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**Ontario Geological Survey
Open File Report 5835**

**Gold Occurrences,
Prospects and Past-
Producing Mines of the
Birch-Confederation
Lakes Area**

1992



Ministry of
Northern Development
and Mines

Ontario

ONTARIO GEOLOGICAL SURVEY

Open File Report 5835

Gold Occurrences, Prospects and Past-Producing Mines of the Birch-Confederation Lakes Area

By

J.R. Parker and B.T. Atkinson

1992

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V.G. Milne, Director
Ontario Geological Survey

FOREWORD

This report is a result of a project initiated by the Resident Geologist's office, Red Lake, Ministry of Northern Development and Mines, in response to the high level of gold exploration in the Birch-Confederation lakes area. The purpose of the report is to provide a single accessible source of old and new compiled information on gold deposits in the area.

The main body of the report is comprised of 120 detailed property descriptions which are comprehensive and concise summaries of information including: location, geological setting, description of mineralization, an up-to-date history of ownership and development, economic features, production data and selected references. Many of the property descriptions include new and unpublished government assay data. All properties are numerically cross-referenced to a 1:100 000 scale location map. This report will serve as a useful introduction and reference to the gold deposits in this complex and interesting greenstone belt.

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MAP (IN BACK POCKET)

**LOCATION MAP - Gold Occurrences, Prospects and Past-Producing Mines
in the Birch-Confederation lakes greenstone belt,
Scale 1:100 000.**

**GOLD OCCURRENCES, PROSPECTS AND PAST-PRODUCING MINES
IN THE BIRCH-CONFEDERATION LAKES AREA**

1992

by

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Manuscript approved for publication by K. Fenwick, Manager, Northwestern Ontario Region, Ontario Geological Survey, March 30, 1992.

This report is published with the approval of V.G. Milne, Director, Ontario Geological Survey.

INTRODUCTION

Intensive gold exploration began in the Birch-Confederation lakes area (Figure 1) in 1926, shortly after the discovery of gold at Red Lake. Numerous gold occurrences and prospects were discovered and developed until the late 1940's. Nine mines were put into production and produced about a quarter of a million ounces of gold between 1928 and 1966 when the last mine closed.

The level of gold exploration decreased during the 1950's, 60's and 70's but continued sporadically throughout the area. Gold exploration reached peak levels during the 1980's due to the increase in the price of gold and the use of flow-through share financing for junior mining companies. As a result, new gold discoveries were made and abundant new information was generated on the older gold properties in the area. That information is here compiled into one information source.

This report is a systematic compilation of the 120 known gold occurrences, prospects and past-producing mines in the Birch-Confederation lakes area (Figure 1). The report consists of property descriptions which are subdivided into 22 sections representing individual townships and claim map areas in which the properties occur. The sections are ordered alphabetically by townships and area names (ie: Agnew Township, Avis Lake Area, Belanger Township, etc.). Information is accessed by reference to property names and/or map locations using Index A or B and the location map in the back pocket of this report.

All property name headings have a number (ie: HO-2) which corresponds with the property's location on the map (in back pocket). The prefix to the number, in this example "HO", is an abbreviation for the township (Honeywell) or area where the property is located.

Indexes A and B allow for easy location of individual property descriptions in the report. Index A presents property names ordered alphabetically and by map reference number. The property names are grouped under the township or claim map area in which the property is located. The township and claim map area headings, along with their corresponding NTS coordinates, are also listed alphabetically. This index indicates the order in which the property descriptions occur in the text. Index B presents the property names alphabetically with corresponding map reference numbers.

Many of the properties described in this report were visited by the authors and co-workers, however, some property descriptions are based on information from numerous sources including, government reports, theses, assessment files, newspaper articles, annual reports, field notes and unpublished property descriptions.

ACKNOWLEDGEMENTS

The authors express a sincere word of thanks to all prospectors, geologists and representatives of exploration and mining companies who have provided valuable information and access to properties in the Birch-Confederation lakes area.

The authors also thank C. Sundstrom and L. Kosloski for their patience, efficiency and typing and computer skills; T. Watkins, Publication and Cartographic Services, Ontario Geological Survey, for preparing the base for the location map in this report; and H. Brown for assisting in some of the compilation work.

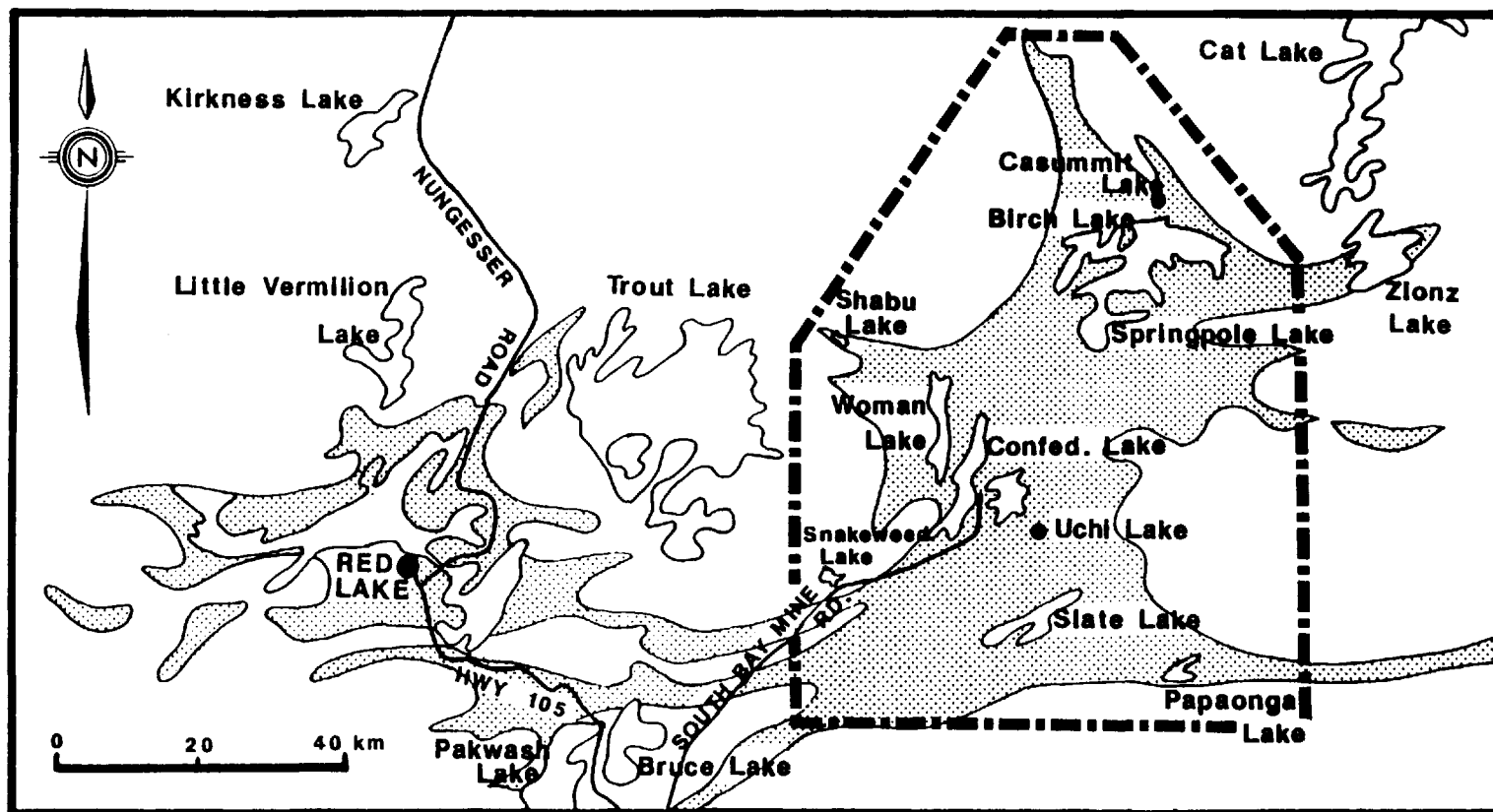
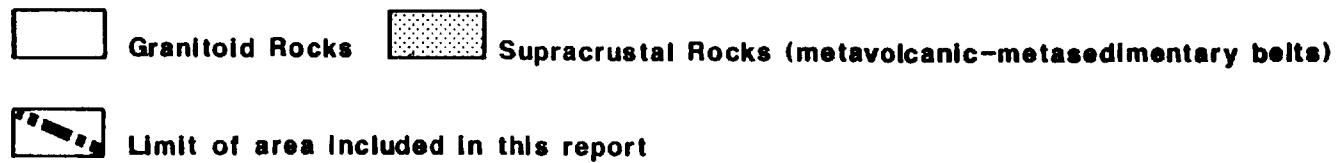


Figure 1: Location Map of the Birch-Confederation lakes area.



Much of this report has been compiled from numerous and various sources of information, therefore, many individuals have indirectly contributed to this report over the years. Their work is appreciated and gratefully acknowledged.

THE BIRCH CONFEDERATION LAKES AREA: **GEOLOGY, HISTORY AND GOLD MINERALIZATION**

I) REGIONAL GEOLOGICAL SETTING

The Birch-Confederation lakes metavolcanic-metasedimentary belt is situated within the western Uchi Subprovince. The belt includes Casummit and Birch lakes in the north, Bertha and Springpole lakes in the east, Shabu Lake in the west, Woman, Confederation and Okanse lakes in the central portion of the belt, Uchi and Slate lakes in the south, Papaonga Lake in the southeast and Snakeweed Lake in the southwest (Figures 1 and 2).

The belt is composed of mafic, intermediate and felsic metavolcanic flows and pyroclastic rocks with subordinate metasedimentary rocks. The south and southeastern margin of the belt consists dominantly of linear units of metavolcanic rocks alternating with thick sequences of clastic metasediments (Figure 2). An alkalic metavolcanic complex with an associated carbonatite intrusion is centered on the north shore of Springpole Lake on the east side of the belt (Barron et al. 1989).

The metavolcanic-metasedimentary assemblage has been intruded by large, composite granitoid batholiths such as the Mainprize Lake, Trout Lake, and the Keigat Lake and Jeanette Lake granitoid complexes (Figure 2; Beakhouse 1989). Various late, felsic, intermediate and mafic batholiths, plutons, stocks, plugs, dikes and sills intrude the metavolcanic and metasedimentary rocks. All of the rocks in the belt are inferred to be Archean in age.

Supracrustal rocks are commonly metamorphosed to greenschist facies over wide areas while amphibolite facies rocks are more locally concentrated within the contact aureoles of the large granitic batholiths and smaller intrusions. Varying degrees and types of alteration such as carbonatization, sericitization and chloritization are common in the rocks throughout the belt. Widespread iron carbonate alteration and veining is common at Woman Lake in Goodall Township near the central portion of the belt.

Three metavolcanic-metasedimentary cycles have been recognized and described in the Confederation Lake area (Figure 3; Goodwin 1967; Pryslak 1971a, 1971b; Thurston 1985b). Each cycle begins with tholeiitic, pillowed basalt and andesite flows overlain by calc-alkalic, andesitic and rhyolitic pyroclastic rocks and minor flows capped by relatively thin units of iron formation and marble. Cycle I is a platform sequence upon which Cycle II was deposited during early caldera development (Thurston 1985b). Cycle III was produced by resurgent volcanism and contains hypabyssal felsic intrusions and the South Bay Cu-Zn-Ag volcanogenic massive sulphide deposit. The metavolcanic cycles at Confederation Lake are interpreted to be folded into a north-trending syncline with the Cycle III sequence situated in the core of the fold (Figure 3; Thurston 1985b; Fyon and Lane 1985). However, U-Pb zircon age dating (Noble 1989) at Uchi Lake, near the southeast margin of the greenstone belt, indicates the metavolcanic cycles young to the east. The 3 cycles have been correlated with metavolcanic sequences at Slate Lake, Birch and Casummit lakes and Red Lake using U-Pb zircon age dating and whole-rock geochemical data (Nunes and Thurston 1980; Thurston and Paktunc 1985a, 1985b, 1985c; Thurston 1986; Wallace et al. 1986).

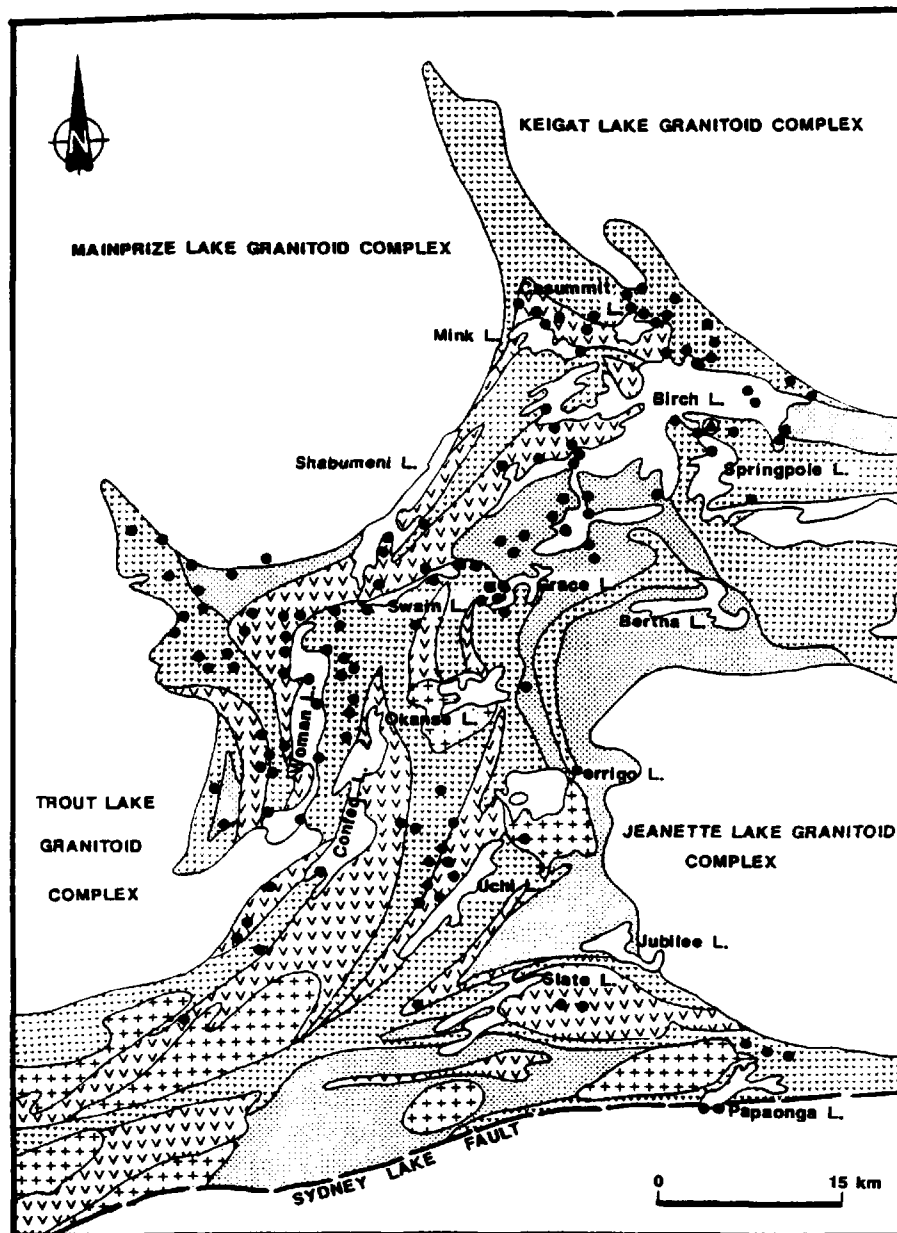
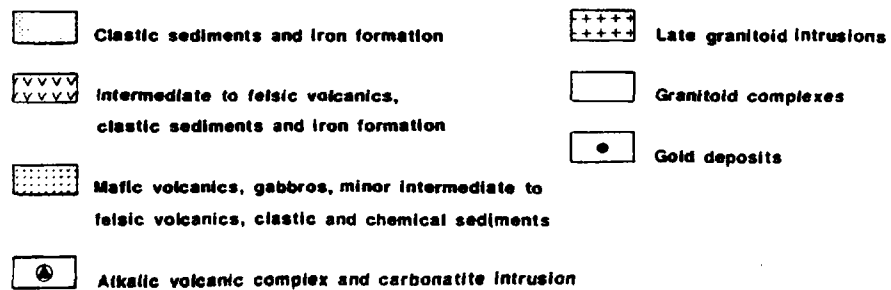
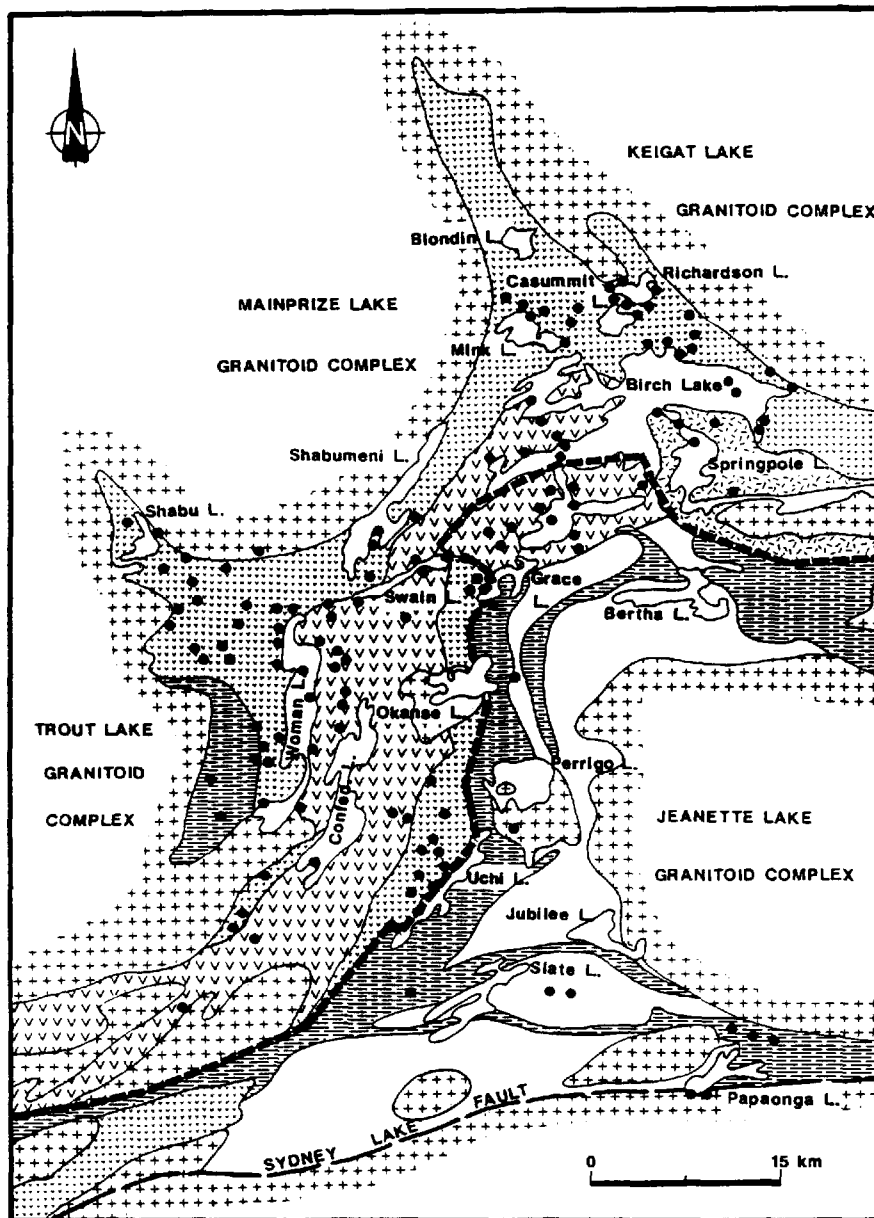


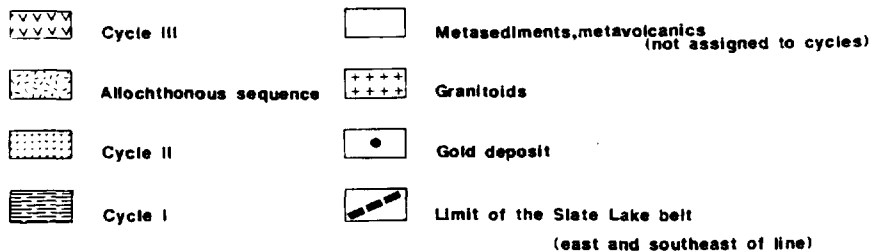
Figure 2: Simplified Geology and Gold Deposits of the Birch-Confederation lakes area





(modified after Thurston 1986 and Beakhouse 1989)

Figure 3: Stratigraphy and Gold Deposits of the Birch-Confederation lakes area.



The metasedimentary rocks on the south and southeast margin of the belt (Figures 2 and 3) extend south from Bertha Lake along the east side of the Birch-Confederation lakes belt to Slate Lake, where they merge with an east-trending portion of the belt that extends from Papaonga Lake in the east to Red Lake in the west, situated outside of the present area. The metasediments and subordinate metavolcanic rocks are interpreted to be part of a discrete terrain distinct from the rest of the belt (Beakhouse 1989). This distinct sequence of rocks is referred to as the Slate Lake belt and represents a zone of lithological and structural transition between the English River and Uchi subprovinces (Beakhouse 1989). The Slate Lake belt includes parts of the 3 metavolcanic-metasedimentary cycles (Figure 3) described above.

The metavolcanic-metasedimentary assemblage at Springpole Lake (Figure 3) includes an alkalic metavolcanic complex and carbonatite intrusion, and is interpreted to be part of a discrete allochthonous assemblage of rocks distinct from the rest of the greenstone belt (Thurston 1986).

Large scale folding is common throughout the Birch-Confederation lakes greenstone belt (Figure 4). A north-trending syncline is situated at Confederation Lake and tight, north-trending folds have been documented between Confederation and Uchi lakes (Thurston 1985b). Northeast-trending anticlinal and synclinal folds occur southeast of Uchi Lake (Thurston 1985b; Thurston and Bartlett 1981) and an east-trending synclinal fold axis extends east of Slate Lake (Bowen 1981a, 1981b). Northwest- and north-trending synclinal folds are centered on Shabu Lake and maybe part of a single complex or refolded fold (Fyon and O'Donnell 1986). A series of northwest-trending, overturned folds occur in the east part of Birch Lake (Good 1988). Major, northeast- and east-trending folds are situated at Shabumeni Lake and in the west part of Birch Lake (Figure 4; Beakhouse 1989). An east-northeast-trending synclinal fold axis extends through Casummit Lake (Horwood 1938b) and may extend west to Mink Lake (Thurston and Bartlett 1981; Thurston 1986).

The belt has been affected by at least 3 periods of deformation related to compressional forces resulting from the diapiric emplacement of adjacent granitoid complexes (Fyon and Lane 1985, 1986; Fyon and O'Donnell 1986; Good 1988; Beakhouse 1989, 1990a). The style and intensity of deformation is variable and commonly characterized by linear zones of high strain separated by areas of less deformed or strained rocks. Zones of high strain also occur within the contact aureoles of granitic batholiths and stocks which intrude the supracrustal rocks. North- and northeast-trending deformation zones and faults dominate at Confederation, Woman and Uchi lakes (Figure 4) (Fyon and Lane 1986). The northeast-trending Uchi Lake fault in Earngey Township has been interpreted to be a thrust fault and a splay from the Sydney Lake fault to the south (Figure 4) (Thurston and Breaks 1978). Northwest- and west-northwest-trending deformation zones occur in the east part of Birch Lake and at Casummit Lake (Figure 4) (Good 1988; Beakhouse 1990a). Northeast-trending deformation zones dominate at Shabumeni and Swain lakes and in the west part of Birch Lake (Beakhouse 1989). The Swain Lake deformation zone extends east-southeast from Shabu Lake (Pryslak 1973, 1974) to the north end of Woman Lake (Fyon and O'Donnell 1986) and trends northeast to Swain Lake and into the western Birch Lake area, where it bifurcates into individual splays (Figure 4) (Beakhouse 1989). Several splays are faults which bisect metavolcanic assemblages (Beakhouse 1989).

The east-trending Sydney Lake fault (Breaks et al. 1978; Stone 1981) is part of the larger Lake St. Joseph-Sydney Lake fault zone (Williams 1988) and is a major, dextral, transcurrent structure that extends along the south margin of the Birch-Confederation lakes belt (Figure 4). Major horizontal and vertical movement has occurred along the fault (Stone 1981). The fault delineates the contact between amphibolite facies metasediments and granitoid rocks of the English River

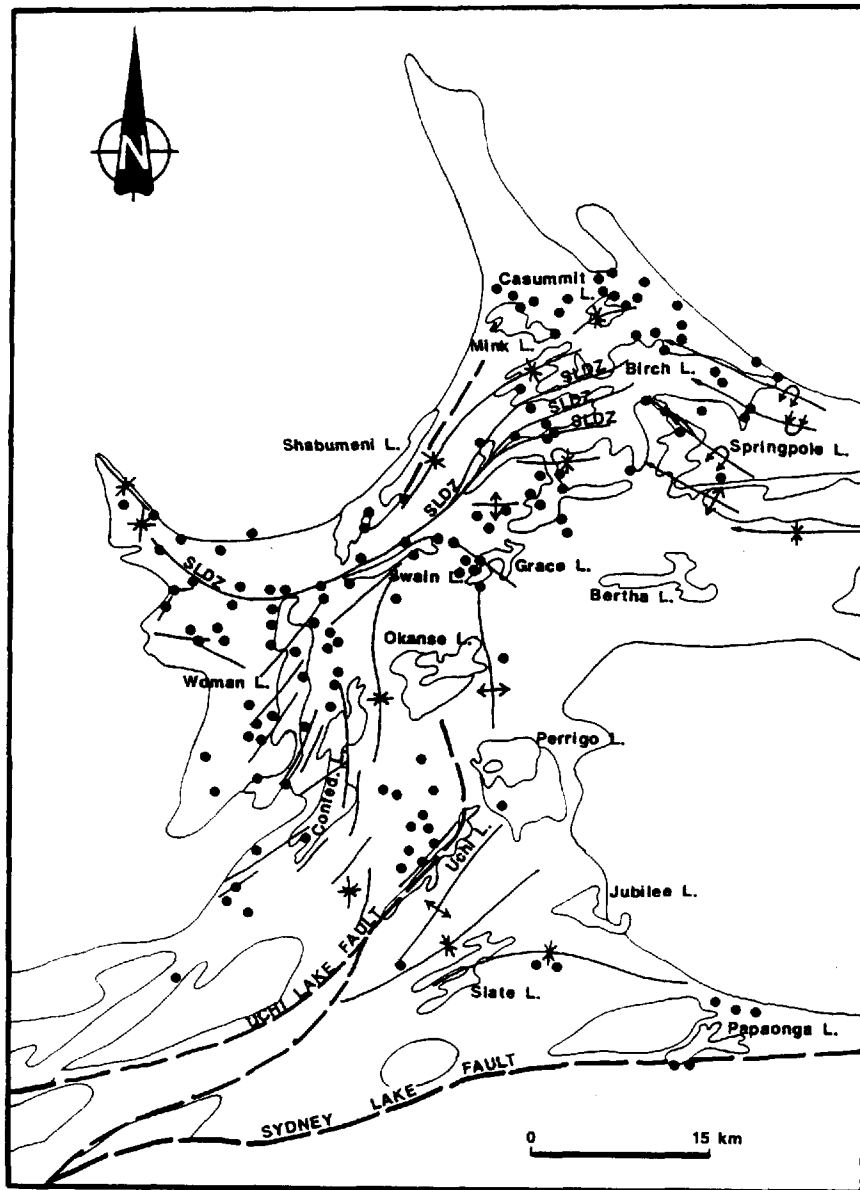
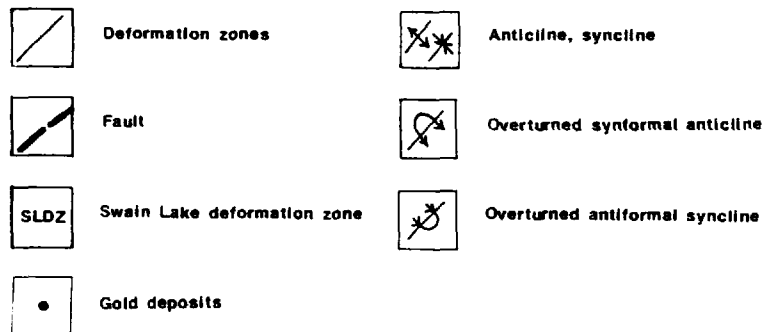


Figure 4: Deformation Patterns and Gold Deposits of the Birch-Confederation lakes area.



Subprovince to the south and lower metamorphic grade metavolcanic rocks of the Uchi Subprovince to the north (Thurston and Breaks 1978). Subordinate faults occur as splays off the Sydney Lake fault and extend north into the Birch-Confederation lakes greenstone belt (Thurston and Breaks 1978).

II) REGIONAL DISTRIBUTION OF GOLD MINERALIZATION

There are over 120 known gold deposits in the Birch-Confederation lakes area, the majority of which consist of structurally controlled, gold-bearing quartz veins hosted by shear zones and/or fracture zones concentrated in areas of greenschist grade metamorphism. Several gold properties at Birch and Springpole lakes consist of broad, intensely altered, deformation zones containing widespread disseminated sulphides and gold.

Gold-bearing quartz vein systems are associated with deformation zones trending north and northeast at Confederation, Woman and Uchi lakes; east-northeast at Swain and Shabumeni lakes and in the west part of Birch Lake; and northwest- to west-northwest at Casummit Lake, Mink Lake and in the east part of Birch Lake (Figure 4) (Fyon and Lane 1986; Thurston 1986; Good 1988; Beakhouse 1989, 1990a). Gold mineralization commonly occurs along the Swain Lake deformation zone (Figure 4) at Leonard, Car, Woman, Swain and Birch lakes. The majority of the mineralized deformation zones are related to a second and possibly third deformational phase that affected the greenstone belt (Fyon and O'Donnell 1986; Good 1988; Beakhouse 1990a).

Stratigraphy has influenced the localization of gold mineralization by providing lithological contrasts that created zones susceptible to alteration and deformation. Examples of this are at Uchi Lake in Earngey Township where gold deposits are situated at contacts between mafic and felsic rock types; and in the west part of Birch Lake where gold is associated with competent, felsic porphyry stocks and plugs which intrude less competent metasediments.

There is a strong correlation between gold deposits and the 3 metavolcanic-metasedimentary cycles in the belt. Approximately 53% of all gold deposits in the Birch-Confederation lakes area are situated within the Cycle II sequence, 31% occur in Cycle III, 7% occur in Cycle I and 9% occur in granitoid rocks, the allochthonous metavolcanic-metasedimentary assemblage at Springpole Lake, and metavolcanic rocks not assigned to cycles (Figure 3). About 88% of all gold produced from the Birch-Confederation lakes area was extracted from mines situated within the Cycle II sequence, while 12% of gold production came from mines in Cycle III.

Gold deposits are most commonly hosted by mafic metavolcanic rocks followed by felsic metavolcanic rocks, clastic and chemical metasediments and felsic to mafic intrusive rocks. Several gold properties are located at the margins of the surrounding granitoid complexes but only 3 occurrences are hosted by granitoid rocks (Figure 2).

III) GOLD EXPLORATION AND PAST PRODUCTION

L. and R. Howey discovered gold at Red Lake in July of 1925 and touched-off one of Ontario's largest and most intense gold rushes. This flurry of exploration activity quickly spread east into the Birch-Confederation lakes area by the spring and early summer of 1926. The majority of prospecting activity was initially concentrated at Confederation, Woman, Uchi and Narrow lakes where almost all of the known gold properties and mines were discovered and staked by the end of 1927 (Greig 1928a).

In 1926, a forest fire in the Uchi Lake area enhanced outcrop exposure and aided the discovery of the Uchi Mine and the Hill-Hogarth or Hill-Sloan-Tivey quartz vein in Earngey Township (Greig 1928a). The Hill-Sloan-Tivey vein is a north- to northeast-trending quartz vein system with a strike length over 6 km. Numerous gold discoveries were made along the length of this vein.

A. Rowe is reported (Greig 1928a) to have made the first gold discovery at Confederation and Woman lakes on the Rowe vein in Dent Township in 1926. W.S. Jackson, R.J. Manion and A. Rowe amalgamated their claim holdings, formed the Jackson-Manion Mining Partnership and optioned their property to N. Timmins. Timmins dropped his option in 1927 but development continued with the collaring of the No. 1 shaft on the Belljoe vein (Greig 1928a).

Before the end of 1929 several mining companies had been organized and funds were raised to develop gold properties scattered throughout the area. Development and shaft sinking had commenced at the Patricia-Dent prospect in Dent Township; the Bobjo and Uchi mines in Earngey Township; and at the Bathurst Mine and Dunkin prospect in Skinner Township. The Bobjo Mine was the first recorded gold producer in the Birch-Confederation lakes area when 361.70 ounces of gold were extracted from the property in 1928 (Rogers and Young 1930). The Bathurst Mine in Skinner Township produced about 150 ounces of gold in 1929 (Rogers and Young 1930; Harding 1936a). Quartz veins at the Bathurst Mine, such as the "Golden Sidewalk" vein, yielded many spectacular samples of gold.

Gold exploration had spread north to Birch Lake by 1928 where a few gold properties, including the Springpole Lake prospect, were discovered. Early in the spring of 1929 A.F. Hewitt and J.A. Borthwick began prospecting at Casummit Lake and were successful in discovering gold. J.A. Borthwick's claims were optioned to Casey Mountain Operating Syndicate who commenced exploration and development (Horwood 1938a). This property would eventually become the Casey Summit Mine which was later named the Argosy gold mine.

Most of the area was staked and considerable prospecting and development had been completed but a financial slump in 1929 curtailed further activity. Many claims were allowed to lapse and most gold properties became idle, with the exception of the Casey Mountain property at Casummit Lake (Harding 1936a; Horwood 1938a).

In 1931 the price of gold began to increase and investor confidence returned which revived development work in the area. Approximately 400 tons of ore were milled at the Sol D'Or Mine in Honeywell Township during 1932 and 1933 for an estimated production value of \$10 000 (Sinclair et al. 1937). The Bathurst Mine in Skinner Township reported a production value of \$1500 before it closed in 1932 (Sinclair et al. 1934).

The Jackson-Manion Mine in Dent Township commenced production in 1934 and produced continuously until it closed in 1940. The Casey Mountain property at Casummit Lake was renamed the Casey Summit Mine when it started gold production in 1934. The mine produced 887.89 ounces of gold using the mill from the Bobjo Mine (Sinclair et al. 1932; Horwood 1938a) before closing at the end of 1934. The Bathurst Mine produced gold in 1934 but was also closed the same year after \$1500 worth of gold and silver was extracted (Bathurst Mines Ltd., assessment files, Resident Geologist's office, Red Lake). The Barry and Cooper or McIntyre Mine at Birch Lake was high graded to produce 23 ounces of gold in 1934. Most of the gold was extracted from an open cut on the property (Furse 1934a).

Gold exploration dramatically increased at Birch Lake during the early 1930's when many of the known gold properties in the area were discovered. The Horseshoe Island prospect, Springpole Lake prospect and numerous properties in the vicinity of the Casey Summit Mine were all active.

The Sol D'Or Mine produced gold in 1935 and 1936 before it again ceased operations. The total recorded production from the mine was 258 ounces of gold and 33 ounces of silver from 458 tons of ore (Sinclair et al. 1937, 1938, 1939; Tremblay 1941).

The Bathurst Mine produced 120 ounces of gold in 1936. The production figures from the mine are not well documented but it is estimated that the mine produced 307 ounces of gold and 92 ounces of silver from approximately 562 tons of ore (Rogers and Young 1930; Harding 1936; Sinclair et al. 1934, 1938, 1939; Young 1938).

The Hudson Patricia Mine, in the northeast corner of Dent Township, produced 1566 ounces of gold and 280 ounces of silver in 1936 after considerable development work had been completed between 1931 and 1935. The mine was closed in January of 1937 but clean up operations at the site yielded another 291 ounces of gold and 29 ounces of silver (Sinclair et al. 1938, 1939; Young 1938, 1939).

In 1935 Argosy Gold Mines Ltd. was formed to take over the property of Casey Summit Gold Mines at Casummit Lake. Considerable underground development was completed, a mill was installed and production commenced on July 6, 1936 at the Argosy Mine (Horwood 1938a). In 1938 Argosy Gold Mines declared bankruptcy and was succeeded by Jason Gold Mines Ltd. after the mine had produced 14 834.984 ounces of gold from 1936 to 1938 (Young 1938, 1939; Tremblay 1940). Production came from 2 shafts at the mine site (Sinclair et al. 1938, 1939, 1940). Production resumed in 1940 after Ontario Hydro had extended an electrical power line to the mine from Ear Falls; the mine was renamed the Jason Mine. The mine produced 44 164.534 ounces of gold from 1940 to October 1942 when it closed again (Tower et al. 1942, 1946, 1946a; Tremblay 1945, 1946a, 1946b).

J.E. Hammell acquired the Uchi Mine property in Earngey Township in 1936. The property had been idle for 8 years following the financial slump of 1929. Considerable development work was conducted at the site including the sinking of 2 shafts. The mine finally commenced production on May 4, 1939. In 1940 J.E. Hammell acquired the Jalda, Grasett and Kenelda (Hanalda) properties adjacent to the Uchi Mine claims. Mining commenced at all 3 properties and the ore was transported to the Uchi Mine mill for treatment. By 1942 the No. 1 shaft at the mine was closed as well as the shafts at the Grasett and Kenelda properties. Production continued from the No. 2 shaft and the Jalda shaft until February 1943 when Uchi Gold Mines Ltd. went into receivership and operations were suspended (Thomson 1939a; Bateman 1940a; Tower et al. 1941, 1942, 1946, 1946a, 1946b). The Uchi Mine and its adjacent properties produced 114 467.97 ounces of gold and 14 345 ounces of silver from 757 074 tons of ore (Tremblay 1941, 1945, 1946a, 1946b, 1946c) and is the largest recorded producer in the Birch-Confederation lakes area.

The Jackson-Manion Mine continued production from the No. 1 shaft on the Belljoe vein until 1938 when production commenced at the No. 2 shaft on the Rowe vein. Some ore was salvaged from the No. 1 shaft in 1939 and production had ceased at the No. 2 shaft in February 1940 when the mine closed. A small amount of gold was produced from clean up operations in 1947 and 1984. Total production from the mine was 27 146.186 ounces of gold and 18 299.765 ounces of silver from 105 357.75 tons of ore (Young 1936, 1937, 1938, 1939; Sinclair et al. 1936, 1937, 1938, 1939, 1940; Tremblay 1940, 1941, 1945, 1949; Tower et al. 1941, 1942).

All of the gold mines in the area had ceased production by early 1943 due to the difficulty of working in remote locations under wartime conditions. Gold exploration and production also decreased significantly after the mid-1940's due to numerous negative economic factors including the fixed price of gold at \$35 per ounce. Some scattered prospecting was conducted in the area during the late 1940's and early 1950's. Leta Explorations optioned the Horseshoe Island prospect on Birch Lake and outlined a zone of low grade gold mineralization by diamond drilling in 1944.

The only mine that remained in operation during this time was the Jason Mine which resumed production in 1949 after a corporate reorganization which resulted in another name change to the New Jason Mine. The mine closed for the last time in 1952 after producing 101 874.49 ounces of gold making it the second largest gold producer of the area (Horwood 1938a; Young 1936, 1937, 1938, 1939; Tremblay 1940, 1941, 1945, 1946a, 1946b, 1948; Arnoldi 1951, 1952, 1953, 1954, 1956).

Some gold exploration was conducted in the Birch-Confederation lakes area during the late 1950's. Madsen Red Lake Gold Mines Ltd. did work at the Hurley gold prospect in Goodall Township and Northgate Exploration Ltd. diamond drilled a gold property in Earngey Township in 1958 and 1959. S. and A. Kostynuk staked a former gold property on the north shore of Richardson Lake in 1958 and optioned their claims to Dome Exploration (Canada) Ltd. Dome diamond drilled the property in 1959 and outlined a small zone of gold mineralization.

In 1963 the Kostynuk brothers collared a shaft on their Richardson Lake property and produced gold until 1966. The Kostynuk Brothers Mine was the last gold producer in the Birch-Confederation lakes area and produced 1126 ounces of gold and 102 ounces of silver from 636 tons of ore (Riddell 1965, 1966, 1968a, 1968b; Ayres et al. 1973).

The 9 mines in the Birch-Confederation lakes area produced 247 421.84 ounces of gold and 42 993.765 ounces of silver from 1 151 888.7 tons of ore between 1928 and 1966 when gold production finally ceased (Table I). Gold reserve figures exist for several properties in the Birch-Confederation lakes area and are listed in Table II.

The discovery of the South Bay Cu-Zn-Ag massive sulphide deposit at Confederation Lake, by Selco Exploration Ltd., initiated another major staking rush equivalent to the gold rush of 1926. Almost all work was directed toward base metal exploration with assessment work man days reaching record levels in 1969 and 1970.

A few gold exploration projects took place during the late 1960's and early 1970's in the Birch-Confederation lakes area. Bonnacord Explorations Ltd. diamond drilled the New Jason Mine at Casummit Lake in 1974; Ronda Copper Mines Ltd. conducted work at the Sol D'Or Mine in Honeywell Township from 1974 to 1976; Shilo Gold Mines Ltd. worked at the Rouillard and Patricia-Dent properties in Dent Township from 1970 to 1973; Kendon Copper Mines Ltd. and All Canadian Mining Co. Ltd. worked at the Bathurst Mine in Skinner Township from 1969 to 1973; and St. Joe Explorations Ltd. explored the Hudson-Patricia Mine in Dent Township in the late 1970's.

Exploration for molybdenum was conducted at Mink Lake from 1969 to 1970 by Can-Fer Mining Ltd. Noranda Exploration Co. Ltd. diamond drilled this property in 1981.

Gold exploration increased dramatically during the 1980's due to the increase in the price of gold and the use of flow-through share financing for junior mining companies. In 1988 assessment

TABLE I: GOLD AND SILVER PRODUCTION* REPORTED IN THE BIRCH-CONFEDERATION LAKES AREA

<u>Property Name and Location</u>	<u>Years of Production</u>	<u>Gold Produced (ounces)</u>	<u>Silver Produced (ounces)</u>	<u>Tons of Ore Milled (short tons)</u>	<u>Average Grade of Gold (ounce per ton)</u>	<u>Average Grade of Silver (ounce per ton)</u>
Argosy Mine NTS 52N/8NW	1934,36-38 1940,42,46, 1947,49-52	101 874.49	9788	276 573	0.368	0.03
Bathurst Mine NTS 52N/7SW	1929,1932 1934,1936	307.57	92.0	approx. 562	0.547	0.16
Bobjo Mine NTS 52N/2SE	1928-1929	361.70	29.0	N/A	N/A	N/A
Hudson- Patricia Mine NTS 52N/2NE	1936-1937	1856.926	305.0	11 228	0.165	0.03
Jackson- Manion Mine NTS 52N/2SW	1934-1940 1947	27 146.186	18 299.765	105 357.75	0.258	0.17
Kostynuk Bros. Mine NTS 52N/9SW	1963-1966	1126	102	636	1.77	0.16
McIntyre Mine (Cooper-Barry) NTS 52N/8NW	1934	23	N/A	N/A	N/A	N/A
Sol D'Or Mine NTS 52N/7SE	1932-1933 1935-1936	258	33	458	0.563	0.127
Uchi Mine NTS 52N/2SE	1939-1943	114 467.97	14 345	757 074	0.15	0.019
		247 421.84	42 993.765	1 151 888.75	0.21	0.037

*Compiled from O.D.M. and O.G.S. statistical and geological reports and assessment files.

TABLE II: KNOWN GOLD RESERVES (NOT MINED) REPORTED IN THE BIRCH-CONFEDERATION LAKES AREA

	<u>Property Name and Location</u>	<u>Reserves</u>		<u>Reference</u>
		Tonnage (short tons)	Grade (ounce Au per ton)	
	Bathurst Mine Skinner Twp. NTS 52N/7SW	80 000	0.58	Energy, Mines and Resources Canada, M.R. 223.
	Grasett Prospect Earngey Twp. NTS 52N/2SE	78 295	0.22	Energy, Mines and Resources Canada, M.R. 223.
	Horseshoe Island Prospect Satterly Lake Area NTS 52N/8SW,NW	825 000 892 872 893 508	0.13 0.134 0.14	George Cross News Letter 11/06/87; Hemlo Gold Mines Inc. 1989 Annual Report Northwest Prospector, Mar/Apr.1990.
13	Kostynuk Bros. Mine Brownstone Lake Area NTS 52N/9SW	24 096	0.31	N. Miner 11/11/85
		250 000	0.18 to 0.30	M. Miner 02/29/88
		700 000	0.20	N. Miner 06/20/88
	Northgate Prospect Earngey Twp. NTS 52N/2SE	64 600	0.28	Orofino Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
	Sol D'Or Mine Honeywell Twp. NTS 52N/2SE	8565	0.57	N. Miner 02/18/37
	Springpole Lake Prospect Casummit Lake Area NTS 52N/8NW	7 900 000 27 000 000	0.07 0.035	N. Miner 04/02/90 G. Cross Newsletter 27/12/91
	Uchi Mine Earngey Twp. NTS 52N/2SE	214 000	0.147	Energy, Mines and Resources Canada, M.R. 223.

work man days had reached their highest levels since the discovery of the South Bay Cu-Zn-Ag mine. Exploration work was conducted on almost every gold property in the Birch-Confederation lakes area.

Some of the most intensive exploration was conducted at Birch Lake where Gold Fields Canadian Mining Ltd. staked an extensive area of ground centered on the Springpole Lake prospect. By the end of 1989, Gold Fields had diamond drilled 118 holes totalling 125 816 feet and delineated 10 zones of gold mineralization at the Springpole Lake property (Corptech Industries Inc., Vancouver Stockwatch, May 30, 1989).

Gold Fields entered into a joint venture agreement with Noranda Exploration Co. Ltd. and Akiko-Lori Gold Resources Ltd. in 1989 and Noranda took over as operator of the property. Subsequent work by Noranda included additional diamond drilling and evaluation of the fluorite potential of the property. Gold reserves on the property were estimated at 7.9 million tons grading 0.07 ounce Au per ton (The Northern Miner, April 2, 1990).

St. Joe Canada Inc. initiated a major exploration program at the west end of Birch Lake at the Horseshoe Island prospect and on other nearby properties. Intensive diamond drilling outlined 893 508 tons grading 0.14 ounce Au per ton (Northwest Prospector, March/April, 1990, p. 7) along the southeast shore of Horseshoe Island. St. Joe also conducted extensive work at the Greencamp prospect south of Horseshoe Island. Noranda acquired St. Joe's properties in 1989 and continued exploration work. Other large exploration programs were initiated by Dome Exploration (Canada) Ltd., (now known as Placer Dome Inc.), who conducted extensive exploration work at Angela Lake and in the northeast part of Birch Lake; Lac Minerals Ltd. conducted work on their patented claims in Earngey Township which encompasses the Uchi Mine and surrounding gold properties; Orofino Resources Ltd. conducted exploration at the Jackson-Manion Mine and other nearby properties in Dent and Earngey townships; Noramco Explorations Inc. explored the north part of Goodall and Skinner townships and the Swain Lake area; and Getty Canadian Metals Ltd. conducted widespread exploration work at Slate, Papaonga and Curie lakes and discovered several new gold showings.

There has been a significant decline in gold exploration since 1989 due to lower gold prices, the cancellation of flow-through share financing and the lack of active junior mining companies. A few small, widely scattered exploration programs were conducted throughout the Birch-Confederation lakes area in 1990, but only Noranda Exploration Co. Ltd. and Starmin Mining Inc. were actively exploring for gold in 1991. Base metals continue to be sought by a number of exploration companies.

IV) PREVIOUS WORK

In 1893 D.B. Dowling (1896) made the first recorded geological observations in the Birch-Confederation lakes area while conducting a geological reconnaissance for the Geological Survey of Canada. A.W.G. Wilson and J.F.E. Johnston made geological observations while conducting a traverse from Lac Seul to Cat Lake, by way of the Wenasaga River, in 1902 (Wilson 1911). In 1904, C. Camsell (1904) made additional observations along the Wenasaga River, at Slate Lake and at Birch and Shabumeni lakes during a survey around the headwaters of the Severn River.

All of the early G.S.C. reports on this region were republished by the Ontario Bureau of Mines in a single volume (Miller 1912), when the Patricia portion of the district of Keewatin was added to the territory of the province of Ontario in 1912.

E.M. Burwash (1920) conducted a geological reconnaissance in the Birch-Confederation lakes area for the Ontario Bureau of Mines in 1919. Burwash mapped along the Wenasaga River between Gull and Birch lakes and mapped the southwestern part of Birch Lake.

In 1926, J.W. Greig (1928a, 1928b) conducted a geological reconnaissance which encompassed all of the Birch-Confederation lakes area. Greig's work was initiated by the Ontario Department of Mines in response to a significant gold discovery and subsequent staking rush at Red Lake.

More detailed mapping was conducted within Greig's original map area as gold exploration and mining development progressed. The Woman, Narrow and Confederation lakes area was mapped by E.L. Bruce in 1927 (1929a, 1929b); G.D. Furse (1934a, 1934b) mapped the geology at Shabumeni-Birch lakes in 1932; the Birch-Springpole lakes area was mapped by W.D. Harding (1936a, 1936b) in 1935; and H.C. Horwood (1938a, 1938b) detail mapped the geology in the vicinity of the Argosy Mine at Casummit Lake in 1936. Horwood (1937) also wrote a paper on the geology at the Argosy Mine for the Canadian Institute of Mining and Metallurgy. The geology at Papaonga Lake was mapped by W.I. Wright (1936) for the Geological Survey of Canada in 1935.

In 1937, J.E. Thomson (1939a, 1939b) detail mapped the geology at the Uchi Mine and surrounding properties in Earngey Township. J.D. Bateman (1940a, 1940c) followed up Thomson's work by mapping the Uchi-Slate lakes area in 1938. Bateman's report (1940a) included work he had completed for a PhD thesis which described the geology and gold deposits at Uchi-Slate lakes (Bateman 1939). Bateman (1940b) also documented the geology at the Jackson-Manion Mine in Dent Township in 1938.

The Birch-Confederation lakes area was included in a large-scale, regional, reconnaissance survey carried out by the Geological Survey of Canada from 1959 to 1961 (Duffell et al. 1963, Prest 1963, Donaldson and Jackson 1969). A variety of geochemical studies conducted on samples collected during the G.S.C. survey were completed (Holman 1963; Emslie and Holman 1966). A.M. Goodwin (1967) conducted pioneering whole-rock chemical analyses and stratigraphic studies in the Birch-Confederation lakes area in 1963.

In 1965 and 1966, K.G. Fenwick (1966a, 1966b, 1966c, 1967a, 1967b, 1967c) conducted detailed geological mapping in Belanger and Bowerman townships and in the Snakeweed, Feaver, Bluffy and Whitemud lakes areas for the Ontario Division of Mines.

Detailed mapping of the townships in the Birch-Confederation lakes area was initiated in response to the discovery of the South Bay Cu-Zn-Ag massive sulphide deposit at Confederation Lake in 1968. A.P. Pryslak (1970a, 1970b, 1971a, 1971b, 1972a, 1973, 1974, 1986) detail mapped Dent, Mitchell, Corless, Knott, Goodall and Skinner townships and the Shabumeni River-Narrow Lake area from 1969 to 1972.

P.C. Thurston detail mapped Agnew, Earngey, Birkett and Costello townships in 1973 and 1974 (Thurston et al. 1974, 1975a, 1975b, 1975c; Thurston 1980b, 1985a); and G.W. Johns, R. Falls and P.C. Thurston detail mapped Honeywell and McNaughton townships in 1975 (Johns and Falls 1976a, 1976b; Johns 1979; Johns and Thurston 1979). P.C. Thurston (1985b) worked on a synoptic study of the physical volcanology and stratigraphy of the Confederation Lake area from 1975 to 1977 and conducted a thesis study of trace element geochemistry of cyclical volcanism (Thurston 1980a). Thurston also conducted reconnaissance mapping at Birch Lake in 1977 and 1978, to extend volcanic stratigraphy at Confederation and Woman lakes north into the Birch

Lake area (Thurston, Jackson and Pirie 1981; Thurston 1986).

Other studies completed in the Birch-Confederation lakes area include: a gravity study conducted in 1975 and 1976 (Gupta and Wadge 1986); a lithogeochemical study of a small area within Belanger, Bowerman and Mitchell townships in 1975 and 1976 (Closs and Colvine 1980a, 1980b); and numerous theses written on the geochemistry and geology of the metavolcanic rocks and base metal deposits in the vicinity of Confederation Lake. A thesis study of the Hill-Sloan-Tivey quartz vein system at the Grasett prospect in Earngey Township was completed by D.F. Baker in 1975 (Baker 1975). D. Stone also completed a thesis study of the Sydney Lake fault zone (Stone 1981). Portions of the Birch-Confederation lakes area were included in regional, geological reconnaissance projects conducted in the early 1970's (Ayres et al. 1972, 1973; Breaks et al. 1976).

A detailed U-Pb zircon geochronological study conducted in the late 1970's dated the metavolcanic sequences at Confederation and Narrow lakes (Nunes and Thurston 1980). The results of the age dating supported the correlation of volcanic stratigraphy between the Red Lake and Birch-Confederation lakes metavolcanic-metasedimentary belts (Thurston and Paktunc 1985a, 1985b, 1985c; Wallace, Thurston and Corfu 1986).

The rapid increase in gold exploration and the closure of both the South Bay Cu-Zn-Ag mine and the Griffith iron mine in the 1980's initiated more geological mapping and special studies in the Birch-Confederation lakes area. R.P. Bowen (1981a, 1981b, 1989a, 1989b) detail mapped the Slate Lake area in 1980; and T.L. Muir and J.W. Graydon (1982) detail mapped Belanger and Bowerman townships in 1981. A.J. Fyon, L. Lane and L. O'Donnell conducted a study on the nature of and controls on gold mineralization at Uchi, Confederation and Woman lakes (Fyon and Lane 1985, 1986; Fyon and O'Donnell 1986). Detailed geological mapping of the Birch Lake area was conducted by G.P. Beakhouse (Beakhouse et al. 1989; Beakhouse and McNeil 1989; Beakhouse 1989) and D.J. Good (Good 1986, 1988; Good et al. 1986) in 1985 and 1986, due to intensive gold exploration at Birch Lake. H.R. Williams (1988) conducted a structural study in the Slate Lake area in 1988.

B.D. Cooper (1985) completed a thesis study of the alteration at the Horseshoe Island gold prospect on Birch Lake in 1985. J.W.F. Ketchum (1987) completed thesis work on the structure and economic geology of the Canamer gold prospect, on Birch Lake, in 1987. K. Barron et al. (1989) did a petrological study at the Springpole Lake prospect, on Birch and Springpole lakes, as part of K. Barron's thesis work. S.R. Noble (1989) conducted a thesis study of the geology and geochemistry of the Trout Lake batholith and metavolcanic rocks at Uchi and Confederation lakes.

Recent work includes detailed mapping of the Casummit Lake area by G.P. Beakhouse (1990a, 1990b; 1991) and airborne electromagnetic and magnetic geophysical surveys flown over the entire Birch-Confederation lakes area in 1991 (Ontario Geological Survey 1991).

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**AGNEW
TOWNSHIP
NTS 52N/2NE**

AG-1/ MIMI POINT OCCURRENCE - AGNEW TOWNSHIP

NTS 52N/2 NE

LOCATION

The Mimi Point occurrence is situated on the southern tip of a large point of land on the north side of Lost Bay of Confederation Lake, Agnew Township. The main occurrence is presently situated on mining claim KRL 1057726.

DESCRIPTION

Regional Structures: No significant regional structures have been recognized in the vicinity of the Mimi Point occurrence. The contact strain aureole of the Okanse Lake stock is situated about 1.2 km north of the occurrence.

Geology: North-trending, west-facing, pillowed and amygdaloidal mafic flows and pillow breccia are intruded by small quartz porphyry and gabbroic to dioritic intrusions. The metavolcanic rocks form part of the Cycle II metavolcanic sequence (Thurston 1985).

Mineralization: A dark grey, north-trending quartz vein is hosted by silicified and carbonatized mafic metavolcanic rocks which contain up to 3% disseminated pyrite. The quartz vein contains up to 5% disseminated sulphides consisting of pyrite, pyrrhotite and minor chalcopyrite.

OWNERSHIP AND DEVELOPMENT

Pre-1941: Staked as claim KRL 5714 and 16435. No additional information available on these claims.

1968: Staked by L. Gull and transferred to South Bay Mines Ltd. as claim KRL 63115. The claim was cancelled in 1972.

1989: Staked by W. Desmeules and transferred to G. Desmeules who conducted stripping, trenching and sampling.

ECONOMIC FEATURES

Grab samples taken from the quartz vein by G. Desmeules assayed 0.02, 0.06 and 0.22 ounce Au per ton. Four channel samples assayed 0.08 ounce Au per ton across 1-foot, 0.38 ounce Au per ton across 1.6 feet, 0.20 ounce Au per ton across 1-foot and 0.16 ounce Au per ton across 1-foot.

SELECTED REFERENCES

G. Desmeules (Mimi Point Showing), assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. et al. 1975, O.D.M. Map P.1056.
Thurston, P.C. 1985, O.G.S. G.R. 236.

**AVIS LAKE
AREA
NTS 52K/16NW**

AV-1/ MASKOOCH LAKE OCCURRENCE - AVIS LAKE AREA

NTS 52K/16 NW

LOCATION

The Maskooch Lake occurrence consists of 2 small test pits situated at the southeast end of Maskooch Lake in the Avis Lake area.

DESCRIPTION

Regional Structures: The occurrence is situated on the south flank of an east-trending synclinal fold axis (Bowen 1989).

Geology: East-trending, intermediate to felsic flows and pyroclastic rocks are intercalated with mafic metavolcanic flows. Narrow, discontinuous units of chert-magnetite-sulphide iron formation occur between mafic flows and felsic pyroclastic rocks. The supracrustal rocks have been intruded by the Maskooch Lake stock which consists of quartz-feldspar porphyry (Bowen 1989). The Maskooch Lake stock is granodioritic and not porphyritic where it is exposed at the Maskooch Lake occurrence, however, the stock is more felsic and porphyritic in outcrop exposures on Maskooch Lake. An occurrence of chloritoid was reported by Bowen (1989) in the Maskooch Lake stock, on the south side of Maskooch Lake. The metavolcanic rocks are part of a discrete terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: Disseminated chalcopyrite, pyrite, pyrrhotite and magnetite are hosted by sheared, intermediate to felsic pyroclastic rocks and siliceous metasediments near the contact of the Maskooch Lake stock. Metavolcanic host rocks exposed in the test pits are gossan-stained, biotitic, sericitized and contain up to 5% disseminated sulphides. Sulphides also occur in narrow, discontinuous seams, layers and fractures. Banded sulphides, including pyrite nodules, chalcopyrite and pyrrhotite occur within a layered siliceous rock exposed in one of the test pits. The host rocks also contain garnet crystals which are less than 1 mm in size. Metavolcanic rocks are strongly foliated at 260°. Recent trenching and stripping in the vicinity of the old test pits, has exposed a 15-foot wide mineralized zone hosting pods and lenses of massive pyrrhotite and chalcopyrite.

Sulphides occur in folded amphibolitized, garnetiferous, mafic rocks situated about 400 m southeast of Maskooch Lake. The sulphides consist of disseminated pyrite, chalcopyrite and pyrrhotite. Abundant, disseminated chalcopyrite mineralization also occurs within sericitized, felsic metavolcanic rocks along the southwest shore of Maskooch Lake.

OWNERSHIP AND DEVELOPMENT

1969: Noranda Exploration Co. Ltd. conducted electromagnetic and magnetic surveys east of Maskooch Lake.

1977: The Maskooch Lake area was staked by St. Joseph Explorations Ltd.

1978: St. Joseph Explorations Ltd. conducted horizontal loop electromagnetic and magnetic surveys over the property.

- 1979: St. Joseph Explorations Ltd. conducted diamond drilling in the vicinity of Maskooch Lake.
- 1983-1984: Getty Canadian Metals Ltd. conducted a regional airborne geophysical survey over the area and limited magnetic and electromagnetic ground geophysical surveys, as well as trenching, geological mapping and humus and lithogeochemical sampling in the vicinity of Maskooch Lake.
- 1985: Noranda Exploration Co. Ltd. discovered several old chalcopyrite showings southeast of Maskooch Lake during reconnaissance mapping and lithogeochemical sampling.
- 1986: Noranda conducted horizontal loop electromagnetic and magnetic geophysical surveys and geological mapping.
- 1989: The occurrence was staked by L. Rosenthal who conducted a self potential survey and some sampling.
- 1991: J. Williamson conducted stripping, trenching and sampling at the occurrence.

ECONOMIC FEATURES

A sample taken from a test pit on the property by Getty Canadian Metals Ltd. analyzed 320 ppb Au and 0.41% Cu. Two chip samples assayed 0.43% Cu across 1 m and 0.30% Cu across 2.5 m. A sample taken by Noranda Exploration Co. Ltd. in the vicinity of the test pits assayed 0.091 ounce Au per ton.

Three grab samples taken by J. Parker from the test pits analyzed 32 ppb Au, 1995 ppm Cu and 102 ppm Zn; 880 ppb Au, 0.76 ounce Ag per ton, 3.1% Cu and 420 ppm Zn; 70 ppb Au, 915 ppm Cu and 137 ppm Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). A grab sample taken by J. Parker from the sulphide-rich shear zone, located 400 m southeast of Maskooch Lake analyzed 2050 ppb Au, 500 ppm Cu and 165 ppm Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Four grab samples taken by J. Parker from chalcopyrite-bearing, felsic metavolcanic rocks situated along the southwest shore of Maskooch Lake analyzed 11 ppb Au, 380 ppm Cu and 42 ppm Zn; 410 ppb Au, 1% Cu and 87 ppm Zn; 2940 ppb Au, 0.32 ounce Ag per ton, 1.18% Cu and 98 ppm Zn; and 385 ppb Au, 9500 ppm Cu and 80 ppm Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

The best gold analysis obtained from humus sampling conducted by Getty Canadian Metals Ltd. was 18 ppb Au.

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.
- Bowen, R.P. 1989, O.G.S. G.R. 256, p. 62-64.
- Getty Canadian Metals Ltd., assessment files, Resident Geologist's office, Red Lake.
- Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
- St. Joe Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
- L. Rosenthal, assessment files, Resident Geologist's office, Red Lake.

AV-2/ PAPAONGA LAKE OCCURRENCES - AVIS LAKE AREA

NTS 52K/16 NW

LOCATION

The Papaonga Lake occurrences consist of the Shore and PL-1a showings which are situated near the south shore of Papaonga Lake in the Avis Lake area.

DESCRIPTION

Regional Structures: The Papaonga Lake occurrences are situated north of the Lake St. Joseph-Sydney Lake Fault zone (Williams 1988).

Geology: East-trending, fine-grained metasediments consisting dominantly of biotitic greywacke and argillite are intercalated with minor, intermediate to mafic metavolcanic flows and chert-magnetite iron formation. The metasediments are commonly sheared, contorted and drag-folded. The metavolcanic and metasedimentary rocks are part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: The Shore showing is located on the south shore of Papaonga Lake and consists of intensely altered and sheared felsic tuff and greywacke hosting disseminated arsenopyrite, pyrite, chalcopyrite and some quartz and tourmaline veins. The host rocks are sericitized, tourmalinitized and contain narrow zones of strong carbonatization.

The PL-1a zone consists of a 2 to 3 m wide zone of sheared, sulphide-bearing, graphitic greywacke and tuff associated with a narrow, 1.7 km long, contorted and boudinaged quartz-tourmaline zone hosted by sericitized greywacke. A silicified zone containing 50% to 70% graphite, 2% to 5% pyrite and pyrrhotite, ladder quartz veining and contorted quartz-tourmaline veins is exposed in one of the trenches on the PL-1a zone.

OWNERSHIP AND DEVELOPMENT

1983: Getty Canadian Metals Ltd. conducted airborne magnetic and electromagnetic surveys over an extensive area as well as lake bottom sampling, reconnaissance prospecting, sampling and trenching. The company staked 233 contiguous mining claims.

1984: Getty established 2 grids (PL-1 and PL-2) and conducted horizontal loop electromagnetic and magnetic surveys, geological mapping, prospecting, lithogeochemical and humus sampling, trenching and diamond drilled 7 holes totalling 955 m. Two holes tested the Shore showing and the PL-1a Zone.

ECONOMIC FEATURES

A grab sample taken at the Shore showing by W. Evert assayed 0.12 ounce Au per ton. Two samples taken across 2 carbonatized zones at the Shore showing, by Getty Canadian Metals Ltd., assayed 0.02 ounce Au per ton across 0.5 m and 0.04 ounce Au per ton across 0.5 m. A grab sample taken from the PL-1a zone by Getty Canadian Metals Ltd. assayed 0.06 ounce Au per ton, while a chip sample assayed 0.02 ounce Au per ton across 0.5 m.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Breaks, F.W. et al. 1976, O.D.M. Map P.1200.

Getty Canadian Metals Ltd., assessment files, Resident Geologist's office, Red Lake.

Lavigne Jr., M.J. and Atkinson, B.T. 1987, O.G.S. M.P. 134, p. 39.

Thurston, P.C. and Bartlett, J.R. 1981, O.G.S. Map P.2386.

Williams, H.R. 1988, O.G.S. M.P. 141, p. 116-119.

AV-3/ WILLIAMSON, J. OCCURRENCE - AVIS LAKE AREA

NTS 52K/16 NW

LOCATION

The Williamson occurrence is exposed in a roadcut on the south side of the Wenasaga Road, about 64 km northeast of Ear Falls, in the Avis Lake area.

DESCRIPTION

Regional Structures: The Williamson occurrence is situated along the south flank of an east-trending synclinal fold axis (Bowen 1989).

Geology: East-trending, mafic to felsic, metavolcanic flows and pyroclastic rocks are intercalated with polymictic conglomerate and fine-grained metasediments and intruded by gabbroic sills and dikes. The supracrustal rocks are interpreted to be part of a discrete, dominantly metasedimentary terrain known as the Slate Lake belt (Beakhouse 1989).

The occurrence is hosted by amphibolitized, mafic pyroclastic breccia intercalated with chloritic, rhyolitic flows and sulphide-rich, heterolithic, intermediate to felsic tuff breccia. The rocks have been intensely amphibolitized and contain abundant biotite, black amphibole and garnet. The rocks also host minor epidote veining and are intruded by narrow intermediate to mafic dikes.

Mineralization: Gold mineralization occurs within narrow, 0.3 m wide shear zones trending between 040° and 060°. Gold is associated with sulphide veins consisting of massive, coarse-grained pyrite, chalcopyrite and minor quartz and carbonate. Barren white quartz veins hosting black tourmaline are located on the north side of the road across from the occurrence.

OWNERSHIP AND DEVELOPMENT

1977: Staked for St. Joseph Explorations Ltd.

1978: Horizontal loop electromagnetic and magnetic surveys conducted by St. Joseph Explorations Ltd.

1979: St. Joseph Explorations Ltd. diamond drilled 1 hole to a depth of 86.86 m. The hole was drilled to test an electromagnetic anomaly.

1987: J. Williamson staked the property and conducted trenching, stripping and magnetic and electromagnetic surveys.

1990: J. Williamson diamond drilled 1 hole to a depth of 30.8 m.

ECONOMIC FEATURES

A grab sample taken from the sulphide vein by B.T. Atkinson assayed 3.2 ounces Au per ton, 2.1 ounces Ag per ton, 5400 ppm Cu, 320 ppm Zn, 64 ppm Ni and 106 ppm Cr; a grab sample of the wall rock analyzed 815 ppb Au, less than 2 ppm Ag, 29 ppm Cu, 71 ppm Zn, 52 ppm Ni and 224 ppm Cr (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). A grab sample

taken from the sulphide vein by J. Parker assayed 0.18 ounce Au per ton, 2.13 ounces Ag per ton, 2.75% Cu and 1.1% Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto); a sample taken by J. Williamson assayed 0.9 ounce Au per ton (Lavigne Jr. and Atkinson 1987).

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Bowen, R.P. 1989, O.G.S. G.R. 256, p. 63-64.

Lavigne Jr., M.J. and Atkinson, B.T. 1987, O.G.S. M.P. 134, p. 39.

St. Joseph Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.

J. Williamson, assessment files, Resident Geologist's office, Red Lake.

**BELANGER
TOWNSHIP
NTS 52K/15NW**

BE-1/ COPPER LODGE D ZONE PROSPECT - BELANGER TOWNSHIP

NTS 52K/15 NW

LOCATION

The Copper Lode D Zone is situated on patented mining claims KRL 51110, 51111 and 51112 which are approximately 1.8 km southeast of Fredart Lake in Belanger Township.

DESCRIPTION

Regional Structures: A northeast-trending fault delineated by Copper Lode Mines Ltd. extends through the D Zone.

Geology: The Copper Lode D Zone occurs within northeast-trending, fine-grained, biotitic and sericitized, sandy-textured tuff and lapilli tuff, quartz porphyry and feldspar-quartz porphyry. A unit of fine-grained, metasedimentary rocks extends through the northwest portion of the Copper Lode property. The metasediments were mapped by Muir and Graydon (1982) as biotite-sericite-quartz schists containing garnet, staurolite and andalusite. The metavolcanic and metasedimentary rocks occur within the Cycle III sequence (Thurston 1985).

The supracrustal rocks are intruded by irregular, dioritic to gabbroic intrusions and by 2 large granodiorite intrusions situated northwest and southeast of the Copper Lode property (Muir and Graydon 1982).

Mineralization: The Copper Lode property has been the focus of base metal exploration throughout the 1960's and 1970's. The D Zone does not outcrop and was discovered by ground electromagnetic surveys.

The Copper Lode D Zone consists of massive stringers and disseminations of pyrrhotite, pyrite, magnetite, chalcopyrite and sphalerite in sheared micaceous metasediments. The D Zone was traced by diamond drilling for a strike length of 1200 feet and to a depth of 350 feet.

OWNERSHIP AND DEVELOPMENT

1954: A contiguous group of 27 claims were staked in the area by T. O'Neill, J. Plasa and C. Wilson. No work was reported on the property and the claims lapsed in 1955.

1962: Ground staked by H. Lundmark and G. Ramstad.

1964: Copper Lode Mines Ltd. acquired the property and conducted several ground electromagnetic surveys and diamond drilled 14 holes totalling 4480 feet on the D Zone.

1968: Copper Lode conducted airborne magnetic and electromagnetic surveys over the property.

1969: Copper Lode conducted an induced polarization survey.

1970: Copper Lode conducted geological mapping and a ground electromagnetic survey.

1972: Selco Mining Corp. Ltd. optioned the property from Copper Lode Mines and completed airborne and ground magnetic and electromagnetic surveys over the property.

1973: Claims were surveyed and brought to lease.

ECONOMIC FEATURES

Diamond drill hole No. 29, drilled by Copper Lode Mines Ltd., intersected 0.70% Cu, 0.67% Zn, 3.01 ounces Ag per ton and 0.10 ounce Au per ton across 48.7 feet, which included a smaller section which assayed 1.75% Cu, 0.86% Zn, 7.70 ounces Ag per ton and 0.32 ounce Au per ton across 11.2 feet.

SELECTED REFERENCES

Copper Lode Mines Ltd., assessment files, Resident Geologist's office, Red Lake.

Fenwick, K.G. 1966, O.D.M. Map P.350.

Lundmark Showing (Falconbridge Option), assessment files, Resident Geologist's office, Red Lake.

Muir, T.L. and Graydon, J.W. 1982, O.G.S. Map P.2571.

Thurston, P.C. 1985, O.G.S. G.R. 236.

BE-2/ WILLIAMSON, J. BELANGER TOWNSHIP OCCURRENCE - BELANGER TOWNSHIP

NTS 52K/15 NW

LOCATION

The Williamson-Belanger Township occurrence is situated on the east side of a small creek in the northeast corner of Belanger Township. The occurrence is presently encompassed by mining claims KRL 1107630, 1107631, 1107632 and 1107751.

DESCRIPTION

Regional Structures: The occurrence is situated within a strong, east- to east-northeast-trending shear zone.

Geology: Northeast-trending, amygdaloidal, feldspar-phyric, amphibolitized, mafic metavolcanic flows of the Cycle III sequence (Thurston 1985) are intruded by a large granodiorite stock and smaller gabbro intrusions.

The occurrence is situated within a wide shear zone striking between 260° and 274° for several hundred metres. The shear zone is hosted by amphibolitized, biotitic, feldspar-phyric, massive mafic flows. The sheared rock is fissile, rusty and hosts quartz lenses and stringers. Quartz-phyric felsic dikes trending between 220° and 250° intrude the metavolcanic rocks and an irregular mass of diorite outcrops north of the mineralized shear zone.

Mineralization: A 0.46 m wide quartz vein striking 226/62 NW is hosted by sheared mafic metavolcanic rocks. The quartz vein consists of fine, sugary quartz which hosts disseminated chalcopyrite, pyrite, native copper, bornite and malachite staining. The wall rocks are chloritic, sericitic and carbonatized. Seams, layers and disseminations of chalcopyrite, pyrrhotite and pyrite occur throughout the sheared metavolcanic rocks.

OWNERSHIP AND DEVELOPMENT

1969: A contiguous group of 50 claims covering the showing were staked by D.A. Hutton and J.E. Durham in the northeast corner of Belanger Township and the southeast corner of Knott Township.

1970: Cochenour Explorations Ltd. completed geological and horizontal loop electromagnetic surveys over the property.

1988: Prospected, stripped and trenched by J. Williamson.

ECONOMIC FEATURES

A grab sample taken from the quartz vein by J. Parker assayed 0.46 ounce Au per ton and 3000 ppm Cu. Three grab samples taken by J. Parker at various locations along the strike of the shear zone assayed 0.068 ounce Au per ton and 1.65% Cu; 139 ppb Au and 4100 ppm Cu; and 78 ppb Au and 3700 ppm Cu (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). The

grab samples consisted of sheared and altered mafic metavolcanic rocks hosting variable amounts of sulphides.

Seven samples collected from the occurrence by B.T. Atkinson gave the following results (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>
88-BTA-80	quartz porphyry	27	<2
-81	diorite with pyrite	1570	17
-82	pyritic quartz vein	<2	<2
-83	pyritic quartz vein	5	<2
-84	epidotized pyritic diorite	4	<2
-85	sheared mafic flows with sulphides	1300	19
-86	intermediate dike from main shear zone	2190	8

SELECTED REFERENCES

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**BIRKETT
TOWNSHIP
NTS 52N/2SE, 1SW**

BI-1/ LEE, N. OCCURRENCE - BIRKETT TOWNSHIP

NTS 52N/2 SE, 1 SW

LOCATION

The Lee Occurrence is situated near a small pond about 800 m southeast of the Uchi River in the northwest corner of Birkett Township.

DESCRIPTION

Regional Structures: No major regional structures have been recognized in the vicinity of the occurrence. Several east-trending faults occur about 1 km south of the occurrence. Foliations in the dioritic rocks, in the vicinity of the occurrence, trend northwest to west-northwest and dip between 50° and 90° to the northeast.

Geology: The occurrence is situated within porphyritic hornblende diorite to biotite quartz monzonite of the Perrigo Lake batholith (Thurston 1984). The occurrence is located about 800 m northeast of the contact between the batholith and a large gabbro intrusion (Thurston et al. 1975).

Mineralization: Very little information is known about this occurrence. Several trenches were sunk on a 15-foot wide mineralized zone.

OWNERSHIP AND DEVELOPMENT

1980: The property was staked by N. Lee and encompassed by mining claims KRL 437463 to 437466 inclusive.

1981-1983: N. Lee sunk several large trenches on claims KRL 437465 and 437466.

ECONOMIC FEATURES

Wire gold was reported at the occurrence but assays are unavailable.

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Thurston, P.C., Waychison, W., Falls, R. and Baker, D.F. 1975, O.D.M. Map P. 1058.
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**BROWNSTONE LAKE
AREA
NTS 52N/9SW**

BR-1/ KOSTYNUK BROTHERS MINE, RICHARDSON LAKE - BROWNSTONE LAKE AREA

NTS 52N/9 SW

LOCATION

The Kostynuk Bros. Mine is located immediately north of Richardson Lake in the Brownstone Lake area. The shaft is situated near the west claim boundary of patented mining claim KRL 43655.

DESCRIPTION

Regional Structures: A regional drag folded syncline extends through Casummit Lake and plunges to the south and west (Horwood 1938). Thurston (1986) identified a west-trending syncline, centered on Richardson, Joneston and Casummit lakes, which plunges steeply to the east.

Geology: East-trending, massive and pillowed mafic metavolcanic flows are intercalated with narrow units of siliceous metasediments, felsic tuff and chert-magnetite iron formation of the Cycle II metavolcanic sequence (Thurston 1986). The metasediments and metavolcanic rocks are highly strained and trend 065°.

The mine is situated near the contact between mafic metavolcanic rocks and dioritic to gabbroic rocks of the Retter Lake granitoid complex (Beakhouse 1990) situated north of Richardson Lake. Mafic metavolcanic rocks are metamorphosed and contain epidote, cordierite and chlorite.

Mineralization: Four mineralized zones have been delineated on the Kostynuk property and are described below.

Shaft Zone: The Shaft zone is situated at the mine shaft on patented claim KRL 43655. The zone consists of brecciated, siliceous and slaty metasediments containing drusy chert, magnetite-rich fragments and jasperoidal iron formation. The breccia hosts quartz veins encompassed by a broad alteration zone consisting of silicification, iron carbonatization and sericitization. The alteration zone hosts disseminated pyrite and arsenopyrite. The zone is 3 to 10 m wide, trends 165° for a length of 150 m and plunges to the southwest (Lavigne Jr. and Atkinson 1988). The Shaft zone has been diamond drilled to a depth of 180 m.

Arseno Zone: This zone is also known as the Sucker or West zone and is situated on patented claim KRL 43663. The zone is approximately 400 m west-southwest of the shaft. The Arseno zone is 11 m wide, trends 350° and consists of silicified, felsic tuff and quartz-sericite schist containing abundant disseminated arsenopyrite and pyrite.

KRL 10218 Showing: This showing consists of old trenches in the southeast corner of leased mining claim KRL 43662 (formerly KRL 10218) and is about 600 m west-southwest of the shaft. The showing is also known as the No. 1 pit and has been described by Furse (1934) and Horwood (1938). The pit has been sunk on 2 quartz veins which are both 1-foot wide and hosted by a fracture zone within pyritic, chloritic and carbonatized mafic metavolcanic rocks. The veins trend 100/60S and host disseminated pyrite, sphalerite, galena and native gold (Furse 1934; Horwood

1938). Furse (1934) reported mullion structures on the side of the pit plunging 50° to the southwest.

KRL 10219 Showing: This showing is situated on patented mining claim KRL 43663 (formerly claim KRL 10219) and is 300 m southwest of the shaft and 100 m southeast of the Arseno zone. The showing consists of an intensely S- and Z-drag folded, east-trending quartz vein dipping from horizontal to vertical (Golden Terrace Resources Corp., assessment files, Resident Geologist's office, Red Lake). Furse (1934) originally described the showing as consisting of 4 separate quartz veins. The quartz vein contains disseminated pyrite, sphalerite, galena, arsenopyrite and native gold and has been brecciated and recemented by quartz containing tourmaline, carbonate, chlorite and arsenopyrite (Horwood 1938).

A narrow, west-southwest-trending, shallow dipping zone of deformation and mylonitization extends through all of the mineralized showings.

OWNERSHIP AND DEVELOPMENT

1932: Gold was discovered on the north shore of Richardson Lake by F. Richardson. The property was optioned to R.G. Williamson of Casey Summit Gold Mines who formed the Richardson Lake Syndicate. The property consisted of 12 mining claims KRL 10024 to 10026, 10218 to 10223 and 10557 to 10559, inclusive.

1934: Richardson Lake Syndicate diamond drilled 6 holes totalling 210 feet on mining claim KRL 10218 and subsequently dropped the option.

1958: The Kostynuk Bros. staked claims KRL 43655 and 43663 on the north shore of Richardson Lake.

1959: The property was optioned to Dome Exploration (Canada) Ltd. (Campbell Red Lake Mines Ltd.) who diamond drilled 9 holes totalling 2254 feet. The majority of the drilling was conducted on mining claim KRL 43664.

1960: The Kostynuk Bros. diamond drilled 2 holes totalling 207 feet.

1962: The Kostynuk Bros. diamond drilled 3 holes totalling 318 feet. Cochenour Willans Gold Mines Ltd. optioned the property and diamond drilled 4 holes totalling 639 m on leased mining claims KRL 43662 and 43664.

1963: The Kostynuk Bros. collared a shaft on patented mining claim KRL 43655 and sunk the shaft to 40 feet, with 50 feet of drifting and 35 feet of crosscutting; about 50 feet of surface trenching was also completed. A headframe and concrete foundation for a mill were constructed and 62 tons of ore were milled.

1964: The Kostynuk Bros. Ltd. conducted 30 feet of drifting on the 40-foot level and completed 80 feet of drifts and 35 feet of crosscuts; 1 underground diamond drill hole totalling 68 feet was completed; 94 tons of ore were milled.

1965: About 31 feet of drifting and 10 feet of raising was conducted; 1 underground diamond drill hole totalling 125 feet was completed; 220 tons of ore were milled.

1966: Total development footage to December 31, 1966 was 111 feet of drifts, 35 feet of crosscuts and 10 feet of raises; 260 tons of ore were milled.

1981: Noranda Exploration Co. Ltd. optioned the Kostynuk property and flew airborne magnetic and electromagnetic surveys over Richardson Lake and completed ground magnetic and induced polarization surveys and geological mapping.

1985: Kostynuk property optioned to Golden Maverick Resources Corp. who conducted airborne magnetic and electromagnetic surveys over Richardson Lake and completed trenching, geological mapping and a humus geochemical survey. The Golden Maverick property consisted of 2 patented mining claims, 11 leased mining claims and 131 mining claims. Golden Maverick amalgamated with Golden Terrace Resources Corp. in September.

1986: Golden Terrace Resources Corp. conducted geological mapping and a humus geochemical survey and diamond drilled 10 holes totalling 1520 feet.

ECONOMIC FEATURES

Between 1963 and 1966 the Kostynuk Bros. Mine produced 1126 ounces of gold and 102 ounces of silver from 636 tons of ore milled (Riddell 1965, 1966, 1968a, 1968b; Ayers et al. 1973) at an average grade of 1.77 ounces Au per ton.

Diamond drilling conducted by the Richardson Lake Syndicate at the KRL 10218 showing intersected sections assaying from 0.04 to 0.68 ounce Au per ton across widths of 0.9 to 5.3 feet (Horwood 1938). A drill hole intersection averaging \$10.36 per ton (0.296 ounce Au per ton) across an average width of 5.7 feet was also reported (Fort William Daily Times-Journal, February 16, 1935, p.10). A grab sample taken from the KRL 10218 showing by Golden Terrace Resources Corp. assayed 0.48 ounce Au per ton.

Diamond drilling conducted by Dome Exploration (Canada) Ltd. in the vicinity of the shaft, on patented claim KRL 43663, intersected sections assaying 0.1 ounce Au per ton across 1-foot, 1.26 ounces Au per ton across 1-foot, 0.19 ounce Au per ton across 9.5 feet and 5.68 ounces Au per ton across 0.3 feet. The drill program conducted by Dome delineated a mineralized zone of 24 096 tons grading 0.31 ounce Au per ton across an average width of 7 feet (The Northern Miner, November 11, 1985, p.3).

Grab samples of sulphide-rich breccia taken from the dump at the shaft by Golden Terrace Resources Corp. assayed 0.153, 0.817, 0.087, 0.450, 1.27 and 1.7 ounces Au per ton. A grab sample taken from the dump by B.T. Atkinson analyzed 145 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Grab samples taken from the Arseno zone by B.T. Atkinson analyzed 510 and 1420 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Diamond drilling conducted on the Shaft zone by Golden Terrace Resources Corp. intersected drill sections such as: 0.254 ounce Au per ton across 25.35 feet (The Northern Miner, October 19, 1987); 0.334 ounce Au per ton across 8.2 feet, 0.351 ounce Au per ton across 13.9 feet, 0.26 ounce Au per ton across 3 feet (Press Release, Golden Terrace Resources Corp., August 4, 1987); 4.85 ounces Au per ton across 1.5 feet and 1.10 ounces Au per ton across 1.5 feet (The District News,

February 24, 1988). Diamond drilling conducted on the Arseno or West zone intersected 0.08 ounce Au per ton across 18 feet (The Northern Miner, December 7, 1987).

Golden Terrace Resources Corp. calculated inferred reserves of 250 000 tons grading between 0.18 and 0.30 ounce Au per ton (The Northern Miner, February 29, 1988) and later increased that estimate to 700 000 tons grading 0.2 ounce Au per ton (The District News, March 23, 1988; The Northern Miner, June 20, 1988) .

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Golden Maverick Resources Corp., assessment files, Resident Geologist's office, Red Lake.
Golden Terrace Resources Corp., Press Release, August 4, 1987.
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Horwood, H.C. 1938, O.D.M. Annual Report, v. 46, pt. 7, p. 29-30.
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Lavigne Jr., M.J. and Atkinson, B.T. 1987, O.G.S. M.P. 134, p. 34.
Lavigne Jr., M.J. and Atkinson, B.T. 1988, O.G.S. M.P. 138, p.58-59.
Noranda Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.
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Riddell, G.S. 1968a, O.D.M. Annual Report, v. 75, p. 35.
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Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Fort William Daily Times-Journal, February 16, 1935, p. 10.
The Northern Miner, November 11, 1985, p. 3.
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The District News, February 24, 1988.
The District News, March 23, 1988.

**CASUMMIT LAKE
AREA
NTS 52N/8NW**

CA-1/ ALCON OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Alcon occurrence is located in the northwest part of the Birch Lake area between Mink and Joneston lakes. A small pond locally known as "Mud Lake" covers part of the property. Presently, claims KRL 1000716, 1000718, 1079811 and 1079812 encompass the original property.

DESCRIPTION

Regional Structures: The property is situated on a northwest-trending, dextral, shear zone along which a number of gold occurrences have been identified.

Geology: The Alcon occurrence is underlain by north-facing, felsic to intermediate metavolcanic rocks and associated clastic metasediments, interleaved with thin, pillowed, mafic, metavolcanic flows. Intermediate metavolcanics are the predominant lithology and include heterolithic, pyroclastic breccias, tuff and lapilli tuff. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986). Recent stripping on the west side of Mud Lake has exposed intermediate pyroclastic rocks, intruded by a 1.5 m wide diorite dike containing hornblende and feldspar phenocrysts. The margin of the dike is vesiculated. An earlier 1 m wide mafic dike is truncated by the diorite. A 110° to 120° trending, steeply north-dipping foliation affects all lithologies.

Two main sets of quartz veins trend 110° , parallel to foliation; and 150° , oblique to foliation. The 110° veins show boudinage and extension while the 150° set have undergone boudinage, shortening and dextral rotation. The quartz veins are generally less than 20 cm wide but may attain widths of 0.5 m where they are thickened by folding. Surface stripping has exposed quartz veining over a strike length distance of 300 m. Alteration of host rocks includes pervasive iron carbonate and minor sericite in the vicinity of the trenches.

Mineralization: Pyrite occurs in limited amounts in the quartz veins and as small pods of rusty mineralization in the pyroclastic rocks. Pyrite cubes up to 1 cm in size were noted in the western most trench on the west side of Mud Lake. Diamond drill logs by Dome Exploration (Canada) Ltd. report pyrite, scheelite and minor sphalerite mineralization. Esso Resources Canada Ltd. reported galena mineralization in a quartz vein containing up to 5% tourmaline.

OWNERSHIP AND DEVELOPMENT

1931: First record of staking by J. Hatch.

1959: Alcon Exploration and Mining Syndicate Ltd. acquired a group of 4 claims - KRL 49833, 49838, 49848, 49849 covering the occurrence.

1961: Alcon completed trenching, stripping and sampling on the property.

1969: M. Kostynuk did trenching on the property.

- 1973: Dome Exploration (Canada) Ltd. diamond drilled 6 holes with a combined length of 1287 m.
- 1981: Noranda Exploration Co. Ltd. completed a geological survey on the property.
- 1985: R. Hodgson did geological mapping.
- 1986: Golden Terrace Resources Corp. did a magnetic survey covering 1 claim held by A. Kostynuk.
- 1987-1988: Esso Resources Canada Ltd. did airborne magnetic and electromagnetic surveys in the area as well as geological mapping, trenching, soil sampling and lithogeochemical sampling.
- 1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.

ECONOMIC FEATURES

A number of very high gold assays have been reported from the property. On claim KRL 49833 assays from samples taken by Madsen Red Lake Gold Mines Ltd. include 1015.72 ounces Au per ton over 3 inches, 1591.80 ounces Au per ton over 5 inches and 1666.54 ounces Au per ton over 4 inches.

It is likely that the veining exposed at the Alcon occurrence is the on-strike continuation of veining at the Hatch-Joneston Lake occurrence on the east side of Mud Lake. If so, this would imply a mineralized structure with an aggregate strike length of about 750 m.

Sampling by Esso Resources Canada Ltd. included the following assays:

<u>Au (g/t)</u>	<u>Sample width (m)</u>
30.07	1.14
3.76	0.74
4.11	0.71
3.43	0.53
8.23	0.60
2.07	0.70
50.06	0.61

Other samples from the area assayed as high as 4.80 g/t Au.

Three samples collected at the Alcon occurrence by B.T. Atkinson gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-102	sulphide pod	37
-103	quartz vein with pyrite	37
-104	pyritic intermediate pyroclastic	150

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- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
- Dome Exploration (Canada) Ltd. (Mink Lake), assessment files, Resident Geologist's office, Red Lake.
- Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Map 42d.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Hatch, John, assessment files, Resident Geologist's office, Red Lake.
- Hodgson, R. assessment files, Resident Geologist's office, Red Lake.
- Kostynuk, A. (Golden Terrace Resources Corp.), assessment files, Resident Geologist's office, Red Lake.
- Kostynuk, A. (Noranda Exploration Co. Ltd.), assessment files, Resident Geologist's office, Red Lake.
- Kostynuk, M., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-2/ ANGELA LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Angela Lake occurrence is located 700 m west of Angela Lake in the northeast part of the Birch Lake area.

DESCRIPTION

Regional Structures: The Angela Lake occurrence lies within the strain aureole of the Keigat Lake granitoid complex. Structures trend northwest, parallel to the granitoid contact in the vicinity of the occurrence.

Geology: The property is underlain by mafic metavolcanic flows and pillow breccias of the Cycle II metavolcanic sequence (Thurston 1986; Thurston et al. 1981). Diamond drilling on the property, by Dome Exploration (Canada) Ltd., intersected mafic metavolcanic rocks, siliceous metasediments, ironstone, chert, argillite and intermediate tuffaceous rocks. Lamprophyre dikes commonly intrude the metasedimentary units. Alteration includes silicification and carbonatization of the mafic flows as well as chloritization, biotitization and sericitization. Minor tourmaline is reported in diamond drill logs.

Mineralization: Gold-bearing float has been found on the property. Stringers of massive pyrrhotite and pyrite with minor chalcopyrite and sphalerite mineralization have been intersected in drill core.

OWNERSHIP AND DEVELOPMENT

1966: Dome Exploration (Canada) Ltd. acquired a block of 84 claims in the Angela Lake area.

1967: Dome Exploration (Canada) Ltd. diamond drilled 9 holes totalling 789 m.

1983: Dome completed a ground magnetic geophysical survey.

1984: Dome diamond drilled 9 holes totalling 1354 m.

1985: Dome diamond drilled 1 hole to a depth of 144.2 m.

1986: Dome diamond drilled 13 holes with a combined length of 1840 m.

1988: Dome completed an electromagnetic, ground geophysical survey.

1989: Dome diamond drilled 7 holes totalling 1001 m.

ECONOMIC FEATURES

Low assay values in gold, silver, copper and zinc are reported in diamond drill logs. A quartz vein in granite, diamond drilled by Dome Exploration (Canada) Ltd., assayed 0.35 g/t Au.

SELECTED REFERENCES

- Dome Exploration (Canada) Ltd. assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

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CA-3/ ARGOSY MINE (CASEY SUMMIT, JASON, NEW JASON, GRAND BAY, CASUMMIT LAKE MINE) - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Argosy Mine is located on the north shore of Casummit Lake. The original property included 14 claims KRL 9681 to 9686 and 9733 to 9740. Additional claims added to the mine property include KRL 9758 to 9763 and 11371. All the claims are patented.

DESCRIPTION

Regional Structures: The Argosy Mine is located on the north limb of a drag-fold syncline that affects lithologies around Casummit Lake (Horwood 1938). Small parasitic folds affect metasediments on the property. Two episodes of deformation have affected rocks in the area, an early west trending shearing of regional extent and a later northerly trending shearing (Horwood 1938, Beakhouse 1989).

Geology: The north part of the Argosy Mine property is underlain by pillowed to massive mafic flows. Several bands of chert-magnetite ironstone occur within the mafic flows. Felsic pyroclastic rocks underlie the central claim group and outcrop on islands in Casummit lake and north of the mine workings. Fragments up to 1/2 m occur in the pyroclastic unit north of the mine workings. The pyroclastic unit takes on an increasingly mafic composition northwards. In places it has a conglomerate-like appearance.

Three metasedimentary belts of ferruginous slates and greywacke occur on the property. These are referred to as the Northern, Central and Southern belts and form the mine series rocks. The Central belt attains a thickness of 20 m and was the principal source of gold ore.

Horwood (1938) suggested the possible existence of an angular unconformity between the older mafic flows and the metasedimentary rocks in the vicinity of the mine.

Fractures related to north trending shears are occupied by east dipping diorite dikes and west dipping gold bearing quartz veins.

A 0.2 m wide lamprophyre dike cuts quartz veins on the 300-foot level of the mine (Horwood 1938).

Mineralization: Gold mineralization is found where north trending quartz veins cut the mine series rocks. The auriferous veins are consistently west dipping with dips varying from 20° to 80°. At least 8 veins have been discovered on the property, gold ore was extracted from the No. 1, No. 2, No. 3 and P Veins. The veins vary in width from stringers to 2 m. In the auriferous veins, 2 generations of quartz occur, an early white to grey variety is host to narrow stringers of quartz with associated sulphide minerals and native gold. Sulphide mineralization includes arsenopyrite, pyrrhotite, pyrite, chalcopyrite, sphalerite and galena. Gold mineralization is most often associated with arsenopyrite or galena. Minor carbonate, siderite and albite sometimes occur with the quartz (Horwood 1938).

Several dump rock specimens are thoroughly altered to pale green, very fine grained sericite and carry much quartz veining. Other specimens are carbonate and iron carbonate altered.

OWNERSHIP AND DEVELOPMENT

- 1929: Claims KRL 9681 to 9686 and KRL 9733 to 9740 were staked by J.A. Bothwick on the north shore of Casummit Lake. Casey Mountain Operating Syndicate optioned the 14 claim group after gold was discovered on claim KRL 9681.
- 1930: Six claims KRL 9758 to 9763, were optioned from Parth-Jones-Fishness to protect the western extension of the discovery. Claim KRL 11371 was also acquired, bringing the total number of claims in the group to 21. Surface diamond drilling totalling 2000 feet was carried out on vein No. 2 and No. 3. A vertical, 2-compartment shaft, located on claim KRL 9681, was sunk on the No. 2 vein to a depth of 85 feet. This was referred to as shaft No. 2. A level was established at 75 feet.
- 1931: Following installation of a mining plant early in the year, Casey Summit Gold Mines Ltd. was formed to take over development of the property. Work was discontinued in the fall due to financial problems.
- 1933: Development resumed under financing by Maple Leaf Mines Ltd. who optioned a controlling interest in Casey Summit Gold Mines Ltd. The No. 2 shaft was deepened to 325 feet with new levels established at 200 feet and 300 feet.
- 1934: A 50-ton amalgamation mill was installed and milling began in September. A total of 4 094 tons of ore were treated before operations were suspended in November, due to financial difficulties.
- 1935: Argosy Gold Mines Ltd. was formed and purchased the assets of Casey Summit Gold Mines Ltd. Dewatering of the No. 2 shaft began in May and underground development resumed in June. An inclined (40°) winze was begun from the 300 foot level. Upgrading of the existing facilities to a 125-ton cyanide-amalgamation mill began.
- 1936: The winze was sunk to a vertical depth of 500 feet, with levels established at 400 feet and 500 feet from surface. The 50 ton per day amalgamation mill was replaced by a 125 ton cyanide-amalgamation mill, 800 tons of mining equipment was flown by Canadian Airways from Gold Pines to the mine site at a contracted cost of \$120 per ton. The mine was producing 260 gallons of water per minute. Surface diamond drilling, totalling 3025 feet, was carried out this year.
- 1937: The winze was sunk a further 154 feet and a level was established at 600 feet from surface. A total of 2 739 feet of surface drilling was carried out.
- 1938: Argosy Gold Mines Ltd. declared bankruptcy and ceased operations at the mine early in the year. Jason Mines Ltd. was formed and acquired the property. Surface drilling, totalling 5009 feet, was carried out on the No. 1 and No. 2 veins, and sinking of a 2-compartment inclined (55°) shaft was begun on the No. 1 vein late in the year. This shaft was located on claim KRL 9684, 1500 feet east of the No. 2 shaft and was referred to as the No.1 shaft.

- 1939: The No. 1 shaft was sunk to a depth of 404 feet and levels were established at 135 feet, 260 feet and 385 feet on the incline.
- 1940: Hydroelectric power from the Ear Falls plant of the Ontario Hydro Electric Power Commission was turned on at the mine. Shaft No. 1 was deepened to 526 feet on the incline and a level established at 510 feet. The No. 2 shaft was dewatered and a new collar installed at the top of the winze. Milling started up in June.
- 1941: The winze in the No. 2 shaft was deepened to 700 feet from surface and a level was established at this depth. Surface drilling, totalling 5 223 feet was completed.
- 1942: The No. 1 shaft was deepened to 545 feet on the incline. The winze was deepened to 827 feet from surface and a level established at 775 feet. Mining operations ceased in October.
- 1945: Dewatering of the No. 1 shaft and development resumed in October.
- 1946: The No. 1 shaft was deepened to 871 feet on the incline. The mill was in operation from September to December. A second claim group was acquired just south of the existing property. Jason Mines Ltd. now held 44 claims.
- 1947: Milling was carried out from January to June. Work for the remainder of the year concentrated on exploration and development of new reserves.
- 1948: New Jason Mines Ltd. was formed in July to succeed Jason Mines Ltd. Underground development continued. Work began on the mill to increase its capacity to 150 tons.
- 1949: The No. 1 shaft was deepened to 1185 feet on the incline. Milling resumed in August.
- 1950-1952: Shaft No. 1 was sunk a further 239 feet in 1950, to a depth of 1370 feet on the incline. Levels were established at 800 feet and 900 feet. Surface drilling, totalling 3477 feet, was carried out in 1950. Operations at the mine continued until April, 1952 when the developed reserves in the No. 1 shaft were depleted; work ceased, the plant was dismantled and sold.
- 1974: New Jason Mines Ltd, and Casummit Lake Mines Ltd. entered into an agreement of work. The option was assigned to Bonnacord Exploration Ltd. Five diamond drill holes, totalling 1606 feet, were put down on KRL 9763, 900 feet due west of the No. 2 shaft. The option was dropped in November.
- 1975-1976: Grand Bay Exploration acquired the property in October, 1975. A property report was completed in 1976.
- 1980-1984: Noranda Exploration Co. Ltd. optioned the property in November, 1980, an airborne magnetometer and electromagnetic survey was flown in 1981.
- 1985-1986: Noranda Exploration Co. Ltd. completed trenching, ground geophysics and sampling of the tailings pile. Twelve diamond drill holes totalling 3898 feet were put down in 1986.
- 1987: Grand Bay Exploration optioned the property to Red Lake Buffalo Resources Ltd.

1991: Red Lake Buffalo Resources Ltd. changed its name to Madsen Gold Corporation.

ECONOMIC FEATURES

The mine produced 101 875 ounces of gold and 9788 ounces of silver from 276 573 tons of ore milled between 1934 and 1952. Mill grade was 0.368 ounce Au per ton. Ore was produced from the No. 1, No. 2, No. 3 and P Vein Zone. The gold tenor was highest where the veins were hosted by slate (Horwood 1938).

The No. 1 Vein has a strike length of over 450 m and assayed 0.69 ounce Au per ton over 2 metres.

The No. 2 Vein varies in width up to 2.1 m and averages 0.76 m. It was explored over a strike length of 284 m on the 400-foot level of the mine. The dip of the No. 2 vein varies between 30° to 54° west.

The No. 3 Vein parallels the No. 2 Vein and lies about 200 m to the west. The No. 3 Vein averages 0.49 m with a strike length of 372 m.

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- Argosy Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Argosy Gold Mines Ltd., historical files, Resident Geologist's office, Red Lake.
Beakhouse, G.P. 1989. O.G.S. O.F.M. 5700.
Beakhouse, G.P. 1990. O.G.S. O.F.M. 140.
Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 30-34.
Grand Bay Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
Harding, W.D. 1936, O.D.M. Annual Report, 1936, v. 45, pt. 4, p. 28-29.
Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7.
Jason Mines Ltd., assessment files, Resident Geologist's office, Red Lake.

CA-4/ BENT BIRCH ISLAND OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Bent Birch Island occurrence is located on a small island in the north end of Mink Lake, west of Mink Lake narrows. The occurrence was first reported by Burrows (1984).

DESCRIPTION

Regional Structures: A major northwest trending structure, along which a number of gold occurrences have been found is located 2 km north of Mink Lake. A synclinal fold axis is indicated in the area (Thurston et al. 1981). Stratigraphy is disrupted and folded north of Mink Lake (Beakhouse 1989).

Geology: The north part of Mink Lake is underlain by intermediate tuffaceous metavolcanic rocks. Bedding in the tuffaceous rocks trends easterly in the east part of the lake and swings southerly in the west part of the lake. Stratigraphy is south facing in the former area and west-facing in the west part of the lake (Beakhouse 1990). The metavolcanic rocks form part of the Cycle II metavolcanic sequence described by Thurston (1986).

Mineralization: Visible gold and pyrite mineralization are reported to occur in a 20 cm wide, east-trending sinistral shear zone within fine grained siliceous tuffaceous rocks. The strike length of the shear is undetermined.

OWNERSHIP AND DEVELOPMENT

1969: A. Morand staked a group of claims in the area and transferred them to Selco Exploration Company Ltd. No work was reported.

1984: R. Hodgson staked the ground and did geological surveys. Gold Fields Canadian Mining Ltd. flew an airborne geophysical survey over the area the following year.

1988: Esso Resources Canada Ltd. optioned the claims and did a magnetic survey.

1991: Gold Fields Canadian Mining Ltd. flew airborne magnetic and electromagnetic surveys in the area.

ECONOMIC FEATURES

Burrows (1984 p. 24) reported 2 grab samples from the mineralized shear zone assayed 0.45 ounce Au per ton.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Burrows, D.R. 1984, unpublished M.Sc. thesis, University of Toronto, Toronto, Ontario.

Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Hodgson, R. assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I., 1981, O.G.S. Map P. 2387.

CA-5/ BLONDIN OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Blondin occurrence is located 1 km north of Mink Lake. Numerous trenches have been excavated around a small unnamed northwest-oriented pond on the property. Three patented claims, KRL 10636, 10637 and 10638 partly encompass the showings.

DESCRIPTION

Regional Structures: The Blondin occurrence lies on a prominent northwest-trending linear structure along which a number of gold occurrences have been identified. The linear structure marks the contact between heterolithic, felsic to intermediate metavolcanics to the south, with mafic metavolcanic flows to the north.

Geology: The property is underlain by north-facing, intermediate, metavolcanic rocks and derived metasediments that trend northwest in the east part of the property and swing abruptly southward in the west part of the property (Beakhouse 1990). Outcrops on the south side of the pond expose intermediate, pyroclastic breccia, with blocky, felsic fragments up to 30 cm in diameter, and minor interbedded tuffaceous units. Graded bedding in the tuffs indicates a north-facing sequence. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

On the southeast shore of the pond, 2 trenches have been blasted in felsic to intermediate lapilli tuff with intersecting quartz veining and heavy pyritization of the wall rock. A strongly developed fabric strikes 108° and dips 70° to 85° north. The trenches are oriented northward across the mineralized zone; are 10 m apart on the south side of a large outcrop; and measure 7 m by 2 m by 1 m to 2 m deep.

On the northwest side of the pond, on claim KRL 10637, a number of trenches have been excavated in strongly sheared, felsic to intermediate pyroclastic rocks. Sericitization and minor green mica alteration affect the metavolcanic rocks; discordant quartz veins with pyrite halos intersect the foliation. Furse (1934) reported additional trenches sunk on schistose tuff about 500 feet to the west of those adjacent to the pond.

Mineralization: Pyrite was the only sulphide mineral noted on the property. Pyrite accompanies quartz veining and is found both in the quartz veins and wall rock. Pyrite cubes up to 2.5 cm square occur with quartz in trenches on the northwest side of the pond.

OWNERSHIP AND DEVELOPMENT

pre-1933: Claims KRL 10636 to 10638 covered the showing. These claims are patented and remain in good standing. No record of work is available for the claims.

ECONOMIC FEATURES

Furse (1934) reported that grab samples taken from the occurrence assayed between 80 cents and \$11.20 and an 11-foot channel sample assayed \$3.60.

A total of 5 samples collected by B.T. Atkinson from the trenches on the Blondin occurrence gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

East side of Pond (east trench):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-93	pyritic quartz vein	250
-94	pyritic wall rock	335

West side of Pond:

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-95	quartz with pryite	120
-96	wall rock	1310
-97	pyritic tuff	1970
-98	quartz vein with pyrite	25

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
 Furse, G.D. 1934, O.D.M. Annual Report 1933, v. 42, pt. 6, p. 36.
 Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-6/ BOYLEN EAST GROUP OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/ 8 NW

LOCATION

The Boylen East Group occurrence is located on the north side of Birch Lake, and on the east side of McIntyre Bay of Birch Lake where it extends to Penson Lake.

DESCRIPTION

Regional Structures: Stratigraphy trends west-northwest and is probably influenced by the intrusion of the Keigat Lake granitoid complex located 3 km northeast of the property.

Geology: The property is underlain by north-facing, pillowed, mafic metavolcanic flows with narrow horizons of chert magnetite ironstone. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986). Foliation is well developed and trends 102/85N. Small scale Z-drag folds occur in the ironstone. Mafic metavolcanic rocks are variably carbonatized and the metamorphic grade is greenschist facies. Mineral lineations plunge 70°W.

Mineralization: A series of trenches have been blasted in outcrops along the cut and surveyed 10th base line. Trenches extend from the vicinity of McIntyre Bay of Birch Lake east to Penson Lake. Heavily sulphidized ironstone is exposed in the trenches but pyrite is the only sulphide mineral that was observed. Several small barren quartz veins intersect the ironstone.

About 65 deteriorating boxes of diamond drill core remain on site just west of Penson Lake. Diamond drill core consists of mafic metavolcanic rocks and thin units of chert-magnetite ironstone similar to the property geology. The most strongly pyritized core has been split for assay. Furse (1934) reported arsenopyrite mineralization in schistose inclusions within a breccia zone.

Pyrrhotite and arsenopyrite mineralization is reported in core from several diamond drill programs on the property.

OWNERSHIP AND DEVELOPMENT

1933: Property was staked as part of the McIntyre Boylen group of claims. No claims records are available on that staking.

1960: Alcon Exploration and Mining Syndicate Ltd. did test pitting and diamond drilled 8 holes with a combined depth of 861 feet. New Dickenson Mines Ltd. optioned the property from Alcon Exploration and diamond drilled 6 holes totalling 419 feet.

1968: Mentor Exploration and Development Company Ltd. sampled trenches and diamond drilled 6 holes to a depth of 1614 feet.

1979: Cominco Ltd. did geological mapping on the property.

1985: H.A. Crawford acquired the property and did magnetic and electromagnetic ground geophysical surveys.

1986: Gabbs Resources Ltd. did stripping and sampling.

1987-88: Gabbs Resources Ltd., in joint venture with Ex-Terra Resources Ltd., St. Joe Canada Inc. and Nexus Resources Corporation diamond drilled 7 holes to a combined depth of 2430 feet.

ECONOMIC FEATURES

Gabbs Resources Ltd. indicated that the gold-bearing iron formation has a strike length of 5000 feet. Assays of 0.14 ounce Au per ton over 12.5 feet; and 0.27 ounce Au per ton over 8 feet are reported (*George Cross News Letter*, September 25, 1987, p. 3).

Three samples collected from the trenched showing by B.T. Atkinson gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Zn (ppm)</u>
87-BTA-62	sulphidized ironstone	4460	2	269	19
-63	pyritized mafic metavolcanic	13 430	2	380	39
-64	ironstone with some pyrite	8	-	-	

The best analysis of 13 430 ppb Au (0.39 ounce Au per ton) was obtained from strongly pyritized mafic metavolcanic rock adjacent to, and 2 metres south of the ironstone.

SELECTED REFERENCES

Alcon Syndicate Option (New Dickenson Mines Ltd.), assessment files, Resident Geologist's office, Red Lake.

Bond Gold Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Cominco Ltd., assessment files, Resident Geologist's office, Red Lake.

Crawford, (Bert) H.A., assessment files, Resident Geologist's office, Red Lake.

Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 41.

Gabbs Resources Ltd., assessment files, Resident Geologist's office, Red Lake.

George Cross News Letter, September 25, 1987, p. 3.

Mentor Exploration and Development Co. Ltd., assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-7/ BOYLEN WEST GROUP OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Boylen West Group occurrence is located on the north shore of Birch Lake at mile post 26 on the 10th base line.

DESCRIPTION

Regional Structures: The Boylen West Group occurrence is colinear with a number of other gold occurrences which trend northwest from Birch Lake. Stratigraphy and foliation are west-northwest-trending.

Geology: The property is underlain by sheared and sericitized felsic rocks referred to as tuffs by Furse (1934) who mapped lithologies at the occurrence as quartz and quartz-feldspar porphyries. Thurston et al. (1981) mapped the same rocks as intrusive, while Beakhouse (1990) mapped the rocks as intermediate to felsic metavolcanic rocks. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: A west-northwest-trending quartz vein zone consisting of numerous small quartz veins and stringers is exposed by trenching over a strike distance of 1000 feet. The quartz is mineralized with arsenopyrite and the wall rock carries some pyrite (Furse 1934).

OWNERSHIP AND DEVELOPMENT

- 1933: The property was staked as part of the McIntyre Boylen group of claims. No claim records are available for that staking.
- 1936: Casummit Birch Lake Syndicate Ltd. held a group of 32 claims including KRL 8782 to 8786 which encompass the immediate Boylen West group. Geological examination, stripping, trenching and diamond drilling was completed (Horwood 1938).
- 1974: Bonnacord Explorations Ltd. acquired the claim group. No work was reported on the property.
- 1976: Grand Bay Exploration Ltd. held a group of 23 patented claims covering the property known as the South Group. A group of 21 claims referred to as the North Group included the Casummit Lake area and the Argosy Mine.

ECONOMIC FEATURES

No assays are available for the occurrence.

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
- Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 41-42.
- Grand Bay Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.

Horwood, H.C. 1938, O.D.M. Annual Report 1937, v. 46, pt. 7, p. 26.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-8/ BP-SELCO SPRINGPOLE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The property is situated on the east side of the north arm of Springpole Lake and includes parts of the large island in the lake.

DESCRIPTION

Regional Structures: The Portage deformation zone, a west-northwest-trending structure with accompanying carbonate alteration and gold mineralization, lies northwest of the occurrence and may extend onto the property. The hinge zone of a regional scale fold is inferred to occur on the property (Good 1988).

Geology: The property is underlain by intermediate pyroclastic rocks, discontinuous units of mafic flows and minor interbeds of clastic metasediments, including wacke and argillite. The intermediate pyroclastic rocks are the main lithology underlying the property and include feldspar crystal tuffs with phenocrysts up to 2 mm, lapilli tuff and pyroclastic breccias. Feldspar-phyric flows are the most common intermediate lithology, quartz crystals in these flows are rare but reportedly occur south of Dole Lake. Mafic flows on the property are occasionally pillowed, commonly foliated and may be feldspar-phyric. The metavolcanic rocks are part of an allochthonous sequence of rocks (Thurston 1986).

Intruding the metavolcanic rocks are small bodies, sills and dikes of both gabbro and syenite porphyry. The gabbroic bodies are typical nondescript, medium- to coarse-grained mafic intrusives that elsewhere are seen to pre-date the syenitic bodies. The syenite bodies, referred to as trachytes by Harding (1936), together with the intermediate metavolcanic rocks underlying the property, comprise the southeast extension of similar lithologies referred to as the Springpole alkalic volcanic complex (Barron et al. 1989) on the adjoining Springpole Lake prospect. Elongate feldspar phenocrysts from 5 mm to 5 cm, in a groundmass of sericite and carbonate, characterize the syenite porphyries.

Iron carbonate alteration of lithologies is pervasive in the north part of the property while the syenitic units have undergone a bleaching (pale discolouration) and sericitization. Both hematite and clay alteration affect intermediate lithologies.

Mineralization: Fluorite mineralization in feldspar porphyry was noted in drill core from the property. Pyrite is the only sulphide reported. Low values in gold have been encountered in lithogeochemical samples.

OWNERSHIP AND DEVELOPMENT

1933: A claim map of this date indicates that the property was staked. No records are available on the claims.

1945: R. Colley, F. Redman, J. Tait and L.B. Peterson held claims covering the property. Diamond drilling, manual labour and core specimens are reported on claim certificates, however, records are not available in assessment files.

- 1969: K. Koezur staked 20 claims covering the south part of the property and transferred ownership to Sudbury Contact Mines Ltd.
- 1970: Sudbury Contact Mines Ltd. completed magnetic and electromagnetic surveys on the property.
- 1984: The property staked by R. Carpenter and transferred to B.P. Resources Canada Ltd.
- 1985-1986: B.P. Resources Canada Ltd. carried out geological, geochemical and geophysical surveys on the property as well as a lake bottom geochemical survey.
- 1989-1990: Noranda Exploration Co. Ltd. completed diamond drilling of 7 holes totalling 1749 m and flew an airborne survey over the area. Power stripping, geophysical surveys and lithogeochemical sampling were completed.

ECONOMIC FEATURES

The property is underlain by lithologies that host gold mineralization at the Springpole Lake prospect. A sample taken by B.P. Resources Canada Ltd. from an iron-stained, pyrite-bearing, syenite porphyry, in contact with a mafic metavolcanic flow, analyzed 1210 ppb Au. A sample taken by B.P. Resources from a quartz carbonate vein in iron carbonatized mafic flows, south of Dole Lake, analyzed 725 ppb Au.

SELECTED REFERENCES

- Barron, K.M., Duke, N.A. and Hodder, R.W. 1989, O.G.S. M.P. 143, p. 133-145.
B.P. Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
Good, D.J. 1988, O.G.S. O.F.R. 5683, p. 48.
Harding, W.D. 1936, O.D.M. Annual Report, 1936, v.45, pt. 4, p. 1-33.
Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
Sudbury Contact Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-9/ BRENGOLD OCCURRENCE (FLOREGOLD OCCURRENCE) - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The property covers the south part of Casummit Lake and extends south to the 10th base line. The property originally consisted of 35 claims including KRL 9439 to 9442, 10006 to 10008, 10475, 10476, 11268 to 11273, 11314 to 11320, 11416, 11417, 11533 to 11536 and 11744 to 11750. Of that group, KRL 10006 has been restaked as KRL 17910 and brought to patent.

DESCRIPTION

Regional Structures: The Brengold occurrence is located on a northwest-trending linear structure along which a number of gold occurrences have been identified. A synclinal fold axis is inferred to underlie the west part of the property, west of Casummit Lake (Thurston et al. 1981).

Geology: The property is underlain by interleaved units of mafic flows and intermediate pyroclastic rocks with subordinate amounts of felsic metavolcanic rocks (Beakhouse 1990). The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Two areas of interest have been explored and trenched near the shore of Casummit Lake. The North showing is located at the No. 2 post of claim KRL 10006 at the west shoreline of Casummit Lake. The North showing is a 10 to 15 cm wide quartz vein exposed in several shore line pits. The first and largest pit measures 2.5 m by 4m by 2.5 m deep. The country rock in the pits and surrounding outcrops consists of strongly foliated, mafic metavolcanic flows with epidote and pyrite alteration. Foliation trends 085/85S. The vein is well laminated parallel to foliation and carries pyrite and rare chalcopyrite.

The South showing is located 100 m south of Casummit Lake on former claim KRL 11273. A large trench measuring 20 m by 2.5 m by 1 to 2 m deep has been excavated on a quartz vein hosted by a strongly sheared and sericitized quartz porphyry. Foliation of the host rock trends west. The vein has an observed width of 1 m with a reported maximum width of 8 feet and a 60-foot strike length (Horwood 1938). The vein is composed of white quartz intersected by fine veinlets of iron carbonate and pale green sericite with cubes of pyrite.

Mineralization: Pyrite and rare chalcopyrite are associated with the quartz veins. Pyrite occurs in country rock adjacent to the quartz veins and in fragments in the quartz at the South showing.

OWNERSHIP AND DEVELOPMENT

pre-1937: Property held by Casey Contact Gold Mines Ltd.

1937: Brengold Mines Ltd. held 35 claims encompassing the showings. Trenching and diamond drilling of 3 holes were reported.

1949: Floregold Red Lake Mines Ltd. diamond drilled 4 holes on the property totalling 1541 feet.

1965: T.E. Countryman held 18 claims, no work was reported.

1969: R. Sevigny and L. Gull staked 28 claims and transferred ownership to Selco Exploration Co. Ltd. No work was reported. F. Rocheleau staked a block of 50 claims that included part of the original northern portion of the Brengold property. No work was reported on these claims.

1987: Esso Resources Canada Ltd. completed geological mapping and a ground magnetic geophysical survey over the west part of the property. At the same time, St. Joe Canada Inc. held claims covering the east part of the property and completed geophysical surveys on those claims.

1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the property.

ECONOMIC FEATURES

Five samples from the South showing averaged 0.07 ounce Au per ton, the highest assay reported was 0.278 ounce Au per ton (Horwood 1938).

Four samples collected from the Blondin property by B.T. Atkinson gave the following analyses (Geoscience Laboratories, Ontario Geological Survey, Toronto):

North Showing:

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>	<u>Ag(ppm)</u>
87-BTA-69	quartz vein-wall rock	7650	--

South Showing:

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>
87-BTA-70	sericitized hanging wall	6	2
-71	sericitized foot wall	12	2
-72	quartz vein	3	2

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
Floregold Red Lake Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7, p. 25, 26.
St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C., 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-10/ CASEY MOUNTAIN OPERATING SYNDICATE OCCURRENCE - CASUMMIT LAKE AREA

52N/8 NW

LOCATION

The Casey Mountain Operating Syndicate occurrence is located on the northwest side of Casummit Lake. The original property included 15 claims, KRL 9822 to 9829, 10384 to 10386, 13888 to 13890 and 10409.

DESCRIPTION

Regional Structures: Although no regional structures have been identified on the property, significant structural disturbance is apparent by the northeast trend of metasedimentary units on the west shore of Casummit Lake, which contrast with the regional northwest trend of lithologies in the area.

Geology: Reconnaissance mapping by Furse (1934) indicated the property is underlain by mafic metavolcanic rocks. Horwood (1938) detail mapped the area and identified a band of metasedimentary rocks up to 700 feet wide, along the northwest shore of Casummit Lake. Recent mapping by Thurston et al. (1981) and Beakhouse (1990) confirm the earlier mapping. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: The main showing on the property is located 180 m north of Casummit Lake and 125 m west of Richardson Lake on former claim KRL 10385. A series of pits and trenches have been blasted on a quartz vein that has a reported strike length of 195 feet. The vein consists of black, intensely fractured quartz with rare arsenopyrite and very rare chalcopyrite mineralization. The vein trends north and varies in dip from 45° to 55° W. At its north end, the vein bifurcates into 2 separate veins before disappearing under overburden. The vein is hosted by mafic metavolcanic rocks which carry disseminated arsenopyrite adjacent to the vein. Brecciated fragments of wall rock occur in the vein which has a maximum reported width of 26 inches (Horwood 1938).

On the west side of Casummit Lake, on former claim KRL 9829, a series of trenches extend inland for about 100 m. The trenches trend 310° and average 0.5 m wide by 0.5 m deep with a combined length of 80 m. Limited outcrop exposures in the trenches consist of strongly foliated, grey argillite with minor pyrite. Foliation trends 056/85SE.

On former claim KRL 9820, just beyond the original west claim boundary of the Casey Mountain Operating Syndicate property, trenching has been carried out on a 4.5-foot wide quartz vein. The vein has been exposed over a distance of 160 feet and reportedly carries pyrite and very low values of gold (Horwood 1938).

OWNERSHIP AND DEVELOPMENT

1937: Casey Mountain Operating Syndicate Ltd. held 15 claims.

- 1962: Cochenour Willans Gold Mines Ltd. completed a brief geological report on the Cochenour-Madsen claim group which included the north part of the original Casey Mountain Operating Syndicate property.
- 1985: Both Golden Maverick Resources Corp. and Gold Fields Canadian Mining Ltd. flew airborne surveys over parts of the property.
- 1986: Golden Terrace Resources Corp. completed geological and geochemical surveys over the north part of the property.
- 1991: Gold Fields Canadian Mining Ltd. completed an airborne survey over the area.

ECONOMIC FEATURES

Eight samples taken from the Main showing gave an average assay of 0.216 ounce Au per ton (Horwood 1938).

Three samples collected from the main showing by B.T. Atkinson gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au ppb</u>	<u>Ag ppm</u>	<u>As ppm</u>
87-BTA-66	wall rock	13	2	--
-67	wall rock	245	2	3760
-68	quartz vein	8	2	342

A sample of argillite (87-BTA-49) taken from a trench on former claim KRL 9829, on the west side of Casummit Lake analyzed 5 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
- Cochenour Willans Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Map 42d.
- Golden Maverick Resources Corp., assessment files, Resident Geologist's office, Red Lake.
- Golden Terrace Resources Corp., assessment files, Resident Geologist's office, Red Lake.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7, p. 26, 30.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-11/ DICKENSON MINES LTD.-MINK LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Dickenson Mines Ltd. Mink Lake occurrence is located on the west peninsula of Mink Lake. Four trenches have been excavated on the north shore of the peninsula approximately 30 feet from the shoreline.

DESCRIPTION

Regional Structures: The Dickenson Mines Ltd. Mink Lake occurrence occurs near the west margin of the Birch Lake greenstone belt, where northeast-trending supracrustal lithologies contact granitoid rocks of the Mainprize Lake granitoid complex.

Geology: The occurrence is underlain by intermediate metavolcanic rocks including tuffs, lapilli tuffs and tuff breccias of the Cycle II metavolcanic sequence (Beakhouse 1990; Thurston et al. 1981; Thurston 1986). Granodiorite rocks of the Mink Lake stock underlie the south part of the peninsula.

Mineralization: Trenching over a distance of 67 feet has exposed an 8 inch wide quartz vein that trends 065/75N. Pyrite, copper and lead mineralization is reported to occur in minor amounts as fine specks, threads and blebs.

OWNERSHIP AND DEVELOPMENT

1968: E. Thomson staked a group of 24 claims in the area.

1972: Dickenson Mines Ltd. completed trenching and sampling.

1980: A. Kostynuk held a group of claims covering the property.

ECONOMIC FEATURES

The following assays were reported by Dickenson Mines Ltd.:

<u>Location</u>	<u>Au (ounce/ton)</u>	<u>Ag (ounce/ton)</u>	<u>Cu (%)</u>	<u>Sample width (feet)</u>
No. 1 Trench	0.02	Tr	Tr	0.3
	Tr	Tr	Tr	0.4
	0.03	0.04	Tr	0.6
	0.02	0.04	Tr	0.8
No. 2 Trench	0.06	Tr	Tr	0.8
	0.02	Tr	Tr	0.9
	0.20	0.22	Tr	0.9
	0.23	Tr	Tr	1.5

A grab sample, taken by Dickenson Mines from a rock pile at the occurrence assayed 0.03 ounce Au per ton, 0.62 ounce Ag per ton and 0.09% Cu.

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
Dickenson Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981 O.G.S. Map P.2387.

CA-12/ DOLE LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Dole Lake occurrence is situated approximately 400 m due east of Dole Lake in the Casummit Lake area. The occurrence is situated near the north claim boundary of mining claim KRL 839048 which is 600 m due south of the canoe portage between Birch and Dole lakes.

DESCRIPTION

Regional Structures: The Dole Lake occurrence is situated along the northeast flank of a northeast-trending, overturned synformal anticline which extends through the north end of Springpole Lake (Good 1988).

Geology: Intermediate pyroclastic rocks are intercalated with mafic metavolcanic flows and pyroclastic rocks and intruded by quartz-feldspar porphyry, gabbro and granodiorite dikes and sills. The supracrustal rocks are part of an allochthonous sequence of rocks in the Springpole-Birch lakes area (Thurston 1986).

The metavolcanic rocks at the Dole Lake occurrence consist of massive, medium- to coarse-grained mafic flows and a narrow, northwest-trending unit of intermediate to felsic tuff and lapilli tuff. The rocks are foliated 100-140/50-60NE.

Mineralization: Numerous narrow quartz veins and stringers containing variable amounts of pyrite, tourmaline and carbonate occur on the property. The intermediate to felsic metavolcanic rocks host 1 to 4 cm long stringers of fine-grained pyrite which are parallel to foliation.

Mafic metavolcanic rocks are moderately carbonatized and contain up to 3% finely disseminated magnetite.

OWNERSHIP AND DEVELOPMENT

1985: BP Resources Canada Ltd. conducted magnetic, electromagnetic and induced polarization surveys over the property.

1986: St. Joe Canada Inc. acquired the property and conducted geological mapping and sampling.

1987: Gold Fields Canadian Mining Ltd. conducted geological mapping and biogeochemical surveys over their Maple Leaf Extension property (part of the Springpole Lake prospect) immediately south of St. Joe's claims.

1988: St. Joe Canada Inc. conducted magnetic and electromagnetic surveys over the property.

1990: Noranda Exploration Co. Ltd. conducted airborne magnetic, electromagnetic and gradiometer surveys in the vicinity of the property.

ECONOMIC FEATURES

A grab sample taken from the pyritic, intermediate to felsic metavolcanic rocks by St. Joe Canada Inc. assayed 0.12 ounce Au per ton.

Samples taken by Gold Fields Canadian Mining Ltd. from their Maple Leaf Extension property, south of the Dole Lake occurrence, analyzed less than 50 ppb Au.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

BP Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.

Good, D.J. 1988, O.G.S. O.F.R. 5685.

St. Joe Canada Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-13/ DURATION MINES OCCURRENCES (NORTH SHORE GRID WEST OCCURRENCES; SEMIA LAKE GROUP) - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Duration Mines occurrences consist of several mineralized zones located on Western Peninsula of Birch Lake. Two gold occurrences identified on Map 2175 (Ferguson et al. 1970) were covered by an 8 claim group held by Duration Mines Ltd. and Wilshire Energy Resources Ltd. Several other mineral occurrences south and east of the original Duration Mines claim group are included in the following description.

DESCRIPTION

Regional Structures: The occurrences are located along the northeast-trending Swain Lake deformation zone (Beakhouse et al. 1989, Beakhouse and McNeil 1989).

Geology: The Duration Mines occurrences are underlain by felsic metavolcanic rocks of the Cycle III metavolcanic sequence described by Thurston (1986).

Beakhouse (1989) subdivided lithologies in the area into the Fox Bay sequence and the Western Peninsula sequence. The contact between the two sequences is coincident with the Swain Lake deformation zone (Beakhouse 1989).

The Western Peninsula sequence underlies much of the area hosting the Duration Mines occurrences. Lithologies of the Western Peninsula sequence include quartz and feldspar phyric flows that exhibit either well developed flow banding or coarse grained intrusive textures. Outcrops on the west side of the Western Peninsula ismuth consist of intermediate tuffs.

The Fox Bay sequence is confined to the north part of the original Duration Mines property. Lithologies consist of mafic metavolcanic flows and associated gabbroic intrusions.

Mineralization: Ferguson et al. (1970) indicated 2 gold occurrences in the area, but no evidence of this mineralization was found by Beakhouse (1989). Several specimens of pyrite bearing quartz were found by B.T. Atkinson at the Duration Mines Ltd. campsite but their source was not determined.

South of the original Duration Mines Ltd. claim group, a northeast trending gossanous pyritic zone occurs over a strike length of 2100 m. The zone is coincident with the Swain Lake deformation zone. Gold values have been reported along the zone by Noranda Exploration Co. Ltd. St. Joe Canada Inc. discovered a copper-gold showing (West Copper Showing) on the northwest shore of Birch Lake. The occurrence is south of a small lake at the southwest end of Western Peninsula on former claim KRL 623201. Trenching by St. Joe Canada Inc. encountered disseminated pyrite, sphalerite, tetrahedrite and chalcopyrite in silicified, sericitized and sheared quartz-feldspar porphyry. Brecciation of the porphyry is superimposed over a 062° foliation. Minor quartz veining occurs in the trenches. The mineralized zone is approximately 50 m wide.

OWNERSHIP AND DEVELOPMENT

- 1968: C. Williams staked claims in the area but reported no work.
- 1969-1970: D. Borgford and L. Mahon staked claims and transferred these to Canex Aerial Exploration Ltd. Canex flew airborne geophysical surveys and diamond drilled 3 holes to a combined depth of 792 m on electromagnetic conductors east of the present property.
- 1960: E. Blanchard staked claims in the area and transferred these to Consolidated Mogul Mines Ltd. No work was reported.
- 1978: A. Beaudain staked the south part of the property and transferred the claims to Geophysical Engineering Ltd. No work was reported.
- 1983: M. Cummings staked the area and transferred claims to Duration Mines Ltd. and Wilshire Energy Resources Inc. The companies completed geological and geophysical surveys the following year.
- 1986: St. Joe Canada Inc. flew airborne surveys in the area.
- 1987: 2 diamond drill holes were completed south of the original Duration Mines claims group by St. Joe Canada Inc.
- 1989-1991: Noranda Exploration Company Ltd. acquired the property and did induced polarization surveys, sampling and geological mapping.

ECONOMIC FEATURES

A series of samples collected by Noranda Exploration Company Ltd. gave anomalous gold values related to a gossanous pyritic zone south of the Duration Mines Ltd. claim group. Reported samples include 0.6 g/ton Au over 6.7 m associated with pyrite, chalcopyrite and sphalerite mineralization. Other Noranda grab samples assayed 8.6 g/ton Au and 5 g/ton Au from an area of broad anomalous gold mineralization coincident with a gossanous pyritic bearing horizon in felsic metavolcanic rocks.

Diamond drilling by Canex Aerial Exploration Ltd. encountered pyrite, pyrrhotite and chalcopyrite mineralization and iron carbonate and sericitic alteration in felsic metavolcanic rocks. A sample of sericitized felsic tuff with quartz stringers collected by B.T. Atkinson analysed 22 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.
- Beakhouse, G.P. and McNeil, A.M. 1989, O.G.S. Map P. 3117.
- Bond Gold Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Canex Aerial Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
- Duration Mines Ltd., Wilshire Energy Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
- Ferguson, S.A., Brown, D.D., Davies, J.C. and Pryslak, A.P. 1970, O.D.M. Map 2175.
- Noranda Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-14/ ELLEN GOLD SYNDICATE OCCURRENCE (STOCKING SYNDICATE OCCURRENCE) -CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Ellen Gold Syndicate occurrence lies between Richardson and Casummit lakes and includes part of the southwest shoreline of Richardson Lake. The Ellen property borders the Argosy Mine property on the latter's north boundary. The Ellen property originally included 7 surveyed claims KRL 9848 to 9853, 10239 and fraction KRL 10217.

DESCRIPTION

Regional Structures: Two trends of shearing have been noted on the property (Furse 1934). A southwest-trending shear extending from Richardson Lake to Casummit Lake is intersected by narrow secondary shears trending 120° . Foliations on the property are generally west-trending whereas a number of quartz veins delineated on the property trend northerly with left stepping offsets.

Geology: The property is almost entirely underlain by mafic metavolcanic flows of the Cycle II metavolcanic sequence (Thurston et al. 1981; Thurston 1986; Beakhouse 1990;). Individual flows are pillowed and amygdaloidal. Alteration of the flows includes carbonatization, epidotization and fracture controlled albitization. A thin unit of ironstone outcrops on claim KRL 9853 and felsic dikes have been noted (Horwood 1938).

Mineralization: Extensive trenching on the property has exposed a series of north-trending quartz veins. The 2 most important veins, referred to as the No. 6 and No. 7 veins, reportedly carry a small amount of arsenopyrite and small specks of native gold (Horwood 1938).

OWNERSHIP AND DEVELOPMENT

1932: Trenching was done on the property that was held by the Stocking Syndicate.

1933: Ellen Gold Syndicate controlled the property.

1936: Ellen Gold Mines, Ltd. did extensive trenching and limited diamond drilling.

1962: Cochenour Willans Gold Mines Ltd. did geological mapping on the property.

1985: Golden Maverick Resources Corp. did ground geophysical surveys on the property.

1986: Golden Terrace Resources Corp. did geological and geochemical surveys on the property.

ECONOMIC FEATURES

The No. 6 vein has a maximum width of 4 inches and is 30 feet long; it pinches out both to the north and south. The No. 7 vein has a total exposed length of approximately 200 feet and forms 2 separate lenses. The south lens extends onto the Argosy Mine property to the south and dips 60° W. It has a maximum width of 22 inches. The 100-foot long exposure of the north lens

reaches a maximum width of 2 feet. Gold is reported to occur in both veins but no assays are available (Horwood 1938).

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
Cochenour Willans Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 29, 34.
Golden Maverick Resources Corp., assessment files, Resident Geologist's office, Red Lake.
Golden Terrace Resources Corp., assessment files, Resident Geologist's office, Red Lake.
Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7 p. 27.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P.2387.

CA-15/ ESSO 15E OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Esso 15E occurrence is located 1.2 km north of Fox Bay and 2 km west of Casummit Lake.

DESCRIPTION

Regional Structures: The Esso 15E occurrence is located on a major northwest trending structure along which a number of gold occurrences have been identified. Bedding and foliation trajectories in the area imply the presence of a major fold structure. Thurston et al (1981) indicated a synclinal fold axis lies 750 m north of the occurrence. The Esso 15E occurrence is situated in a 100 m wide northeast trending shear zone.

Geology: The occurrence is underlain by rocks that have been mapped as quartz and quartz-feldspar porphyry (Furse 1934, Thurston et al. 1981) and as intermediate pyroclastic rocks (Beakhouse 1990). Thurston (1986) assigned these rocks to the Cycle II metavolcanic sequence. Foliations in the vicinity of the Esso 15E occurrence trend northeasterly and dip steeply southwards.

Mineralization: Two sets of quartz veins invade the porphyry; a northeast trending set of white quartz veins and a 3 m wide set of northwest trending veins. The northwest trending veins are locally mineralized with galena. Host rocks to the vein are pyrite-bearing, sericitized and iron carbonate altered.

OWNERSHIP AND DEVELOPMENT

- 1965: R. Fontaine staked the occurrence and transferred claims to World Mining Consultants Ltd. No work was reported.
- 1969: L. Gull staked the occurrence and transferred claims to Selco Exploration Co. Ltd. No work was reported by Selco.
- 1984: R. Hodgson staked 11 claims in the area and did a geological survey the following year.
- 1986: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.
- 1987: Esso Resources Canada Ltd. completed magnetic and geological surveys and sampling over the property.
- 1989: E. Sawitzky staked the occurrence and transferred claims to Norwin Geological Ltd.
- 1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.

ECONOMIC FEATURES

A total of 32 samples were collected by Esso Resources Canada Ltd. and analyzed for gold. The highest analysis was 0.34 g/t Au.

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M..140.
Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
Furse, G.D., 1934, O.D.M. Map 42d.
Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
Hodgson, R., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie,I., 1981, O.G.S. Map 2387.

CA-16/ FINN OCCURRENCE (12N SHOWING) - CASUMMIT LAKE AREA

52N/8 NW

LOCATION

The Finn occurrence is located 1.5 km northeast of Mink Lake. The occurrence is presently covered by mining claim KRL 1079814.

DESCRIPTION

Regional Structures: The Finn occurrence is located north of a major northwest-trending lithological break that juxtaposes a north-facing, felsic to intermediate metavolcanic assemblage of rocks against a south-facing, mafic, metavolcanic assemblage of pillowed flows.

Geology: The Finn occurrence lies within a mafic metavolcanic assemblage of pillowed flows of the Cycle II metavolcanic sequence (Thurston 1986). Local units of clastic metasediments and felsic tuffs outcrop north of a small pond located north of the Finn occurrence (Thurston et al. 1981). A well developed foliation trends 104/75N.

Mineralization: As reported by Furse (1934), a vein zone about 60 feet long trends 120° and contains pyrite and very minor amounts of sphalerite, chalcopyrite and galena. The quartz veins host calcite, ankerite and chlorite. The occurrence has been explored by several trenches. Several small quartz veins are exposed in the trenches within strongly sheared, mafic, metavolcanic rocks. The quartz veins parallel the foliation and carry minor ankerite. Pyrite occurs both with the veins and more prominently in the wall rock. Several pieces of X-ray diamond drill core and a diamond drill hole oriented 200/45S were observed on a trenched outcrop. Additional drill core was observed 100 m east of the main trenched zone, however, no information is available on the diamond drill program in the assessment files. A large cliff outcrop of intermediate tuffs and breccias, 75 m west of the trenched area, hosts a short north-trending quartz-filled tension gash. The quartz in the tension gash is up to 2.5 m wide, has a very limited strike extent and does not contain sulphides.

OWNERSHIP AND DEVELOPMENT

1933: First report of staking of the area as indicated by Furse (1934). The occurrence was covered by claim KRL 9679, no claim records available.

pre-1947: Property staked as claim KRL 22280, no claim records available.

1947: R. Harris staked the ground but no work was reported prior to cancellation of claims in 1949.

1959: G. Perrault staked the ground, no work was reported.

1965: G. Clarke Jr. staked the ground and transferred claims to World Mining Consultants.

1973: E. Gay staked claims and optioned these to Dome Exploration (Canada) Ltd.

1984: R. Hodgson staked claims covering the occurrence and did a geological survey.

- 1986: R. Hodgson completed airborne geophysical surveys.
- 1987: Claims acquired by Esso Resources Canada Ltd. Trench rehabilitation, sampling and geological surveys were completed by the company.
- 1988: Esso completed geological mapping and soil sampling.
- 1989: M. Lamppon staked the ground and transferred claims to Homestake Mining (Canada) Ltd. In turn the claims were transferred to R. Hodgson.
- 1991: Gold Fields Canadian Mining Ltd. flew an airborne survey over the property.

ECONOMIC FEATURES

Grab samples taken from the occurrence by Esso Resources Canada Ltd. returned values up to 4.11 g/t Au. Iron carbonate altered wall rock reportedly carried anomalous gold values. A soil geochemical sampling program by Esso indicated the mineralized structure has a strike length of 100 m. The soil geochemical program indicated anomalous gold values are accompanied by elevated zinc and mercury values.

Two samples collected from the property by B.T. Atkinson gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-100	quartz vein with pyrite and wall rock	1350
-101	quartz tension gash	14

SELECTED REFERENCES

- Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 36, 37.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Hodgson, R. assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-17/ FOX BAY OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Fox Bay occurrence is located at the north end of Fox Bay of Birch Lake.

DESCRIPTION

Regional Structures: A major northwest trending structure, along which a number of gold occurrences have been identified, passes 2 km north of the Fox Bay occurrence. Bedding and foliation trajectories imply the presence of a major fold structure in the area.

Geology: The area around Fox Bay is underlain by a complex assemblage of interleaved felsic to intermediate pyroclastic rocks with thin units of interdigitating mafic metavolcanic flows and mafic intrusive rocks (Beakhouse 1990). The Mink Lake stock of granodiorite composition outcrops 3.5 km west of Fox Bay. Furse (1934) and Harding (1936) indicated the presence of clastic metasediments west of the north end of Fox Bay. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: Esso Resources Canada Ltd. identified pods of purple fluorite mineralization up to 4 cm in size within magnetite-bearing, hematitized, carbonatized and pyritic mafic metavolcanic flows.

OWNERSHIP AND DEVELOPMENT

1965: E.J. Thompson staked claims covering the occurrence but reported no work.

1969: L. Delisle staked the occurrence and transferred claims to Selco Exploration Co. Ltd. Selco didn't report any work.

1984: R. Hodgson staked the occurrence and completed a geological survey the following year.

1986: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.

1987: Esso Resources Canada Ltd. completed magnetic and geological surveys and sampling over the property.

ECONOMIC FEATURES

Esso Resources Canada Ltd. reported only trace values of gold detected in a very limited sampling program. The occurrence has not been visited by the authors, however, the alteration and associated fluorite mineralization of this occurrence warrant further investigation for possible similarities to the Springpole Lake Prospect where significant gold mineralization has been delineated spatially related to fluorite mineralization.

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
Furse, G.D. 1934, O.D.M. Annual Report 1934, v. 42, pt. 6.
Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
Harding, W.D. 1936, O.D.M. Annual Report 1936, v. 45, pt. 4.
Hodgson, R., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-18/ GRAHAM-JONESTON LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Graham-Joneston Lake occurrence is situated on the east side of Joneston Lake on a prominent west-trending peninsula. The main showing was originally staked as claim KRL 9038.

DESCRIPTION

Regional Structures: The Graham-Joneston Lake occurrence is located on a major northwest trending structure along which a number of gold occurrences have been identified. A synclinal fold axis is inferred to trend westerly through the area (Thurston et al. 1981).

Geology: The south part of the property is underlain by north-facing, felsic to intermediate, pyroclastic rocks in contact with pillowed to massive, mafic flows to the north (Thurston et al. 1981; Beakhouse 1990). The Joneston Lake peninsula is underlain by sericitized, felsic lapilli tuff and breccia with thin interbedded units of more mafic composition. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986). Foliation in the rocks is strongly developed and trends 084° .

Mineralization: A number of quartz veins invade the pyroclastic rocks, several of these have been previously described by Furse (1934). One vein carries thin seams of chlorite and traces of chalcopryrite and pyrite mineralization which extends into the wall rock adjacent to the vein. Several east-oriented trenches on the Joneston Lake peninsula expose a 0.3 m wide quartz vein trending $110/90$. Minor pyrite was the only mineralization observed. Quartz veins intersecting the main vein show S-drag folding. Trenches 50 m to the west of the main vein have been recently rehabilitated and enlarged by Esso Resources Canada Ltd. The trenches expose a sequence of felsic pyroclastic rocks with strong sericite and iron carbonate alteration. Pyrite mineralization comprises up to 2% of the host rock. A 0.5 m wide quartz vein hosted by the metavolcanic rocks trends $082/85S$. The vein carries sparse pyrite and a residual iron oxide. Several generations of silicification have caused brecciation of the vein.

OWNERSHIP AND DEVELOPMENT

1933: Property staked as claim KRL 9038 as described by Furse (1934).

1969: F. Rocheleau staked the showings but reported no work.

1973: M. Kostynuk staked claims covering the showings, no work was reported on those claims.

1980: E. Nabigon staked claims covering the showings and transferred the claims to Noranda Exploration Co. Ltd.

1981: Noranda completed airborne geophysical surveys over the area.

1984-1985: R. Hodgson staked 13 claims covering the area and did a geological survey and sampling program on the property.

- 1985: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.
- 1987: Esso Resources Canada Ltd. optioned Hodgson's claims and completed trench rehabilitation, geological mapping, a ground magnetic geophysical survey and channel sampling on the claims.
- 1989: A.J. Maciejewski staked the occurrence and transferred claims to Norwin Geological Ltd.
- 1991: Gold Fields Canadian Mining Ltd. flew an airborne geophysical survey over the area.

ECONOMIC FEATURES

The quartz veins on the property are reported to pan gold (Furse 1934). A channel sample was reported to assay \$5 across 3.24 feet (Furse 1934). Sampling of old trenches on the property by R. Hodgson reportedly returned assays between 0.10 and 0.52 ounce Au per ton. A sample taken by R. Hodgson from a felsic agglomerate rock analyzed 860 ppb Au.

A series of 16 channel samples, in the vicinity of the veins, taken by Esso Resources Canada Ltd. returned trace values in gold.

Three samples collected from the main vein area by B.T. Atkinson gave the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-105	0.3 m chip sample of vein material	2
-106	pyritic wall rock on north side of vein	10
-107	quartz vein	19

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
- Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 37-38.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Hodgson, R., assessment files, Resident Geologist's office, Red Lake.
- Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-19/ HANSON OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Hanson occurrence is located 1.5 km northeast of McIntyre Bay of Birch Lake. The original Hanson property consisted of 8 unpatented mining claims numbered KRL 31700 to 31708. The Hanson property was a partial restaking of former claims.

DESCRIPTION

Regional Structures: The Hanson occurrence is located near the eastern margin of the Birch-Confederation lakes greenstone belt within the strain aureole of the Keigat Lake granitoid complex.

Geology: The property is underlain by northeast-facing pillowed to massive mafic metavolcanic flows of the Cycle II metavolcanic sequence (Thurston et al. 1981, Thurston 1986). The flows are affected by carbonate alteration and contain narrow bands of chert and magnetite ironstone. The ironstone bands are commonly sulphidized and are usually less than 1 m thick. However, one ironstone band encountered in diamond drilling has an apparent thickness of 16 m and contains jasperoidal chert and jasperoidal clasts. The Keigat Lake granitoid complex of granodiorite composition is located 2 km east of the Hanson occurrence; regional foliations parallel the batholithic contact. On the Hanson property, foliations are northwest to west-northwest trending.

The metavolcanic rocks of the area are part of the Cycle II metavolcanic complex described by Thurston (1986).

Mineralization: Diamond drilling on the property by H.C. Hanson encountered only a small amount of unspecified mineralization.

Pyrite, pyrrhotite, arsenopyrite, chalcopyrite and sphalerite mineralization is reported in diamond drill core records by St. Joe Canada Inc.

OWNERSHIP AND DEVELOPMENT

pre-1945: Claims KRL 21670, 21671 and 21693 to 21701 were staked over the area but claim records are not available.

1950: H. McQuarry staked 9 claims. Four holes were diamond drilled to a combined depth of 320 feet.

1966: C. Lamothe and R. Sevigny staked claims in the area and transferred these to Dome Exploration Co. Ltd. No work was reported.

1968: H.C. Hanson staked the occurrence and transferred the claims to Mentor Exploration and Development Co. Ltd.

1984: R. Brown staked the occurrence and transferred claim title to Tenajon Silver Corp. No work was reported.

1986: R. Goodchild staked the occurrence.

1987: St. Joe Canada Inc. completed geophysical surveys over the property and did diamond drilling the following year.

1989: Bond Gold Canada Inc. transferred claims to Noranda Exploration Co. Ltd.

ECONOMIC FEATURES

Diamond drilling by St. Joe Canada Inc. intersected 0.69 g/t Au over 0.4 m in felsic metavolcanic rocks and 2.06 g/t Au over 1.3 m in mafic metavolcanic rocks.

SELECTED REFERENCES

Bond Gold Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Hanson Property, assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P 2387.

CA-20/ HATCH-JONESTON LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Hatch-Joneston Lake occurrence lies 1/2 km west of Jonestone Lake. The original mineral showing was staked as claim KRL 10445.

DESCRIPTIONS

Regional Structures: The Hatch-Joneston Lake occurrence is situated on a major northwest trending structure along which a number of gold occurrences have been identified. Thurston et al. (1981) indicated a synclinal fold axis passes through the area.

Geology: The Hatch-Joneston Lake occurrence is underlain by felsic to intermediate metavolcanic rocks including tuffs and pyroclastic breccias (Beakhouse 1990). Minor mafic metavolcanic rocks interleave with intermediate metavolcanic rocks on the property. The metavolcanic rocks form part of the Cycle II metavolcanic sequence described by Thurston (1986). Foliations in the area trend northwesterly.

Mineralization: The main showing consists of a quartz vein exposed by stripping and trenching over a strike length of 200 m. The vein trends 304/75°N and is hosted by sheared intermediate metavolcanic rocks. Both the quartz and the adjacent wallrock are mineralized with pyrite.

OWNERSHIP AND DEVELOPMENT

- 1933: Claims KRL 10444 to 10446 and 10763 to 10765 covered the occurrence. No records are available for that staking.
- 1958: F. Rodman staked the occurrence as claim KRL 43851. No work was reported.
- 1961: Madsen Red Lake Gold Mines Ltd. did sampling and trenching on the property (Alcon file).
- 1965: G. Clarke Jr. staked claim KRL 54138 covering the occurrence.
- 1966: World Mining Consultants Ltd. did stripping on the property and transferred ownership the following year to World Mining Explorations Ltd.
- 1972: M. Kostynuk staked the occurrence and completed manual work.
- 1973: Dome Exploration (Canada) Ltd. optioned the propert. Dome completed diamond drilling on the adjoining Alcon occurrence then transferred the claims to A. Kostynuk.
- 1981: Noranda Exploration Company Ltd. optioned the property.
- 1984: R. Hodgson staked the occurrence and did a geological survey the following year.
- 1985: Gold Fields Canadian Mining Ltd. flew airborne surveys in the area which included the Hatch-Joneston Lake occurrence.

- 1987: Esso Resources Canada Ltd. completed magnetic and geological surveys on Hodgson's claims.
- 1989: M. Lampron staked the occurrence and transferred ownership to Homestake Mining Ltd. Homestake transferred the claims to R. Hodgson.
- 1991: Gold Fields Canadian Mining Ltd. flew another airborne geophysical survey over the area.

ECONOMIC FEATURES

Furse (1934) reported the vein averages 0.07 ounce Au per ton across 3 feet 8 inches for a length of 330 feet. Values reported by Madsen Red Lake Gold Mines Ltd. include 0.02 ounce Au per ton over 20 inches and 0.54 ounce Au per ton over 1 foot.

The veining and mineralization on the Hatch-Joneston Lake occurrence is colinear with, and probably the eastward extension of veining and mineralization on the Alcon occurrence. The aggregate strike length of the mineralized zone would be over 750 m.

SELECTED REFERENCES

- Alcon Exploration and Mining Syndicate, assessment files, Resident Geologist's office, Red Lake.
- Beakhouse, G.P. 1990, O.G.S. O.F.R. 5700.
- Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Annual Report 1933, v. 42, pt. 6, p. 34-35.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Hodgson, R., assessment files, Resident Geologist's office, Red Lake.
- Kostynuk, A., (Noranda Exploration Company, Ltd.) assessment files, Resident Geologist's office, Red Lake.
- Kostynuk, M., (Noranda Exploration Company, Ltd.) assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I., 1981, O.G.S. Map P. 2387.

CA-21/ HATCH-MINK LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Hatch-Mink Lake occurrence is located on the south side of Mink Lake and north of the 19 mile post on the 10th base line. Claims KRL 9146, 9147, 9258, 9259 and 9260 originally encompassed the occurrence.

DESCRIPTION

A major north-northeast-trending fault parallel to the west margin of the Birch-Confederation lakes greenstone belt is inferred to lie 1.5 km west of the original occurrence (Beakhouse 1989).

Geology: The Hatch-Mink Lake occurrence is underlain by mafic metavolcanic flows of the Fox Bay metavolcanic sequence (Beakhouse 1989; Thurston et al. 1981). The Fox Bay metavolcanic sequence consists of mafic, massive to foliated, pillowed flows that are commonly plagioclase-phyric. A north-trending, 15-foot wide, dike of quartz porphyry intrudes the mafic flows parallel to foliation. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: As described by Furse (1934) the porphyry dike carries 2 sets of quartz veins trending 075° and 120° . The 120° vein set are tension veins and vary in width from half an inch to 6 inches. Inclusions of porphyry wall rock and pyrite occur in the veins.

A second occurrence on former claim KRL 9147 consists of a 3- to 10-foot wide quartz vein with an observed strike length of 400 m. The vein strikes 345° and dips steeply east. Mineralization in the vein is sparse and irregular and includes pyrite, siderite and a trace of hematite. Coarse pyrite occurs in the amphibolitized wall rock up to 2.5 feet away from the vein.

OWNERSHIP AND DEVELOPMENT

1933: Claims staked as reported by Furse (1934). No records are available regarding this staking.

1968: E.J. Thomson staked claims covering the occurrence but no work was reported.

1980: A. Kostynuk staked claims covering part of the area.

1981: Noranda Exploration Co. Ltd. completed geological mapping of the east part of the property during evaluation of the molybdenite-bearing potential of the Mink Lake stock.

ECONOMIC FEATURES

No assays have been reported from the occurrence.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Furse, G.D. 1934, O.D.M. Annual Report 1933, v. 42, pt. 6, p. 35.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-22/ HATCH-MINK LAKE NARROWS OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Hatch-Mink Lake Narrows occurrence is situated on the south side of the narrows of Mink Lake. The occurrence is presently included in claim KRL 1120657.

DESCRIPTION

Regional Structures: The occurrence is located about 500 m north of the Mink Lake stock in an area where northwest-trending stratigraphy hinges into a southwest orientation near the west margin of the Birch Lake portion of the Birch-Confederation lakes greenstone belt.

Geology: The peninsula of Mink Lake, on which the occurrence is located, is underlain from north to south by intermediate metavolcanic rocks, mafic flows, felsic metavolcanic rocks, more mafic flows and granodiorite of the Mink Lake stock (Beakhouse 1990). The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986). Stratigraphy is generally west-trending across the peninsula and foliations trend 130° in the vicinity of the occurrence. Several north-trending quartz veins intrude the metavolcanics.

Mineralization: The main showing consists of a quartz vein up to 1.2 m in width which is exposed on a shoreline outcrop. Several trenches expose the vein over a strike length of 30 m. The vein trends 340° to 358° and carries pyrite and minor chalcopyrite. Furse (1934) reported that the mineralization consisted dominantly of chalcopyrite with some pyrite and a trace of galena. Wall rock adjacent to the vein is altered to iron carbonate and contains minor green mica.

OWNERSHIP AND DEVELOPMENT

- 1961 G. Desmeules and J. Keewaycabo staked the occurrence and transferred claim ownership to Flint Rock Mines Ltd. No work was reported on the claim.
- 1965: L.B. Halladay staked the showings and transferred ownership to World Mining Consultants Ltd.
- 1969: E. Collin staked the showings and transferred ownership to Selco Exploration Co. Ltd.
- 1973: E. Gay staked the showings and transferred ownership to Dome Exploration (Canada) Ltd.
- 1981: Noranda Exploration Co. Ltd. flew airborne surveys over a large area including Mink Lake.
- 1984: R. Hodgson staked 17 claims in the area that included the north end of the peninsula hosting the Hatch-Mink Lake Narrows occurrence. Hodgson completed a geological survey over the claims the following year.
- 1987: Esso Resources Canada Ltd. completed geological and geophysical surveys over the property. However that work didn't cover the present occurrence.

1989: D. McIvor staked claims over the occurrence. These were subsequently transferred to Homestake Mining (Canada) Ltd. then transferred to R. Hodgson.

1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the property.

ECONOMIC FEATURES

Sample 87-BTA-110 consisting of altered wall rock from the southern most trench analyzed 225, ppb Au while sample 87-BTA-112, consisting of quartz vein material, analyzed less than 2 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.

Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, p. 6, p. 36.

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Hodgson, R. assessment files, Resident Geologist's office, Red Lake.

Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-23/ HEINRICH OCCURRENCE - CASUMMIT LAKE AREA

NTS 52 N/8 NW

LOCATION

The Heinrich occurrence is located on the south shore of Birch Lake, 1 km northwest of the portage to Springpole Lake. The occurrence is presently staked and includes 6 leased claims KRL 562895 to 562900 and 5 unpatented mining claims KRL 788977 and KRL 793690 to 793693.

DESCRIPTION

Regional Structures: A northwest trending structure, possibly the onstrike continuation of the Portage Zone identified to the southeast (Atkinson et al. 1989) underlies the north part of the property. On the Heinrich occurrence, this structure separates mafic metavolcanic rocks in the south part of the property from clastic metasedimentary rocks to the north.

Geology: Much of the property is underlain by pillowed to massive metavolcanic flows. The south shoreline of Birch Lake covered by the Heinrich occurrence is underlain by a thin sequence of intermediate tuff, tuff breccia and clastic metasediments. A northwest trending body of gabbro separates mafic flows on the south part of the property from intermediate metavolcanic rocks and clastic metasediments on the north (Good 1986). Outcrops on several small islands on claim KRL 562900 expose pebble and cobble conglomerate (Thurston et al. 1981). A diamond drill hole to the east of the property encountered 370 m of interbedded conglomerate and clastic metasediments under Birch Lake.

Recent stripping near the lake shoreline on claim KRL 562900 has exposed pillowed mafic flows. The mafic pillows are remarkably consistent in size, elongate in a northerly direction and top to the west.

A second stripped area to the east of the aforementioned outcrop exposes chloritized, carbonatized and epidotized mafic metavolcanic rocks with fine grained disseminated magnetite. Several small felsic dikes invade the mafic rocks and small cross cutting quartz veins are common. Foliation of the mafic rocks trends 135°. Narrow bands of jasper and magnetite iron formation is reported in diamond drill core from the property. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: Black tourmaline, rare carbonate, pyrite, pyrrhotite and chalcopyrite accompany quartz veining in mafic flows. The quartz veins are numerous but small, seldom exceeding 10 cm widths and less than 10 m in length.

Sphalerite, pyrite chalcopyrite and pyrrhotite is reported in diamond drilling.

OWNERSHIP AND DEVELOPMENT

pre-1946: A claim map dated July 13, 1946 indicates the area was staked as claim KRL 19934 but no records are available for that staking.

1960-1973: K. Koezur and P. Koezur staked and restaked the property several times, performing manual labour and some assaying on the claims. No records are available for that work.

- 1981: P. Koezur restaked the ground and transferred ownership to B. Heinrich. Some trenching was reported.
- 1983: Trenching and manual work by B. Heinrich.
- 1984: Mechanical work reported by B. Heinrich. One hole was drilled to a depth of 31.4 m.
- 1985: Property optioned to Gold Fields Canadian Mining Ltd, airborne geophysical surveys were flown over a large area including the property.
- 1986: Gold Fields completed a geological survey on the property.
- 1988: Gold Fields diamond drilled 4 holes totalling 4424 feet on the property.
- 1990: 6 claims were brought to lease by B. Heinrich.

ECONOMIC FEATURES

Diamond drilling by Gold Fields Canadian Mining Ltd. intersected a 2.4 m wide zone of mafic conglomerate carrying 2 to 3 % pyrite.

Up to 2% sphalerite and 1% chalcopyrite mineralization is reported in diamond drill hole intersections under 1m width in Gold Fields' diamond drill logs.

A sample of barren looking quartz from a 5 cm wide vein bordered with a thin parting of iron carbonate assayed 0.21 ounce Au per ton. This sample and 2 others were collected by the second author from the stripped area on claim KRL 562900 near the shore of Birch Lake. The other two samples included quartz vein material and assayed 0.01 ounce Au per ton or less (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Atkinson, B.T., Parker, J.R. and Storey, C.C. 1990, O.G.S. M.P. 147, p. 57-59.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Good, D. 1988, O.G.S. O.F.R. 5685.
- Heinrich, B., assessment files, Resident Geologist's office, Red Lake.
- Thurstun, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurstun, P.C., Jackson, M.C. and Pirie, I. O.G.S. Map P. 2387.

CA-24/ HEWITT-ZIYONE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Hewitt-Ziyone occurrence is located north of the Birch Lake and east of Casummit Lake. The original property included 18 claims adjoining the east boundary of the Jason Mine property. Claims included KRL 9687 to 9691, 9723, 9770, 9771, 9775, 9776, 10745, 10746, and 10806 to 10811.

The site of the original showings is now covered by 4 leased claims KRL 43758 to 43760 and 43769, and unpatented mining claims KRL 1022984, 1022985 and 1143016 to 1143018. The central part of the original property was not staked at time of writing.

DESCRIPTION

Regional Structures: The property is situated 2 km southeast of the Keigat Lake pluton. The contact strain aureole of the pluton affects lithologies in the area (Good 1988). Horwood (1938) indicated the property is situated at the east end of a westward plunging fold.

Geology: The Hewitt-Ziyone occurrence is underlain by pillowed to massive mafic metavolcanic flows that interfinger in the south and central part of the property with felsic pyroclastic rocks. Where observed, pillows tops are consistently south facing (Beakhouse 1990). Felsic members include tuffs and breccias (Thurston et al. 1981). A 6 to 18 m wide dike of diorite outcrops on former claim KRL 9687 and quartz porphyry dikes intrude the other formations (Horwood 1937). Metasedimentary rocks including argillite and iron formation were encountered in drill core. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: A number of quartz veins are located on the Hewitt-Ziyone occurrence. Quartz veining occurs both in and along the east side of the diorite dike on former claim KRL 9687. These quartz veins carry small amounts of arsenopyrite, chalcopyrite and pyrite and are reported to carry gold. The largest quartz vein is about 84 cm wide and dips 15°W (Furse 1933). Additional quartz veining occurs at the boundary between former claims KRL 9691 and 9771. A 3 m wide northeast trending shear zone in mafic metavolcanic rocks has been exposed over a strike length of 35 m. A test pit exposes 3 quartz veins measuring 10 cm, 51 cm and 51 cm in the shear zone. The veins carry arsenopyrite mineralization most often associated with wallrock inclusions in the vein. Native gold is reported.

Quartz veins mineralized with arsenopyrite have been located near the east boundary of former claim KRL 10808 in the southeast corner of the property.

Diamond drilling by Cochenour Willans Gold Mines Ltd. encountered arsenopyrite and visible gold. Pyrite, pyrrhotite and chalcopyrite is reported in drill logs by the company.

OWNERSHIP AND DEVELOPMENT

1933: A.F. Hewitt and J. Ziyone held 18 claims known as the Hewitt-Ziyone group.

- 1937: One drill hole was put down to test a surface quartz vein. A.F. Hewitt reported the property was optioned.
- 1958: J. Gillies staked 4 claims in the north part of the property. These were transferred to New Dickenson Mines Ltd. A small amount of diamond drilling was completed and the claims were brought to lease in 1964. The claims remain in good standing at time of writing.
- 1969: L. King staked the south part of the property and transferred ownership to K. Davis. No work was reported on the claims which were cancelled in 1970.
- 1973: M. Kostynuk and A. Kostynuk staked a large group of claims covering the occurrence.
- 1974: The Kostynuk claims were optioned by Cochenour Willans Gold Mines Ltd. Cochenour Willans diamond drilled 10 holes totalling 646 m on the property.
- 1975: Cochenour Willans Gold Mines Ltd. completed a drill program of 1241 m in 11 holes on the property.
- 1976: Cochenour Willans Gold Mines Ltd. transferred the claims back to A. Kostynuk.
- 1978: The claims covering the south part of the original property were cancelled.
- 1981: Noranda Exploration Company Ltd. acquired the Kostynuk claims that remained in good standing but transferred them back to A. Kostynuk the following year.
- 1982: J. Nabigon staked claims covering the south part of the property and transferred these to Noranda Exploration Company Ltd. The company reported magnetic and electromagnetic surveys on the claims. The claims lapsed in 1982.
- 1984: N. Wychopen staked claims covering the south part of the original property and transferred ownership to Tenajon Silver Corp. The company concentrated exploration outside the Hewitt-Ziyone occurrence.
- 1985-1991: J. Hodge staked claims over the south part of the group and transferred these to Golden Terrace Resources Corp. Golden Terrace did geological and soil geochemical surveys over the property. The claims were cancelled in 1991.

ECONOMIC FEATURES

Visible gold is reported in drill core from an exploration program completed by Cochenour Willans Gold Mines Ltd. Carbonate stringers with coarse visible gold are estimated to carry 5 to 10 ounces Au per ton. One such stringer reportedly assayed 4.32 ounce per ton. The Hewitt-Ziyone vein extends into the adjoining Jason (Casey Summit) property where it is known as the No. 4 vein (Furse 1934).

SELECTED REFERENCES

Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
Cochenour Willans Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.

Furse, G.D. 1934. O.D.M. Annual Report 1933, v. 42, pt. 6, p. 34, 39.
Golden Terrace Resources Corporation, assessment files, Resident Geologist's office, Red Lake.
Good, D.J. 1988, O.G.S. O.F.R. 5685.
Horwood, H.C. 1938, O.D.M. Annual Report 1937, v. 46, pt. 7, p. 27-28.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-25/ HIGH GRADE ISLAND OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The High Grade Island occurrence is located on a small rocky islet in the mouth of McIntyre Bay of Birch Lake. The property was originally covered by claim KRL 9948 and formed part of the McIntyre group of claims. The island is presently covered by unpatented mining claim KRL 869186.

DESCRIPTION

Regional Structures: The High Grade Island occurrence is located on a major northwest trending structure that cuts across the north part of the Birch-Confederation lakes greenstone belt. A number of gold occurrences have been discovered along this structure.

Geology: The occurrence is underlain by mafic metavolcanic flows that are the eastward continuation of the Fox Bay metavolcanic sequence (Beakhouse 1989). The rocks comprising High Grade Island occurrence are part of the Cycle II metavolcanic sequence (Thurston 1986).

On the mainland just north of the island, thin interflow units of magnetite-chert ironstone occur within pillowed to massive mafic flows. Similar ironstone is encountered in drilling from the High Grade Island occurrence.

Mineralization: Several trenches have been blasted on quartz veins around the island. Visible gold is reported from a trenched quartz vein in a narrow northwest trending shear zone on the south side of the island. Arsenopyrite, pyrrhotite and gold mineralization are reported to occur with quartz veins in silicified mafic flows. Interflow ironstone carry variable amounts of pyrite. Diamond drill hole sledges are reported to pan gold.

OWNERSHIP AND DEVELOPMENT

1934: The island was staked as claim KRL 9948 and formed part of the McIntyre property.

Date unknown: The island was staked as claim KRL 22499.

1958: E. Gordon staked claim KRL 44301 covering the island.

1959: C. Hanson staked claim KRL 47586 covering the island and transferred this to Alcon Exploration and Mining Syndicate.

1960: New Dickenson Mines Ltd. diamond drilled 2 holes totalling 69 m. Later in the year, Alcon Exploration and Mining Syndicate Ltd. diamond drilled 3 holes to a combined depth of 132m.

1962: Alcon Exploration and Mining Syndicate transferred the property to L.O. Browne. The same year the claim was transferred to Alcon Exploration Limited.

1966: R. Brannan staked claim KRL 55799 and transferred this to Alcon Exploration Ltd.

- 1968: H.C. Hanson staked claim KRL 60734 covering the island.
- 1972: G. Desmeules staked claim KRL 343675 covering the island. Assays were completed by Dickenson Mines Ltd.
- 1974: C.D. Huston staked claim KRL 389990. The claim was transferred to H.A. Crawford.
- 1975: H.A. Crawford transferred the claim to Betos Management Ltd.
- 1977: P. Koezur staked claim KRL 483197 and transferred ownership to H.A. Crawford.
- 1979: K. Koezur staked claim KRL 509191 and transferred ownership to H.A. Crawford.
- 1980: P. Koezur staked claim KRL 526968 and transferred ownership to H.A. Crawford.
- 1982: J. Brisco staked claim KRL 646139 over the island and transferred ownership to St. Joe Canada Inc.
- 1984: St. Joe Canada Inc. completed geophysical surveys over the property.
- 1986: L. Barnes staked claim KRL 869186 over the island and transferred ownership to H.A. Crawford. A small amount of sampling and manual work was reported.
- 1988: H.A. Crawford transferred claim ownership to St. Joe Canada Inc. St. Joe changed its name to Bond Gold Canada Inc. and reported diamond drilling.

ECONOMIC FEATURES

Diamond drilling by New Dickenson Mines Ltd. intersected a 0.39 m wide quartz vein mineralized with arsenopyrite and visible gold. Alcon Exploration and Mining Syndicate Ltd. intersected arsenopyrite mineralization associated with quartz veining over a width of 0.73 m. The zone assayed 0.14 ounce Au per ton. A second zone in the same drill hole assayed 0.03 ounce Au per ton over 1.2 m.

A 1972 assay report on grab samples from the island by Dickenson Mines Ltd. indicated the following:

<u>Sample No.</u>	<u>Au ounce per ton</u>	<u>Ag ounce per ton</u>
1	17.38	trace
2	0.08	trace
3	1.82	trace
4	2.88	trace
5	2.80	0.14
6	11.42	trace

SELECTED REFERENCES

Alcon Syndicate Option (New Dickenson Mines Ltd.), assessment files , Resident Geologist's office, Red Lake.

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Furse, G.D. 1934, O.D.M. Map 42d.

Gabbs Resources Ltd., assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-26/ IRON ISLAND OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Iron Island occurrence is located on a small island 1 km southwest of the west end of Johnson Island in the central part of Birch Lake. The occurrence was not staked at time of writing.

DESCRIPTION

Regional Structure: The northeast trending Swain Lake deformation zone (Beakhouse 1989) terminates in the vicinity of Iron Island (local name). To the east of Iron Island, foliations trend northwesterly. Iron Island occupies an area of disrupted stratigraphy resulting from several episodes of deformation. An early east-west directed deformation has affected the area and this is overprinted by both northeast and northwest trending fabric development as a consequence of the emplacement of the Mainprize Lake and Keigat Lake granitoid complexes (Beakhouse 1989).

Furse (1934) noted "Judging from the close folding in the iron formation on the island southwest of Johnson Island, the structure may be quite complicated ..." The metasedimentary rocks are part of an allochthonous sequence described by Thurston (1986).

Geology: Iron Island is underlain by wacke and argillite metasediments and interbedded chert-magnetite ironstone (Good 1988). Bedding orientations of the sediments are variable around the island.

Mineralization: The ironstone carries up to 2% pyrite in seams and fractures.

OWNERSHIP AND DEVELOPMENT

1964: H.C. Hanson staked the island and transferred ownership to Alcon Exploration Ltd. No work was reported and the claims lapsed in 1966.

1966: K. Hermanson staked the island but reported no work.

1967: S. Low staked the island but reported no work.

1969: H.C. Hanson staked the island but reported no work.

1972: T.L. Johnson staked the island, the claims were cancelled the following year with no work reported. Subsequently, the island was again staked as claims KRL 423187 and 423188 but claim records for this staking are not available.

1977: P. Koezur staked the island.

1979: P. Koezur restaked the island.

- 1985: K. Bernier staked the island and transferred the claims to Loydex Resources Inc. Loydex did a magnetic survey over the property then transferred the claims to Gold Fields Canadian Mining Ltd. Gold Fields flew airborne geophysical surveys over a large area including Iron Island.
- 1987: Gold Fields Canadian Mining Ltd. transferred claim ownership back to Loydex and the claims were cancelled the following year.
- 1990: D. Saunders staked the island but reported no work, the claims were cancelled the following year.

ECONOMIC FEATURES

Over 60 channel samples collected by Gold Fields Canadian Mining Ltd. returned assays less than 0.005 ounce Au per ton.

Carbonate veins and alteration zones were noted by Good (1988).

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.
Good, D.J. 1988, O.G.S. O.F.R. 5685, p. 58.
Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
Loydex Resources Inc., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-27/ JOHNSON-DYNES OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Johnson-Dynes occurrence is situated on the north side of Casummit Creek between Casummit and Birch lakes. The occurrence described by Furse (1934) is located on the north boundary of former claim KRL 8965. The area is presently covered by claims KRL 1022984 to 1022990.

DESCRIPTION

Regional Structures: A strong east trending shear zone affects lithologies in the area. The shearing has caused considerable distortions of lithologies. Small scale flexures in tuffaceous units indicate a dextral shear sense. Although the extent of the shearing on the property is unknown, its intensity suggests it may be regional in extent.

General Geology: Furse (1934) indicated the property is underlain by acidic tuff and the occurrence is hosted by arkose greywacke and slatey sediments. Horwood (1938) mapped volcanic breccia in the area. Thurston et al. (1981) mapped intrusive quartz porphyry in the area and Beakhouse (1990) mapped the area as intermediate metavolcanic rocks. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Outcrops on the north side of Casummit Creek in the vicinity of former claim KRL 8965 consist of intermediate monolithic pyroclastic breccias and tuffs. A poorly developed size gradation of fragments indicates stratigraphy is south facing. Foliation trends 096/80°N. Magnetite bearing ironstone is reported in diamond drill core from the property.

Mineralization: The Vein zone described by Furse (1934) was mineralized with 5% to 10% arsenopyrite and pyrite. Harding (1936) identified similar mineralization.

Diamond drilling by Gold Fields Canadian Mining Ltd. encountered numerous stringers and bands of pyrite and arsenopyrite. Tourmaline was noted with several narrow quartz veins. Rare galena was reported in one diamond drill log.

OWNERSHIP AND DEVELOPMENT

Pre-1933: The property was staked and known as the Dynes property.

1935: The Vein zone was tested by 10 diamond drill holes totalling 1500 feet.

1969: F. Rocheleau staked the occurrence but reported no work.

1973: M. Kostynuk transferred claim ownership to Cochenour Willans Gold Mines Ltd. The company completed diamond drilling in the area to the north of the Johnson-Dynes occurrence.

1976: Cochenour Willans Gold Mines Ltd. transferred claim ownership to A. Kostynuk.

- 1980: J. Nabigon staked the occurrence.
- 1981: Noranda Exploration Company Ltd. reported geophysical surveys on the property, however, this work is not available in assessment files.
- 1984: N. Wychopen staked the occurrence and transferred ownership the following year to Tenajon Silver Corp. No work was reported by the company.
- 1987: C. Veinott staked the occurrence and transferred the claims to B. Heinrich.
- 1988: T. Keewaycabo staked the occurrence and transferred claims to Gold Fields Canadian Mining Ltd. Gold Fields completed 1 diamond drill hole to a depth of 254 m.
- 1989: Gold Fields Canadian Mining Ltd. diamond drilled 2 holes totalling 307 m.

ECONOMIC FEATURES

A series of trenches have been excavated on the property. In the south trenched area the trenches are northwest trending but swing westerly toward the north. The trenches extend over a distance of 90 m, all were sloughed and overgrown at the time of examination. Two samples of intermediate volcanic breccia collected from the south trenched area carried minor pyrite and assayed 45 and 65 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

The Vein zone has been traced over a strike length of 240 m (Harding 1936).

SELECTED REFERENCES

- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
- Furse, G.D. 1934, O.D.M. Annual Report, 1933, v. 42, pt. 6, p. 39-40.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Harding, W.D. 1936, O.D.M. Annual Report, 1936, v. 45, pt. 4, p. 22.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-28/ JONESTON LAKE OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Joneston Lake occurrence is located on the north side of Joneston Lake, north of Birch Lake and west of Casummit Lake. A good portage connects Joneston Lake to Mink Lake and a trail connects Joneston Lake to Casummit Lake. Presently claims KRL 1069600 to 1069601 cover the occurrence.

Regional Structures: The Joneston Lake occurrence is located north a major northwest trending structure along which a number of gold occurrences lie. The structure passes through Joneston Lake and delineates a lithological boundary between intermediate metavolcanic rocks south of Joneston Lake and mafic flows to the north (Beakhouse 1990). Thurston et al. (1981) mapped a synclinal axis in the area. Foliations in the area trend northwest.

Geology: The Joneston Lake occurrence is underlain by a thick sequence of mafic metavolcanic rocks including pillowed to massive flows (Thurston et al. 1981; Beakhouse 1990). Large prominent outcrop ridges in the area consist of intermediate tuffs and breccias with moderate to strong northwest trending foliations. Tuffs, metasediments and rhyolitic rocks are reported in drill core by Dome Exploration (Canada) Ltd. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: Pyrrhotite, pyrite and trace chalcopyrite mineralization occur within tuffaceous intermediate metavolcanic rocks and associated with graphitic metasediments.

OWNERSHIP AND DEVELOPMENT

Pre-1933: The property was staked as claim KRL 9820 and 11896.

Pre-1937: Trenching and diamond drilling were done on claim KRL 9820.

1958: M. Saipe and O. Wieben staked claims in the area.

1964: R. Fontaine staked claims in the area and transferred these to World Mining Consultants Ltd.

1966: J. Graham staked the area and transferred his claims to Dome Exploration Company Ltd. Dome did a limited geophysical survey and diamond drilled 1 hole to a depth of 136 m on claim KRL 57737.

1969: F. Rocheleau staked claims in the area but reported no work.

1975: A. Morand staked claims in the area and transferred these to Selco Mining Corporation Ltd. Selco did magnetic and electromagnetic surveys on the property.

1978: R. Colling staked the property and transferred ownership to Geophysical Engineering Ltd.

1984: R. Hodgson staked the property and did geological surveys and sampling.

- 1986: Airborne magnetic, electromagnetic and radiometric surveys were flown over the area.
- 1987: Esso Resources Canada Ltd. optioned the property from R. Hodgson and did a magnetic survey the following year.
- 1989: A. Maciejewski staked claims on the occurrence and transferred these to Norwin Geological Ltd.
- 1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over a large area including the Joneston Lake occurrence.

ECONOMIC FEATURES

Low values in copper, zinc, gold and silver were reported in diamond drill logs by Dome Exploration Company Ltd. The highest assays from the drill program were 0.11% Cu over a width of 0.73 m. The highest zinc assay was 0.25% and the highest gold assay was 0.01 ounce gold per ton reported in the drill logs.

A quartz vein at the northeast end of Joneston Lake reportedly assayed 0.25 ounce Au per ton.

A barren looking boudinaged quartz vein on a shoreline outcrop south of the Dome diamond drill hole assayed 6 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A quartz vein on former claim KRL 9820 has been traced over a distance of 49 m. The vein has a maximum width of 1.37 m and is well mineralized with pyrite (Horwood 1938). The gold content is reportedly low.

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- Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
- Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Map 42d.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Hodgson, R., assessment files, Resident Geologist's office, Red Lake.
- Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7, p. 30.
- Selco Mining Corporation Ltd., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-29/ LOYDEX OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Loydex occurrence is located on the northside of Mink Lake immediately east of the Blondin occurrence. The property is presently covered by 6 unpatented mining claims KRL 720345 to 720350.

DESCRIPTION

Regional Structures: The Loydex occurrence is situated on a major northwest trending structure along which a number of gold occurrences have been identified.

Geology: The property is underlain by intermediate metavolcanic rocks of the Cycle II sequence described by Thurston (1986) (Beakhouse, 1990). Lithologies include white to grey felsic tuffs interbedded with lapilli tuff, feldspar crystal tuff and heterolithic pyroclastic breccias. Bedding thicknesses vary from fine laminations to 1.2 m. Bedding and foliations trend northwesterly across the property. Iron carbonate and sericite alteration affect all lithologies. Mafic flows and tuffs are reported in diamond drill logs by Gold Fields Canadian Mining Ltd.

Mineralization: Pyrite mineralization occurs in intermediate metavolcanic rocks associated with sericite and iron carbonate alteration. The pyrite content of mineralized areas seldom exceeds 5% of the rock volume and occurs as thin seams and bands. Pyrite cubes up to 1.5 cm in size are reported in diamond drill logs from the property.

OWNERSHIP AND DEVELOPMENT

- 1933: The property was staked and held as claims KRL 8666 to 8668. No claim records are available.
- 1961: G. Desmeules staked the occurrence and transferred ownership to Flint Rock Mines Ltd. the following year. No work was reported.
- 1965: L.B. Hallady staked the occurrence and transferred claims to World Mining Consultants Ltd. The company reported surface trenching on the property.
- 1969: A. Morand staked the occurrence and transferred claims to Selco Exploration Company Ltd. Selco completed magnetic and electromagnetic surveys on the property which they referred to as the Mink Grid.
- 1973: E. Gay staked the occurrence and transferred claims to Dome Exploration (Canada) Ltd.
- 1984: K. Bernier staked 6 claims and transferred these to Loydex Resources Inc.
- 1985: Gold Fields Canadian Mining Ltd. completed ground and airborne geophysical surveys over the property.
- 1987: Gold Fields Canadian Mining Ltd. diamond drilled 1 hole to a depth of 155 m.

1988: Gold Fields Canadian Mining Ltd. diamond drilled 1 hole to a depth of 230 m.

1989: Gold Fields Canadian Mining Ltd. diamond drilled 7 holes totalling 1407 m.

ECONOMIC FEATURES

Gold assays in diamond drill records reported by Gold Fields Canadian Mining Ltd. include 1.03 ounce Au per ton over 4 feet, 0.093 ounce Au per ton over 1.6 feet and 0.088 ounce Au per ton over 4.9 feet.

SELECTED REFERENCES

Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.

Furse, G.D. 1934, O.D.M. Map 42d.

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Selco Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-30/ LUNDBERG OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Lundberg occurrence is located on the west side of Richardson Lake and north of Casummit Lake. The original property included 4 claims KR 10227 to 10279 and 10430. Existing leased claim KRL 43659 includes part of former claim KRL 10430 but the rest of the property was not staked at time of writing.

DESCRIPTION

Regional Structures: The occurrence lies within the strain aureole of the Retter Lake granitoid complex. Foliations trend southwest to westerly in the area.

Geology: The Lundberg occurrence is underlain by mafic metavolcanic flows and associated gabbroic intrusive rocks (Beakhouse 1990). A narrow band of chemical metasedimentary rocks outcrops on the shoreline of Richardson Lake east of the Lundberg property. Horwood (1938) mapped a narrow unit of ironstone in the southwest corner of claim KRL 10278. Several dikes of granodiorite cut the mafic flow. The metavolcanic rocks form part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: A number of quartz veins hosted by mafic metavolcanic rocks have been prospected and trenched. The largest reported vein was 12 inches wide and had a strike length of 50 feet (Horwood 1938). A broad band of carbonatized mafic flows carry disseminated pyrrhotite and pyrite.

OWNERSHIP AND DEVELOPMENT

1933: 4 claims were held by G. Lundberg.

1937: Trenching and prospecting was done on the property.

1958: The north part of the property, part of former claim KRL 10430 was staked by S. Kostynuk. Claim ownership was transferred to Dome Exploration (Canada) Ltd. The company reported diamond drilling but that information is not available in assessment files. The claim was transferred to A. Kostynuk who reported additional diamond drilling and had the claims surveyed prior to bringing them to lease in 1966.

G. Desmeules staked the south part of the original Lundberg group but no work was reported.

1960: C. Kuryliw staked the property and transferred ownership to Cochenour Willans Gold Mines Ltd. A geological survey of the area was done and diamond drilling off the original Lundberg occurrence was completed.

1963: The Cochenour Willans Gold Mine Ltd.'s claims were transferred to Madsen Red Lake Gold Mine Ltd. but no work was reported and the claims lapsed the following year.

1964: O. Zeemel staked the ground but reported no work.

post-1964: Claim KRL 375631 was staked over the area but no claim records are available for that staking.

1975: M. Kostynuk staked the ground.

1978: W. Kostynuk staked the ground and reported assaying, however results are not available in assessment files.

1980: M. Kostynuk staked the ground and transferred ownership to Noranda Exploration Company Ltd. Noranda reported magnetic and electromagnetic surveys on the property, this work is not available in assessment files.

1982: Noranda Exploration Company Ltd. transferred claims to A. Kostynuk.

1984: A. Kostynuk restaked the ground and transferred ownership to Golden Maverick Resources Corporation. Golden Maverick flew airborne geophysical surveys over the area.

1985: Golden Terrace Resources Corporation did geological and geophysical surveys on the property.

ECONOMIC FEATURES

No assays are available from the property. Horwood (1938) noted the main quartz vein on the property was probably of limited extent.

SELECTED REFERENCES

Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.

Cochenour Willans Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.

Golden Maverick Resources Corporation, assessment files, Resident Geologist's office, Red Lake.

Golden Terrace Resources Corporation, assessment files, Resident Geologist's office, Red Lake.

Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7, p. 28.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-31/ McINTYRE MINE (McINTYRE, COOPER AND BARRY MINE; COOPER AND BARRY MINE) - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The McIntyre Mine is located on McIntyre Bay in the north part of Birch Lake. The original property included 8 claims, KRL 8594 to 8601.

DESCRIPTION

Regional Structures: The McIntyre Mine is situated on a major northwest trending structure along which a number of gold occurrences have been identified. Foliations are generally northwest trending although some north trending foliations are noted (Beakhouse 1990).

Geology: The claim group is underlain by pillowed to massive mafic flows and flow breccias (Thurston et al. 1981; Beakhouse 1990). Thin interflow horizons of chert magnetite ironstone occur with the mafic flows. These interflow ironstones are variable in thickness but seldom exceed several metres. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: Quartz veins hosted by schistose mafic metavolcanic rocks carry pyrite, arsenopyrite and gold mineralization. Quartz stringers hosted by mafic metavolcanic rocks and ironstone in the southwest corner of claim KRL 8597 carry coarse arsenopyrite, pyrite and chalcopyrite. Gangue minerals include siderite, calcite, muscovite and tourmaline (Furse 1934).

OWNERSHIP AND DEVELOPMENT

- 1928: J. Miller first discovered a gold bearing quartz vein on the property. A.H. Cooke staked claims KRL 8594 and 8595. E.H. Haddle staked claims KRL 8596 and 8598. T.H. Gaetz staked claims KRL 8599 to 8601. This group of 8 claims formed the original property that became known as the McIntyre Mine.
- 1929: All 8 claims were transferred to J.P. Bickell and 55 days work were recorded on each claim.
- 1931: 617 days work were reported on each claim except KRL 8600 and 8601 which each received 359 days work. Five diamond drill holes totalling 596 m were completed.
- 1933: The property was leased to W.D. Cooper and P.A. Berry from McIntyre-Porcupine Mines Ltd. Pitting, trenching and shaft sinking began on claim KRL 8596.
- 1934: All 8 claims were patented, shaft sinking and underground development work continued. A 25-ton Tremaine mill with amalgamation plates began operating. The shaft reached a depth of 30 m.
- 1935: Nine holes totalling 610 m were drilled along the mineralized zone. Twenty tons of ore was milled daily for a short time before mining operations ceased. Total reported gold production was 23 ounces (Harding 1936).

- 1936: Most of the mill equipment was transported to Hudson, Ontario. 1829 m of diamond drilling was completed on the property.
- 1940: McIntyre-Porcupine Mines Ltd. diamond drilled 7 holes totalling 971 m.
- 1975: Soil sampling, geological mapping and geophysical surveys were completed on the property by McIntyre Mines Ltd.
- 1983: Two holes totalling 458 m were diamond drilled north of the shaft area by Carmac Resources Ltd. and Tenajon Silver Corp.
- 1984: 16 holes totalling 1995 m were drilled by Carmac/Tenajon joint venture east of the shaft area.

ECONOMIC FEATURES

A 600 m long east-trending mineralized shear zones crosses the property. The zone dips steeply northwards and carries quartz, tourmaline, arsenopyrite, pyrite and gold (Furse 1934). Diamond drilling in 1931 intersected a mineralized zone that assayed 0.13 ounce Au per ton over 3.96 m.

Harding (1936) reported the mine produced 23 ounces of gold worth \$825.

Drilling by Carmac/Tenajon joint venture in 1983 intersected a mineralized zone that assayed 0.288 ounce Au per ton over a width of 1.52 m. The same intersection was mineralized with 10% pyrite and arsenopyrite. Additional diamond drilling completed the following year intersected 3.6 m of mineralization grading 0.506 ounce Au per ton when cut to 1 ounce or 0.345 ounce Au per ton over a width of 5.88 m.

Although encouraging gold values were encountered in the 1983-1984 drilling program, no follow-up work was reported.

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- Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.
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- Carmac Resources Ltd., Tenajon Silver Corp., assessment files, Resident Geologist's office, Red Lake.
- Furse, G.D. 1934, O.D.M. Annual Report 1933, v. 42, pt. 6, p. 40-41.
- Harding, W.D. 1936, O.D.M. Annual Report 1936, v. 45, pt. 4, p. 40-41.
- McIntyre-Porcupine Mines Ltd., historical files, Resident Geologist's office, Red Lake.
- Sinclair, D.G., Keeley, E.C., Cooper, D.F., Weir, E.B. and Webster, A.R. 1936, O.D.M. Annual Report 1935, v. 44, pt. 1, p. 86, Mines of Ontario in 1934.
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CA-32/ MINK LAKE EAST OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Mink Lake East occurrence is located on the northeast shoreline of Mink Lake.

DESCRIPTION

Regional Structures: A major northwest trending structure, along which a number of gold occurrences have been identified, passes within 1 km north of the Mink Lake East occurrence. Bedding and foliation trajectories imply the presence of a regional fold structure in the area.

Geology: The east side of Mink Lake is underlain by intermediate pyroclastic rocks including tuffs, lapilli tuffs and breccias (Beakhouse 1990, Thurston et al. 1981). The metavolcanic rocks form part of the Cycle II metavolcanic sequence described by Thurston (1986). At the site of the Mink Lake East occurrence, chemical metasediments of chert-magnetite ironstone are associated with thin interbeds of chloritic schist. The ironstone is enclosed by mafic flows and trends 110/60°S. Subvertical mineral lineations plunge westward. The Mink Lake stock of granodiorite composition outcrops 2 km to the west of the occurrence.

Mineralization: Several shoreline trenches have explored the ironstone unit over a distance of 10 m. Tetrahedrons of magnetite up to 4 mm occur in the mafic flows. A 12 cm wide band of chlorite-chert-magnetite ironstone carries up to 2% pyrite. A 5 cm wide quartz vein on the north side of the ironstone exhibits S-type folding.

OWNERSHIP AND DEVELOPMENT

1961: R. Granstrom staked the occurrence.

1965: R. Sellers and R. Fontaine staked the occurrence and transferred claim ownership to World Mining Consultants Ltd. No work was reported.

1969: D. Watson staked claims over the occurrence and transferred ownership to Selco Exploration co. Ltd. No work was reported by Selco.

1985: R. Hodgson staked claims covering the occurrence.

1986: Gold Fields Canadian Mining Ltd. flew airborne surveys over the occurrence.

1987: Esso Resources Canada Ltd. completed a magnetic survey, stripping, geological mapping and sampling on the property.

1989: R. Leboeuf staked the occurrence and transferred claim ownership to Homestake Mining (Canada) Ltd. Homestake transferred the property to R. Hodgson.

1991: Gold Fields Canadian Mining Ltd. flew airborne geophysical surveys over the area.

ECONOMIC FEATURES

Sampling of the occurrence by Esso Resources Canada Ltd. returned values including 0.34 g/t Au and 5.49 g/t Au from pyritic ironstone.

A grab sample of pyritic ironstone collected by B.T. Atkinson from the shoreline trench on Mink Lake analyzed 2900 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). Although no records exist to indicate the occurrence was drilled, pieces of diamond drill core were found on site.

Geophysical surveys in the area indicate the ironstone has a strike length of at least 3 km.

SELECTED REFERENCES

Beakhouse, G.P. 1990, O.G.S. O.F.M. 140.

Esso Resources Canada Ltd., assessment files, Resident Geologist's office, Red Lake.

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map 2387.

CA-33/ MINK LAKE MOLYBDENITE PROSPECT - CASUMMIT LAKE AREA

NTS 52N/8/NW

LOCATION

The Mink Lake Molybdenite prospect is located 1 km south of Mink Lake on the 10th base line between mileposts 20 and 21.

DESCRIPTION

Regional Structures: The Mink Lake stock intrudes the northwest part of the Birch-Confederated lakes greenstone belt at the apex of northwest and northeast trending stratigraphy. The contact of the greenstone belt with the Mainprize Lake granitoid complex (Beakhouse 1989) lies about 5 km to the west.

Geology: The Mink Lake Molybdenite prospect is entirely underlain by granodiorite of the Mink Lake stock. The granodiorite is medium grained, pink, with equigranular to porphyritic texture. Quartz and aplite veins in the granodiorite are accompanied by carbonatization and sericitization of the wallrock. Durocher (1981) reported the Mink Lake stock has undergone potassic, phyllic and propylitic hydrothermal alteration.

Mineralization: Molybdenite mineralization occurs as coatings on fracture faces, in and along quartz vein contacts and disseminated in the granodiorite. The quartz veins are generally less than 2 cm in width and have limited strike lengths. A series of trenches on former claim KRL 62305 constitute the main showing.

Pyrite, minor chalcopyrite and scheelite occur with the quartz veins in altered granodiorite. Several lenses of carbonatized granodiorite with values up to 5% MoS₂ are reported.

OWNERSHIP AND DEVELOPMENT

1965: E.J. Thompson staked the ground but reported no work.

1968: E.J. Thompson re-staked the ground and transferred the claims to Can-Fer Mines Ltd. the following year.

1969: Can-Fer Mines Ltd. did geological and geophysical surveys as well as trenching on the property. The claims were transferred to Bralorne Can-Fer Resources Ltd.

1978: S. Kostynuk staked the property and transferred the claims to Noranda Exploration Company Ltd. in 1980.

1981: Noranda Exploration Company Ltd. did geological and geophysical surveys and drilled 5 holes totalling 458 m. The following year the claims were transferred to A. Kostynuk.

ECONOMIC FEATURES

Sulphide mineralization outcrops over an area measuring 670 m by 213 m. Molybdenite mineralization is erratic, low grade and uneconomic.

Gold values ranging from 0.04 to 0.15 ounce Au per ton have been reported.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Bralorne Can-Fer Resources Ltd., assessment files, Resident Geologist's office, Red Lake.

Burrows, D.R. 1984, unpublished M.Sc. thesis, University of Toronto, Toronto, Ontario.

Burrows, D.R. and Spooner, E.T.C. 1987, Generation of a Magmatic H_2O-CO_2 fluid enriched in Mo, Au and W within an Archean Sodic Granodiorite Stock, Mink Lake, Northwestern Ontario *in* Economic Geology, Vol. 82, 1987 pp. 1931 to 1957.

Durocher, M.E. 1981, O.G.S. M.P. 95, p. 27.

Noranda Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.

CA-34/ MORAN OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Moran occurrence is located on the south side of Richardson Lake and north of Casummit Lake. The original property consisted of 19 claims KRL 9746 to 9751, 9830 to 9838 and 11005 to 11008. Of these claims only KR 9746 to 9748 and 9830 and 9831 remain as patented claims. Claim KRL 9751 is now restaked and held as leased claim KRL 37574. The remaining ground was open at the time of writing.

DESCRIPTION

Regional Structures: The property lies within the strain aureole of the Keigat Lake granitoid complex.

Geology: The Moran Syndicate is underlain by pillowed to massive mafic metavolcanic flows which have undergone carbonate, epidote and albitic alteration. Pillows are flattened in a 100° orientation and show 10:1 aspect ratios. Geochemically the mafic flows have high iron tholeiitic affinity. The rocks are part of the Cycle II metavolcanic sequence described by Thurston (1986). On the north side of a small pond on claim KRL 9748, a thin band of fine grained black argillite outcrops with minor brecciated magnetite-hematite-chert ironstone. Between Richardson Lake and the pond on claim KRL 9748, a recent forest fire provides good exposures of mafic flows with thin wispy discontinuous units of thinly bedded chert-magnetite ironstone.

Mineralization: A group of trenches centrally located on claim KRL 9746 expose altered mafic metavolcanic flows with a strong foliation trending 120/75°SW. Two small quartz veins in the northern-most trench are oriented northwards. The wallrock enclosing the veins is strongly altered to calcite and iron carbonate. Arsenopyrite mineralization occurs in both the veins and wallrock. Two generations of quartz are evident, a black variety crosscuts earlier white quartz in the vein. Both generations of quartz carry arsenopyrite. Additional trenches to the south further expose the vein where it attains a maximum width of 20 cm and trends 155/55°W. Foliation of the host rock trends 095°. Wallrocks are altered to iron carbonate adjacent to the vein and contain arsenopyrite mineralization. Numerous small quartz stringers occur in the footwall to the main vein.

A second trenched area lies to the east of the trail to Casummit Lake in the northwest corner of claims KRL 9747. Trenching here exposes a strong quartz vein trending 052/75°N with a maximum width of 0.3 m. The north side of the vein shows silicification of the hanging wall and brecciation of the country rock for 0.6 m beyond the vein. Mineralization consists of arsenopyrite disseminated along small vein-parallel fractures in the quartz. Well developed mineral lineations plunge steeply southwest. Host rocks to the vein consist of intermediate tuffs.

Just north of the pond on claim KRL 9748, a third group of trenches have been excavated. These trenches define a westerly trend and are spaced between 10 m and 25 m apart. The trenches are designated numbers 1 to 7 from west to east. Trenches No. 6 and No. 7 trenches expose hornblende bearing mafic metavolcanic rocks with a well developed 070° foliation. Several small quartz veins crosscut the foliation. The No. 5 trench exposes fine grained black argillaceous metasediments with horizontal mineral lineations and disseminated arsenopyrite. The No. 4

trench measures 3 m x 10 m deep and hosts the main showing. A flat lying white quartz lens 3 m long by 1 m thick is enclosed by argillite. Both the quartz and wall rock carry arsenopyrite and rare chalcopyrite, the wallrock is silicified adjacent to the quartz lens. The No. 3 trench exposes argillite at the north end and mafic metavolcanic rocks at the south end of the trench. Small quartz veins in the metavolcanic rocks carry minor chalcopyrite. The No. 1 and No. 2 trenches expose brecciated ironstone with hematite, pyrite and iron carbonate alteration. Structural deformation has destroyed bedding in the ironstone. Small north trending quartz veins, 3 to 5 cm wide, crosscut the ironstone and thin stringers of pyrite occur in the south end of the No. 1 trench.

ECONOMIC FEATURES

Horwood (1938) reported assays up to 0.12 ounce Au per ton from trenches on claim KRL 9748. On claim KRL 9746, samples from veins assayed from less than 0.1 to over 1 ounce Au per ton.

Samples collected by B.T. Atkinson from trenches on the property assayed as follows (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Claim KRL 9746

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
87-BTA-115	mafic flow	9
-116	quartz vein with arsenopyrite	9
-117	altered mafic flow with arsenopyrite	7
-119	quartz vein	20
-120	mafic flow with arsenopyrite	215
-121	quartz vein with arsenopyrite	80

Claim KRL 9747

87-BTA-138	quartz vein with arsenopyrite	1120

Claim KRL 9748

87-BTA-122	argillite with arsenopyrite	615
-123	silicified wallrock-vein contact	300
-124	altered wallrock with sulphides	625
-125	quartz vein with pyrite, arsenopyrite	165
-126	altered wallrock	1080
-127	argillite with sulphides	1520
-128	brecciated ironstone	1530
-129	brecciated ironstone	255

SELECTED REFERENCES

Horwood, H.C. 1938, O.D.M. Annual Report, 1937, v. 46, pt. 7, p. 28, 29.
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Moran Syndicate, assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-35/ RODMAN ISLAND OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Rodman Island occurrence is located on Rodman Island (local name) in the north part of Birch lake. The island is 1 km northwest of the west end of Johnson Island.

DESCRIPTION

Regional Structures: The northeast trending Swain Lake deformation zone terminates west of Rodman Island. In the vicinity of the island, stratigraphy is disrupted as a result of several episodes of deformation (Beakhouse 1989). A northwest trending anticlinal fold axis is inferred to pass through the area on the basis of stratigraphic facing directions observed in the area by Thurston et al. (1981).

Geology: Rodman Island is underlain by intermediate metavolcanic rocks including tuffs, feldspar crystal tuffs and lapilli tuffs (Good 1988). A thin unit of wacke metasediments outcrops on the east end of the island, and mafic metavolcanic flows outcrops along the northwest side. Feldspar porphyry intrusive rocks were encountered in diamond drilling. Bedding and foliations trend northwesterly across the island and dip moderately to steeply northwards. Intermediate to felsic tuffs were encountered in diamond drill holes to the east of Rodman Island. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

Mineralization: Pyrite mineralization is reported in diamond drill logs by Gold Fields Canadian Mining Ltd. Pyrite seldom exceeds 3% of the rocks and is usually accompanied by alteration of the host rocks. Alteration includes silicification, sericitization, carbonatization, chloritization and hematization and varies with lithology. Fault gouge is noted in diamond drill core. A diamond drill hole on the mainland north of Rodman Island encountered 1% arsenopyrite mineralization in an altered mafic metavolcanic flow.

Diamond drilling by Dome Exploration (Canada) Ltd. east of the island encountered pyrite mineralization in felsic tuffs.

OWNERSHIP AND DEVELOPMENT

1946: E. Bachman staked 8 claims covering the island and surrounding area and transferred these to F. Rodman. Forty days of work were reported against the claims but records of that work are not available.

1959: H.C. Hanson staked claims covering the island and transferred title to Alcon Exploration and Mining Syndicate.

1964: H.C. Hanson restaked claims covering the west part of the island.

1968: H.C. Hanson staked 4 claims covering the south part of the island.

1972: K. Koezur staked the north side of the island and transferred ownership to R. Frahm the following year. No work was reported.

- 1984: N. Wychopen staked claims covering the north part of the island and transferred these to Tenajon Silver Corp. I.T. Collin staked claims covering the west part of the island and transferred these to Dome Exploration (Canada) Ltd. C. Veinotte staked claims covering the south part of the island.
- 1987: Dome Exploration (Canada) Ltd. diamond drilled 2 holes to a combined depth of 294 m east of Rodman Island. Claims titles were transferred to Placer Dome Inc.
- 1988: Placer Dome Inc. did additional diamond drilling as a series of holes east of Rodman Island. Gold Fields Canadian Mining Ltd. diamond drilled 2 holes on the island and others in the vicinity.
- 1985: C. Veinotte transferred claim title to Wm. L. Johnson who subsequently transferred title to Gold Fields Canadian Mining Ltd. Gold Fields completed airborne geophysical surveys over the area.
- 1989: Gold Fields Canadian Mining Ltd. transferred claims to Wm.L. Johnson.

ECONOMIC FEATURES

Diamond drilling by Gold Fields included an intersection in intermediate crystal tuff that assayed 0.14 ounce Au per ton over 5 feet and 0.11 ounce Au per ton over 10 feet.

Anamolous gold values from the east part of the island are associated with alteration and sulphide mineralization.

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.
- Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Good, D.J. 1988, O.G.S. O.F.R. 5685.
- Placer Dome Inc., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Thurston, P.C., Jackson, M.C. and Pirie, I. 1981, O.G.S. Map P. 2387.

CA-36/ SPRINGPOLE LAKE PROSPECT - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Springpole Lake prospect is located on the portage between Springpole and Birch Lake. The property includes a group of 30 patented claims numbered KRL 11229 to 11231, 11233 to 11236, 12867 to 12874, 12896 to 12909 and 13043.

DESCRIPTION

Regional Structures: Burwash (1920) noted ... "passing over the portage from the north arm of Springpole Lake to Birch Lake we descend the northern limb of the anticline". Harding (1936) indicated this anticlinal structure with its axis underlying the north arm of Springpole Lake, is one of the most obvious structures in the area.

Good (1988) indicated the Springpole Lake prospect is located on the northwest limb of an overturned synformal anticline. At least 2 episodes of deformation are recognized in the area. North trending folds developed in response to east-west compression followed by a conjugate set of shear fractures developed during a later deformational event (Good 1988). One set of shear fractures trends 270° to 290° and dips 70° to 80°N with sinistral shear sense. The other set of fractures trend 305° to 325° and dip steeply northward with dextral shear sense.

Geology: The Springpole lake property is underlain by mafic metavolcanic flows along the northwest side of Springpole Lake that are intruded by a large mass of diorite. To the east the diorite is in contact with a alkalic assemblage of rocks referred to as the Springpole Lake alkalic complex (Barron et al. 1989). Lithologies of the Springpole Lake alkalic complex includes both intrusive and extrusive phases of feldspar porphyry with tuffs, vent proximal pyroclastic breccias and a fluorite bearing carbonatite.

To the north of the alkalic rocks, a thick sequence of polymictic conglomerate and wacke metasediments outcrop along the shoreline of Birch Lake. Syenite porphyry and lamprophyre dikes are noted on the property. The metavolcanic rocks form part of an allochthonous sequence of rocks (Thurston 1986).

Mineralization: Gold mineralization occurs in a number of zones on the property. The original trenching and diamond drilling explored the Main Zone on KRL 11229 where gold occurs with disseminated pyrite in fine- to medium-grained intermediate tuffaceous rocks composed of sericitized feldspar, carbonate, quartz and minor biotite.

The Vein Zone is located south of the Main Zone on claim KRL 11229. Quartz carbonate veins hosted by diorite carry gold mineralization, both as native gold and associated with pyrite in the veins and adjacent wallrock. Chalcopyrite, galena, molybdenite, tetrahedrite and argentiferous tellurides have been identified in the Vein Zone by Gold Fields Canadian Mining Ltd. (Atkinson and Smith 1990).

The Portage Zone hosts most of the gold mineralization outlined on the property, and most of this zone lies under the north arm of Springpole Lake. Gold mineralization occurs mainly with pyrite in intermediate to mafic pyroclastic rocks in the west part of the Portage Zone. The east part of

the Portage Zone is hosted by feldspar porphyry pyroclastic rocks of the Springpole alkalic complex (Barron et al. 1989). The Portage Zone is part of a major west-northwest trending structure along which a number of separate zones of gold mineralization have been delineated. In the Portage Zone higher gold tenor occurs with thin units of sulphidized jasperoidal chert.

The Fluorite Zone on claim KRL 11231 is a sovitic, fluorite-bearing carbonatite body (Barron et al. 1989). The Fluorite Zone has been encountered in diamond drilling over a strike length of 1.5 km. Fluorite occurs as fine-grained purple crystals intergrown with calcite and as cross-cutting coarse grained veinlets associated with ankerite in the carbonatite body. Fluorite mineralization also occurs with strongly sericitized and sheared feldspar porphyry.

OWNERSHIP AND DEVELOPMENT

- 1928: Eight claims covering north shore of the north bay of Springpole Lake were known as the Dunkin holdings. Northern Aerial Minerals Exploration Company Limited did prospecting on the property.
- 1934: T. Dunkin staked the property and did stripping and trenching.
- 1935: Additional claim staking increased the size of the property, Windigokan Sturgeon Mining Syndicate acquired the property.
- 1936: Windigokan Sturgeon Mining Syndicate diamond drilled 10 holes totalling 438 m on claim KRL 11229 on the Main Zone. A geological report was completed.
- 1937: Springpole Gold Mines Ltd. acquired the claim group. Prospecting and trenching exposed the East Zone on claim KRL 11231.
- 1945: Springpole Mines Ltd. was formed and took over the property.
- 1968: Springpole Mines Ltd. amalgamated with 5 other companies to form Milestone Explorations Ltd. Milestone took over the property.
- 1985: By 1985, the original claims were held by various interests. Gold Fields Canadian Mining Ltd. reassembled the original group of claims and completed airborne geophysical surveys as well as geological, geochemical and ground geophysical surveys. Over the next 4 years the company completed extensive surface exploration including approximately 40 000 m of diamond drilling and considerable surface stripping.
- 1989: Gold Fields Canadian Mining Ltd. entered a joint venture agreement with Noranda Exploration Company Ltd. and Akiko Lori Resources Ltd. to continue exploration of the Springpole Lake prospect.
- 1990: Noranda completed additional geological, geochemical and geophysical surveys and diamond drilled 22 holes totalling 5993 m.
- 1992: Akiko Lori Resources Ltd. commenced a diamond drill program on the property.

ECONOMIC FEATURES

Geological reserves in the Portage Zone are 7.9 million tons at a grade of 0.07 ounce gold per ton (*The Northern Miner*, April 2, 1990). A mineral inventory of 27 million tons grading 0.035 ounce Au per ton, including 4 million tons grading 0.091 ounce Au per ton and 405 000 tons with a grade of 0.14 ounce Au per ton has been delineated (*George Cross News Letter - Akiko Lori Resources Ltd.* Dec. 27, 1991).

Fluorite mineralization has been examined for its industrial mineral potential. Fluorite mineralization has been identified over a strike length of 488 m with widths up to 10 m. The fluorite content is reportedly 15% (*The Northern Miner*, Aug. 27, 1990).

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- Atkinson, B.T., Parker, J.R. and Storey, C.C. 1990, O.G.S. M.P. 147, p. 48, 57-59.
- Barron, K.M., Duke, N.A. and Hodder, R.W. 1989. Petrology of the Springpole Lake alkalic volcanic complex; in Geoscience Research Grant Program, Summary of Research 1988-1989, O.G.S. M.P. 143, p. 133-145.
- Burwash, E.M. 1921, O.D.M. Annual Report 1920, v. 29, pt. 1.
- George Cross News Letter, Dec. 27, 1991.
- Gerow, M.C. and Bellenger, J.A. 1990. O.G.S. M.P. 147, p. 171.
- Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.
- Good, D.J. 1988, O.G.S. O.F.R. 5685.
- Harding, W.D. 1936, O.D.M. Annual Report 1936, v. 45, pt. 4.
- Noranda Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.
- Springpole Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
- The Northern Miner (refer to text).
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Windogokan Sturgeon Mining Syndicate, assessment files, Resident Geologist's office, Red Lake.

CA-37/ SUDBURY CONTACT OCCURRENCE (NORTH SHORE GRID ZONE; PT ZONE) - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Sudbury Contact occurrence consists of 2 separate mineralized zones. The North Shore zone is located on the north shore of Birch Lake, about 700 m due north of Horseshoe Island. The PT zone is located under Birch Lake about 400 m north of Horseshoe Island. The North Shore zone is presently encompassed by claims KRL 623189, 701567, 701568 and 701569 and the PT zone is located on claim KRL 623191.

DESCRIPTION

Regional Structures: The occurrence is situated near the northeast-trending Swain Lake deformation zone and occurs on the north flank of an east-trending synclinal fold axis (Beakhouse et al. 1989; Beakhouse and McNeil 1989). Very strong, northeast shearing extends along the north shore of Birch Lake in the vicinity of the Swain Lake deformation zone.

Geology: Northeast-trending, intermediate and felsic pyroclastic rocks consisting of tuff, feldspar crystal tuff, lapilli tuff and rhyolite flows are intruded by a sill-like gabbroic phase of the Horseshoe Island stock. The gabbro is generally coarse- to very coarse-grained and is intruded by a series of round to oval plugs of biotite granodiorite (Beakhouse and McNeil 1989). The metavolcanic rocks are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986).

Mineralization: Gold mineralization at the PT zone occurs within variably textured gabbro containing 0.5% to 5% disseminated pyrite, pyrrhotite and chalcopyrite.

The North Shore zone, discovered by Sudbury Contact Mines Ltd., is located on the shore of Birch Lake on claim KRL 623189. Trenches have been sunk on gossan-stained pyroclastic rocks and coarse-grained sulphide-rich gabbro. Diamond drilling at this zone intersected gold mineralization in sulphide-rich gabbro, pyritic quartz veins and silicified, pyritic and chloritic intermediate pyroclastic rocks. The altered pyroclastic rocks have been interpreted by St. Joe Canada Inc. as altered granodiorite. Mapping by St. Joe has shown that the gold mineralization occurs near the contact between a small granodiorite plug and the gabbro.

A second mineralized zone has been recently discovered by Noranda Exploration Co. Ltd. about 300 m northwest of the North Shore zone on claims KRL 701567, 701568 and 701569. Gold mineralization is associated with another small granodiorite plug which intrudes gabbro and felsic metavolcanic rocks. Gold is reported to occur in the granodiorite and in metavolcanic rocks at the margins of the intrusion. The metavolcanic rocks are gossan-stained, silicified and contain up to 4% disseminated pyrite.

OWNERSHIP AND DEVELOPMENT

- 1937: The property was staked by E. McDougall in partnership with E. Bergstrand and O. Peterson. The property consisted of 8 contiguous mining claims, KRL 16615 to 16623, centered on Horseshoe Island. The property was sampled by Hudson Bay Mining and Smelting Co.
- 1954: McDougall's claims were allowed to lapse.
- 1957: The ground was restaked by L. Staunton but no work was recorded and the claims were allowed to lapse.
- 1969: Canex Aerial Exploration Ltd. conducted airborne magnetic, electromagnetic and gamma-ray spectrometer surveys over a large group of claims immediately north of Horseshoe Island.
- 1970: Sudbury Contact Mines Ltd. optioned the property from K. Koezur and conducted ground magnetic and electromagnetic geophysical surveys on the property and diamond drilled 6 holes totalling 3110 feet. The drill holes were targeted on electromagnetic conductors situated north of Horseshoe Island.
- 1974: Goldsearch Ltd. conducted ground magnetic and electromagnetic surveys over Horseshoe Island but south of the area investigated by Sudbury Contact Mines Ltd.
- 1981: Staked by Minorex Ltd. but the claims were allowed to lapse.
- 1982: Property was staked by St. Joe Canada Inc.
- 1984: St. Joe Canada Inc. established a grid over the North Shore zone.
- 1985: St. Joe conducted geological mapping, ground magnetic and electromagnetic geophysical surveys and diamond drilled 2 holes totalling 351.5 m at the PT zone.
- 1986: St. Joe flew airborne magnetic and electromagnetic surveys over the area.
- 1987: Bond Gold Canada Inc. diamond drilled 7 holes totalling 1370.44 m at the PT zone and 2 holes totalling 248.5 m at the North Shore zone.
- 1990: Noranda Exploration Co. Ltd. acquired the property from Bond Gold Canada Inc. and conducted geological mapping and soil and rock geochemical surveys.

ECONOMIC FEATURES

Diamond drilling at the PT zone conducted in 1985 by St. Joe Canada Inc. intersected 0.01 ounce Au per ton, 4710 ppm Ni, 7860 ppm Cu, 340 ppb Pt and 649 ppb Pd across 5 feet; and 0.01 ounce Au per ton, 3.4 ppm Ag, 5600 ppm Ni, 8120 ppm Cu, 142 ppm Co, 211 ppb Pt and 212 ppb Pd across 5 feet in the same hole. The mineralization consisted of abundant disseminated fine-grained gabbro. A second hole, drilled by St. Joe, intersected 0.013 ounce Au per ton across 125 m, with smaller sections assaying 0.04 ounce Au per ton across 5 feet. This mineralization is hosted by gabbro containing 0.5% to 5% disseminated pyrite, pyrrhotite and chalcopyrite.

Diamond drilling also intersected layers of massive magnetite and hematite, up to 2 m thick, in the gabbro. The layers also contain pyrite, pyrrhotite, carbonate, epidote and garnet. A sample taken across one of the layers analyzed 1283 ppm Cr, 150 ppm Co, 711 ppm Ni, 1347 ppm Cu and 787 ppm V across 3 m. Diamond drilling conducted at the PT zone by Bond Gold Canada Inc. in 1987 intersected 5.8 g/t Au, 4.4 g/t Pt, 3.4 g/t Pd, 9.4 g/t Ag, 0.8% Ni and 0.9% Cu across 1.5 m.

Diamond drilling at the North Shore zone, conducted by Sudbury Contact Mines Ltd., intersected 0.05 ounce Au per ton across 10 feet in silicified, pyritic intermediate metavolcanic rocks; 0.04 ounce Au per ton across 7.5 feet in pyritic quartz veins; 0.04 ounce Au per ton across 5 feet in sulphide-rich gabbro; 0.07 ounce Au per ton across 5 feet in sulphide-rich gabbro; 0.04 ounce Au per ton across 4 feet in pyritic quartz veins; 0.10 ounce Au per ton across 5 feet in chloritic, pyritic, felsic pyroclastic rocks; 0.05 ounce Au per ton across 2 feet and 0.07 ounce Au per ton across 5 feet also in altered felsic pyroclastics. The drilling by Sudbury Contact also intersected 0.105% Cu and 0.094% Ni across 37 feet, including a smaller section of 0.135% Cu and 0.135 % Ni across 24 feet, in sulphide-rich gabbro. A diamond drill hole completed by St. Joe at the North Shore zone on claim KRL 623189 intersected 0.01 ounce Au per ton across 1.25 m in silicified, pyritic gabbro.

A sample taken from a trench at the North Shore zone by B.T. Atkinson analyzed 190 ppb Au, 0.10 ounce Ag per ton, 4920 ppm Cu, 52 ppm As and 18 ppb Pt in coarse-grained gabbro containing pyrrhotite, pyrite and chalcopyrite (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Samples taken by Noranda Exploration Co. Ltd. at the mineralized zone situated 300 m northwest of the North Shore zone, on claims KRL 701567, 701568 and 701569, gave the following assays: 1.2 g/t Au, 2.57 g/t Au, 3.77 g/t Au, 8.8 g/t Au, 3.5 g/t Au, 5.7 g/t Au, 4.1 g/t Au, 0.12 ounce Au per ton and 0.167 ounce Au per ton. A grab sample taken from this zone by St. Joe Canada Inc. assayed 0.03 ounce Au per ton. A soil anomaly of up to 300 ppb Au was detected over this zone during a soil geochemical survey conducted by Noranda.

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700, p. 71, 75.
- Beakhouse, G.P. and McNeil, A.M. 1989, O.G.S. Map P. 3117.
- Bond Gold Canada Inc., assessment files, Resident Geologist's office, Red Lake.
- Canex Aerial Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
- Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
- St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C. 1985, O.G.S. G.R. 236.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

CA-38/ WILLIAMS OCCURRENCE - CASUMMIT LAKE AREA

NTS 52N/8 NW

LOCATION

The Williams occurrence is situated on the north end of the peninsula between Shabumeni River and the west side of Birch Lake, at Fox Narrows.

DESCRIPTION

Regional Structures: A major synclinal axis is indicated 2 km north of the Williams occurrence and the Swain Lake deformation zone lies 3 km to the southeast (Beakhouse and McNeil 1989).

Geology: The Williams occurrence is underlain by the Fox Bay metavolcanic sequence. Lithologies include pillowed to massive flows and associated gabbroic intrusive rocks. The mafic flows are commonly plagioclase phyric. Outcrops on the peninsula are numerous and well exposed. Foliations trend northeasterly with steep northwesterly dips and are most intensely developed in metavolcanic rocks adjacent to mafic intrusive contacts. Mafic intrusive rocks consist of blocky to jointed coarse grained gabbro, diorite and quartz diorite. Characteristic mineral assemblages include hornblende and plagioclase phenocrysts set in a matrix of green amphibole. Quartz grains are visible in some outcrops.

Mineralization: Pyrite was the only sulphide observed on the property. Both the mafic metavolcanic and intrusive rocks are crosscut by quartz veins that trend 040° to 116°. The largest quartz vein is hosted by mafic flows that have been chloritized and carbonatized. Minor iron carbonate, green mica and pyrite occurs with the quartz. The vein has a maximum width of 1.2 m and an exposed length of 12 m. The vein is nearly flat lying at the base of the outcrop on the shore of Birch Lake. Several small trenches have been blasted on the vein.

OWNERSHIP AND DEVELOPMENT

1969: C.E. Williams staked 14 claims and did trenching and manual labour.

1978: D. Demarchi staked 4 claims that partly included the north part of the original property. The claims were transferred to Geophysical Engineering Ltd. but no work was reported.

ECONOMIC FEATURES

Five samples were collected from the occurrence by B.T. Atkinson. Analyses are tabulated below (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

<u>Sample No.</u>	<u>Au (ppb)</u>	<u>Sample Description</u>
87-BTA-44A	5	pyrite bearing quartz vein
-50	3	gabbro with pyrite
-51	10	pyritic mafic metavolcanic rock
-52	10	main quartz vein with pyrite
-53	2	gabbro with pyrite

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Beakhouse, G.P. and McNeil, A.M. 1989, O.G.S. Map P. 3117.

Williams property, assessment files, Resident Geologist's office, Red Lake.

**CORLESS
TOWNSHIP
NTS 52N/2 NW**

CO-1/ McINTYRE OCCURRENCE - CORLESS TOWNSHIP

NTS 52N/2 NW

LOCATION

The McIntyre occurrence is situated near the east boundary of Corless Township. The occurrence is located 1000 feet southeast of a large, round lake which is situated 600 m west of the Corless-Dent common township boundary and 1.6 km north-northwest of Surprise Lake.

DESCRIPTION

Regional Structures: The McIntyre occurrence is situated within the contact strain aureole of the Trout Lake batholith (Fyon and Lane 1986).

Geology: North-trending intermediate pyroclastic rocks intercalated with mafic metavolcanic flows are intruded by east-northeast-trending gabbro dikes. The metavolcanic rocks are part of the Cycle I sequence (Thurston 1985). The contact between metavolcanic rocks and granitic rocks of the Trout Lake batholith is situated approximately 4 km west of the prospect.

Diamond drilling conducted by McIntyre Mines Ltd. and Dome Exploration (Canada) Ltd. intersected intermediate to felsic flows and pyroclastic rocks intercalated with argillaceous and siliceous metasediments and iron formation. Numerous intervals of quartz and quartz-feldspar porphyry were also intersected in drill holes.

Drilling intersected numerous intervals of quartz-carbonate veining accompanied by strong carbonate alteration, silicification, chloritization and epidotization.

Mineralization: Variable amounts of fine-grained pyrite are disseminated within the quartz-carbonate veins and amongst altered host rocks. Minor amounts of black tourmaline also occur with the quartz-carbonate veins.

Narrow intervals of massive and semi-massive sulphides comprised of pyrite and pyrrhotite occur amongst the metasediments and iron formation.

OWNERSHIP AND DEVELOPMENT

1969-1970: Twenty claims were staked in the area by A. Chartrand in February, 1970 which included partial restaking of earlier claims. However, no records are available documenting the history of the earlier staking. Canex Aerial Exploration Ltd. acquired the group of claims but did not record any work. The claims lapsed in 1971.

1975: G. Koleszar staked 4 claims and transferred these to McIntyre Mines Ltd.

1975-1976: McIntyre Mines Ltd. conducted geological mapping and ground magnetic and electromagnetic surveys during a base metal exploration program.

1978: McIntyre Mines Ltd., in joint venture with Utah Mines Ltd., diamond drilled one hole to a depth of 327 feet on mining claim KRL 423491; the hole was targeted on a north-trending electromagnetic conductor coincident with a magnetic high.

- 1984: Dome Exploration (Canada) Ltd. acquired the ground and conducted a ground magnetic survey.
- 1985: Dome Exploration (Canada) Ltd. conducted ground magnetic and horizontal loop electromagnetic surveys in the vicinity of the occurrence; Dome also diamond drilled 5 holes totalling 780.9 m on mining claims KRL 775407, 775408, 775410, 775435 and 775492.

ECONOMIC FEATURES

McIntyre Mines Ltd. reported a drill intersection of 0.05 ounce Au per ton across 2.5 feet in massive pyrite and pyrrhotite mineralization hosted by siliceous metasediments.

Dome Exploration (Canada) Ltd. intersected narrow intervals of anomalous gold mineralization in several diamond drill holes.

SELECTED REFERENCES

- Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
- Fyon, A.J. and Lane L. 1986, O.G.S. Map P.2989.
- McIntyre Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
- Pryslak, A.P. 1971, O.D.M. Map P.634.
- Thurston, P.C. 1985, O.G.S. G.R. 236.

CO-2/ SURPRISE LAKE NORTH PROSPECT - CORLESS TOWNSHIP

NTS 52N/2 NW

LOCATION

The Surprise Lake North prospect consists of numerous trenches and test pits sunk on 2 separate gold showings located at the north end of Surprise Lake, immediately west of the eastern township boundary of Corless Township. The No.1 or A showing is situated on a large headland on the northeast shore of Surprise Lake. The B showing is situated 1000 feet west of the north end of Surprise Lake.

DESCRIPTION

Regional Structures: The Surprise Lake North prospect is located within the contact strain aureole of the Trout Lake batholith (Fyon and Lane 1986).

Geology: North-trending intermediate pyroclastic rocks intercalated with mafic metavolcanic flows are intruded by east-northeast-trending gabbro dikes. The metavolcanic rocks are part of the Cycle I sequence (Thurston 1985). The contact between metavolcanic rocks and granitic rocks of the Trout Lake batholith is situated approximately 4 km west of the prospect.

Mineralization: Gold-bearing quartz veins are situated within narrow, east- and north-trending shear and fracture zones dominantly hosted by magnetite-bearing, gabbroic to dioritic sills and dikes. Sheared wall rocks are variably iron carbonatized, chloritized, sericitized and talcose. A stockwork of numerous, narrow quartz veins in a west-northwest-trending shear zone (Fyon and O'Donnell 1986) are hosted by a carbonatized, dioritic sill or dike at the No. 1 or A showing. Quartz veins strike 015°, 080° and 340° with variable dips and range from less than 1 inch to 3 feet in width. Quartz veins contain disseminated pyrite, minor chalcopyrite and visible gold. Altered wall rocks adjacent to the quartz veins contain disseminated pyrite and minor tourmaline.

At the B showing, a quartz vein trending 050-085/80SE has been trenched and exposed for a strike length of 200 feet. The vein was traced inland from the west shore of Surprise Lake. The quartz vein is 1 to 3 feet wide and contains local concentrations of massive pyrite with minor galena, sphalerite and chalcopyrite. The quartz vein is hosted by a felsite dike; chloritized, tuffaceous metavolcanic rocks; and mafic metavolcanic flows.

OWNERSHIP AND DEVELOPMENT

1927: Claims were staked but allowed to lapse.

1934-1936: Surprise Lake Exploration Syndicate Ltd. held 24 mining claims in the vicinity of Surprise Lake; 2 mineralized zones were discovered west and northeast of the north end of Surprise Lake during a program of trenching, stripping and sampling; 3 diamond drill holes tested a quartz vein on mining claim KRL 12156 west of the north end of Surprise Lake.

1939: J. Hodgson diamond drilled 3 holes totalling 500 feet, north of Surprise Lake, on claim KRL 41981.

- 1946: Claims were restaked by J. Hodgson.
- 1969: C.C. Huston and Associates conducted airborne magnetic and electromagnetic surveys over the property.
- 1981: R. Knappett diamond drilled 12 holes totalling 1931 feet on mining claims KRL 526579, 526581 and 526582 at the north end of Surprise Lake.
- 1982: Aladin Minerals Ltd. acquired the property and conducted a self potential geophysical survey, geological mapping, sampling and diamond drilled 7 holes totalling 1500 feet; 2 of the 7 holes were drilled at the Surprise Lake North prospect on mining claims KRL 526581 and 526582.
- 1987: Dome Exploration (Canada) Ltd. acquired the property and conducted magnetic and electromagnetic surveys on the property.
- 1988: Placer Dome Inc. diamond drilled 17 holes totalling 7320.3 feet on mining claims KRL 870098 and 870113 at the north end of Surprise Lake.

ECONOMIC FEATURES

Three holes drilled at the B showing by the Surprise Lake Syndicate Ltd. intersected 0.08 ounce Au per ton across 5 feet and 0.05 ounce Au per ton across 4 feet in the first hole; 0.41 ounce Au per ton across 4 feet in the second hole; and 2.48 ounces Au per ton across 2.25 feet in the third hole.

The best drill intersection obtained at the B showing during a diamond drill program conducted by R. Knappett was 0.6 ounce Au per ton across 7 inches. Aladin Minerals Ltd. obtained a channel sample assay of 0.64 ounce Au per ton and 0.502 ounce Ag per ton across 6 inches from one of the trenches at the east end of the B showing.

Two channel samples taken by Aladin Minerals Ltd. from old trenches at the extreme west end of the B showing assayed 0.89 ounce Au per ton across 1.5 feet; and 0.48 ounce Au per ton and 0.38 ounce Ag per ton across 8 inches.

A chip sample taken across the quartz vein at the B showing by A.P. Pryslak assayed 0.07 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A drill hole, targeted on quartz veins at the A showing and diamond drilled by R. Knappett in 1981, intersected 0.055 ounce Au per ton across 5 feet. A hole drilled at the A showing by Aladin Minerals Ltd. intersected 0.035 ounce Au per ton across 20 feet, including a narrower intersection of 0.048 ounce Au per ton across 5 feet.

SELECTED REFERENCES

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- Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 272.
- Fyon, A.J. and Lane L. 1986 O.G.S. Map P.2989.
- Hodgson, J., assessment files, Resident Geologist's office, Red Lake.
- Placer Dome Inc., assessment files, Resident Geologist's office, Red Lake.

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Thurston, P.C. 1985, O.G.S. G.R. 236.

CO-3/ SURPRISE LAKE SOUTH PROSPECT - CORLESS TOWNSHIP

NTS 52N/2 NW

LOCATION

The Surprise Lake South occurrence consists of numerous trenches and test pits sunk on 5 separate gold showings at the south end of Surprise Lake in Corless Township. A showing is situated on the southeast shore of Surprise Lake at the common township line between Corless and Dent townships; a second showing occurs on the largest of 2 islands at the south end of Surprise Lake; and a third showing (originally known as the No.2 zone) is situated immediately west of the south end of Surprise Lake. Two other showings known as the No.2 East Vein and the No.2 Portage Vein are located about 500 m west of the south end of Surprise Lake in the vicinity of Corner Lake (local name).

DESCRIPTION

Regional Structures: Showings west of Surprise Lake are situated within the contact strain aureole of the Trout Lake batholith. The showing on the southeast shore of Surprise Lake is situated within the Shanty Bay structural domain which consists of northeast-trending high strain zones (Fyon and Lane 1986).

Geology: North-trending mafic metavolcanic flows intercalated with intermediate pyroclastic rocks are intruded by east-northeast-trending gabbroic to dioritic dikes. The metavolcanic rocks are part of the Cycle I and II sequences (Thurston 1985). The occurrence is approximately 5 km east of the contact between metavolcanic rocks and granitic rocks of the Trout Lake batholith.

Gold-bearing quartz veins are hosted by shear and fracture zones in magnetite-bearing dioritic to gabbroic sills or dikes and by fine-grained, intermediate tuffaceous rocks. Alteration is closely associated with quartz veining and generally consists of intense, pervasive, iron carbonatization accompanied by iron carbonate veining. Alteration and sulphide mineralization is most intense at vein/wall rock contacts.

Mineralization: Narrow quartz veins trend between 020° and 086° and commonly dip 50° to the southeast along the north contact of a magnetite-bearing dioritic sill at the showing on the southeast shore of Surprise Lake. Quartz veins are shear and fracture hosted. Disseminated pyrite occurs in quartz veins and wall rocks adjacent to the veins.

The showing on the island, at the south end of Surprise Lake, consists of 3 inch wide, pyritic quartz veins hosted by pyritic, dioritic to gabbroic host rocks. The quartz veins trend 073/69SE.

The showing (No.2 zone) situated immediately west of the south end of Surprise Lake consists of irregular, pyritic quartz stringers hosted by a fine-grained intermediate tuff.

The No.2 East Vein and No.2 Portage Vein showings, which are part of the No.2 zone, consist of narrow quartz veins hosted by dioritic to gabbroic rocks.

OWNERSHIP AND DEVELOPMENT

1927: Claims were staked but allowed to lapse.

1934-1936: Surprise Lake Exploration Syndicate Ltd. held 24 mining claims in the vicinity of Surprise Lake; stripping, trenching and diamond drilling were conducted; gold-bearing quartz veins at the No.2 zone were discovered southwest of Surprise Lake on claims KRL 27833 and 27834.

1948: J. Hodgson diamond drilled 7 holes on claim KRL 23317 at the south end of Surprise Lake.

1969: C.C. Huston and Associates conducted airborne magnetic and electromagnetic surveys over the property.

1982: Aladin Minerals Ltd. acquired the property and conducted a self potential geophysical survey, geological mapping, sampling and diamond drilled 7 holes totalling 1500 feet; 5 of the 7 holes were drilled on the original No.2 zone showing on mining claims KRL 575556, 575558, 575559 and 576578.

1987: Dome Exploration (Canada) Ltd. conducted ground magnetic and electromagnetic surveys on the property.

1988: Placer Dome Inc. diamond drilled 1 hole to a depth of 439 feet on mining claim KRL 870100 at the showing on the southeast end of Surprise Lake.

ECONOMIC FEATURES

Grab samples taken by Aladin Minerals Ltd. from trenches at the gold showing on the southeast shore of Surprise Lake assayed 0.08, 0.16 and 0.22 ounce Au per ton. A chip sample taken by A.P. Pryslak (1971) from the showing on the southeast shore assayed 0.09 ounce Au per ton. Five grab samples taken by B.T. Atkinson from trenches at the same showing analyzed 130 ppb Au, 170 ppb Au, 210 ppb Au, 6680 ppb Au and 0.86 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A grab sample taken by Aladin Minerals Ltd. from a trench on the island at the south end of Surprise Lake assayed 0.08 ounce Au per ton.

A grab sample taken by Aladin Minerals Ltd. from a trench at the No.2 zone, west of the south end of Surprise Lake, assayed 0.10 ounce Au per ton.

A channel sample taken by Aladin Minerals Ltd. from the No.2 East Vein assayed 0.138 ounce Au per ton across 3 inches. A hole, diamond drilled by Aladin Minerals Ltd., on the No.2 East Vein intersected 0.103 ounce Au per ton across 2 feet.

A channel sample taken by Aladin Minerals Ltd. from the No.2 Portage Vein assayed 0.05 ounce Au per ton across 6 inches.

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Placer Dome Inc., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1971, O.D.M. Map P.634.
Surprise Lake Syndicate Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.

CO-4/ TIMS LAKE OCCURRENCE - CORLESS TOWNSHIP

NTS 52N/2 NW

LOCATION

The Tims Lake occurrence consists of several large trenches and test pits located on the north shore of Tims Lake in Corless Township. Several trenches are also situated about 400 m north of Tims Creek where it enters Tims Lake.

DESCRIPTION

Regional Structures: The Tims Lake occurrence is situated within the contact strain aureole of the Trout Lake batholith (Fyon and Lane 1986).

Geology: North-trending, massive, mafic metavolcanic flows are intercalated with fine-grained clastic metasediments and are intruded by east-northeast-trending gabbro and granitic dikes. The metavolcanic rocks are part of the Cycle I sequence (Thurston 1985). The contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith is situated less than 300 m west of the Tims Lake occurrence. Metavolcanic rocks adjacent to the batholith are amphibolitized.

Mineralization: Discontinuous quartz vein lenses up to 5 feet wide occur within east- and east-northeast-trending shear zones ranging up to 20 feet in width. Some of the shear zones have been traced along strike for approximately 2000 feet. Host rocks are sheared and silicified mafic metavolcanic rocks (Bruce 1929; Harding 1936).

Quartz veins host variable amounts of disseminated chalcopyrite, pyrrhotite, sphalerite, galena and molybdenite. These sulphides are also present in sheared wall rocks adjacent to the veins (Bruce 1929; Harding 1936).

OWNERSHIP AND DEVELOPMENT

1926: Claims were staked in the vicinity of Tims Lake by the Henry Brothers; trenching and stripping was conducted.

1935: Corless Patricia Gold Mines Ltd. was incorporated, and acquired the Tims Lake property which consisted of 26 patented mining claims; the company conducted stripping, trenching and completed 26 diamond drill holes; 5 mineralized quartz veins were discovered; the best gold assays were obtained from the No.5 vein, on patented mining claims KRL 5522 and 5526, along the north shore of Tims Lake.

1983: Dome Exploration (Canada) Ltd. conducted ground magnetic and electromagnetic surveys over the property.

1988: Noranda Exploration Co. Ltd. diamond drilled several holes under the trenches on the property. No gold values were encountered (I. Perry, Noranda Exploration Co. Ltd., personal communication, 1989).

1990: Inco Gold Inc. conducted sampling and geological mapping on the property with negative results (A. Aubut, Inco Gold Inc., personal communication, 1991).

ECONOMIC FEATURES

Channel samples taken by Corless Patricia Gold Mines Ltd., from the No.5 vein on claims KRL 5522 and 5526, returned assays such as 0.19 ounce Au per ton across 3.2 feet, 2.67 ounces Au per ton across 4.6 feet and 1.24 ounces Au per ton across 5.7 feet. The gold assays reported by Corless Patricia Gold Mines Ltd. have never been confirmed or repeated by any other company that has explored the occurrence.

A grab sample taken by Harding (1936) from a "well mineralized" quartz vein on the property assayed nil gold.

SELECTED REFERENCES

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Corless Patricia Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Dome Exploration Canada Ltd., assessment files, Resident Geologist's office, Red Lake.
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Pryslak, A.P. 1971, O.D.M. Map P.634.
Sherritt Gordon Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
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CURIE LAKE AREA

NTS 52K/16 NE

CU-1/ CURIE LAKE OCCURRENCES - CURIE LAKE AREA

NTS 52K/16 NE

LOCATION

The Curie Lake occurrences consist of 4 separate mineralized zones situated between Curie and Papaonga lakes in the Curie Lake area. The mineralized zones were discovered on the PL-2 grid established by Getty Mines Ltd.

DESCRIPTION

Regional Structures: The Curie Lake occurrences are situated north of the Lake St. Joseph-Sydney Lake Fault zone (Williams 1988).

Geology: East-southeast-trending mafic to intermediate tuffs and flows are intercalated with minor amounts of greywacke, siltstone, tuffaceous metasediments and chert-magnetite iron formation. The metasediments and metavolcanics have been interpreted to be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989). The supracrustal rocks are intruded by mafic to felsic stocks and sills.

Mineralization: Sulphide mineralization occurs within intensely sheared and deformed intermediate tuffs and metasediments and consists of disseminated pyrite, pyrrhotite, arsenopyrite and chalcopyrite. Pyrite, arsenopyrite and pyrrhotite are commonly concentrated in narrow layers and laminations.

Arsenopyrite is also associated with quartz-tourmaline veins and stringers. Chert-magnetite iron formation is interbedded with chloritic, garnetiferous argillite and is associated with thick lenses and laminations of pyrite and arsenopyrite in metasediments.

The Northeast showing consists of disseminated pyrite, pyrrhotite, arsenopyrite and graphite in variably silicified, sericitized and chloritized, mafic to intermediate tuffs.

The Cliff showing consists of intensely sericitized, moderately silicified metasediments and tuffs containing disseminated and massive pyrite (up to 15%) with associated arsenopyrite. Sulphide mineralization also occurs within magnetite iron formation and siliceous metasediments and tuffs which host up to 50% pyrite and 2% arsenopyrite.

The Graphite showing consists of variably silicified and sericitized metasediments hosting graphite, pyrrhotite and up to 70% massive pyrite.

The North showing consists of disseminated pyrite and arsenopyrite in sheared sericitized and carbonatized intermediate tuffs and magnetite iron formation.

OWNERSHIP AND DEVELOPMENT

1983: Getty Canadian Metals Ltd. conducted airborne magnetic and electromagnetic surveys over an extensive area as well as lake bottom sampling, reconnaissance prospecting, sampling and trenching. The company staked 233 contiguous mining claims.

- 1984: Getty established 2 grids (PL-1 and PL-2) and conducted horizontal loop electromagnetic and magnetic surveys, geological mapping, prospecting, lithogeochemical and humus sampling, trenching and diamond drilled 7 holes totalling 955 m. Five of the 7 holes were drilled on the PL-2 grid. Eight additional claims were subsequently staked by Getty.
- 1987: Buffalo Resources Ltd. optioned the property from Getty Mines Ltd. and conducted an induced polarization survey over the gold occurrences on the PL-2 grid between Papaonga and Avis lakes.
- 1988: Buffalo Resources Ltd. diamond drilled 6 holes totalling 645.18 m. The drilling was targeted on the gold occurrences situated between Papaonga and Curie lakes.

ECONOMIC FEATURES

A grab sample taken at the Northeast showing by Getty Canadian Metals Ltd. assayed 0.02 ounce Au per ton, while a channel sample assayed 0.01 ounce Au per ton across 2.5 m. Two holes drilled by Getty at the Northeast showing intersected, 0.04 ounce Au per ton across 0.5 m and 0.04 ounce Au per ton across 1.5 m.

Two grab samples taken at the Cliff showing by Getty Canadian Metals Ltd. analyzed 260 ppb Au and 0.11 ounce Au per ton, while channel samples assayed 0.04 ounce Au per ton across 0.5 m, 0.05 ounce Au per ton across 0.5 m and 0.02 ounce Au per ton across 0.5 m.

A channel sample taken by Getty at the Graphite showing assayed 0.02 ounce Au per ton across 0.5 m.

A channel sample taken by Getty at the North showing assayed 0.33 ounce Au per ton across 0.5 m.

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- Breaks, F.W. et al. 1976, O.D.M. Map P.1200.
- Getty Canadian Metals Ltd., assessment files, Resident Geologist's office, Red Lake.
- Lavigne Jr., M.J. and Atkinson, B.T. 1987, O.G.S. M.P. 134, p. 39.
- Thurston, P.C. and Bartlett, J.R. 1981, O.G.S. Map P.2386.
- Williams, H.R. 1988, O.G.S. M.P. 141, p. 116-119.

**DENT TOWNSHIP
NTS 52N/2 NE**

DE-1/ HUDSON-PATRICIA MINE (METALS DEVELOPMENT LTD.) - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Hudson-Patricia Mine consists of 2 shafts situated in the northeast corner of leased mining claim KRL 375835 (formerly KRL 5603) in Dent Township. The mine is 350 m south of the common boundary between Dent and Goodall townships, 1.2 km northwest of North Bay of Confederation Lake and 200 m northeast of Borgford Lake.

DESCRIPTION

Regional Structures: A weak to moderate, north-trending, steeply dipping foliation is developed in the vicinity of the mine. The mine is also situated on the west flank of a north-trending synclinal fold axis located east of North Bay of Confederation Lake (Fyon and Lane 1986).

Geology: North-trending, massive and pillowed, amygdaloidal, mafic metavolcanic flows are intercalated with intermediate flows and pyroclastic rocks and intruded by gabbroic, granodioritic and porphyritic felsic sills and dikes. The metavolcanics are part of the Cycle III metavolcanic sequence described by Thurston (1986).

The rocks in the vicinity of the shaft consist of pyritic mafic flows successively overlain to the east by pyritic, dacitic tuff breccia interlayered with white to pale green siliceous tuff (Goodwin 1967). The metavolcanic rocks on the property strike 350/80NE (Harding 1936).

Mineralization: The main quartz vein on the property ranges in thickness from a few inches to over 3 feet wide, strikes 065/65NW and was traced on surface for a length of 200 feet (Furse 1934; Harding 1936). The quartz vein hosts variable amounts of disseminated pyrite (up to 30%), sphalerite, galena and chalcopyrite. Mafic host rocks are iron carbonatized, chloritic and silicified with traces of epidote (Furse 1934).

The continuity of the quartz vein is complicated by complex jointing with a general trend of 060°. Furse (1934) reported that the ore zones in the mine consisted of short ore shoots plunging steeply to the east.

OWNERSHIP AND DEVELOPMENT

1927-1928: H. Borgford staked the property and conducted some of the initial stripping and trenching.

1928: Metals Development Company owned several claims west of North Bay of Confederation Lake. Trenching, stripping and an electromagnetic survey were conducted.

1931-1932: Metals Development Ltd. sank a shaft inclined at 55° on a quartz vein on mining claim KRL 5603. The property consisted of 26 mining claims in Dent and Goodall townships.

- 1933: A drift was driven at the 75-foot level in the first shaft; a second two-compartment vertical shaft was sunk 35 feet south of the first shaft; a station was cut at 200 feet in the second shaft and a crosscut was started.
- 1934: Hudson-Patricia Gold Mines Ltd. acquired the property from Metals Development Ltd.
- 1935: As of July 1935, the second shaft had been sunk to a depth of 237 feet with levels at 100 and 211 feet; a winze, inclined at 70° was sunk below the 211-foot level to the 325-foot level; a raise was developed from the 211-foot level to the 100-foot level; over 3000 feet of lateral work was completed mainly on the 211-foot level. The company diamond drilled 20 holes totalling 2400 feet. Mining operations were suspended in September.
- 1936: A 50-ton amalgamation mill was installed and put into operation on June 1; no underground development was conducted; 8228 tons of ore were milled to produce 1565.926 ounces of gold and 280 ounces of silver.
- 1937: Operations were suspended except for clean-up in January; 3000 tons of ore were milled to produce 291 ounces of gold and 25 ounces of silver. Development completed as of 1937 was as follows: on the 100-foot level, 15 feet of crosscutting and 320 feet of drifting; on the 211-foot level, 1851 feet of crosscutting, 1312 feet of drifting and 169 feet of raising; on the 325-foot level, 133 feet of crosscutting and 579 feet of drifting.
- 1974: St. Joseph Exploration Ltd. staked the property, after the patented claims which had encompassed the mine had lapsed. The company subsequently conducted reconnaissance geological mapping and sampling.
- 1975-1976: St. Joe conducted horizontal loop and V.L.F. electromagnetic surveys, magnetic surveys, geological mapping, sampling and diamond drilled 8 holes totalling 1412.2 feet.
- 1977: St. Joe conducted induced polarization surveys.
- 1978: St. Joe diamond drilled 4 holes totalling 1015 feet.
- 1979-1980: St. Joe conducted soil geochemical surveys and geological mapping.
- 1981: St. Joe conducted trenching and sampling.
- 1985: A group of 8 claims KRL 375835, 375836, 375844, 375845 and 390065 to 390068 inclusive, encompassing the mine property, were brought to lease in August.
- 1988: Gold Crest Minerals Inc. conducted magnetic and electromagnetic surveys, geological mapping and sampling (Atkinson and Storey 1989).

ECONOMIC FEATURES

The Hudson-Patricia Mine produced 1856.926 ounces of gold and 305 ounces of silver from 11 228 tons of ore with an average grade of 0.165 ounce Au per ton (Young 1938, 1939).

Three separate "ore shoots" were delineated in the mine. Ore shoot A gave an average assay of 0.352 ounce Au per ton across 5.54 feet for a length of 135 feet; ore shoot B averaged 0.259 ounce

Au per ton across 4.4 feet for a length of 90 feet; and the East zone ore shoot averaged 0.25 ounce Au per ton across 4 or 5 feet for a length of 60 feet.

Samples taken by St. Joe Explorations Ltd. from the Manway trench, which was sunk on the main quartz vein, assayed 0.676 and 19.4 ounces Au per ton. A sample taken from the same trench by Gold Crest Minerals Inc. assayed 8.705 ounces Au per ton and 1.469 ounces Ag per ton.

A sample taken from the Horsebarn trench by St. Joe assayed 6.46 ounces Au per ton, while a chip sample taken by Gold Crest assayed 1.407 ounces Au per ton across 10 inches. Two grab samples taken by St. Joe from the Granodiorite trench assayed 2.45 and 5.83 ounces Au per ton, while 2 separate chip samples assayed 0.93 and 0.075 ounce Au per ton across 4.4 feet. Two separate chip samples taken from the same trench by Gold Crest Minerals assayed 0.111 and 0.056 ounce Au per ton across 6 feet. Two samples taken from the mine tailings by St. Joe Explorations Ltd. assayed 0.072 and 0.084 ounce Au per ton.

Diamond drilling conducted by St. Joe about 600 feet southeast of the shaft intersected 0.26 ounce Au per ton across 1-foot in quartz-carbonate veins hosted by mafic flows; and 0.62 ounce Au per ton across 2.5 feet in brecciated mafic flows and quartz veins hosting up to 20% pyrite and visible gold.

Samples taken from the dump by Gold Crest Minerals Inc. assayed as high as 1.199 ounces Au per ton. A grab sample taken from a quartz vein at the mine site by D. Panagapko assayed 8.86 ounces Au per ton and less than 3 ppm Ag (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Grab samples taken by St. Joe Explorations Ltd. from a sulphide-rich intermediate to felsic lapilli tuff on the north shore of Borgford Lake assayed 12.9% Zn, 1.8% Cu, 0.51% Pb, 0.01 ounce Au per ton and 2.79 ounces Ag per ton; grab samples taken from the same location by Gold Crest Minerals assayed 1.08% Zn, 0.26% Cu, 0.05% Pb, 0.0223 ounce Au per ton and 2.0 ounces Ag per ton.

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Furse, G.D. 1934, O.D.M. Annual Report, v. 42, pt. 6, p. 45-47.
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Young, A.C. 1938, O.D.M. Annual Report, v.46, pt. 1, p. 15, 27.
Young, A.C. 1939, O.D.M. Annual Report, v.47, pt. 1, p. 17.

DE-2/ JACKSON-MANION MINE - DENT TOWNSHIP

NTS 52N/2 SW

LOCATION

The Jackson-Manion Mine is located 800 m east of Woman Lake near the south boundary of Dent Township. The No. 1 shaft is situated near the east shore of Belljoe Lake and immediately north of the south boundary of patented claim KRL 3817. The No. 2 shaft is 625 m north of the No. 1 shaft and is situated on the southwest shore of Rowe Lake. The No. 2 shaft straddles the common claim boundary between patented claims KRL 3844 and 3845.

DESCRIPTION

Regional Structures: The Jackson-Manion Mine is situated within the north- to northeast-trending Rowe-Woman lakes zone of deformation which consists of several discrete shear zones up to 10 m in width (Fyon and Lane 1986).

Geology: North- to northeast-trending, massive and pillowed, amygdaloidal and variolitic, mafic metavolcanic flows of the Cycle III sequence (Thurston 1985) are intruded by gabbro and quartz-feldspar porphyry dikes. The mafic metavolcanics are intercalated with intermediate pyroclastic rocks (Goodwin 1967). Granitic rocks of the Trout Lake batholith intrude the metavolcanic rocks at the south end of Belljoe Lake. The supracrustal rocks have been metamorphosed to upper greenschist and amphibolite facies.

Mineralization: Gold mineralization at the No. 1 shaft is hosted by the Belljoe Vein. The vein is milk-white, trends 345° , dips steeply to the east and varies from a few inches to 15 feet in width (Bruce 1929). Fyon and Lane (1985) described the veins at the No. 1 shaft as, "quartz-tourmaline veins localized within a sinistral transcurrent shear zone". The veins host disseminated pyrite with minor amounts of sphalerite and chalcopyrite. Gold commonly occurs in tourmaline-cemented breccia zones in the quartz vein and wall rocks (Fyon and Lane 1985). The host rocks are gabbro, mafic flows and quartz-feldspar porphyry dikes which are sheared, chloritized, sericitized and iron carbonatized (Fyon and Lane 1985). Bruce (1929) also noted epidotization, biotitization, silicification and pyritization in the wall rocks.

The No. 2 shaft was sunk on the north-trending Rowe Vein which is also localized within a sinistral, transcurrent shear zone. The vein is situated adjacent and parallel to a quartz porphyry dike within mafic metavolcanic rocks. The Rowe Vein is very similar in character to the Belljoe Vein and hosts disseminated pyrite, sphalerite, chalcopyrite and telluride minerals such as calaverite, altaite, hessite and petzite (Bruce 1929; Bateman 1940).

Bateman (1940) noted drag folds plunging steeply to the south in the vicinity of the No. 2 shaft and described the mineralized zones as south-plunging ore shoots. Bateman (1940) also recognized black line faults intersecting and bordering the quartz-breccia veins. The black line faults are confined to the ore shoots and associated with ore grade mineralization (Bateman 1940).

Bruce (1929), Bateman (1940) and Fyon and Lane (1985) recognized multiple quartz veining events at the Jackson-Manion Mine. Milky-white quartz veins were brecciated and cemented by tourmaline accompanied by fine-grained pyrite and gold. The tourmaline-cemented breccia was subsequently deformed and invaded by banded, quartz-tourmaline, crack-seal veins. Late brittle

failure was accompanied by the development of quartz-filled tension fractures intersecting all previous quartz veining (Fyon and Lane 1985; Fyon and O'Donnell 1986).

OWNERSHIP AND DEVELOPMENT

- 1926: Two groups of claims (totalling 17) were staked and held under the name of the Jackson-Manion Mining Partnership. The north group of claims were staked by A. Rowe, who is reported to have made the first gold discovery in the area, on the Rowe Vein. The southern group of claims were staked by W.S. Jackson and R.J. Manion. The property was optioned to N.A. Timmins.
- 1927: A winter road was cut to the claims and 13 diamond drill holes, with an average footage of 120 feet, were completed; the option with N.A. Timmins was dropped in July and Jackson-Manion Mines Ltd. was formed in August. A three-compartment shaft was sunk to a depth of 52 feet between November 20, 1927 and January 7, 1928. The shaft was established on the Belljoe Vein on mining claim KRL 3817.
- 1928: Two locomotive boilers, a compressor and hoist were moved to the property; the shaft was deepened to 277 feet with stations cut at 125 and 250 feet.
- 1929: The shaft was deepened to 404 feet with levels at 125, 250 and 375 feet; 4900 feet of surface diamond drilling and 877 feet of underground diamond drilling was completed. Work was suspended on the property in August.
- 1932: J-M Consolidated Gold Mines Ltd. was incorporated.
- 1933: Work resumed on the property in October.
- 1934: More lateral work was continued on the 125-, 250- and 375-foot levels and a winze had been sunk 30 feet from the 375-foot level. A 30 ton per day cyanide mill was installed and 3443 tons of ore were milled to produce 1019.09 ounces of gold and 621 ounces of silver.
- 1935: Lateral work on all levels was continued; the shaft was deepened to 482 feet, where a level was established; a 200-foot sub-level was established; 1381 tons of ore were milled to produce 361.091 ounces of gold and 287 ounces of silver.
- 1936: A 100 ton per day cyanide-amalgamation mill was installed; the shaft was deepened to 625 feet where a level was established; 12 160 tons of ore were milled to produce 3397.332 ounces of gold and 1926 ounces of silver.
- 1937: 31 225 tons of ore were milled which produced 9490.328 ounces of gold and 5536 ounces of silver with an ore recovery of 94.2%; the majority of ore was removed from the 250-foot level. The company diamond drilled 19 holes totalling 6094 feet on the Rowe Vein located 2400 feet north of the main shaft. A second three-compartment shaft was established on the Rowe vein and was sunk to a depth of 382 feet with levels at 125 and 250 feet. The No. 2 shaft is located on patented mining claims KRL 3844 and 3845.
- 1938: 2439 tons of ore were hoisted from the No. 1 shaft but no development was done. The No. 2 shaft was sunk to 391 feet and a new level was established on the 375-foot level; 14 726 tons of ore from the No. 2 shaft were milled; 1428 feet of surface diamond drilling and 655

feet of underground diamond drilling were conducted at the No. 2 shaft; a total of 17 005 tons of ore were milled to produce 3983.371 ounces of gold and 2978 ounces of silver. Operations were suspended at the No. 1 shaft in March.

- 1939: The No. 1 shaft was dewatered to the 485-foot level and the ore in the 125-foot level floor pillar and the north winze pillar was salvaged and hoisted to the mill; lateral work continued at the No. 2 shaft; 35 549 tons of ore were milled to produce 7564.902 ounces gold and 5985 ounces of silver.
- 1940: The No. 2 shaft ceased operations in February when the ore reserves were exhausted; the No. 1 shaft was dewatered to the 625-foot level and several underground diamond drill holes were completed; 4594 tons of ore were milled to produce 309.943 ounces of gold and 808 ounces of silver.
- 1947: Clean up operations were conducted at the mine and 14.591 ounces of gold and 10 ounces of silver were recovered.
- 1960: Copper Rand Chibougamau Mines Ltd., subsequently renamed The Patino Mining Corp., purchased the assets of Chibougamau Jacquet Mines Ltd. which included 9 claims encompassing the Jackson-Manion Mine.
- 1970: Patino Mining Corp. conducted magnetic and electromagnetic surveys over the patented claims.
- 1981: Northgate Exploration Ltd. acquired all the assets of Patino N.V. including the Jackson-Manion Mine.
- 1983: Orofino Resources Ltd. acquired the Jackson-Manion property and conducted airborne magnetic and electromagnetic surveys, geological mapping and soil and humus geochemical surveys. About 1000 m of diamond drilling was also completed on the property.
- 1984: Orofino trenched, stripped and sampled 2 quartz veins on the property. The company also cleaned up several barrels of slag from the old refinery; 785 kg (1730.6 lbs.) of slag produced 157.0 gms (5.538 ounces) of gold and 4217.5 gms (148.765 ounces) of silver.
- 1985: Orofino completed 10 diamond drill holes on the property.
- 1987: Orofino completed 2 diamond drill holes on the property.
- 1988: Orofino completed 18 diamond drill holes and conducted magnetic and electromagnetic surveys.

ECONOMIC FEATURES

The Jackson-Manion Mine produced 27 146.186 ounces of gold and 18 299.765 ounces of silver from 105 357.75 tons of ore at an average grade of 0.258 ounce Au per ton between 1934 and 1940, with some minor production in 1947 and 1984 (Young 1936, 1937, 1938, 1939; Tremblay 1940, 1941, 1945, 1949; Orofino Resources Ltd., assessment files, Resident Geologist's office, Red Lake).

Grab samples taken by D. Panagapko in the vicinity of the No. 1 shaft assayed 0.12, 0.94 and 8.3 ounces Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Samples taken by Orofino Resources Ltd., from a trench situated 200 m south of the No. 2 shaft, assayed between 0.025 and 0.35 ounce Au per ton. Samples taken from the open stope at the No. 1 shaft assayed 0.085, 1.35, 29.81 and 36.88 ounces Au per ton. Samples taken from a quartz vein discovered by Orofino and located 325 m northeast of the No. 1 shaft assayed 0.72, 0.065, 0.185 and 0.09 ounce Au per ton. Further sampling of this quartz vein by Orofino Resources Ltd. failed to duplicate the initial assays.

Orofino also discovered several large quartz veins, situated at the contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith, at the extreme southwest corner of the property. The largest vein gave erratic assays up to 0.186 ounce Au per ton.

Diamond drilling conducted by Orofino Resources Ltd., on the Jackson-Manion property, intersected sections assaying 1.34 ounces Au per ton across 1.58 m, 0.72 ounce Au per ton across 0.96 m and 0.69 ounce Au per ton and 0.26 ounce Ag per ton across 19.5 feet.

Orofino Resources Ltd. also sampled the tailings at the mine, using a 50 m by 25 m control grid. The results indicated an average grade of 0.0234 ounce Au per ton.

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DE-3/ JACKSON MANION NORTH OCCURRENCE (WOMAN LAKE CENTRE SYNDICATE OCCURRENCE) - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Jackson-Manion North occurrence is situated on the west shore of Woman lake, at the north entrance of Woman Lake Narrows in Dent Township. The occurrence is located on mining claim KRL 867053 (formerly KRL 1829).

DESCRIPTION

Regional Structures: The Jackson-Manion North occurrence is situated within the north- to northeast-trending Rowe-Woman lakes zone of deformation which consists of several discrete shear zones up to 10 m in width (Fyon and Lane 1986).

Geology: North- to northeast-trending, massive and pillowed, amygdaloidal and variolitic, mafic metavolcanic flows are intruded by gabbroic and dioritic sills. The mafic metavolcanics are intercalated with felsic to intermediate pyroclastic rocks and minor metasediments consisting of chert, graphitic iron formation, argillites and stromatolitic marble. The occurrence is situated at the stratigraphic contact between the Cycle II and Cycle III metavolcanic sequence described by Thurston (1985).

Mineralization: Gold is associated with quartz veins and graphitic iron formation at the Jackson-Manion North occurrence.

The Discovery Trench or D zone consists of 2 massive, parallel, quartz veins up to 12 inches wide, hosted by variably iron carbonatized and intensely silicified, pyritic gabbro. The quartz veins trend 008/88W and are separated by 19 inches of altered wall rock. The quartz veins host up to 5% disseminated pyrite, sphalerite and chalcopyrite. Minor amounts of apple-green mica also occurs in the altered wall rocks.

The X zone is situated 65 m due east of the D Zone. The X zone consists of a narrow unit of strongly contorted, graphitic, iron formation interlayered with chert and argillite. The iron formation is situated along the contact between a gabbroic to dioritic sill on the west side of the property and mafic metavolcanic flows on the east side of the property. A 9 m wide shear zone trending 055/85W is situated immediately east of the iron formation. The iron formation hosts up to 20% pyrite and 10% pyrrhotite with minor chalcopyrite.

OWNERSHIP AND DEVELOPMENT

1926-1927: Woman Lake Centre Syndicate discovered gold-bearing quartz veins on mining claim KRL 1829 and conducted extensive trenching and stripping.

1970: Selco Exploration Co. Ltd. conducted magnetic and electromagnetic surveys in the vicinity of the property. Midland Nickel Corp. Ltd. (Canex Aerial Exploration Ltd.) conducted airborne electromagnetic surveys and diamond drilled 4 holes totalling 1447 feet at the occurrence.

- 1982: Gold Fields Canadian Mining Ltd. conducted magnetic and electromagnetic surveys, geological mapping and sampling over the occurrence.
- 1983: Orofino Resources Ltd. staked the ground and flew airborne magnetic and electromagnetic surveys over the area.
- 1985: Orofino Resources Ltd. conducted geological mapping, a humus geochemical survey, magnetic and electromagnetic surveys and diamond drilled 10 holes totalling 787.47 m.
- 1986: Orofino diamond drilled 15 holes totalling 2381.96 m.
- 1988: Orofino conducted magnetic and electromagnetic surveys over portions of the property.

ECONOMIC FEATURES

Greig (1928) reported that fine visible gold was observed in the quartz veins on the property.

Gold Fields Canadian Mining Ltd. obtained an assay of 0.2 ounce Au per ton from a sample taken from the quartz veins in the Discovery Trench.

Five grab samples taken from the Discovery Trench by B.T. Atkinson analyzed 9, 95, 280, 1010 and 1040 ppb Au. A grab sample taken from the graphitic iron formation analyzed 33 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A diamond drill hole completed by Midland Nickel Corp. Ltd. and targeted on the graphitic iron formation, intersected 0.17 ounce Au per ton across 11.5 feet in graphitic, siliceous, argillite containing 20% pyrite, 10% pyrrhotite and minor chalcopyrite.

Some drill intersections encountered by Orofino Resources Ltd. during their diamond drill program were: 0.06 ounce Au per ton across 2 m, 0.06 ounce Au per ton across 6.94 m, 0.12 ounce Au per ton across 1.43 m and 0.08 ounce Au per ton across 4 m. All of the intersections consisted of sulphide-bearing, graphitic, iron formation.

Orofino concluded that the unit of iron formation contained anomalous gold mineralization assaying between 0.02 and 0.06 ounce Au per ton along a 400 m strike length.

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- Thurston, P.C. 1985, O.G.S. G.R. 236.

DE-4/ NAVEAU ISLAND OCCURRENCE - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Naveau Island occurrence is situated on the east shore of Naveau Island (local name) on Woman Lake in Dent Township. The island is located at the common boundary between Dent and Goodall townships.

DESCRIPTION

Regional Structures: The Naveau Island occurrence is situated within the north- and northeast-trending Rowe-Woman lakes zone of deformation which consists of several discrete shear zones up to 10 m wide (Thurston 1985, Fyon and Lane 1986).

Geology: North-trending, intermediate to mafic metavolcanic flows and pyroclastic rocks of the Cycle III sequence (Thurston 1985) are intruded by gabbroic to dioritic sills and dikes.

Mineralization: A north-trending quartz vein consisting of discontinuous quartz lenses up to 2 feet wide is situated along the footwall of a black, graphitic argillaceous iron formation containing up to 15% disseminated pyrite. The quartz vein lenses have been traced for a strike length of 50 feet and contain minor disseminated pyrite and up to 3% galena and 2% chalcopyrite.

The quartz vein is also hosted by aphanitic, pale gray-green, soft, carbonate-rich metasediments which weather buff gray or brown. The metasediments contain "veinlets" of crystalline, pale gray carbonate.

The metasediments are interlayered with intermediate tuffs which are sericitized, sheared 040° and contain numerous small black-green "spots" which are less than 2 mm in size. A well developed set of joints or fractures trending 004° occur within the intermediate tuffs.

OWNERSHIP AND DEVELOPMENT

1970: Midland Nickel Corp. Ltd. (Canex Aerial Exploration Ltd.) conducted airborne electromagnetic surveys over the property and diamond drilled one hole at the southwest end of Naveau Island.

1986: Orofino Resources Ltd. conducted geological mapping and humus geochemical surveys.

1987: Orofino conducted magnetic and electromagnetic surveys and trenching, sampling and stripping.

ECONOMIC FEATURES

A grab sample taken from the occurrence by Orofino Resources Ltd. assayed 1.09 ounces Au per ton and 0.48 ounce Ag per ton. Additional sampling gave gold values up to 245 ppb Au. Sampling of intermediate metavolcanic wall rocks gave gold values ranging between 25 and 70 ppb Au.

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DE-5/ ONTARIO WOMAN LAKE PROSPECT (R. FRANK) - DENT TOWNSHIP

NTS 52N/2 SW

LOCATION

The Ontario Woman Lake prospect is located at the extreme south end of Woman Lake in the southwest corner of Dent Township. The prospect consists of several large trenches, on the west shore of Woman Lake, which are encompassed by 3 leased mining claims KRL 375492, 375493 and 526505. The majority of work has been conducted on leased claim KRL 375492.

DESCRIPTION

Regional Structures: The prospect is situated within the west-southwest-trending Bear Lake zone of deformation (Fyon and Lane 1986). The deformation zone consists of numerous west-southwest- and northeast-trending shear zones which are less than 1 m wide (Fyon and Lane 1986).

Geology: The prospect occurs within amphibolitized, massive and pillowed mafic metavolcanic flows hosting minor interflow metasediments in the Cycle II sequence (Thurston 1985). The metavolcanic flows are intruded by felsic porphyritic and granitic dikes. The prospect is approximately 300 m due north of the contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith.

Mineralization: A strongly boudinaged, milky-white, quartz vein up to 1 m in width is hosted by a 2 m wide shear zone trending 100-110/45-60S. The quartz vein has been traced on surface for approximately 400 m. The quartz vein is situated along the contact between a narrow, grey, medium- to coarse-grained quartz-feldspar porphyry dike and mafic metavolcanic rocks. Mineral lineations in the wall rocks are strongly developed in a subvertical orientation and plunge to the west. The mafic metavolcanic rocks are strongly sheared, iron carbonatized, chloritized, sericitized and pyritic.

The quartz vein contains minor iron carbonate and is sparsely mineralized with disseminated pyrite, chalcopyrite and native gold. More abundant sulphides and native gold occur within the quartz vein near the wall rock contacts. Some chalcopyrite also occurs within the carbonatized wall rocks.

OWNERSHIP AND DEVELOPMENT

1929: Ontario Woman Lake Gold Mines Ltd. sunk 8 trenches on mining claims KRL 1971 and 1971A where gold was initially discovered.

1929-1930: Ontario Woman Lake Gold Mines Ltd. diamond drilled 12 holes on the property.

1934: Fifteen trenches had been sunk on the property as of 1934. The property consisted of 11 mining claims KRL 1958, 1959, 1971A and 1969 to 1976 inclusive.

1969-1970: Selco Exploration Co. Ltd. conducted magnetic and horizontal loop electromagnetic surveys over the property and diamond drilled 3 holes totalling 1422 feet in search of base metal mineralization. The gold showing was not evaluated by Selco.

1975-1983: R. Frank conducted stripping and trenching on the property. A 30 m long open cut was excavated to intersect the vein immediately north of the lake shore.

1987: The property was evaluated and sampled by Dome Exploration (Canada) Ltd.

1988: Algonquin Minerals Inc./Nexus Resources Corp. diamond drilled 8 holes totalling 1554 feet on the property.

ECONOMIC FEATURES

A chip sample taken across the quartz vein by Ontario Woman Lake Gold Mines Ltd. assayed 14.08 ounces Au per ton and 0.61% Cu across 3 feet. Other chip samples assayed 0.41 ounce Au per ton across 15 inches, 0.54 ounce Au per ton across 27 inches, 0.35 ounce Au per ton across 40 inches and 0.25 ounce Au per ton across 2.5 feet. Some samples also assayed as high as 1.16% Cu.

Diamond drilling conducted by Ontario Woman Lake intersected sections assaying 0.15 ounce Au per ton across 5 feet, 0.72 ounce Au per ton across 4 feet, 0.87 ounce Au per ton across 4 feet and 0.82 ounce Au per ton across 3 feet. Numerous other mineralized intersections were reported by the company.

A 15 to 20 lb. bulk sample taken by Dome Exploration (Canada) Ltd. gave an average assay of 92.7 g/t Au. Twenty-one samples taken from the prospect by R. Church (Campbell Mines Ltd.) gave numerous gold assays ranging from 0.02 to 8.50 ounces Au per ton.

A grab sample taken from the quartz vein by W.W. Valliant assayed nil gold and 0.66 ounce Ag per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Two grab samples taken by D. Panagapko assayed 1.275 ounces Au per ton and less than 3 ppb Ag; and 1.68 ounces Au per ton and 0.88 ounce Ag per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Nine grab samples taken from the property by B.T. Atkinson analyzed from 2 ppb Au to 8910 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). The sampling by Atkinson indicated that the porphyry dike on the hanging wall of the quartz vein did not contain gold, however, anomalous gold values were obtained from the mafic metavolcanic rocks on the foot wall. The highest gold values were obtained from the quartz vein.

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DE-6/ PATRICIA-DENT PROSPECT - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Patricia-Dent prospect consists of 2 shafts and several large trenches located near the northwest shore of Confederation Lake in Dent Township. The shafts are situated on mining claim KRL 1056584.

DESCRIPTION

Regional Structures: A weak to moderate, north-trending, steeply dipping foliation is developed in the vicinity of the prospect. The prospect is situated on the west flank of a north-trending synclinal fold axis located east of North Bay of Confederation Lake (Thurston 1985; Fyon and Lane 1986).

Geology: North-trending, massive and pillowed mafic metavolcanic flows are intercalated with minor discontinuous units of intermediate to felsic pyroclastic rocks. The metavolcanics are intruded by gabbro, granodiorite, quartz and quartz-feldspar porphyry sills and dikes. The metavolcanic rocks are part of the Cycle III sequence described by Thurston (1985).

Mineralization: The Patricia-Dent No. 2 showing (also known as the No. 2 or North shaft or the Rouillard No. 1 shaft) was situated in the northeast corner of former mining claim KRL 4134. The showing consists of a quartz vein trending 015-020/30-50W with an average width of 1- foot. The quartz vein was traced 50 feet southwest of the No. 2 shaft and 500 feet northeast of the shaft. The northeast extension of the vein is part of the Rouillard occurrence which is situated immediately north of the Patricia-Dent prospect. The quartz vein contains irregular, small masses of pyrite, sphalerite, chalcopyrite, visible gold and rare galena. The vein is hosted by a sericitized quartz porphyry dike.

The Patricia-Dent No. 1 shaft (No. 1 or South shaft) is situated about 1100 feet south of the No. 2 shaft. The showing consists of narrow quartz veinlets in a slightly fractured quartz porphyry. Quartz lenses striking 020/70W are situated along the contact between the porphyry and mafic metavolcanic flows. The quartz veins host minor amounts of disseminated pyrite, sphalerite and galena. Wall rocks are pyritic and variably carbonatized.

OWNERSHIP AND DEVELOPMENT

1927: Gold-bearing quartz veins were exposed on mining claim KRL 4134.

1929: Patricia-Dent Gold Mines Ltd. sunk 2 shafts on claim KRL 4134. The No. 2 or North shaft was sunk to a depth of 50 feet and was situated in the extreme northeast corner of the claim. The No. 1 or South shaft, located about 1100 feet south of the No. 2 shaft, was sunk to a depth of 55 feet. The property consisted of the following claims: KRL 4134 to 4149 inclusive and KRL 5425 and 5426.

1935: The property was evaluated by Erie Canadian Mines Ltd.

- 1970: Sheridan Geophysics Ltd. conducted electromagnetic and magnetic surveys over the property for the Red Lake Syndicate.
- 1973: Shilo Mines Ltd. conducted geological mapping and sampling. The 2 shafts were encompassed by mining claim KRL 368496 at this time.
- 1975-1976: The property was optioned to St. Joe Explorations Ltd. who conducted electromagnetic and magnetic surveys.
- 1983: Devonshire Gold Resources Inc. conducted an induced polarization survey, geological mapping and diamond drilled 6 holes totalling 1699 feet. Two of the holes were drilled south of the No. 2 or North shaft and 4 holes were drilled at the No. 1 or South shaft.
- 1984: Devonshire diamond drilled 3 holes totalling 1501 feet.
- 1988: Silverside Resources Inc. conducted sampling, geological mapping, relogged old drill core and completed a magnetic survey.
- 1989: Silverside Resources Inc. conducted induced polarization and resistivity surveys and diamond drilled 2 holes totalling 411 feet at the No. 2 or North shaft.
- 1991: Starmin Mining Inc. (formerly Silverside Resources Inc.) conducted trenching, stripping, sampling and geological mapping.

ECONOMIC FEATURES

Grab samples taken from the quartz vein at the No. 2 or North shaft (also known as the Rouillard No. 1 shaft) by B.T. Atkinson assayed 0.34, 0.94 and 7.58 ounces Au per ton (Atkinson and Storey 1989). A sample taken from the vein by H. Borgford assayed \$28 or 1.35 ounces Au per ton. A chip sample taken from the vein by Devonshire Gold Resources Inc. assayed 1.01 ounces Au per ton across 18 inches.

The best intersection from diamond drilling conducted at the No. 2 or North shaft by Silverside Resources Inc. assayed 0.118 ounce Au per ton across 0.7 feet. A diamond drill hole targeted immediately south of the No. 2 or North shaft, by Devonshire Gold Resources Inc., intersected 0.24 ounce Au per ton across 2 feet.

Two chip samples taken from the Patricia-Dent No. 1 shaft (also known as the No. 1 or South shaft) by Devonshire Gold assayed 0.13 ounce Au per ton and 0.06 ounce Ag per ton across 4 feet; and 0.04 ounce Au per ton and 0.01 ounce Ag per ton across 3 feet. Samples taken from the quartz vein at the No. 1 or South shaft, by H. Borgford, assayed as high as 0.038 ounce Au per ton.

A diamond drill hole, completed by Devonshire Gold Resources Inc., was targeted on the No. 1 or South shaft and intersected 0.62 ounce Au per ton across 5 feet in a carbonatized, rusty, silicified, brecciated zone in mafic metavolcanic rocks.

A composite sample of vein and wall rock material collected at the No. 1 shaft by B.T. Atkinson analyzed 1350 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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Shilo Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.

DE-7/ ROUILLARD, J.P. OCCURRENCE (HEINIE, LEVESQUE AND ROUILLARD OCCURRENCE) - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Rouillard occurrence consists of 10 separate gold showings located northwest of Confederation Lake in the northeast corner of Dent Township. The showings are presently situated on 4 mining claims, KRL 1056580, 1056583, 1012141 and 1012142.

DESCRIPTION

Regional Structures: A weak to moderate, north-trending, steeply dipping foliation is developed in the vicinity of the prospect. The prospect is also situated on the west flank of a north-trending synclinal fold axis located east of North Bay of Confederation Lake (Thurston 1985; Fyon and Lane 1986).

Geology: North-trending, massive and pillowed mafic metavolcanic flows are intercalated with minor, discontinuous units of intermediate to felsic pyroclastic rocks. The metavolcanics are intruded by gabbro, granodiorite, quartz and quartz-feldspar porphyry sills and dikes. The metavolcanic rocks are part of the Cycle III sequence described by Thurston (1985).

Mineralization: The gold showings at the Rouillard occurrence dominantly consist of discontinuous quartz veins and stringers which are commonly less than 0.3 m wide. The veins are hosted by fractures in granitic and porphyritic felsic dikes and mafic metavolcanic flows. The majority of the quartz veins are north-trending and dip steeply to the west, although a few veins are east-trending and dip to the south. The quartz veins host variable amounts of iron carbonate, pyrite and sphalerite with rare chalcopyrite, galena, pyrrhotite and arsenopyrite.

Alteration of the wall rocks consist of variable carbonatization, sericitization and chloritization with minor epidote.

The Rouillard No. 1 showing is the northeast extension of the quartz vein at the Patricia-Dent No. 2 or North shaft.

OWNERSHIP AND DEVELOPMENT

1927: Several gold-bearing quartz veins were exposed on mining claim KRL 4089.

1928: More quartz veins were discovered on mining claims KRL 4099 and 4102.

1929: Rouillard Gold Mines Ltd. was organized and held 18 contiguous mining claims KRL 4089 to 4106 inclusive. Extensive trenching and stripping was conducted on the claims.

1930-1937: Rouillard Gold Mines Ltd. became New Rouillard Gold Mines Ltd. and continued trenching and stripping. The company diamond drilled 4 or 5 holes on the No. 1 vein on claim KRL 4089 and also drilled 8 holes on the No. 4 and No. 8 veins on claims KRL 4091 and 4092.

- 1970: Sheridan Geophysics Ltd. conducted electromagnetic and magnetic surveys over the property for the Red Lake Syndicate.
- 1973: Shilo Mines Ltd. conducted geological mapping and sampling.
- 1975-1976: The property was optioned to St. Joe Explorations Ltd. who conducted electromagnetic and magnetic surveys.
- 1983: Devonshire Gold Resources Inc. conducted an induced polarization survey, geological mapping and diamond drilled 5 holes totalling 1163 feet. All of the holes were drilled north of the Patricia-Dent No. 2 shaft on the Rouillard No. 1 vein.
- 1984: Devonshire diamond drilled 3 holes totalling 1501 feet.
- 1988: Silverside Resources Inc. conducted sampling, geological mapping, relogged old drill core and completed a magnetic survey.
- 1989: Silverside Resources conducted induced polarization and resistivity surveys and diamond drilled 1 hole to a depth of 200 feet on the Rouillard No. 4 showing.

ECONOMIC FEATURES

Chip samples taken by Rouillard Gold Mines Ltd. assayed the following:

\$37.80 (1.08 ounces Au per ton) across 4.3 feet at the No. 1 vein; \$4.90 (0.14 ounce Au per ton) across 49 inches at the No. 2 vein; \$29.75 (0.85 ounce Au per ton) across 5.5 inches at the No. 5 vein and \$51.80 (1.48 ounces Au per ton) across 21 inches at the No. 8 vein. Two grab samples taken from the No. 8 vein by J.P. Rouillard assayed \$80.20 (2.29 ounces Au per ton) and \$119 (3.4 ounces Au per ton).

A grab sample taken from the No. 5 vein by Silverside Resources Inc. assayed 0.062 ounce Au per ton. Numerous samples taken from the No. 1 vein by Silverside Resources assayed as high as 5.164 ounces Au per ton.

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DE-8/ SHANTY BAY PROSPECT - DENT TOWNSHIP

NTS 52N/2 NW

LOCATION

The Shanty Bay occurrence consists of 2 showings located west of Shanty Bay on the west shore of Woman Lake in Dent Township. The Main showing is located 1 km due west from the lake shore on claims KRL 509551 and 509552. The Quartz Dome showing is situated 15 m inland from the lake shore on claim KRL 1022979.

DESCRIPTION

Regional Structures: The Shanty Bay occurrence is situated within the Shanty Bay structural domain which consists of northeast-trending high strain zones. The occurrence is also located east of the contact strain aureole of the Trout Lake batholith (Fyon and Lane 1986).

Geology: North-northeast-trending, massive and pillowed, mafic metavolcanic flows are intercalated with minor intermediate pyroclastic rocks and metasediments consisting of greywacke, polymictic conglomerate and jasperoidal chert-magnetite iron formation. The supracrustal rocks are part of the Cycle II metavolcanic sequence described by Thurston (1985).

An 80-foot wide north-trending unit of sulphidized, jasperoidal chert and argillaceous metasediments is exposed at the Shanty Bay occurrence. The metasediments can be traced to the south along a strike length of 12 km. The most southern extent of the chemical metasediments is a chert-magnetite iron formation that outcrops on Medicine Rock Island at the south end of Woman Lake.

Mineralization: The Main showing consists of a 40 m by 50 m stripped and trenched area. Geology in the stripped area, from west to east, includes a 5 m wide unit of pyritic, black, graphitic, argillaceous metasediments interlayered with very thinly bedded jasperoidal chert. The chert consists of alternating white and red hematitic layers, some of which are brecciated. Discontinuous mafic dikes intrude the chemical metasediments. The chert is in contact with strongly iron carbonatized mafic flows to the east.

A quartz-feldspar porphyry dike intrudes the mafic metavolcanic flows and the jasperoidal chert unit. The dike ranges in width from 3 to 5 m, strikes northeast and dips vertically. The dike is variably mineralized with disseminated pyrite. Pyrite mineralization is most pronounced at the intersection of the dike with the contact between the chert and mafic metavolcanic flows. A quartz vein occurs along the west contact of the dike (Atkinson, Parker and Storey 1990).

Gold at the Main showing is associated with massive pyrite veins which are 5 to 15 cm wide; black, chloritic schistose material; white vein quartz; and banded chert containing 2% to 10% disseminated pyrite. The northernmost trench at the Main showing hosts several quartz veins containing variable amounts of fine-grained, disseminated pyrite with a few small veins hosting galena.

The Quartz Dome showing consists of a large quartz vein which is 250 feet long and 50 feet wide hosted by spherulitic felsic flows and carbonatized mafic metavolcanic flows. The vein is enclosed by an extensive halo of smaller quartz veins, silicification, chloritization, shearing and several

generations of carbonate, quartz and quartz-tourmaline veins. At the margins of the large quartz vein are a number of narrower (10 cm) quartz veins which enclose wall rock fragments and give the appearance of a quartz vein-cemented, wall rock breccia (Fyon and O'Donnell 1986). Chalcopyrite, pyrite, molybdenite and tourmaline are hosted by quartz veins at the Quartz Dome showing.

OWNERSHIP AND DEVELOPMENT

- 1928: Woman Lake Gold Fields Development Ltd. held a large group of contiguous mining claims, KRL 1749 to 1772 inclusive, encompassing the Shanty Bay occurrence. Stripping and trenching was conducted on the Main showing or Beaumark Vein.
- 1948: Dougron Gold Mines Ltd. conducted a magnetic survey and diamond drilled 2 holes totalling 851 feet.
- 1969-1970: Canex Aerial Exploration Ltd. conducted airborne and ground magnetic and electromagnetic surveys and diamond drilled 1 hole to a depth of 502 feet.
- 1980: Property optioned to Sherritt Gordon Mines Ltd.
- 1981: Sherritt Gordon conducted stripping, trenching, sampling, geological mapping and magnetic and electromagnetic surveys.
- 1983: Sherritt Gordon diamond drilled 4 holes totalling 445.1 feet on the main showing.
- 1984: Sherritt Gordon conducted a lithogeochemical survey.
- 1989: Noranda Exploration Co. Ltd. conducted geological mapping, sampling and some prospecting.

ECONOMIC FEATURES

Channel samples taken from the Main showing by Sherritt Gordon Mines Ltd. assayed 0.19 ounce Au per ton across 6 feet, 0.20 ounce Au per ton across 6 feet and 0.33 ounce Au per ton across 4 feet. The samples were taken across the pyritic chert unit. Channel samples taken across the pyritic chert unit by Noranda Exploration Co. Ltd. assayed 8.06 g/t Au across 1.1 m, 2.33 g/t Au across 1.1 m and 3.6 g/t Au across 1.4 m. Several grab samples taken at the Main showing by B.T Atkinson analyzed between 24 and 9920 ppb Au (Atkinson, Parker and Storey 1990). Two grab samples taken by Sherritt Gordon from some narrow quartz veins hosting galena assayed 0.01 ounce Au per ton and 0.05 and 0.99 ounce Ag per ton.

Samples taken from the Quartz Dome showing by Sherritt Gordon Mines Ltd. assayed 0.02 ounce Au per ton. Two grab samples taken at the Quartz Dome showing by Noranda assayed 7.2 g/t Au and 3.26 g/t Au. Two chip samples taken by Noranda assayed 2.06 g/t Au across 0.85 m and 1.37 g/t Au across 0.85 m.

SELECTED REFERENCES

- Atkinson, B.T, Parker, J.R. and Storey, C.C. 1990, O.G.S. M.P. 147, p. 58-60.
Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 36.
Canex Aerial Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
Desmeules, M., assessment files, Resident Geologist's office, Red Lake.
Dougroun Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 272, 274.
Noranda Exploration Company Ltd., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1970, O.D.M. Map P.592.
Thurston, P.C. 1985, O.G.S. G.R. 236.

DE-9/ SILVERSIDE OCCURRENCE - DENT TOWNSHIP

NTS 52N/2 NE

LOCATION

The Silverside occurrence is located along an old powerline that extends across a peninsula of land on Confederation Lake in the central part of Dent Township. It occurs on the powerline and is 900 m due east of the north-trending narrows that extends between Confederation Lake and North Bay of Confederation Lake. The occurrence was formerly situated on mining claims KRL 1044321 and 1044314.

DESCRIPTION

Regional Structures: The occurrence is situated west of the Confederation Lake Narrows zone of deformation where foliations trend north to north-northeast (Fyon and Lane 1986).

Geology: North-northeast-trending massive and variolitic mafic metavolcanic flows are intruded by massive gabbro and granodiorite sills (Pryslak 1970). The occurrence is located within the Cycle III metavolcanic sequence described by Thurston (1985).

Mineralization: Very little information has been reported on this occurrence but mineralization appears to be situated within narrow, sulphide-bearing, northeast-trending quartz veins hosted by mafic flows and gabbro.

OWNERSHIP AND DEVELOPMENT

1988: Silverside Resources Inc. conducted sampling, geological mapping and a ground magnetic geophysical survey.

1989: Silverside conducted induced polarization and resistivity surveys.

ECONOMIC FEATURES

Seven grab samples taken at the occurrence by Silverside Resources Inc. assayed 0.324, 0.471, 0.09, 0.032, 0.061, 0.324 and 0.114 ounce Au per ton.

SELECTED REFERENCES

Fyon, A.J. and Lane, L. 1986, O.G.S. Map 2989.

Pryslak, A.P. 1970. O.D.M. Map P. 592.

Silverside Resources Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1985, O.G.S. G.R. 236.

**EARNGEY
TOWNSHIP
NTS 52N/2 SE**

EA-1/ BERRIGAN OCCURRENCE - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Berrigan occurrence is situated 600 m due south of Lost Bay of Confederation Lake in Earngey Township. The occurrence is located near the south boundary of patented claim KRL 12047 at the northeast corner of a small, crooked lake. The Berrigan property consists of 2 separate groups of patented claims. The claims are: KRL 12046 to 12048 and KRL 12598 to 12600.

DESCRIPTION

Regional Structures: The Berrigan occurrence is situated within the Uchi Mine structural domain which is characterized by a predominant east-trending foliation and a subordinate northeast-trending foliation (Fyon and Lane 1985, 1986).

Geology: North- to northeast-trending mafic metavolcanic flows area intercalated with narrow units of felsic pyroclastic rocks and are intruded by gabbro sills. The metavolcanic rocks are part of the Cycle II metavolcanic sequence (Thurstion 1985).

The quartz vein at the Berrigan occurrence is part of the north-northeast-trending Hill-Sloan-Tivy quartz vein system which has been traced by trenching and diamond drilling for a strike length of approximately 6.4 km. The vein is situated along a contact between mafic metavolcanic flows to the west and a narrow unit of felsic tuff to the east.

Mineralization: The quartz vein at the Berrigan occurrence ranges in width from 15 cm to 2.4 m and has been traced on surface for a strike length of 1000 feet. The vein strikes 063° and dips between 45° and 75° to the northwest. The vein hosts narrow bands of tourmaline with iron carbonate, pyrite, chalcopyrite and galena. The quartz vein is hosted by the mafic metavolcanic rocks and felsic tuff.

OWNERSHIP AND DEVELOPMENT

1928: The Berrigan occurrence was encompassed by claim KRL 5593 which was part of the original Hill-Sloan-Tivy claim group (Bruce 1929).

1935: S. Berrigan held a contiguous group of 8 claims KRL 12046 to 12050 and 12598 to 12600, which he optioned to McIntyre-Porcupine Mines; the main quartz vein system was located on claims KRL 12047 and 12048.

1937: Sylvanite Gold Mines Ltd. sampled the occurrence.

1969-1970: Sheridan Geophysics Ltd. conducted an electromagnetic survey over 2 claims (KRL 12049 and 12050) which were formerly part of the Berrigan claim group.

1974: The property consisted of 6 claims, KRL 12046 to 12048 and 12598 to 12600, held by K. Bergeron (Thurstion 1985a).

1983: The 2 claims which were formerly part of the Berrigan claim group were staked by Orofino Resources Ltd. as KRL 841398 (formerly KRL 12050) and KRL 841399 (formerly KRL 12049). Orofino conducted airborne magnetic and electromagnetic surveys as well as a humus geochemical survey.

1986: Orofino conducted magnetic, electromagnetic and geological surveys.

ECONOMIC FEATURES

Chip samples taken across the Berrigan quartz vein by Sylvanite Gold Mines Ltd. assayed between 0.02 and 0.22 ounce Au per ton, with some assays as high as 0.71 and 1.55 ounces Au per ton.

SELECTED REFERENCES

- Berrigan Property, assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and Lane, L. 1985, O.G.S. M.P. 126, p. 201-209.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Orofino Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
Thomson, J.E. 1939, O.D.M. Annual Report, v. 47, pt. 3, p. 81.
Thurston, P.C., Raudsepp, M. and Wilson, B.C. 1974, O.D.M. Map P.932.
Thurston, P.C. 1980, O.G.S. Map 2428.
Thurston, P.C. 1985a, O.G.S. G.R. 234, p. 89.
Thurston, P.C. 1985b, O.G.S. G.R. 236.

**EA-2/ BOBJO MINE (BOBJO PROSPECT, LAIDLEY-CONIAGAS PROSPECT)
- EARNGEY TOWNSHIP**

NTS 52N/2 SE

LOCATION

The shaft at the Bobjo Mine is situated on patented mining claim KRL 6631. The mine is located at the north end of Bobjo Point, on the south shore of Lost Bay of Confederation Lake, in the northeast corner of Earngey Township.

DESCRIPTION

Regional Structures: The Bobjo Mine is situated in an area of predominant north- and east-trending foliations (Fyon and Lane 1986).

Geology: North-trending, variolitic, massive and pillowed, mafic metavolcanic flows of the Cycle III sequence (Thurston 1985b) are intruded by north-trending quartz-feldspar porphyry dikes and gabbro sills. The mafic metavolcanic rocks are epidotized, chloritized and amphibolitized (Bateman 1940).

Mineralization: Quartz veins and stringers are situated along a large flexure in a north-trending quartz-feldspar porphyry dike which intrudes mafic metavolcanic flows. The dike is wide and intensely fractured at the flexure where it hosts numerous fracture-hosted quartz stringers. The dike is sericitized, iron carbonatized and slightly pyritic. Quartz veins and stringers are also hosted by tension fractures in mafic metavolcanic rocks near the contact with the dike. The mafic metavolcanic rocks are strongly sheared at the contact. A lamprophyre dike intersects the mineralized zone (Bateman 1940). Quartz stringers and veins host carbonate, sericite, chlorite, pyrite, pyrrhotite and fine visible gold.

Thurston (1973) described the occurrence as consisting of pillowed intermediate to mafic flows, intruded by a small body of quartz porphyry (30 m by 152 m) which in turn is intruded by a 1 metre wide, north-trending lamprophyre dike exposed for a length of 6 m. Thurston (1973) noted that the porphyry was intersected by 3 north-trending, vertical quartz veins up to 1 m wide with uncertain lateral extent.

OWNERSHIP AND DEVELOPMENT

1927: The property consisted of 15 contiguous mining claims known as the Laidley claims, KRL 6630 to 6638 and 4544 to 4546. The property was optioned to Coniagas Mines Ltd. and some surface work was conducted.

1928-1929: Bobjo Mines Ltd. was formed to develop the property; a shaft was sunk to a depth of 270 feet and levels were established at 100 and 250 feet; about 1600 feet of lateral work was completed; an open cut was established on a high grade surface showing; ore from the open cut was milled and produced 361.70 ounces of gold and 29 ounces of silver.

1938-1939: Bobjo Mines conducted detailed surface trenching and stripping and completed 7000 feet of diamond drilling; work was discontinued in April, 1939.

1971: The Bobjo property was owned by R.J. Jowsey Mining Co. Ltd.

1974: The property was owned by New York Oils Ltd. and consisted of 9 patented claims KRL 4544, 4546, 6630 to 6633, 6638, 6889 and 6890.

ECONOMIC FEATURES

The Bobjo Mine produced 361.70 ounces of gold and 29 ounces of silver (Rogers and Young 1930).

Visible gold was reported in the quartz veins on the property (Bruce 1929; Bateman 1940). Grab samples taken by P.C. Thurston (1985a) from quartz veins in the vicinity of the Bobjo shaft assayed from trace to 0.06 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A grab sample taken from spherulitic felsic flows on the property by B.T. Atkinson analyzed 290 ppb Au, 4ppm Ag, 420 ppm Cu, 3.1% Zn and 59 ppm Cd (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Bateman, J.D. 1940, O.D.M. Annual Report, v. 48, pt. 8, p. 40-41.
Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 46-47.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Rogers, W.R. and Young, A.C. 1930. O.D.M. Annual Report, v. 39, pt. 1, p. 8.
Sinclair, D.G. et al. 1930a. O.D.M. Annual Report, v. 38, pt. 1, p. 88.
Sinclair, D.G. et al. 1930b. O.D.M. Annual Report, v. 39, pt. 1, p. 85.
Thurston, P.C. 1973, O.D.M. M.P. 56, p. 14.
Thurston, P.C., Raudsepp, M. and Wilson, B.C. 1974, O.D.M. Map P.932.
Thurston, P.C. 1980, O.G.S. Map 2428.
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Thurston, P.C. 1985b, O.G.S. G.R. 236.

EA-3/ BOHME, J.D.S. OCCURRENCES - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Bohme occurrence consists of 3 separate showings situated west of Uchi Lake in Earngey Township. The Uchi No. 2 or No. 3 Zone Extension is located on claim KRL 910546 about 1.2 km west of Uchi lake. The Fault Zone Structure is located northeast of a small round lake, on claim KRL 648756 about 400 m west of Uchi Lake. The KRL 746312 showing is situated on claim KRL 1107522 (formerly KRL 746312) on the northwest shore of a hook-shaped bay along the west shore of Uchi Lake.

DESCRIPTION

Regional Structures: The Bohme occurrences are situated within the Uchi Mine structural domain which consists of a dominant east-trending foliation and a subordinate northeast-trending foliation which represents a high strain zone (Fyon and Lane 1985, 1986). The northeast-trending zone is 100 m wide and is known as the Uchi Lake zone of deformation (Fyon and Lane 1986).

Geology: North- and northeast-trending mafic metavolcanic flows are intercalated with dominantly intermediate to felsic pyroclastic rocks and minor interflow metasediments. The metavolcanic rocks are part of the Cycle II sequence (Thurston 1985b). The metavolcanics are intruded by large gabbroic and dioritic sills and smaller dioritic and felsic, porphyritic sills and dikes.

Mineralization: The Bohme occurrences consists of 3 separate gold showings described below:

Uchi No. 2 or No. 3 Zone Extension: This showing consists of a milky grey quartz vein trending 008/90 which is 22 cm wide and hosted by slightly sheared mafic metavolcanic flows (Thurston 1985a). The vein is exposed in a trench which is 4.6 m long (Thurston 1985a) and hosts minor pyrite and chalcopyrite.

Fault Zone Structure: This showing consists of a northwest-trending fault zone which offsets a narrow unit of rhyolite in mafic metavolcanic flows. A pyritic quartz-carbonate vein occurs within the fault zone.

KRL 746312 Showing: This showing consists of a quartz vein exposed on the shore of Uchi Lake. The vein is hosted by sheared mafic tuff and contains minor disseminated pyrite.

OWNERSHIP AND DEVELOPMENT

1937: The property was encompassed by a large contiguous group of claims held by Woco Gold Developments Ltd.

1966: Salem Exploration Ltd. flew an airborne magnetic survey over a portion of the property.

1968: A group of 31 contiguous claims were staked by Tashota-Nipigon Mines Ltd. and held in trust by J.D.S. Bohme. The company conducted geological mapping and a magnetic geophysical survey on the property. The Uchi No. 2 or No. 3 Zone Extension was

discovered in the northwest corner of claim KRL 61198; the Fault Zone Structure was discovered at the east boundary of claim KRL 61210.

- 1969: Tashota-Nipigon Mines conducted a horizontal loop electromagnetic survey over the property.
- 1970: Tashota-Nipigon Mines diamond drilled 4 holes totalling 383 m; one hole tested the Fault Zone Structure and two holes intersected sulphides in sheared and altered tuffs on claims KRL 61193 and 61212 on the northwest shore of a hook-shaped bay on Uchi Lake.
- 1971: Tashota-Nipigon Mines conducted another electromagnetic survey on the property.
- 1975: Kerr Addison Mines Ltd. conducted ground electromagnetic and magnetic surveys over a portion of the Bohme property.
- 1983: Orofino Resources Ltd. acquired the Fault Zone Structure showing and conducted airborne magnetic and electromagnetic surveys over the property as well as geochemical and geological surveys.
- 1984: M.A. Terrell conducted trenching and stripping and diamond drilled 3 holes totalling 97.5 m at the Bohme sulphide occurrence on claim KRL 746312 (formerly 61193) situated on the northwest shore of Uchi Lake.
- 1986: M.A. Terrell conducted sampling of a pyritic quartz vein on claim KRL 746312 situated on the northwest shore of Uchi Lake.
- 1987: Dollard Mines Ltd. conducted geological mapping on the property.
- 1988: St. Jude Resources Ltd. conducted magnetic, electromagnetic and induced polarization surveys as well as stripping and trenching.
- 1990: St. Jude Resources Ltd. conducted a humus geochemical survey.

ECONOMIC FEATURES

A grab sample taken by Tashota-Nipigon Mines Ltd. from the quartz vein at the Uchi No. 2 or No. 3 Zone Extension assayed 2.31 ounces Au per ton. A sample taken from the same vein by P.C. Thurston (1985a) assayed nil gold.

A sample taken by Tashota-Nipigon Mines Ltd. from the quartz-carbonate vein at the Fault Zone Structure assayed 0.08 ounce Au per ton.

The best assays from samples taken by M.A. Terrell from the quartz vein at the KRL 746312 showing were 0.033 and 0.011 ounce Au per ton.

SELECTED REFERENCES

- Bohme Property, assessment files, Resident Geologist's office, Red Lake.
Dollard Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and Lane, L. 1985, O.G.S. M.P. 126, p. 201-209.
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Kerr Addison Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
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Terrell, M.A., assessment files, Resident Geologists' office, Red Lake.
Thurston, P.C., Raudsepp, M. and Wilson, B.C. 1974, O.D.M. Map P.932.
Thurston, P.C., 1980, O.G.S. Map 2428.
Thurston, P.C., 1985a, O.G.S. G.R. 234, p. 106-107.
Thurston, P.C., 1985b, O.G.S. G.R. 236.

EA-4/ DARRELL GOLD MINES OCCURRENCE - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Darrell Gold Mines occurrence is situated on the south shore of Lost Bay of Confederation Lake in the northwest corner of Earngey Township. The occurrence is 200 m due south of the Earngey/Agnew township boundary and is 600 m due west of Bobjo Point. A few quartz veins, also discovered by Darrell Gold Mines Ltd., are located at the south end of Bobjo Point.

DESCRIPTION

Regional Structures: The occurrence is situated within the northeast-trending Confederation Lake Narrows zone of deformation (Fyon and Lane 1986).

Geology: North-trending massive and pillowed, epidote-rich, mafic metavolcanic flows are intercalated with felsic pyroclastic rocks and intruded by a small sill of granophyric granodiorite (Thurston 1980). The metavolcanic rocks are part of the Cycle III sequence (Thurston 1985b).

Mineralization: Five, northeast-trending quartz vein systems were exposed in mafic metavolcanic rocks.

OWNERSHIP AND DEVELOPMENT

- 1938: Darrell Gold Mines Ltd. owned a group of 27 claims immediately west of the Bobjo Mines claim group. Trenching was conducted on 5 vein systems found on the property.
- 1969: Selco Exploration Co. Ltd. diamond drilled 4 holes totalling 306 m in an area previously encompassed by the Darrell Gold Mines claim group.
- 1979: Selco diamond drilled 2 holes totalling 1004 feet in an area previously encompassed by the Darrell Gold Mines claim group.
- 1980: St. Joseph Explorations Ltd. conducted magnetic and horizontal loop electromagnetic surveys over a portion of the area formerly held by Darrell Gold Mines.

ECONOMIC FEATURES

Visible gold was reported in narrow quartz veins and stringers on the property.

SELECTED REFERENCES

- Bateman, J.D. 1940, O.D.M. Annual Report v. 48, pt. 8, p. 42.
- Darrell Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
- Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
- Selco Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
- St. Joseph Explorations Ltd., assessment files, Resident Geologist's office, Red Lake.
- Thurston, P.C., Raudsepp, M. and Wilson, B.C. 1974, O.D.M. Map P.932.
- Thurston, P.C. 1980, O.G.S. Map 2428.

Thurston, P.C. 1985a, O.G.S. G.R. 234, p. 89.
Thurston, P.C. 1985b, O.G.S. G.R. 236.

EA-5/ GRASSETT PROSPECT (GRASSETT-CAMERON PROSPECT) - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The shaft at the Grasett prospect is situated on patented mining claim KRL 4505, about 800 m due east from Lost Bay of Confederation Lake in Earngey Township. The prospect is 500 m due south of the Earngey/Agnew township boundary.

DESCRIPTION

Regional Structures: The Grasett prospect is situated within the Uchi Mine structural domain which is characterized by east- and northeast-trending foliations (Fyon and Lane 1985, 1986).

Geology: The prospect is underlain by north-trending mafic and intermediate pillowed and hyaloclastic flows and a rhyolitic tuff of the Cycle II sequence (Thurston 1985a, 1985b). The metavolcanic rocks are intruded by dioritic to gabbroic sills.

Mineralization: The main quartz vein at the Grasett prospect is 0.4 to 0.9 m wide, strikes 013/70-75 W (Baker 1975) and occurs along the north-trending contact between hyaloclastic mafic flows and felsic tuff. The quartz vein hosts tourmaline, iron carbonate, calcite, sericite, chlorite and disseminated pyrite. The vein is intersected by narrow quartz, quartz-carbonate and tourmaline veins (Baker 1975). About 90 m north of the shaft, subsidiary quartz veins occur in 2 outcrops 45 m east of the main vein (Thurston 1973).

The quartz vein at the Grasett prospect is part of the north-northeast-trending Hill-Sloan-Tivy vein system which has been traced by trenching, stripping and diamond drilling for a strike length of approximately 6.4 km.

OWNERSHIP AND DEVELOPMENT

1927: The property was originally part of the Hill and Hogarth property optioned to N. Timmins.

1927-1928: The property became part of the Hill-Tivy-Sloan group optioned to Consolidated Mining and Smelting Company. The company established a three-compartment shaft on claim KRL 4505 and sunk the shaft to a depth of 77.4 m with levels at 45 and 76 m.

1937: Erie Canadian Mines Ltd. conducted detailed underground sampling.

1938: J.E. Grasett and associates owned a group of 3 claims, KRL 4505, 4506 and 4568 situated north of the Jalda claim group.

1940: J.E. Hammell (Uchi Gold Mines Ltd.) bought the 3 Grasett claims and dewatered the Grasett or No. 5 shaft. Ore from the No. 5 shaft was treated at the Uchi Mine mill.

1942: The Grasett or No. 5 shaft was closed in November. The shaft had been sunk to a total depth of 223 m.

- 1969: Little Long Lac Mines Ltd. acquired the Grasett property (The Northern Miner, March 6, 1969) and flew airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over the property (Thurston 1985a).
- 1973: Selco Exploration Ltd. optioned the property and conducted a ground magnetic survey as well as vertical and horizontal loop electromagnetic surveys (Thurston 1985a).
- 1987: Lac Minerals Ltd. conducted a humus geochemical survey. The company also conducted geological mapping, prospecting, overburden drilling, magnetic, electromagnetic and induced polarization surveys at various times since 1980.
- 1988: Lac Minerals Ltd. flew airborne magnetic and electromagnetic surveys over a portion of the property.
- 1990: Lac Minerals conducted geological mapping and sampling immediately east of the Grasett prospect.

ECONOMIC FEATURES

Surface and underground chip samples taken at the Grasett prospect by Erie Canadian Gold Mines Ltd. assayed between \$3.75 (0.11 ounce Au per ton) across 2.16 feet and \$18.79 (0.54 ounce Au per ton) across 1.03 feet (Thurston 1985a; Cameron Group, assessment files, Resident Geologist's office, Red Lake). Reserves at the prospect are reported to be 78 295 tons grading 0.22 ounce Au per ton (Energy, Mines and Resources Canada 1989).

Grab samples taken by Thurston (1973) from the main vein assayed up to 0.25 ounce Au per ton. Samples taken from the subsidiary veins, north and east of the main vein, assayed 0.32 ounce Au per ton. Samples taken from the vein, south of the shaft, assayed between 0.03 and 0.22 ounce Au per ton (Thurston 1973).

Two grab samples taken from the quartz vein by D. Panagapko assayed 0.15 and 7.85 ounces Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Baker, D.F. 1975, The geology of the Hill-Sloan-Tivy quartz horizon, District of Kenora, Patricia Portion, Ontario; unpublished BSc thesis, University of Waterloo, Waterloo, Ontario, 88p.
- Cameron Group, assessment files, Resident Geologist's office, Red Lake.
- Energy, Mines and Resources Canada 1989, Canadian Mineral Deposits Not Being Mined in 1989, M.R. 223.
- Fyon, A.J. and Lane, L. 1988, O.G.S. M.P. 126, p. 201-209.
- Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
- Lac Minerals Ltd., assessment files, Resident Geologist's office, Red Lake.
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EA-6/ HAMMELL, J.E. OCCURRENCE (WOCO GOLD DEVELOPMENTS LTD. OCCURRENCE) - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Hammell occurrence is situated about 1 km west of Uchi Lake in Earngey Township. The occurrence is situated on mining claims KRL 910547 and 910550.

DESCRIPTION

Regional Structures: The Hammell occurrence is situated within the Uchi Mine structural domain which is characterized by a predominant east-trending foliation and a subordinate northeast-trending foliation (Fyon and Lane 1985, 1986).

Geology: North- and northeast-trending massive mafic metavolcanic flows intercalated with felsic pyroclastic rocks and minor interflow metasediments are intruded by large gabbroic and dioritic sills (Thurston 1980, 1985a). The metavolcanic rocks are part of the Cycle II sequence (Thurston 1985b).

Mineralization: The Hammell occurrence was discovered and diamond drilled by Woco Gold Developments Ltd. The zone was traced south from the Uchi Gold Mines Ltd. claim boundary across former claims KRL 15136 and 15137. The quartz vein system was intersected in 9 drill holes along a strike length of 853 m (Thomson 1939). The vein system is hosted by a thick gabbro sill (Thurston 1980) and consists of quartz stringers and disseminated sulphides accompanied by broad zones of shearing and mineralization (Thomson 1939). The Hammell occurrence was considered to be the southern extension of the main zone at the Uchi Mine. The quartz vein system was exposed for a 61 m strike length and was reported to be 0.46 m wide (Thomson 1939).

OWNERSHIP AND DEVELOPMENT

- 1937: The Hammell occurrence was originally part of a large contiguous group of claims held by Woco Gold Developments Ltd; the Woco claims adjoined the Uchi Gold Mines Ltd. claim group situated to the north. Nine holes totalling 853 m were diamond drilled on the property.
- 1939: Woco Gold Developments Ltd. sold a group of 5 contiguous mining claims to J.E. Hammell. The claim group included KRL 15136, 15137, 15138, 15162 and 15172.
- 1966: Salem Exploration Ltd. flew an airborne magnetic survey over the property.
- 1968: The Hammell occurrence was part of a contiguous group of 31 claims held in trust by J.D.S. Bohme for Tashota-Nipigon Mines Ltd.; the Hammell occurrence was situated on claims KRL 61195, 61196 and 61209. Tashota-Nipigon Mines Ltd. conducted geological mapping and a magnetic geophysical survey on the property.
- 1969: Tashota-Nipigon Mines conducted a horizontal loop electromagnetic survey over the property.

- 1970: Tashota-Nipigon Mines diamond drilled 4 holes totalling 383 m.
- 1971: Tashota-Nipigon Mines conducted another electromagnetic survey on the property.
- 1987: Dollard Mines Ltd. conducted geological mapping on the property. The Hammell occurrence was encompassed by claims KRL 910547 and 910550.
- 1988: St. Jude Resources Ltd conducted magnetic, electromagnetic and induced polarization surveys on the property as well as stripping and trenching.
- 1990: St. Jude Resources Ltd. conducted a humus geochemical survey on the property.

ECONOMIC FEATURES

No gold values have been reported but visible gold was identified in drill core (Thomson 1939).

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EA-7/ JALDA PROSPECT - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The shaft at the Jalda prospect is situated near the south boundary of claim KRL 12486 in Earngey Township. The Jalda shaft is 500 m due east of the south end of Lost Bay of Confederation Lake and is 700 m due north of the Kenelda shaft.

DESCRIPTION

Regional Structures: The Jalda prospect is located within the Uchi Mine structural domain which is characterized by dominant east- and northeast-trending foliations (Fyon and Lane 1985, 1986).

Geology: The Jalda prospect is underlain by north-trending, massive and pillowed, amygdaloidal, mafic metavolcanic flows intercalated with narrow units of felsic pyroclastic rocks and interflow metasediments of the Cycle II sequence (Thurston 1980, 1985b). The metavolcanic rocks are intruded by large dioritic to gabbroic sills (Thurston 1980).

Mineralization: The Jalda prospect consists of several gold occurrences which are described below:

No. 13 Zone: This zone is situated on patented claim KRL 12486 and consists of a 5 to 30 cm wide quartz vein striking northeast and dipping steeply northwest. The quartz vein contains veinlets of carbonate and minor pyrite. The quartz vein is hosted by carbonatized, pyritic gabbro which was reported to carry better gold values than the quartz (Bateman 1940).

No. 14 Zone: The Jalda shaft was sunk on the No. 14 zone near the south boundary of patented claim KRL 12486. The zone consists of quartz veins and stringers trending 070/80N for a strike length of 213 m. The quartz veins contain iron carbonate, tourmaline and disseminated pyrite.

No. 16 Zone: This zone is located on patented claim KRL 12487 and consists of a quartz stringer which is 1 to 2.5 cm wide, 12 m long, strikes northeast and dips 45° to the northwest. The vein is situated along the contact between gabbro and pyritic mafic metavolcanic rocks. The vein was reported to contain galena, altaite and spectacular visible gold (Bateman 1940).

No. 17 Zone: This zone is located on claim KRL 12488 and consists of a series of north-trending quartz stringers dipping 70° to the west in carbonatized, mafic metavolcanic rocks. The quartz stringers host fine visible gold, tourmaline and carbonate. The wall rocks contain disseminated pyrite, pyrrhotite and chalcopyrite and are reported to carry gold (Bateman 1940).

No. 18 Zone: This zone is located on patented claim KRL 12488 and consists of a 0.6 m wide quartz vein striking north and dipping 50° to the west for a strike length of 366 m. The vein is hosted by massive mafic metavolcanic flows. Gold is reported to occur only at the north end of the vein (Bateman 1940).

No. 20 Zone: This zone is located on patented claim KRL 12485. The occurrence has been described as a sulphide replacement zone trending 035/80 NW for a strike length of 1200 feet. The sulphide zone is hosted by a shear zone in mafic metavolcanic rocks. The sulphide zone

consists of massive pyrite and pyrrhotite which is intersected by narrow quartz stringers. Gold mineralization is only associated with the quartz stringers (Bateman 1940).

No. 21 Zone: This zone is located on patented mining claim KRL 12486 and consists of narrow quartz stringers trending 040° and dipping steeply to the northwest in a carbonatized, pyritic gabbro. The quartz veins host pink carbonate and tourmaline (Bateman 1940).

No. 22 Zone: This zone is located on patented claim KRL 12486 and consists of a 0.6 to 0.9 m wide quartz vein striking 075°.

No. 25 Zone: This zone is located on patented mining claim KRL 12486 and consists of a quartz stringer zone striking 065/70N in carbonatized and pyritic mafic metavolcanic rocks. The zone is 1.5 m wide and was stripped for a distance of 61 m (Bateman 1940).

Thomson (1939) described a zone located on patented claim KRL 12487 which consisted of discontinuous, en echelon, lenticular quartz veins striking 345/45W for a length of 335 m. The veins are several centimetres to 1.5 m wide and host minor sulphides and tourmaline. The veins are hosted by massive mafic metavolcanic rocks.

Woco Gold Development Ltd. also described a zone on patented claim KRL 12487 which consists of a 3 to 4.5 m wide carbonatized, pyritic zone striking 320° in mafic metavolcanic rocks. The shearing in the zone strikes 285° and is intersected by narrow quartz stringers. This may be the same zone which Bateman (1940) described as the No. 16 zone.

Woco also discovered the Acid Dike zone on patented claim KRL 12488 which consists of a north-trending 1.8 to 3 m wide quartz diorite dike intruding intensely altered diorite. The dike is intensely silicified and is intersected by irregular quartz stringers.

OWNERSHIP AND DEVELOPMENT

- 1927: Originally part of the Hill and Hogarth property which was optioned to N. Timmins.
- 1928: The property was known as the Hill-Tivy-Sloan group and was optioned to Consolidated Mining and Smelting Company who conducted a considerable amount of surface work.
- 1937: Woco Gold Development Ltd. conducted some surface work and discovered new gold showings on the property.
- 1938: Conwo Gold Mines Ltd., a subsidiary of Woco Gold Developments Ltd., acquired a group of 22 claims encompassing the property. The claims were: KRL 14875 to 14884, 12530 to 12532, 12481 to 12489. Stripping, trenching and diamond drilling were conducted.
- 1939: The Jalda property consisted of a contiguous group of 42 claims situated north of the Kenelda (Hanalda) property. J.E. Hammell (Uchi Gold Mines Ltd.) purchased 20 claims from Woco Gold Developments and 22 claims from Conwo Gold Mines. Jalda Gold Mines Ltd. was incorporated in May.
- 1940: The Jalda or No. 4 shaft was sunk on claim KRL 12486; 1264 tons of ore was hoisted and milled at the Uchi Mine site.

- 1941-1943: The Jalda shaft continued to operate until March 7, 1943 when Uchi Gold Mines Ltd. went into receivership. The shaft reached a total depth of 97.5 m.
- 1966: Salem Exploration Ltd. conducted an airborne magnetic survey over the former eastern portion of the Jalda property.
- 1969: Little Long Lac Mines Ltd. acquired the Jalda property (The Northern Miner, March 6, 1969). The company flew airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over the claims.
- 1973: Selco Exploration Ltd. optioned the property and conducted ground magnetic, vertical and horizontal loop electromagnetic surveys. Selco drilled one hole to a depth of 117 m which was targeted on a conductor on patented claim KRL 12484 (Thurston 1985a).
- 1987: Lac Minerals Ltd. conducted a humus geochemical survey. The company also conducted prospecting, overburden drilling, geological mapping, magnetic, electromagnetic and induced polarization surveys and diamond drilling at various times since 1980.
- 1988: Lac Minerals flew airborne magnetic and electromagnetic surveys over a portion of the property.
- 1990: Lac Minerals conducted geological mapping and sampling over the eastern portion of the Jalda property.

ECONOMIC FEATURES

The No. 14 zone at the Jalda shaft gave an average assay of 0.27 ounce Au per ton across 4 feet along a strike length of 320 feet. Very pyritic quartz vein material assayed between 0.63 and 3.86 ounces Au per ton (Bateman 1940).

The No. 18 zone gave an average assay of 0.3 ounce Au per ton across 3 feet for a strike length of 45 feet (Bateman 1940).

Some chip samples taken by Woco Gold Developments from the Acid Dike zone assayed \$28.70 (0.82 ounce Au per ton) across 6 feet, \$1.05 (0.03 ounce Au per ton) across 10 feet and \$3.50 (0.1 ounce Au per ton) across 10 feet. A diamond drill intersection through the zone assayed 0.18 ounce Au per ton across 15.5 feet.

Erratic gold values and visible gold have been reported from many of the other mineralized zones on the Jalda property (Bateman 1940).

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EA-8/ KENELDA PROSPECT (HANALDA PROSPECT) - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The shaft at the Kenelda prospect is located on patented claim KRL 5020 about 750 m southeast of Lost Bay of Confederation Lake in Earngey Township. The Kenelda shaft is also 100 m east of the southeast shore of a small unnamed lake.

DESCRIPTION

Regional Structures: The Kenelda prospect is situated within the Uchi Mine structural domain which consists of dominant east- and northeast trending foliations (Fyon and Lane 1985, 1986).

Geology: The Kenelda prospect is dominantly underlain by north-trending, massive and pillowed, mafic and intermediate metavolcanic flows intercalated with narrow units of intermediate to felsic pyroclastic rocks of the Cycle II sequence (Thurston 1980, 1985b). The metavolcanic rocks are intruded by a variety of intrusive rock types including gabbro, diorite, quartz-feldspar porphyry, pyroxenite (Thurston 1980) and syenite (Thomson 1939). Minor units of interflow metasediments commonly consisting of chert-magnetite iron formation occur throughout the metavolcanic rocks (Thurston 1980).

Mineralization: The Kenelda prospect consists of several mineralized zones which are described below:

No. 7 Zone: This showing is located on patented claim KRL 5020 and is the main zone where the shaft was sunk. The zone consists of very irregular quartz stringers and disseminated pyrite in a sheared, brecciated, slightly silicified and carbonatized dioritic intrusion. This zone is situated along the west contact of the diorite with mafic metavolcanic rocks. Quartz stringers are shallow dipping to flat-lying and intersect the northeast-trending shearing. The No. 7 zone is approximately 420 m in length and ranges from 0.3 to 2.4 m in width (Thomson 1939; Milberry Claims, assessment files, Resident Geologist's office, Red Lake).

No. 12 and 15 Zones: The No. 12 Zone is situated on patented claim KRL 4567 and is located about 490 m north of the No. 7 zone. The No. 12 zone consists of a system of quartz stringers which were traced by trenching and stripping for a strike length of 109 m. The No. 12 zone occurs along the same diorite/mafic metavolcanic contact as the No. 7 zone to the south (Thomson 1939).

The No. 15 zone is 46 m north of the No. 12 zone and is also situated on patented claim KRL 4567. The No. 15 zone consists of a series of shallow dipping quartz stringers which are 2 to 9 cm wide, strike northeast and dip 30° to the southeast. The quartz stringers are hosted by pyritic (3%), mafic metavolcanic flows and contain coarse visible gold, carbonate and tourmaline (Thomson 1939; Bateman 1940).

No. 9 Zone: The No. 9 zone is situated in the northwest corner of patented claim KRL 4567 and consists of a fracture hosted pyritic quartz vein in a fine- to medium-grained gabbro.

No. 23 Zone: The No. 23 zone is situated on patented claim KRL 4567 and consists of a network of quartz stringers striking 355° in carbonatized, biotitic and pyritic gabbro (Bateman 1940).

No. 24 Zone: This zone is situated on patented claim KRL 5020 and consists of a 0.3 m wide quartz vein striking 320° in pyritic, amygdaloidal, mafic metavolcanic rocks (Bateman 1940). Bateman (1940) also observed an east-trending set of quartz stringers intersecting a northeast-trending set in the vicinity of the No. 24 zone.

KRL 5018 and 5021 Zones: A north-trending quartz vein ranging between 0.5 to 1.5 m wide was exposed on patented claims KRL 5018 and 5021, west of the Kenelda shaft. The vein is situated along the contact between mafic metavolcanic flows and rhyolite and is considered to be part of the Hill-Sloan-Tivy vein system (Thomson 1939) which has been traced for a strike length of 6.4 km.

OWNERSHIP AND DEVELOPMENT

1937: Woco Gold Developments Ltd. discovered a gold-bearing quartz vein on claim KRL 5020 which was part of a larger claim group optioned to Woco; the company conducted stripping, trenching and diamond drilled 31 shallow holes.

1938: Kenelda Gold Mines Ltd. was organized as a subsidiary of Woco Gold Development and owned 20 claims organized in 2 groups, the claims were: KRL 14885 to 14888 in the first group and KRL 4567, 5018 to 5021, 14824, 14825, 14831, 14832, 14838, 14839, 14845 to 14848 and 14850 in the second claim group.

1939: J.E. Hammell (Uchi Gold Mines Ltd.) purchased the claims held by Kenelda Gold Mines and also acquired 5 adjoining claims held by J.A. Tremblay (KRL 5032 to 5036); the Tremblay claims had formerly been held by Earney Gold Mines Ltd. and were optioned to Newmont Mining Corp. who diamond drilled the property in 1937 (Thomson 1939); Hanalda Gold Mines Ltd. was incorporated.

1940: The Hanalda or No. 3 shaft was sunk on claim KRL 5020; 3179 tons of ore were hoisted from the shaft and processed at the Uchi Mine mill.

1941: The Hanalda shaft was closed in August. The total depth of the shaft was 97.5 m.

1966: Salem Exploration Ltd. conducted an airborne magnetic survey over the former eastern portion of the Kenelda property.

1969: Little Long Lac Mines acquired the Kenelda property (The Northern Miner, March 6, 1969). The company flew airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over the claims.

1973: The property was optioned to Selco Exploration Ltd. who conducted a ground magnetic survey as well as vertical and horizontal loop electromagnetic surveys (Thurston 1985a).

1980: St. Joseph Explorations Ltd. conducted magnetic and electromagnetic geophysical surveys. The company diamond drilled one hole to a depth of 88 m on the former eastern portion of the Kenelda property to test an electromagnetic conductor.

- 1987: Lac Minerals Ltd. conducted a humus geochemical survey in 1987. The company also conducted prospecting, overburden drilling, geological mapping, magnetic, electromagnetic, induced polarization surveys and diamond drilling at various times since 1980.
- 1988: Lac Minerals flew airborne magnetic and electromagnetic surveys over a portion of the property. Silverside Resources Inc. conducted ground magnetic, electromagnetic and induced polarization surveys over the former eastern portion of the Kenelda property.
- 1990: Lac Minerals conducted geological mapping and sampling over the former eastern portion of the Kenelda property.

ECONOMIC FEATURES

Diamond drilling and channel sampling conducted on the No. 7 zone by Woco Gold Developments Ltd. delineated a mineralized section with an average assay of 0.29 ounce Au per ton across a width of 5 feet for a strike length of 400 feet (Bateman 1940). Thomson (1939) reported that a 240-foot section of the No. 7 zone assayed \$11.26 (0.32 ounce Au per ton) across a 5-foot width; and a 150-foot section assayed \$11.70 (0.33 ounce Au per ton) over a 3-foot width.

Some of the diamond drill intersections from the No. 7 zone, reported by Woco Gold Developments Ltd. were: \$23.10 (0.66 ounce Au per ton) across 4.6 feet, \$10.95 (0.31 ounce Au per ton) across 20 feet, \$10.20 (0.29 ounce Au per ton) across 4 feet and \$21.00 (0.6 ounce Au per ton) across 2 feet (Milberry Claims, assessment files, Resident Geologist's office, Red Lake).

Two grab samples taken from the No. 9 zone by D. Panagapko assayed 0.02 ounce Au per ton and 147 ppb Au; a grab sample taken from the No. 15 zone assayed 0.08 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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EA-9/ MILBERRY PROSPECT - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Milberry prospect is located at the northwest corner of Hazard Lake (local name) on claims KRL 648726 and 648728 in Earngey Township.

DESCRIPTION

Regional Structures: The prospect is situated in the Uchi Mine structural domain which is characterized by a dominant east-trending foliation and a subordinate northeast-trending foliation (Fyon and Lane 1985, 1986).

Orofino Resources Ltd. noted that quartz-filled fracture systems trend 015° and 100° in the vicinity of the Milberry prospect. Orofino also reported that shearing is commonly north-trending. Chert-magnetite iron formation, west of Hazard Lake, contains tight chevron folds with north-trending fold axes plunging southeast. East-trending faults with sinistral and dextral displacements extend across the property (Thurston 1985a).

Geology: North-trending massive and pillowed mafic metavolcanic flows are intercalated with thin units of intermediate to felsic pyroclastic rocks of the Cycle II sequence. The metavolcanic rocks host minor units of interflow metasediments of chert-magnetite iron formation and are intruded by dioritic to gabbroic sills (Thurston 1980, 1985b).

Mineralization: The Milberry vein system strikes 028° (Thurston 1985a) and has been traced by diamond drilling and stripping for about 230 m (Thomson 1939). The quartz vein system is closely associated with a unit of chert-magnetite iron formation and graphitic, argillaceous interflow metasediments. The vein system may also be part of the siliceous or "lean" portion of the iron formation (Thurston 1985a). A report by B. Milberry indicates that the quartz vein system extends along the contact between felsic and mafic metavolcanic rocks. Milberry reported that narrow, banded iron formation was situated east of the vein zone and extended parallel to the zone. Milberry described the mineralized zone as an iron stained section containing disseminated pyrrhotite, carbonate and a few quartz stringers (Milberry Claims, assessment files, Resident Geologist's office, Red Lake).

Diamond drilling conducted by Orofino Resources Ltd. intersected gold mineralization in quartz-carbonate veins and variably sheared graphitic argillites, magnetite-chert iron formation, silicified and chloritized mafic metavolcanic flows and siliceous tuffs.

Orofino reported that alteration in the zone consisted of epidotization, carbonatization, silicification, chloritization and biotitization. The quartz-carbonate veins and siliceous tuffs contain variable amounts of tourmaline and up to 10% sulphides consisting of pyrrhotite, pyrite and minor chalcopyrite. Some tuff and argillite units also contain abundant graphite and magnetite.

The mineralized zone at the Milberry prospect is considered to be the southern extension of the Hill-Sloan-Tivy quartz vein system which has been traced by trenching, stripping and diamond drilling for a strike length of about 6.4 km.

OWNERSHIP AND DEVELOPMENT

- 1934: A group of 6 claims, KRL 12092 to 12097, were staked by B.E. Milberry.
- 1937: The 6 claims were optioned to Woco Gold Developments Ltd. who conducted trenching and diamond drilled 32 holes on the property. A gold-bearing quartz vein was intersected in 4 shallow drill holes over a strike length of 228 m. The vein was situated on claim KRL 12095.
- 1968: The Milberry prospect was part of a contiguous group of 31 claims held in trust by J.D.S. Bohme for Tashota-Nipigon Mines Ltd.; the Milberry prospect was situated on claim KRL 61201 on the northwest shore of Hazard Lake (local name). Tashota-Nipigon Mines Ltd. conducted geological mapping and a magnetic geophysical survey on the property.
- 1969: Tashota-Nipigon Mines conducted an electromagnetic survey over the property.
- 1971: Tashota-Nipigon Mines conducted another electromagnetic survey over the property.
- 1983: The Milberry prospect was acquired by Orofino Resources Ltd. who conducted airborne electromagnetic and magnetic surveys and geochemical and geological surveys. The prospect was encompassed by mining claims KRL 648728 and 648726.
- 1985: Orofino diamond drilled 10 holes totalling 579 m on the Milberry vein.
- 1986: Orofino diamond drilled 17 holes totalling 1617 m on the Milberry vein.

ECONOMIC FEATURES

Diamond drilling conducted by Woco Gold Developments Ltd. encountered the following intersections: \$1.05 (0.03 ounce Au per ton) across 2 feet, \$8.40 (0.24 ounce Au per ton) across 2 feet, \$4.90 (0.14 ounce Au per ton) across 1-foot, \$7.10 (0.20 ounce Au per ton) across 3 feet, \$7.30 (0.21 ounce Au per ton) across 3 feet and \$18.20 (0.52 ounce Au per ton) across 1-foot (Thomson 1939; Milberry Claims, assessment files, Resident Geologist's office, Red Lake).

Diamond drilling by Orofino Resources Ltd. encountered the following intersections: 1.69 ounces Au per ton across 1-foot in a quartz-carbonate vein; 0.14 ounce Au per ton across 6 feet in thinly bedded siliceous tuff with layers of pyrrhotite and chalcopyrite; 2.39 ounces Au per ton across 2.5 feet in a quartz-carbonate vein hosting pyrrhotite; 2.0 ounces Au per ton across 6.1 feet in silicified carbonatized mafic metavolcanic rocks containing quartz stringers and 10% pyrrhotite; 0.82 ounce Au per ton across 4.5 feet in magnetite-rich tuff; 4.42 ounces Au per ton across 2.2 feet in a quartz vein hosting pyrrhotite, pyrite and chalcopyrite; and 0.57 ounce Au per ton across 6 feet and 0.52 ounce Au per ton across 6 feet in graphitic, siliceous argillite hosting up to 5% pyrrhotite with minor chalcopyrite.

Numerous other mineralized sections were encountered in Orofino's diamond drilling and numerous anomalous and low grade gold values (0.01 to 0.06 ounce Au per ton) were encountered in tuffs and iron-rich metasediments.

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EA-10/ NORTHGATE PROSPECT (WOCO GOLD DEVELOPMENTS LTD. PROSPECT) - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Northgate prospect is located on leased mining claim KRL 43554 situated 800 m west of Uchi Lake and 1.8 km southwest of Hazard Lake (local name) in Earngey Township. Claim KRL 43554 is part of a contiguous group of 11 leased claims.

DESCRIPTION

Regional Structures: The Northgate prospect is situated within the Uchi Mine structural domain which is characterized by a predominant east-trending foliation and a subordinate northeast-trending foliation (Fyon and Lane 1985, 1986).

Geology: Northeast-trending massive and pillowed mafic metavolcanic flows are intercalated with intermediate to felsic pyroclastic rocks of the Cycle II metavolcanic sequence (Thurston 1980, 1985b). The metavolcanic rocks are intruded by gabbroic and dioritic sills.

Mineralization: The Northgate prospect consists of a 0.9 to 9.2 m wide quartz vein system which is underlain by mafic, pillowed flows, hyaloclastite and rhyolite. The quartz vein trends 040° and dips steeply to the west for a strike length of approximately 244 m (Thurston 1985a), however, Orofino Resources Ltd. reported that the drilled zone on leased claim KRL 43554 was an east-trending feature.

A report for Sylvanite Gold Mines Ltd. describes the quartz vein system as occurring along the contact between rhyolite and diorite. The Sylvanite report also indicates that fine visible gold occurs on sericitic fractures in the quartz vein.

The quartz vein system at the Northgate prospect may be part of the Hill-Sloan-Tivy quartz vein system which has been traced on surface and by trenching, stripping and diamond drilling for a strike length of 6.4 km.

OWNERSHIP AND DEVELOPMENT

1937: The property was originally held by Woco Gold Developments Ltd.

1939: F. Bergkvist discovered the "A" or main zone for Woco Gold Developments; the vein was stripped, trenched, channel sampled and diamond drilled; the vein was located on claims KRL 14785 and 14793. Woco also discovered a zone of quartz veins on claim KRL 17787 about 915 m southwest of the main zone. The property was subsequently optioned to a syndicate consisting of the following 5 companies: Coniagas Mines, Cyril Knight Prospecting Company Ltd., Anglo Huronian Mines Ltd., Howey Gold Mines Ltd. and Northern Canadian Mines Ltd.; the syndicate diamond drilled the zone to a depth of 91 m.

1949-1952: H.C. Hanson staked over the old claims and diamond drilled 7 holes totalling 220 m on claims KRL 31311 and 31313. The claims were cancelled in 1952.

- 1958: S. Thomson restaked 17 of the claims including the main showing and optioned them to Kirk-Hudson Mines which became Northgate Exploration Ltd.
- 1959: Northgate Exploration diamond drilled 7 holes (a drill plan in the assessment files indicates a total of 38 holes) totalling 901 m on the main zone; 11 of the mining claims were brought to lease, KRL 43549 to 43555, 43141 to 43143 and 43150. The main zone is located on leased claim KRL 43554.
- 1981: Northgate conducted geological mapping, magnetic and electromagnetic surveys at the main zone.
- 1983: Orofino Resources Ltd. conducted airborne magnetic and electromagnetic surveys and geochemical and geological surveys.

ECONOMIC FEATURES

Northgate Exploration Ltd. outlined reserves of 64 600 tons grading 0.28 ounce Au per ton (Orofino Resources Ltd., assessment files, Resident Geologist's office, Red Lake) at the main zone on leased claim KRL 43554. Diamond drilling conducted by Northgate encountered mineralized intersections such as 0.28 ounce Au per ton across 2.7 feet, 1.5 ounces Au per ton across 1.5 feet and 0.52 ounce Au per ton across 1-foot.

Woco Gold Developments Ltd. conducted detailed sampling on the vein which resulted in an average assay of \$17.40 (0.497 ounce Au per ton) across a width of 3 feet and a length of 200 feet.

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**EA-11/ RAINGOLD MINES OCCURRENCE (GEISLER, R.A. OCCURRENCE)
- EARNGEY TOWNSHIP**

NTS 52N/2 SE

LOCATION

The Raingold occurrence is situated 2.4 km south of Lost Bay of Confederation Lake in the central part of Earngey Township. The occurrence is located on patented mining claim KRL 10884, about 200 m due north of Hazard Lake (local name).

DESCRIPTION

Regional Structures: The Raingold Mines occurrence is situated within the Uchi Mine structural domain which is characterized by a predominant east-trending foliation and a subordinate northeast-trending foliation (Fyon and Lane 1985, 1986).

Geology: North-northeast-trending, pillowed and massive, amygdaloidal mafic flows are intercalated with intermediate to felsic pyroclastic rocks and minor interflow metasediments intruded by gabbroic and dioritic sills (Thurston 1985b). The metavolcanic rocks are part of the Cycle II sequence (Thurston 1985b).

Mineralization: The quartz vein system at the main showing was traced by trenching for a strike length of 335 m. The occurrence consists of numerous quartz stringers and sulphides hosted by a shear zone which is 1.5 to 2.7 m wide, strikes north and dips 85° to the east (Thomson 1939). Some sections of the shear zone are silicified and strongly mineralized with pyrite. Quartz stringers strike parallel to the shearing and also intersect shearing. The stringers and veins consist of white quartz hosting tourmaline and carbonate (Thomson 1939).

The quartz vein system is situated along a contact between mafic metavolcanic flows and felsic tuffs. The veins may be part of the Hill-Sloan-Tivy quartz vein system which has been traced by trenching, stripping and diamond drilling for a strike length of about 6.4 km.

OWNERSHIP AND DEVELOPMENT

pre-1937: A gold-bearing zone was discovered during the early period of exploration work in the Uchi Lake area.

1937: Raingold Mines Ltd. was organized to develop a group of 6 claims, KRL 10882 to 10887; J. McDonough and Jomac Gold Syndicate held a substantial interest in the property; some trenching and diamond drilling was completed. The main gold showings are situated on claims KRL 10883 and 10884.

1974: The Raingold property consisted of the same group of 6 claims described above and was owned by R.A. Geisler (Thurston 1985a).

ECONOMIC FEATURES

Raingold Mines Ltd. delineated a 400-foot long section at the north end of the vein system that gave an average assay of \$9.05 (0.26 ounce Au per ton) across 7 feet. Gold values were also obtained across a strike length of 900 feet which was reported to average \$6.50 (0.19 ounce Au per ton) across 7 or 8 feet (Thomson 1939).

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EA-12/ TREMBLAY, J.A. OCCURRENCE - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Tremblay occurrence consists of 4 patented claims KRL 4502 to 4504 and 5724 situated along the east shore of Lost Bay of Confederation Lake in Earngey Township. The claims straddle the common township boundary between Earngey and Agnew townships.

DESCRIPTION

Regional Structures: The Tremblay occurrence is situated within the Uchi Mine structural domain which consists of dominant east- and northeast-trending foliations (Fyon and Lane 1986).

Geology: The occurrence is underlain by north-trending massive and pillowed mafic metavolcanic flows intercalated with narrow units of felsic pyroclastic rocks of the Cycle II sequence. The metavolcanic rocks are intruded by dioritic to gabbroic sills (Thurston 1980, 1985b).

Mineralization: A 10 cm wide section of the north-trending Hill-Sloan-Tivy quartz vein occurs on the property (Thurston 1985a).

OWNERSHIP AND DEVELOPMENT

1938: J.A. Tremblay and associates owned 2 groups of 5 claims; the first group consisted of claims KRL 4501 to 4504 and 5724 located north of the Grasett prospect; the second group consisted of claims KRL 5032 to 5036 adjoining the Kenelda claim group; this second claim group was sold to Uchi Gold Mines Ltd.

ECONOMIC FEATURES

No assays have been reported.

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Thurston, P.C. 1985b, O.G.S. G.R. 236.

EA-13/ UCHI MINE - EARNGEY TOWNSHIP

NTS 52N/2 SE

LOCATION

The Uchi Mine is located 1.2 km due west of Uchi Lake in Earngey Township. The mine consists of 2 shafts situated on patented claims KRL 5038 and 5041 which are part of a contiguous group of 13 patented claims, KRL 5037 to 5045 and KRL 14851, 14852, 14854 and 14855. The property is accessible from a narrow road which extends east from the South Bay mine road, about 75 km northeast of Ear Falls.

DESCRIPTION

Regional Structures: The Uchi Mine is situated within the Uchi Mine structural domain which consists of a dominant east-trending foliation and a subordinate northeast-trending foliation which represents a high strain zone (Fyon and Lane 1985, 1986). The northeast-trending zone is 100 m wide and is parallel to several northeast-trending fold axes which occur in the Uchi Lake area (Fyon and Lane 1985). The trace of the north-northeast-trending axial plane of an anticline extends through the centre of the Uchi Mine property, as well as several east-trending faults (Thurston 1985a).

Geology: North- and northeast-trending mafic metavolcanic flows are intercalated with narrow units of felsic and intermediate pyroclastic rocks and are part of the Cycle II sequence (Thurston 1985b). The metavolcanic rocks are intruded by large gabbro sills and smaller dioritic and felsic, porphyritic sills and dikes.

Mineralization: The quartz vein systems at the Uchi Mine occur at the contacts between mafic metavolcanic flows and felsic tuffs or gabbroic to dioritic sills. The main ore zone consists of a main, crack-seal quartz vein or quartz "leader" which is 0.6 to 1.5 m wide. The main section of the ore zone consists of a series of quartz stringer zones situated along the east contact of the main quartz vein. The stringers are commonly perpendicular to the main vein and branch off from the vein in a herring-bone pattern. The quartz stringers are 5 to 13 cm wide and average 3 m in length, although some stringers extend up to 9 m in length. The quartz veins contain chlorite, pyrite, pyrrhotite, chalcopyrite, galena and visible gold (Thomson 1939; Bateman 1940).

Mafic metavolcanic wall rocks are intensely carbonatized, sericitized, biotitized, chloritized and silicified. The wall rocks contain albite and disseminated pyrite and pyrrhotite. Bateman (1939, 1940) reported that carbonate in the mafic metavolcanic rocks consisted of calcite and ankerite; and up to 75% of the wall rocks had been replaced by carbonate. Bateman (1940) also noted that there was a significant increase of K_2O in the mafic host rocks due to the additions of biotite and sericite.

The Uchi orebody consisted of 4 separate ore shoots which plunged steeply to the south and averaged 6 m in width and about 90 m in length. The North shoot is exposed on surface, north of the No. 1 shaft, and the third shoot is exposed south of the shaft. The other ore shoots were exposed on the 30 m and 91 m levels in the No. 1 shaft (Bateman 1940).

Several other quartz vein systems were discovered on the Uchi Mine property and are described below:

No. 3 Vein: The No. 3 vein is located 450 m west of the main ore zone and extends across patented mining claims KRL 5039 and 5040. The No. 3 vein strikes parallel to the main ore zone at the Uchi Mine. The vein was traced for a strike length of 914 m and averages 0.45 m in width. The vein occurs along the contact between a gabbro sill and mafic metavolcanic rocks intercalated with felsic tuffs. The No. 3 vein contains bands of chlorite. Minor amounts of pyrite occur in adjacent wall rocks (Bateman 1940).

No. 2 Vein: This vein is situated between the No. 3 vein and the main ore zone and is located on patented claim KRL 5041. The No. 2 vein was traced on surface for a strike length of 64 m and consists of a narrow quartz stringer with a steep dip to the west. A thin rhyolitic flow parallels the west contact of the vein.

Several other small quartz stringer zones were located on the Uchi Mine property but were not developed.

OWNERSHIP AND DEVELOPMENT

1926: Eight claims, KRL 5038 to 5045, were staked during the Woman Lake gold rush; the property was originally known as the MacAuley group.

1927: The 8 claims were optioned to Huronian Belt Company who conducted stripping and trenching; the company began sinking the No. 1 shaft on mining claim KRL 5038.

1928: The property was optioned to Consolidated Mining and Smelting Company who diamond drilled 6 holes totalling 910 m; a two-compartment vertical shaft was sunk to 33.5 m; 122 m of drifting and 33.5 m of crosscutting was completed on the 30 m level. The operation was closed in February, 1929.

1936: The property was idle for 8 years until it was acquired by J.E. Hammell in association with Val d'Or Mineral Holdings and Harber Gold Mines; 17 diamond drill holes were completed over a strike length of 396 m to an average depth of 183 m. At this time the property consisted of a contiguous group of 11 patented and 18 unpatented claims.

1937: Uchi Gold Mines Ltd. was incorporated in January. The shaft was sunk to a depth of 623 feet and levels were established at 300, 450 and 600 feet; equipment was installed on site in preparation for production; 1874 m of surface drilling was completed by the end of the year.

1938: A four-compartment shaft was collared on mining claim KRL 5041, 244 m south of the No. 1 shaft. The No. 2 shaft was sunk to a depth of 226 feet and a connection was made with the 100-foot level in the No. 1 shaft; surface diamond drilling consisted of 55 holes totalling 2110 m and 130 holes totalling 2994 m were diamond drilled underground.

1939: The No. 2 shaft was sunk to 1005 feet and new levels were cut at 800 and 1000 feet; connections with the workings in the No. 1 shaft were made at the 300-, 450- and 600-foot levels; 17 holes totalling 382 m were diamond drilled underground; a 500 ton cyanide mill

went into operation on May 4; 103 122 tons of ore were milled to produce 18 355.148 ounces of gold and 2505 ounces of silver.

- 1940: The properties of Hanalda Gold Mines Ltd., Jalda Gold Mines Ltd. and the Grasett claims were acquired by Uchi Gold Mines Ltd; all of the properties are located immediately north of the original MacAulay claims; the Uchi Mine property consisted of a contiguous group of 101 claims after the acquisitions. Each property was operated from its own shaft as a separate mine and the underground workings were not connected. The 2 Uchi Mine shafts were the No. 1 and No. 2 shafts on patented claims KRL 5038 and 5041, respectively; the Hanalda shaft was known as the No. 3 shaft on patented claim KRL 5020; the Jalda shaft was known as the No. 4 shaft on patented claim KRL 12486; and the Grasett shaft was known as the No.5 shaft on patented claim KRL 4505.

The No. 2 shaft was deepened to 1176 feet; workings at the Hanalda or No. 3 shaft were dewatered and 20 m of raising was done from the 150-foot level; the workings at the Jalda or No. 4 shaft were also dewatered; work was also started at the Grasett or No. 5 shaft.

56 underground diamond drill holes totalling 1860 m were completed and 970 m of trenching was conducted on the properties. About 251.199 tons of ore were hoisted from the No. 2 shaft; 3179 tons from the Hanalda or No. 3 shaft; and 1264 tons from the Jalda or No. 4 shaft. The ore from the No. 3 and No. 4 shafts was treated at the Uchi Mine mill. A total of 227 294 tons of ore were milled to produce 33 716.464 ounces of gold and 4585 ounces of silver.

- 1941: The No. 1 shaft was closed and only used as an auxiliary escapement way and the No. 2 shaft was the operating shaft; operations were continued at each of the properties except for the Hanalda or No. 3 shaft which was closed in August; underground diamond drilling consisted of 45 holes totalling 1600 m; a total of 249 417 tons of ore were milled to produce 36 954.339 ounces of gold and 4377 ounces of silver.

- 1942: The No. 2 and No. 4 shafts continued to operate throughout the year and the No. 5 shaft was operated until November. Surface diamond drilling consisted of 13 holes totalling 1149 m and 63 holes totalling 7820 m were diamond drilled underground; about 114 m of surface trenching was also completed; 162 627 tons of ore were milled to produce 22 270.044 ounces of gold and 2550 ounces of silver.

- 1943: Uchi Gold Mines Ltd. went into receivership in February and the No. 2 and No. 4 shafts closed on March 7. At the end of 1943 the total depths of the shafts were as follows: the No. 1 shaft was sunk to 622 feet, the No. 2 shaft was sunk to 1176 feet, the No. 3 and the No. 4 shafts were sunk to 320 feet and the No. 5 shaft was sunk to 731 feet.

One surface diamond drill hole was completed to a depth of 65 m and 5 holes were diamond drilled underground for a total of 675 m. A total of 15 554 tons of ore were mined and 14 614 tons of ore were milled to produce 3171.984 ounces of gold and 328 ounces of silver.

- 1966: Salem Exploration Ltd. conducted an airborne magnetic survey over the former eastern portion of the Uchi Mine property.

- 1969: Little Long Lac Mines Ltd. acquired the Uchi Mine property which consisted of a group of 39 patented claims. The company also staked an additional 212 claims in the Uchi Lake area (The Northern Miner, March 6, 1969). Little Long Lac flew airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over the property (Thurston 1985a).
- 1973: Selco Exploration Ltd. optioned the property and conducted a ground magnetic survey as well as vertical and horizontal loop electromagnetic surveys. Selco diamond drilled one hole to a depth of 113.4 m which was targeted on a conductor situated on patented claim KRL 5044 (Thurston 1985a).
- 1987: Lac Minerals Ltd. conducted a humus geochemical survey and diamond drilled 9 holes totalling 2895.6 m at the Uchi Mine property (Lavigne Jr., M.J. and Atkinson, B.T. 1988). The company also conducted geological mapping, magnetic, electromagnetic and induced polarization geophysical surveys and prospecting and overburden drilling at various times since 1980.
- 1988: Lac Minerals Ltd. flew airborne magnetic and electromagnetic surveys over a portion of the Uchi Mine property.
- 1990: Lac Minerals conducted geological mapping and sampling on a group of unpatented mining claims adjacent to the Uchi Mine property.

ECONOMIC FEATURES

The Uchi Mine produced 114 467.97 ounces of gold and 14 345 ounces of silver from 757 074 tons of ore for an average grade of 0.15 ounce Au per ton and 0.02 ounce Ag per ton (Tremblay 1941, 1945, 1946a, 1946b, 1946c). Production figures include production from the Jalda, Kenelda (Hanalda) and Grasett properties. Reserves at the mine are reported to be 214 000 tons grading 0.147 ounce Au per ton (Energy, Mines and Resources Canada 1989).

The North ore shoot in the Uchi Mine averaged 0.31 ounce Au per ton across 28 feet for a length of 340 feet. The second ore shoot in the mine averaged 0.17 ounce Au per ton across 20 feet for a length of 170 feet (Bateman 1940).

The No. 3 vein was bulk sampled over a length of 600 feet and averaged \$27 or 0.77 ounce Au per ton at \$35 an ounce (Thomson 1939).

A grab sample of massive white quartz vein material taken by D. Panagapko at the Uchi Mine site assayed 0.26 ounce Au per ton, while a sample of fractured quartz with carbonate and pyrite assayed 0.02 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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**GOODALL
TOWNSHIP
NTS 52N/2 SE**

GO-1/ HURLEY PROSPECT (HURLEY-MACDONALD OR DION, L. OCCURRENCE) - GOODALL TOWNSHIP

NTS 52N/2 NE

LOCATION

The Hurley prospect consists of 6 gold showings presently encompassed by 7 mining claims, KRL 1143171, 1143172, 1143174, 1143175, 1143070, 955038 and 955039 in Goodall Township. The claims are situated in the vicinity of Stevens and MacDonald lakes (local names), in the south central part of Goodall Township, about 1.6 km east of Woman Lake and 800 m west of Washagomis Lake.

DESCRIPTION

Regional Structures: The Hurley prospect is situated near the intersection of the north-northeast-trending Rowe-Woman lakes deformation zone and the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: East-facing, mafic and intermediate, massive, amygdaloidal, pillowed and spherulitic flows of the Cycle III sequence (Thurston 1985) are intruded by gabbroic and dioritic sills and dikes. Several discrete east- and east-northeast-trending shear zones, dipping steeply to the northwest, have been delineated on the property. The shear zones are 0.3 m to 5 m in width and have been traced along strike for approximately 1.2 km. Narrow shear zones striking 025° intersect some of the main mineralized shear zones which strike 060° .

The mineralized zones commonly occur in mafic, magnetite-bearing, metavolcanic rocks. Sheared wall rocks are variably carbonatized, silicified, sericitized and chloritized with some weak tourmalinitization. Pervasive epidote alteration or abundant intersecting veins of epidote up to 2 cm in width commonly occur in the mineralized zones.

Mineralization: Numerous trenches and pits have been sunk along mineralized shear zones hosting quartz and quartz-carbonate veins ranging in width from 2 cm to 1.8 m. The veins commonly host disseminated pyrite and arsenopyrite but may also contain pyrrhotite, chalcopyrite, sphalerite, galena, native copper and visible gold. Sheared wall rocks are commonly pervasively silicified and contain between 5% and 25% disseminated pyrite and arsenopyrite.

The Main showing or Zone 1, situated northeast of Stevens Lake on mining claims KRL 509733 and 509734, has been the focus of the majority of exploration work on the property.

OWNERSHIP AND DEVELOPMENT

1933: Staked by F. Hurley

1958: Optioned by Madsen Red Lake Gold Mines Ltd. from A. Hager, J. Davidson and G. Hemming; the main showings were situated on former mining claims KRL 41889 and 41891.

- 1959: Madsen Red Lake Gold Mines Ltd. diamond drilled 2 holes totalling 249 feet; later in the year L. L. Dion diamond drilled 3 holes totalling 480 feet and completed some stripping and trenching.
- 1969: Falconbridge Nickel Ltd. conducted an airborne electromagnetic survey over the property.
- 1971: Falconbridge Nickel Ltd. conducted ground magnetic and electromagnetic surveys over the property.
- 1979: Staked by W. Hermiston.
- 1980: Optioned by Minorex Ltd. from A. Hager, W. Hermiston and B. Crawford; Minorex Ltd. conducted geological mapping, rock sampling and electromagnetic surveys; Minorex Ltd. delineated 6 mineralized zones and diamond drilled 5 holes totalling 761 feet on the Main showing or Zone 1 on mining claims KRL 509733 and KRL 509734.
- 1981: Minorex Ltd. diamond drilled 8 holes totalling 1180 feet targeted on several of the mineralized zones.
- 1985: Dome Exploration (Canada) Ltd. sampled the various mineralized zones on the property.
- 1987: The claims were transferred to Black Cliff Mines Ltd. conducted geological mapping, sampling, and an electromagnetic survey over a portion of the property.
- 1987-1988: Western Pacific Energy Corp. acquired several claims on the east portion of Stevens Lake. The claims (KRL 955033 to 955042 inclusive) encompass an east extension of the Main showing (Zone 1) on the north shore of Stevens Lake; and Zone 6, which was formerly delineated by Minorex Ltd., immediately south of Stevens Lake; Western Pacific Energy Corp. conducted geological mapping, rock sampling, ground magnetic electromagnetic and induced polarization surveys, trenching and stripping and diamond drilled 5 holes totalling 748.96 m during 1987 and 3 holes totalling 481 m during 1988.
- 1989: Claims KRL 509733, 509734 and 509737 to 509739 inclusive were allowed to lapse. These claims encompassed the majority of the gold showings on the property.
- 1990: Staked by C.D. Huston and transferred to Adonos Resources Inc. The showings are now encompassed by claims KRL 1143171 to 1143175 and 1143070 inclusive.

ECONOMIC FEATURES

Grab samples taken by Minorex Ltd. and Madsen Red Lake Gold Mines Ltd. from various mineralized zones at the Hurley prospect have assayed as high as 3.12 and 5.14 ounces Au per ton and 1.18 and 2.05 ounces Ag per ton. A grab sample taken by Dome Exploration (Canada) Ltd. from the mineralized shear zone (Zone 3) on mining claim KRL 509737 assayed 3.56 ounces Au per ton. Diamond drilling on the Main showing or Zone 1 by Madsen Red Lake Gold Mines Ltd. intersected 0.046 ounce Au per ton across 15 feet.

Grab samples taken by Western Pacific Energy Corp. from Zone 6, south of Stevens Lake, assayed as high as 3.35 ounces Au per ton. Grab samples of wall rock taken 3 m from the quartz veins at Zone 6 by Western Pacific Energy Corp. analyzed up to 399 ppb Au.

Seven samples taken from the east extension of the Main showing (Zone 1) on the north shore of Stevens Lake, by Western Pacific Energy Corp., analyzed 1104, 1454, 2268, 2299, 3602, 7534 and 5435 ppb Au. Diamond drilling conducted by Western Pacific Energy Corp. on this zone intersected isolated gold values such as 1034 and 2310 ppb Au in quartz-flooded sections.

SELECTED REFERENCES

- Black Cliff Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Dion Property, assessment files, Resident Geologist's office, Red Lake.
Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
Falconbridge Nickel Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Furse, G.D. 1934, O.D.M. Annual Report, v. 42, pt. 6, p. 46-48.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Hurley Claims, assessment files, Resident Geologist's office, Red Lake.
Madsen Red Lake Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Minorex Ltd., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Western Pacific Energy Corp., assessment files, Resident Geologist's office, Red Lake.

GO-2/ METALS DEVELOPMENT LTD. OCCURRENCE (BLUE, M. F. OCCURRENCE OR HUDSON-PATRICIA OCCURRENCE) - GOODALL TOWNSHIP

NTS 52N/2 NE

LOCATION

The Metals Development Ltd. occurrence consists of several pits and trenches which were encompassed by a contiguous group of 11 former mining claims, KRL 3886 to 3894 inclusive, KRL 5606 and 5607 in Goodall and Dent townships. Two patented mining claims KRL 375836 and 375845 (formerly claims KRL 3893 and 3892, respectively) presently encompass a portion of the former claim group. Pits and trenches have been excavated on mineralized areas immediately south of Premiere Lake near the Goodall/Dent townships common boundary.

DESCRIPTION

Regional Structures: The occurrence is about 2.4 km east of the north-northeast-trending Rowe-Woman lakes deformation zone within the Shanty Bay structural domain (Fyon and Lane 1986).

Geology: Massive and pillowed mafic metavolcanic flows of the Cycle III sequence (Thurston 1985) are intruded by small plugs and dikes of quartz porphyry (Pryslak 1972). Furse (1934) described the quartz porphyry intrusives as silicified quartz diorite. The wall rocks are chloritized, carbonatized, sericitized, silicified and pyritic.

Mineralization: Pits and trenches have been sunk on narrow, northeast-trending quartz veins and stringers hosted by mafic metavolcanic rocks and quartz porphyry. The quartz veins contain chloritic xenoliths which host disseminated pyrite and minor sphalerite. Sulphides occur in the wall rocks adjacent to the quartz veins.

OWNERSHIP AND DEVELOPMENT

1933: Staked by Metals Development Ltd. The claims in Goodall Township were part of a larger group of mining claims which encompassed the Hudson-Patricia Mine in Dent Township.

1934: The claims were acquired by Hudson-Patricia Gold Mines Ltd.

1975: St. Joseph Explorations Ltd. conducted ground magnetic and electromagnetic surveys over the property.

ECONOMIC FEATURES

No assays have been reported, however, Furse (1934) reported that gold occurred in several small veins in diorite near the southwest corner of claim KRL 3889. A chalcopyrite occurrence was also discovered on claim KRL 3894 (Pryslak 1972).

SELECTED REFERENCES

Furse, G.D. 1934, O.D.M. Annual Report, v. 42, pt. 6, p. 46-48.

Fyon, A.J. and Lane L. 1986, O.G.S. Map P.2989.

St. Joseph Explorations Ltd., assessment files, Resident Geologist's office, Red Lake.

Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985, O.G.S. G.R. 236.

GO-3/ NORAMCO EXPLORATIONS INC., GOODALL TOWNSHIP OCCURRENCES - GOODALL TOWNSHIP

NTS 52N/2 NW, 7 SW

LOCATION

The Noramco occurrences consist of 3 separate zones known as the C, D, and E areas. The occurrences are located at the north end of Woman Lake in Goodall Township and are situated along the shores of the lake. Area C is encompassed by claims KRL 954912, 954913, 954926 and 954927 (formerly KRL 4929 and 4934) and claims KRL 954948, 954956, 954957, 954971 and 954978. Area D is situated on claims KRL 954937 to 954941 inclusive (formerly KRL 5292, 5654, 5655 and 5656). Area E is situated on claim KRL 954900.

DESCRIPTION

Regional Structures: The occurrences are situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: North-trending intermediate to felsic flows and pyroclastic rocks intercalated with minor mafic metavolcanic flows and clastic metasediments of the Cycle II sequence (Thurston 1985). The metavolcanic rocks are variably sheared and host discrete shear zones trending east- and east-northeast. Alteration is also variable and consists dominantly of sericitization, biotitization, chloritization and carbonatization, with intense epidotization associated with pervasive silicification and quartz veining.

Mineralization: The occurrences in Area C consist of east-trending zones of disseminated and semi-massive sulphides in argillites, chert and intermediate to felsic lapilli tuff. Area D occurrences consist of narrow (4 to 12 cm), en echelon, quartz veins in shear zones trending 107/70N. Quartz veins contain disseminated arsenopyrite, pyrite, sphalerite, galena, hematite and visible gold. The sheared wall rocks are sericitized, carbonatized, silicified and contain minor amounts of tourmaline. Mineralization is confined to the quartz veins. The occurrences in Area E consist of semi-massive pyrite, chalcopyrite and pyrrhotite in a quartz breccia within a rhyolitic flow. The sulphides are stratabound and associated with intense sericitization.

OWNERSHIP AND DEVELOPMENT

- 1927: The occurrences in Areas C and D were staked when E.L. Bruce mapped the area in 1928. Area D was encompassed by mining claims held by Bell Woman Lake Mines Ltd. in 1927.
- 1987: Noramco Explorations Inc. conducted airborne magnetic and electromagnetic surveys.
- 1988: Noramco Explorations Inc. conducted sampling, geological mapping, ground magnetic, electromagnetic and induced polarization surveys, and completed 2815.41 m of diamond drilling (17 holes).

ECONOMIC FEATURES

Grab samples, taken by Noramco Explorations Inc., from sulphide zones in Area C analyzed between 144 and 899 ppb Au. Grab samples from quartz veins in Area D analyzed between 114

and 5111 ppb Au. A drill hole targeted on an old test pit in Area D intersected 180 ppb Au across 12 m in a pyritic, quartz breccia. No gold values were reported for Area E.

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 34.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Noramco Exploration Inc., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985, O.G.S. G.R. 236.

GO-4/ ONTARIO-WOMAN LAKE GOLD MINES LTD. PORTAGE OCCURRENCE - GOODALL TOWNSHIP

NTS 52N/2 NW

LOCATION

The occurrence is located immediately north of the portage between Woman and Narrow lakes near the west boundary of Goodall Township. The occurrence is presently encompassed by 6 contiguous mining claims KRL 999126 to 999128, 999131, 999229 and 999230. The occurrence was formerly encompassed by a group of 11 contiguous claims known as the Portage Group, which consisted of KRL 1919 to 1922, 2058 to 2063 and 7181.

DESCRIPTION

Regional Structures: The occurrence is situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Intercalated intermediate and felsic flows and pyroclastic rocks of the Cycle II sequence (Thurston 1985) are variably altered and sheared. Alteration consists of intense but localized carbonatization and some silicification. Iron carbonate veining is common at the occurrence.

Mineralization: Quartz veins trend 080/90 and are hosted by sheared felsic metavolcanic rocks. Quartz veins are massive and vitreous or thinly laminated and banded. The veins host variable amounts of disseminated galena, chalcopyrite and pyrite. Quartz veins also occur as en echelon ladder veins in an intensely altered dike which was traced on surface for 3000 feet.

OWNERSHIP AND DEVELOPMENT

- 1928: Claims held by Ontario-Woman Lake Gold Mines Ltd. The company conducted trenching and stripping and diamond drilled 8 holes totalling approximately 1404 feet. Most of the work was conducted on mining claims KRL 1919 to 1922, 2061 and 2059.
- 1968: Vanco Exploration Ltd. conducted airborne magnetic and electromagnetic surveys over the property.
- 1969: Vanco Exploration Ltd. conducted geological mapping, rock sampling, and ground magnetic and self-potential surveys.
- 1970: Vanco Exploration Ltd. conducted geochemical surveys, rock sampling, and ground magnetic and electromagnetic surveys.
- 1988: Noramco Explorations Inc. conducted airborne magnetic and electromagnetic surveys over the property.

ECONOMIC FEATURES

Medicine Rock Gold Mines Ltd. reported an assay of 12.09 ounces Au per ton from a "surface" sample taken from a test pit on the property. Numerous chip samples taken across several quartz veins on the property also assayed between 0.145 and 3.09 ounces Au per ton. The company also

reported drill intersections such as 0.54 ounce Au per ton across 29 feet, 0.25 ounce Au per ton across 36 feet and 0.198 ounce Au per ton across 20 feet from diamond drilling conducted on the property during 1928.

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 36.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P. 2989.
Medicine Rock Gold Mines, Ltd. (Portage Group), assessment files, Resident Geologist's office, Red Lake.
Medicine Rock Gold Mines, Ltd., Prospectus, date unknown, mineral deposit files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Vanco Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.

GO-5/ PICARD GOLD MINES LTD. OCCURRENCE - GOODALL TOWNSHIP

NTS 52N/2 NW

LOCATION

The Picard occurrence is situated on a large island at the north end of Woman Lake, Goodall Township. Several deep test pits and trenches are located on the north tip of the island, and inland from the west shore of the island. The occurrence was formerly encompassed by 5 contiguous mining claims KRL 3794, 3795, 3796, 6000 and 6001.

DESCRIPTION

Regional Structures: The Picard occurrence is situated immediately west of the north-northeast-trending Rowe-Woman lakes deformation zone, within the Shanty Bay structural domain (Fyon and Lane 1986).

Geology: Felsic flows and pyroclastic rocks are interlayered with intermediate pyroclastic rocks, minor mafic flows and carbonate-rich metasediments of the Cycle II sequence (Thurston 1985). All metavolcanic rocks are intruded by gabbroic to dioritic dikes. The metavolcanic rocks are intensely sheared 020/80SE and are sericitized, carbonatized and silicified. Iron carbonate alteration is intense but localized. The altered and sheared felsic rocks weather yellow to yellowish-green.

Mineralization: Trenches and pits have been sunk on fracture- and shear-hosted quartz and quartz-carbonate veins. Quartz veins are up to 4 feet wide and have been traced for strike lengths of up to 600 feet (Bruce 1929). Iron carbonate veins are also present near the trenches. The vitreous, white quartz veins host pyrite, galena, arsenopyrite and sphalerite.

OWNERSHIP AND DEVELOPMENT

1928: Trenching and stripping; a test pit on the property was sunk to a depth of 20 feet.

ECONOMIC FEATURES

Two grab samples taken by B.T. Atkinson from a quartz-carbonate vein in a trench at the north tip of the island analyzed 8 and 22 ppb Au and less than 2 ppb Ag (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). The vein contained sparse amounts of disseminated pyrite.

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. v. 37, pt. 4, p. 36.
Fyon, A.J. and O'Donnell, L. 1980, O.G.S. M.P. 132, p. 272-273.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985, O.G.S. G.R. 236.

GO-6/ ROUILLARD, B. OCCURRENCE - GOODALL TOWNSHIP

NTS 52N/2 NE

LOCATION

The Rouillard occurrence is located about 2.2 km east of Woman Lake on patented mining claims KRL 10831 and 10833 in Goodall Township. The claims are situated along the east shore of MacDonald Lake (local name) which is about 300 m west of the south end of Washagomis Lake. Several pits and trenches extend northeast across patented claim KRL 10833 from the east shore of MacDonald Lake to the west shore of Washagomis Lake.

DESCRIPTION

Regional Structures: The Rouillard occurrence is situated near the intersection between the north-northeast-trending Rowe-Woman lakes deformation zone and the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: A narrow shear zone striking 050/85SE is hosted by dominantly mafic and intermediate metavolcanic flows of the Cycle III sequence (Thurston 1985) intruded by gabbro and quartz porphyry sills and dikes. This zone is known as the Kelly Vein. Alteration is relatively minimal and consists of carbonatization and some silicification. The shear zone extends for about 300 m from the west shore of Washagomis Lake to the east shore of MacDonald Lake. A possible extension of the shear zone was discovered on the west shore of MacDonald Lake at the Hurley prospect.

Mineralization: Several pits and trenches have been sunk on discontinuous quartz veins and stringers which occur along the strike of the shear zone. Quartz veins are commonly hosted by sheared and altered mafic metavolcanic rocks, however, quartz veins also occur in a small quartz porphyry intrusion on the east shore of MacDonald Lake. Quartz veins and stringers contain up to 5% disseminated pyrite and arsenopyrite with some visible gold. Fyon and O'Donnell (1986) observed up to 20% pyrite in the quartz-carbonate veins.

OWNERSHIP AND DEVELOPMENT

1928: Property was staked when E.L. Bruce mapped the area.

1939: Staked by B. Rouillard who conducted trenching and sampling; optioned to Sylvanite Gold Mines Ltd. who conducted sampling, trenching and some mapping; the property consisted of 7 mining claims, KRL 10831 to 10837 inclusive.

1980: The property was optioned by Minorex Ltd. along with the Hurley prospect; Minorex Ltd. conducted mapping, sampling and ground electromagnetic surveys.

ECONOMIC FEATURES

B. Rouillard obtained assays as high as 1.86 ounces Au per ton from the quartz veins exposed in the trenches and reported abundant visible gold.

SELECTED REFERENCES

- Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 136, p. 272.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Minorex Ltd., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Rouillard Group, assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.

GO-7/ WESTERN PACIFIC ENERGY CORP. OCCURRENCES - GOODALL TOWNSHIP

NTS 52N/2 NE, 7 SE

LOCATION

The Western Pacific Energy Corp. occurrences consist of several gold showings in the east and northeast portion of Goodall Township. Four anomalous gold zones were discovered on the east and west shores of Waque Bay (local name) of Woman Lake on mining claims KRL 995010 to 955012 inclusive. The Swain Lake fault occurrence is located at the extreme north end of Woman Lake on claims KRL 955024 and 955051. The Washagomis Lake shear zone occurrence is situated on claim KRL 954768 at the north end of Washagomis Lake, about 400 m east of the mouth of the Woman River.

DESCRIPTION

Regional Structures: The occurrences on Woman Lake are situated at the intersection of the north-northeast-trending Rowe-Woman lakes deformation zone with the east-northeast-trending Swain Lake deformation zone. The occurrences near Washagomis Lake are situated within the Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Pillowed, brecciated and massive mafic metavolcanic flows are intercalated with minor intermediate to felsic metavolcanic flows, pyroclastic rocks and clastic metasediments of the Cycle III sequence (Thurston 1985). Stratigraphy is east-facing around Waque Bay and is intersected by northeast-trending gabbro dikes.

Mineralization occurs within east-northeast-trending shear zones hosted by intermediate and felsic tuffs and flows at the Swain Lake fault and Washagomis Lake shear zone occurrences. Alteration at these occurrences consists of weak to moderate sericitization, chloritization, carbonatization and silicification with minor epidote and tourmaline. Mineralization occurs within north-northeast- and east-northeast-trending shear zones at the occurrences on Waque Bay of Woman Lake. Alteration at these occurrences consists of weak to moderate chloritization, carbonatization and sulphidation.

Mineralization: Mineralization at the Washagomis Lake shear zone occurrence consists of 3% to 5% widespread, disseminated pyrite, arsenopyrite and minor chalcopyrite associated with gray-black quartz veins hosted by mafic metavolcanic flows.

Mineralization at the Swain Lake fault occurrence consists of up to 20% widely disseminated pyrite associated with intense, pervasive silicification.

Abundant (2% to 30%) disseminated pyrite occurs within sheared and carbonatized metasediments and mafic metavolcanic rocks at the occurrences on Waque Bay of Woman Lake. Disseminated pyrite, chalcopyrite and pyrrhotite occur in carbonate and quartz-carbonate veins and stringers within sheared mafic metavolcanic rocks.

Fyon and O'Donnell (1986) observed quartz-iron carbonate veins up to 0.5 m wide and 50 m long on the north shore of Washagomis Lake. Quartz veins and sericitized wall rock host disseminated pyrite and arsenopyrite.

OWNERSHIP AND DEVELOPMENT

1970: Bralorne Can-Fer Resources Ltd. held 20 claims covering the north part of Washagomis Lake and completed a ground magnetic geophysical survey on the claims.

1987-1988: Claims acquired and staked by Western Pacific Energy Corp.; the company conducted geological mapping, rock sampling, ground magnetic, electromagnetic and induced polarization geophysical surveys, airborne magnetic and electromagnetic geophysical surveys, and diamond drilled 7 holes totalling 1170.1 m on the various occurrences.

ECONOMIC FEATURES

A grab sample taken by Western Pacific Energy Corp. from the Swain Lake fault occurrence analyzed 1365 ppb Au. Isolated gold values ranging from 30 to 820 ppb Au were intersected in drill core. A 0.4 m chip sample taken across a pinkish-blue quartz vein analyzed 3607 ppb Au. This quartz vein is situated about 1.6 km south-southeast of the Swain Lake fault occurrence.

Grab samples taken at the Washagomis Lake shear zone occurrence analyzed between 96 and 248 ppb Au. Diamond drilling intersected isolated gold values ranging between 140 and 260 ppb Au.

Grab and chip samples taken from the 4 occurrences on Waque Bay of Woman Lake analyzed as high as 877 ppb Au.

SELECTED REFERENCES

- Bralorne Can-Fer Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and O'Donnell, L. 1986, M.P. 132, p. 272.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Pryslak, A.P. 1972, O.D.M. Map P.763.
Pryslak, A.P. and Valliant, W. 1977, O.G.S. Map P.1216.
Thurston, P.C. 1985. O.G.S. G.R. 236.
Western Pacific Energy Corp., assessment files, Resident Geologist's office, Red Lake.

**HONEYWELL
TOWNSHIP
NTS 52N/7 SE**

HO-1/ DOME EXPLORATION (CANADA) LTD. OCCURRENCE - HONEYWELL TOWNSHIP

NTS 52N/7 SE

LOCATION

The Dome occurrence is situated on a group of 27 mining claims located in the northeast corner of Honeywell Township. The claims are immediately south of the southwest arm of Grace Lake and northeast of Bamford Lake.

DESCRIPTION

Regional Structures: The occurrence is situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Mafic metavolcanic flows are intercalated with intermediate to felsic pyroclastic rocks of the Cycle I sequence (Thurston 1985) and intruded by large gabbro sills. Chemical and clastic metasediments were encountered in diamond drilling conducted in the area.

Mineralization: Disseminated pyrite occurs in silicified and carbonatized intermediate to felsic metavolcanic rocks. Minor tourmaline and rare chalcopyrite, pyrrhotite and scheelite were observed in diamond drill core at the occurrence by Dome Exploration (Canada) Ltd.

OWNERSHIP AND DEVELOPMENT

1939: Claims KRL 11794 to 11799 and KRL 12018 to 12020 were staked over the Dome occurrence.

1969: R. Nabigon staked claims over the occurrence and transferred these to Long Lac Mining Exploration Ltd. Airborne magnetic, electromagnetic and radiometric surveys were flown by the company prior to cancellation of the claims in 1971.

1984: Dome Exploration (Canada) Ltd. conducted ground magnetic surveys.

1985: Dome Exploration (Canada) Ltd. diamond drilled 10 holes totalling 2927 feet.

ECONOMIC FEATURES

One diamond drill hole, by Dome Exploration (Canada) Ltd., intersected 3 separate sections assaying 0.033 ounce Au per ton across 1 m, 0.033 ounce Au per ton across 3 m and 0.02 ounce Au per ton across 5 m.

SELECTED REFERENCES

- Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map 2989.
Johns, G.W. and Falls, R.M. 1976, O.D.M. Map P.1066.
Johns, G.W. and Thurston, P.C. 1979, O.G.S. Map 2404
Thurston, P.C. 1985, O.G.S. G.R. 236.

HO-2/ SOL D'OR MINE - HONEYWELL TOWNSHIP

NTS 52N/7 SE

LOCATION

The Sol D'Or Mine is situated in the extreme northeast corner of Honeywell Township, approximately 200 m north of the southwest arm of Grace Lake. The shaft and all known quartz veins on the property are situated on mining claim KRL 1070056 (formerly KRL 10790).

DESCRIPTION

Regional Structures: The Sol D'Or Mine is situated within the east-northeast trending Swain Lake deformation zone. A conjugate set of northwest- and northeast-trending shear zones occur in the vicinity of Grace Lake and the Sol D'Or Mine (Fyon and Lane 1986).

Geology: Sheared and folded felsic to intermediate pyroclastic rocks and mafic metavolcanic flows of the Cycle I sequence (Thurston 1985) are intruded by dioritic and gabbroic dikes and sills. Minor siliceous and argillaceous metasediments are intercalated with the metavolcanic rocks.

The dominant host lithology of the mineralized quartz veins is an intermediate pyroclastic tuff breccia which is carbonatized, sericitized and silicified. The silicified metavolcanic rocks commonly contain erratically disseminated apple-green mica. Quartz veins are hosted by narrow, discrete, east-trending shear zones and by joint sets dipping 45° to 70° to the north. Furse (1934) noted that several shear zones were situated at the contact between felsic metavolcanic rocks and gabbroic or dioritic sills. Wall rocks adjacent to the quartz veins are sericitized, carbonatized and tourmalinitized.

Mineralization: Seven separate quartz veins have been delineated on the Sol D'Or property. The veins are 2 inches to 3 feet wide with strike lengths ranging up to 1000 feet. The main veins consist of milky-white and gray quartz containing minor iron carbonate, disseminated pyrite, pyrrhotite, chalcopyrite and fine visible gold. Harding (1936) noted the presence of galena, sphalerite and tellurides in the quartz veins. Sections of the veins are comprised of quartz stringer zones and vein-breccia zones. The vein-breccia zones consist of brecciated quartz cemented with black tourmaline and/or abundant wall rock inclusions in a quartz-tourmaline matrix. B.T. Atkinson (Resident Geologist's files, Red Lake) noted that small quartz-tourmaline veins trending 120° to 130° intersect the main mineralized veins. Fyon and O'Donnell (1986) noted that many quartz-tourmaline veins occur in east-trending, south-dipping vein sets.

The No. 7 Vein consists of a carbonatized, chloritized and silicified shear zone striking 155/80SE. Fine-grained pyrite, arsenopyrite and chalcopyrite are disseminated throughout the sheared wall rocks which host narrow iron carbonate veins.

OWNERSHIP AND DEVELOPMENT

1927: Eighteen mining claims were staked by T.W. Bathurst, R. Ellis and W. Johnson for the T.W. Bathurst Syndicate and transferred to Rainbow Lake Gold Mines Ltd.

1932-1933: The property was restaked by E. McDougall and leased to T.W. Bathurst; the property consisted of 24 patented mining claims and 14 unpatented mining claims in

Honeywell and McNaughton townships and in the Shabumeni Lake area; Bathurst Mines Ltd. operated a 5 ton ball mill and extracted ore from an open cut on the No.3 Vein; the open cut was 250 feet long with a maximum depth of 40 feet; Furse (1934) reported that 100 tons of ore were treated for a production value of \$1500, however, Sinclair et al. (1937) reported that 400 tons of ore was treated for an approximate production value of \$10 000.

- 1934: The property was acquired by Sol D'Or Gold Mines Ltd.
- 1935: A new 35 ton mill was installed and 119.38 tons of ore was milled for a production value of \$1390.78; 800 feet of trenching ranging from 5 to 40 feet in depth had been completed by the end of 1935, as well as 2000 feet of stripping and a number of test pits and 10 diamond drill holes totalling approximately 3000 feet; Harding (1936) reported that approximately 400 tons of ore had been milled for a total production value of \$7500 as of July.
- 1936: 62.69 tons of ore were milled for a production value of \$1072.15 this brought the total amount of ore mined from the No. 3 Vein open cut to 560.07 tons with a total production of \$13 506.19 (Sinclair et al. 1938); a vertical three-compartment shaft was sunk to a depth of 164 feet on claim KRL 10790; 1000 feet of drifting and crosscutting was completed on the 150-foot level.
- 1937: The mine operated until May when operations were suspended.
- 1940-1965: Property was owned by Midco Minerals Ltd.
- 1969: C.C. Huston and Associates conducted airborne magnetic and electromagnetic surveys over the property for Long Lac Minerals Ltd.
- 1974: Ronda Copper Mines Ltd. acquired the property and conducted induced polarization surveys and geological mapping.
- 1975: Ronda Copper Mines Ltd. conducted an induced polarization survey on the property.
- 1976: Ronda Copper Mines Ltd. conducted a detailed ground magnetic survey and geological mapping and diamond drilled 5 holes totalling 1060 feet.
- 1980: Springpole Lake Resources Ltd. drilled 2 holes, totalling 605 feet on claim KRL 509697 which encompassed part of the original Sol D'Or property.
- 1982: J. Green conducted trenching and sampling near the Sol D'Or shaft.
- 1985: Property was optioned to Sweany Gold Corp.
- 1986: Kidd Creek Mines Ltd. conducted ground magnetic and electromagnetic surveys over the property in the early part of the year; Sweany Gold Corp. optioned the property to Parflo Mines and Energy Corp. who conducted ground magnetic and electromagnetic surveys, geological mapping, surficial geological mapping and humus geochemical surveys.

ECONOMIC FEATURES

The Sol D'Or Mine produced approximately 258 ounces of gold and 33 ounces of silver from 458 tons of ore milled between 1933 and 1936 (Sinclair et al. 1937, 1938, 1939; Tremblay 1941). Reserves at the mine have been reported to be 8565 tons grading 0.57 ounce Au per ton (Energy, Mines and Resources Canada 1989).

The following table is a list of gold assays (ounce Au per ton) obtained from quartz veins on the Sol D'Or property by various exploration companies.

	<u>Sol D'Or Mines</u>	<u>Ronda Copper</u>	<u>Parflo Mines</u>
No. 1 Vein	0.22 0.609	0.25	0.996
No. 2 Vein	0.137 0.785		0.178
No. 3 Vein		0.545 0.039 0.054	0.17 0.131 0.213
No. 4 Vein	2.11 0.335		
No. 5 Vein			0.572
No. 7 Vein			2.179 0.036 0.110

The following table is a list of gold analyses from 7 grab samples taken by B.T. Atkinson at the Sol D'Or Mine (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>
85-BTA-39	altered felsic metavolcanic (sericite, carbonate)	10
-40	wall rock adjacent to main vein	3
-41	main quartz vein (dump rock)	343
-42	quartz-tourmaline vein (dump rock)	485
-43	quartz veining in wall rock (dump rock)	1600
-44	argillite (dump rock)	18
-45	felsic fragmental (dump rock)	15

A grab sample taken from the No. 1 Vein by G.W. Johns (1979) assayed 0.34 ounce Au per ton.

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 Ferguson, S.A. et al. 1971, O.D.M. M.R.C. No. 13, p. 227-228.
 Furse, G.D. 1934, O.D.M. Annual Report, v. 42, pt. 6, p. 42-45.
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Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
 Goodwin, A.M. 1967, O.D.M. M.P. 6, p. 75.
 Harding, W.D. 1936, O.D.M. Annual Report, v. 45, pt. 4, p. 18-19.
 Johns, G.W. and Falls, R.M. 1976, O.D.M. Map P.1066.
 Johns, G.W. 1979, O.G.S. G.R. 177, p. 43-49.
 Johns, G.W. and Thurston, P.C. 1979, O.G.S. Map 2404.
 Panagapko, D.A. and Gibson, J.C. 1980, O.G.S. Map P.2025.
 Parflo Mines and Energy Corp., assessment files, Resident Geologist's office, Red Lake.
 Ronda Copper Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
 Sinclair, D.G. et al. 1937, O.D.M. Annual Report, v. 45, pt. 1, p. 158-159.
 Sinclair, D.G. et al. 1938, O.D.M. Annual Report, v. 46, pt. 1, p. 201-202.
 Sinclair, D.G. et al. 1939, O.D.M. Annual Report, v. 47, pt. 1, p. 206.
 Sol D'or Gold Mines Ltd., historical files, Resident Geologist's office, Red Lake.
 Springpole Lake Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
 Thurston, P.C. 1985, O.G.S. G.R. 236.
 Tremblay, M. 1941, O.D.M. Annual Report, v. 49, pt. 1, p. 20.

HO-3/ ST. JOSEPH EXPLORATION LTD. OCCURRENCE - HONEYWELL TOWNSHIP

NTS 52N/7 SE

LOCATION

The St. Joseph Exploration Ltd. occurrence is located on the south shore of a small unnamed lake in the northwest corner of Honeywell Township. The unnamed lake is 400 m due east of the northeast corner of Washagomis Lake and is accessible by a portage trail extending east from Washagomis Lake.

DESCRIPTION

Regional Structures: The occurrence is situated within the northeast- to east-northeast-trending Swain Lake zone of deformation (Fyon and Lane 1986). A northwest-trending fault is inferred by Johns and Thurston (1979) about 800 m due west of the occurrence.

Geology: North- to northeast-trending intermediate tuff and lapilli tuff are intercalated with narrow units of felsic pyroclastic rocks and clastic metasediments and are intruded by gabbro and quartz-feldspar porphyry. The rocks are part of the Cycle II metavolcanic sequence described by Thurston (1985).

Mineralization: The occurrence consists of quartz-carbonate veins hosted by silicified, chloritized and sericitized, fine-grained intermediate tuff. The veins contain disseminated pyrite, pyrrhotite, chalcopyrite and galena. Bedding in the tuffs at the occurrence trends northeast and dips 80° to the northwest.

OWNERSHIP AND DEVELOPMENT

1969: Staked by Vanco Exploration (Ontario) Ltd. who conducted airborne magnetic and electromagnetic surveys, ground magnetic and self potential geophysical surveys, rock sampling and geological mapping. The property was part of Vanco's Sundown claim group.

1973: St. Joseph Exploration Ltd. staked the property and conducted ground magnetic and electromagnetic geophysical surveys and diamond drilled 2 holes totalling 337 feet. The property was encompassed by 4 mining claims, KRL 322836 to 322839 inclusive.

ECONOMIC FEATURES

No gold values have been reported. St. Joseph Exploration Ltd. indicates a gold-copper showing on a drill hole location map in the assessment files, Resident Geologist's office, Red Lake.

SELECTED REFERENCES

- Fyon, A.J. and Lane, L. 1986, O.G.S. Map P. 2989.
Johns, G.W. 1979, O.G.S. G.R. 177, p. 48, 50.
Johns, G.W. and Thurston, P.C. 1979, O.G.S. Map 2404.
St. Joseph Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
Vanco Exploration (Ontario) Ltd., assessment files, Resident Geologist's office, Red Lake.

HO-4/ WILLIAMS, C. OCCURRENCE - HONEYWELL TOWNSHIP

NTS 52N/7 SE

LOCATION

The Williams occurrence is situated 600 m northeast of a small unnamed lake near the northeast corner of Honeywell Township. The occurrence is 1.2 km due west of the Sol D'Or Mine.

DESCRIPTION

Regional Structures: The Williams occurrence is situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Mafic metavolcanic flows and intermediate to felsic pyroclastic rocks of the Cycle I sequence (Thurston 1985) are intruded by large medium-grained gabbro sills. A medium-grained gabbro sill is intersected by a northeast- to northwest-trending shear zone which hosts gold-bearing quartz veins. Sheared wall rocks are intensely iron carbonatized and chloritized but alteration is restricted to the shear zone.

Mineralization: The property consists of a main trench approximately 100 feet in length, 7 feet in width and 3 feet in depth. A vertical pit filled with water and measuring 5 feet by 5 feet occurs near the east end of the trench. A series of older trenches, overgrown and largely filled with debris, are situated east, west and north of the main trench.

A single quartz-carbonate vein is exposed in the main trench. The vein trends 060° and dips 37° N along its western portion and trends 095° and dips 30° N along its eastern portion. In a north-trending trench situated 30 feet west of the main trench, the vein trends 120° and dips 18° N. The vein appears to be restricted to the central portion of a large S-drag fold. At the west end the vein is only 1 to 2 inches thick and at the east end it splits into 3 veins. Some irregular cross-veining also occurs at the east end of the main vein.

The vein consists of white quartz hosting 10% to 20% pale brown carbonate, minor amounts of pyrite and chalcopyrite and specks of visible gold. The carbonate is dark brown on weathered surfaces and imparts a layered appearance to the vein. The vein is 3 to 10 inches wide and is hosted by fine-grained, pale grey-green, mafic flows. The vein is approximately 1-foot below the contact between medium-grained, massive, gabbro and the mafic flows. The mafic flows contain minor disseminated pyrrhite, are intensely iron carbonatized and brown on weathered surfaces. (Pryslak, Resident Geologist's office, Red Lake).

OWNERSHIP AND DEVELOPMENT

1969:Trenching and stripping conducted by C. Williams.

1980:Springpole Lake Resources Ltd. drilled 16 holes totalling 2401 feet on the property.

ECONOMIC FEATURES

Four grab samples taken from the quartz-carbonate vein by A.P. Pryslak assayed 0.01, 0.45, 0.05 and 0.20 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). A grab sample taken by G.W. Johns (1979) assayed 0.27 ounce Au per ton.

SELECTED REFERENCES

- Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Johns, G.W. and Falls, R.M. 1976, O.D.M. Map P.1066.
Johns, G.W. 1979, O.G.S., G.R. 177, p. 51-52.
Johns, G.W. and Thurston, P.C. 1979, O.G.S. Map 2404.
Panagapko, D.A. and Gibson, J.C. 1980, O.G.S. Map P.2025.
Shlesinger, H., assessment files, Resident Geologist's office, Red Lake.
Springpole Lake Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Williams Property, assessment files, Resident Geologist's office, Red Lake.

**KEIGAT LAKE
AREA
NTS 52N/8 NE**

KE-1/ CANAMER PROSPECT (GRIMSHAW PROPERTY) - KEIGAT LAKE AREA

NTS 52N/8 NE

LOCATION

The Canamer prospect is situated on the extreme east shore of Birch Lake in the Keigat Lake area. The main showing is located near the south boundary of leased mining claim KRL 51101 and is about 60 m due east of the lake shore.

DESCRIPTION

Regional Structures: The Canamer prospect is located east of a north-northeast-trending synclinal fold axis (Good 1988).

Geology: The prospect is situated within complexly folded metasedimentary rocks consisting of thinly bedded greywacke and siltstone, chert-magnetite iron formation and conglomerate containing chert-magnetite clasts. The metasediments are intercalated with mafic flows and intermediate to felsic pyroclastic rocks and are intruded by feldspar and quartz-feldspar porphyry. The supracrustal rocks are part of the Cycle II metavolcanic sequence (Thurston 1986).

The iron formation occurs in at least 2 discrete and tightly-folded units which trend about 130°. The thinly bedded iron formation consists of alternating layers of chert and magnetite with radiating aggregates of grunerite. The iron formation is commonly folded into tight S-shaped folds which plunge steeply northwest in the west part of the property. The folds display a well developed axial planar cleavage which trends southwest and northwest and dips moderately to steeply north (Ketchum 1987).

Mineralization: Gold mineralization is associated with pods and lenses of intensely sulphidized, silicified and brecciated iron formation. The altered breccia zones are localized in hinge zones of fold structures and in irregularities along fold limbs. Gold also occurs within narrow quartz veins and stringers which are parallel or subparallel to the trend of the axial planar cleavage in the folded iron formation; and along the contacts between iron formation and metavolcanic or metasedimentary rocks in areas of strong folding (Ketchum 1987). Gold also occurs within narrow shear zones which occur locally on the property (Ketchum 1987).

The sulphidized, brecciated zones consist of abundant pyrite with lesser amounts of pyrrhotite, arsenopyrite and chalcopyrite. Alteration consists of silicification, biotitization and chloritization. The largest sulphide-breccia zone is 1 m wide and 2 m long and is exposed at the Main showing.

Carbonatization, chloritization and minor sulphide mineralization are associated with quartz veins hosted by the iron formation. The majority of quartz veins are generally less than a few centimetres wide and are commonly parallel to the axial planar cleavage of folds. A second set of sheared and boudinaged quartz veins intersect the cleavage direction (Ketchum 1987).

OWNERSHIP AND DEVELOPMENT

1962: K. Koezur and O. Peterson staked 12 claims covering the Canamer prospect. Part of the staking was a restaking of earlier claims for which no information is available.

1966: Canamer Mining Corp. conducted stripping, trenching, sampling and diamond drilled 7 holes totalling 1243.7 feet.

1981: Property held by Mr. Grimshaw and K. Koezur.

1984-1985: Dome Exploration (Canada) Ltd. conducted mapping, sampling and magnetic and electromagnetic surveys over the property.

1985-1986: Dome conducted detailed geological mapping and sampling and diamond drilled 13 holes totalling 1888 m on the property (Ketchum 1987).

ECONOMIC FEATURES

Drill hole No. 4, which was completed by Canamer Mining Corp., intersected assays which ranged between 0.16 and 0.32 ounce Au per ton across 14.7 feet. Drill hole No. 1 intersected 2 sections which assayed 0.16 ounce Au per ton across 2.1 feet and 0.56 ounce Au per ton across 1.4 feet. Silver values as high as 0.36 ounce Ag per ton were also intersected.

A grab sample taken from the large sulphide pod at the Main showing by B.T. Atkinson assayed 0.15 ounce Au per ton, 0.11 ounce Ag per ton and 5.5 ppm As. A sample from the sulphidized iron formation adjacent to a quartz vein assayed 0.50 ounce Au per ton, 0.34 ounce Ag per ton and 20 ppm As. A grab sample of barren iron formation analyzed 24 ppb Au and 49 ppm As (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Canamer Mining Corp., assessment files, Resident Geologist's office, Red Lake.
Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
Good, D.J. 1988, O.G.S. O.F.R. 5685, p. 49-50, 52.
Ketchum, J.W.F. 1987, Structural and Economic Geology of the Canamer Gold Property and Surrounding Area, Birch Lake, Northwestern Ontario; unpublished BSc Thesis, Queen's University, Kingston, Ontario, 60p.
Thurston, P.C. 1978, O.G.S. M.P. 82, p. 14.
Thurston, P.C. 1987, O.G.S. O.F.R. 5607.

KE-2/ DOME-BIRCH LAKE PROSPECT (HIGH GRADE ISLAND SHOWING) - KEIGAT LAKE AREA

NTS 52N/8 NE

LOCATION

The Dome-Birch Lake prospect is situated on the northwest shore of a large island, immediately east of Johnson Island, in the northeast section of Birch Lake. The prospect is encompassed by mining claims KRL 793985, 807977 and 807999 in the Keigat Lake area.

DESCRIPTION

Regional Structures: Stratigraphy in the area of the prospect is north-trending due to a major synclinal fold axis situated east of the prospect (Good 1988). The stratigraphy is further complicated by folding along the northwest-trending fold axis of an overturned synformal anticline located northeast of the prospect (Good 1988). Three large west- and northwest-trending shear zones, situated near the northwest end of the island where the Dome-Birch Lake prospect is located, were reported by Good (1988).

Geology: The prospect is situated within intermediate to felsic pyroclastic rocks intercalated with narrow units of metasediments consisting dominantly of wackes and siltstones interlayered with chert-magnetite iron formation. Bedding and foliation strikes northwest and dips to the north and northeast. The supracrustal rocks are part of an allochthonous sequence of rocks in the Springpole and Birch lakes area (Thurston 1986).

Mineralization: Gold mineralization is associated with numerous narrow, silicified, sulphide-rich zones within iron formation, clastic metasediments and metavolcanic rocks. The sulphide zones consist of up to 20% disseminated and semi-massive pyrite and pyrrhotite, up to 10% disseminated arsenopyrite and minor disseminated chalcopyrite. The host rocks are pervasively silicified, variably sericitized and chloritized with weak epidotization. The chert-magnetite iron formation is commonly brecciated and sulphidized and trends 160/80W. Gold also occurs in pyritic, quartz-carbonate veins hosted by tension fractures in the iron formation.

Gold occurs on the southwest shore of a small island which is southeast of Johnson Island. This occurrence consists of quartz-carbonate veins in chert-magnetite iron formation trending 100/70N. The veins contain pyrite, chalcopyrite and visible gold.

OWNERSHIP AND DEVELOPMENT

1940's(?): H.C. Hanson is reported to have extracted about 10 ounces of gold from the property. Some X-ray diamond drilling and trenching was conducted.

1969: Falconbridge Nickel Mines Ltd. conducted airborne magnetic, electromagnetic and gamma-ray spectrometry surveys southeast of Johnson Island on Birch Lake and completed 482 m of diamond drilling.

1970: Falconbridge conducted ground magnetic and electromagnetic (AFMAG) surveys over 36 contiguous mining claims southeast of Johnson Island on Birch Lake. The mining claims encompassed a gold prospect located on Deer Island (local name) held by K. Koezur.

- 1981: Property held by O. Stoops. The occurrence was encompassed by claim KRL 509438. A gold occurrence located on a small island southeast of Johnson Island was held by D.Thomson on claim KRL 509441.
- 1985: Dome Exploration (Canada) Ltd. acquired a contiguous group of 251 mining claims in the northeast portion of Birch Lake and conducted ground magnetic and electromagnetic surveys.
- 1986: Dome diamond drilled 8 holes totalling 929.51 m on mining claims KRL 787953, 793985 and 807999, located north and east of Johnson Island. The company also conducted detailed geological mapping, stripping and sampling on their claims.
- 1986-1987: Dome diamond drilled 7 holes totalling 955 m on mining claims KRL 793985, 807997 and 807999 situated on the northwest end of the large island east of Johnson Island.
- 1988: Placer Dome Inc. diamond drilled 2 holes totalling 372.5 m on mining claim KRL 807997 situated on the large island east of Johnson Island.
- 1990: Placer Dome Inc. conducted magnetic and electromagnetic surveys on the property east of Johnson Island and diamond drilled 1 hole to a depth of 152 m on mining claim KRL 1023266 on the small island southeast of Johnson Island.

ECONOMIC FEATURES

Some of the diamond drill intersections reported by Dome Exploration (Canada) Ltd. are listed below:

<u>Drill Hole No.</u>	<u>Intersection (g/t Au)</u>
255A-25	1.37 across 0.97 m
	4.79 across 0.90 m
	1.37 across 1.10 m
	2.05 across 1.0 m
	1.37 across 0.74 m
255A-34	2.74 across 0.35 m
255A-43	2.10 across 0.32 m
255A-45	1.40 across 0.66 m
255A-49	1.40 across 0.50 m
	1.40 across 0.50 m
	1.40 across 0.50 m
	4.10 across 0.50 m

The majority of the sections consisted of silicified, sulphide-rich host rocks.

SELECTED REFERENCES

- Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
 Good, D.J. 1988, O.G.S. O.F.R. 5685 p. 51-53.
 Thurston, P.C. 1978, O.G.S. M.P. 82, p. 13-14.
 Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

KE-3/ DOME-KEIGAT CREEK OCCURRENCES - KEIGAT LAKE AREA

NTS 52N/8 NE

LOCATION

The Dome-Keigat Creek occurrences are situated along Keigat Creek approximately 900 m northeast of the northeast end of Birch Lake. The occurrences are encompassed by mining claims KRL 808053, 808086 and 808092 in the Keigat Lake area.

DESCRIPTION

Regional Structures: The occurrences are located northeast of a northwest-trending, overturned synformal anticline plunging about 75° to the northwest (Good 1988).

Geology: Northwest-trending units of fine-grained metasediments are intercalated with mafic metavolcanic flows. The metasediments consist of wacke, argillite and siltstone interlayered with chert-magnetite iron formation. The metasediments are in contact with granodioritic rocks of the Keigat Lake pluton situated 200 m northeast of the occurrences. The supracrustal rocks are part of an allochthonous sequence of rocks described by Thurston (1986) in the Springpole-Birch lakes area.

Mineralization: Abundant sulphides occur within silicified, chloritized, chert-magnetite iron formation and fine-grained metasediments. Sulphides consist of up to 20% disseminated pyrite and pyrrhotite which also occur in narrow, semi-massive seams and stringers. The metasediments are strongly epidotized and contain abundant garnet and biotite.

OWNERSHIP AND DEVELOPMENT

1985: Dome Exploration (Canada) Ltd. acquired 251 contiguous mining claims in the northeast portion of Birch Lake and conducted magnetic and electromagnetic surveys.

1986: Dome conducted geological mapping and sampling and diamond drilled 19 holes totalling 2515.07 m on various mining claims in the Keigat Creek area.

1987: Dome diamond drilled 8 holes totalling 1027 m in the Keigat Creek area.

1990: Placer Dome Inc. conducted ground magnetic and electromagnetic surveys.

ECONOMIC FEATURES

The diamond drill holes collared on mining claims KRL 808053, 808092 and 808086 intersected narrow mineralized sections assaying 1.37 g/t Au across 0.53 m, 2.10 g/t Au across 0.42 m and 1.40 g/t Au across 0.78 m. All of the intersections were hosted by silicified, sulphide-rich metasediments.

SELECTED REFERENCES

Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.

Good, D.J. 1988, O.G.S. O.F.R. 5685 p. 51-53.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

KE-4/ HANSON OCCURRENCE (SANDY POINT OCCURRENCE) - KEIGAT LAKE AREA

NTS 52N/8 NE

LOCATION

The Hanson or Sandy Point occurrence is located at the extreme southeast corner of Birch Lake in the Keigat Lake area. The occurrence consists of 2 separate showings located on 2 small points of land encompassed by mining claims KRL 720288 and 787394.

DESCRIPTION

Regional Structures: The occurrence is situated on the southwest flank of an overturned antiformal syncline (Good 1984). The axis of the fold trends west-northwest through the area and plunges 70° in the same direction. The rocks in the area have been subjected to 2 periods of regional deformation and a later localized event which resulted in the development of a northeast-trending crenulation and steep mineral lineation (Good 1988).

Geology: West- to west-northwest-trending, complexly deformed, mafic and intermediate metavolcanic flows and pyroclastic rocks are intercalated with thinly bedded greywacke and iron formation (Good 1988) of the Cycle II metavolcanic sequence (Thurston 1986).

Diamond drilling conducted by Alcon Exploration and Mining Syndicate and Gold Fields Canadian Mining Ltd. intersected narrow, alternating units of wacke, iron formation and intermediate and mafic metavolcanic rocks at the occurrence.

Mineralization: Gold is associated with quartz-carbonate veins and stringers hosted by sheared and folded, thinly bedded, magnetite-chert iron formation. The iron formation is chloritized, silicified, carbonatized and contains minor amounts of disseminated pyrite, pyrrhotite and arsenopyrite. The quartz-carbonate veins host minor amounts of tourmaline, pyrite and pyrrhotite.

OWNERSHIP AND DEVELOPMENT

1948: H.C. Hanson conducted trenching and sampling on mining claims KRL 22516.

1960: Alcon Exploration and Mining Syndicate acquired 10 claims, KRL 47079 to 47083 and 46942 to 46946 inclusive. Alcon sunk 11 trenches on claim KRL 47082 and diamond drilled 3 holes totalling 401 feet on claims KRL 46942, 46943 and 46944 (formerly KRL 22516).

1966: H.C. Hanson diamond drilled 1 hole to a depth of 103 feet on claim KRL 54196 (formerly KRL 46944).

1985: Loydex Resources Inc. conducted a magnetic survey over 6 mining claims, KRL 720284 to 720289, which encompassed the main showing.

1986: Dome Exploration (Canada) Ltd. diamond drilled 1 hole to a depth of 170 m on mining claim KRL 787394 (formerly KRL 47082).

1987: Gold Fields Canadian Mining Ltd. optioned the property from Loydex Resources and diamond drilled 2 holes totalling 1359.4 feet on claims KRL 720288 (formerly KRL 54196) and 720284.

1987: Dome Exploration (Canada) Ltd. diamond drilled 1 hole to a depth of 95 m on mining claim KRL 720145 immediately south of the Hanson occurrence.

1988: Placer Dome Inc. diamond drilled 1 hole to a depth of 181 m on mining claim KRL 720145 situated immediately south of the Hanson occurrence.

1988: Gold Fields conducted a humus geochemical survey, geological mapping, sampling and prospecting on a group of claims located east of the Hanson occurrence.

1990: Noranda Exploration Company Ltd. flew airborne electromagnetic, magnetic and gradiometer surveys over the property.

ECONOMIC FEATURES

The best assay obtained from chip samples taken at the property by H.C. Hanson was 0.27 ounce Au per ton across 1.6 feet.

A chip sample taken from an old trench on the property by Loydex Resources Inc. assayed 0.089 ounce Au per ton across 7.5 feet in chloritized iron formation.

Channel samples taken at the occurrence by Gold Fields Canadian Mining Ltd. assayed up to 0.35 ounce Au per ton across 4 feet and 0.84 ounce Au per ton across 2 feet. The assays were obtained from quartz-pyrite-arsenopyrite veins within folded iron formation.

One hole diamond drilled by Gold Fields Canadian Mining Ltd., on claim KRL 720284, intersected 2 separate sections which assayed 0.013 ounce Au per ton across 4.2 feet and 0.014 ounce Au per ton across 4.4 feet.

Grab samples taken by Gold Fields on mining claims immediately east of the Hanson occurrence analyzed up to 950 ppb Au.

SELECTED REFERENCES

Alcon Exploration and Mining Syndicate, assessment files, Resident Geologist's office, Red Lake.

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Good, D.J. 1988, O.G.S. O.F.R. 5685, p. 47, 58-69.

Hanson, H.C., assessment files, Resident Geologist's office, Red Lake.

Loydex Resources Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

KNOTT TOWNSHIP
NTS 52N/2 SW

KN-1/ COSTELLO OCCURRENCE - KNOTT TOWNSHIP

NTS 52N/2 SW

LOCATION

The Costello occurrence is located on a small point on Bear Lake, along the common township boundary between Knott and Corless townships.

DESCRIPTION

Regional Structures: The Costello occurrence is situated within the east-trending Bear Lake deformation zone (Fyon and Lane 1986; Fyon and O'Donnell 1986).

Geology: A thick wedge of massive, mafic metavolcanic flows intercalated with intermediate pyroclastic rocks and fine-grained clastic metasediments of the Cycle II sequence (Thurston 1985), are intruded by large gabbro dikes and sills and numerous northeast-trending felsic dikes. Stratigraphy is northeast-facing in the area.

The occurrence is situated within strongly foliated, chloritic and carbonatized (calcite), mafic metavolcanic rocks. Mineral lineations in the vicinity of the trenches plunge steeply to the northeast.

Mineralization: Pits and trenches have been sunk on several narrow, 1 to 10 inch wide quartz veins trending 050/85NW. Bruce (1929) reported that one vein was stripped for a strike length of 200 feet. The veins consist of white to blue, sugary quartz containing pyrite, chalcopyrite and galena.

OWNERSHIP AND DEVELOPMENT

1928: E.L. Bruce (1929) reported that the occurrence was situated on mining claim KRL 5501, where exploration work was concentrated.

1966: C.C. Huston and Associates flew airborne geophysical surveys over a large area including the Costello occurrence in 1969.

ECONOMIC FEATURES

Four grab samples taken from the quartz vein by B.T. Atkinson analyzed 145 ppb Au, 435 ppm Cu, 212 ppm Pb; 10 ppb Au, 247 ppm Cu; 17 ppb Au, 420 ppm Cu, 106 ppm Zn; and 2 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 35-36.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 266-275.
Pryslak, A.P. 1971, O.D.M. Map P.635.
Thurston, P.C. 1985, O.G.S. G.R. 236.

KN-2/ HEMMING, G. OCCURRENCE - KNOTT TOWNSHIP

NTS 52N/2 SW

LOCATION

The Hemming occurrence consists of 3 separate gold showings located southeast of Hemming Lake (local name) in the southwest corner of Knott Township.

DESCRIPTION

Regional Structures: The Hemming occurrence is situated within the northeast-trending Confederation Lake Narrows deformation zone (Fyon and Lane 1986).

Geology: The Hemming occurrence is located within a narrow northeast-trending wedge of intermediate pyroclastic rocks of the Cycle III sequence (Thurston 1985) intruded by granodioritic rocks of the Trout Lake batholith. The metavolcanic rocks are also intruded by northwest-trending felsic, feldspar porphyry dikes and gabbro dikes and sills. The metavolcanic rocks have been metamorphosed to amphibolite grade and contain garnets, biotite and amphibole.

Gold-bearing quartz veins are hosted by narrow northeast-trending shear zones at or near the contact between sheared intermediate tuff and a large gabbro sill or dike. Sheared wall rocks are chloritized and sericitized.

Mineralization: The No. 1 or Main showing consists of a large trench sunk on an 8 to 12 inch wide quartz vein trending 030/70SE. The vein contains abundant chlorite stringers and minor amounts of disseminated galena and fine visible gold.

The No. 2 showing is located about 2000 feet southwest of the Main showing. The No. 2 showing consists of a small trench sunk on a massive, white, quartz vein striking 040/90 along an exposed strike length of 35 feet. The vein is 9 feet wide at its northeast end and branches into 2 separate veins, which are 5 and 12 feet wide, at its southwest end. The vein contains chloritic inclusions of wall rock and minor amounts of galena. The vein occurs at a gabbro/tuff contact which is on strike with the No. 1 showing.

The No. 3 showing is situated about 3400 feet east-northeast of the No. 1 showing and is located on the north shore of a small lake. The showing consists of a 1- to 7-foot wide quartz vein which has been traced along a gabbro/tuff contact for 82 feet.

OWNERSHIP AND DEVELOPMENT

1928: G. Hemming prospected and staked the area.

1936: Property optioned to Sunray Syndicate but the company did not report any work.

1946: Property optioned to Dickenson Mines Ltd. but the company did not report any work.

1969-1970: Conwest Exploration Ltd. conducted ground magnetic and electromagnetic surveys over the property for base metals.

1981: M. Powley diamond drilled 1 hole totalling 123 feet on claim KRL 503470, in the vicinity of the No. 1 and No. 2 showings.

ECONOMIC FEATURES

Two grab samples taken by A.P. Pryslak from the quartz vein at the No. 1 showing assayed 0.11 ounce Au per ton and 0.13 ounce Ag per ton; and 0.59 ounce Au per ton and 0.41 ounce Ag per ton (Pryslak 1975).

G. Hemming reported that a diamond drill hole targeted on the quartz vein at the No. 3 showing intersected 0.10 ounce Au per ton across 3 feet (Pryslak 1975).

SELECTED REFERENCES

- Conwest Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Powley, M., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1971, O.D.M. Map P.635.
Pryslak, A.P. 1975, O.D.M. M.P. 60, p. 33-34.
Thurston, P.C. 1985, O.G.S. G.R. 236.

**McNAUGHTON
TOWNSHIP
NTS 52N/1 NW**

MC-1/ C.C. HUSTON OCCURRENCE (SHERRITT GORDON OCCURRENCE) - McNAUGHTON TOWNSHIP

NTS 52N/1 NW

LOCATION

The C.C. Huston occurrence is located in the southwest corner of McNaughton Township about 800 m northeast of Wagner Lake.

DESCRIPTION

Regional Structures: A northeast-trending fault extends through Wagner Lake and overturned bedding was recognized in metasediments south of Wagner Lake (Johns and Falls 1976).

Geology: North-trending, east-facing, massive and pillowed, mafic metavolcanic flows, hosting interflow sulphide-facies iron formation, are overlain and underlain by fine-grained metasediments intercalated with minor intermediate tuffs and flows. The sulphide-facies iron formation is situated at the stratigraphic top of the mafic flows (Johns and Falls 1976). The metavolcanic rocks occur within the Cycle I sequence described by Thurston (1985, 1986) and may also be part of a discrete dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989). The metavolcanics and metasediments are intruded by the Cook Lake pluton which has been mapped as a porphyritic, dioritic to syenodioritic intrusion (Johns and Falls 1976).

Mineralization: Exploration at the occurrence has been focussed on the sulphide-facies iron formation at the top of the mafic flow sequence. The iron formation is about 50 feet wide and has been traced along strike for 1500 feet. It consists of pods of banded pyrite and pyrrhotite in fine-grained argillaceous material.

Diamond drilling conducted by Sherritt Gordon Mines Ltd. intersected interlayered greywacke and argillite with minor units of intermediate and mafic metavolcanic rocks. The metasediments are biotitic, variable carbonatized and contain disseminated pyrite. One drill hole intersected 27 feet of sulphide-facies iron formation. Narrow, white quartz veins were also intersected in core.

OWNERSHIP AND DEVELOPMENT

1969: Seven claims were staked by N. Firth for C.C. Huston and Associates who conducted airborne and ground magnetic and electromagnetic surveys over the property.

1979: Sherritt Gordon Mines Ltd. diamond drilled 4 holes totalling 1025 feet on their "F" grid. A drill hole (UP-8) which intersected a gold-bearing quartz vein was collared on claim KRL 502575.

ECONOMIC FEATURES

One hole diamond drilled by Sherritt Gordon intersected 0.562 ounce Au per ton across 8 inches in a white quartz vein. The vein is reported to be hosted by a quartz-rich biotite gneiss containing quartz-carbonate fragments and minor pyrite.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

C.C. Huston and Associates, assessment files, Resident Geologist's office, Red Lake.

Johns, G.W. and Falls, R.M. 1976, O.D.M. Map P. 1067.

Sherritt Gordon Mines Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1985, O.G.S. G.R. 236.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

**MITCHELL
TOWNSHIP
NTS 52N/2 SE**

MI-1/ FLY LAKE BERTRAM OCCURRENCE - MITCHELL TOWNSHIP

NTS 52N/2 SE

LOCATION

The Fly Lake Bertram occurrence consists of 2 separate showings located at the north end of Keewatin Bay of Fly Lake, near the northeast corner of Mitchell Township. The property is accessible from a drill road which extends south from the South Bay mine road, about 70 km northeast of Ear Falls.

DESCRIPTION

Regional Structures: The Fly Lake Bertram occurrence is situated immediately east of a major zone of deformation consisting of north- and northeast-trending, subparallel and anastomosing shear zones which extend along the west shore of Fly Lake (Fyon and O'Donnell 1986).

Geology: North-northeast-trending intermediate to felsic pyroclastic rocks are intercalated with intermediate to felsic, massive porphyritic and spherulitic metavolcanic flows of the Cycle III sequence (Thurston 1985). The metavolcanic rocks are intruded by quartz and quartz-feldspar porphyry intrusions. The felsic intrusions commonly contain large blue quartz crystals in a sericitic matrix.

The South showing is situated on a narrow peninsula which separates Keewatin Bay from the main body of Fly Lake. North- and east-trending, steeply dipping, quartz-tourmaline veins are hosted by quartz porphyry, a feldspar-phyrlic dike and spherulitic metavolcanic flows. The veins are crack-seal type quartz veins which have been folded, boudinaged and sheared.

Fyon and O'Donnell (1986) recognized at least 2 vein sets at the South showing. An early vein set consists of strongly deformed milky white quartz veins up to 60 cm in width. The white quartz veins are intersected by quartz-tourmaline-carbonate veins which are commonly less than 5 cm in width. The widest vein system (1 to 5 m) occurs in, and adjacent to, a northeast-trending shear zone within a quartz porphyry intrusion (Fyon and O'Donnell 1986).

The North showing is located at the extreme north end of Keewatin Bay of Fly Lake. The showing consists of intensely sheared quartz porphyry hosting a 0.6 m wide quartz vein trending 050° . Shearing trends 030° and dips steeply south. The quartz vein is massive, white-gray and consists of fine, sugary quartz with red staining.

Mineralization: Quartz veins at the South showing host variable amounts of disseminated pyrite, sphalerite, galena, chalcopyrite and visible gold. Host rocks are sericitized, variably silicified and contain disseminated pyrite. The sheared quartz porphyry also hosts abundant red garnet (Fyon and O'Donnell 1986).

The North showing hosts variable amounts of disseminated sphalerite, pyrite and chalcopyrite. Host rocks are sericitized and variably silicified and contain layers and seams of sphalerite and pyrite. Sphalerite is also concentrated along shear planes and fractures.

OWNERSHIP AND DEVELOPMENT

- 1938: The South showing was discovered and staked by J. Penelton for the Mining Corporation of Canada Ltd.
- 1950: The North showing was discovered and staked by J. Hodgson for base metals.
- 1951: Heath Gold Mines Ltd. trenched and sampled the North showing and diamond drilled 5 holes totalling 728 feet on KRL 32538.
- 1968: W.C. Arrowsmith diamond drilled 3 holes totalling 1083 feet on the South showing.
- 1969-1970: Selco Exploration Ltd. conducted a ground magnetic survey over the property.
- 1977: Kerr Addison Mines Ltd. conducted electromagnetic and magnetic surveys over the North showing.
- 1985-1986: A. Bertram and B. Cronley conducted stripping and trenching at the North and South showings.
- 1988: Canadian Eagle Exploration Inc. (formerly Shabu Gold Mines Ltd.) flew airborne electromagnetic, resistivity and magnetic surveys over the occurrence.
- 1989: Placer Dome Inc. conducted ground magnetic and electromagnetic surveys over the property and diamond drilled 4 holes totalling 597 m.

ECONOMIC FEATURES

Grab samples taken from the South showing by Bateman (1940) assayed 0.01 ounce Au per ton and 0.62 ounce Au per ton. Chip samples taken by Bateman (1940) assayed 2.63 ounces Au per ton across 14 inches, 0.53 ounce Au per ton across 20 inches and 0.55 ounce Au per ton across 12 inches.

Five grab samples taken from the South showing by Kidd Creek Mines Ltd. assayed 0.036 ounce Au per ton, 2100 ppm Cu and 1.14 ounces Ag per ton; 0.110 ounce Au per ton, 0.032 ounce Au per ton, 0.463 ounce Au per ton and 0.229 ounce Au per ton.

Two grab samples taken from the South showing by D. Panagapko assayed 0.10 and 0.49 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). Two samples taken from the property by B.T. Atkinson in 1985 analyzed 3120 ppb Au, 6 ppm Ag, 12 ppm As, 14 ppm Cu, 15 ppm Pb and 243 ppm Zn; and 3.8 ounces Au per ton, 16 ppm Ag, 37 ppm As, 177 ppm Cu, 1350 ppm Pb and 910 ppm Zn. The highest analysis from 5 grab samples taken by B.T. Atkinson in 1986 was 1195 ppb Au and 20 ppm Ag (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

A grab sample taken from the quartz vein at the North showing by J. Parker assayed 0.42 ounce Au per ton, 1.86 ounces Ag per ton, 210 ppm Pb and 3.32% Zn; while a grab sample of the wall rock analyzed 34 ppb Au, 4 ppm Ag, 18 ppm Pb and 5.3% Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

No gold values were reported from the diamond drilling conducted on the property.

SELECTED REFERENCES

- Arrowsmith, W.C., assessment files, Resident Geologist's office, Red Lake.
Bateman, J.D. 1940, O.D.M. Annual Report, v. 48, pt. 8, p. 41-42.
Bertram, A., assessment files, Resident Geologist's office, Red Lake.
Canadian Eagle Explorations Inc., assessment files, Resident Geologist's office, Red Lake.
Cronley, B., assessment files, Resident Geologist's office, Red Lake.
Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 266-275.
Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
Heath Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Placer Dome Inc., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1970, O.D.M. Map P.593.
Thurston, P.C. 1985, O.G.S. G.R. 236.

MI-2/ MINT ORE OCCURRENCE - MITCHELL TOWNSHIP

NTS 52N/2 SW

LOCATION

The Mint Ore occurrence is situated on a peninsula of land on the southeast shore of Woman Lake in the northwest corner of Mitchell Township. The occurrence consists of 2 large, flooded shafts, an adit and numerous large pits and trenches situated on contiguous patented mining claims KRL 2028 and 4368.

DESCRIPTION

Regional Structures: The Mint Ore occurrence is located at the juncture between the northeast-trending Rowe-Woman lakes deformation zone and the east-trending Bear Lake deformation zone (Fyon and Lane 1986).

Geology: North- to northeast-trending mafic metavolcanic flows are intercalated with intermediate metavolcanic flows and pyroclastic rocks and narrow units of marble and siliceous, sulphide facies iron formation of the Cycle III sequence (Thurston 1985). The metasediments and metavolcanic rocks are intruded by granodioritic rocks of the Trout Lake batholith which is south and west of the occurrence.

The marble unit trends 160/85E and contains fine laminations, banding and possible stromatolites. The marble is variably silicified with minor pyrite and is a brown-weathering, white to green, sugary-textured rock (Bruce 1929). The marble unit is a northern extension of the stromatolitic marble at Woman Lake Narrows.

Mineralization: The shafts, adit and other workings have been sunk on 3 sulphide zones consisting of pyrite-pyrrhotite iron formation which also hosts minor chalcopyrite and magnetite. The sulphide zones are situated at the contacts between marble units and mafic metavolcanic flows and at the contacts between mafic and intermediate metavolcanic rocks.

OWNERSHIP AND DEVELOPMENT

1928: Mint Ore Mines Ltd. was reported by Bruce (1929) to have owned the mining claims encompassing the occurrences. Numerous large trenches and pits and a shallow shaft were excavated on the property.

1932: Jackson-Manion Mines Ltd. merged with Mint-Ore Mines Ltd. to form Jackson-Manion Consolidated Mines Ltd.

1956: The property was owned by Patino Mines of Canada Ltd.

1970: Patino Mines conducted electromagnetic and magnetic surveys over the property.

1981: Northgate Exploration Ltd. purchased the property.

1983: The property was assigned to Orofino Resources Ltd. who staked additional claims in the area and conducted line cutting, geological mapping and soil and humus geochemical surveys. Orofino referred to the Mint-Ore occurrence as their Southern or Woman Lake area.

ECONOMIC FEATURES

Seven grab samples taken at the occurrence by B.T. Atkinson returned the following analyses (Geoscience Laboratories Section, Ontario Geological Survey, Toronto):

<u>Sample No.</u>	<u>Sample Description</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Zn (ppm)</u>
87-BTA-217	crystalline marble	<2	<2	--	--
-232	silicified limestone	<2	<2	--	--
-233	sulphides in iron formation	34	3	72	79
-233A	sulphides in iron formation	12	2	120	154
-234	garnetiferous metasediments	17	2	5640	248
-235	granitic dike	<2	<2	--	--
-236	feldspar porphyry	<2	<2	--	--

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. Annual Report, v. 37, pt. 4, p. 33.4, p. 33.
 Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.
 Orofino Resources Ltd., assessment files, Resident Geologist's office, Red Lake.
 Pryslak, A.P. 1970, O.D.M. Map P.593.
 Thurston, P.C. 1985, O.G.S. G.R. 236.

MI-3/ SCRANTON OCCURRENCES - MITCHELL TOWNSHIP

NTS 52N/2 SE, SW

LOCATION

The Scranton occurrences consisted of 2 separate groups of mining claims at the southwest end of Confederation Lake in Mitchell Township. Mining claims KRL 6291 to 6299 inclusive and KRL 6667, 6668 and 6669 were situated along the north shore of the narrow, southwest arm of Confederation Lake. Mining claims KRL 6300 to 6305 inclusive were located on a large peninsula of land on the south shore of South Bay of Confederation Lake.

DESCRIPTION

Regional Structures: The occurrences are situated within the northeast-trending Confederation Lake zone of deformation (Fyon and Lane 1986). Fyon and Lane (1986) observed significant sericitization, silicification, albitization and quartz veining within the deformation zone.

Geology: The occurrence on the peninsula in South Bay of Confederation Lake is underlain by northeast-trending, amygdaloidal, mafic metavolcanic flows intruded by gabbro, granodiorite and porphyry dikes and sills. The occurrence on the north shore of the southwest arm of Confederation Lake is underlain by intermediate to felsic pyroclastic rocks, greywacke, siltstone, conglomerate and skarnified marble units intruded by numerous gabbro and porphyry dikes. The occurrences are situated within Cycle III metavolcanic rocks (Thurston 1985).

Mineralization: Four wide quartz vein and quartz stringer zones were discovered on the north shore of the southwest arm of Confederation Lake. The quartz veins are hosted by northeast- and east-trending shear zones adjacent to porphyry dikes. Quartz veins and carbonatized wall rocks contain disseminated pyrite and chalcopyrite. A pyritic zone has been traced for 3.5 km by Fyon and Lane (1985, 1986) along the north shore of the southwest arm. The zone consists of highly strained, siliceous and sericitic felsic pyroclastics containing garnet, biotite and erratically disseminated pyrite.

Numerous well mineralized quartz veins hosted by wide, northeast-trending shear zones were discovered on the peninsula on the south shore of South Bay. The quartz veins are pyritic and the mafic metavolcanic wall rocks are highly strained, carbonatized and chloritized. Fyon and Lane (1985) delineated a northeast-trending pyritic zone hosting accessory pyrrhotite and rare chalcopyrite. The zone outcrops continuously along a strike length of 500 m (Fyon and Lane 1985, 1986).

OWNERSHIP AND DEVELOPMENT

1927: The 2 separate claim groups situated at the southwest end of Confederation Lake were owned by Scranton-Ontario Consolidated Mines Ltd. Several small pits and trenches were sunk on quartz veins. Most of the discoveries were on mining claims KRL 6300, 6301, 6302, 6244, and 6298.

1968: South Bay Mines Ltd. diamond drilled 3 holes totalling 724 feet on their Dome grid which encompassed the peninsula on the south shore of South Bay of Confederation Lake. The holes were drilled for base metal mineralization.

1969-1970: Sheridan Geophysics Ltd. conducted a ground electromagnetic survey over the area.

1970: South Bay Mines Ltd. diamond drilled 8 holes totalling 3445 feet on their Jig grid which encompassed the north shore of the southwest arm of Confederation Lake. The holes were drilled for base metal mineralization.

ECONOMIC FEATURES

Scranton-Ontario Consolidated Mines Ltd. reported an assay of \$15 (0.725 ounce Au per ton) from the No. 1 Vein located somewhere along the north shore of the southwest arm of Confederation Lake. The company also reported an assay of \$73 (3.53 ounces Au per ton) from the No. 2 Vein. The exact location of the quartz veins is unknown.

SELECTED REFERENCES

Fyon, A.J. and Lane, L. 1985, O.G.S. M.P. 126, p. 206, 208.

Fyon, A.J. and Lane, L. 1986, O.G.S. Map P.2989.

Pryslak, A.P. 1970, O.D.M. Map P.593.

South Bay Mines Ltd. (Dome Grid), assessment files, Resident Geologist's office, Red Lake.

South Bay Mines Ltd. (Jig Grid), assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1985, O.G.S. G.R. 236.

**SATTERLY
LAKE AREA
NTS 52N/8 SW**

SA-1/ GREEN OCCURRENCE (BENEDICT OCCURRENCE) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Green occurrence is situated on the north shore of the channel between South Bay and Exit Bay of Birch Lake. The occurrence consists of 10 trenches about 50 m to 100 m inland from the lake shore.

DESCRIPTION

Regional Structures: The Green occurrence is situated along the south flank of an east-trending synclinal fold axis. The occurrence is also located due north of a west-southwest-trending high strain zone which extends along the south shore of the entrance into Exit Bay of Birch Lake (Beakhouse et al. 1989).

Geology: East-trending metasediments, consisting of interbedded polymictic conglomerate and arenite, are intercalated with intermediate lapilli tuff and intruded by quartz- and quartz-feldspar porphyry (Beakhouse et al. 1989). The metasediments are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) and are interpreted to be part of the Slate Lake belt which is a discrete dominantly metasedimentary terrain (Beakhouse 1989).

Mineralization: The Green occurrence consists of carbonatized, pyritic, polymictic conglomerate which hosts quartz-carbonate-tourmaline veins trending 100-200/70S. The conglomerate has been folded into an east-plunging anticline. Bedding in the metasediments trend 060° to 080° while foliations trend 135° to 150° (St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake).

A large trench was sunk on a rusty fracture which is the source of most of the gold at the occurrence. The fracture trends 060° and is less than 10 cm wide.

OWNERSHIP AND DEVELOPMENT

- 1939: Discovered and staked by M. Benedict who also conducted a considerable amount of stripping and trenching. The occurrence was situated on claim KRL 16420.
- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims which encompassed the occurrence.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. This work included ground electromagnetic and magnetic surveys, soil geochemical surveys and some trenching.
- 1984: St. Joe Canada Inc. optioned the occurrence and conducted stripping, geological mapping and a ground magnetic survey. The occurrence was situated on claims KRL 697000 and 697001.

1985: St. Joe conducted ground magnetic and induced polarization geophysical surveys and remapped the geology. The company completed 3 diamond drill holes totalling 390.5 m at the occurrence.

1986: St. Joe flew airborne magnetic and electromagnetic surveys over the property.

1988: The occurrence was staked by T. Keewaycabo and encompassed by claim KRL 1056640.

1991: Claim KRL 1056640 was cancelled in June.

ECONOMIC FEATURES

Nuggets of gold up to 0.6 cm in diameter were reported to have been panned from the rusty fracture at the occurrence.

A channel sample taken across the gold-bearing fracture by St. Joe Canada Inc. assayed 2410 ppb Au across 1 m. A diamond drill hole completed at the occurrence by St. Joe intersected 0.10 ounce Au per ton across 1.5 m in pyritic conglomerate.

A grab sample taken by G.P. Beakhouse (1989) from a quartz-carbonate vein in the largest trench analyzed 34 ppb Au.

Four grab samples taken by M.J. Lavigne Jr. from dump rock at the largest trench analyzed 6, 25, 70 and 80 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700, p. 62.
Beakhouse, G.P., Forsyth, D.M., Scott, K.V. and Wallace, Henry 1989, O.G.S. Map P. 3118.
Hudson Bay Oil and Gas Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-2/ GREENCAMP PROSPECT (RICE BAY GRID PROPERTY; INCH SYNDICATE PROPERTY; MORRISON GROUP) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Greencamp Prospect is located west of the channel which extends between Birch Lake and South Bay of Birch Lake. The Greencamp prospect is situated on the Rice Bay grid (St. Joe Canada Inc.) and consists of the Carbonate zone, located on claims KRL 776089 and 775992, and the Contact zone on claims KRL 775996, 776002 and 776001.

DESCRIPTION

Regional Structures: The prospect is situated on the south flank of an east-trending synclinal fold axis. The prospect is also due north of a west- to west-southwest-trending zone of high strain (Beakhouse et al. 1989). Shearing, faulting and foliations on the property are dominantly east-trending.

Geology: Northwest-trending metasediments consisting of greywacke and siltstone are intruded by the Greencamp stock. The stock is 450 m by 600 m, oval-shaped and dominantly composed of weakly foliated, medium-grained, tonalite to granodiorite. A late, "rhyolite" quartz porphyry has been intruded into the granodiorite along the northwest and southwest margins of the stock (Beakhouse et al. 1989; Beakhouse 1989). The metasediments are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) but may also be part of the Slate Lake belt which is a discrete, dominantly metasedimentary terrain (Beakhouse 1989).

Mineralization: The Greencamp prospect consists of the Contact zone and Carbonate zones described below:

Contact Zone: The Contact zone consists of 2 separate showings located along the northwest and southwest flanks of the Greencamp stock. The gold mineralization is located at the margins of a late "rhyolite" quartz porphyry which has intruded the granodioritic Greencamp stock. The granodiorite has been intensely silicified, variably tourmalinitized and mineralized with pyrite (up to 3%) and gold around the margins of the quartz "rhyolite" porphyry. Silicification and albitization occurs at the margins of the quartz porphyry. Whole rock geochemistry has shown that the porphyry contains between 8% and 10% Na₂O (D. Fitzpatrick, Noranda Exploration Co. Ltd., personal communication, 1991).

Quartz and quartz-carbonate veins are common in the granodiorite. Minor arsenopyrite, sphalerite and chalcopyrite occur with pyrite as disseminations and fracture coatings. Visible gold occurs as small grains on chloritic fractures, small grains in pyrite and coarse leaves and fine grains in a carbonate-epidote veinlet (Beakhouse 1989).

Cominco Ltd. reported that gold mineralization was controlled by fracturing, shearing, local veining and pyritization at the Contact zone.

Carbonate Zone: The Carbonate zone is situated immediately north of the Greencamp stock and the Contact zone. Cominco Ltd. reported that the Carbonate zone consists of several trenches sunk on quartz veins in several, west-northwest-trending, interlayered, carbonate-chert units

within wackes and siltstones. The carbonate-rich units are up to 1.5 m wide and are exposed discontinuously over a strike length of 600 m. The metasediments and quartz veins contain between 5% and 15% disseminated pyrite. The carbonate units have been described as a zone of pyritic, quartz, carbonate and quartz-carbonate veins in wacke (Beakhouse 1989). Intense small-scale folding, pervasive carbonate alteration and discontinuous pods of carbonate associated with minor chert layers and quartz veining generally trending 290° characterize the Carbonate zone. Bedding in the metasediments at the Carbonate zone trends northwest while intense foliation and shearing trends west-northwest (Beakhouse 1989).

OWNERSHIP AND DEVELOPMENT

- 1939: The property was held by J. Thomson and R. Brown (Inch Syndicate). The main showing (Carbonate zone) was trenched and stripped and located on claim KRL 13309. The trenches were sampled by Sylvanite Gold Mines Ltd.
- 1947: The Greencamp property was staked and consisted of 16 contiguous claims, KRL 24623 to 24631 and KRL 27842 to 27848 inclusive, known as the Morrison Group. Some trenching and stripping was conducted and 1 diamond drill hole was completed at the Contact zone.
- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims encompassing the Greencamp property.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. This work included ground electromagnetic and magnetic surveys, soil geochemical surveys and some trenching.
- 1978: R. Boulet staked the property and transferred the claims to Noranda Exploration Co. Ltd., however, no work was recorded and the claims lapsed in 1979.
- 1980: Cominco Ltd. staked 20 claims, KRL 551402 and 551421, over the Greencamp property and conducted geological mapping, rock and humus geochemical surveys and a ground magnetic geophysical survey. The majority of Cominco's work was concentrated on the Carbonate zone.
- 1984: St. Joe Canada Inc. optioned the property and conducted geological mapping and ground magnetic and induced polarization geophysical surveys.
- 1985: St. Joe conducted stripping, channel sampling, more geological mapping and geophysical surveys and diamond drilled 13 holes totalling 1575.5 m.
- 1986: St. Joe flew airborne magnetic and electromagnetic surveys over a large group of claims which encompassed the prospect.
- 1987: St. Joe diamond drilled 24 holes totalling 3382.05 m.
- 1990: Noranda Exploration Co. Ltd. acquired the Greencamp prospect from Bond Gold Canada Inc. and conducted geological mapping and humus and soil geochemical surveys.

1991: Noranda conducted stripping, sampling and mapping.

ECONOMIC FEATURES

The best assay from samples collected at the Carbonate zone by Sylvanite Gold Mines Ltd. assayed 0.165 ounce Au per ton.

A diamond drill hole completed on the Contact zone by the Morrison group intersected \$3 (0.085 ounce Au per ton) across 65 feet while a grab sample from blue quartz in the drill section assayed \$14 (0.4 ounce Au per ton).

Sampling at the Contact zone by Cominco Ltd. gave analyses ranging between 1 and 290 ppb Au, with a mean of 44 ppb Au. The best assay obtained from sampling at the Carbonate zone was 0.09 ounce Au per ton. Cominco reported that the best gold values were obtained from pyritic greywacke adjacent to the carbonate units.

Surface sampling at the Contact zone by St. Joe Canada Inc. gave assays as high as 0.22 ounce Au per ton. Grab samples taken from the Carbonate zone assayed 0.62 and 3.98 ounces Au per ton, while a channel sample assayed 0.12 ounce Au per ton across 24 feet.

Diamond drilling, by St. Joe Canada Inc., at the Contact zone intersected the following sections: 0.04 ounce Au per ton across 117 m (horizontal width of 82 m); 0.04 ounce Au per ton across 44 m (horizontal width) with a maximum gold assay from this section of 0.10 ounce Au per ton across 3 m; 0.22 ounce Au per ton across 3.1 m within a 20 m section of silicified and tourmalinitized granodiorite and metasediments; 2.11 ounces Au per ton across 0.6 m; 0.05 ounce Au per ton across 2.9 m; 0.16 ounce Au per ton across 2.6 m; 0.34 ounce Au per ton across 1.42 m. Many other intersections of low grade and anomalous gold mineralization were encountered during diamond drilling including 0.06 ounce Au per ton across 40.5 m (*George Cross News Letter*, September 5, 1986).

Diamond drilling at the Carbonate zone by St. Joe Canada Inc. intersected 0.28 ounce Au per ton across 1.5 m and 0.26 ounce Au per ton across 1.0 m. Diamond drilling by St. Joe at the I.P. Zone, located between the Carbonate and Contact zones, intersected 0.15 ounce Au per ton across 11 feet including a smaller section assaying 1.25 ounces Au per ton across 1-foot (*Northwest Prospector*, March/April, 1990).

A grab sample taken by G.P. Beakhouse (1989) from fine-grained, silicified, pyritic tonalite at the Contact zone assayed 0.04 ounce Au per ton. A grab sample taken at the Carbonate zone from the pyritic margin of a quartz vein in wacke assayed 0.13 ounce Au per ton; a sample taken at the Carbonate zone from a quartz vein containing coarse visible gold and hosted by wacke near a carbonate unit, assayed 0.10 ounce Au per ton and 1.83 ounces Ag per ton (Beakhouse 1989).

Two chip samples taken at the Carbonate zone by B.T. Atkinson from a 6 cm wide quartz vein containing visible gold, assayed 0.24 and 2.42 ounces Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

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SA-3/ HANSON OCCURRENCE (SUPERSTITION LAKE) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Hanson occurrence consists of numerous trenches situated immediately west of Superstition Lake, between Superstition Lake and South Bay of Birch Lake. The occurrence is about 500 m south of the entrance into Superstition Lake from South Bay. Several trenches are situated immediately north of the entrance into Superstition Lake.

DESCRIPTION

Regional Structures: No major regional structures have been recognized in the vicinity of the occurrence. Foliations trend northwest and dip steeply to the northeast and southwest while bedding trends northwest and dips steeply southwest (Beakhouse et al. 1989). Mineral lineations at the Hanson occurrence dominantly trend 092° and plunge 48° to the west. Northwest- and northeast-trending shear zones occur in the vicinity of the occurrence.

Geology: Northwest-trending metasediments consisting of siltstone, arenite and conglomerate are intercalated with minor units of felsic tuff. The metasediments are intruded by a small, dioritic, intrusive plug which is feldspar- and quartz-phyric. The metasediments are also intruded by a large gabbro stock which extends along the west side of the diorite intrusion (Beakhouse et al. 1989). Diamond drilling by Kidd Creek Mines Ltd. intersected numerous mafic dikes altering with quartz diorite in holes targeted on the dioritic intrusion.

Noranda Exploration Co. Ltd. mapped the geology at the occurrence as narrow units of clastic metasediments interlayered with mafic flows and feldspar- and quartz-phyric tuff. The metasediments and metavolcanic rocks are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) but may also be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: Gold mineralization occurs within narrow, quartz-tourmaline veins and anastomosing, sulphide-rich fractures concentrated in narrow shear zones hosted by the porphyritic diorite. The shear zones, fractures and veins are northwest- and east-northeast-trending and northeast- and south-dipping although north-trending veins also occur in tension fractures. The mineralized zone, diamond drilled by McKenzie Red Lake Gold Mines Ltd., trends $315/50$ to 60 NE. The diorite hosts widespread disseminated pyrite (1% to 2%) while the fractures and quartz veins contain pyrite, pyrrhotite, chalcopyrite, arsenopyrite and minor molybdenite. Alteration commonly consists of variable but widespread carbonatization with more localized chloritization, tourmalinitization, biotitization, silicification and hematization. The mineralization and alteration at the Hanson occurrence is fracture-controlled.

Trenches near the shore of Superstition Lake have been sunk on a 15 cm wide mineralized zone trending 030° in a gabbro intrusion. The gabbro is pale green, biotitized and contains tourmaline as well as pyrite, chalcopyrite and malachite-staining. Cobalt mineralization was reported at this location by Kidd Creek Mines Ltd.

K. Bernier discovered a sulphide zone north of the Hanson occurrence, on the south shore of the Okanese River between Superstition Lake and South Bay of Birch Lake. The mineralized zone is

50 cm, strikes 165° and contains chalcopyrite, pyrite and sphalerite mineralization in sericitized and carbonatized felsic pyroclastic rocks (K. Bernier, prospector, personal communication, 1984).

OWNERSHIP AND DEVELOPMENT

- 1946: Staked and trenched by H.C. Hanson and optioned to McKenzie Red Lake Gold Mines Ltd.
- 1947: McKenzie Red Lake Gold Mines Ltd. diamond drilled 9 holes totalling 977 m at the claim boundary between mining claims KRL 28363 and 28364.
- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. This work included ground electromagnetic and magnetic surveys, soil geochemical surveys and some trenching.
- 1974-1975: Staked by K. Koezur and optioned to Mid-North Engineering Services Ltd. who conducted stripping and trenching on the property.
- 1976: Mid-North Engineering conducted a ground magnetic geophysical survey. The property was subsequently optioned to Dickenson Mines Ltd. who conducted a small amount of manual labour. Claims were cancelled in 1978.
- 1984: Kidd Creek Mines Ltd, flew airborne magnetic and electromagnetic geophysical surveys over the property after optioning it from Loydex Resources Inc.
- 1986: Kidd Creek Mines Ltd. diamond drilled 8 holes totalling 509.8 m on claims KRL 720266 and 720271.
- 1990: Noranda Exploration Co. Ltd. conducted geological mapping and a humus geochemical survey over the property which was optioned from Loydex Resources Inc. Noranda referred to the property as the Superstition Lake-Loydex Option which consisted of 54 claims.

ECONOMIC FEATURES

Two chip samples taken at the occurrence by McKenzie Red Lake Gold Mines Ltd. assayed 0.40 and 0.54 ounce Au per ton across 4 feet. Diamond drilling conducted by McKenzie Red Lake also intersected numerous sections of low grade gold mineralization. The best intersection reported from the drilling was 0.18 ounce Au per ton across 5 feet.

Chip samples taken by Loydex Resources Inc. from a trench near the west shore of Superstition Lake assayed 0.11 ounce Au per ton across 1-foot and 0.06 ounce Au per ton across 2 feet (*George Cross News Letter*, September 5, 1986).

Two grab samples taken from the mineralized diorite by B.T. Atkinson analyzed 7 ppb Au and 2.2 ppm Sn and 16 ppb Au, 14 ppm Cu and 8 ppm Mo. Three samples taken from the trenches

sunk on the mineralized gabbro analyzed 5 ppb Au, 75 ppm Cu, 34 ppm Ni and 12 ppm Co; 2 ppb Au, 43 ppm Cu, 78 ppm Ni and 34 ppm Co; and 7 ppb Au, 118 ppm Cu, 30 ppm Ni and 12 ppm Co (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

The sulphide zone discovered by K. Bernier is reported to assay 1.5% to 7% Cu, 11.6% Zn, 3.5% Pb and 3.18 ounces Ag per ton. A 12 inch wide mineralized zone which extends parallel to the sulphide zone assayed between 0.08 and 0.13 ounce Au per ton (K. Bernier, prospector, personal communication, 1984; Northwest Prospector, March/April, 1990).

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Northwest Prospector, March/April, 1990.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-4/ HODGSON ISLAND OCCURRENCE - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Hodgson Island occurrence is located on the northwest shore of Hodgson Island (local name) in South Bay of Birch Lake. The occurrence is situated at the north end of the island and is partially encompassed by claim KRL 788160.

DESCRIPTION

Regional Structures: The occurrence is situated due south of a west- to west-southwest-trending zone of high strain (Beakhouse et al. 1989).

Geology: A complex succession of west-trending, intermediate and felsic flows and pyroclastic rocks are intercalated with mafic metavolcanic flows and metasediments. The metavolcanic rocks are intruded by a thick gabbro sill which may be part of the gabbro intrusion at the Hanson occurrence located southeast of Hodgson Island (Beakhouse et al. 1989). The majority of pyroclastic rocks exposed on Hodgson Island consist of quartz and feldspar crystal tuff. A 300 m thick unit of intermediate crystal tuff consists of 70% red weathering, stubby feldspar phenoclasts which grade into a breccia of rounded cobbles and boulders of crystal tuff in a fine matrix. This unit is overlain by fine-grained clastic metasediments which underlie the mineralized zone at the occurrence. The metasediments and metavolcanic rocks are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) but may also be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: The occurrence consists of an alteration zone which is about 125 m wide and strikes northwest across the northern tip of Hodgson Island for approximately 425 m. The zone consists of pervasive, widespread, iron carbonate alteration, sericitization and sulphide mineralization comprised of abundant widespread pyrite and more localized arsenopyrite. The sulphides occur as disseminations and fine laminae in the host rocks. Hematite alteration and purple fluorite were also identified in the altered rocks. The host rocks are felsic to intermediate feldspar and quartz crystal tuffs, lapilli tuff and rhyolitic flows.

OWNERSHIP AND DEVELOPMENT

- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims encompassing Hodgson Island.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. The work included ground electromagnetic and magnetic surveys and soil geochemical surveys.
- 1984: Hodgson Island was staked by St. Joe Canada Inc.
- 1985: St. Joe Canada Inc. conducted geological mapping, sampling and a ground magnetic geophysical survey.
- 1986: St. Joe flew airborne magnetic and electromagnetic surveys over the property.

1987: Bond Gold Canada Inc. diamond drilled 2 holes totalling 496 m.

1990: Noranda Exploration Co. Ltd. acquired the property from Bond Gold Canada Inc. and conducted geological mapping and humus and soil geochemical surveys.

ECONOMIC FEATURES

The best assay obtained from sampling conducted by St. Joe Canada Inc. at the occurrence was 0.02 ounce Au per ton. Diamond drilling by Bond Gold Canada intersected intensely altered rocks, carbonate and quartz-tourmaline veins but no gold mineralization.

Two grab samples taken from the occurrence by B.T. Atkinson analyzed 45 ppb Au, 2 ppm Ag, 5520 ppm As, 41 ppm Cu and 53 ppm Zn; and 0.01 ounce Au per ton, less than 0.10 ounce Ag per ton, 3850 ppm As, 21 ppm Cu and 48 ppm Zn (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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Hudson Bay Oil and Gas Co. Ltd., assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1985, O.G.S. G.R. 236.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-5/ HORSESHOE ISLAND PROSPECT (PANTS ISLAND PROSPECT; PETERSON, McDOUGALL AND BERGSTRAND OCCURRENCE) - SATTERLY LAKE AREA

NTS 52N/8 SW, NW

LOCATION

The Horseshoe Island prospect is located on the southeast shore of Horseshoe Island in the southwest-trending arm of Birch Lake. The prospect is encompassed by mining claims KRL 646144, 646145, 646149 and 646150. The property straddles the boundary between the Satterly and Casummit lakes claim map sheets.

DESCRIPTION

Regional Structures: The Horseshoe Island prospect occurs within an east-trending splay of the Swain Lake deformation zone. The main, northeast-trending section of the Swain Lake deformation zone extends along the north shore of Birch Lake, about 800 m northwest of Horseshoe Island. The prospect is situated on the north flank of an east-trending synclinal fold axis (Beakhouse 1989; Beakhouse and McNeil 1989; Beakhouse et al. 1989).

Geology: West- to west-northwest-trending intermediate pyroclastic rocks consisting of tuff, feldspar crystal tuff and lapilli tuff are intruded by a composite, tonalitic to granodioritic stock which is approximately 1 square kilometre in area. A gabbroic phase of the intrusion is situated north of Horseshoe Island (Cooper 1985; Beakhouse 1989). A feldspar porphyry unit, which Cooper (1985) described as an intrusive phase of the stock, has also been interpreted as an intermediate, feldspar crystal tuff (Beakhouse 1989). The metavolcanic rocks are part of the Cycle III metavolcanic sequence (Thurston 1985, 1986).

Mineralization: Gold mineralization at Horseshoe Island occurs in 2 separate zones situated near the contact between the granodiorite stock and the intermediate pyroclastic rocks. The mineralization is hosted by the stock and the metavolcanic rocks.

The A-B zone trends west to west-northwest for approximately 450 m along the south and southeast shore of Horseshoe Island. The zone is a linear feature, described as a "listric shear" (Cooper 1985), which trends parallel to the strike of bedding and has a moderate to strong tectonic foliation. Slickensides in the altered granodiorite plunge steeply to the northeast. The A-B zone occurs along the south contact of the granodioritic stock and extends along strike into the stock and surrounding metavolcanic rocks (Cooper 1985; Beakhouse 1989).

The C zone is about 100 m north of the A-B zone and is hosted by feldspar crystal tuff. This zone has an irregular T-shape and is oriented parallel to the north-trending margins of the stock and partly oriented parallel to the east-trending stratigraphy. Evidence of tectonic deformation was not recognized in the C zone (Cooper 1985; Beakhouse 1989).

The granodiorite stock at Horseshoe Island is moderately altered by chloritization of mafic minerals, sericitization and saussuritization of feldspar and hosts abundant disseminated magnetite (Beakhouse 1989). The A-B and C zones are dominated by intense, pervasive alteration. The A-B zone consists dominantly of sericite and carbonate (dolomite and ankerite) alteration with minor epidotization and hematization. Alteration at the C zone is characterized by an enrichment in free quartz, sericitization, carbonatization, epidotization and albitization

(Cooper 1985). Secondary albite has been recognized in the intensely altered granodioritic rocks (J. Brisco, St. Joe Canada Inc., personal communication, 1984). Disseminated magnetite and/or ilmenite is enriched in both the A-B and C zones and occurs as fragments and thin discontinuous bands in altered pyroclastic rocks. Sulphides consist dominantly of 1% disseminated pyrite, with local concentrations up to 1%, and minor chalcopyrite (Lavigne, Jr. and Atkinson 1988). Gold mineralization is associated with intensely altered rocks and abundant sulphides. Visible gold is fairly common and generally associated with chloritic fractures (Beakhouse 1989).

OWNERSHIP AND DEVELOPMENT

- 1935: Harding (1936) mapped an east-trending quartz vein on the south shore of Horseshoe Island.
- 1937: Staked by E. McDougall in partnership with E. Bergstrand and O. Peterson. The property consisted of a group of 9 contiguous mining claims KRL 16615 to 16623. The property was sampled by Hudson Bay Mining and Smelting Co.
- 1939: Property sampled by Sylvanite Gold Mines Ltd.
- 1944-1946: Leta Explorations (a joint-venture between Leitch Gold Mines Ltd. and Moneta Gold Mines Ltd.) optioned the property and diamond drilled 20 holes totalling 1418 m. The company outlined a zone of gold mineralization along the southeast shore of Horseshoe Island, in the vicinity of 2 mineralized trenches.
- 1954: McDougall's claims were allowed to lapse.
- 1957: The ground was restaked by L. Staunton but work was not recorded and the claims were allowed to lapse in 1958.
- 1969: The property was staked by K. Koezur. Canex Aerial Exploration Ltd. conducted airborne magnetic, electromagnetic and gamma-ray spectrometer surveys over a large group of claims immediately north of Horseshoe Island.
- 1970: Sudbury Contact Mines Ltd. optioned the property from K. Koezur and conducted ground magnetic and electromagnetic geophysical surveys on the property and diamond drilled 6 holes totalling 948 m. The drill holes were targeted on an electromagnetic conductor located immediately north of Horseshoe Island. Sudbury Contact was exploring for copper-riched mineralization in a gabbro intrusion north of the island.
- 1974: The property was staked by H. Sanders and transferred to Goldsearch Ltd. who conducted ground magnetic and electromagnetic surveys over an area of known gold mineralization on the property. The claims were allowed to lapse in 1975.
- 1976: K. Koezur repeatedly staked the ground between 1976 and 1979.
- 1981: Staked and sampled by Minorex Ltd. but the claims were allowed to lapse.
- 1982: St. Joe Canada Inc. restaked 16 claims on the Horseshoe Island property and conducted reconnaissance geological mapping, trench sampling, humus geochemical surveys and induced polarization surveys.

- 1983: St. Joe conducted detailed geological mapping, induced polarization and magnetic surveys and diamond drilled 5 holes totalling 990 m.
- 1984: St. Joe diamond drilled 24 holes totalling 4398 m.
- 1985: St. Joe conducted more geological mapping, sampling and stripping on Horseshoe Island and diamond drilled 8 holes totalling 978.5 m.
- 1986: St. Joe diamond drilled 59 holes totalling 11 114.48 m at Horseshoe Island.
- 1987: St. Joe diamond drilled 18 holes totalling 3398.1 m at Horseshoe Island.
- 1990: Noranda Exploration Co. Ltd. acquired the Horseshoe Island prospect from Bond Gold Canada Inc. in 1989 and conducted diamond drilling on the property in 1990. Noranda reported diamond drilling 3 holes totalling 402.7 m.

ECONOMIC FEATURES

Diamond drilling conducted by Leta Explorations outlined a mineralized zone at Horseshoe Island that was 1225 feet long and 7 feet wide with an average grade of 0.195 ounce Au per ton (H. Sanders, assessment files, Resident Geologist's office, Red Lake).

Diamond drilling conducted by St. Joe Canada Inc. outlined 825 000 tons grading 0.13 ounce Au per ton across an average true width of 13.8 feet (*George Cross News Letter*, November 6, 1987, p. 2). Another reserve figure of 810 000 tonnes (892, 872 tons) grading 4.6 g/t Au (0.134 ounce Au per ton) was reported in 1989 (Hemlo Gold Mines Inc. 1989, Annual Report, p. 12). The most recent reserve figure is 893 508 tons grading 0.14 ounce Au per ton (*Northwest Prospector*, March/April, 1990, p. 27). Numerous drill intersections have been reported by St. Joe Canada Inc. and Noranda Exploration Co. Ltd. in the assessment files.

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- Beakhouse, G.P. and McNeil, A.M. 1989, O.G.S. Map P. 3117.
- Beakhouse, G.P., Forsyth, D.M., Scott, K.V. and Wallace, Henry 1989, O.G.S. Map P. 3118.
- Canex Aerial Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
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- Northwest Prospector, March/April, p. 27.
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- Sanders, H. (Goldsearch Ltd.), assessment files, Resident Geologist's office, Red Lake.

St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-6/ LABRADOR EXPLORATION OCCURRENCE (SATTERLY CLAIM GROUP) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Labrador Exploration occurrence is situated near the east shore of the channel which extends between Birch Lake and South Bay of Birch Lake. Ten trenches are located about 60 m from the lake shore.

DESCRIPTION

Regional Structures: The occurrence is situated along the south flank of an east-trending synclinal fold axis (Beakhouse et al. 1989).

Geology: West- to northwest-trending fine-grained metasediments consisting of greywacke, chert and siltstone are intercalated with minor mafic metavolcanic flows. Thin beds of magnetite-rich siltstone and greywacke occur in the vicinity of the occurrence. The metasediments are interpreted to be part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) but may also be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: Ten trenches have been sunk on sulphide-rich metasediments trending 085-114/85S and consisting dominantly of shale, siltstone and chert. The metasediments are strongly foliated (121/76S), host iron carbonate veins and contain up to 5% disseminated pyrite and arsenopyrite with graphite in some of the finest grained rocks (Beakhouse 1989). The metasediments are carbonatized, chloritic and contain variable amounts of detrital magnetite.

OWNERSHIP AND DEVELOPMENT

- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims which encompassed the occurrence.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. This work included ground electromagnetic and magnetic surveys, soil geochemical surveys and some trenching.
- 1984: Labrador Exploration (Ontario) Ltd. discovered old trenches during reconnaissance geological mapping and subsequently staked the property which was known as the Satterly Claim Group. The company conducted geological mapping, rock and soil geochemical surveys, retrenching of old trenches and a ground magnetic geophysical survey. The trenches were situated in the northeast corner of former claim KRL 776104.
- 1985: Explorco Properties Inc. flew airborne magnetic and electromagnetic surveys over the property.

ECONOMIC FEATURES

Samples taken from the trenches by Labrador Exploration analyzed between 384 and 1050 ppb Au in sulphide-rich shale, siltstone and chert. Soil samples taken by Labrador Exploration on the property analyzed up to 103 ppb Au.

A grab sample taken from one of the trenches by G.P. Beakhouse (1989) analyzed 540 ppb Au in graphitic, arsenopyrite-bearing siltstone.

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Beakhouse, G.P., Forsyth, D.M., Scott, K.V. and Wallace, Henry 1989, O.G.S. Map P. 3118.
Explorco Properties Inc., assessment files, Resident Geologist's office, Red Lake.
Hudson Bay Oil and Gas Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
Labrador Exploration (Ontario) Ltd., assessment files, Resident Geologist's office, Red Lake.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-7/ SHORE ZONE OCCURRENCE (RICE BAY WEST GRID PROPERTY; SOUTH ZONE; SOUTH GREENCAMP OCCURRENCE) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Shore Zone occurrence consists of several old trenches situated on the lake shore of South Bay of Birch Lake. The occurrence is due west of the entrance into Exit Bay. The trenches are presently located on claim KRL 788811 on the Rice Bay West grid (St. Joe Canada Inc.).

DESCRIPTION

Regional Structures: The occurrence is situated on the south flank of an east-trending synclinal fold axis. The occurrence is also due north of a west- to west-southwest-trending zone of high strain (Beakhouse et al. 1989). Foliations at the Shore zone occurrence are dominantly west-trending.

Geology: West- and west-northwest-trending metasediments consisting of greywacke, siltstone and minor chert units have been intruded by gabbro and feldspar porphyry dikes. The Shore zone occurrence is situated about 800 m southwest of the Greencamp stock (Beakhouse et al. 1989). The metasediments are part of the Cycle III metavolcanic sequence described by Thurston (1985, 1986) but may also be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: The Shore zone occurrence consists of several east-trending, discontinuous quartz, carbonate and quartz-carbonate veins hosted by silicified and iron carbonatized mudstone and wackes. Iron carbonatization is moderate but pervasive in the host rocks and more intense near quartz veins. The wackes at the occurrence trend 118/80N with tops to the north. Quartz veins strike parallel to bedding in the metasediments and also intersect bedding. The veins are confined to a 2 m wide zone within the metasediments.

The metasediments contain up to 1% disseminated pyrite and pyrrhotite. A small pod of arsenopyrite and pyrite occurs adjacent to a contorted quartz vein at the east end of the main trench at the occurrence. White, brecciated quartz veins, up to 7 cm wide intersect discontinuous lenses of coarse, crystalline calcite which are up to 0.6 m wide by 3 m long at the west end of the main trench.

OWNERSHIP AND DEVELOPMENT

- 1947: The property was staked and encompassed by claims KRL 25282 and 25283. Some trenching was completed.
- 1969: A. McGregor (McGregor Telephone and Power Construction Co.) contracted Canadian Aero Mineral Surveys Ltd. to fly airborne electromagnetic, magnetic and gamma-ray spectrometer surveys over a large group of claims encompassing the occurrence.
- 1970: Hudson Bay Oil and Gas Co. Ltd. conducted ground follow-up of airborne anomalies. The work included ground electromagnetic and magnetic surveys and soil geochemical surveys.

- 1984: St. Joe Canada Inc. conducted some geological mapping at the occurrence.
- 1985: St. Joe Canada Inc. conducted geological mapping, ground magnetic and induced polarization geophysical surveys, stripping, sampling and diamond drilled 2 holes totalling 235 m at the occurrence.
- 1986: St. Joe flew airborne magnetic and electromagnetic surveys over the property.
- 1990: Noranda Exploration Co. Ltd. acquired the property from Bond Gold Canada Inc. and conducted geological mapping and humus and soil geochemical surveys.

ECONOMIC FEATURES

Nine samples collected from trenches at the Shore zone occurrence by St. Joe Canada Inc. assayed 0.06, 0.02, 0.22, 0.08, 0.18, 0.04, 0.12, 0.04 and 0.18 ounce Au per ton. The best intersection encountered in diamond drilling was 0.04 ounce Au per ton across 1.5 m.

Four grab samples taken at the occurrence by B.T. Atkinson analyzed 8 375 and 695 ppb Au and less than 0.01 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

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- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SA-8/ WAGNER-MELANSON PROSPECT (TOM CLAIM GROUP) - SATTERLY LAKE AREA

NTS 52N/8 SW

LOCATION

The Wagner-Melanson prospect is located about 600 m southwest of Wagner Bay of Birch Lake in the Satterly Lake area. The main showing is situated on claim KRL 697051.

DESCRIPTION

Regional Structures: The Wagner-Melanson prospect is situated along the southwest flank of an anticline whose fold axis trends northwest and plunges 25° through Springpole Lake. Foliations and bedding in the area commonly trend northwest and dip steeply to the southwest (Harding 1936; Good 1988).

Geology: The prospect is situated within metasediments trending 320-340/40-60SW and consisting of pelites, greywacke and matrix-supported conglomerate intercalated with intermediate pyroclastic rocks and intruded by gabbro and quartz-feldspar porphyry dikes (Harding 1936; Good 1988). The metasediments and metavolcanic rocks are interpreted to be part of the Cycle II metavolcanic sequence described by Thurston (1985, 1986) but may also be part of a discrete, dominantly metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989).

Mineralization: Harding (1936) reported that the main showing at the Wagner-Melanson prospect consisted of a north-northwest-trending quartz vein, up to 2.4 m wide, which was traced for a strike length of 213 m. In some sections the vein zone consists of several parallel folded quartz veins spaced over a total width of 7.6 m. Disseminated pyrite occurs in the quartz veins and wall rocks.

Diamond drilling by Labrador Exploration (Ontario) Ltd. indicated that the mineralized zone changes from a quartz vein system on surface to a disseminated sulphide zone at depth. The sulphide zone hosts 3% to 5% pyrite and pyrrhotite with massive sulphides occurring in minor quartz veins and narrow silicified zones (Good 1988). The gold-bearing sulphides appear to be stratabound within fine-grained metapelites associated with thin beds and lenses of sediment containing abundant detrital magnetite and blue quartz "eyes" (Good 1988). The magnetite-rich metasediments contain 10% to 15% magnetite, 1% to 2% disseminated sulphides and are carbonate altered.

Alteration consists of weak chloritization throughout the host rocks and strong iron carbonatization in the vicinity of a nearby quartz-feldspar porphyry (Good 1988).

OWNERSHIP AND DEVELOPMENT

1930: A contiguous group of 9 claims were staked by L. Wagner, J. Kerr and H. Mayo and optioned to Consolidated Mining And Smelting Co., Ltd. who conducted stripping, trenching and sampling.

1935: Held by Wagner and Melanson; the main showing was located on claim KRL 11149.

1939: Sampled by Sylvanite Gold Mines Ltd.

1983-1984: Labrador Exploration (Ontario) Ltd. conducted reconnaissance mapping and subsequently staked the property known as the Tom Claim group. The company conducted geological mapping, rock and soil geochemical sampling, ground magnetic and electromagnetic geophysical surveys and diamond drilled 7 holes totalling 540 m.

1985: Explorco Properties Inc. diamond drilled 10 holes totalling 1207.1 m.

1987: Explorco Properties Inc. diamond drilled 4 holes totalling 413 m.

ECONOMIC FEATURES

Harding (1936) reported that gold values as high as \$13.65 (0.66 ounce Au per ton) were obtained from the property. The best assay obtained from chip sampling conducted by Sylvanite Gold Mines Ltd. was 0.22 ounce Au per ton across 2 feet in a quartz vein.

Samples taken from several trenches at the prospect by Labrador Exploration (Ontario) Ltd. assayed 0.062, 0.048 and 0.118 ounce Au per ton from quartz vein material and 0.319, 0.122 and 0.50 ounce Au per ton from magnetite-rich metasediments. Chip samples taken across 2 trenches on the property assayed 0.12 ounce Au per ton across 6 feet and 0.11 ounce Au per ton across 3 feet.

Grab samples taken by M.J. Lavigne Jr. from the south end of the main showing analyzed 1110 and 180 ppb Au from wall rock material and less than 2 ppb Au from quartz vein material (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

The best assays intersected in diamond drilling conducted by Labrador Exploration Ltd. were 0.26 ounce Au per ton across 3 feet in pyritic (3% to 5%), magnetite-rich metasediments and 0.21 ounce Au per ton across 3.4 feet in magnetite-rich metasediments.

Diamond drilling conducted by Explorco Properties Inc. intersected 0.1 ounce Au per ton across 1 m in strongly magnetic metasediments containing up to 15% disseminated pyrite and calcite veins; and 0.04, 0.08 and 0.04 ounce Au per ton across 3 adjacent 1.5 m samples in brecciated metasediments containing 5% to 10% pyrite and abundant quartz-calcite veins.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

Explorco Properties Inc., assessment files, Resident Geologist's office, Red Lake.

Good, D.J., Dawson, D. and Wu, L. 1986, O.G.S. Map P. 2964.

Good, D.J. 1986, O.G.S. O.F.R. 5627, p. 25, 27-28.

Good, D.J. 1988, O.G.S. O.F.R. 5685, p. 57-58.

Harding, W.D. 1936, O.D.M. Annual Report, v. 45, pt. 4, p. 20-21.

Labrador Exploration (Ontario) Ltd., assessment files, Resident Geologist's office, Red Lake.

Thurston, P.C. 1985, O.G.S. G.R. 236.

Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

Wagner Property, assessment files, Resident Geologist's office, Red Lake.

**SEAGRAVE
LAKE AREA
NTS 52N/8 SE**

SE-1/ DOLE BROTHERS OCCURRENCE - SEAGRAVE LAKE AREA

NTS 52N/8 SE

LOCATION

The Dole Brothers occurrence consists of several pits and trenches situated approximately 400 m due north of the east arm of Springpole Lake in the Seagrave Lake area.

DESCRIPTION

Regional Structures: The Dole Brothers occurrence is within a nappe-type structure which extends along the east arm of Springpole Lake (Good 1988).

Geology: The occurrence is underlain by massive mafic metavolcanic flows which are strongly foliated 090/15-55N. The mafic metavolcanic rocks on the north shore of Springpole Lake are amphibolitized and contain hornblende porphyroblasts up to 1 cm in diameter. The metavolcanics are part of the Cycle I metavolcanic sequence (Thurston 1986) and are intruded by diorite, syenite porphyry, quartz porphyry and granitic dikes. The occurrence is situated 1.2 km north of the contact between granodioritic rocks of the Springpole Lake stock and mafic metavolcanics rocks (Good 1988).

Mineralization: The occurrence consists of an east-trending shear zone up to 1.2 m wide which hosts narrow quartz veins and stringers trending 115/45S. A flexure in the north-dipping foliation within the shear zone has caused a local overturning of foliation resulting in a south-dipping foliation at the occurrence. The main quartz vein in the shear zone trends 145/70S and is 50 cm wide. The quartz vein hosts tourmaline, carbonate, pyrite and chalcopyrite.

A small body of gossan-stained feldspar porphyry outcrops adjacent to the vein. The porphyry is comprised of 30% white feldspar phenocrysts up to 5 mm in size, 10% biotite and 1% pyrite in a strongly foliated fine-grained groundmass. The foliation in the porphyry dips 35° to the south. The mafic metavolcanic rocks contain fine-grained, disseminated pyrite and carbonate and have well developed vertically plunging mineral lineations.

OWNERSHIP AND DEVELOPMENT

1935: Dole Brothers staked 9 claims over the property and conducted stripping, trenching and sampling. The majority of work was concentrated on the main quartz vein located in the northwest corner of claim KRL 12591.

1984: Staked by T. Keewaycabo and transferred to Labrador Mining and Exploration Co. Ltd.

1985: Claims lapsed and were restaked by D. Bienias for Gold Fields Canadian Mining Ltd. who flew airborne magnetic and electromagnetic surveys.

1987: Gold Fields conducted stripping and humus geochemical surveys.

1990: Noranda Exploration Co. Ltd. flew airborne magnetic and electromagnetic surveys.

ECONOMIC FEATURES

Harding (1936) reported that the quartz vein on the property gave gold values as high as \$16 per ton (approximately 0.45 ounce Au per ton).

Five grab samples taken by B.T. Atkinson from the quartz vein and wall rocks analyzed up to 55 ppb Au (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

SELECTED REFERENCES

Gold Fields Canadian Mining Ltd., assessment files, Resident Geologist's office, Red Lake.

Good, D.J. 1986, O.G.S. O.F.R. 5627, p.28-29.

Good, D.J., Dawson, D. and Wu, L. 1986, O.G.S. Map P.2964.

Harding, W.D. 1936, O.D.M. Annual Report, v. 45, pt. 4, p.21-22.

**SHABU
LAKE AREA
NTS 52N/7 SW**

SB-1/ FLINT ROCK MINES LTD. OCCURRENCE (SHABU LAKE OCCURRENCE) - SHABU LAKE AREA

NTS 52N/7 SW

LOCATION

The Flint Rock Mines Ltd. occurrence is situated on leased mining claims KRL 51180 to 51191 inclusive. The main No. 1 vein is located about 1.2 km due west of Shabu Lake on leased claims KRL 51184 and 51186.

DESCRIPTION

Regional Structures: Fyon and O'Donnell (1986) noted that the main structure at Shabu Lake is a complex or refolded fold. According to Fyon and O'Donnell (1986): "A tight syncline with a highly strained (possibly sheared) core trends northwest, parallel to the northwestern arm of the lake. A second fold axial trace trends north-northeast, and defines a broad syncline in the southeastern section of the lake."

Geology: Northeast-trending, fine-grained metasediments are intercalated with minor metavolcanic flows of the Cycle II metavolcanic sequence (Thurston 1986) and are intruded by granodioritic rocks of the Mainprize Lake granitoid complex.

Mineralization: The No. 1 vein occurs along the southern claim boundaries of leased claims KRL 51184 and 51186. The east-trending quartz vein has been traced by diamond drilling along the contact between biotite granodiorite and a diorite dike, for a strike length of 800 m. The vein is 0.1 to 0.6 m wide and contains sparse amounts of disseminated galena, pyrite, chalcopyrite and visible gold (Pryslak 1974).

The No. 2 vein is approximately 460 m northwest of the No. 1 vein and is situated on leased mining claim KRL 51188. The east-trending vein dips 90° and is 5 cm to 30 cm wide with a strike length of 47 m. The vein is hosted by a narrow inclusion of metasediments and by biotite granodiorite and gabbro. Pryslak (1974) reported that the vein contained up to 10% galena and 2% chalcopyrite.

Alteration and deformation associated with the quartz veins is very minimal and consists of silicification, epidotization and hematization with very minor shearing.

OWNERSHIP AND DEVELOPMENT

- 1937: Prospectors Airways Ltd. conducted trenching, channel sampling and diamond drilled 28 holes totalling 6500 feet on the No. 1 Vein zone.
- 1963: Flint Rock Mines Ltd. diamond drilled 7 holes totalling 1999 feet on the No. 1 and No. 2 veins.
- 1969: Flint Rock Mines diamond drilled 2 holes totalling 950 feet to test the base metal potential of a pyritic zone on the west shore of Shabu Lake (leased claim KRL 51180).

1987: Flint Rock Mines conducted linecutting and induced polarization and resistivity surveys over the property and diamond drilled 6 holes totalling 2217.6 feet.

ECONOMIC FEATURES

The No. 1 vein hosts an auriferous section which is 180 m long with an average width of 0.49 m and an average grade of 0.85 ounce Au per ton (Pryslak 1974). This zone was drilled to a depth of 90 m.

A grab sample taken by A.P. Pryslak (1974) from the No. 2 vein assayed 0.01 ounce Au per ton, 0.09% Cu and 1.45% Pb.

Diamond drilling conducted on the No. 1 vein in 1937 by Prospectors Airways Ltd. intersected narrow sections assaying as high as 0.43 and 0.77 ounce Au per ton.

Drilling conducted by Flint Rock Mines Ltd. in 1963, on the No. 1 vein, intersected narrow sections assaying as high as 0.8 ounce Au per ton and 0.72 ounce Au per ton.

Drill holes completed by Flint Rock Mines Ltd. in 1987 intersected narrow sections of gold mineralization such as: 1.065 ounces Au per ton across 0.45 feet, 0.139 Au per ton across 1.5 feet, 0.145 ounce Au per ton across 0.39 feet, 0.231 ounce Au per ton across 0.3 feet and 0.388 ounce Au per ton across 0.5 feet.

SELECTED REFERENCES

- Flint Rock Mines Ltd., assessment files, Resident Geologist's office Red Lake.
Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 269, 270, 274.
Pryslak, A.P. 1974, O.D.M. Map P.973.
Thurston, P.C. 1986, O.F.R. 5607

SB-2/ LEONARD LAKE OCCURRENCES - SHABU LAKE AREA

NTS 52N/7 SW

LOCATION

The Leonard Lake occurrences consist of 5 separate showings situated in the immediate vicinity of Leonard Lake in the Shabu Lake area. The North showing is situated 805 m due north of Leonard Lake; the West showing occurs 1.7 km west of the lake; the East showing is situated 2 km due east of the lake; the Shore showing is located on the southwest shore of Leonard Lake; and the South showing is located 500 m southwest of the lake. Leonard Lake is situated immediately north of the Skinner Township boundary line.

DESCRIPTION

Regional Structures: The northwest-trending Swain Lake fault extends from Swain Lake through the southeastern end of Leonard Lake (Pryslak 1972, 1974).

Geology: East-trending, intermediate to mafic metavolcanic rocks are intercalated with abundant fine-grained metasediments of the Cycle II sequence (Thurston 1986) and are intruded by gabbro and granodioritic rocks of the Mainprize Lake granitoid complex.

The North and West showings consist of test pits sunk on quartz veins within granodioritic rocks at the contacts between granodiorite and metasediments and granodiorite and mafic metavolcanic rocks. The East showing consists of quartz veins hosted by fine-grained metasediments consisting of greywacke, siltstone and argillite.

The Shore showing consists of several trenches sunk on quartz veins hosted by intermediate pyroclastic rocks which have been altered to chlorite-sericite schist (Pryslak 1974). The Shore showing is situated on the extreme northwest extension of the Swain Lake fault.

The South showing (formerly situated on claim KRL 4841) consists of 3 separate east-trending quartz veins dipping between 60° and 80° to the south. The veins are hosted by narrow shear zones up to 4 feet wide in coarse-grained diorite/gabbro. The quartz veins range in strike length from 20 to 110 feet (Bruce 1929).

Mineralization: The quartz veins at the South showing have been reported (Bruce 1929) to contain massive arsenopyrite in "considerable quantities". Bruce (1929) reported that "gold occurs with the arsenopyrite". Pryslak (1974) reported arsenopyrite in quartz veins at the West showing.

OWNERSHIP AND DEVELOPMENT

1927: Leonard Narrow Lake Mines Ltd. conducted extensive stripping and trenching in the vicinity of Leonard Lake. The most promising showing on the property was the South showing situated on mining claims KRL 4841.

1966: A portion of the property was staked by Madsen Red Lake Gold Mines Ltd.

1967: Madsen Mines conducted electromagnetic and magnetic surveys over the area.

- 1969: C.C. Huston and Associates flew airborne electromagnetic, magnetic and radiometric surveys over the area.
- 1988: Canadian Eagle Exploration Inc. flew airborne electromagnetic, magnetic and resistivity surveys over a portion of the area.

ECONOMIC FEATURES

Pryslak (1974) has indicated the presence of gold at the West, North and East showings on map P.973, but no specific gold values have been reported. Bruce (1929) also reports the presence of gold at the South showing.

SELECTED REFERENCES

- Bruce, E.L. 1929, O.D.M. Annual Report v. 37, pt. 4, p. 44.
- Pryslak, A.P. 1972, O.D.M. M.P. 53, p. 18-19.
- Pryslak, A.P. 1974, O.D.M. Map P.973.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SB-3/ MADSEN RED LAKE GOLD MINES OCCURRENCE - SHABU LAKE AREA

NTS 52N/7 SW

LOCATION

The Madsen Red Lake Gold Mines prospect consists of several sulphide showings situated on the south and southeast shore of Shabu Lake.

DESCRIPTION

Regional Structures: A syncline with a highly strained core trends northwest, parallel to the northwestern arm of Shabu Lake and a second fold axial trace trends north-northeast, and defines a broad syncline in the southeastern section of Shabu Lake (Fyon and O'Donnell 1986).

Geology: Northwest-trending, pillowed and massive mafic metavolcanic flows outcrop on the east shore of Shabu Lake. A 400- to 500-foot thick marble unit (Pryslak 1974) which extends along the southeast shore of Shabu Lake is overlain to the east by fine-bedded, siliceous metasediments which are 200 feet thick (Pryslak 1974). The supracrustal rocks are part of the Cycle II metavolcanic sequence (Thurston 1986). The metasediments and metavolcanic rocks are intruded by porphyritic, biotite granodiorite of the Mainprize Lake granitoid complex.

Mineralization: The marble and siliceous metasediments host abundant disseminated and massive sulphide mineralization consisting of pyrite and pyrrhotite, with minor chalcopyrite, sphalerite and galena. Lenses of massive sulphides are up to 10 feet wide.

OWNERSHIP AND DEVELOPMENT

1966: A contiguous group of 79 mining claims was staked by Madsen Red Lake Gold Mines Ltd.

1967: Madsen Mines conducted linecutting, electromagnetic and magnetic surveys trenching, sampling and diamond drilled 10 holes totalling 3370 feet.

1969: C.C. Huston and Associates flew airborne electromagnetic, magnetic and radiometric surveys over the area.

1988: Canadian Eagle Exploration Inc. (formerly Shabu Gold Mines Ltd.) flew airborne electromagnetic, resistivity and magnetic surveys over the area.

ECONOMIC FEATURES

Four drill holes completed by Madsen Red Lake Gold Mines Ltd. intersected narrow sections of anomalous gold mineralization in siliceous metasediments and marble hosting variable amounts of pyrrhotite and pyrite. Some of the drill intersections were:

<u>Drill Hole No.</u>	<u>Intersection (ounce Au per ton)</u>
5	.04 across 4.1 feet .08 across 1.8 feet
6	.08 across 5 feet .04 across 2.1 feet
7	.04 across 5 feet
8	.04 across 8 inches
9	.04 across 1-foot .04 across 5 feet

SELECTED REFERENCES

Canadian Eagle Exploration Inc., assessment files, Resident Geologist's office, Red Lake.
 Fyon, A.J. and O'Donnell, L. 1986, O.G.S. M.P. 132, p. 269, 270, 274.
 Madsen Red Lake Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
 Pryslak, A.P. 1972, O.D.M. M.P. 53, p. 20-21.
 Pryslak, A.P. 1974, O.D.M. Map P.973.
 Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SB-4/ SHEEHAN LAKE PROSPECT - SHABU LAKE AREA

NTS 52N/7 SW

LOCATION

The Sheehan Lake prospect consists of 35 trenches located about 400 m due south of Sheehan Lake (local name) in the Shabu Lake area. Sheehan Lake is a small lake situated along the Shabumeni River and is approximately 6.6 km due west of Shabumeni Lake.

DESCRIPTION

Regional Structures: No major regional structures have been identified in the vicinity of the Sheehan Lake prospect.

Geology: The Sheehan Lake prospect is hosted by hornblende granodiorite of the Mainprize Lake granitoid complex. The occurrence is about 500 m due north of the contact between the granitoid rocks and a thick unit of fine-grained metasediments. Pryslak (1974) located 35 trenches which range from 2 m to 36 m in length. The trenches occur at intervals of 9 m in a west-northwest direction for a strike length of 270 m.

Mineralization: Gold mineralization occurs within a sheared alteration zone consisting of silicified, carbonatized and variably pyritic, hornblende granodiorite. The alteration zone contains 10% to 20% iron carbonate, 2% to 8% disseminated pyrite (Prylak 1974) and minor galena and chalcopyrite.

OWNERSHIP AND DEVELOPMENT

- 1937: Prospectors Airways Ltd. staked 15 mining claims at Sheehan Lake and conducted trenching, stripping and 3500 feet of diamond drilling.
- 1969: Noranda Exploration Co. Ltd. conducted ground magnetic and electromagnetic surveys in the vicinity of the prospect.
- 1973: Staked by P. Hermiston.
- 1982: Dome Exploration visited and sampled the property.
- 1984: Summit Red Lake Gold Mines Ltd. conducted ground magnetic and electromagnetic surveys and humus and lithogeochemical surveys.
- 1987: Shabu Gold Mines Ltd. conducted an electromagnetic survey and diamond drilled 23 holes totalling 10 437.7 feet.
- 1988: Canadian Eagle Exploration Inc. (formerly Shabu Gold Mines Ltd.) flew airborne magnetic, electromagnetic and resistivity surveys over the property.

ECONOMIC FEATURES

Diamond drilling conducted by Shabu Gold Mines Ltd. in 1987 intersected 0.078 ounce Au per ton across 24.8 feet, while 4 other narrow intersections assayed up to 0.06 ounce Au per ton (The Northern Miner, April 6, 1987, p. 7). Numerous sections with high silver values such as, 1.83 ounces Ag per ton across 17.5 feet, were also intersected in drill core.

Six chip samples ranging in length from 1.2 m to 6 m were taken from the trenches by A.P. Pryslak (1974) and assayed between 0.01 and 0.07 ounce Au per ton.

SELECTED REFERENCES

Canadian Eagle Exploration Inc., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1972, O.D.M. Map P.973.
Shabu Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Summit Red Lake Gold Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
The Northern Miner, April 6, 1987, p.7.

**SHABUMENI
LAKE AREA
NTS 52N/7 SE**

SH-1/ BERGSTRAND OCCURRENCES - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Bergstrand occurrences consist of 2 separate showings in the Shabumeni Lake area. The North Bergstrand occurrence is situated at the northeast end of Louwag Lake; and the South Bergstrand occurrence is located about 600 m north of Bergstrand Lake.

DESCRIPTION

Regional Structures: The Bergstrand occurrences are situated along the south flank of an east-northeast-trending anticlinal fold axis (Beakhouse et al. 1989). Ronda Copper Mines Ltd. identified a northeast-trending fault in the vicinity of the Bergstrand occurrences.

Geology: The Bergstrand occurrences are located within a thick sequence of east- and northeast-trending metasediments consisting of polymictic conglomerate, arenite and greywacke (Beakhouse 1989). The metasediments are part of the Cycle III metavolcanic sequence (Thurston 1985, 1986).

Mineralization: The South Bergstrand occurrence was described by Harding (1936) as small, narrow quartz stringers hosted by west- and northwest-trending greywacke, slate, impure quartzite and conglomerate. The veins strike parallel to bedding in the metasediments and also intersect bedding. The veins are reported to contain disseminated pyrite, galena, chalcopyrite, visible gold (Harding 1936) and gold tellurides (*The Northern Miner*, November 23, 1961, p. 13). Ronda Copper Mines Ltd. discovered an 20 cm wide quartz vein striking 110° in an old trench at the South Bergstrand occurrence.

Very little information is available for the North Bergstrand occurrence. St. Joe Canada Inc. intersected interlayered greywacke, arkose, pebble conglomerate, shale, sandstone and graphitic shale in diamond drill holes. Diamond drilling by St. Joe also intersected gold mineralization in narrow quartz-carbonate veins and in sulphide-rich metasediments containing disseminated pyrite, arsenopyrite, pyrrhotite and chalcopyrite.

OWNERSHIP AND DEVELOPMENT

1935: E. Bergstrand staked 2 separate claim groups: mining claims KRL 10586 to 10588, inclusive (North Bergstrand occurrence) were staked at the northeast end of Louwag Lake and claims KRL 11344 to 11346, inclusive (South Bergstrand occurrence) were staked north of Bergstrand Lake.

1961: Arjon Mines Ltd. restaked the 2 Bergstrand occurrences and the Harris-Swain-Cavano occurrence in 1 group of 18 contiguous claims, KRL 49748 to 49765 inclusive. The company conducted prospecting, stripping and sampling on the Bergstrand occurrences (*The Northern Miner*, November 23, 1961; *The Northern Miner*, October 11, 1962).

1969: The South Bergstrand occurrence was situated on claims KRL 61889 and 61890, held by C. Williams. The North occurrence was held by L.A. Dempster on claims KRL 72909 and 72910.

- 1974: Ronda Copper Mines Ltd. conducted geological mapping over the Bergstrand occurrences. The South Bergstrand occurrence was located on claim KRL 397580 but the North occurrence was not found by Ronda Copper Mines. Ronda Copper also found evidence of diamond drilling at the South Bergstrand occurrence.
- 1986: St. Joe Canada Inc. optioned the property from J. Green and A. Hager and flew airborne magnetic and electromagnetic geophysical surveys over the Bergstrand occurrences.
- 1987: St. Joe Canada Inc. diamond drilled 4 holes totalling 534 m on the North Bergstrand occurrence. The holes were collared on claims KRL 828430 and 828414.
- 1990: Noranda Exploration Co. Ltd. conducted lithogeochemical sampling north of Bergstrand Lake, in the vicinity of the South Bergstrand occurrence.

ECONOMIC FEATURES

Harding (1936) observed visible gold at the South Bergstrand occurrence and reported that E. Bergstrand had panned a few ounces of gold from the occurrence. Arjon Mines Ltd. reported that considerable visible gold was observed in quartz veins at the South Bergstrand occurrence (*The Northern Miner*, November 23, 1961, p. 13).

St. Joe Canada Inc. encountered the following drill intersections from a diamond drilling program at the North Bergstrand occurrence: 540 ppb Au across 1.5 m in a quartz vein; 230 ppb Au across 0.93 m in arsenopyrite-rich greywacke; 120 ppb Au across 1.45 m in a quartz vein and arsenopyrite-rich greywacke; and 890 ppb Au across 0.5 m in pyritic greywacke.

SELECTED REFERENCES

- Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700, p. 57-58.
- Beakhouse, G.P., Forsyth, D.M., Scott, K.V. and Wallace, Henry 1989, O.G.S. Map P.3118.
- Harding, W.D. 1936, O.D.M. Annual Report, v. 45, pt. 4, p. 21.
- Noranda Exploration Co. Ltd., assessment files, Resident Geologist's office, Red Lake.
- Ronda Copper Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
- St. Joe Canada Inc., assessment files, Resident Geologist's office, Red Lake.
- The Northern Miner, November 23, 1961, p. 13.
- The Northern Miner, October 11, 1962.
- Thurston, P.C. 1985, O.G.S. G.R. 236.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.
- Williams, C. (Shabumeni Lake), assessment files, Resident Geologist's office, Red Lake.

SH-2/ DOME OCCURRENCE - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Dome occurrence is located on a prominent, north-trending peninsula at the south end of Shabumeni Lake in the Shabumeni Lake area.

DESCRIPTION

Regional Structures: Numerous northeast-trending faults (Pryslak 1973) and small-scale folds occur in the vicinity of the occurrence, but no major regional structures have been recognized in the area.

Geology: North- to northeast-trending clastic and chemical metasediments are flanked to the west by massive and pillowed mafic flows and to the east by intermediate pyroclastic rocks. The metasediments consist of graphitic argillite, chert and greywacke which contain variable amounts of disseminated pyrite and pyrrhotite. The metavolcanic rocks are part of the Cycle II sequence described by Thurston (1985, 1986). The metasediments and metavolcanic rocks are intruded by granitic and dioritic dikes.

Mineralization: Gold mineralization is associated with quartz-carbonate veins in felsic dikes and sulphide-rich metasediments. Sulphides consist of variable amounts of pyrrhotite, pyrite and chalcopyrite.

Mafic metavolcanic flows in the vicinity of the occurrence are strongly carbonatized and pyritic with minor silicification and albitization.

OWNERSHIP AND DEVELOPMENT

1967: Dome Exploration (Canada) Ltd. diamond drilled 6 holes totalling 581 m on the property.

1969: Canadian Aero Mineral Surveys Ltd. flew airborne magnetic and electromagnetic geophysical surveys over the area for M.J. Boylen.

1975: McIntyre Mines Ltd. conducted ground magnetic and horizontal loop electromagnetic surveys over the property.

1977: McIntyre Mines Ltd. conducted geological mapping.

1978: McIntyre Mines Ltd. diamond drilled 2 holes totalling 964 feet.

1981-1982: Sherritt Gordon Mines Ltd. conducted ground magnetic and electromagnetic geophysical surveys over the property.

1987: Property held by G. Desmeules who optioned the claims to Inco Ltd. Inco diamond ~~drilled~~ 5 holes totalling 756.3 m. The occurrence is presently encompassed by claims KRL 904401 and KRL 904192.

ECONOMIC FEATURES

Diamond drilling conducted by Dome Exploration (Canada) Ltd. intersected 0.08 ounce Au per ton across 1.6 feet in a granitic dike hosting pyritic quartz veins; and 0.06 ounce Au per ton across 2.4 feet in metasediments hosting quartz-carbonate veins and 20% pyrrhotite. Dome also reported visible gold in the drill core. Zinc and copper values assaying as high as 1.5% Zn and 0.11 % Cu were also intersected in drill core.

Diamond drilling conducted by Inco Ltd. intersected 0.03 ounce Au per ton across 0.67 m and 0.04 ounce Au per ton across 0.66 m in pyritic chert hosting quartz-carbonate veins.

SELECTED REFERENCES

- Desmeules, G., assessment files, Resident Geologist's office, Red Lake.
Dome Exploration (Canada) Ltd., assessment files, Resident Geologist's office, Red Lake.
McIntyre Mines Ltd., assessment files, Resident Geologist's office, Red Lake.
Pryslak, A.P. 1973, O.D.M. Map P. 901.
Shklanka, R. 1969, O.D.M. M.R.C. 12, p. 175-176.
Thurston, P.C. 1985, O.G.S. G.R. 236.
Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SH-3/ FOLLANSBEE-HEMMING PROSPECT (MINOREX OCCURRENCE) - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Follansbee-Hemming prospect consists of several gold showings located about 300 m east of Shabumeni Lake. The prospect is near the east shore of a long northeast-trending bay at the southeast end of Shabumeni Lake.

DESCRIPTION

Regional Structures: The prospect is situated along the northwest flank of a northeast-trending synclinal fold axis (Beakhouse et al. 1989). Minorex Ltd. reported a northeast-trending fault extends across the Follansbee-Hemming property.

Geology: Northeast-trending, intermediate pyroclastic rocks are intercalated with pillowed, mafic, metavolcanic flows intruded by gabbro and quartz monzonite sills and plugs (Beakhouse et al. 1989). The metavolcanic rocks are part of the Cycle II sequence described by Thurston (1985, 1986).

Mineralization: The Follansbee-Hemming prospect consists of numerous quartz veins hosted by sheared, chloritic, weakly carbonatized, pillowed, mafic metavolcanic flows, gabbro and quartz monzonite. The following showings have been discovered on the Follansbee-Hemming property:

Main Showing (Zone 1): Consists of 17 trenches sunk on 2 parallel quartz veins striking 043/70E in sheared (042/80SE), chloritic, slightly pyritic and weakly carbonatized mafic flows. The veins have been traced for strike lengths of 36.5 m and 61 m and are 0.6 m wide. The veins contain 3% to 5% disseminated pyrite and chalcopyrite. The No. 2 vein hosts a 3 m long seam of sulphides consisting of 30% pyrite and 2% chalcopyrite.

Zone 2: Consists of quartz veins hosted by a small plug of quartz monzonite within a larger gabbro stock. The monzonite host rock is iron carbonatized, sericitized and slightly pyritic. Quartz veins are 0.6 m wide and 7.9 m long and contain scattered sulphides.

Zone 3: Consists of a quartz vein in intermediate pyroclastic rocks.

Iceberg Showing: Consists of 2 parallel quartz veins striking 053/80E for a length of 9 m in sheared, soft, chloritic, weakly carbonatized gabbro. Other quartz stringers and lenses are present as well.

Snake Showing: Consists of 2 small quartz veins near a contact between sheared, chloritic, mafic flows and a gabbro dike trending 075°. The gabbro dike hosts quartz veinlets striking 160°. At the Snake showing, a 0.6 m wide quartz vein striking 030/90 with an exposed strike length of 15 m carries up to 10% disseminated pyrite. Vein/wall rock contacts are transitional with silicification extending outwards from the vein. A second set of small quartz veins trend 012/65NW.

Clap Showing: This showing consists of 2 small rusty veins in mafic flows.

OWNERSHIP AND DEVELOPMENT

- pre-1964: The occurrence was first discovered by Mr. Follansbee and restaked by G. Hemming.
- 1964-1965: Staked by W. Carlyon and mapped and sampled by Madsen Red Lake Gold Mines Ltd. The occurrence was encompassed by mining claims KRL 52374 to 52378 inclusive.
- 1969: Falconbridge Nickel Mines Ltd. flew airborne electromagnetic, magnetic and gamma-ray spectrometer geophysical surveys over the property.
- 1981: Minorex Ltd. optioned the property from A. Hager, A. Sanderson, J. Green and I. Tetlock and conducted ground magnetic and electromagnetic geophysical surveys, geological mapping, stripping, trenching and sampling.
- 1986: Marilyn Resources Inc. optioned the property from A. Hager. The property consisted of 14 claims, KRL 870280 to 870283 and KRL 870343 to 870351 inclusive.
- 1987: Marilyn Resources Inc. conducted ground magnetic, electromagnetic and induced polarization geophysical surveys and diamond drilled 4 holes totalling 376 m.
- 1990: Milestone Resource Corp. diamond drilled 19 holes totalling 1640 m.

ECONOMIC FEATURES

The best assay from samples taken from the No. 1 and No. 2 quartz veins at the Main showing, by Minorex Ltd., was 0.73 ounce Au per ton and 1.05 ounces Ag per ton. Two smaller quartz veins located southeast of the 2 main veins assayed 1.75 ounces Au per ton and 2.72 ounces Ag per ton. A third vein at the Main showing, mentioned in a report by Marilyn Resources Inc., gave an average assay of 0.12 ounce Au per ton and 0.28 ounce Ag per ton over a strike length of 104 feet and an average width of 1.62 feet. Samples taken from the Main showing by Madsen Red Lake Gold Mines Ltd. assayed as high as 1.09 ounces Au per ton and 2.54 ounces Ag per ton; and 1.48 ounces Au per ton.

Samples taken by Minorex Ltd. from quartz veins at Zone 2 assayed 0.02, 0.03, 0.05, 0.3 and 0.87 ounce Au per ton; 0.23 ounce Au per ton and 0.46 ounce Ag per ton; 0.2 ounce Au per ton and 0.88 ounce Ag per ton. The host rock at the showing assayed 0.01 and 0.25 ounce Au per ton.

A sample taken from the quartz vein at Zone 3 by Minorex Ltd. assayed 0.02 ounce Au per ton.

Samples taken by Minorex Ltd. from the quartz vein at the Iceberg showing assayed 0.04 ounce Au per ton; and 0.16 ounce Au per ton and 0.25 ounce Ag per ton.

Samples taken by Minorex Ltd. from the quartz veins at the Snake showing assayed 0.35 ounce Au per ton and 0.65 ounce Ag per ton, 0.65 ounce Au per ton and 1.28 ounces Ag per ton and 0.24 ounce Au per ton. An average assay from 4 samples taken at the showing was reported as 0.31 ounce Au per ton and 0.44 ounce Ag per ton. Two grab samples taken from the quartz vein by B.T. Atkinson assayed 0.12 ounce Au per ton and 340 ppb Au, 15 ppm Cu, 7 ppm Mo, and less than 50 ppm W (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

Samples taken at the Clap showing by Minorex Ltd. assayed 0.08, 0.11, 0.18 and 0.44 ounce Au per ton.

Diamond drilling conducted by Marilyn Resources Ltd. at the prospect intersected the following assays: 0.04 ounce Au per ton across 3.6 feet in a pyritic quartz vein, 0.05 ounce Au per ton and 1.04 ounces Ag per ton across 4 feet in sheared, intermediate metavolcanic rocks, and 0.03 ounce Au per ton and 0.13 ounce Ag per ton across 4 feet in brecciated, sheared, pyritic, intermediate metavolcanic rocks.

Diamond drilling conducted by Milestone Resource Corp. intersected several anomalous gold values in drill core; the best intersections were: 0.32 ounce Au per ton across 1.5 feet in a grey quartz vein containing 5% pyrite; 0.12 ounce Au per ton across 1.4 feet in a pyritic chlorite schist adjacent to a pyritic quartz vein; 0.10 ounce Au per ton across 2 feet in a quartz vein hosting a narrow layer of pyrite; 0.12 ounce Au per ton across 1.2 feet in sheared, pyritic and chloritic mafic flows; and 6.16 ounces Au per ton across 1-foot in a quartz vein containing 1% pyrite, 2% chalcopryrite and visible gold. The diamond drilling by Milestone delineated a 20-foot wide shear zone hosting narrow gold-bearing sections. The gold zones were traced by diamond drilling for a strike length of 300 feet and to a depth of 200 feet (The Northern Miner, March 19, 1990, p.6).

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The Northern Miner, March 19, 1990, p. 6.
The Northern Miner, June 4, 1990, p. 12.
Thurston, P.C. 1985, O.G.S. G.R. 236.
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SH-4/ GREENSTAR-PEANUT LAKE OCCURRENCES - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Greenstar-Peanut Lake occurrences consist of 2 separate mineralized zones: the Peanut Lake East zone and the Peanut Lake West zone. The Peanut Lake East zone is located about 1.2 km north of Swain Lake on an abandoned power line. The Peanut Lake West zone is also located on the abandoned power line, about 600 m north of Swain Lake, and 400 m due west of a small lake known as Peanut or Irving Lake (local names).

DESCRIPTION

Regional Structures: The Greenstar-Peanut Lake occurrences are situated within the east-northeast-trending Swain Lake zone of deformation (Fyon and Lane 1986). Pryslak (1973) mapped several northeast-trending faults in the vicinity of Peanut Lake. Noramco Explorations Inc. identified a 300 m wide northwest-trending fault (Peanut Lake Fault) which extends between the Peanut East and Peanut West zones. Greenstar Resources Ltd. indicated the sense of horizontal displacement along the fault was sinistral.

Geology: North- to northwest-trending intermediate tuff, lapilli tuff and spherulitic flows are intercalated with massive and pillowed mafic flows and minor clastic and chemical metasediments. The metavolcanic rocks are part of the Cycle II sequence described by Thurston (1985, 1986).

Mineralization: Gold-bearing zones at the Greenstar-Peanut Lake occurrences are hosted by northwest-trending, magnetite-rich zones which flank the east and west sides of the Peanut Lake fault. The occurrences consist of the following 2 zones:

West Peanut Lake Zone: This zone consists of abundant sulphide mineralization hosted by intermediate flows and tuffs. One surface showing at the zone consists of sulphide-rich layers of intermediate tuff intercalated with magnetite-rich chert and greywacke. The sulphides consist of up to 10% disseminated pyrite, pyrrhotite and chalcopyrite. A second surface showing consists of a 4 m wide shear zone striking 070° in intensely carbonatized, sericitized and pyritic, intermediate tuffs and flows. Drill holes targeted on the showing intersected a wide zone of brecciation, silicification and quartz veining consisting of purple iron-staining, biotitization, talc alteration, potassic feldspar alteration, disseminated magnetite, isolated magnetite stringers and 3% to 5% disseminated pyrite. Quartz veins within the zone host up to 10% pyrite.

East Peanut Lake Zone: The surface showing at this zone consists of a broad area of brecciation striking 090° and consisting of abundant quartz veining, sericitization, silicification, potassic alteration and pervasive disseminated pyrite (3% to 5%) and magnetite (2%). The breccia zone consists of purple-stained, intermediate, spherulitic flows hosting variable amounts of ilmenite, chalcopyrite, pyrrhotite, galena and sphalerite. Greenstar Resources Ltd. reported chloritoid alteration along the east side of the East Peanut Lake zone.

OWNERSHIP AND DEVELOPMENT

- 1969: Canadian Aero Mineral Surveys Ltd. flew airborne magnetic, electromagnetic and gamma-ray spectrometer surveys over 2 large claim blocks for M.J. Boylen and Northwest Explorers (1967) Ltd.
- 1987: Noramco Explorations Inc. flew airborne magnetic and electromagnetic surveys and conducted prospecting, geological mapping, trenching, ground magnetic, electromagnetic and induced polarization geophysical surveys.
- 1988: Noramco conducted a Beep Mat geophysical survey and diamond drilled 15 holes totalling 2618.6 m on claims KRL 954628, 954665, 954666, 954667, 954687, 954689, 954690, 954691, 954700 and 954717.

ECONOMIC FEATURES

Grab samples taken by Noramco Explorations Inc. from surface showings at the East Peanut Lake zone consistently analyzed between 300 and 400 ppb Au in silicified wall rock and 1000 to 1500 ppb Au in quartz vein zones. Diamond drilling conducted at the zone by Noramco intersected spotty gold values such as 60 to 300 ppb Au across a 14 m section and 120 to 960 ppb Au across a 73 m section.

Grab samples taken by Noramco from surface showings at the West Peanut Lake zone analyzed between 87 and 2710 ppb Au.

Diamond drilling at the West zone intersected 966 ppb Au across 7.5 m, including a smaller section of 1172 ppb Au across 3 m; and 2130 ppb Au and 3207 ppb Au across 2 separate 1 m sections.

Other anomalous gold values such as 104 and 130 ppb Au were obtained from grab samples taken by Noramco along the northwest shore of Swain Lake. A Noramco diamond drill hole targeted on a splay off the Swain Lake fault, on the northwest shore of Swain Lake, intersected 270 ppb Au across 3 m in sericitized and carbonatized intermediate tuff. A grab sample taken by Noramco from polymictic conglomerate on the southeast shore of Swain Lake analyzed 1282 ppb Au.

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- Northwest Explorers (1967) Ltd., assessment files, Resident Geologist's office, Red Lake.
- Pryslak, A.P. 1973, O.D.M. Map P.901.
- Thurston, P.C. 1985, O.G.S. G.R. 236.
- Thurston, P.C. 1986, O.G.S. O.F.R. 5607.

SH-5/ GUEST PROSPECT - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Guest prospect is situated about 400 m northeast of the east end of Swain Lake in the Shabumeni Lake area. The prospect consists of the North and South showings.

DESCRIPTION

Regional Structures: The Guest prospect is located about 800 m southeast of the northeast-trending Swain Lake deformation zone and is 1.2 km west of a northwest-trending fault extending through Bobarris Lake (Beakhouse et al. 1989). A strong shear zone trends 060° to 090° along a contact between mafic metavolcanic flows and intermediate pyroclastic rocks immediately north of the Guest prospect.

Geology: East-trending, mafic metavolcanic flows, intercalated with interflow metasediments consisting of siliceous tuff and chert-magnetite iron formation, are overlain by intermediate lapilli tuff, tuff breccia and feldspar crystal tuff (Beakhouse et al. 1989; Beakhouse 1989). The intermediate pyroclastic rocks were previously interpreted as metasediments by Asarco Exploration Co. of Canada Ltd. Interflow iron formation is interlayered with chloritic tuffs and jasper. The metavolcanic rocks are intruded by hornblende syenite and quartz porphyry dikes and by the Swain Lake stock of diorite composition which is amphibole- and feldspar-phyric (Beakhouse et al. 1989; Beakhouse 1989). The metavolcanic rocks at the Guest prospect are part of the Cycle III sequence described by Thurston (1985, 1986).

Mineralization: The South or Main showing consists of irregular massive pods, lenses, disseminations and stringers of chalcopyrite, pyrite and pyrrhotite mineralization in a chert unit interlayered with rhyolite breccia and intermediate pyroclastic rocks. The sulphide pods and stringers are parallel to bedding which trends 280° . The mineralized zone trends east-southeast for a strike length of about 244 m and a width of 30 m.

Mafic metavolcanic rocks at the South showing are strongly silicified, epidotized, albitized and chloritized with some iron carbonate alteration. Chlorite occurs pervasively through the rocks, on fractures, joints and shear planes and as small chlorite "spots". Quartz-epidote and calcite-magnetite stringers were also observed in the mafic metavolcanic rocks by Asarco Exploration Co. of Canada Ltd.

The North showing, situated about 300 m northwest of the South showing, consists of erratically distributed sulphide pods and lenses within a large, east-trending shear zone (*The Northern Miner*, July 7, 1966).

Sulphide mineralization is widely distributed throughout the property. Metavolcanic rocks are strongly sheared near the contact between mafic flows and intermediate pyroclastic rocks and contain up to 15% sulphides consisting of pyrite, pyrrhotite, chalcopyrite and minor sphalerite.

Explorco Properties Inc. discovered anomalous gold mineralization in intermediate pyroclastic rocks at the extreme west end of Bobarris lake, about 1 km due east of the South showing. Beakhouse et al. (1989) mapped a northwest-trending fault zone extending along the south shore

of Bobarris Lake. The fault zone extends along the contact between intermediate metavolcanic rocks and clastic metasediments. Beakhouse et al. (1989) also noted tourmaline, sericite and pyrite in the fault zone. Explorco discovered gold mineralization associated with the fault zone.

OWNERSHIP AND DEVELOPMENT

1963: Staked by Gunnex Ltd. but exploration work was concentrated on the Swain Lake Cu-Co occurrence on the south shore of Swain Lake.

1965-1966: Staked by A.L. Guest Prospecting Grubstake and optioned to Asarco Exploration Co. of Canada Ltd. in joint venture with Noranda Explorations (The Northern Miner, July 7, 1966). Asarco conducted ground magnetic, electromagnetic and induced polarization geophysical surveys, geological mapping and diamond drilled 12 packsack drill holes totalling 160 m.

1969-1970: Vanco Exploration of Ontario Ltd. flew airborne magnetic, electromagnetic and gamma-ray spectrometer surveys over the property and conducted geological mapping and ground magnetic and self-potential geophysical surveys.

1974: St. Joseph Exploration Ltd. diamond drilled 3 holes totalling 556 m on claims KRL 3886 and 368577.

1983-1984: Labrador Exploration (Ontario) Ltd. staked the Guest prospect which they referred to as the Signal claim group. The company conducted magnetic and horizontal loop geophysical surveys and diamond drilled 2 holes totalling 264 m.

1987: Explorco Properties Inc. conducted magnetic and electromagnetic geophysical surveys, as well as geological mapping and rock, soil and humus geochemical surveys.

1989: Noranda Exploration Co. Ltd. conducted prospecting and lithogeochemical sampling on the property.

1991: The guest prospect was staked by D. Smith.

ECONOMIC FEATURES

Packsack diamond drilling conducted by Asarco on the South showing intersected copper values such as 4.04% Cu across 1.4 feet and 2.15% Cu across 6.3 feet.

Diamond drilling conducted by St. Joseph Explorations Ltd. intersected 0.11% Cu and 0.08 ounce Au per ton across 5 feet in a siliceous tuff breccia containing jasper fragments and hosting up to 30% sulphides consisting of pyrite, pyrrhotite and minor chalcopyrite. The hole was targeted in the vicinity of the North showing.

Samples taken from the South showing by Labrador Exploration (Ontario) Ltd. assayed as high as 0.11 ounce Au per ton. Diamond drilling conducted by Labrador Exploration intersected gold values such as, 0.08 and 0.22 ounce Au per ton.

Grab samples taken from the North showing by Noranda Exploration Co. Ltd. assayed 0.9 ounce Au per ton; a sample of siliceous material from a trench assayed 19.88 g/t Au (0.58 ounce Au per

ton); and a sample of sheared, carbonatized, mafic metavolcanic rock containing 5% to 6% pyrite and chalcopyrite assayed 3.77 g/t Au (0.11 ounce Au per ton). A 5-foot chip sample taken by Noranda from the South showing assayed 1.37 g/t Au (0.04 ounce Au per ton) in sulphide-rich, silicified, mafic metavolcanic rocks; a grab sample also taken at this location assayed 0.06 ounce Au per ton. Noranda sampled core from a hole diamond drilled by Labrador Exploration which was collared 90 cm west of the North showing. The core sample assayed 0.058 ounce Au per ton across 5 feet in a section of sheared mafic metavolcanics containing 2% to 3% pyrite.

A grab sample taken by Explorco Properties Inc., at the extreme west end of Bobarris Lake, analyzed 1500 ppb Au. This sample was taken from intermediate pyroclastic rocks in a west-northwest-trending fault zone tourmaline and sericite alteration (Beakhouse et al. 1989).

Three grab samples taken by B.T. Atkinson from dump rock at the trenches at the South showing analyzed 1.76% Cu, 370 ppb Au and 33 ppm Ag; 1.19% Cu, 160 ppb Au and 6 ppm Ag; and 6.7% Cu, 640 ppb Au and 44 ppm Ag (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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St. Joseph Exploration Ltd., assessment files, Resident Geologist's office, Red Lake.
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Thurston, P.C. 1985, O.G.S. G.R. 236.
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Vanco Exploration of Ontario Ltd., assessment files, Resident Geologist's office, Red Lake.

SH-6/ HARRIS-SWAIN-CAVANO OCCURRENCE (SWAIN-HARRIS-CAVANO OCCURRENCE; GREEN-HAGER OPTION) - SHABUMENI LAKE AREA

NTS 52N/7 SE, 8 SW

LOCATION

The Harris-Swain-Cavano occurrence is situated 1.6 km west of South Bay of Birch Lake and about 1.8 km north of Bergstrand Lake in the Shabumeni and Satterly lake areas.

DESCRIPTION

Regional Structures: The occurrence is located along the south flank of an east-northeast-trending anticlinal fold axis (Beakhouse et al. 1989).

Geology: The Harris-Swain-Cavano occurrence is hosted by a thick sequence of east- and northeast-trending metasediments consisting of polymictic conglomerate, arenite and greywacke (Beakhouse 1989) intruded by feldspar porphyry dikes. The metasediments are part of the Cycle III metavolcanic sequence (Thurston 1985, 1986).

Mineralization: The Harris-Swain-Cavano occurrence was described by Harding (1936) as small quartz veins hosted by intensely iron carbonatized, gossan-stained metasediments trending 090/60 S and consisting of greywacke, conglomerate, arkose and slate. Quartz veins host tourmaline, pyrite, chalcopyrite, abundant arsenopyrite and visible gold.

Arjon Mines Ltd. described the occurrence as a gossan zone up to 305 m long and 7.6 to 15.2 m wide. Visible gold was noted in a pit sunk on the zone (*The Northern Miner*, November 23, 1961).

Ronda Copper Mines Ltd. described an east-southeast-trending gossan zone which is 3 to 4.6 m wide with a strike length of 21 feet. A pit sunk on the zone contained quartz veins and stringers trending 080° to 090° with pyrite, chalcopyrite and much arsenopyrite. A sparsely mineralized white quartz vein up to 1.2 m wide was also found in the pit.

Diamond drilling conducted at the occurrence by St. Joe Canada Inc. intersected variably silicified and carbonatized metasediments and feldspar porphyry dikes hosting quartz-carbonate veins and stringers. Sulphides were found disseminated throughout the metasediments.

OWNERSHIP AND DEVELOPMENT

1934: A contiguous group of 9 claims (KRL 12254 to 12262) was staked by B. Harris over the occurrence.

1935: Several pits and trenches were sunk on claim KRL 12258 and a concentrate of arsenopyrite and gold was recovered by panning and sluicing during small-scale mining operations. About half a ton of material was processed per day.

1961: Arjon Mines Ltd. restaked the Harris-Swain-Cavano occurrence and the Berstrand occurrences in 1 group of 18 contiguous claims, KRL 49748 to 49765 inclusive. The company conducted trenching and diamond drilled 1 hole at the Harris-Swain-Cavano occurrence (*The Northern Miner*, November 23, 1961, p. 13).

- 1974: Ronda Copper Mines Ltd. conducted geological mapping over the occurrence.
- 1986: St. Joe Canada Inc. optioned the property from J. Green and A. Hager and flew airborne magnetic and electromagnetic geophysical surveys over the property.
- 1987: St. Joe diamond drilled 16 holes totalling 1974 m at the occurrence. The holes were collared on claims KRL 839069, 839070, 839074, 839075, 839077, 839078 and 869241.
- 1990: Staked by S.A. Spence and cancelled in 1991.

ECONOMIC FEATURES

Harding (1936) observed visible gold in quartz veins and reported that gold had been panned from the gossan zone at the occurrence.

Arjon Mines Ltd. reported visible gold in a pit on the gossan zone and intersected \$20.40 (0.58 ounce Au per ton) across 4.5 feet in a diamond drill hole completed on the property (*The Northern Miner*, November 23, 1961, p. 13).

Grab samples taken from the occurrence by St. Joe Canada Inc. assayed 0.1 and 0.24 ounce Au per ton (*George Cross News Letter*, September 5, 1986).

Diamond drilling conducted by St. Joe Canada Inc. encountered the following drill intersections: 0.04 ounce Au per ton and 1.37 g/t Ag across 1.15 m in a silicified feldspar porphyry containing arsenopyrite; 359 ppb Au across 2.5 m in pyritic quartz-carbonate veinlets hosted by shale and mudstone; and 895 ppb Au across 1 m in a quartz-carbonate vein containing arsenopyrite and pyrite, hosted by feldspar porphyry.

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- Williams, C. (Shabumeni Lake), assessment files, Resident Geologist's office, Red Lake.

SH-7/ HODGSON, R. OCCURRENCES - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Hodgson occurrences are situated immediately west of Grace Lake and south of Bobarris Lake in the Shabumeni Lake area.

DESCRIPTION

Regional Structures: A northwest-trending fault extends through the northeast part of the Hodgson property (Beakhouse et al. 1989). Falconbridge Ltd. found evidence for tight isoclinal folding on the property and mapped a synformal fold axis trending 075/25 SW across the Hodgson property. The metavolcanic rocks trend northeast in the south part of the property and northwest in the north part of the property.

Geology: Mafic metavolcanic flows and pyroclastic rocks are intercalated with intermediate and felsic pyroclastic rocks and interflow metasediments. The rocks are intruded by feldspar porphyry and gabbro. Siltstone and conglomerate units trending 280-330/37NE-75SW are common in the northeast part of the Hodgson property. The metavolcanic rocks are part of the Cycle II metavolcanic sequence described by Thurston (1985, 1986).

Mineralization: The majority of exploration work conducted by Falconbridge Ltd. on the Hodgson property was concentrated on a zone of zinc mineralization consisting of abundant sulphides hosted by an altered, brecciated chert unit.

Falconbridge Ltd. located gold-bearing quartz veins in several old trenches and test pits on claim KRL 788760. Pyritic (1% to 5%) quartz-carbonate veins in the trenches are hosted by gabbro, mafic tuff and mafic flows. Gold mineralization was found in pyritic, garnet-bearing, mafic rocks in the southwest corner of claim KRL 788598.

R. Hodgson discovered an old pit near the west shore of Grace Lake on the southwest corner of claim KRL 788476. The pit was sunk on semi-massive sulphides in chloritic schist.

Alteration associated with the gold mineralization consists of patchy epidotization, silicification, carbonatization (calcite), ankerite veining and sericitization.

OWNERSHIP AND DEVELOPMENT

1932: Staked by E. McDougall and leased to T.W. Bathurst. The property was part of a large group of claims which included the Sol D'Or Mine property in Honeywell Township.

1975-1976: Ronda Copper Mines Ltd. conducted ground magnetic and induced polarization geophysical surveys and geological mapping.

1985: R. Hodgson conducted sampling and geological mapping.

1986: St. Joe Canada Inc. flew airborne magnetic and electromagnetic surveys over a portion of the property.

- 1987: Falconbridge Ltd. optioned the property from R. Hodgson and conducted ground magnetic and electromagnetic geophysical surveys and diamond drilled 2 holes totalling 283 m on claim KRL 788762.
- 1988: Falconbridge Ltd. conducted geological mapping and a lithogeochemical survey.
- 1989: Falconbridge Ltd. diamond drilled 4 holes totalling 149.3 m on claims KRL 788761 and 788762.

ECONOMIC FEATURES

A sample taken by R. Hodgson from the pit on the west shore of Grace Lake analyzed 755 ppb Au. A sample taken by R. Hodgson from a pyritic, dioritic flow analyzed 135 ppb Au.

A sample taken in the southwest corner of claim KRL 788598 by Falconbridge Ltd. analyzed 3889 ppb Au. Samples taken by Falconbridge, from old trenches on claim KRL 788760, analyzed 571, 225 and 661 ppb Au in quartz-carbonate stringers hosting 5% disseminated pyrite. Samples taken from pyritic quartz-carbonate stringers in mafic flows, along the south claim boundary of KRL 788760, analyzed 1137 and 1859 ppb Au.

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SH-8/ LABRADOR EXPLORATION OCCURRENCE (BIRCH LAKE CLAIM GROUP) - SHABUMENI LAKE AREA

NTS 52N/7 SE

LOCATION

The Labrador Exploration occurrence is presently encompassed by mining claims KRL 1070318 and 1070319 located on the northwest shore of Southwest Bay on Birch Lake in the Shabumeni Lake area. The location of the occurrence is indicated by quartz vein, tourmaline, pyrite and gold symbols on O.G.S. preliminary map P. 3118 (Beakhouse et al. 1989).

DESCRIPTION

Regional Structures: The Labrador Exploration occurrence is situated within the northeast-trending Swain Lake deformation zone (Beakhouse 1989).

Geology: Northeast-trending, massive, porphyritic, felsic flows and pyroclastic rocks are intercalated with mafic and intermediate metavolcanic flows and pyroclastics. The metavolcanic rocks have been interpreted to be part of the Cycle III sequence described by Thurston (1985, 1986) at Confederation Lake.

All metavolcanic rocks are affected by moderate to intense northeast shearing. Metavolcanic rocks commonly host quartz, calcite and iron carbonate veins which intersect or extend parallel to shearing. The majority of metavolcanic rocks are variably sericitized, silicified, carbonatized and chloritized and contain 1% to 5% disseminated pyrite.

Mineralization: The occurrence consists of a 1 m wide quartz-carbonate-tourmaline vein, striking 170° , which has been stripped for a strike length of 10 m. Several other smaller quartz veins and stringers are associated with the main vein. The main vein contains patches of iron carbonate, chlorite stringers, tourmaline and disseminated pyrite near wall rock contacts. Wall rocks consist of quartz-phyric, felsic, lapilli tuff which have been intensely sericitized and contain abundant disseminated magnetite. An alteration halo of sericitization extends for 50 cm on either side of the quartz vein. Beakhouse (1989) noted that some of the quartz veins are simple, but many display crack-seal textures which incorporate thin septa and films of wall rock. Most of the sulphides are associated with the slivers of wall rock in the veins.

OWNERSHIP AND DEVELOPMENT

1983-1984: Labrador Exploration (Ontario) Ltd. acquired 10 contiguous mining claims (Birch Lake group) encompassing the occurrence and conducted geological mapping and rock sampling. The occurrence was situated on former claims KRL 696810 and 696811.

1985: Explorco Properties Inc. flew airborne magnetic and electromagnetic geophysical surveys over the property which they referred to as the Birch Lake Group.

1987: Explorco Properties Inc. conducted a ground magnetic geophysical survey, geological mapping and soil and humus geochemical surveys over the property.

1990: The occurrence was staked (KRL 1070318 and 1070319) by L. King and transferred to R. Knappett.

ECONOMIC FEATURES

Reconnaissance grab sampling of the quartz vein by Labrador Exploration (Ontario) Ltd. returned an analysis of 8500 ppb Au.

Subsequent sampling of the vein by Explorco Properties Inc. returned analyses ranging between 4 and 14 ppb Au. Low gold values up to 25 ppb Au were detected in samples taken from nearby outcrops.

Three grab samples taken from the quartz vein by G.P. Beakhouse (1985, 1989) assayed 12.73 ounces Au per ton and 1.77 ounces Ag per ton; 0.86 ounce Au per ton; and 0.05 ounce Au per ton. Two samples of sulphide-bearing wall rock adjacent to the vein analyzed 200 ppb Au and 0.04 ounce Au per ton. A sample taken from pyritic, felsic metavolcanic rocks, several metres from the vein, analyzed less than 2 ppb Au (Beakhouse 1989).

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**SKINNER
TOWNSHIP
NTS 52N/7 SW**

SK-1/ BATHURST MINE - SKINNER TOWNSHIP

NTS 52N/7 SW

LOCATION

The Bathurst Mine is located on leased mining claim KRL 321974 (formerly KRL 4758) which is part of a group of 12 contiguous leased claims situated between Bathurst and Car lakes in the northwest corner of Skinner Township. Numerous pits and trenches are located on several of the leased claims.

DESCRIPTION

Regional Structures: The Bathurst Mine property is situated within the contact strain aureole of the Trout Lake batholith in the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Mafic, massive and pillowed metavolcanic flows of the Cycle II sequence (Thurston 1985) are intruded by coarse-grained gabbroic and dioritic sills and dikes and by wide felsite dikes commonly striking between 090° and 110° and dipping 75° to the south. The Bathurst Mine is approximately 600 m east of the contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith. Mafic, metavolcanic rocks commonly contain abundant green, fibrous, amphibole. The metavolcanic rocks are commonly foliated in a northerly direction, parallel to the contact of the Trout Lake batholith.

Mineralization: Mineralized quartz veins are hosted by numerous discrete, east- and east-southeast-trending shear zones in excess of 3 m wide. Shear and fracture zones commonly occur along the contacts of felsite dikes and also within the dikes.

The sheared wall rocks are chloritized and/or talcose and host calcite-filled extension veins. Wall rocks immediately adjacent to the quartz veins are commonly silicified. Alteration is confined to the shear zones.

Numerous trenches and pits have been sunk on 12 mineralized shear zones hosting fine-grained, white, sugary quartz veins and a few pale blue vitreous veins. The quartz veins contain minor amounts of disseminated pyrite associated with iron carbonate and chloritic wall rock fragments. Quartz veins may also contain sphalerite, chalcopyrite, galena, arsenopyrite, pyrrhotite and spectacular, coarse, visible gold. Sulphides are commonly concentrated within the quartz at quartz vein/wall rock contacts and are finely disseminated in the sheared wall rocks.

The quartz veins range between 2 and 9 feet in width with some strike lengths in excess of 1000 feet. Many of the quartz veins have been deformed and are folded and flat-lying (Bruce 1929; Fyon and O'Donnell 1986). The folded veins commonly have a shallow plunge to the southwest.

The shaft was sunk on the No. 1, 2, 3 and 4 veins on leased mining claim KRL 321974 (formerly KRL 4758). These veins were the most important on the property and contained the most abundant visible gold.

OWNERSHIP AND DEVELOPMENT

- 1926: Gold was discovered in wide quartz veins at Car and Bathurst lakes.
- 1927: Bathurst Mines Ltd. acquired 30 contiguous mining claims consisting of the Bathurst, Price-Logan, and Daipre-Cobourn properties; trenching, stripping and sampling delineated 7 gold-bearing zones.
- 1928: A two-compartment shaft was sunk to a depth of 223 feet on mining claim KRL 4758 and a level was started at 200 feet.
- 1929: The shaft was deepened to 300 feet with levels at 200 and 300 feet; 1109 feet of crosscutting and 2046 feet of drifting was completed; a mill was installed and produced 149.06 ounces of gold and 50 ounces of silver for a total value of \$3107 (Rogers and Young 1930), a different production figure of 160 ounces of gold was also reported for the same year (Harding 1936); the mine was closed by the end of the year.
- 1932: The mine was reopened and a production of \$1500 (Sinclair et al. 1934) was recorded by the end of the year when the mine was closed once more.
- 1934: The shaft was deepened to 420 feet and the mine was reported to have produced 74.51 ounces of gold and 6 ounces of silver from 130 tons of ore (Bathurst Mines Ltd., assessment files, Resident Geologist's office, Red Lake).
- 1935: Erie Canadian Gold Mines Ltd. optioned the property and conducted extensive surface work.
- 1936: Car Lake Syndicate commenced underground operations and completed 30 feet of crosscutting, 131 feet of drifting and 52 feet of raising on the 200-foot level; the mine produced 84 ounces of gold and 36 ounces of silver from 432 tons of ore (Bathurst Mines Ltd., assessment files, Resident Geologist's office, Red Lake; Sinclair et al. 1938), however, conflicting production figures of 76.92 ounces of gold and 28 ounces of silver produced from 307 tons of ore (Young 1938); and 120 ounces of gold produced from 320 tons of ore (Sinclair et al. 1939) are also reported for the same year.
- 1937: Gleemar Gold Mines Ltd. resumed underground operations and completed 200 feet of drifting and 100 feet of crosscutting on the 300-foot level.
- 1958: Bathurst Selective Mines Securities Ltd. conducted prospecting, stripping, trenching and sampling on the property.
- 1963-1964: Bathurst Selective Mines Securities Ltd. diamond drilled 6 holes totalling 727 feet on mining claims KRL 50904 and 50907 and conducted a considerable amount of trenching.
- 1966: Ground magnetic and electromagnetic surveys were conducted by Cana Exploration Consultants Ltd. for G. Jones.
- 1967: Victoria Algoma Mineral Co. Ltd. completed 1 diamond drill hole to a depth of 901 feet on mining claim KRL 50907.

- 1969: Kendon Copper Mines Ltd. diamond drilled 10 holes totalling 2508 feet on mining claims KRL 62528 and 62529.
- 1972-1973: The property was staked by a group of prospectors from Ear Falls and optioned to All Canadian Mining and Exploration Co. who conducted geological mapping and diamond drilled 7 holes totalling 587 feet on mining claims KRL 321974 and 368355; extensive trenching was also completed on the property.
- 1975-1977: Stripping and trenching was conducted by A. Bertram and G. Alcock.
- 1979-1980: St. Mary's Explorations Ltd. acquired a 70% interest in the Bathurst property; the company diamond drilled 2 holes totalling 303.9 feet on mining claim KRL 321974.
- 1983: Twelve mining claims encompassing the Bathurst property were brought to lease.
- 1986: B. Cronley conducted stripping and trenching on 3 claims, KRL 828013, 828014 and 828016. The claims were situated along the southeast shore of Bathurst Lake and were tied-on to the southwest end of the group of leased claims which encompasses the Bathurst Mine property.
- 1986-1987: Eastmont Gold Mines Ltd. conducted stripping, trenching, sampling, geological mapping, ground magnetic and electromagnetic surveys on the 12 leased claims of the Bathurst property and on adjacent mining claims; the company conducted diamond drilling on the leased claims in 1987, but results were not reported.

ECONOMIC FEATURES

The Bathurst Mine produced approximately 307.57 ounces of gold and 92 ounces of silver (Rogers and Young 1930; Harding 1936; Sinclair et al. 1934, 1938, 1939; Young 1938; Bathurst Mines Ltd., assessment files, Resident Geologist's office, Red Lake). Reserves at the mine have been reported to be 80 000 tons grading 0.578 ounce Au per ton (Energy, Mines and Resources 1989).

Grab samples from the various quartz veins on the Bathurst property have assayed greater than 4.0 ounces Au per ton. Diamond drilling on the No. 2 Vein by All Canadian Mining and Exploration Co. intersected 0.87 ounce Au per ton across 5 feet. An underground chip sample from the No. 2 Vein taken by Erie Canadian Mining Ltd. assayed 0.54 ounce Au per ton across 4.72 feet. Chip samples taken by Erie Canadian Mines Ltd. during surface sampling of the No. 3 Vein gave an average assay of 1.5 ounces Au per ton across 2 feet for a length of 165 feet. Assays of samples taken from the No. 3 Vein on the 200-foot level of the mine averaged 0.52 ounce Au per ton across 3.5 feet for a length of 180 feet.

Grab samples taken by B.T. Atkinson from the No. 4 Vein analyzed 1720 and 7230 ppb Au; while samples from the No. 5 and No. 7 veins analyzed 3920 ppb Au and 735 ppb Au, respectively (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). Visible gold was noted in a number of veins. A quartz vein known as the "Golden Sidewalk" has produced some spectacular specimens of native gold.

Seven grab samples taken by B.T. Atkinson from trenches sunk by B. Cronley on claim KRL 828013 analyzed 1220 ppb Au and 2.2% MoS₂; and 20, 6, 7, 5 and 4 ppb Au.

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SK-2/ DUNKIN PROSPECT - SKINNER TOWNSHIP

NTS 52N/2 SW

LOCATION

The Dunkin prospect consists of a shaft and several separate gold showings, known as the No. 1, No. 2, No. 2a, No. 2b, Vihonen (No. 3), Tie-Line and Harbour showings. The gold showings are situated along the north shore of the northwest arm of Narrow Lake in the southeast corner of Skinner Township.

DESCRIPTION

Regional Structures: The Dunkin prospect is situated within the west- to northwest-trending Narrow Lake deformation zone (Fyon and Lane 1986; Fyon and O'Donnell 1986).

Geology: Massive, mafic, pillowed and variolitic metavolcanic flows of the Cycle II sequence (Thurston 1985) are intruded by fine- to medium-grained, magnetite-bearing gabbroic sills and minor feldspar porphyry dikes. The Dunkin prospect is approximately 3.6 km east of the contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith.

The majority of gold-bearing quartz veins at the Dunkin prospect are hosted by numerous narrow, discrete, shear zones trending between 050° and 110° and commonly dipping 70° to 80° north. Shear zones at the No. 2 and Vihonen (No. 3) showings dip between 15° and 30° to the northwest.

Host rocks consist of variably sheared and altered mafic metavolcanic flows and/or magnetite-bearing, medium-grained gabbro. Sheared wall rocks are chloritized, carbonatized and weakly sericitized.

Mineralization: Quartz veins at the Dunkin prospect commonly consist of massive, milky-white quartz containing minor amounts of disseminated pyrite, chlorite, iron carbonate and visible gold. Minor amounts of disseminated pyrite, arsenopyrite, pyrrhotite, chalcopyrite and bornite occur in the quartz veins at the Harbour showing. Sheared wall rocks commonly contain variable amounts of disseminated pyrite, pyrrhotite and chalcopyrite.

Quartz veins are generally less than 3 feet wide with strike lengths up to 290 feet. Exceptions are the quartz vein at the Dunkin shaft which varies in width from 3 to 14 feet and contains sections of vuggy, blue quartz (Greig 1928); and the Tie-Line showing which consists of several narrow quartz-carbonate veinlets within a wide shear zone.

Quartz veins at the Harbour showing are weakly to moderately boudinaged and one vein is intruded by a 2- to 3-foot wide lamprophyre dike.

OWNERSHIP AND DEVELOPMENT

1926: T. Dunkin discovered gold on Narrow Lake and conducted some trenching; he staked 13 mining claims, KRL 4428 to 4430, 4433 to 4438, 4447 to 4449 and 4926.

1927: Dunkin Gold Mines Ltd. acquired the property and completed a considerable amount of trenching, stripping and sampling.

- 1928: Dunkin Gold Mines Ltd. sunk a three-compartment shaft to a depth of 50 feet on mining claim KRL 4434 and a headframe was erected.
- 1929: Dunkin Gold Mines Ltd. deepened the shaft to 271 feet with levels at 125 and 250 feet; 56 feet of crosscutting was completed on the 125-foot level and 423 feet of crosscutting and 227 feet of drifting was completed on the 250-foot level; the property was closed at the end of the year.
- 1935: The property was sampled by P.J. Shanton for Sylvanite Gold Mines Ltd.
- 1936: Connetricia Gold Mines Ltd. acquired the Dunkin property and conducted surface sampling and diamond drilled 2 holes targeted on the No. 1 and No. 2 veins.
- 1969: C.C. Huston and Associates conducted airborne magnetic and electromagnetic surveys over the property.
- 1972: Staked by D.F. Parrott.
- 1974-1975: B. Vihonen and J.S. Waldie staked a contiguous group of 33 mining claims on the Dunkin property in 1974; the claims encompassed the Dunkin shaft, the No. 2, No. 2a, No. 2b and No. 3 gold showings; Northmark Gold Mines Ltd. conducted prospecting, trenching, stripping and ground magnetic and electromagnetic surveys on the property and diamond drilled 9 holes totalling 797.2 feet.
- 1980: Moss Resources Ltd. acquired a contiguous group of 4 claims encompassing the Vihonen or No. 3 gold showing; the company conducted ground magnetic and electromagnetic surveys on the claims.
- 1984: Duration Mines Ltd. and Wilshire Energy Resources Inc. acquired a contiguous group of 4 claims immediately east of the shaft at the Dunkin property; Duration Mines Ltd. conducted geological mapping, ground magnetic and electromagnetic surveys on the claims.
- 1986: W. McNerney staked 2 claims on the Dunkin shaft area.
- 1987: Canadian Patricia Exploration Ltd. acquired 36 mining claims in the vicinity of the Dunkin prospect; the claims encompass the Vihonen (No. 3) showing, Harbour, Tie-Line and No. 2b gold showings; the company conducted ground magnetic and electromagnetic surveys, soil and lithogeochemical surveys, geological mapping and power stripping.
- 1987-1988: Golden Hat Resources Inc. acquired a contiguous group of 6 mining claims, which encompassed the shaft at the Dunkin prospect and the No. 2 and No. 2a gold showings; the company diamond drilled 5 holes totalling 621 feet.
- 1988: Canadian Patricia Exploration Ltd. conducted detailed mapping, lithogeochemical sampling, trenching, stripping and prospecting.
- 1989: Canadian Patricia Exploration Ltd. diamond drilled 10 holes totalling 5350 feet on their portion of the Dunkin prospect, the holes were drilled in the vicinity of the Vihonen and No. 2b showings.

1990: W. McNerney staked 2 claims covering the Dunkin shaft area.

ECONOMIC FEATURES

A grab sample taken by W.W. Valliant from the quartz vein at the Dunkin shaft assayed 0.405 ounce Au per ton and 0.42 ounce Ag per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). Two chip samples taken by W.W. Valliant from the quartz veins at the Vihonen or No.3 showing assayed 0.74 ounce Au per ton and 0.08 ounce Ag per ton across 3.5 inches; and 0.7 ounce Au per ton and 0.06 ounce Ag per ton across 3.5 inches (Geoscience Laboratories Section, Ontario Geological Survey, Toronto). A grab sample taken by A.P. Pryslak from a 7 inch wide quartz vein at the Vihonen showing assayed 0.56 ounce Au per ton (Pryslak 1975). Grab samples taken from the Vihonen showing by Canadian Patricia Exploration Ltd. have assayed 1.83, 0.332, 0.67, 1.602 and 2.33 ounces Au per ton. B. Vihonen obtained a drill hole intersection of 2.58 ounces Au per ton, 1.73 ounces Ag per ton and 2.24% Cu across 1.8 feet from a hole targeted on the quartz vein at the Vihonen or No. 3 showing (Pryslak 1975). Samples taken from the No. 2 showing by Northmark Gold Mines Ltd. assayed as high as 0.56 ounce Au per ton, 1.27 ounces Ag per ton, and 1.3% Cu. A report by B. Vihonen for Northmark states the following: "A hole was drilled under the Dunkin No. 2 showing in order to obtain an unoxidized section of the shearing. This hole cut the shear from 8.7 feet to 13.3 feet and assayed a respectable 156.0 ounces Au per ton, 2.0 ounces Ag per ton and 2% Cu across 4.6 feet." Two chip samples taken across the No. 2 vein by Connetricia Gold Mines Ltd. assayed 0.67 ounce Au per ton across 46 inches and 0.19 ounce Au per ton across 84 inches. Northmark Gold Mines Ltd. obtained a drill hole intersection of 0.87 ounce Au per ton, 0.76 ounce Ag per ton and 1.48% Cu across 4.8 feet from a hole targeted on the No. 2 vein. Channel samples taken at the Tie-Line showing by Canadian Patricia Exploration Ltd. analyzed 685 ppb Au across 3 feet and 590 ppb Au across 1.5 feet. Samples taken from quartz veins at the Harbour showings analyzed as high as 1750 ppb Au.

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SK-3/ NORAMCO EXPLORATIONS INC., SKINNER TOWNSHIP OCCURRENCES - SKINNER TOWNSHIP

NTS 52N/2 NW, 7 SW

LOCATION

The Noramco gold occurrences consist of 2 separate mineralized zones located in the northwest corner of Skinner Township. The Lac Mousseau zone, on mining claims KRL 954808 and 954847, is situated approximately 200 m northeast of Mousseau Lake. The Ruff Lake zone is situated on mining claims KRL 954857 and 954861, about 600 m west of Mosier Lake.

DESCRIPTION

Regional Structures: The Noramco occurrences are situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986; Fyon and O'Donnell 1986).

Geology: Intermediate pyroclastic rocks are intercalated with mafic metavolcanic flows and minor metasediments of the Cycle II sequence (Thurston 1985). The metavolcanic rocks are intruded by gabbro dikes.

At the Ruff Lake zone, west of Mosier Lake, narrow northeast-trending mineralized shear zones are hosted by intermediate to felsic tuff. Wall rocks are strongly sheared and variably sericitized, carbonatized, biotitized, tourmalinitized and silicified.

At the Lac Mousseau zone, east-trending stratabound sulphide mineralization occurs amongst mafic metavolcanic flows and intermediate pyroclastic rocks. A narrow northeast-trending shear zone intersects the sulphide mineralization. Host rocks are sericitized and contain minor amounts of tourmaline.

Mineralization: Gold mineralization at the Ruff Lake zone occurs within sheared intermediate pyroclastic rocks hosting minor quartz veins. The sheared wall rocks host disseminated arsenopyrite with minor galena. Quartz veins within the shear zone contain minor amounts of visible gold.

At the Lac Mousseau zone, gold is associated with stratabound, disseminated to semi-massive sulphide mineralization consisting of pyrite, chalcopyrite and pyrrhotite. A northeast-trending shear zone which intersects the sulphide mineralization hosts disseminated arsenopyrite and minor quartz veins.

OWNERSHIP AND DEVELOPMENT

1927: Belle Isle Mining Co. held mining claims in the vicinity of Mousseau Lake.

1928: Stripping was conducted on mining claims west of Mosier Lake.

1970: Selco Exploration Company Ltd. diamond drilled 3 holes totalling 1109.5 feet in the vicinity of the Lac Mousseau zone.

- 1987: Noramco Explorations Inc. conducted airborne and ground magnetic and electromagnetic surveys over the property as well as an induced polarization survey, prospecting, stripping, trenching, sampling and geological mapping.
- 1988: Noramco Explorations Inc. conducted airborne and ground magnetic and electromagnetic surveys over the property as well as an induced polarization survey and geological mapping; the company diamond drilled 2 holes totalling 509 m at the Ruff Lake zone and 4 holes totalling 662.1 m at the Lac Mousseau zone.

ECONOMIC FEATURES

A grab sample taken by Noramco Explorations Inc. from a quartz vein at the Ruff Lake zone assayed 1.14 ounces Au per ton. A diamond drill hole targeted on the Ruff Lake zone by Noramco intersected 160 ppb Au and 210 ppb Au across 1 m intervals within a silicified tuff.

Holes drilled by Noramco on the Lac Mousseau zone intersected 0.034 and 0.043 ounce Au per ton across 1.5 m intervals in one hole, and 0.042 ounce Au per ton across 1.5 m in a second hole.

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SK-4/ PRICE-LOGAN OCCURRENCE - SKINNER TOWNSHIP

NTS 52N/7 SW

LOCATION

The Price-Logan occurrence is located near the northeast shore of Car Lake in the northwest corner of Skinner Township. The occurrence is presently encompassed by 4 patented mining claims KRL 10869, 10870, 10871, and 10872 (formerly KRL 4743, 4742, 4693 and 4694) which adjoin the Bathurst Mine property situated west of Car Lake. The trenches and pits at the occurrence are situated at the northeast corner of patented mining claim KRL 10891 (formerly KRL 4693).

DESCRIPTION

Regional Structures: The Price-Logan occurrence is situated within the east-northeast-trending Swain Lake deformation zone (Fyon and Lane 1986).

Geology: Mafic, massive and pillowed metavolcanic flows of the Cycle II sequence (Thurston 1985) are intruded by coarse-grained gabbroic sills and by felsite dikes. Stratigraphy is north-trending and east-facing in the vicinity of the property. The Price-Logan occurrence is approximately 1.6 km east of the contact between mafic metavolcanic rocks and granitic rocks of the Trout Lake batholith.

A 5 m wide shear zone striking 075° and dipping steeply to the north hosts gold mineralization at the Price-Logan occurrence. Mafic metavolcanic wall rocks within the shear zone are fissile, chloritized and talcose. Some wall rocks adjacent to the quartz veins have been silicified. The shear zone extends along the contact of a wide, sericitized, quartz porphyry dike.

Mineralization: Large pits and trenches have been sunk along a 1.5 m wide quartz-carbonate stringer zone within the shear zone. The discontinuous quartz-carbonate stringers are less than 20 cm wide and pinch and swell along strike. The quartz stringers contain minor amounts of disseminated pyrite, galena and fine visible gold. Sulphides are also disseminated amongst the sheared and altered wall rocks.

OWNERSHIP AND DEVELOPMENT

1926: Gold was discovered at Car Lake.

1927: The Price-Logan group of claims was acquired by Bathurst Mines Ltd.

1937: A portion of the Price-Logan group of claims was acquired by Gleemar Gold Mines Ltd.

1972: Reported to be held by Exdeco Ltd.

ECONOMIC FEATURES

Six grab samples taken B.T. Atkinson from the trenches at the Price-Logan occurrence analyzed 660 ppb Au, 4820 ppb Au, 7430 ppb Au, 26 ppb Au, 45 ppb Au, and 0.54 ounce Au per ton (Geoscience Laboratories Section, Ontario Geological Survey, Toronto).

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**SLATE
LAKE AREA
NTS 52K/15 NE**

SL-1/ PANAMA LAKE OCCURRENCE - SLATE LAKE AREA

NTS 52K/15 NE

LOCATION

The Panama Lake occurrence is located near the north shore of Panama Lake in the Slate Lake area. The occurrence is presently situated on mining claims KRL 926984 and 926986.

DESCRIPTION

Regional Structures: The Panama Lake occurrence is situated along the southeast flank of a northeast-trending synclinal fold (Bowen 1989).

Geology: The occurrence is situated within intermediate to felsic tuffs intercalated with minor mafic metavolcanic flows, argillaceous metasediments and magnetite iron formation of the Cycle I sequence (Thurston and Paktunc 1985; Thurston 1986) and intruded by fine-grained dioritic to gabbroic rocks. The metavolcanics and metasediments have also been interpreted to be part of a discrete metasedimentary terrain referred to as the Slate Lake belt (Beakhouse 1989). Bedding in metasediments and tuffs at Panama Lake trends 095/80S and foliation trends 065/90.

Mineralization: Gold mineralization is hosted by a silicified shear zone trending 060⁰, dipping vertically or steeply to the southeast and plunging 050⁰ to 070⁰ to the west. The shear zone is 10 to 25 m wide and has been traced for a strike length of 1.1 km along the contact between mafic to intermediate tuff and banded, argillaceous metasediments. Magnetite iron formation is located in the vicinity of the occurrence.

The shear zone hosts a 4 to 5 m wide lens of massive quartz within a quartz stringer zone. Fine-grained pyrite is disseminated throughout the shear zone and is concentrated in narrow seams and layers. Wall rocks are intensely silicified, sericitized and moderately tourmalinitized.

OWNERSHIP AND DEVELOPMENT

- 1945: J. Pemmican and J. Hager staked 8 claims, KRL 23173 to 23180 inclusive on the north shore of Panama Lake.
- 1946: Pemmican Mines Ltd. conducted surface work and 1500 feet of diamond drilling.
- 1951: Claims transferred to C.A. Campbell.
- 1958: J. Kolak and K. Koezur staked 12 claims in the area.
- 1960: Claims restaked by J. Kolak.
- 1986: Noranda Exploration Co. Ltd. staked the Panama Lake occurrence and conducted detailed geological mapping, a humus geochemical survey, ground magnetic and electromagnetic surveys.
- 1988: Noranda diamond drilled 8 holes totalling 953 m.

1989: Noranda conducted an induced polarization survey, humus geochemical survey and prospecting.

ECONOMIC FEATURES

R. Thomson (Resident Geologist' Files, Red Lake) reported that assays such as 0.01, 0.16, 0.06, 0.04, 0.26, 0.01 and 0.04 ounce Au per ton were obtained from samples taken at the occurrence.

Channel and grab samples taken from the silicified shear zone by Noranda Exploration Co. Ltd. assayed from trace to 14.4 g/t Au. The best channel sample assayed 10.3 g/t across 1.1 m.

Diamond drill holes, completed by Noranda and targeted on the silicified shear zone, intersected 1.37 g/t Au across 2 m in the quartz stringer zone and 2.8 g/t Au across 4.5 m in the massive quartz lens.

Anomalous gold values, such as 198 and 1400 ppb Au were obtained from humus samples, taken by Noranda Exploration Co. Ltd., during a humus geochemical survey conducted over the Panama Lake property. The humus anomalies were located in the immediate vicinity of the gold occurrence.

SELECTED REFERENCES

Beakhouse, G.P. 1989, O.G.S. O.F.R. 5700.

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Campbell Property (Panama Lake area), assessment files, Resident Geologist's office, Red Lake.

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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 ²	0.155 0	square inches	1 square inch	6.451 6	cm ²
1 m ²	10.763 9	square feet	1 square foot	0.092 903 04	m ²
1 km ²	0.386 10	square miles	1 square mile	2.589 988	km ²
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
VOLUME					
1 cm ³	0.061 02	cubic inches	1 cubic inch	16.387 064	cm ³
1 m ³	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m ³
1 m ³	1.308 0	cubic yards	1 cubic yard	0.764 555	m ³
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.

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