 5681060 **EASTING:** 672417

LOCATION: This occurrence is located about 31 km southwest of Pickle lake and 900 m southwest of the creek mouth at the west end of Bancroft Lake (aka. Ben Lake) on the south side of the creek.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bancroft Lake and then a traverse to the occurrence area. Bancroft Lake is very shallow with a soft bottom and is not recommended for landing with a large aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1959, Hasaga Gold Mines Ltd. optioned a claim block covering this occurrence from B. Ohman and K. Koval. Hasaga performed prospecting, geological mapping, trenching and diamond-drilling on the optioned claim block.

In 1963 Pickle Crow Gold Mines Ltd. sampled 5 trenches on this occurrence and reported significant gold values.

In 1982, 493217 Ontario Ltd. did ground magnetometer and electromagnetic surveys which covered this occurrence.

In 1983, and 1984, Moss Resource Ltd. conducted geological mapping, magnetometer, electromagnetic, IP , rock and soil geochemistry surveys which covered this occurrence. This included trenching and sampling and was followed up by a 20 hole, 1522.78 m, diamond-drilling program.

In 1986, Power Explorations Inc. completed a 16 hole, 1430.43 m, diamond-drilling program on a claim block including this occurrence.

DEPOSIT GEOLOGY

This occurrence is exposed in a series of trenches along a east-trending strike length of about 180 m. The occurrence is hosted in a succession of mafic metavolcanics containing interlayers of iron formation. Quartz porphyry intrusives intrude the area. The gold mineralization is most commonly associated with sulphide-rich quartz stringers and fractures and with sulphide-poor iron formation and the surrounding mafic metavolcanics. Pyrrhotite and pyrite are observed in the trenches.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz veins

HOST ROCK: mafic metavolcanics / iron formation

OTHER ASSOCIATED ROCK TYPES: 1) quartz-feldspar porphyry

ECONOMIC MINERALS

1) pyrrhotite 2) pyrite

ALTERATION MINERALS AND PROCESSES

1) not known

ECONOMIC FEATURES

The best assay reported from this occurrence was 0.295 ounce au per tone over 46 cm (1.5').

REFERENCES

Assessment files, Resident Geologist' office, Sioux Lookout District,

52O/07SE-0014 52O/07SE-0015 52O/07SE-0016
52O/07SE-0019 52O/07SE-0020 52O/07SE-0021

DEPOSIT NAME: Ben Lake Property, Zone # 7

NTS AREA: 52O/07SE **MDI#: KP 1117**

ALTERNATE NAMES: 1) Caley Lake # 5

DEPOSIT STATUS: grab sample from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 15' 44" **LONGITUDE:** 90° 30' 59"

UTM ZONE: 15 **NORTHING:** 5681707 **EASTING:** 673286

LOCATION: This occurrence is located about 30 km southwest of Pickle lake and 300 m east of the creek mouth at the west end of Bancroft Lake (aka. Ben Lake).

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Bancroft Lake and then a traverse to the occurrence area. Bancroft Lake is very shallow with a soft bottom and is not recommended for landing with a large aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1982, 493217 Ontario Ltd. did ground magnetometer and electromagnetic surveys which covered this occurrence.

In 1983, and 1984, Moss Resource Ltd. conducted geological mapping, magnetometer, electromagnetic, IP , rock and soil geochemistry surveys which covered this occurrence. This included trenching and sampling and was followed up by a 20 hole, 1522.78 m, diamond-drilling program.

In 1986, Power Explorations Inc. completed a 16 hole, 1430.43 m, diamond-drilling program on a claim block including this occurrence.

DEPOSIT GEOLOGY

This occurrence is a 15 cm wide quartz vein cutting a 3 m wide quartz-feldspar

porphyry sill which intruded a felsic metavolcanic unit. A grab sample of the quartz vein assayed 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: 1) felsic metavolcanics

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist' office, Sioux Lookout District,

52O/07SE-0015 52O/07SE-0016 52O/07SE-0019
52O/07SE-0020 52O/07SE-0021

DEPOSIT NAME: Caley Lake # 6

NTS AREA: 52O/07SE **MDI#: KP1118**

ALTERNATE NAMES: 1) Duffell Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 34" **LONGITUDE:** 90° 44' 19"

UTM ZONE: 15 **NORTHING:** 5684586 **EASTING:** 657675

LOCATION: This occurrence is located about 41 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 1.95 km south of Kawinogans Lake and 2.7 km northeast of Knupp Lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Knupp Lake or Kawinogans Lake and then a traverse overland or by helicopter to a site nearer the occurrence. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 1.25 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling. Drill hole JWH-88-03 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did further diamond-drilling in the area of this occurrence.

DEPOSIT GEOLOGY

Drill hole JWH-88-03 cut a succession of mafic metavolcanics containing several interflow beds of sulphide iron formation. The hole also intersected 2 significant quartz

veins and a quartz-feldspar porphyry intrusive. Somewhere within the 112.54 m long hole a sample of unknown length returned an assay value of 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) sulphide iron formation

3) quartz-feldspar porphyry

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036 52O/02NE-0018 52O/06SE-0080
52O/07SE-0023 52O/07SW-0025

DEPOSIT NAME: Caley Lake # 7

NTS AREA: 52O/07SE **MDI#: KP1119**

ALTERNATE NAMES: 1) Duffell Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 37" **LONGITUDE:** 90° 44' 27"

UTM ZONE: 15 **NORTHING:** 5684675 **EASTING:** 657523

LOCATION: This occurrence is located about 41 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 1.85 km south of Kawinogans Lake and 2.8 km northeast of Knupp Lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Knupp Lake or Kawinogans Lake and then a traverse overland or by helicopter to a site nearer the occurrence. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 1.15 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling. Drill hole JWH-88-05 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did further diamond-drilling in the area of this occurrence.

DEPOSIT GEOLOGY

Drill hole JWH-88-05 cut a succession of mafic metavolcanics containing 1 interflow bed of banded iron formation. The hole also intersected a quartz-feldspar porphyry

intrusive. Somewhere within the 118.00 m long hole several samples of unknown length returned assay values up to of 0.08 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) iron formation

3) quartz-feldspar porphyry

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036 52O/02NE-0018 52O/06SE-0080
52O/07SE-0023 52O/07SW-0025

DEPOSIT NAME: Caley Lake # 8

NTS AREA: 52O/07SE **MDI#: KP1120**

ALTERNATE NAMES: 1) Duffell Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 12" **LONGITUDE:** 90° 42' 28"

UTM ZONE: 15 **NORTHING:** 5683973 **EASTING:** 659849

LOCATION: This occurrence is located about 38 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 800 m northwest of Whitmore Lake and 3.7 km northeast of Knupp Lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Whitmore Lake and then a traverse overland to the drill hole site. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 2.75 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. drilled a diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling. Drill hole JWH-88-06 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did further diamond-drilling in the area of this occurrence.

DEPOSIT GEOLOGY

Drill hole JWH-88-06 cut a succession of metasediments and a 15 cm thick band of massive pyrrhotite and quartz vein. Somewhere within the 99.70 m long hole a sample of unknown length returned an assay value of 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) sulphide iron formation

3) quartz-feldspar porphyry

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036	52O/02NE-0018	52O/06SE-0080
52O/07SE-0023	52O/07SW-0025	52O/09SE-0035

DEPOSIT NAME: Caley Lake # 9

NTS AREA: 52O/07SE **MDI#: KP1121**

ALTERNATE NAMES: **1)** Duffell Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 26" **LONGITUDE:** 90° 41' 56"

UTM ZONE: 15 **NORTHING:** 5684439 **EASTING:** 660453

LOCATION: This occurrence is located about 37 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 1100 m north of Whitmore Lake and 4.5 km northeast of Knupp Lake. The drill hole was spotted about 200 m south of a small un-named lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Whitmore Lake and then a traverse overland to the drill hole site. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 2.7 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. drilled a diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling. Drill hole JWH-88-08 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did further diamond-drilling in the area of this occurrence.

DEPOSIT GEOLOGY

Drill hole JWH-88-08 cut a succession of mafic metavolcanics containing interlayers of mudstone and iron formation. the succession is cut by granitic dikes. Somewhere within the 108.80 m long hole a sample of unknown length returned an assay value of 0.03 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) iron formation

3) metasediments

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036	52O/02NE-0018	52O/06SE-0080
52O/07SE-0023	52O/07SW-0025	52O/09SE-0035

DEPOSIT NAME: Caley Lake # 10

NTS AREA: 52O/07SE **MDI#: KP1122**

ALTERNATE NAMES: 1) Duffell Group

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 27" **LONGITUDE:** 90° 42' 36"

UTM ZONE: 15 **NORTHING:** 5684449 **EASTING:** 659681

LOCATION: This occurrence is located about 38 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 1300 m northwest of Whitmore Lake and 3.9 km northeast of Knupp Lake. The drill hole was spotted about 400 m southwest of a small un-named lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Whitmore Lake and then a traverse overland to the drill hole site. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 2.25 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. drilled a diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling. Drill hole JWH-88-09 intersected this occurrence.

In 1990, Bond Gold Canada Inc. did further diamond-drilling in the area of this occurrence.

DEPOSIT GEOLOGY

Drill hole JWH-88-09 cut a succession of mafic metavolcanics containing interlayers of mudstone and sulphide iron formation. One iron formation is noted in the drill log to be intensely silicified. Somewhere within the 99.40 m long hole a several samples of unknown length returned an assay values up to 0.06 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) sulphide iron formation

3) metasediments

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036	52O/02NE-0018	52O/06SE-0080
52O/07SE-0023	52O/07SW-0025	52O/09SE-0035

DEPOSIT NAME: Caley Lake # 11

NTS AREA: 52O/07SE **MDI#: KP1123**

ALTERNATE NAMES: 1) Duffell Group

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Caley Lake area

LATITUDE: 51° 17' 38" **LONGITUDE:** 90° 44' 33"

UTM ZONE: 15 **NORTHING:** 5684703 **EASTING:** 657410

LOCATION: This occurrence is located about 41 km southwest of Pickle Lake. It was intersected in a diamond drill hole spotted about 1.75 km south of Kawinogans Lake and 2.9 km northeast of Knupp Lake.

ACCESS: Access to this occurrence in by appropriately equipped aircraft to Knupp Lake or Kawinogans Lake and then a traverse overland or by helicopter to a site nearer the occurrence. The winter road to the Golden Patricia mine passes along the Ear Fall to Pickle Lake power corridor about 1.0 km northeast of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1988, Bond Gold Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area which included the occurrence. This was followed up by geological mapping, probably ground geophysical surveys and diamond-drilling.

In 1990, Bond Gold Canada Inc. did further diamond-drilling on the Duffell claim group and intersected this occurrence in drill hole J-90-40.

DEPOSIT GEOLOGY

Drill hole J-90-40 cut a succession of mafic metavolcanics containing interflow beds of sulphide iron formation. Somewhere within the 101.00 m long hole a sample of

unknown length returned assay value of 0.13 ounce Au per ton.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: unknown

HOST ROCK: unknown

OTHER ASSOCIATED ROCK TYPES: **1)** mafic metavolcanics

2) sulphide iron formation

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/02NW-0036 52O/02NE-0018 52O/06SE-0080
52O/07SE-0023 52O/07SW-0025

WRIGHT LAKE AREA

52O/07SW

DEPOSIT NAME: **Kawinogans Lake**

NTS AREA: 52O/07SW **MDI#:** **KP1108**

ALTERNATE NAMES: **1)** Wright Lake # 1 and 2

2) Anomaly #14-36C

DEPOSIT STATUS: diamond-drill intersections

COMMODITIES: Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 17' 17" **LONGITUDE:** 90° 47' 12"

UTM ZONE: 15 **NORTHING:** 5683978 **EASTING:** 654336

LOCATION: The Kawinogans Lake occurrence is located about 44 km southwest of Pickle Lake. It is located about 1.7 km north of the start of the creek which drain Knupp Lake and about 350 m east of Kawinogans Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to either Knupp Lake or Kawinogans Lake and then traversing overland. A winter road along the Ear Falls to Pickle Lake power corridor passes about 1.1 km southeast of the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1969, Newconex Canadian Exploration Ltd. in partnership with Minorex Ltd. commissioned airborne magnetometer, electromagnetic and gamma-ray spectrometer surveys over an area including the occurrence. The results were ground proofed by Crone J.E.M. shootback surveys and by Sharpe S.E. 200 standard vertical-loop surveys.

In 1972, Union Miniere Explorations and Mining Corporation Limited discovered this occurrence during a follow-up diamond-drilling program to a regional airborne geophysical survey. Several of 13 diamond-drill holes intersected base metal mineralization.

In 1974, 1975 and 1977 Union Miniere Explorations and Mining Corporation Ltd. drilled 3 additional holes on or near this occurrence.

In 1986, St. Joe Canada Inc commissioned airborne magnetometer and electromagnetic surveys over an area including the occurrence.

In 1988, Bond Gold Canada Inc did diamond-drilling near the occurrence.

In 1990, Bond Gold Canada Inc did geological mapping over an area including the occurrence.

DEPOSIT GEOLOGY

The Kawinogans Lake base metal occurrence is hosted in a succession of mafic metavolcanics containing many interbeds of graphitic metasediments. Base metal sulphides occur both in the graphitic metasediment interbeds and as semi-massive to massive sulphide layers within the mafic metavolcanics. Chlorite, sericite and biotite alteration occurred in the mafic metavolcanics adjacent the semi-massive to massive sulphide layers. The sulphides in order of abundance are pyrite, pyrrhotite, sphalerite, chalcopyrite and galena. The geophysical anomalies associated with the base metal sulphides trend east to northeast.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics / metasediments

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

2) pyrrhotite

3) sphalerite

4) chalcopyrite

5) galena

ALTERATION MINERALS AND PROCESSES

1) chlorite

2) sericite

3) biotite

ECONOMIC FEATURES

No assays were reported for assessment credits from this occurrence. Notes on mineralization in the various drill logs indicate that the best intersection was made in drill hole C-77. C-77 intersected 2.89 m of massive sulphides with visual estimates of 23% sphalerite and 9.5% chalcopyrite.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/07SW-0010
52O/07SW-0011-B1
52O/07SW-0011-C1
52O/07SW-0011-D1
52O/07SW-0013
52O/07SW-0032
52O/07SW-0033
52O/06SE-0042

DEPOSIT NAME: Beardrum Lake

NTS AREA: 52O/07SW **MDI#: KP1109**

ALTERNATE NAMES: 1) Wright Lake # 3

2) Ontario Gold Joint Venture

DEPOSIT STATUS: grab sample form outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 15' 08" **LONGITUDE:** 90° 56' 44"

UTM ZONE: 15 **NORTHING:** 5697668 **EASTING:** 643374

LOCATION: The Beardrum Lake occurrence is located about 56 km southwest of Pickle Lake.It is located about 300 m west of the central part of Dempster Lake and about 1.7 km east of Mousetrap Lake.

ACCESS: Access to the Beardrum Lake occurrence is by appropriately equipped aircraft to Dempster Lake and then traversing overland to the occurrence.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, Dunlop Explorations working for the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd. and Newfield Minerals Inc.) conducted a prospecting and sampling program in the Dempster Lake area and discovered the Beardrum Lake occurrence.

From 1985 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted an exploration program on a large block of claims in the Dempster Lake area. The multi-phased program included geological mapping, stripping and trenching, rock and soil geochemistry and airborne magnetometer and electromagnetic surveys, ground magnetometer and electromagnetic surveys and diamond-drilling. Little of this work focused on the Beardrum Lake occurrence.

In 1986, St. Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys which included the area of this occurrence.

DEPOSIT GEOLOGY

The Beardrum Lake occurrence consists gold-bearing quartz-tourmaline vein filled tension gashes in a quartz-feldspar porphyry dike which intruded a sheared felsic metavolcanic (sericite schist). The tension gashes strike 360° and dip near vertical. The porphyry dike trends 050° to 060° through the felsic metavolcanic.The felsic metavolcanic exhibits a C-C' fabric where C strike 060°and dips 72° N. Tourmaline crystals in the plane of the C fabric define a steep south plunging lineation.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-tourmaline vein

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: 1) felsic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) sericite

2) tourmaline

3) carbonate

ECONOMIC FEATURES

A grab sample taken in 1986 by the Ontario Gold Joint Venture assayed 0.076 ounce Au per ton.

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined this occurrence in 1989. The assay result

was not duplicated.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0032	52O/06SE-0033	52O/06SE-0040
52O/02NW-0039	52O/02NW-0040	53B/14NE-0020

DEPOSIT NAME: Wright Lake # 4

NTS AREA: 52O/07SW **MDI#: KP1110**

ALTERNATE NAMES: 1) Jewett Lake

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 17' 45" **LONGITUDE:** 90° 53' 58"

UTM ZONE: 15 **NORTHING:** 5684700 **EASTING:** 646700

LOCATION: This occurrence is located about 51 km southwest of Pickle Lake and about 100 m south of the middle of Jewett Lake.

ACCESS: Access this occurrence is by appropriately equipped aircraft to Jewett Lake and then a traverse overland south to the drill hole site. The winter road to the Golden Patricia mine passes about 150 m south of the drill hole site.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. did 1 diamond-drill hole on or near this occurrence as part of a follow-up program to a regional airborne geophysical survey.

In 1986, St Joe Canada Inc. commissioned airborne magnetometer and electromagnetic surveys over an area including this occurrence.

In 1986, St.Joe Canada Inc. drilled 2 diamond-drill holes on anomaly JN14. Drill hole J-87-5 intersected 3 narrow intervals of occurrence grade gold mineralization.

In 1990, Bond Gold Canada Inc. drilled 2 additional hole on anomaly JN14 and completed geological mapping on their Jewett Lake claim block.

DEPOSIT GEOLOGY

The drill log for J-87-5 indicates the three occurrence grade gold intersections were cut in mafic metavolcanic flows interlayered with thin horizons of iron formation. The intersections are associated with low concentrations of pyrite and pyrrhotite and in the case of the highest grade interval quartz veining. Biotite, chlorite and carbonate are mentioned as alteration minerals.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** iron formation

ECONOMIC MINERALS

1) pyrite **2)** pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) chlorite **2)** biotite

3) carbonate

ECONOMIC FEATURES

The three intersection in drill hole J-87-5 are:

From	To	Length	g/t Au
54.80 m	55.55 m	0.75 m	1.37
70.30 m	70.80 m	0.50 m	2.74
96.88 m	97.40 m	0.52 m	3.43

REFERENCES

Assessment files, Resident Geologist's office, Sioux lookout District,

52O/09SE-0035
52O/06SE-0040
52O/07SW-0023
52O/07SW-0024
52O/07SW-0027
52O/06SE-0080
52O/07SW-0032
52O/07SW-0033

DEPOSIT NAME: Perkins Pond

NTS AREA: 52O/07SW **MDI#: KP1111**

ALTERNATE NAMES: 1) Wright Lake # 5

2) Caviar Option

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au, Cu, Zn

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 16' 23" **LONGITUDE:** 90° 57' 45"

UTM ZONE: 15 **NORTHING:** 5681942 **EASTING:** 642132

LOCATION: The Perkins Pond occurrence is located about 55 km southwest of Pickle Lake. Perkins Pond is a small lake located about 1.5 km east of Granite Boss lake and 3 km west of the north end of Dempster Lake.

ACCESS: The recommended means of access to Perkins Pond is by helicopter.

EXPLORATION AND DEVELOPMENT HISTORY

In 1986, Geocanex Ltd and St. Joe Canada Inc. commissioned separate airborne magnetometer and electromagnetic surveys over an area including this occurrence.

In 1986, Trans Provincial Resources Inc. did ground magnetometer and electromagnetic surveys and geological mapping on a claim group covering this occurrence

In 1988 and 1989, Goldhunter Explorations Inc. did 2 diamond-drilling programs (34 holes, 5135.86 m) on a claim group optioned from Caviar Resources Limited and Consolidated Milner Silver Mines Ltd.

DEPOSIT GEOLOGY

This occurrence consists of occurrence grade gold, copper and zinc intersections cut

in 6 drill holes located on and on the north side of the small lake located 1.75 km east of Graniteboss Lake. All six holes cut a succession of mafic metavolcanics containing interlayers of graphitic metasediments and semi-massive to massive sulphides. The succession is cut by many shear zones, feldspar porphyry and quartz-feldspar porphyry dikes. The intersections are discussed by drill hole.

C-89-2 This hole cut, down-dip, a narrow quartz vein in a carbonatized mafic metavolcanic at the contact with a quartz-feldspar porphyry dike. The vein contained abundant visible gold and blebs of pyrite, sphalerite and galena. The quartz vein was intersected from 131.06 m (430.0 ft.) to 132.89 m (436.0 ft.). Further down the hole at 175.41 m (575.5 ft.) to 175.75 m (576.6 ft.) a sheared graphite metasediment returned a occurrence grade zinc assay. The graphitic metasediment contained 5% pyrrhotite with traces of pyrite.

C-89-3 This hole cut, down dip, several narrow quartz veins at 77.72 m (255.0 ft.) to 78.33 m (257.0 ft.). The vein occurs in a carbonatized mafic metavolcanic and contains visible gold, pyrite and sphalerite.

C-89-6 This hole intersected a 1.5 cm thick gold-bearing quartz vein at 130.85 m (429.3 ft.) to 130.97 m (429.7 ft.) in a carbonatized mafic metavolcanic. A sheared graphitic metasediment containing chalcopyrite, pyrrhotite and pyrite was intersected at 27.67 m (90.8 ft.) to 28.28 m (92.8 ft.).

C-89-7 This hole intersected a sheared graphitic metasediment containing 2% - 3% pyrite and streaks of chalcopyrite at 52.97 m (173.8 ft.) to 53.43 m (175.3 ft.).

C-89-8 This hole intersected a 7 cm gold-bearing quartz vein in a carbonatized mafic metavolcanic at 117.04 m (384.0 ft.) to 117.13 m (384.3 ft.). The vein contained 1% - 2% disseminated euhedral pyrite.

C-89-9 This hole intersected a 7 cm gold-bearing quartz vein at 97.23 m (319.0 m) to 97.35 m (319.4 ft.) in a carbonatized mafic metavolcanic.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein / metasediment

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) feldspar porphyry

2) quartz-feldspar porphyry

ECONOMIC MINERALS

1) gold

2) sphalerite

3) chalcopyrite

4) galena

5) pyrite

6) pyrrhotite

ALTERATION MINERALS AND PROCESSES

1) carbonatization

ECONOMIC FEATURES

Hole	From	To	Length	Au oz/t	Cu ppm	Zn ppm
C-89-2	131.06 m (430.0')	132.89 m (436.0')	1.83 m (6.0')	0.66	57	140
C-89-2	175.41 m (575.5')	175.75 m (576.6')	0.34 m (1.1')	<0.01	1547	10529
C-89-3	77.72 m (255.0')	78.33 m (257.0')	0.61 m (2.0')	0.275	100	241
C-89-6	130.85 m (429.3')	130.97 m (429.7')	0.12 m (0.4')	0.13	50	49
C-89-6	27.67 m (90.8')	28.28 m (92.8')	0.61 m (2.0')	0.024	4101	609
C-89-7	52.97 m (173.8')	53.43 m (175.3')	0.46 m (1.5')	<0.01	977	5049
C-89-8	117.01 m (383.9')	117.20 m (384.5')	0.19 m (0.6')	0.04	27	55
C-89-9	97.14 m	97.44 m	0.30 m	0.58	81	120

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined some of the drill core comprising this occurrence in 1989. Parts of the geological description of this occurrence are based on that examination.

REFERENCES

Assessment files, Resident Geologist's office Sioux Lookout District,

52O/06SW-0017 52O/06SE-0040 52O/06SE-0042
52O/07SW-0019 52O/07SW-0020 52O/07SW-0026
52O/07SW-0028

DEPOSIT NAME: Sudbury Point

NTS AREA: 52O/07SW **MDI#: KP1220**

ALTERNATE NAMES: **1)** Wright Lake # 6

2) Ontario Gold Joint Venture

3) Dempster Lake

DEPOSIT STATUS: drilled and trenched occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 15' 49" **LONGITUDE:** 90° 55' 30"

UTM ZONE: 15 **NORTHING:** 5680975 **EASTING:** 644775

LOCATION: The Sudbury Point occurrence is located about 55 km southwest of Pickle Lake on the west shore of Dempster Lake at its north end.

ACCESS: Access to Dempster Lake is by appropriately equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, Dunlop Explorations working for the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd. and Newfield Minerals Inc.) conducted a prospecting and sampling program in the Dempster Lake area and discovered the Sudbury Point occurrence

From 1985 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted an exploration program on a large block of claims in the Dempster Lake area. The multi-phased program included geological mapping, stripping and trenching, rock and soil geochemistry and airborne magnetometer and electromagnetic surveys, ground magnetometer and electromagnetic surveys and diamond-drilling.

In 1986, St. Joe Canada Inc commissioned airborne magnetometer and

electromagnetic surveys which included the area of this occurrence.

DEPOSIT GEOLOGY

The following is a description of the geology of the Sudbury Point occurrence in Janes, Seim and Storey, 1990.

"Sudbury Point, a name used by Northern Dynasty Explorations Ltd., is a small point of land on the northwest shore of the north part of Dempster Lake (Figure 4.5, No.1). Northern Dynasty Explorations Ltd. found gold mineralization in quartz-tourmaline veins at Sudbury Point in 1984. They have surface trenched and channel sampled the outcrop on the point and drilled three diamond-drill holes to test the showing.

Three rock types are exposed on Sudbury Point, one of which is a felsic metavolcanic. The other two are intrusive dikes; quartz-feldspar porphyry dikes and intermediate dikes with chlorite porphyroblasts. The felsic metavolcanic may have once been a lapilli tuff, but alteration and deformation have all but destroyed the original textures. The resultant rock is a very fine-grained sericite, weakly chloritized, carbonitized schist that weathers light-grey to buff. It contains many quartz and quartz-tourmaline veins aligned parallel to the S_2 shear direction.

Two schistosities and one fracture cleavage are recognized at Sudbury Point and can easily be observed in the felsic metavolcanics. The two schistosities, S_1 and S_2 strike 080° (dipping 85°S) and 060° to 070° (dipping 85°N), respectively. S_1 does not penetrate the dikes. S_2 penetrates the immediate dikes as a cleavage. It does not penetrate the quartz-tourmaline veins. S_3 is a fracture cleavage that strikes 150° and dips 70°NE. It penetrates both the intermediate and quartz-feldspar porphyry dikes.

Dikes of quartz-feldspar porphyry make up 50 percent of rock exposure on Sudbury Point. They are up to 3 m thick and trend 070° to 080° subparallel to the S_1 schistosity. The quartz-feldspar porphyry is composed of 60 to 70 percent cream-coloured, round 1 to 3 mm feldspar phenocrysts and less than 10 percent quartz phenocrysts of the same size and shape. The ground mass is composed mainly of very fine-grained, red, feldspar crystals. Some of the dikes contain chlorite spots. The dikes contain many (up to 10 percent) quartz-tourmaline veins. The veins filled tension gashes in the dikes. Strike measurements on 100 of the tension gashes show two ranges in strike direction, 300° to 317° and 336° to 010°. The tension gashes do not appear to be a conjugate set. The dikes are also penetrated by the S_3 fracture cleavage.

Four narrow (less than 1 m) intermediate dikes cross Sudbury Point. They strike 070° to 080° in the trenches, but are difficult to trace between trenches. The intermediate dikes contain up to 30 percent, 1 to 3 mm lenticular chlorite porphyroblasts in an

intensely carbonitized feldspathic matrix. Iron carbonate is estimated to comprise up to 50 percent of the intermediate dikes.

The gold mineralization at Sudbury Point is associated with the quartz-tourmaline veins filling tension gashes in the quartz feldspar porphyry dikes. Some of the veins have pyritic rims."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-tourmaline veins

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: **1)** felsic metavolcanics

2) intermediate intrusive

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) carbonatization **2)** chlorite

3) sericite

ECONOMIC FEATURES

The following is a description of the geology of the Sudbury Point occurrence in Janes, Seim and Storey, 1990.

"The best assay values reported by Northern Dynasty Explorations Ltd. are two grab samples that assayed 0.28 ounce gold per ton and 0.29 ounce gold per ton and a 0.5 by 1.0 m panel sample over an 89 cm wide chlorite-spotted, quartz-feldspar porphyry dike that assayed 0.56 ounce gold per ton."

The following assay results are from diamond-drilling performed by the Ontario Gold Joint Venture in 1987.

Hole #	From	To	Length	ppb Au
DH 87-01	83.38 m	88.00 m	0.62 m	1120
	138.34 m	139.34 m	1.00 m	1040

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined this occurrence in 1989 and took 2 grab samples of the mineralization. One of the samples returned an assay values of 520 ppb Au.

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990. Sioux Lookout Resident Geologist's District -- 1989 in Report of Activities, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, p.69-100.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0032	52O/06SE-0033	52O/06SE-0040
52O/02NW-0039	52O/02NW-0040	53B/14NE-0020
52O/07SW-0016	52O/07SW-0018	

DEPOSIT NAME: North Dempster Lake

NTS AREA: 52O/07SW **MDI#: KP1112**

ALTERNATE NAMES: 1) Wright Lake # 6

2) Dempster Lake

3) Ontario Gold Joint Venture

4) North Peninsula

DEPOSIT STATUS: drilled and trenched occurrence

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 15' 50" **LONGITUDE:** 90° 54' 51"

UTM ZONE: 15 **NORTHING:** 5681028 **EASTING:** 645528

LOCATION: The North Dempster Lake occurrence is located about 55 km southwest of Pickle Lake on the west shore of a small peninsula at the north end of Dempster Lake.

ACCESS: Access to Dempster Lake is by appropriately equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, Dunlop Explorations working for the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd. and Newfield Minerals Inc.) conducted a prospecting and sampling program in the Dempster Lake area and discovered the North Dempster Lake occurrence

From 1985 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted an exploration program on a large block of claims in the Dempster Lake area. The multi-phased program included geological mapping, stripping and trenching, rock and soil geochemistry and airborne magnetometer and electromagnetic surveys, ground

magnetometer and electromagnetic surveys and diamond-drilling.

In 1986, St. Joe Canada Inc commissioned airborne magnetometer and electromagnetic surveys over an area including the occurrence.

DEPOSIT GEOLOGY

The following description of the geology of the North Dempster Lake occurrence is from Janes, Seim and Storey, 1990.

"The North Dempster Lake gold occurrence is similar to the Sudbury Point gold occurrence. The differences between the two occurrences are in the absence of the intermediate dikes and in the attitudes of the various structural elements at the North Dempster Lake gold occurrence. The gold mineralization is still associated with quartz-tourmaline veins filling tension fractures in the quartz-feldspar porphyry.

At the North Dempster Lake gold occurrence, a quartz-feldspar porphyry dike over 6 m in width cuts through the felsic metavolcanics. The dike strikes 110°, parallel to the S_2 schistosity. The S_1 schistosity, which penetrated only the felsic metavolcanics, strikes 080° and dips 60°N. Most of the quartz-tourmaline veins in the quartz-feldspar porphyry dikes trend between 000° and 040° though some of the veins trend 330°. The dip of the veins is highly variable, from almost horizontal to near vertical. Northern Dynasty Explorations Ltd. (Youngman et al. 1985) reported that grab samples including the vein material assayed up to 12 100 ppb gold (0.35 ounce gold per ton).

There is an interesting change in the alteration near the North Dempster Lake gold occurrence. The intensity of the carbonitization is decreased and tourmaline crystals have developed along the S_2 schistosity planes in the felsic metavolcanics. Except for the lack of pyrite, the felsic metavolcanics are similar in appearance to the felsic metavolcanics that host the Lac Minerals Ltd.'s Hasaga deposit some 26 km to the east."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-tourmaline veins

HOST ROCK: quartz-feldspar porphyry

OTHER ASSOCIATED ROCK TYPES: 1) felsic metavolcanics

ECONOMIC MINERALS

1) not observed

ALTERATION MINERALS AND PROCESSES

1) sericite

2) tourmaline

3) carbonate

ECONOMIC FEATURES

The Ontario Gold Joint venture has reported assay values for grab samples of porphyry and quartz-tourmaline vein ranging up to 12100 ppb Au.

OTHER PERTINENT DATA

The Sioux Lookout Staff Geologist examined this occurrence in 1989. Grab samples taken during the examination did not return occurrence grade assay values.

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1990. Sioux Lookout Resident Geologist's District -- 1989 in Report of Activities, Resident Geologists, Ontario Geological Survey, Miscellaneous Paper 147, p.69-100.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0032	52O/06SE-0033	52O/06SE-0040
52O/02NW-0039	52O/02NW-0040	53B/14NE-0020
52O/07SW-0016	52O/07SW-0018	

DEPOSIT NAME: Mousetrap Lake

NTS AREA: 52O/07SW **MDI#: KP1113**

ALTERNATE NAMES: 1) Wright Lake # 7

2) Ontario Gold Joint Venture

DEPOSIT STATUS: Grab samples from outcrop

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Wright Lake area

LATITUDE: 51° 15' 03" **LONGITUDE:** 90° 58' 37"

UTM ZONE: 15 **NORTHING:** 5679421 **EASTING:** 641185

LOCATION: The Mousetrap Lake occurrence is located about 58 km southwest of Pickle Lake. The occurrence is located on the south shore of Mousetrap Lake near its is west end.

ACCESS: Access to Mousetrap Lake is by appropriately equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1984, Dunlop Explorations working for the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd. and Newfield Minerals Inc.) conducted a prospecting and sampling program in the Dempster Lake area.

From 1985 to 1988, the Ontario Gold Joint Venture (Northern Dynasty Explorations Ltd., Westfield Minerals Ltd. and Newfield Minerals Inc.) conducted an exploration program on a large block of claims in the Dempster Lake area. The multi-phased program included geological mapping, stripping and trenching, rock and soil geochemistry and airborne magnetometer and electromagnetic surveys, ground magnetometer and electromagnetic surveys and diamond-drilling.

DEPOSIT GEOLOGY

The Mousetrap Lake occurrence consists of a swarm of quartz-tourmaline veins in an outcrop of granodiorite. The veins trend 030° and 150°. Alteration minerals in the granodiorite are epidote, pyrite and carbonate.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-tourmaline veins

HOST ROCK: granodiorite

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) epidote **2)** carbonate

ECONOMIC FEATURES

Grab samples from this occurrence have retumed value up to 0.251 ounce Au per ton an 10.5 ppm Ag.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/06SE-0032 52O/02NW-0039 52O/02NW-0040
53B/14NE-0020 52O/07SW-0016 52O/07SW-0018

LITTLE OCHIG LAKE AREA

52O/08SW

DEPOSIT NAME: Little Ochig Lake #1

NTS AREA: 52O/08SW **MDI#: KP1124**

ALTERNATE NAMES: 1) Kasagiminnis Lake

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 15' 57" **LONGITUDE:** 90° 23' 59"

UTM ZONE: 15 **NORTHING:** 5682384 **EASTING:** 681404

LOCATION: This occurrence is located about 26 km south-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted about 380 m north of the southern tip of the central peninsula to Kasagiminnis Lake.

ACCESS: Kasagiminnis Lake is often too shallow for float-equipped aircraft and is best accessed by helicopter or, in winter, ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1973, Umex Corporation Ltd. completed a diamond-drill hole, on or near this occurrence, as part of a follow-up program to a large, regional, airborne geophysical survey.

In 1985, Moss Resources Ltd. commissioned an airborne magnetometer and electromagnetic survey over an area including the occurrence.

In 1986 Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemical sampling on a claim group covering this occurrence.

In 1986, 1987, and 1988, Power Explorations Inc. completed 2 diamond-drilling programs on a claim group covering this occurrence. The drilling totalled 9592.67 m in 88 holes. This occurrence was intersected in drill hole KAS-86-3.

DEPOSIT GEOLOGY

Drill hole KAS-86-3 intersected a 1.37 m (4.5') interval of core which assayed 0.04 ounce Au per ton at 85.95 m (282.0') to 87.32 m (286.5') down the hole. The interval is contained in a sequence of interbedded mafic and felsic metatuffs at the contact with a felsic to intermediate metatuff. The interval was mineralized with 3% to 5% pyrrhotite with traces of pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: Mafic and felsic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES: **1)** felsic to intermediate metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) chlorite **2)** sericite

3) garnet

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0013 52O/08SW-0015 52O/08SW-0017
52O/08SW-0023 52O/08SW-0026 52O/08SW-0032
52O/09SE-0035

DEPOSIT NAME: Little Ochig Lake #2

NTS AREA: 52O/08SW **MDI#: KP1125**

ALTERNATE NAMES: 1) Ohman property

DEPOSIT STATUS: Grab sample from trench

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 18' 35" **LONGITUDE:** 90° 20' 09"

UTM ZONE: 15 **NORTHING:** 5687416 **EASTING:** 685684

LOCATION: This occurrence is located about 20 km south-southwest of Pickle Lake. It is exposed in a trench on the west shore of a small pond, 1.1 km southeast of the south end of Little Ochig Lake.

ACCESS: Access to this occurrence is by helicopter or by appropriately equipped aircraft to Little Ochig Lake and then a traverse overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1987, Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys over a claim group covering this occurrence.

In 1988, Power Explorations Inc. did geological mapping, lithogeochemical sampling and trenching on their claim group. The occurrence was discovered during this time.

In 1988 and 1989, Power Explorations Inc., in joint venture with Champion Gold Resources Inc., completed a 32-hole, 3318.17 m, diamond-drilling program on a claim group covering this occurrence.

DEPOSIT GEOLOGY

This occurrence is a quartz vein occupying a shear fracture, in a narrow felsic sill which cuts pillowed mafic metavolcanics. A grab sample of the quartz vein returned

1374 ppb Au.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein in shear zone

HOST ROCK: felsic intrusive

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0022 52O/08SW-0028 52O/08SW-0029

DEPOSIT NAME: Little Ochig Lake #3

NTS AREA: 52O/08SW **MDI#: KP1126**

ALTERNATE NAMES: 1) Ohman property

DEPOSIT STATUS: grab sample from trench

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 18' 45" **LONGITUDE:** 90° 21' 14"

UTM ZONE: 15 **NORTHING:** 5687679 **EASTING:** 684427

LOCATION: This occurrence is located about 20 km south-southwest of Pickle Lake. It is exposed in a trench, on the west shore of the creek between Little Ochig Lake and Kasagiminnis Lake, about 1.2 km south of the south end of Little Ochig Lake.

ACCESS: Access to this occurrence is by appropriately equipped aircraft to Little Ochig Lake and then a traverse overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1987, Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys over a claim group covering this occurrence.

In 1988, Power Explorations Inc. did geological mapping, lithogeochemical sampling and trenching on their claim group. The occurrence was discovered during this time.

In 1988 and 1989, Power Explorations Inc., in joint venture with Champion Gold Resources Inc., completed a 32-hole, 3318.17 m, diamond-drilling program on a claim group covering this occurrence.

DEPOSIT GEOLOGY

This occurrence is a quartz pod within an iron formation within a succession of mafic metavolcanics. A grab sample of the quartz pod containing 1% - 2% pyrite returned

1818 ppb Au.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein

HOST ROCK: iron formation

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES: See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0022 52O/08SW-0028 52O/08SW-0029

DEPOSIT NAME: Little Ochig Lake #4

NTS AREA: 52O/08SW **MDI#: KP1127**

ALTERNATE NAMES: 1) Ohman property

DEPOSIT STATUS: grab sample from trench

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 18' 51" **LONGITUDE:** 90° 21' 18"

UTM ZONE: 15 **NORTHING:** 5687848 **EASTING:** 684331

LOCATION: This occurrence is located about 20 km south-southwest of Pickle Lake. It is exposed in a trench about 1.1 km southwest of the south end of Little Ochig Lake.

ACCESS: Access to this occurrence by appropriately equipped aircraft to Little Ochig Lake and then a traverse overland.

EXPLORATION AND DEVELOPMENT HISTORY

In 1987, Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys over a claim group covering this occurrence.

In 1988, Power Explorations Inc. did geological mapping, lithogeochemical sampling and trenching on their claim group. The occurrence was discovered during this time.

In 1988 and 1989, Power Explorations Inc., in joint venture with Champion Gold Resources Inc., completed a 32-hole, 3318.17 m, diamond-drilling program on a claim group covering this occurrence.

DEPOSIT GEOLOGY

This occurrence is a 10" quartz vein cutting a mafic metavolcanic flow. A grab sample of the quartz vein returned an assay of 2604 ppb Au.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) iron formation

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0022 52O/08SW-0028 52O/08SW-0029

DEPOSIT NAME: **Little Ochig Lake #5**

NTS AREA: 52O/08SW **MDI#:** **KP1128**

ALTERNATE NAMES: 1) Ochig Lake

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 17' 45" **LONGITUDE:** 90° 15' 25"

UTM ZONE: 15 **NORTHING:** 5686064 **EASTING:** 691242

LOCATION: This occurrence is located about 19.5 Km south of Pickle Lake and about 1.9 km west of Highway 599. The occurrence was intersected in diamond-drill hole OCH-87-01

ACCESS: Access to this occurrence is by a traverse from the north boundary of the Osnaburgh First Nation Reserve across Highway 599.

EXPLORATION AND DEVELOPMENT HISTORY

In 1987, Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and a 7-hole, 653.80 m diamond-drilling program on a claim group covering this occurrence.

DEPOSIT GEOLOGY

Drill hole OCH-87-01 intersected an assay of 0.034 ounce Au per ton over 1.52 m, at 31.09 m (102') to 32.61 m (107') down the hole. The sample interval was contained in a unit of mafic metavolcanics. The drill log gave no special features for the sample interval.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: mafic metavolcanics

HOST ROCK: same

OTHER ASSOCIATED ROCK TYPES:

ECONOMIC MINERALS

1) unknown

ALTERATION MINERALS AND PROCESSES

1) unknown

ECONOMIC FEATURES See Deposit Geology.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0021 52O/08SW-0024 52O/08SW-0030

DEPOSIT NAME: Kasagiminnis Lake

NTS AREA: 52O/08SW **MDI#: KP1129**

ALTERNATE NAMES: **1)** Little Ochig Lake #6

DEPOSIT STATUS: developed prospect

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 16' 19" **LONGITUDE:** 90° 23' 17"

UTM ZONE: 15 **NORTHING:** 5683084 **EASTING:** 682208

LOCATION: This occurrence is located about 25 km south-southwest of Pickle Lake. It strikes east about 680 m north of the southern tip of the central peninsula of Kasagiminnis Lake .

ACCESS: Kasagiminnis Lake is often too shallow for float-equipped aircraft and is best accessed by helicopter or, in winter, ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1985, Moss Resources Ltd. commissioned an airborne magnetometer and electromagnetic survey over an area including the occurrence.

In 1986 Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemical sampling on a claim group covering this occurrence.

In 1986, 1987, and 1988, Power Explorations Inc. completed 2 diamond-drilling programs on a claim group covering this occurrence. The drilling totalled 9592.67 m in 88 holes. This deposit was intersected in drill hole KAS-87-3

DEPOSIT GEOLOGY

Janes, Seim and Storey (1989) described the geology of the Kasagiminnis Lake gold

deposit as follows:

"The Kasagiminnis Lake prospect is situated within a 1.6 km wide east-trending segment of greenstone belt sandwiched between the Kasagiminnis Lake Pluton to the north and the Carling Lake Batholith to the south. The segment of greenstone belt consists of a sequence of south-facing, slightly overturned, mafic metavolcanic flows interlayered with mafic-to felsic pyroclastics, metasediments, and lean oxide-facies iron formation with possible local silicate-facies iron formation. Gabbroic amphibolites, pegmatites, and the occasional felsic dike are intrusive to the volcanic-sedimentary sequence.

The internal structure of the segment of greenstone belt is not well understood, due to a scarcity of outcrop. Faults can be interpreted from magnetic surveys, and a few of these interpretations have been supported by mylonites and fault breccias intersected by diamond drilling. The faults trend northeast and northwest, and are possibly a conjugate fracture system developed in response to the surrounding granitoid plutons. North-trending faults, perpendicular to the strike of the greenstones, are also suggested by magnetic surveys.

The deposit geology, due to the scarcity of outcrop, is interpreted for the most part from diamond-drill core. The rock sequence through the gold deposit from the hanging wall on the north to the footwall on the south, is as follows:

1. *Interlayered mafic metavolcanics and felsic pyroclastics*
2. *Intermediate to felsic tuffs and crystal tuffs*
3. *Mafic metavolcanic tuff and (or) amphibolite*
4. *The mineralized zone*
5. *Footwall quartz-carbonate veinlet zone*
6. *Footwall mafic metavolcanics*

INTERMEDIATE TO FELSIC TUFFS AND CRYSTAL TUFFS

The hanging wall unit is identified as a fine-grained dacite to rhyodacite tuff. Silicification (bleaching) and sericitization make the unit appear rhyolitic. The intensity of shearing within this unit is variable, as is the degree of alteration. A characteristic of this unit is the presence of minor, disseminated, red biotite. It is presumably a by-product of a potassium metasomatism. Only minor, barren sulphide is found in this unit.

MAFIC METAVOLCANIC TUFF AND (OR) AMPHIBOLITE

This unit may be a sill-like intrusion, or a thin mafic tuff. It exhibits a uniform, weak to moderately sheared, fine- to medium-grained crystalloblastic texture, and contains 1 to 3 percent fine, disseminated, acicular magnetite. The unit grades into the mineralized zone where it is interlayered with lean chert-magnetite iron formation. The unit is auriferous where the magnetite is replaced by pyrrhotite. Magnetite and pyrrhotite are mutually exclusive of one another.

THE MINERALIZED ZONE

The mineralized zone is a 10 to 13 m wide interval of mafic metavolcanic tuffs interlayered with lean iron formation. The zone is sheared and silicified, and contains varying concentrations of secondary pyrrhotite. It is commonly garnetiferous. The gold content appears to be directly related to the pyrrhotite concentration, which varies from 1 to 5 percent, but is locally greater than 50 percent of the rock. The pyrrhotite is disseminated and has a feather texture. Occasionally quartz-carbonate veinlets, rimmed by amphibole and grunerite, also carry gold. A few specks of visible gold have been observed along the veinlet contacts. Grunerite is common throughout the mineralized section.

FOOTWALL QUARTZ-CARBONATE VEINLET ZONE

This zone usually occurs within mafic metavolcanics, but locally incorporates minor iron formation. The quartz-calcite veinlets are similar to those that carry gold in the mineralized zone. The footwall zone contains minor, secondary pyrrhotite and sub-economic concentrations of gold.

FOOTWALL MAFIC METAVOLCANICS

These are tuffs and (or) flows, which appear to be similar to the mafic metavolcanic tuffs and (or) amphibolites of the hanging wall rocks, are foliated with a fine-to medium-grained crystalloblastic texture, but are otherwise featureless. To date, 25 diamond-drill holes have intersected the mineralized zone."

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: Shear zone

HOST ROCK: mafic metavolcanics and iron formation

OTHER ASSOCIATED ROCK TYPES: **1)** amphibolite

2) intermediate to felsic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) silicification **2)** garnet

3) biotite **4)** grunerite

RESERVE DATA

RESERVE CATEGORY: preliminary mineral inventory

TONNES: 1 080 000 (1 100 000 tons)

AVERAGE GRADE: 6.51 g/t Au (0.19 ounce Au per ton)

REFERENCES

Janes, D.A., Seim, G.W. and Storey, C.C. 1989. Sioux Lookout Resident Geologist's District -- 1988; p.65-91 in Report of Activities 1988, Resident Geologists, edited by K.G. Fenwick, P.E. Giblin, and A.E. Pitts, Ontario Geological Survey, Miscellaneous Paper 142, 391p.

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0013 52O/08SW-0015 52O/08SW-0017
52O/08SW-0023 52O/08SW-0026 52O/08SW-0032
52O/09SE-0035

DEPOSIT NAME: Little Ochig Lake #7

NTS AREA: 52O/08SW **MDI#: KP1130**

ALTERNATE NAMES: 1) Kasagiminnis Lake

DEPOSIT STATUS: diamond-drill hole intersections

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 16' 00" **LONGITUDE:** 90° 23' 26"

UTM ZONE: 15 **NORTHING:** 5682480 **EASTING:** 682041

LOCATION: This occurrence is located about 26 km south-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted about 170 m north of the southern shore of the central peninsula of Kasagiminnis Lake.

ACCESS: Kasagiminnis Lake is often too shallow for float-equipped aircraft and is best accessed by helicopter or, in winter, ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1985, Moss Resources Ltd. commissioned an airborne magnetometer and electromagnetic survey over an area including the occurrence.

In 1986 Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemical sampling on a claim group covering this occurrence.

In 1986, 1987, and 1988, Power Explorations Inc. completed 2 diamond-drilling programs on a claim group covering this occurrence. The drilling totalled 9592.67 m in 88 holes. This occurrence was intersected in drill hole KAS-87-6

DEPOSIT GEOLOGY

Drill hole KAS-87-6 intersected a 4.23 m (13.9') thick "transition - sulphide zone" at the

contact between a mafic metavolcanic flow and a felsic pyroclastic. Significant gold assays were reported for samples from the upper and lower contacts of the "transition - sulphide zone". The mafic metavolcanics above the zone contain many chlorite-biotite-garnet alteration bands. The felsic pyroclastic below the zone are sericitic and also contain garnet, chlorite and biotite.

The "transition - sulphide zone" is described in the drill log as a gradational contact and is presumably mostly within the mafic metavolcanic. It is mineralized with 10% to 20% pyrrhotite and pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: sulphide zone

HOST ROCK: mafic metavolcanics

OTHER ASSOCIATED ROCK TYPES: **1)** felsic metavolcanics

ECONOMIC MINERALS

1) pyrrhotite **2)** pyrite

ALTERATION MINERALS AND PROCESSES

1) chlorite **2)** sericite

3) garnet **4)** biotite

ECONOMIC FEATURES

The 2 significant assays in KAS-87-6 are

From	To	Length	ounce Au per ton
92.14 m (302.3')	93.57 m (307.0')	1.43 m (4.7')	0.58
95.10 m (312.0')	96.38 m (316.2')	1.28 m (4.2')	1.40

The intervening sample interval between the 2 significant assays returned trace gold.

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0013 52O/08SW-0015 52O/08SW-0017
52O/08SW-0023 52O/08SW-0026 52O/08SW-0032
52O/09SE-0035

DEPOSIT NAME: Little Ochig Lake #8

NTS AREA: 52O/08SW **MDI#: KP1131**

ALTERNATE NAMES: 1) Kasagiminnis Lake

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 16' 10" **LONGITUDE:** 90° 21' 42"

UTM ZONE: 15 **NORTHING:** 5682868 **EASTING:** 684060

LOCATION: This occurrence is located about 24.5 km south-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted about 381 m east of Kasagiminnis Lake, and 950 m north of the river connecting Annimwash Lake to Kasagiminnis Lake.

ACCESS: Kasagiminnis Lake is often too shallow for float-equipped aircraft and is best accessed by helicopter or, in winter, ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1985, Moss Resources Ltd. commissioned an airborne magnetometer and electromagnetic survey over an area including the occurrence.

In 1986 Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemical sampling on a claim group covering this occurrence.

In 1986, 1987, and 1988, Power Explorations Inc. completed 2 diamond-drilling programs on a claim group covering this occurrence. The drilling totalled 9592.67 m in 88 holes. This occurrence was intersected in drill hole KAS-87-7.

DEPOSIT GEOLOGY

Drill hole KAS-87-7 intersected a 0.91 m (3.0') interval of core which assayed 0.03 ounce Au per ton, at 8.23 m (27.0') to 9.14 m (30.0') down the hole. The interval is contained in a slightly carbonatized, garnetiferous intermediate metavolcanic. The interval contained quartz veining and up to 2% pyrite.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz vein

HOST ROCK: intermediate metavolcanic

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) pyrite

ALTERATION MINERALS AND PROCESSES

1) carbonatization **2)** garnet

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0013 52O/08SW-0015 52O/08SW-0017
52O/08SW-0023 52O/08SW-0026 52O/08SW-0032
52O/09SE-0035

DEPOSIT NAME: Little Ochig Lake #9

NTS AREA: 52O/08SW **MDI#: KP1132**

ALTERNATE NAMES: 1) Kasagiminnis Lake

DEPOSIT STATUS: diamond-drill hole intersection

COMMODITIES: Au

LOCATION INFORMATION

TOWNSHIP OR AREA NAME: Little Ochig Lake area

LATITUDE: 51° 16' 14" **LONGITUDE:** 90° 22' 21"

UTM ZONE: 15 **NORTHING:** 5682982 **EASTING:** 683293

LOCATION: This occurrence is located about 25 km south-southwest of Pickle Lake. It was intersected in a diamond-drill hole spotted in a bay of Kasagiminnis Lake, about 1 km north of the river connecting Annimwash Lake to Kasagiminnis Lake.

ACCESS: Kasagiminnis Lake is often too shallow for float-equipped aircraft and is best accessed by helicopter or, in winter, ski-equipped aircraft.

EXPLORATION AND DEVELOPMENT HISTORY

In 1985, Moss Resources Ltd. commissioned an airborne magnetometer and electromagnetic survey over an area including the occurrence.

In 1986 Power Explorations Inc. conducted ground magnetometer and electromagnetic surveys, geological mapping and rock and soil geochemical sampling on a claim group covering this occurrence.

In 1986, 1987, and 1988, Power Explorations Inc. completed 2 diamond-drilling programs on a claim group covering this occurrence. The drilling totalled 9592.67 m in 88 holes. This occurrence was intersected in drill hole KAS-87-31.

DEPOSIT GEOLOGY

Drill hole KAS-87-31 intersected a 0.31 m (1.0') interval of core which assayed 0.32

ounce Au per ton, at 39.62 m (130.0') to 39.93 m (131.0') down the hole. The interval is contained in a moderately carbonatized, sericitic intermediate metavolcanic. The interval contained a 6 cm thick quartz-tourmaline vein.

GEOLOGICAL DATA

MINERALIZATION OCCURS IN: quartz-tourmaline vein

HOST ROCK: intermediate metavolcanics

OTHER ASSOCIATED ROCK TYPES: 1) mafic metavolcanics

ECONOMIC MINERALS

1) none

ALTERATION MINERALS AND PROCESSES

1) carbonatization **2)** sericite

ECONOMIC FEATURES See Deposit Geology

REFERENCES

Assessment files, Resident Geologist's office, Sioux Lookout District,

52O/08SW-0013 52O/08SW-0015 52O/08SW-0017
52O/08SW-0023 52O/08SW-0026 52O/08SW-0032
52O/09SE-0035

CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
		LENGTH			
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709 7	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
		AREA			
1 cm@	0.155 0	square inches	1 square inch	**6.451 6**	cm@
1 m@	10.763 9	square feet	1 square foot	**0.092 903 04**	*m@
1 km@	0.386 10	square miles	1 square mile	2.589 988	km@
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
		VOLUME			
1 cm#	0.061 02	cubic inches	1 cubic inch	**16.387 064**	cm#
1 m#	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m#
1 m#	1.308 0	cubic yards	1 cubic yard	0.764 555	m#
		CAPACITY			
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
		MASS			
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 908 8**	t
		CONCENTRATION			
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.

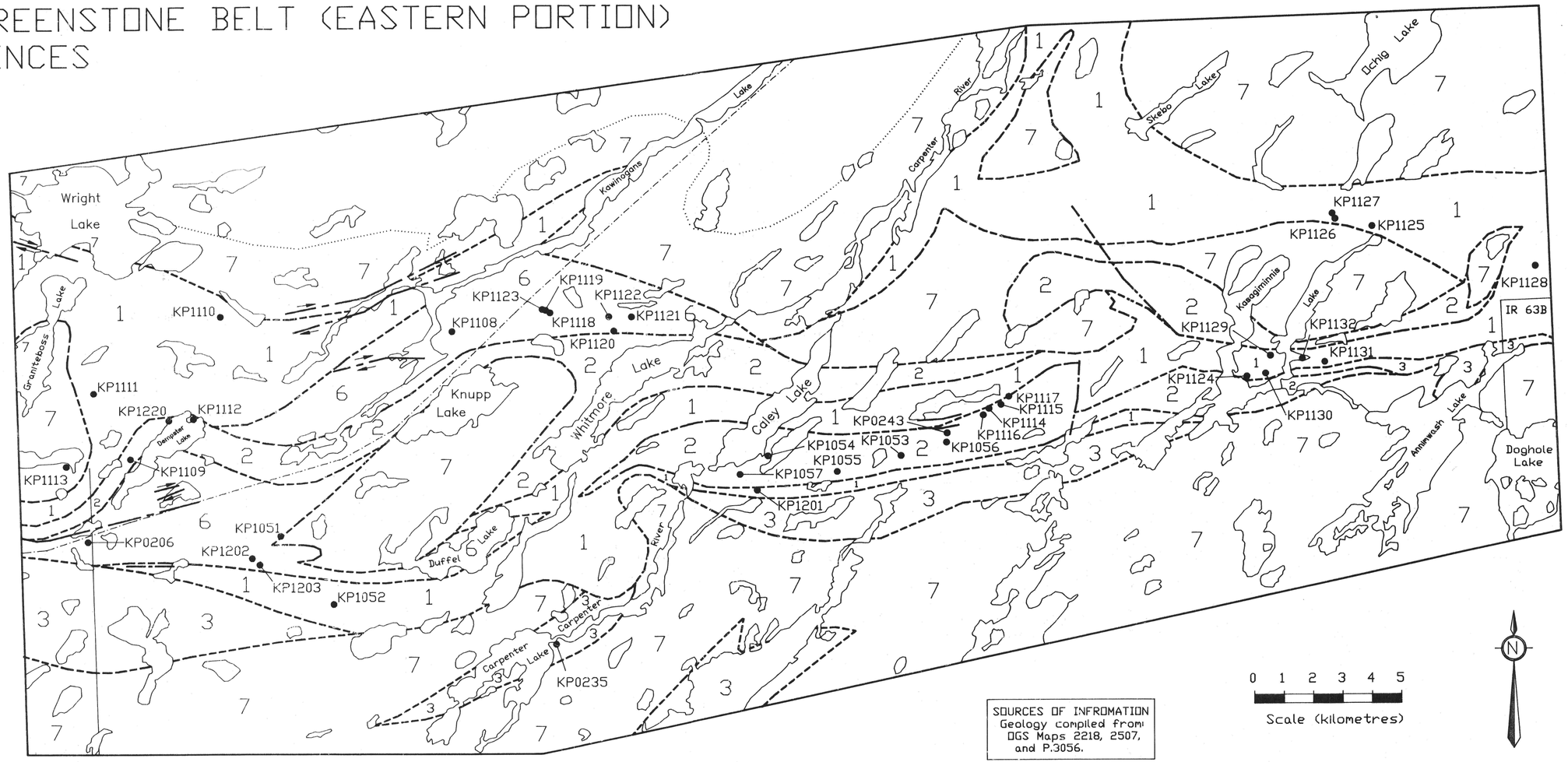
•
3268
ISSN 0826-9580
ISBN 0-7778-1879-5

MEEN-DEMPSTER GREENSTONE BELT (EASTERN PORTION)
MINERAL OCCURRENCES

LEGEND

- 7 — Felsic to Intermediate Intrusive Rocks
- 6 — Mafic Intrusive Rocks
- 5 — Ultramafic Intrusive Rocks
- 4 — Chemical Metasedimentary Rocks
- 3 — Clastic Metasedimentary Rocks
- 2 — Felsic to Intermediate Metavolcanic Rocks
- 1 — Intermediate to Mafic Metavolcanic Rocks

- Contacts
- Faults/Lineaments
- Shear Zones
- Mapping Limit
- KP1066 — Mineral Occurrence
- Surveyed Line
- Indian Reserve Boundary
- Power Line

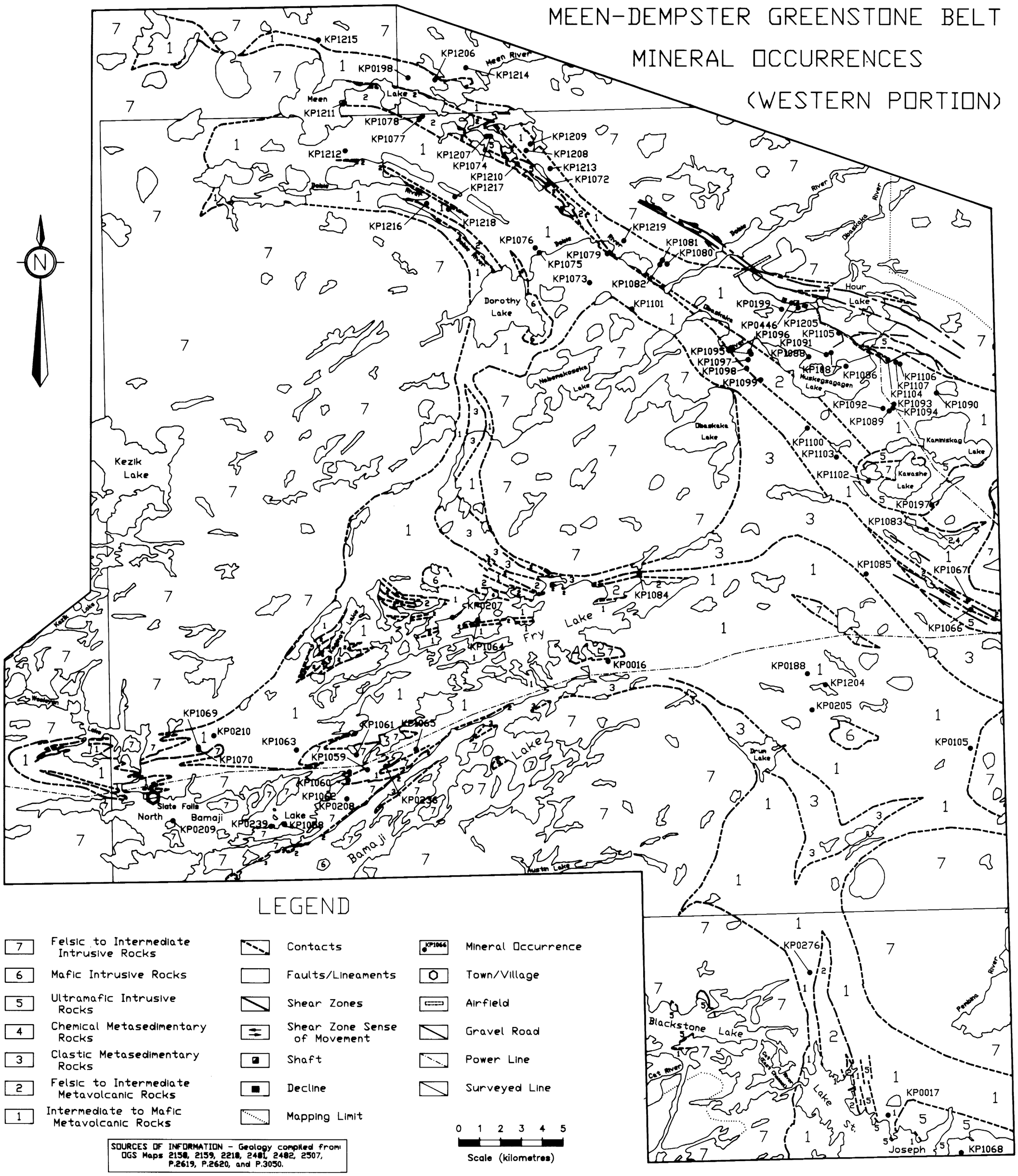


SOURCES OF INFROMATION
Geology compiled from OGS Maps 2218, 2507, and P.3056.

0 1 2 3 4 5
Scale (kilometres)

N

MEEN-DEMPSTER GREENSTONE BELT
MINERAL OCCURRENCES
(WESTERN PORTION)



LEGEND

7	Felsic to Intermediate Intrusive Rocks		Contacts	KP1066	Mineral Occurrence
6	Mafic Intrusive Rocks		Faults/Lineaments		Town/Village
5	Ultramafic Intrusive Rocks		Shear Zones		Airfield
4	Chemical Metasedimentary Rocks		Shear Zone Sense of Movement		Gravel Road
3	Clastic Metasedimentary Rocks		Shaft		Power Line
2	Felsic to Intermediate Metavolcanic Rocks		Decline		Surveyed Line
1	Intermediate to Mafic Metavolcanic Rocks		Mapping Limit		

0 1 2 3 4 5
Scale (kilometres)

SOURCES OF INFORMATION - Geology compiled from OGS Maps 2158, 2159, 2218, 2481, 2482, 2507, P.2619, P.2620, and P.3050.